Appendix B.7.4

2023 Terrestrial Ecology Baseline Study

REPORT

2023 Terrestrial Ecology Baseline Study

CNC Crawford Project

Submitted to:

Canada Nickel Company

Attn: Mathieu Boucher and Pierre-Philippe Dupont

Submitted by:

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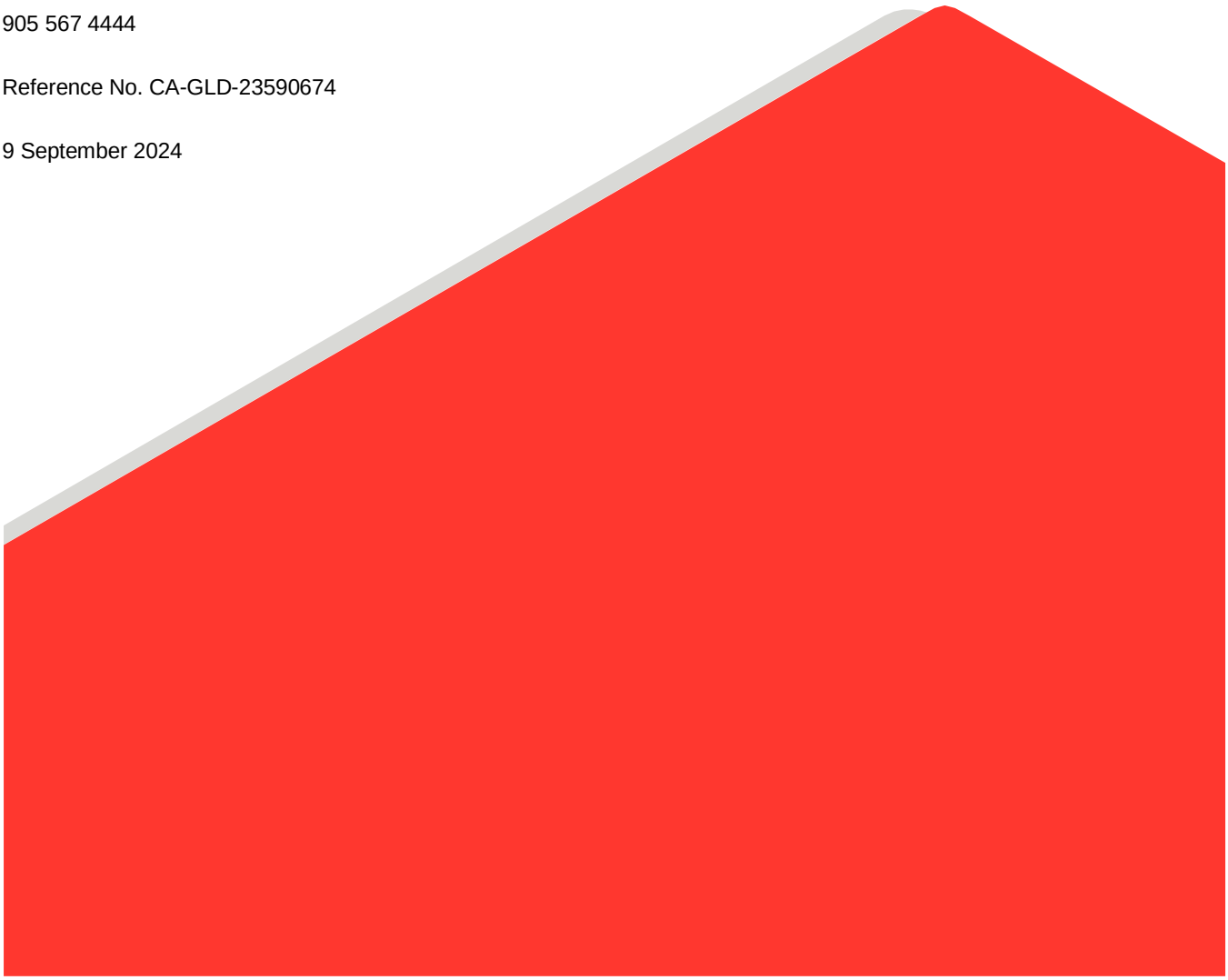
Reference No. CA-GLD-23590674

9 September 2024



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ABBREVIATIONS

AMO	Atlas of the Mammals of Ontario
ANSI(s)	Area(s) of Natural and Scientific Interest
BCR	Bird Conservation Region
CAA	*Conservation Authorities Act, 1990*
Canada Nickel	Canada Nickel Company Inc.
CEAA	Canadian Environmental Assessment Agency
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
dB	Decibels
DBH	Diameter at breast height
e.g.	*exempli gratia;* for example
EA	Environmental Assessment
ECCC	Environment and Climate Change Canada
EIS	Environmental Impact Study
ELC	Ecological Land Classification
ESA	*Endangered Species Act, 2007*
etc.	*et cetera*; and so on
FRI	Forest Resources Inventory
GPS	Global Positioning System
G-Rank	Global Conservation Status
ha	Hectare(s)
Hz	Hertz
i.e.	*id est*; that is to say
kHz	Kilohertz
km	Kilometre(s)
LIO	Land Information Ontario
m	metre(s)
MAFA	Moose Aquatic Feeding Area
MBCA	*Migratory Birds Convention Act, 1994*
MECP	Ministry of the Environment, Conservation and Parks
MMAH	Ministry of Municipal Affairs and Housing
MNRF	Ministry of Natural Resources and Forestry
MRCA	Mattagami Region Conservation Authority
NHIC	Natural Heritage Information Centre
OBA	Ontario Butterfly Atlas
OBBA	Ontario Breeding Bird Atlas
ORAA	Ontario Reptile and Amphibian Atlas
OWES	Ontario Wetland Evaluation System
PPS	Provincial Policy Statement
Project, the	Crawford Nickel-Cobalt Sulfide Project
Property Boundary	Crawford Nickel-Cobalt Sulfide Property Boundary
PSW(s)	Provincially Significant Wetland(s)
SAR	Species at Risk
SARA	*Species at Risk Act, 2002*
SARO	Species at Risk Ontario
Study Area	The area encompassed by 1 km, 5 km, and 10 km buffers.
SWH	Significant Wildlife Habitat
SWHCS	Significant Wildlife Habitat Criteria Schedules
VC(s)	Valued Component(s)
Wood	Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited

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1.0 INTRODUCTION

Canada Nickel Company Inc. (CNC) is planning to develop the Crawford Nickel Project (the Project) located approximately 40 kilometres (km) north of Timmins and 34 km southwest of Cochrane in Ontario (Figure 1–1).

CNC is advancing the next generation of nickel projects to deliver nickel required to feed the high growth electric vehicle and stainless-steel markets. CNC has applied in multiple jurisdictions to trademark the terms NetZero Nickel™, NetZero Cobalt™, NetZero Iron™ and is pursuing the development of processes to allow the production of net-zero carbon nickel, cobalt, and iron products. CNC's objective with the Crawford Project is to develop a nickel-cobalt mine and associated facilities and infrastructure to provide a source of raw materials to various markets. There has been no prior mining activity at the Crawford Project site; however, the Timmins-Cochrane-Abitibi region has a long history of mining production of gold, nickel, zinc, and platinum group elements. A proposed Advanced Exploration Project has also been planned to extract and ship approximately 1,000 tonnes of ore for lab analysis to determine grade and recovery rates.

The main components of this Project include:

- Open pit;
- Overburden, mine rock, and ore stockpiles;
- Processing plant complex;
- Buildings and supporting infrastructure;
- Water management and treatment facilities;
- Highway and transmission line relocation;
- Tailings management facility;
- Rail spur; and
- Transmission line construction.

This report is one of a series of technical support documents prepared by WSP E&I Canada Limited (WSP; formerly known as Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited), on behalf of CNC to describe the current environmental conditions at the Project. The designated scope of the project is being reviewed by the Impact Assessment Agency of Canada (IAAC) and some components of the Project might follow an independent environmental assessment process. This document considers all designated scope options. These baseline reports are intended to support the federal and provincial environmental approvals and permitting processes. This report documents the terrestrial ecological existing conditions within the Crawford Study Areas (further defined in Section 1.2). Terrestrial ecology includes plants, plant communities, wildlife, wildlife habitat, and wetlands. Wildlife and wildlife habitat discussed includes bats and other mammals, amphibians, reptiles, and birds. This report includes a summary of the methods and results of terrestrial field investigations undertaken in 2021, 2022, and 2023 and provides an assessment of significance for Natural Heritage Features, Species at Risk (SAR) and their habitats, and Significant Wildlife Habitat (SWH) within the Study Area.

1.1 Study Objectives

The objective of the 2021, 2022, and 2023 field investigations was to conduct terrestrial baseline investigations associated with the Study Area background information review and collect data to support the Environmental Assessment (EA). This report provides a summary of the methods and results of all terrestrial field investigations completed in 2021, 2022, and 2023.

1.2 Study Area Overview

The Project is located within Ecoregion 3E, the Lake Abitibi Ecoregion, that contains the communities of Timmins, Cochrane, Smooth Rock Falls, and Iroquois Falls. Ecoregions are nested within Ecozones (the top of the Ecological Land Classification (ELC) hierarchy) and are characterized by climatic patterns such as temperature, precipitation, and humidity. Given that the Project location falls within Ecoregion 3E, Ecosites of Ontario – Operational Draft (Banton et al., 2009) was used when classifying vegetation communities. The climatic patterns of a given ecoregion have a profound influence on which vegetation types occur, substrate formation, and associated plants and animals (Crins et al., 2009). The ecoregion is located on the Precambrian Shield and is underlain by granitic or gneissic bedrock. Surficial geology is diverse across the ecoregion, with a prominent clay belt in the northeast. Low-lying areas of the landscape are overlain by organic deposits. Ecoregion 3E falls within the boreal forest region with landcover consisting of mixed forest (29.5%), coniferous forest (28.1%), sparse forest (10.8%), deciduous forest (7.2%), cutover (7.8%), and water (6.7%). Vegetation typically includes Black Spruce, White Spruce, Balsam Fir, Jack Pine, Tamarack, White Birch, Trembling Aspen, and Balsam Poplar. Meanwhile, more temperate species such as Eastern White Pine, Red Pine, American Elm, and Eastern White Cedar can be present on sandy ridges or in protected valleys (Crins et al., 2009).

The weather in the ecoregion is humid with long, cold, snowy winters, while summers are warm but short. The mean annual temperature is between -0.5°C and -2.5°C, the mean annual precipitation ranges from 652 mm to 1029 mm, and the mean summer rainfall is between 220 mm and 291 mm. Forest fires occasionally occur with upland coniferous forest fire cycles ranging from 30 to 187 years. Mixed forest fire cycles range between 63 to 210 years, and the intensity of fires is much more variable compared to fires in coniferous forests (Crins et al., 2009).

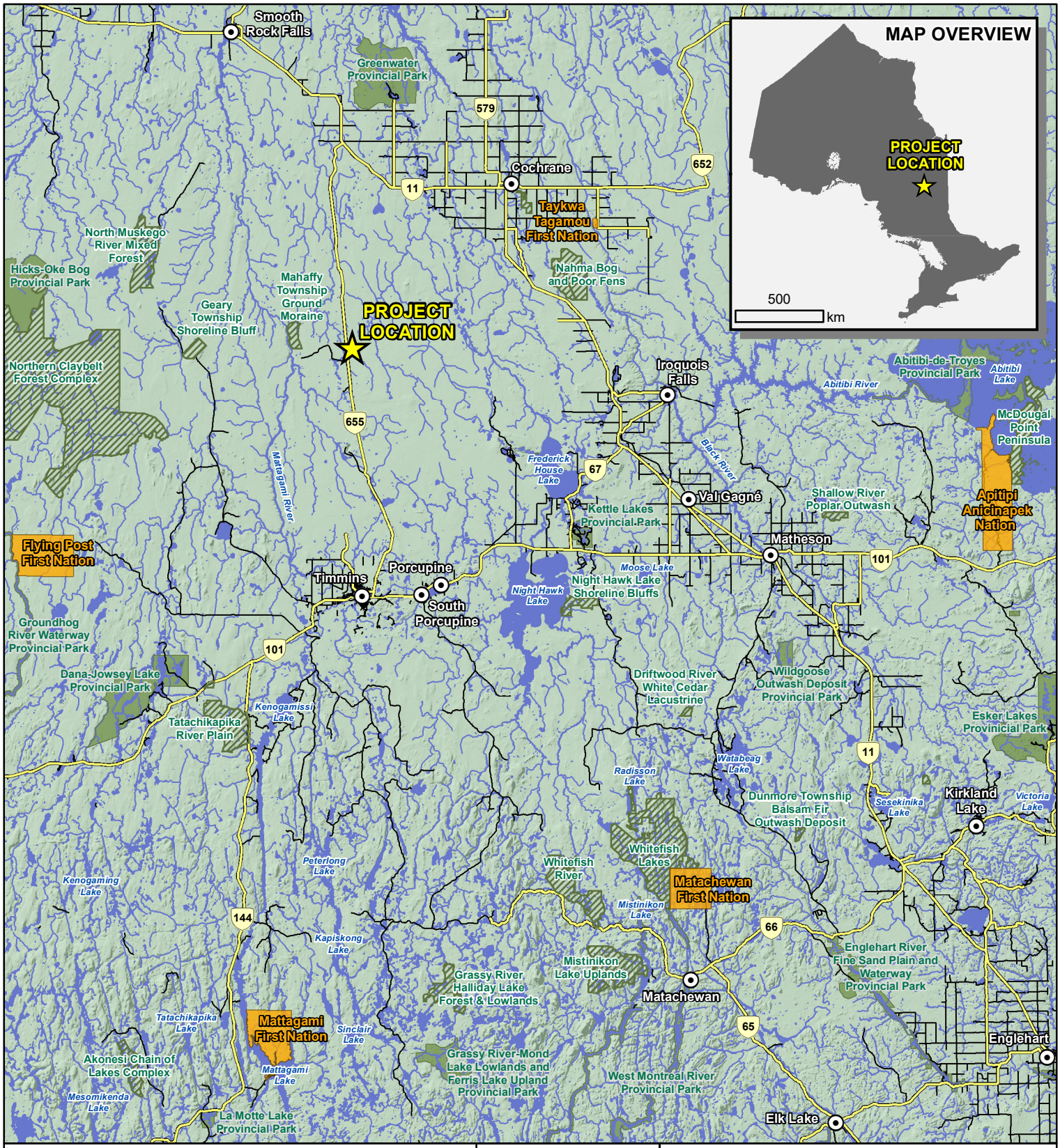
Study Area

The Project is located 40 km north of Timmins on Highway 655, which runs north-south and splits the Study Areas (Figure 1-1). As identified in the introduction, transmission line relocation and construction are proposed, but the relocation will be evaluated separately and is not discussed here.

During the initial desktop review stages, a 100 km buffer was established to identify important natural areas within the broader Project area, including Provincially Significant Wetlands (PSWs), a Conservation Reserve, Provincial Parks, and Indigenous Nations (Figure 1-2). The Property Boundary used for initial desktop exercises and baseline studies has evolved through several preliminary Project boundaries. Following the broad application of the 100 km buffer, investigation areas of 1 km, 5 km, and 10 km were established to characterize vegetation and wildlife within the existing natural heritage conditions in the area of interest (Figure 1-3). The area of interest for the baseline is the property boundary and adjacent lands. The adjacent lands were applied as 1 km, 5 km, and 10 km to plan for the expected changes in the project design (collectively, these buffers comprise the Study Area). The 1 km buffer was assigned as a measure for design shifts, and during survey planning, the 1 km buffer was considered the extent of potential direct impacts. Surveys beyond 10 km were problematic due to budget and site access limitations. Therefore, in consideration of follow-up monitoring, 5 and 10-km buffers were considered for

spatial scales. Selected fieldwork was also completed along the proposed transmission line corridor south to Timmins. Of note, aerial surveys covered a broader study area, extending up to 25 km from the Project Location (animals typically targeted during aerial surveys are highly mobile and occupy large home ranges). This area is distinct from the Project Study Area and is referred to throughout this report as the Aerial Survey Study Area.

WSP completed the baseline work prior to or during the Impact Assessment Planning Phase, specifically during the preparation of the Detailed Project Description. The Project Area (PA), Local Study Areas (LSA), and Regional Study Area (RSA) were not defined until the Feasibility Study was completed and the Impact Statement process was fully initiated. As such, the boundary available in early 2022 is retained in this report as it was the foundation of the field study design. The Study Area considered for the baseline surveys will differ from the LSA and RSA used in the final EA. As the Project progresses to impact assessment stages, results should be updated to reflect future preliminary design elements and valued component-specific local and regional study areas against which effects are measured.



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LEGEND

- Project Location
- First Nation Reserve
- Town / Community
- Conservation Reserve
- Provincial Park
- Local Street
- Highway
- Watercourse
- Waterbody

0 5 10 20 30 40 50 Kilometres

NOTES:
- Topographic map information extracted from Land Information Ontario (MNRF), Queen's Printer for Ontario, 2019/2020.

Datum: NAD83
Projection: UTM Zone 17N

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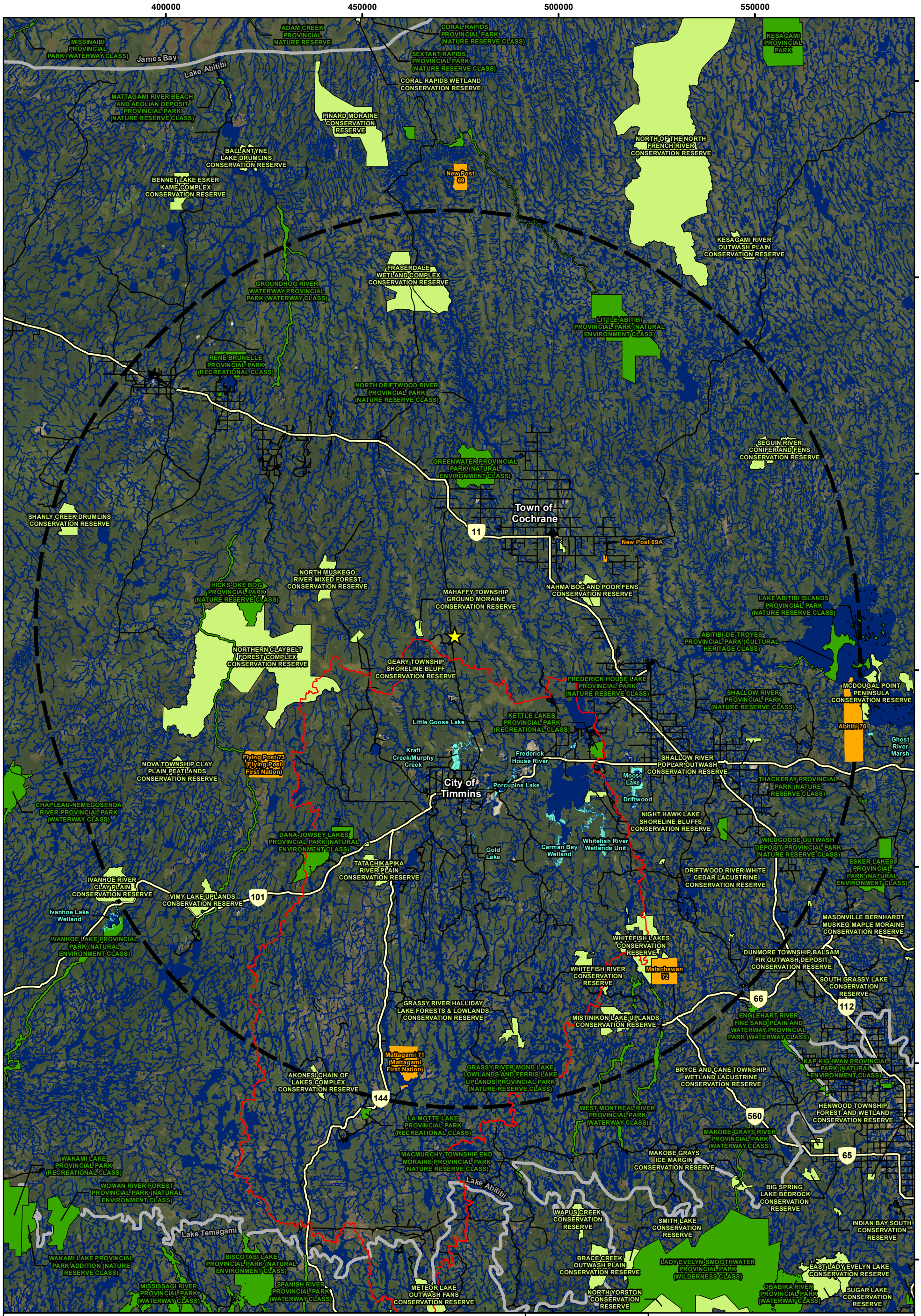
CRAWFORD NICKEL PROJECT

Project Location

PROJECT N°:OMEMA2304 | **FIGURE: 1-1**

SCALE: 1:830,000 | DATE: November 2023



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LEGEND

- Project Location
- Study Area (100km)
- Provincially Significant Wetland (Evaluated)
- Conservation Reserve (Regulated)
- Provincial Park (Regulated)
- Mattagami Region Conservation Authority
- First Nation Reserve
- Ontario Ecoregion Boundary (labelled)
- Primary Road / Highway
- Secondary / Local Road
- Waterbody
- Watercourse

NOTES:
- Watercourse, Waterbody, Wetland, Conservation Reserve (Regulated), Provincial Park (Regulated), First Nation Reserve, Conservation Authority Area, ECO Region Area retrieved from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 12.5 25 50 75 100 125 Kilometres

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CRAWFORD NICKEL PROJECT

Study Area Overview

PROJECT N°:OMEMA2304	**FIGURE: 1-2**
SCALE: 1:900,000	DATE: November 2023

460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km
5km
1km

Aubin Lake
Nesbitt Creek
Reaume Creek
REAUME LOOP RD
Thorburn Creek
CAMP 40 RD
West Buskegau River
Buskegau River
DUFF SOUTH RD
Mattagami River
North Driftwood River
LOWER STURGEON DAM RD
Martin Lake
Gerry Lake
Jack Lake
Sutherland Lake
Mel Lake
Zed Lake
655
Prosser Lake
Jocko Creek
Kidd Creek
Macdiarmid Creek
Kidd Creek Mine
Gowanmarsh Lake
North Porcupine River
Kamiskotia River
Bigwater Lake
Little Goose Lake
Timmins Victor M. Power Airport

X:\CA\CAO\AK300-OAK\MIS-FS1-ProjectF\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Spatial_Study_Areas_1.mxd

LEGEND

- Project Location
- Study Areas (labelled on map)
- Ecoregion/Ecozone (Lake Abitibi/Ontario Shield)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

NOTES:
- Waterbody, Watercourse, and Ecoregion/Ecozone data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

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CRAWFORD NICKEL PROJECT

Spatial Study Areas Delineation

PROJECT N°:OMEMA2304 | **FIGURE: 1-3**

SCALE: 1:135,000 | DATE: November 2023

2.0 EXISTING INFORMATION

A desktop assessment of available background information from existing studies, databases, and other published sources was conducted to compile information on known records of terrestrial wildlife and habitats within the Study Area (Figure 2-1 displays areas queried). Information relevant to the Study Area included the locations of Natural Heritage Features (e.g., PSWs, Areas of Natural and Scientific Interest (ANSIs), and Conservation Reserves) as well as records of wildlife, including Species of Conservation Concern (which encompass SAR occurrences).

In Ontario, Species of Conservation Concern (SCC) commonly include SAR and rare and rapidly declining species. Standard definitions vary across provincially available resources; for the purpose of this report, SCC are defined as:

- Species classified as Extirpated (EXT), Endangered (END), Threatened (THR), or Special Concern (SC), by the Committee on the Status of Species at Risk in Ontario (COSSARO).
- Species classified as Extirpated (EXT), Endangered (END), Threatened (THR), or Special Concern (SC), by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Species classified as Extirpated (EXT), Endangered (END), Threatened (THR), or Special Concern (SC) under the provincial ESA.
- Species classified as Extirpated (EXT), Endangered (END), Threatened (THR), or Special Concern (SC) under the federal SARA.
- Provincially rare species with a provincial rank (sub-national rank) of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable). These species are tracked by the NHIC and are called SCC, though the definition is more encompassing in this document.
- Species of concern as identified by Indigenous Nations.

As outlined above, SAR are included as SCC; however, not all SCC are SAR. SAR shall include those species listed as Extirpated, Endangered, Threatened, or Special Concern under the Endangered Species Act (ESA) and/or the Species at Risk Act (SARA).

2.1 Resources and Databases Queried

The following sources were reviewed as part of the desktop exercise:

- MNRF Natural Heritage Information Centre (NHIC) database grid squares

  (17MP8180, 17MP8181, 17MP7279, 17MP7783, 17MP7784, 17MQ5815, 17MQ5816, 17MP7879, 17MP7979, 17MP7280, 17MQ6808, 17MQ6510, 17MQ6511, 17MQ6512, 17MQ6412, 17MP8280, 17MP8281, 17MQ6508, 17MQ6509, 17MP7880, 17MP7881, 17MP7882, 17MP7883, 17MP7980, 17MP7679, 17MP7292, 17MP7293, 17MP7392, 17MP7393, 17MP7378, 17MP7379, 17MP7478, 17MP7479, 17MP7578, 17MP7579, 17MQ5716, 17MQ6013, 17MQ6014, 17MQ5914, 17MQ5915, 17MQ6411, 17MQ6113, 17MQ6213, 17MQ6310, 17MQ6311, 17MQ6312, 17MQ6410, 17MP7683, 17MP7684, 17MQ7008, 17MP7780, 17MP7781, 17MP7782, 17MQ6308, 17MQ6309, 17MQ6408, 17MQ6409, 17MP7380, 17MP7381, 17MP7480, 17MP7481, 17MP7580, 17MP7581,17MP7680, 17MP7681, and 17MP7682);

- MNRF Land Information Ontario (LIO) and GeoHub;
- Ontario Breeding Bird Atlas (OBBA; Cadman et al. 2007), grid squares
- (17MQ82, 17MQ72, 17MQ62, 17MQ81, 17MQ71, 17MQ61, 17MQ51, 17MQ80, 17MQ70, 17MQ60, 17MQ50, 17MP89, 17MP79, 17MP69, 17MP88, 17MP78, 17MP68, 17MP87, and 17MP77);
- Ontario Reptile and Amphibian Atlas (ORAA; Ontario Nature 2020), grid squares
- (17MQ82, 17MQ72, 17MQ62, 17MQ81, 17MQ71, 17MQ61, 17MQ51, 17MQ80, 17MQ70, 17MQ60, 17MQ50, 17MP89, 17MP79, 17MP69, 17MP88, 17MP78, 17MP68, 17MP87, and 17MP77);
- Ontario Butterfly Atlas (OBA; MacNughton, et al. 2021), grid squares
- (17MQ82, 17MQ72, 17MQ62, 17MQ81, 17MQ71, 17MQ61, 17MQ51, 17MQ80, 17MQ70, 17MQ60, 17MQ50, 17MP89, 17MP79, 17MP69, 17MP88, 17MP78, 17MP68, 17MP87, 17MP77);
- Atlas of the Mammals of Ontario (AMO; Dobbyn 1994);
- Bat Conservation International Bat Profiles (BCI; 2022);
- iNaturalist (2022);
- SARA Public Registry;
- Critical Habitat for Species at Risk National Dataset – Canada (GOC 2023);
- COSEWIC Status Assessments and Recovery Strategies;
- COSSARO Evaluation Reports;
- eBird (2022); and
- Timmins Official Plan (2010).

The MNRF NHIC database generalizes the locations of observations and element occurrences of species to a 1 km by 1 km grid resolution. The OBBA, ORAA, and OBA generalize the locations of observations and element occurrences of species to a 10 km by 10 km grid resolution. The Critical Habitat for Species at Risk National Dataset includes varying grid resolutions (depending on species) as well as targeted mapped Critical Habitat areas. The list of mammals that may be found in the Study Area was similarly generated; however, the most recent publication of the AMO is approximately 30 years old and is not available in a database. As such, the potential presence of these species within the 10 km by 10 km squares was extrapolated based on the hard copy AMO documentation (Dobbyn, 1994). Preliminary habitat assessment and mapping were completed as part of the desktop review for various taxa, candidate natural heritage features, and SCC. For the purposes of this report, only common names (aligned with NatureServe (2021) Explorer (fauna) and the Database of Vascular Plants of Canada (flora)) for species have been provided; scientific names of each reported species are provided in Appendix A. Background information sources are shown in Figure 2-1.

2.2 Summary of Available Existing Information

Subsequent to the review of available resources and databases, the following existing features and element occurrences were compiled to characterize known conditions and records within the Study Area.

Wetlands

The Timmins Official Plan Schedule B mapping (2010) identifies the presence of wetlands designated as PSW and “all other wetlands” within the Study Area, particularly near the southernmost limit of the Study Area. The PSWs identified are the Kraft Creek / Murphy Creek Wetland, and the Little Goose Creek Wetland, both in the southern portion of the Study Area. Other unnamed wetlands occur throughout the Study Area which, to the best of available knowledge, have not been evaluated for Provincial Significance.

ANSIs

No ANSIs were found in the Study Area.

Conservation Reserves

A search of data available from the NHIC identified the presence of the Mahaffy Township Ground Moraine Conservation Reserve in the northwest section of the Study Area (Figure 1-2).

Amphibians and Reptiles

The ORAA contained seven species of amphibians that potentially occur (based on previous records) within the Study Area: Blue-spotted Salamander, Boreal Chorus Frog, Spring Peeper, Wood Frog, Mink Frog, Eastern Red- backed Salamander and American Toad and three species of reptiles: Snapping Turtle, Eastern Gartersnake, and Midland Painted Turtle. iNaturalist contained records of American Toad, Blue-spotted Salamander, Eastern Gartersnake, and Wood Frog. Snapping Turtle is designated as Special Concern both provincially and federally. Blanding’s Turtle, a species that is listed as endangered both provincially and federally, has been reported within the Study Area by community members.

Avifauna

The NHIC identified three SAR birds potentially present within the vicinity of the Study Area. These three NHIC records are: Bank Swallow, which is designated as Threatened, as well as Olive-sided Flycatcher and Peregrine Falcon, which are both designated as Special Concern. The OBBA had records of 98 species of birds identified as “probable” breeders within the Study Area. Species of Conservation Concern (SCC) reported by the OBBA include Bank Swallow and Barn Swallow. Barn Swallow is listed as Special Concern provincially and as Threatened federally. A complete list of birds identified through the background information review is provided in Appendix A.

Insects

The NHIC and OBA list together identified 36 species of insects potentially present within the Study Area. These records included two SAR: Yellow-banded Bumble Bee and Monarch, both of which are designated as Special Concern provincially and federally.

Mammals

Together, the NHIC and OMA lists documented 38 species of mammals potentially present within the Study Area. These records included three SAR: Little Brown Myotis and Northern Myotis, which are designated as Endangered both provincially and federally, and Woodland Caribou (Boreal Ecotype), which is designated as Threatened both provincially and federally.

Critical Habitat (under the federal SARA) is mapped within the Study Area for Woodland Caribou, comprising the Kesagami Range of the Boreal population. Little Brown Myotis, Northern Myotis, and Tricolored Bat have Critical Habitat identified within a 50 km by 50 km grid resolution that overlaps with the Study Area.

A complete list of mammal species identified through the background information review is provided in Appendix A.

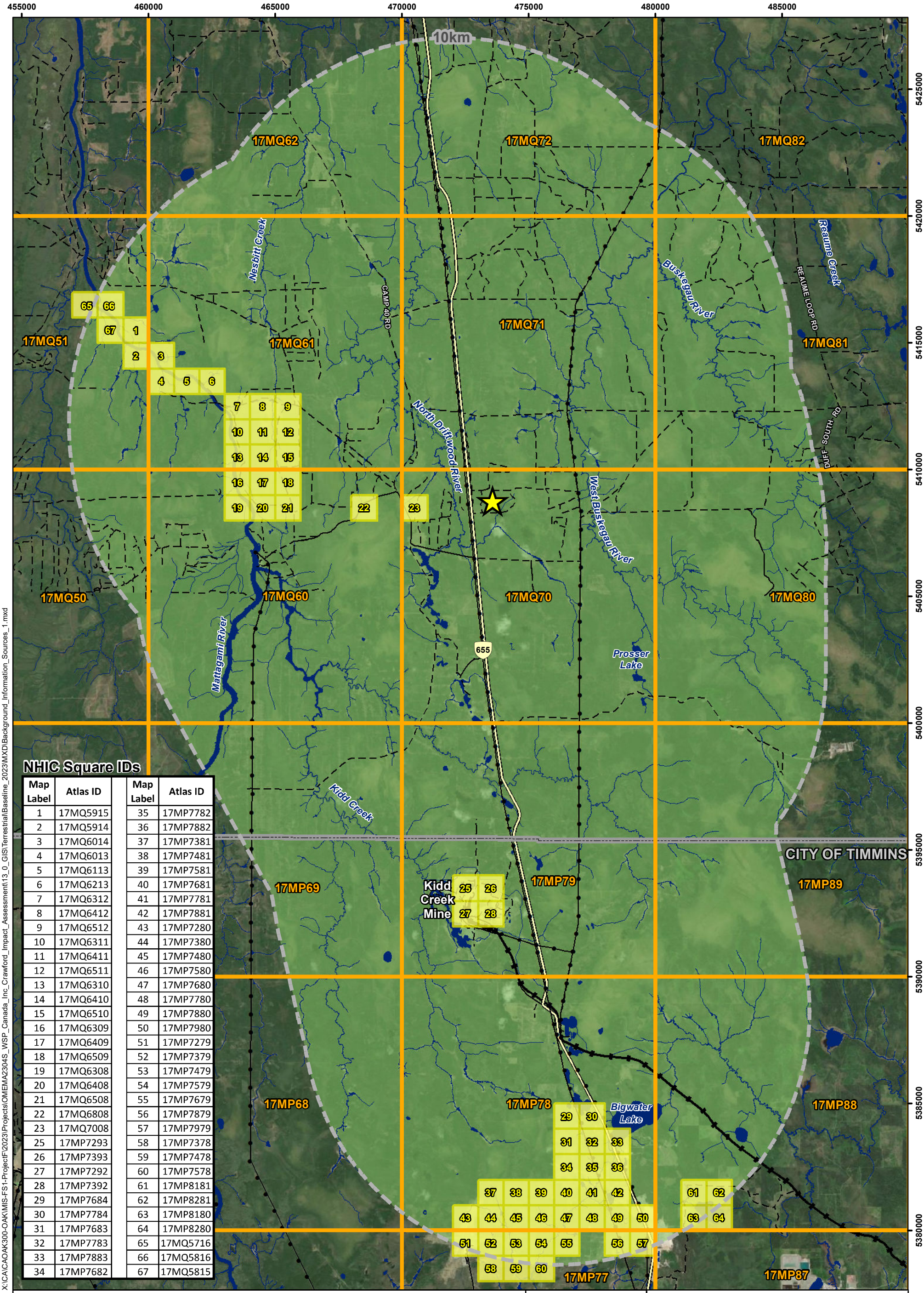
Plants

iNaturalist records from the Timmins area include one SAR plant, Black Ash, that has been recorded in the Study Area. Black Ash is a tree species that is widespread and common but in rapid decline due to the invasive Emerald Ash Borer, a beetle that girdles ash trees causing branch mortality and ultimately tree mortality. As a result of this decline, Black Ash was designated as Threatened in Ontario by COSEWIC in 2018. On January 27, 2021, COSSARO submitted their report assessing Black Ash as Endangered in Ontario. Black Ash was listed as Endangered under the ESA on January 27, 2022. However, protection provisions were suspended under a Minister's Order (Environmental Registry of Ontario number 019-4278) for two years after listing. On January 25, 2024, the ministry made new regulations that focus the application of the Endangered Species Act protections on areas of the province where Black Ash has experienced significant mortality due to the invasive Emerald Ash Borer.

Under the new O. Reg. 6/24*: Limitations on Section 9 Prohibitions* and O. Reg. 7/24: *Habitat*, Black Ash and its habitat is not protected from harm or destruction in the Study Area as it is not located in a listed municipality. Black Ash is ranked uncommon in Ontario (S4).

Significant Wildlife Habitat

The provincial wildlife values data set (Ontario Geohub, 2020) documented wildlife records including Northern Goshawk nests, Moose aquatic feeding areas (MAFA), and Moose late winter cover. These features are SWH and discussed further in Section 5.2.2.



NHIC Square IDs

Map Label	Atlas ID	Map Label	Atlas ID
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3	17MQ6014	37	17MP7381
4	17MQ6013	38	17MP7481
5	17MQ6113	39	17MP7581
6	17MQ6213	40	17MP7681
7	17MQ6312	41	17MP7781
8	17MQ6412	42	17MP7881
9	17MQ6512	43	17MP7280
10	17MQ6311	44	17MP7380
11	17MQ6411	45	17MP7480
12	17MQ6511	46	17MP7580
13	17MQ6310	47	17MP7680
14	17MQ6410	48	17MP7780
15	17MQ6510	49	17MP7880
16	17MQ6309	50	17MP7980
17	17MQ6409	51	17MP7279
18	17MQ6509	52	17MP7379
19	17MQ6308	53	17MP7479
20	17MQ6408	54	17MP7579
21	17MQ6508	55	17MP7679
22	17MQ6808	56	17MP7879
23	17MQ7008	57	17MP7979
25	17MP7293	58	17MP7378
26	17MP7393	59	17MP7478
27	17MP7292	60	17MP7578
28	17MP7392	61	17MP8181
29	17MP7684	62	17MP8281
30	17MP7784	63	17MP8180
31	17MP7683	64	17MP8280
32	17MP7783	65	17MQ5716
33	17MP7883	66	17MQ5816
34	17MP7682	67	17MQ5815

LEGEND

- Project Location
- 10 km Study Area
- City of Timmins
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse
- Natural Heritage Information Centre (NHIC) Squares (Refer to table for ID)
- iNaturalist and eBird Search Area
- Ontario Breeding Bird Atlas, Ontario Reptile and Amphibian Atlas and Ontario Butterfly Atlas (Labelled with ID)

NOTES:
- Waterbody, Watercourse, and Ecoregion/Ecozone data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

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CRAWFORD NICKEL PROJECT

Background Information Sources

PROJECT N°:OMEMA2304S | **FIGURE: 2-1**

SCALE: 1:137,000 | DATE: November 2023

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectF\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Background_Information_Sources_1.mxd

3.0 METHODOLOGY

The following subsections outline the methods of field investigations undertaken for the 2021, 2022, and 2023 terrestrial baseline surveys. To characterize the terrestrial environment, surveys were completed at various times of year to target appropriate windows for specific species, to the extent feasible based on the complexity of site access and considering staff safety. Table 3-1 provides a summary of the dates, times, and survey types for all field investigations undertaken. Survey locations from 2021, 2022, and 2023 are illustrated in Figures 3-1 through 3-7.

3.1 Flora and Vegetation Communities

Vegetation communities within the Study Area have been delineated and described by the Forest Resources Inventory (FRI) Versions 1 and 2, which are available from LIO (LIO 2007, 2021). The FRI is a large-scale survey of the province's forests and wetlands. These datasets provide vegetation boundaries, forest stand information (e.g., tree composition, range, age, and distribution), and general information on wetlands. Communities are classified to ecosite using the Ecosites of Ontario (Banton et al., 2009). The majority of the Study Area is located within the Abitibi River FRI Version 2 (LIO, 2021); however, two small portions of the Study Area are located within the Romeo-Malette FRI Version 1 (LIO, 2007) as seen in Figure 3-1. The Abitibi River FRI provided the vegetation community descriptions using the Boreal ELC coding system (Banton et al., 2009) while the Romeo- Malette FRI does not.

Surveys were undertaken within the Study Area to validate the existing ecosite classifications provided in FRI data. At each site, a vegetation inventory was also collected. Between 2021 and 2022, a total of 162 sites within the Study Area received confirmational ELC survey and vegetation inventory. Site selection was somewhat limited by site access; however, a wide range of vegetation types across the Study Area were assessed. At each survey site, WSP Biologists confirmed the ecosite and collected the following information:

- A complete list of all plant species observed, including the relative abundance of each species;
- A listing of the dominant plant species in the vegetation layers of the community (canopy, sub-canopy, understory, and ground layer);
- A general classification of the site into broad habitat categories (e.g., forest, fen, marsh); and
- Other relevant information as applicable.

Substrate type and depth, moisture regime, and topography were collected in a limited capacity during vegetation inventories in 2022 with the use of a hand auger. This information may be further informed by previous studies and geotechnical investigations completed under separate cover. Vegetation sampling identified the dominant vegetation species composition at each survey location, and the location was assigned a Boreal ecosite code (and not a vegetation or substrate code). FRI boundaries were not altered at this scale as the area is very homogenous, and there are few hard lines between communities. Additionally, vegetation cover, substrate, moisture, etc., occur in a gradient (Ecosites of Ontario 2009); therefore, altering boundaries was deemed unnecessary. Note that ELC codes from the FRI were updated based on field surveys, as necessary. Boundaries are instead used to understand where the sampled site fits in relation to other sampled sites and to characterize the various communities in the Project area likely to be affected. Field sampling is also used to inform the extent of wetlands likely to be affected by Project activities. Wetlands are considered according to their size, type, description of their function (e.g., ecological, hydrological, wildlife, socioeconomic, etc.), and species composition.

The terminology used to define vegetation layers, understanding that some layers may not be present within a vegetation community sampled, are:

Canopy: Consists of tall vegetation that reaches the light first, typically composed of tall trees (in a forest community).

Sub-canopy: Includes vegetation growing just under the canopy, vegetation that receives filtered sunlight, typically composed of trees and tall shrubs (in a forest community).

Understory: Includes vegetation growing below the sub-canopy, typically composed of both tall and low-growing shrubs (in a forest community).

Ground layer: Consists of the vegetation, which is closest to and covers the ground, typically composed of herbaceous vegetation.

By defining the Boreal ecosite, the presence of rare, sensitive, and/or significant vegetation communities and/or species can be identified. ELC communities were cross-referenced with provincially significant vegetation communities as identified in the Significant Wildlife Habitat Technical Guide (OMNR 2000). Soil information for the purpose of ecosite determination was approximated based on vegetation present.

Preliminary assessment and review of a selection of wetlands were completed using concepts from the OWES manual; however, OWES was not initially developed to be used on the broad wetland complexes of Ontario's northern boreal forests. To this end, while concepts from OWES have been applied during the 2022 field studies to support preliminary assessments, ongoing consultation is required with the MNRF to determine the appropriate route to and finalization of wetland classification across the broader Study Area.

3.1.1 Rare Vegetation Community/Type Surveys

Potential rare vegetation community types (informed by the Significant Wildlife Habitat Criteria Schedule 3E) were mapped based on FRI data. Accessible sites were surveyed during field visits as feasible, and targeted surveys were completed in August 2021 and late July / early August 2022. In some instances, where the site was inaccessible by foot, aerial surveys via helicopter were conducted. In either case, the potential rare vegetation community types were inventoried for cover of relevant rare vegetation type, and indicator / associated species in order to either rule out or confirm the presence of the rare vegetation community type.

3.2 Herptile Surveys

3.2.1 Amphibian Call Surveys

Amphibian call survey locations were selected using available aerial imagery and ELC to target candidate amphibian breeding habitat within the Study Area; these locations were further refined during a site reconnaissance prior to the amphibian breeding season. Amphibian breeding habitats assessed included marshes, swamps, and other wetlands. Only sites that could be safely accessed at night were surveyed. A total of 61 amphibian call surveys were completed over the course of four site visits. Ten sites were surveyed June 12-18, 2021; 23 sites surveyed May 13-18, 2022; 11 sites were surveyed June 1-3, 2022; and 17 sites surveyed June 22-27, 2022 (Figure 3-5).

Surveys generally followed the protocols described in *The Marsh Monitoring Program* (BSC 2009a). At each survey station, WSP biologists listened for calling amphibians for three minutes. Biologists noted the species based on their unique vocalizations, as well as their relative locations and approximate abundance. The intensity of amphibian calling was also classified based on the following three categories:

- Level 1 – calls not simultaneous, number of individuals can be accurately counted;
- Level 2 – some calls simultaneous, number of individuals can be reliably estimated; and
- Level 3 – full chorus, calls continuous and overlapping, the number of individuals cannot be readily estimated.

3.2.2 Turtle Basking Surveys

Seventeen (17) turtle basking surveys were completed from May 13 to 17, 2022, at potentially suitable habitat features.

Basking surveys were completed by slowly visually scanning suitable habitats with binoculars for turtles. Surveys were generally conducted between 08:00 and 17:00 during sunny periods when the air temperature was >5 °C and warmer than the water temperature, when possible. Surveys were carried out on partially cloudy or overcast days only when the air temperature exceeded 15°C and was higher than the water temperature. Surveys were not carried out if air temperature exceeded 25°C except early in the morning (08:00-10:00).

3.2.3 Targeted Blanding's Turtle Habitat Assessments

Locations of Blanding's Turtle observations shared with CNC from communities were preliminarily investigated in 2022 and accessed via helicopter on August 17, 2023. Three biologists and a CNC employee were able to safely exit the helicopter to conduct habitat assessments on the ground at two of the three observation locations, with the third location assessed from the helicopter due to inaccessibility. Observation locations were assessed for suitability based on functional habitat, and proximity to potential overwintering and nesting sites.

In addition to the habitat assessments at locations of historical observations, aerial transect surveys were completed across the Study Area as discussed in Section 3.5.3. The results of the aerial surveys conducted August 16, 2023, informed ground-truthing activities completed August 18 to 19, 2023. Areas that were identified as having moderate or high habitat suitability during aerial surveys were selected for field assessments to ground- truth the identified suitability classification. Results are discussed in Section 4.2.3.

Samples for quantitative PCR (qPCR) environmental DNA (eDNA) analysis were collected within three general areas (Kidd Creek, West Buskegau, and Prosser Lake) to help confirm Blanding's Turtle (BLTU) presence at the historical observation locations. If present, eDNA sampling can detect DNA deposited in the environment through excretion, shedding, mucous secretions, and saliva from the species. Samples were collected during field activities June 7 to 8, 2023, and July 15 to 16, 2023, in accordance with the study design developed using the eDNA laboratory guidance for BLTU surveys.

A total of 20 environmental samples (Kidd Creek, n=5; West Buskegau River, n=5; Prosser Lake, n=10) and three negative controls (one at each location) were collected. The eDNA samples were sent to a third-party laboratory for assessment, where negative and positive controls were used to ensure the accuracy and effectiveness of the analysis.

3.3 Bird Surveys

Bird surveys, including breeding bird surveys, autonomous recording units (ARUs), crepuscular bird surveys, marsh bird surveys, nocturnal owl surveys, migratory bird (including migratory waterfowl) surveys, and targeted SAR bird surveys, were completed to describe abundance, distribution, and life stages of birds and their habitats that are found, or are likely to be found, in the Study Area.

3.3.1 Breeding Bird Surveys (Point Counts)

Two rounds of breeding bird surveys were undertaken annually from 2021 to 2023. For the 2021 and 2022 surveys, a random distribution of point count locations across all habitat types was generated using ArcMAP 10.3 and then stratified across habitats. Local adjustments to survey locations were made in the field where health and safety, land ownership or access issues prevented field biologists from accessing the area. For the 2023 surveys, the ELC distribution of previously surveyed sites was assessed, and under-represented ELC types were selected as new survey locations. Additional 2023 breeding bird surveys were completed at sites with candidate Lesser Yellowlegs habitat to target the uplisted species; this is further discussed in Section 3.3.8.

Surveys were adapted from the protocols described in the OBBA Guide for Participants (2001) and Instructions for Point Counts (2021). Breeding evidence was recorded according to the OBBA (Cadman et al. 2007). In 2021, 79-point count stations were completed across two site visits (Table 3-1); some survey points shown on the 2021 figure in Appendix E have since been eliminated due to changes in the project area related to the transmission line. In 2022, 49-point count stations were completed across two site visits (Table 3-1). In 2023, 126-point count stations were completed across two rounds of surveys, 83 of which were in habitats assessed as being suitable for Lesser Yellowlegs; 114 points were new survey locations in 2023 to support under-represented ELC types, as discussed above. When considering all survey years, 357-point counts were conducted at 204 unique survey stations across the Study Area. Surveys were conducted between 05:00 and 11:00 to capture the period of maximum bird song activity. However, where access required a helicopter, some surveys were extended until 12:00 due to site access constraints.

At each survey station, all birds heard or observed were recorded at intervals of 0 to 50 m, 50 to 100 m, >100 m, and flyovers (birds seen flying overhead). Each point count lasted ten minutes, and birds were recorded at intervals of 0 to 3 minutes, 3 to 5 minutes, and 5 to 10 minutes. Species were identified based on their unique vocalizations and by visual observation. Each bird was recorded once and mapped on the field data sheets to ensure no duplication of individual birds.

The maximum abundance of a species from each point count location was determined over both rounds; birds identified at the same location in each round of surveys were assumed to be the same individuals. For example, if three Red-eyed Vireos were recorded at a point count on the first visit, and one was recorded on the second visit, the abundance of Red-eyed Vireos for that point count was reported as three. In addition to the abundances calculated, species richness was calculated for each location by determining the total number of species observed at that point count location across both visits.

3.3.2 Bird Autonomous Recording Units (ARU)

In addition to the point count breeding bird surveys, a total of 39 Acoustic Monitoring Stations (ARUs) using Wildlife Acoustics Song Meter Micro were established in target habitats across the Study Area (Figure 3-3). ARU locations were selected using stratified-random approach base on available FRI polygons. Acoustic monitoring occurred in 2021 between June 12 and August 10, and in 2022 from May 16 to July 17, 2022. In 2023, units were deployed between 29 May 24-29 and recorded until the batteries died after the last refurbishment, resulting in one

unit recording until September 6, seven units recording until September 20-24, one unit malfunctioning due to physical damage, and one unit being lost due to theft or wildlife destruction. To increase the spatial distribution of the sampling effort, ARUs were moved around the Study Area during these periods in 2021 and 2022. In 2023, the ten units were deployed in habitats deemed suitable for Lesser Yellowlegs to target the recently uplisted SAR species; each unit sampled a single location within the Study Area for the 2023 sampling program. Each unit was programmed to record from 30 minutes before sunrise to 90 minutes after sunrise and from 30 minutes before sunset to 90 minutes after sunset, with a sample rate of 48,000 Hertz (Hz) and gain of 18 decibels (dB). The detectors were mounted on tree trunks or large shrubs at an average height of 1.6 m or higher, with the microphones positioned away from potential obstacles and angled away from prevailing winds to the extent possible.

3.3.3 Bird ARU Analysis

The recordings collected from the bird ARUs were analyzed using a two-step process: 1) automated classification of the recordings and 2) the generation of the preliminary species list from the automated classification. Automated classification used the BirdNET automated classifier to detect and classify bird vocalizations within all recordings. BirdNET was accessed and implemented through the National Park Service “R” library, NSNSDAcoustics using the following model: BirdNET_GLOBAL_3K_V2.2_Model_FP32.tflite.

The location of the Project (coordinates, latitude 48.837424, and longitude -81.363945) was specified. This allowed BirdNET to generate a list of possible species for the Project site from which to base the classification decisions. BirdNET was set to decide which internal species list to use based on each specific survey week. The sensitivity of the classifier was set to 0.5. The overlap was set to 0, meaning that BirdNET did not classify the same call more than once. The significant figure threshold was set to 0.01 which made the classifier more inclusive for bird species at the edge of the species range.

Once the data were classified, a list of species that were detected by the ARUs was created. The results of the automated classification from all recordings were merged to create a full dataset. The dataset was then filtered for detections that had a BirdNET classification confidence greater or equal to 90%. A second filter was run on the data to remove species that were only detected once as these were less likely to be true positive detections. It is important to note that, although a conservative filtering strategy was used to build this list, the automated classification may still have generated some erroneous results which can only be truly confirmed through manual vetting.

A second species list was generated that comprised all SAR birds that could be confirmed based on the ARU data. This was accomplished by manually vetting all ARU recordings auto-classified to a SAR. Five-second clips were generated with R software from the bird song events from each species identified by BirdNET. A WSP avian specialist verified the species identity and manually classified each clip using Kaleidoscope PRO software Version 5.6.3 (Wildlife Acoustics, Inc.). The manually vetted results were compiled to build a list of confirmed SAR from ARU data. The following species were manually vetted: Bald eagle, Canada Warbler, Common Nighthawk, Lesser Yellowlegs, Olive-sided flycatcher, Rusty Blackbird.

3.3.4 Crepuscular Bird Surveys

In 2021, 20 ARUs were programmed to target crepuscular birds concurrent with songbird recording locations. In 2022, 9 ARUs, as referenced in Section 3.4.2, were also programmed to target crepuscular birds (e.g., Common Nighthawk, Eastern Whip-poor-will; Figure 3-3). In 2023, 10 ARUs were programmed consistent with previous years to target crepuscular birds. Each unit was programmed to record from 30 minutes before sunset to 90 minutes after sunset, with a sample rate of 48,000 Hz and a gain of 18 dB. The installation methods, data management, and analysis were the same as described in Sections 3.3.2 and 3.3.3.

3.3.5 Marsh Bird Surveys

Nine manual marsh bird surveys were conducted between 2021 and 2022 (Figure 3-3). Marsh bird surveys were undertaken in 2021 on June 14, July 5, and 2022 on May 16-18, June 14, 27, 29, and July 5. Surveys targeting marsh birds were generally conducted in accordance with the methods outlined in the *Marsh Monitoring Program Participant's Handbook for Surveying Marsh Birds* (BSC 2009b). Surveys were conducted between 05:00 and 11:00 in 2021 alongside point count breeding bird surveys (refer to Section 3.3.1) and between 21:00 to 23:00 in 2022 to capture the periods of maximum bird activity.

Each station was surveyed for 15 minutes during calm conditions favourable for marsh birds. Each 15-minute survey was subdivided into three 5-minute sections. The first 5 minutes were spent silent and listening, the second 5 minutes were spent playing callbacks, and the third 5 minutes were spent silent and listening again. While playing callbacks, territorial calls of typically elusive bird species (i.e., Sora, Virginia Rail, Yellow Rail, and American Bittern) were broadcast to elicit calls from these normally undetected marsh birds. The stations consisted of 100 m and 200 m radii from the center point (the observer's location). All birds heard or observed were recorded.

3.3.6 Nocturnal Owl Surveys

In 2022, manual nocturnal owl surveys were completed on 12 March and 13, 14, 15, and 18 May; twenty-five (25) nocturnal owl surveys were conducted across 20 stations (Figure 3-3). The surveys targeted mature deciduous and mixed forests.

Nocturnal Owl Surveys were adapted from the Nocturnal Owl Surveys in Northern Ontario: A Citizen's Guide (OBBA 2022). Surveys were completed on calm nights with good visibility and little precipitation in conditions where winds were <19 km/h (Beaufort 1-3) and temperatures > 15ºC.

The broadcast included owl calls from the Boreal Owl, Northern Saw-whet Owl, Barred Owl, and Great Gray Owl. A JBL Clip 3 Portable Bluetooth speaker placed on top of the vehicle played the calls.

Surveys began 30 minutes after sunset in calm weather, allowing for ideal listening conditions for owls. Each survey station started with one minute of silent listening, followed by the individual playing of each owl species; owl calls played in sequence from smallest to largest were each followed by one minute of silent listening to allow for documentation of visual response or auditory territorial call from each species.

3.3.7 Migratory Bird / Waterfowl Surveys

Aerial surveys for migrating geese and waterfowl were completed concurrently with the aerial ungulate survey on 12 and 13 March 2022. Targeted migratory bird, waterfowl, and shorebird surveys were conducted at 17 sites between May 13-17, 2022, and 29 sites between September 11-15, 2023. These surveys were completed at specific points near potential habitats for migratory birds, including waterfowl and shorebirds (Figure 3-3).

Observers travelled throughout the investigation area, recording all birds identified by sight or sound. Surveys were particularly targeted in areas with the potential to support concentrations of migratory birds – wetlands, water bodies, and open grassy habitats. Surveys for waterfowl stopover and staging areas, a type of SWH, were also conducted from the ground with a spotting scope. Targeted areas were flooded fields, and ponds, marshes, and lakes where ice-off first occurs in spring.

3.3.8 SAR Birds

On January 25, 2023, the Species at Risk in Ontario (SARO) list was updated, uplisting Short-eared Owl from Special Concern to Threatened and classifying Lesser Yellowlegs as Threatened; addition or uplisting of a species to Threatened provides species and habitat protections under Subsections 9 and 10 of the *Endangered Species Act* (ESA).

Presence/no detection surveys for Short-eared Owl were completed in breeding season on June 3-4, 2023, using point count surveys in accordance with the Alberta Sensitive Species Inventory Guidelines (Alberta Government 2013). Surveys were conducted starting one (1) hour before sunset and ending 30 minutes after sunset (90 minutes). Three routes were completed along linear access features, and each route was approximately 9.5 km long with a total of 30 stations located at 800 m intervals (assuming one (1) minute to get between stops and driving). A three (3) minute point count was conducted on each side of the road at each stop (i.e., on a road running north-south, one survey was completed on the east side of the road and one on the west, for a total of 60 surveys), during which the observer recorded all owls seen within 400 m of the stop. Any owls outside of 400 m were to be recorded separately. Survey stops were at locations with optimum visibility of the surrounding landscape and safe locations for stopping on the road. A fourth route was originally planned to be surveyed, but surveys were cut short due to wildfires in the Study Area.

Candidate Lesser Yellowlegs habitat was identified by selecting Boreal ecosites that aligned with the habitat descriptions from the COSEWIC assessment's description of habitat types and mapped across the Study Area. Where field visits determined the suitable candidate habitat, a 10-minute point count was completed, adapted from the protocols described in the OBBA Guide for Participants (2001) and Instructions for Point Counts (2021). Breeding evidence was recorded according to the OBBA (Cadman et al. 2007). A total of 83 targeted surveys were completed in suitable habitat for Lesser Yellowlegs from May 23-31, 2023. The survey locations and data collected during the targeted Lesser Yellowlegs surveys have been included in the breeding bird survey (point count) information discussed in Section 3.3.1 and the results discussed in Section 4.3.2.

Survey locations for SAR Birds are shown in Figure 3–4.

3.4 Bat Surveys

3.4.1 Bat Maternity Roost Habitat Surveys

FRI data (LIO 2007, 2021) was used to identify areas of Mature Growth Deciduous / Mixed Wood Stands or Old Growth Deciduous / Mixed Wood Stands (before ground-truthing results). Survey locations targeted mature mixed and deciduous forests to assess the suitability of forests within the Study Area for bat maternity roosting habitat. Surveys for candidate maternity roost trees were conducted at 42 locations, and approximately three to five plots were surveyed at each location for a total of 119 plots. Of these locations, 20 were surveyed in 2021, 9 in 2022, and 13 in 2023.

In 2021, the evaluation of suitable bat maternity habitat adapted methods based on the Guidelines for Wind Power Projects (OMNR 2011) and the more recent MECP guidelines for Southern Ontario (OMNRF 2017). In 2022, MECP released two new guidance documents titled Species at Risk Bats Survey Note 2022 (MECP 2022a) and Maternity Roost Surveys (Forests/Woodlands) (MECP 2022b); both were incorporated in later surveys. At each survey location, approximately three to five circular plots with a radius of 12.6 m (an area of 0.05 ha) were surveyed. Specific site selection was completed in-situ based on the complexity of site access. Each plot recorded all trees with a DBH greater than 10 cm and harbouring potentially suitable bat habitat in the form of cavities, loose bark, or cracks. For each suitable tree, the species, its level of decay (Watt and Caceres 1999), its height and canopy class, and the height and number of suitable features were recorded. At each survey location, plot locations were selected randomly within the suitable forest type. An average snag density (snags per hectare) was then calculated for each survey location—snag density informed bat detector placement. Given the large size and complexity of site access across the Study Area, this sub-sampling regime was developed to ensure adequate coverage of the Project. Ultimately, the results were used to inform the mapping of SAR bat maternity roosting habitat. Likewise, the average number of potentially suitable roost trees per hectare was also calculated to determine Significant Wildlife Habitat based on the Criteria Schedule (SWHCS) for Ecoregion 3E (OMNRF 2015a).

3.4.2 Bat Hibernacula Habitat Surveys

In August and September, bats swarm at the entrance of their hibernaculum (i.e., caves and crevices; Norquay et al. 2013). Swarming occurs when bats congregate to breed and prepare for hibernation. To be considered suitable, a hibernaculum must maintain winter temperatures slightly above freezing and have constant air circulation and high relative humidity.

The Ontario Abandoned Mines Information System (AMIS; Ministry of Mines 2022) was used to identify the locations of abandoned mines that might harbour suitable habitat features for hibernating bats. The only mine features identified by the desktop exercise were those relating to the Kidd Operations mines approximately 1 km west of the Southern end of the Study Area, which is still in operation and therefore does not represent potential bat wintering habitat.

The geological context was also considered when investigating the Study Area for bat hibernacula. Confirmed and known caves in Ontario (Thomas et al. 1979; Ford 1961; Hitchcoke et al. 1984) and Manitoba (Bilecki, 2003) are primarily located in karst / limestone. The only known natural bat hibernaculum in British Columbia is formed from sandstone. Karst / limestone and sandstone are softer stone which succumb easily to speleogenesis via dissolution. A desktop analysis of the Study Area was undertaken to identify areas that contain bedrock suitable for cave and crevice formation. Areas of suitable bedrock were then compared against aerial photography and vegetation communities to locate potentially suitable sites with exposed rock outcrops. Bedrock geology within and around the Study Area consists primarily of dacitic, andesitic (felsic), and basaltic (mafic) rock (Ministry of Mines 2022), which are all hard stones less likely to harbour caves. The southern tip of the Study Area (8.5 ha) is primarily metasedimentary rock composed of wacke and other relatively soft stones, including mudstone and marble, which have the potential to harbour caves. Although the Study Area was largely represented by swamp, fen, bog, and forest habitats covered with sphagnum mosses and/or standing water, aerial surveys were conducted on May 18, 2022 to contribute to the assessment of potential bat hibernacula. The aerial survey covered the extension of the wacke bedrock across a 5 km buffered area from the project footprint. Specifically, the survey area extended from the middle of Bigwater Lake (the southern tip of the Project) to the southern edge of Kidd Creek Mine. Surveys were conducted along transects that were 8-10 km long, spaced 700 to 900 m apart,

and running approximately perpendicular (heading of 61 degrees) to the Project. Two observers, one on each side of the aircraft, visually scanned the ground for any areas of exposed rock or rock outcropping. When such an area was identified, observers circled back to inspect it more closely and evaluate its potential for harbouring bat overwintering habitat. Biologists identified one site, Rock Barren 8, as potentially harbouring such habitat so it was revisited via ground surveys on May 19, 2022.

In 2021, four locations in the Study Area were found to have exposed rock outcrops (RB-1 to RB-4). A fifth location, RB-5, was also identified during ground surveys and assessed due to its primarily granite bedrock, which may support talus caves (Song et al. 2015, Gaál and Bella 2008, Lazaridis and Pipera 2008). These sites were surveyed on the ground from August 10 to 15, 2021, for their potential to contain suitable overwintering habitat for bats. Sites were examined for the presence of deep cracks, fissures or other openings into rock that might harbour consistent temperature, air circulation, and humidity levels required by hibernating bats. The senior bat biologist revisited these five sites during the May 2022 aerial surveys to confirm their 2021 evaluations. An additional seven locations with exposed rock were identified in 2022 during aerial surveys. Two of these, Rock Barren 8 and Rock Barren 6 contained areas of talus and crevices or other openings within the rock that might be used by hibernating bats. These sites were visited via ground surveys and bat detectors (Wildlife Acoustics Song Meter Mini Bat Ultrasonic Recorders) were deployed at features at the sites that could most likely serve as bat hibernacula. A total of six features were monitored at Rock Barren 6 and one at Rock Barren 8 (see results for a description). One additional detector was deployed at each site in an area of exposed rock with no obvious openings for bats, which served as a control site. Acoustic monitoring of candidate hibernacula ran from May 17 to June 6, 2022, at Rock Barren 6 and from May 19 – June 6, 2022, at Rock Barren 8. The same candidate hibernacula features were assessed through acoustic monitoring from July 7 through September 11, 2023. This extended survey period allowed for the detection of any seasonal peaks in activity that characterize pre-hibernation bat behaviour that occurs at hibernacula in late Summer / early Fall.

3.4.3 Bat Detector Surveys

3.4.3.1 Maternity Roost Habitat

WSP deployed bat detectors (Wildlife Acoustics Song Meter Mini Bat Ultrasonic Recorders) to conduct acoustic bat surveys to detect nocturnal bat activity during the maternal brood-rearing period in June and early July as Ontario bat species have a variety of species-specific echolocation call structures, enabling identification of calls to species. Bat detectors were deployed in appropriate habitats across the Study Area, accounting for the representation of various habitat types, to target maternity roosting bats. In 2021, 18 acoustic monitoring stations were deployed from June 12 to August 10, amounting to 263 detector nights. In 2022, 17 bat detectors were deployed from June 6, to August 1 for a total of 450 detector nights. In 2023, 10 bat detectors were deployed from May 24 to July 3 for a total of 305 detector nights. The number of survey sites was maximized by moving bat detectors around the Study Area. In 2021, The number of nights of monitoring at each station ranged from 2 to 35 nights, with 15 sites monitored for at least five nights, ten sites monitored for at least ten nights, and eight sites monitored for at least 20 nights. In 2022, all sites were monitored for at least 20 nights, and nine sites were monitored for 30 nights or more. In 2023, detectors remained in the same locations for the duration of the surveys, and all recorded for more than 25 nights, except for one that recorded for 12 nights. Some monitoring occurred outside of the standard June to early July survey window due to the complexity of site access within the preliminary Project Boundary and site access limitations outside of the preliminary Project Boundary. All nocturnal bat activity was recorded from 30 minutes before sunset to 30 minutes after sunrise.

Weather data near the Study Area were investigated to identify the number of survey days that may have been unsuitable for bat activity (i.e., when there is significant rain; significant is ≥20 mm). The closest weather station to the Project is in Timmins (Environment Canada, Timmins A), approximately 17 km south of the Study Area 1 km buffer. In 2021, the nightly temperature during the bat maternity habitat survey period averaged (±standard deviation) 13.5 ± 4.3°C and ranged from 3°C to 22°C. It rained on only four nights in June, five nights in July, and three of the monitoring nights in August. In 2022, nightly temperature during the bat maternity habitat surveys averaged 13.6 ± 3.9°C, ranging between 6°C and 22°C in 2022. It rained on five nights in June and eight nights in July. In 2023, the nightly temperature during the bat maternity habitat survey averaged 13.2 ± 4.6°C, ranging between 0.1°C and 20.2°C. It rained on 10 nights during the survey period.

Microphones were positioned as high as possible at locations where higher bat activity levels were likely to occur, such as habitat edges. Microphones were kept 1 to 2 m from vegetation and oriented toward open areas to capture clean recordings that allow accurate species identification. Bat detectors were configured to begin recording when signals greater than 14 kHz were detected. Upon trigger, a 2 to 5-second recording was saved. All recordings were made in .wav format with a 384 kHz sampling frequency, 12 dB gain, and 16-bit resolution, resulting in real-time, full-spectrum data that afford greater accuracy and confidence when identifying recordings of bat calls to species.

3.4.3.2 Bat Detector Analysis

All recordings were initially filtered using the Batch File Scrubber of the Sonobat Data Wizard (version 4.4.1). The scrubber was set to remove files containing only tonal signals below 5 kHz and any file where tonal signals resembled noise. Recordings were initially identified to species using Sonobat version 4.4.1 (SonobatTM) automated processing software, running the classifier for the Northeast region and the northeastern US and southern Ontario subregions. Automated classification can provide accurate classifications for clear recordings with a high signal-to-noise ratio, especially for regions of low species diversity. However, most field recordings contain some level of noise, which can limit the accuracy of automated software and its ability to detect echolocation calls within recordings.

While automated classification provides an efficient classification of large numbers of echolocation recordings, studies on the accuracy of automated classification caution relying solely on this method (Rydell et al. 2017; Lemen et al. 2015; Menon et al. 2018). Therefore, a subset of the recordings was also classified manually. When the automated software cannot classify a recording to a specific species due to poor recording quality or call feature overlap between multiple species, it classifies the bat pass as either belonging to a High-frequency bat or a Low-frequency bat. The former emits calls with a minimum frequency above 35 kHz, while the latter emits calls with a minimum frequency below 35 kHz. In Ontario, all bat SAR emit calls in the high-frequency range. Therefore, emphasis was placed on high-frequency passes when selecting calls to classify manually. Specifically, June / July surveys aimed to identify the presence and level of activity of all bat species with a focus on SAR. For these surveys, all bat passes auto-classified to the High-Frequency group or to a specific species that falls within this group were selected for manual classification. These recordings represented 74 of 14,971 (0.5%) bat passes in 2021, 172 of 32,538 (0.5%) bat passes in 2022, and 21 of 3,706 (0.6%) bat passes in 2023. Additionally, given the relatively small number of passes classified by the software as Big Brown Bat (2021: 81/14,971; 2022: 1,061/32,538; 2023: 53/3,706), a low-frequency species, all passes auto-classified as Big Brown Bat were also manually verified. For all manually vetted files, the auto-classification result was replaced by the manual classification.

The automated classification used the 'consensus classification' decision method in Sonobat. Up to 32 calls within each recording were classified based on over 30 acoustic parameters. The software uses discriminant analysis to provide an accuracy probability for each classification, and only calls with a probability greater than 90% were accepted. The manual classification was accomplished by comparing qualitative and quantitative parameters of recorded bat calls to a library of known species parameters. Parameters used for species identification included the frequency of maximum energy, minimum frequency, maximum frequency, call duration, the slope of the call, and other more qualitative parameters such as the time-frequency shape of the call, the position of the knee, presence of inflections, and terminal curvatures. Less importance was placed on maximum frequency due to its susceptibility to atmospheric attenuation. Calls that could not be classified to a single species were placed in a group named after the two or more species most likely to have produced the call.

3.4.4 Bat Hibernacula Acoustic Surveys

All methods for filtering and classifying recordings, including automated and manual species classification, were identical to those from 2021 and 2022 surveys in June and July. Similar to June and July surveys, passes selected for manual validation included those auto-classified to the high-frequency group or to a specific species that fall within this group, as well as those auto-classified as Big Brown Bat. These represented 49 (2.5%) of 1,979 passes during the Spring survey in 2022 and 186 (12.8%) of 1,456 passes. To obtain a more complete picture of the activity trend at the candidate hibernacula, the recording schedule of bat detectors deployed to monitor candidate hibernacula in 2023 was modified for longer-term monitoring. Specifically, detectors were set to record the first and third hour of every other night beginning at 30 minutes before sunset. This achieved a much longer monitoring period, which allowed for detecting any relative peaks in bat activity during the pre-hibernation period that could result from bat swarming activity.

Several lines of evidence were used to assess the potential use of an area as a hibernaculum by SAR bats. Activity of SAR bats emerging from a hibernaculum should be expected to be much higher at the hibernaculum than that of non-SAR species, as the former would be expected to pass near the detector much more frequently. Conversely, the activity of SAR bats at detectors not located at a hibernaculum, including control sites, should be expected to be lower or equal to that of non-SAR species. A general linear model was used to compare the average activity (passes/hr) of high-frequency species to that of low-frequency species at each site. Activity of SAR bats at the entrance of a hibernaculum would also be expected to be relatively high and consistent well before the June maternity season and followed by another peak during the swarming period in late Summer / early Fall. Acoustic activity at candidate hibernacula was investigated for evidence of these patterns.

3.5 Aerial Surveys

3.5.1 Mammals

Aerial transect surveys specifically targeting ungulates (i.e., Moose and Woodland Caribou), furbearers (e.g., Gray Wolf, Red Fox, Canada Lynx, American Beaver, North American River Otter, American Marten, Fisher), and large stick nests were completed across the Study Area on 17 March 2021 from 9:00 to 17:00, March 19, 2021 from 9:00 to 17:00, and March 21, 2022 from 10:10 to 17:00. In 2021, the survey area extent (about 2,432 km^2) was comprised of 23 flight lines (Figure 3-6) in an east-west orientation spaced at 3 km intervals. In 2022, the survey area was about 3,440 km^2 with 29 flight lines again in an east-west orientation and spaced at 3 km intervals. The flight lines were approximately 45 km in length. The aerial study area was designed to survey the planned mine facilities and surrounding areas.

Biologists observed the ground from each helicopter side to minimize bias in detection, track identification, and animal observation/classification. Surveys were undertaken using an A-Star helicopter. During surveys, the helicopter travelled at a ground speed of approximately 80-100 km/hr at an elevation of approximately 100 to 120 m above ground level. Waypoints for the start and end of the survey lines were prepared and provided to the pilot for navigation.

All wildlife observations, tracks, and stick nest locations were recorded by Global Positioning System (GPS) to collect occurrence and distribution information. Ungulates observed during the survey were classified with respect to sex and age categories based on physical attributes and behaviour (within-group association). The number of calves, adult females, adult males, and un-classified were also recorded. Records of fur bearing species occurrence included all observed animals and track sets. Raptors and stick nests were recorded when observed.

3.5.2 Birds

Stick nests were searched for during aerial surveys completed on March 17 and 19, 2021, and March 12 and 13, 2022. Prior to the winter aerial surveys, provincial data on known raptor stick nest locations were mapped, and each location was surveyed during the aerial surveys to confirm if it was extant and/or active. Additionally, the edges of larger water bodies were specifically surveyed for nests. When nests were detected, they were classified (i.e., probable species), photographed (if possible), and geolocated. The classification was determined based on nest size, material type and size, and placement within the tree / structure. Some nests were indiscernible, and the closest potential identification was applied, or sometimes it was only classified as a ‘stick nest’. In addition to the aerial surveys, stick nests were also searched for during all other field activities (i.e., vegetation community surveys, breeding bird surveys, bat habitat surveys, etc.). While in the field, wooded areas were visually searched for the presence of stick nests from the ground.

As described in the SWH Criteria Schedules for Ecoregion 3E (OMNRF 2015a), stick nests can be used to confirm SWH types such as Bald Eagle and Osprey Nesting Habitat and Woodland Raptor Nesting Habitat.

3.5.3 Blanding’s Turtle Habitat Assessments

Aerial transect surveys were conducted on August 16, 2023, to assess the suitability of habitat for Blanding’s Turtle across the Study Area. Transects were spaced approximately 2 km apart and flown in an east-west/west-east orientation. Transects were of various lengths depending on the width of the Study Area, ranging from approximately 12 km at the northern and southern Study Area limits to approximately 31 km at the widest portion of the Study Area (Figure 3-7).

A Habitat Suitability Index (HSI) mapping exercise was completed using the General Habitat Description (GHD) for Blanding’s Turtle (MECP 2021a), the *Recovery Strategy for the Blanding’s Turtle (Emydoidea blandingii) in Ontario* (MECP 2019), and the *Survey Protocol for Blanding’s Turtle (Emydoidea blandingii) in Ontario* (OMNRF 2015b). The HSI exercise identified potentially suitable habitats for Blanding's Turtle within the Study Area for nesting, overwintering, and functional (mating, thermoregulation, foraging, and summer activity).

Areas were deemed high suitability when Nesting and Overwintering habitat were within 240 m of each other, moderate suitability areas were mapped where Nesting and/or Overwintering habitat were within 2 km of Functional habitat, and low suitability areas were mapped where Nesting and Overwintering areas were isolated. The HSI map was georeferenced and revised during aerial transect surveys to help confirm high, moderate, and low suitability area designations.

The georeferenced HSI map with aerial survey notes was used to identify locations for ground-truthing suitable habitats across the Study Area. This information is provided in Section 3.2.3.

Table 3-1: Summary of Surveys Completed

Site Visit	Survey Type	Description	Date
1	Aerial Survey	Flight Transects	March 17 and 19 2021
2	Breeding Bird Surveys	79-Point Counts completed	June 12-18, 2021
	Ecological Land Classification Surveys	Various locations	
	Bat Maternity Roost Autonomous Recording Unit	14 Autonomous Recording Units deployed	
	Bird Autonomous Recording Unit	19 Autonomous Recording Units deployed (6 of these ARUs were deployed between 12-13 June and moved to new locations between 17-18 June)	
	Amphibian Call Surveys	10 surveys completed	
3	Bat Maternity Roost Autonomous Recording Unit	4 Autonomous Recording Units deployed	June 29, – July 7
4	Breeding Bird Surveys	36-Point Counts	July 5-9, 2021
	Ecological Land Classification Surveys	Various locations	
5	Bat Maternity Roost Candidate Roost Surveys	20 survey locations completed	August 11-15, 2021
6	Nocturnal Owl Surveys	8-Point Counts completed	March 12, 2022
	Aerial Survey	Flight Transects	March 12 and 13, 2022
7	Migratory Bird Surveys including Target Surveys for Waterfowl and Shorebirds	17 area searches completed	May 13-17, 2022
	Turtle Basking Surveys	17 surveys completed	
	Nocturnal Owl Surveys	17-Point Counts completed	May 14-18, 2022
	Marsh Bird Surveys	3-Point Counts completed	May 16– 18, 2022
	Amphibian Call Surveys	23 surveys completed	May 13-18, 2022
	Bat Hibernacula Habitat Surveys	25 potential bat hibernacula habitat entrances were evaluated including one aerial survey to identify additional locations for ground surveys.	May 17–19, 2022
	Bat Hibernacula Autonomous Recording Unit	9 Autonomous Recording Units deployed	May 17-19, 2022
	Bird Autonomous Recording Unit	10 Autonomous Recording Units deployed	May 16-17, 2022
8	Breeding Bird Surveys	27-Point Counts completed	June 1-8, 2022
	Amphibian Call Surveys	11 surveys completed	June 1-3, 2022
	Bat Maternity Roost Autonomous Recording Unit	9 Autonomous Recording Units deployed	June 6-8, 2022
	Marsh Bird Surveys	3-Point Counts completed	June 1- 3,2022

Table 3-1: Summary of Surveys Completed

Site Visit	Survey Type	Description	Date
	Bat Maternity Roost Candidate Roost Surveys	3 plots completed	June 6–7, 2022
9	Breeding Bird Surveys	50-Point Counts completed	June 27, to July 2 2022
	Amphibian Call Surveys	17 surveys completed	June 22-27, 2022
	Bat maternity Roost Autonomous Recording Unit	9 Autonomous Recording Units deployed	30 June and 1 July 2022
	Marsh Bird Surveys	3-Point Counts completed	June 27 and 29, 2022
10	Bat Maternity Roost Candidate Roost Surveys	9 survey locations completed	July 30 and August 2, 2022
	Ecological Land Classification Surveys	34 vegetation communities were assessed	July 30 and August 2, 2022
	Bird Autonomous Recording Unit	10 Autonomous Recording Units removed	July 30 and August 2, 2022
	Bat Hibernacula Autonomous Recording Unit	9 Autonomous Recording Units removed	July 30 and August 2 2022
11	Breeding Bird Surveys	92-Point Counts completed	May 23-31, 2023
	Bat Maternity Roost Candidate Roost Surveys	13 survey locations completed	
	Bat Maternity Roost Autonomous Recording Unit	10 Autonomous Recording Units deployed	
	Bird Autonomous Recording Unit	10 Autonomous Recording Units deployed targeting Lesser Yellowlegs habitat	
12	Breeding Bird Surveys	9-Point Counts completed[1]	June 3-4, 2023
	Short-eared Owl Surveys	30 survey points completed	
13	Breeding Bird Surveys	31-Point Counts completed	June 19-21, 2023
14	Breeding Bird Surveys	34-Point Counts completed	July 4-8, 2023
	Bat Hibernacula Autonomous Recording Unit	9 Autonomous Recording Units deployed	July 7, 2023
15	Blanding's Turtle Habitat Assessment (Aerial)	Aerial Transects for Habitat Assessment; Site visits to three historical observation locations	August 16-17, 2023
	Bird Autonomous Recording Units	8 units refurbished, 2 removed from field due to damage or malfunction	August 18, 2023
	Blanding's Turtle Habitat Assessment (Ground)	Field assessments of features identified during aerial surveys	August 19-20, 2023
16	Fall Migratory Bird Surveys	31 Surveys completed	September 11-15, 2023
	Bat Hibernacula Autonomous Recording Unit	9 Autonomous Recording Units removed	September 11, 2023

1) Forest Fires in the vicinity of surveys required this site visit to be cut short. Surveys were completed on the next site visit.

460000 470000 480000 490000

5430000 5420000 5410000 5400000 5390000 5380000

10km 5km 1km

Aubin Lake
Nesbitt Creek
Mattagami River
North Driftwood River
West Buskegau River
Buskegau River
Crawfish Lake
Thorburn Creek
Martin Lake
Gerry Lake
Abitibi River Forest
Prosser Lake
Romeo Malette Forest
Jocko Creek
Kidd Creek
655
Kidd Creek Mine
Gowanmarsh Lake
North Porcupine River
Noted Lake
Bigwater Lake
Rota Lake
Little Goose Lake
Murphy Creek
Timmins Victor M. Power Airport

CAMP 40 RD
500 m

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectF\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\TerrestrialBaseline_2023\MXD\Vegetation_Wetland_Surveys_1.mxd

LEGEND

- Project Location
- Study Areas (labelled on map)
- Forest Management Unit Boundary
- Ecological Land Classification Survey Locations, 2022
- Ecological Land Classification Survey Locations, 2021
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

NOTES:
- Waterbody and Watercourse retrieved from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Vegetation and Wetland Surveys

PROJECT N°:OMEMA2304 | **FIGURE: 3-1**

SCALE: 1:150,000 | DATE: November 2023

465000 470000 475000 480000 485000

5415000 5410000 5405000 5400000 5395000 5390000 5385000

Nesbitt Creek
CAMP 40 RD
Buskegau River
REAUME LOOP RD
North Driftwood River
Martin Lake
Gerry Lake
Jack Lake
Mel Lake
Zed Lake
Jocko Creek
Mattagami River
Kidd Creek
Macdiarmid Creek
Boundary Lake
Kidd Creek Mine
Prosser Lake
West Buskegau River
Feldman Lake
Noted Lake
Bigwater Lake
Rota Lake
655
1km
5km
10km

CL-AMPH-G2-03
WBR-BLTU-05
CL-AMPH-G2-04
CL-AMPH-G2-05
CL-AMPH-G1-04
WBR-BLTU-04
WBR-BLTU-03
CL-AMPH-G1-03
CL-AM-07
CL-AM-15
CL-AM-16
CL-AM-14
CL-AM-13
WBR-BLTU-HO
WBR-BLTU-02
CL-AM-21
CL-AM-17
CL-AMPH-G1-05
CL-AM-06
CL-AMPH-G1-02
WBR-BLTU-01
CL-AM-20
KC-BLTU-04
CL-AMPH-G1-01
KC-BLTU-03
KC-BLTU-02
KC-BLTU-HO
CL-AM-12
KC-BLTU-UPALT
KC-BLTU-W01-DS
CL-AM-11
CL-AM-10
Noted Lake
CL-AMPH-G2-02
CL-AMPH-G2-01

PROLK-BLTU-OUT
PROLK-BLTU-HO
PROLK-BLTU-E4
PROLK-BLTU-E3
PROLK-BLTU-W4
PROLK-BLTU-W3
PROLK-BLTU-E2
PROLK-BLTU-W2
PROLK-BLTU-E1
PROLK-BLTU-W1
PROLK-BLTU-IN
500 m

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectFl\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Herptile_Survey_Locations_2.mxd

LEGEND

- Project Location
- Study Areas (labelled on map)
- Amphibian Call Survey Locations, 2022
- Amphibian Call Survey Locations, 2021/2022
- Amphibian Call Survey Locations, 2021
- Blanding's Turtle eDNA Sampling Locations, 2023
- Blanding's Turtle Historical Observations
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Herptile Survey Locations

PROJECT N°:OMEMA2304 | FIGURE: 3-2

SCALE: 1:100,000 | DATE: January 2024

450000 460000 470000 480000 490000

5430000 5420000 5410000 5400000 5390000 5380000 5370000

10km 5km 1km

Aubin Lake
Nesbitt Creek
North Driftwood River
Thorburn Creek
Mattagami River
Buskegau River
Jock O Creek
Prosser Lake
West Buskegau River
Boundary Lake
Kidd Creek Mine
Murphy Creek
City of Timmins
Porcupine Lake
Martin Lake
Gerry Lake
Feldman Lake
Duck Lake
Bigwater Lake
Bouchard Lake
Noted Lake

655 101

250 m 500 m

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectFl\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Bird_Survey_Locations_1.mxd

LEGEND

- Project Location
- Study Areas (labelled on map)
- Breeding Bird Survey Station, 2023
- Breeding Bird Survey Station, 2022
- Breeding Bird Survey Station, 2021/2022
- Breeding Bird Survey Station, 2021
- Owl Survey Station, 2022
- Marsh Bird Survey Station, 2022
- Marsh Bird Survey Station, 2021/2022
- Bird Detector Station, 2023
- Bird Detector Station, 2022
- Bird Detector Station, 2021
- Migratory Bird Survey Station, 2023
- Migratory Bird Survey Station, 2022
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 1 2 4 6 8 10 Kilometres

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

N W E S

CANADA NICKEL COMPANY

wsp

CRAWFORD NICKEL PROJECT

Bird Survey Locations

PROJECT N°:OMEMA2304	**FIGURE: 3-3**
SCALE: 1:185,000	DATE: December 2023

450000 460000 470000 480000 490000

5430000 5420000 5410000 5400000 5390000 5380000 5370000

10km 5km 1km

LEYE065 LEYE064 LEYE063 03-SEOW-01 03-SEOW-02 LEYE040 03-SEOW-03 03-SEOW-04 LEYE062 LEYE061 03-SEOW-05 LEYE039 03-SEOW-06 03-SEOW-07 LEYE038 LEYE037 LEYE036 LEYE060 03-SEOW-08 LEYE059 03-SEOW-09 03-SEOW-10 LEYE035 LEYE034 LEYE032 LEYE058 LEYE081 LEYE018 LEYE057 LEYE056 LEYE055 LEYE017 LEYE031 LEYE021 LEYE016 LEYE030 01-SEOW-07 01-SEOW-06 LEYE019 01-SEOW-05 01-SEOW-08 LEYE015 LEYE020 01-SEOW-04 01-SEOW-09 LEYE014 LEYE054 LEYE080 01-SEOW-03 LEYE011 01-SEOW-10 01-SEOW-02 LEYE053 LEYE012 LEYE052 LEYE033 LEYE051 LEYE013 01-SEOW-01 LEYE082 LEYE027 LEYE079 LEYE028 LEYE004 02-SEOW-07 02-SEOW-08 02-SEOW-09 LEYE006 LEYE005 02-SEOW-10 02-SEOW-06 02-SEOW-05 LEYE029 LEYE007 LEYE008 LEYE009 LEYE010 LEYE049 04-SEOW-01 04-SEOW-02 LEYE048 04-SEOW-03 LEYE047 04-SEOW-04 04-SEOW-05 04-SEOW-06 04-SEOW-07 LEYE046 04-SEOW-08 LEYE045 04-SEOW-09 LEYE044 04-SEOW-10 LEYE043 LEYE042 LEYE041 LEYE078 LEYE071 LEYE069 LEYE070 LEYE066 LEYE067 LEYE072 LEYE068 LEYE074 LEYE077 LEYE073 LEYE076 LEYE075

LEYE026 LEYE083 LEYE023 LEYE025 LEYE022 LEYE024 02-SEOW-02 LEYE002 02-SEOW-04 LEYE001 02-SEOW-03 02-SEOW-01 LEYE003 LEYE050

500 m

Aubin Lake
Nesbitt Creek
North Driftwood River
Thorburn Creek
Mattagami River
Buskegau River
Reaume Lake
Jock Creek
West Buskegau River
Kidd Creek Mine
Macdiarmid Creek
Bigwater Lake
Murphy Creek
City of Timmins
Porcupine Lake

655 101

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectF\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\SAR_Bird_Survey_Locations_2.mxd

LEGEND

- Project Location
- Study Areas (labelled on map)
- Lesser Yellowlegs Survey Location, 2023
- Short-eared Owl Survey Location, 2023
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Utility Line
- Watercourse
- Waterbody

0 1 2 4 6 8 10 Kilometres

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

N W E S

CANADA NICKEL COMPANY

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CRAWFORD NICKEL PROJECT

Species at Risk Bird Survey Locations

PROJECT N°:OMEMA2304	**FIGURE: 3-4**
SCALE: 1:185,000	DATE: December 2023

455000 460000 465000 470000 475000 480000 485000

5430000 5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000

CL-BM-23-7
ARUBAT06
CL-BM-23-1
10km
CL-BM-23-3
ARUBAT07
ARUBAT03
5km
ARUBAT05
CL-BM-23-9
ARUBAT04
CL-BM-23-5
CL-DET-EM-G2-01
1km
CL-DET-CBM-13
CL-DET-G2-04
CL-DET-G2-04
CL-BMR-36
CL-BMR-38
CL-BMR-37
CL-DET-CBM-8
CL-DET-G1-11
CL-DET-CBM-17
CL-DET-G1-11
CL-BMR-32
CL-DET-CBM-9
CL-BMR-33
CL-DET-G1-09
CL-DET-G1-10
CL-DET-CBM-3
CL-DET-G1-08
CL-DET-G2-03
CL-DET-EXTRA-02b
CL-DET-EXTRA-02
CL-DET-G1-07
CL-DET-CBM-18
CL-DET-38-CBM-18
CL-BMR-69
CL-BMR-68
CL-BMR-67
CL-BMR-66
CL-DET-EXTRA-03
CL-BMR-35
CL-BMR-34
CL-BMR-1
CL-BMR-2
CL-BMR-3
CL-DET-G1-04
CL-DET-G1-04
CL-BMR-4
CL-BM-23-13
CL-DET-CBM-14
CL-DET-33-CBM-14
CL-BMR-6
CL-BMR-5
CL-BM-23-12
CL-DET-29-CBM-12
CL-DET-CBM-12
CL-BMR-28
CL-BMR-30
CL-BMR-29
CL-BMR-31
CL-DET-G1-03
CL-BMR-17
CL-DET-24-CBM-16
CL-DET-CBM-16
CL-DET-ET-G2-01
CL-BM-23-19
CL-DET-ET-G2-02
CL-DET-CBM-19
CL-DET-ET-G2-02
655
CL-DET-WT-G2-02b
CL-DET-WT-G2-02
CL-BMR-18
CL-BMR-16
CL-BMR-7
CL-BMR-9
CL-BMR-8
ARUBAT09
CL-BM-23-4
CL-DET-Rock Barren 8-3
CL-DET-Rock Barren 8-3 control
Rock Barren 8-1
Rock Barren 8-4
CL-DET-ROCKBARREN 8-3_CONTROL
Rock Barren 8-3
Rock Barren 8-2
ARUBAT10
CL-BM-23-6
CL-BM-23-14
RB-5
CL-DET-G2-11
Kidd Creek Mine
CL-DET-G2-01
CL-BMR-G2-01
CL-DET-G2-01
CL-BM-23-10
CL-DET-CBM-2
CL-BMR-12
CL-BMR-10
CL-BMR-11
CL-BMR-10
CL-BMR-15
CL-BMR-14
CL-BMR-13
Feldman Lake
Rock Barren 9
Rock Barren 7
CL-DET-EXTRA-01
Bigwater Lake
Rock cut for railway
Rota Lake
Rock Barren 10
Boulder
Prosser Lake
Nesbitt Creek
North Driftwood River
Buskegau River
West Buskegau River
Kidd Creek
Mattagami River
Jocko Creek

CAMP 40 RD
CL-BMR-57
CL-BMR-55
CL-BMR-56
CL-BMR-54
CL-BMR-58
CL-BMR-53
CL-BMR-26
CL-BMR-25
CL-BMR-27
100 m

CL-BM-23-8
CL-BMR-47
CL-BMR-44
CL-BMR-45
CL-BMR-46
ARUBAT02
CL-BMR-48
CL-BMR-42
CL-BMR-43
100 m

1km
CL-BMR-62
CL-BMR-61
CL-BMR-60
CL-BMR-59
LOWER STURGEON DAM RD
50 m

CL-BMR-50
CL-BMR-49
CL-BMR-51
CL-BMR-65
CL-BMR-52
CL-BMR-64
CL-BMR-63
CL-BMR-24
CL-BMR-22
CL-BMR-23
CL-DET-CBM-11
CL-DET-40-CBM-11
CL-DET-CBM-7
200 m

Rock Barren 6-5
Rock Barren 6-6
Rock Barren 6-4
Rock Barren 6-2
Rock Barren 6-1
CL-DET-Rock Barren 6-5
CL-DET-ROCKBARREN 6_CONTROL
CL-DET-Rock Barren 6 control
Rock Barren 6-3
Rock Barren 6-7
CL-DET-Rock Barren 6-3
CL-DET-Rock Barren 6-10
Rock Barren 6-10
CL-DET-Rock Barren 6-9
Rock Barren 6-9
Rock Barren 6-8
CL-DET-Rock Barren 6-12
CL-DET-Rock Barren 6-8
Rock Barren 6-12
Rock Barren 6-11
50 m

1km
CL-BMR-21
CL-DET-CBM-5
CL-BMR-20
CL-BMR-21
CL-BMR-19
RB-1
RB-2
RB-3
RB-4
200 m

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectFl\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Bat_Survey_Locations_1.mxd

LEGEND

- Project Location
- Study Areas (labelled on
- Candidate Hibernacula Site, 2023
- Candidate Hibernacula Site, 2022/2023
- Candidate Hibernacula Site, 2022
- Candidate Hibernacula Site, 2021/2022
- Candidate Hibernacula Site, 2021
- Bat Maternity Roost Survey Location, 2023
- Bat Maternity Roost Survey Location, 2022
- Bat Maternity Roost Survey Location, 2021
- Bat Detector Location, 2023
- Bat Detector Location, 2022
- Bat Detector Location, 2021
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

CANADA NICKEL COMPANY

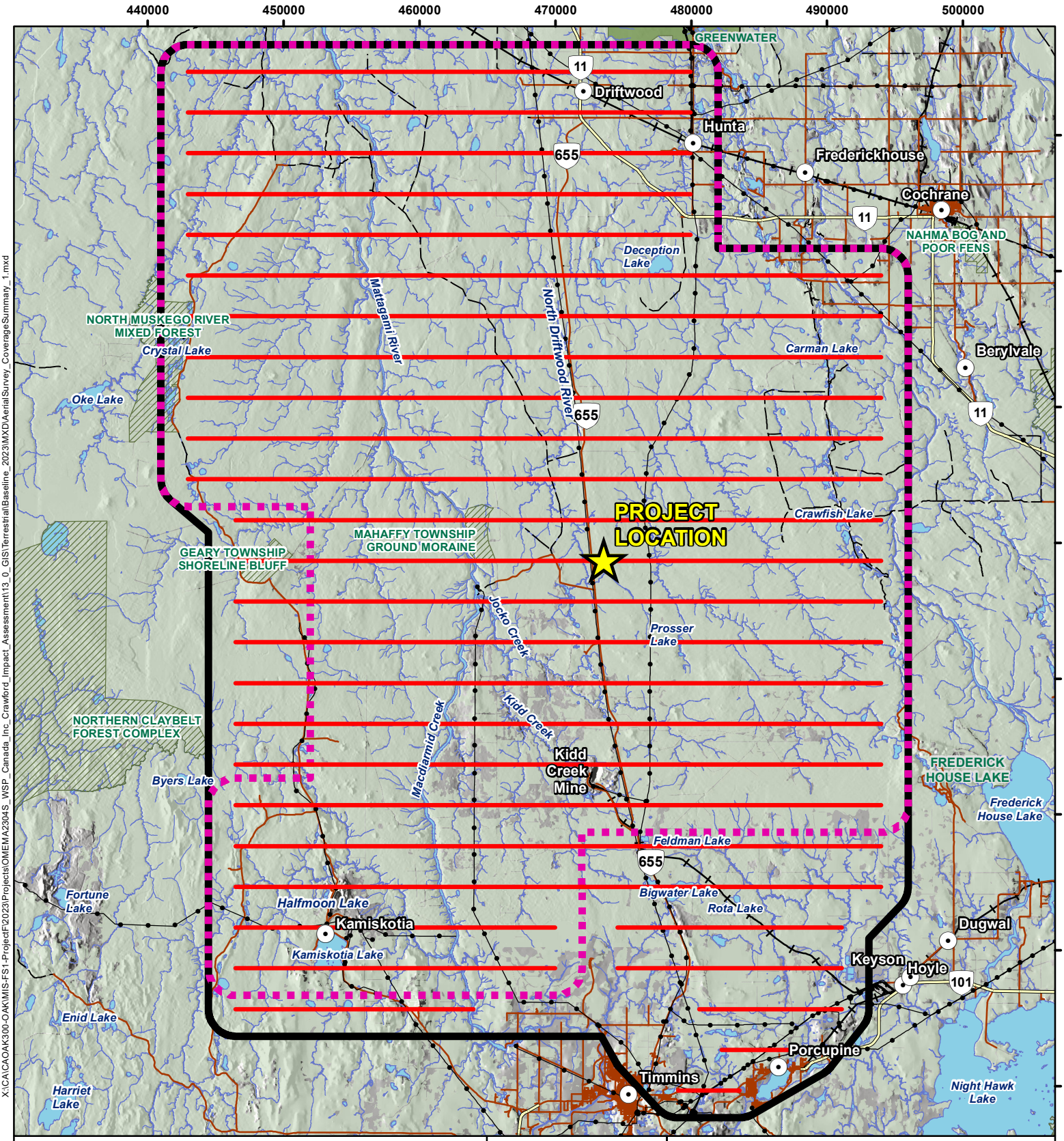
WSP

CRAWFORD NICKEL PROJECT

Bat Survey Locations

PROJECT N°:OMEMA2304 | **FIGURE: 3-5**

SCALE: 1:140,000 | DATE: December 2023



X:\CA\CAOAK300-OAK\MIS-FS1-Project\F2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\AerialSurvey_CoverageSummary_1.mxd

LEGEND

- Project Location
- Aerial Survey Study Area (2022)
- Aerial Survey Flightline Transects (2022)
- Aerial Survey Study Area (2021)
- Town / Community
- Transmission Line
- Highway
- Local Road
- Resource / Recreation Road
- Railway
- Conservation Reserve
- Provincial Park

NOTES:
- Base data extracted from Ontario GeoHub, MNRF 2022.
- Aerial survey was conducted on March 12 and 13, 2022

Datum: NAD83
Projection: UTM Zone 17N

0 2.5 5 10 15 20 25 30 Kilometres

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Aerial Survey Study Area and Flight Lines (Mammals and Birds)

PROJECT N°:OMEMA2304	**FIGURE: 3-6**
SCALE: 1:380,000	DATE: November 2023

455000 460000 465000 470000 475000 480000 485000 490000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km
5km
1km

Mattagami River
Aubin Lake
Nesbitt Creek
Buskegau River
Reaume Creek
REAUME LOOP RD
Thorburn Creek
CAMP 40 RD
West Buskegau River
North Driftwood River
LOWER STURGEON DAM RD
Martin Lake
Gerry Lake
Jack Lake
Sutherland Lake
Mel Lake
Jocko Creek
Zed Lake
655
Prosser Lake
Kidd Creek
Macdiarmid Creek
Kidd Creek Mine
Gowanmarsh Lake
Kamiskot'a River
Bigwater Lake
Little Goose Lake
Timmins Victor M. Power Airport

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectF\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\AerialSurvey_Blandings_Habitat_2.mxd

LEGEND

- Project Location
- Study Areas (labelled on map)
- Aerial Survey Flight Lines (Blanding's Turtle Habitat Assessment)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

NOTES:
- Waterbody, Watercourse, and Ecoregion/Ecozone data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

0 1 2 4 6 8 10 Kilometres

Datum: NAD83
Projection: UTM Zone 17N

N W E S

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Aerial Survey Flight Lines (Blanding's Turtle Habitat Assessment)

PROJECT N°:OMEMA2304	**FIGURE: 3-7**
SCALE: 1:140,000	DATE: December 2023

4.0 BASELINE CONDITIONS

The Study Area is relatively flat and uniform and contains vast areas of wetlands consisting of Black Spruce dominated bogs and swamps. Waterbodies include ponds, rivers, and slow, short-meandering creeks. Most watercourses are adjacent to broad wetlands. Upland areas consist primarily of coniferous forests, with smaller patches of mixed and deciduous forest of White Birch and Trembling Aspen. Parts of the Study Area are characterized by early regeneration, covered with young trees and shrubs where forests were previously logged or burned. Areas of exposed rock around the Study Area are very small and localized.

Most of the Study Area shows evidence of current and past anthropogenic disturbance; major linear features such as Highway 655 and a transmission line corridor parallel to the highway run north to south through the Study Area. Other roads, largely associated with forestry and mining, branch west-east off Highway 655 in Timmins, approximately 15 km south of the Study Area.

A review of background information, ground-truthing, and surveys were completed to provide site-specific context for extant biophysical conditions. The following sections summarize the key biological environment features of the Study Area identified through the desktop studies and field surveys.

4.1 Flora and Vegetation Communities

WSP completed extensive vegetation inventories in the Study Area in 2021 and 2022. Flora (mostly vascular plants, with some bryophytes and lichens) were identified during field investigations and the majority of observed flora were identified to species, though 31 could only be identified to genus (refer to Appendix A) for species lists and Appendix C for community photos). No SAR or provincially rare plants were documented (flora is discussed in more detail in Section 4.1.5). Twenty-eight distinct plant communities (upland and wetland) were recorded Table 4-1, Figure 4–1,a–j). Table 4-1 presents the vegetation communities occurring in the Abitibi River FRI in hectares and the percent cover of each habitat type in the Study Area (up to the 5 km buffer). A relatively small part of the Study Area falls within the Romeo-Malette FRI (approximately 10,500 ha within the area up to the 10 km buffer, approximately 660 ha of which is within the 5 km buffer). The Romeo-Malette FRI provided vegetation community descriptions in a coding system that is not easily converted to Boreal ELC coding. Coniferous forest and swamp communities dominate the area within the preliminary Project Boundary.

4.1.1 Wetland Communities

Wetland communities consist of bog, fen, swamp, and marsh. The FRI class and the ecosites delineated are presented in a series of figures (Table 4-1, a–j). For each wetland community assessed during the 2021 and 2022 field investigations, a general description of the vegetation communities' characteristics and plant associates is provided below. Observations of those communities within the Study Area are also provided.

4.1.1.1 Bogs and Fens

The following bog and fen communities were identified during field investigations:

B126: Treed Bog – A sparse canopy and subcanopy consisting of Black Spruce, Tamarack and Speckled Alder, and Bog Birch which are often stunted in growth. Shrubs included Bog Rosemary, Leatherleaf, Common Labrador Tea, Pale Bog Laurel, and Velvet-leaved Blueberry. The ground layer was dominated by sphagnum mosses with Sedges, Cottongrasses, Bog Cranberry, and Three-leaved Solomon's Seal.

B136: Sparse Treed Fen – A sparse canopy and subcanopy that generally consisted of Black Spruce, Tamarack, Speckled Alder, and Willows which are often stunted in growth. Shrubs consisted of Labrador Tea, Pale Bog Laurel, Sheep Laurel, Leatherleaf, Bog Birch, Bog Rosemary, and Small Bog Cranberry. The ground layer was dominated by sphagnum moss and sedges, though Water Horsetail, Wild Calla, Marsh Cinquefoil, goldenrods, Three-leaved False Solomon's Seal, Bog Buckbean and Northern Pitcher Plant were also present.

B139: Poor Fen – At one sampling location this ecosite had a very sparse canopy of stunted Black Spruce and Tamarack. At another, the tallest vegetation was the rare occurrence of Speckled Alder, at less than 2 m. Besides those distinctions, these Poor Fen ecosites were dominated by largely graminoid vegetation including Water Sedge, Northern Beaked Sedges, Canada Bluejoint, Mannagrasses, Bulrushes, and Cottongrasses. Additional common vegetation included Leatherleaf, Marsh Cinquefoil, and Wild Calla.

B140: Open Moderately Rich Fen – This fen type varied from no canopy to an extremely sparse (<10% coverage) smattering of stunted Tamarack and Black Spruce. The first largely vegetated layer was approximately 1-3 m in height. Plants in this layer from most to least dominant were: Speckled Alder, Tamarack, Balsam Willow, and White Meadowsweet. The ground layer was dominant, and typified by an assortment of Sedges, sphagnum mosses, Canada Bluejoint, Water Horsetail, Mannagrasses, Leatherleaf, and Wooly Bulrush.

B146: Open Shore Fen – This fen type occurred along the margin of a midsize lake, and as the substrate is a mat of decomposing vegetation floating on water, it does not support a canopy. The tallest vegetation present was Speckled Alder, and Broad-leaved Cattail, together covering <20% of the area. The dominant vegetation by far were graminoids including Woolly-fruited Sedge, Canada Bluejoint, Lesser Panicled Sedge, Northern Beaked Sedge, and cottongrasses. Additional herbaceous cover included Bog Buckbean, Fraser's St. John's-wort, and Marsh Cinquefoil.

Bogs and fens are wetlands that accumulate peat (poorly decomposed organic matter). Fens receive nutrients from groundwater, while bogs are isolated from groundwater and only receive nutrients from rainwater. As a result, bogs have a very low diversity of plants that tolerate low nutrient levels. Bogs and fens are common throughout the Study Area, including small areas around lakes, ponds, watercourses, and small to very large areas in other low-lying areas. Bogs and fens typically have abundant sphagnum moss and otherwise may have abundant sedges, low shrubs, and/or stunted coniferous trees.

4.1.1.2 Swamps

The following Swamp communities were identified during field investigations:

B127: Organic Poor Conifer Swamp – Widespread within the preliminary Project Boundary and Study Area. The canopy and subcanopy within these communities generally consisted of Black Spruce, Balsam Fir, Tamarack, and Trembling Aspen. Shrubs present included Speckled Alder, Red-osier Dogwood, Labrador Tea, Prickly Rose, willows, and blueberries. The ground layer consisted of Ostrich Plume and sphagnum moss with Goldthread, Twinflower, Northern Starflower, Wild Lily-of-the-valley and occasionally Dwarf Rattlesnake-plantain.

B128: Organic Intermediate Conifer Swamp – The most abundant vegetation community, spanning large areas and widespread within the preliminary Project Boundary and Study Area. They were typically dominated with low and sparse canopy of Black Spruce and Tamarack. Typical shrubs present included Leatherleaf, Pale Bog Laurel, Lowbush Blueberry and Small Bog Cranberry. Sphagnum mosses dominated the ground layer with a variety of sedge species.

B129: Organic Rich Conifer Swamp – Widespread within the preliminary Project Boundary and Study Area. The canopy within these communities generally consisted of Black Spruce, Tamarack, and Trembling Aspen. The subcanopy consisted of Eastern White Cedar, Speckled Alder, and American Mountain-ash. Shrubs present included Red-osier Dogwood, Alder-leaved Buckthorn, Canada Yew, Common Labrador Tea, raspberries, and blueberries. The ground cover was diverse and consisted of Bunchberry, Wild Sarsaparilla, Three-leaved False Solomon's Seal, Early Coralroot, Common Marsh Bedstraw, Creeping Snowberry, Fowl Mannagrass, Common Oak Fern and Northern Beech Fern.

B133 – Hardwood Swamp – This ecosite is limited to a single site within the Study Area. The canopy at this site was a mixture of Trembling Aspen, White Birch, and Black Spruce. These extended into the subcanopy and understory as younger trees and saplings, with the addition of Balsam Fir, Speckled Alder, Showy Mountain-ash, Red Raspberry, and currants. The ground coverage was very dense, dominated by Bunchberry, Dwarf Raspberry, Twinflower, and various mosses. Other abundant species include Velvet-leaved Blueberry, Lindley's Aster, Wild Lily-of-the-Valley, Northern Starflower, and various ferns.

B223: Mineral Intermediate Conifer Swamp – This ecosite was fully covered by a canopy of Black Spruce with lower amounts of Tamarack. The subcanopy was also dense and covered the whole community. The species of the subcanopy was the same as the canopy with a small number of Balsam Poplar and willows. The next layer down, the understory, was mostly Speckled Alder, Labrador Tea, and willow. The ground layer was mostly covered in sphagnum moss, with lower amounts of other species of moss, Dwarf Raspberry, and Bunchberry.

Swamps may be peat-accumulating (organic) or mineral wetlands with extensive tree or shrub cover. Coniferous swamps cover vast, low-lying portions of the Study Area. Coniferous swamps are variable and may have a closed or open canopy, dense to sparse shrub layers, and a ground layer that may be dominated by Feather mosses, Sphagnum moss, and/or a dense and diverse ground layer of sedges, grasses, and other herbaceous plants.

4.1.1.3 Thicket Swamp

The following thicket swamp ecosite was identified during investigations:

B134: Mineral Thicket Swamp

B135: Organic Thicket Swamp.

Thicket swamps are swamps dominated by shrubs, especially Speckled Alder, but may also contain Red-osier Dogwood, White Meadowsweet, and willows. There may be rare to occasional trees along the margins, usually Black Spruce, Tamarack, Trembling Aspen and/or White Birch. Ground vegetation may be dense to sparse, depending upon the intensity of shade from the shrubs, or disturbance regime from periodic watercourse flooding. This other vegetation is often composed of facultative wetland species which can tolerate disturbance, such as Canada Bluejoint, Reed Canarygrass, raspberries, goldenrods, and asters. Thicket swamps occur throughout the Study Area but are often small or narrow, typically being found along watercourses. Thicket swamps are generally adjacent to and not clearly separated from meadow marshes and conifer swamps, generally functioning as an ecotone between the two wetland types. Mineral Thicket Swamps have a mineral substrate, often dominated by Silt or Clay, but may have a shallow horizon of organic matter. Organic Thicket Swamps conversely are typified by deep deposits of organic soil.

4.1.1.4 Marshes

The following marsh ecosites were identified during field investigations:

B142: Mineral Meadow Marsh - Generally found surrounding small creeks and watercourses within the preliminary Project Boundary and Study Area. These areas tend to surround streams which periodically flood, limiting the ability of larger woody plants to establish. To reflect this, the site visited had very sparse canopies made up of Tamarack, Black Spruce, Eastern White-cedar, and Bebb's Willow. The understory layer was largely graminoid, consisting of various sedges, Bluejoint, Bulrushes, and Broad-leaved Cattail, with some shrub cover of Leatherleaf, and Speckled Alder. The ground layer was composed largely of species which can tolerate the periodic disturbance of flooding and drawdown, including Marsh Cinquefoil Wild Mint, Wild Calla, Fraser's St. John's-wort, Panicle Aster, and Spotted Jewelweed.

B144: Organic Meadow Marsh - The canopy of this community type was often snags and Speckled Alder, White Meadowsweet, and willows in low density. The understory was varied, and often composed of dense patches of dominant species, namely Canada Bluejoint, Broad-leaved Cattail, Water Sedge, Northern Beaked Sedge, bulrushes, and Canada Mannagrass. The ground layer was sparsely vegetated within these patches with Wild Calla, Northern Water-horehound, Water Horsetail, and Nodding Beggarticks. In areas with open water, Northern Watermilfoil, Common Bladderwort, Boreal Mannagrass, and pondweeds were present. Some locations with less graminoid thatch had areas of dense sphagnum mosses. This community is differentiated from Mineral Meadow Marshes through its deep deposits of organic matter.

B148: Mineral Shallow Marsh – This community had a very sparse (<10% cover) canopy with a height of 2 to 10 m comprised of Black Spruce, Speckled Alder, and Tamarack. The subcanopy of this community was mostly cattails with the addition of willows, and Speckled Alder. The understory fully covered the area, including protrusions from shallow water, and was mostly sedges, with Bluejoint, Reed Canarygrass, Woolly Bulrush, and Leatherleaf. The ground layer was largely composed of Marsh Cinquefoil, Wild Calla, Canada Mannagrass, Northern Water-horehound, Fraser's St. John's Wort, and Northern Blue Flag Iris.

B149: Organic Shallow Marsh – Along the margins of this community was very sparse canopy comprised of Black Spruce, willows, and Speckled Alder. Below this, the understory was mostly sedges, including Norther Beaked Sedge, with additional Bluejoint, Bulrushes, and Broad-leaved Cattail, often protruding from shallow water. The species composition of the ground layer was dominated by Wild Calla, followed by Northern Water-horehound, and Spotted Jewelweed.

Marshes are wetland communities that are dominated by herbaceous plants (e.g., ferns, grasses, sedges, rushes, and/or forbs). Marshes are rare in the Study Area but are generally relatively small or narrow, occurring along watercourses and beaver ponds, in drained beaver ponds, and on sheltered lakeshores.

Meadow marshes are marsh communities where water levels drop below the substrate surface for part of the year. Meadow marshes are rare throughout the Study Area, typically only occurring along watercourses and in drained beaver ponds. Most commonly, the dominant species in meadow marshes is Canada Bluejoint. Still, other species that are commonly present or occasionally dominant include Black-girdled Bulrush, Canada Mannagrass, Lake Sedge, Lenticular Sedge, Marsh Cinquefoil, Northern Beaked Sedge, Water Sedge and Woolly-fruit Sedge. Common shrubs include Bog Birch, Leatherleaf, Speckled Alder, Sweetgale and several species of willow. Black Spruce and Tamarack may be present in small amounts. Meadow marsh often grades into thicket swamps and several forms of fen, often making these communities indistinct.

Shallow water marshes are areas of shallow water with submerged or floating plants. These habitats appear to be limited in the Study Area. Shallow water areas could not be thoroughly surveyed by field staff on foot but appear to have a typical mix of aquatic plants such as water lilies and bur-reeds in addition to those described above.

It should be noted that marsh ecosites are at high likelihood of being underrepresented by FRI polygons due to limitations with the detection of aquatic vegetation and discerning water depth. This is in addition to limitations representing marshes in polygons due to their nature of often occurring as a narrow, sinuous band of emergent aquatic vegetation within the water along the shoreline.

4.1.2 Terrestrial Communities

Terrestrial communities have been condensed into deciduous treed and coniferous treed. The FRI class and the ecosites delineated are presented in Figure series 4-1 a-j. For each terrestrial community assessed during the 2021 field investigations, a general description of the vegetation communities' characteristics and plant associates is provided below. Observations of those communities within the preliminary Project Boundary are also provided. Upland vegetation communities are distinguished from wetland communities by plant species that are typically not well adapted or marginally adapted to hydrophytic (wet) conditions. Soils are non-hydric, mineral, and indicators of wetland hydrology are absent (e.g., saturated soils, oxidized rhizospheres on living roots or water-stained leaves).

4.1.2.1 Deciduous Treed

The following mixed and deciduous ecosites were identified during field investigations:

B104: Fresh, Silty to Fine Loamy: Aspen – Birch Hardwood - The sparse canopy and subcanopy consisted of Trembling Aspen, Black Spruce, Balsam Fir, and Speckled Alder. Shrubs included willows, Labrador Tea, Prickly Rose, currants, raspberries, and blueberries. The ground layer consisted of sphagnum mosses, Bunchberry, Woodland Horsetail, Creeping Snowberry, and Rough-stemmed Goldenrod.

B119: Moist, Fine: Aspen – Birch Hardwood - The canopy and subcanopy generally consisted of Balsam Poplar, Trembling Aspen, Paper Birch, Tamarack, Balsam Fir, Speckled Alder, and American Mountain-ash. Shrubs consisted of Northern Bush-honeysuckle, Alder-leaved Buckthorn, Red Elderberry, Chokecherry, Eastern Prickly Gooseberry, currants, and raspberries. The ground layer consisted of club mosses, Bunchberry, Red Baneberry, Nodding Trillium, Wild Sarsaparilla, and Common Lady Fern.

Forests with a significant component of deciduous trees are uncommon in the Study Area relative to coniferous forests. They are often present on the upper parts of slopes and the tops of ridges. Deciduous and mixed forest canopies may be of widely varying height, depending on age, and are typically relatively open with the understory consisting of abundant shrubs.

4.1.2.2 Coniferous Treed

The following coniferous forest ecosites were identified during field investigations:

B050: Dry to Fresh: Coarse Pine – Black Spruce Conifer - Limited to a single site on the east side of the transmission line / rail corridor within the preliminary Project Boundary.

B067: Moist, Coarse: Spruce – Fir Conifer - Limited within the preliminary Project Boundary to only two sites. One site was located east of the transmission line / rail corridor, and one small site was located north of the preliminary Project Boundary adjacent to Highway 655.

B082: Fresh, Clayey: Jack Pine – Black Spruce Dominated - Present in small amounts across the Study Area and generally small in size. The canopy and subcanopy consisted of Black Spruce, Balsam Fir, Balsam Poplar, and Trembling Aspen. Despite their namesake, no Jack Pine was found in the communities assessed in the field. The shrub layers generally consisted of Speckled Alder, Sheep Laurel, American Mountain-Ash, Willows, Red Raspberry, and Labrador Tea. A diverse ground layer was noted that consisted of sphagnum mosses, blueberries, cranberries, Bunchberry, Twinflower, sedges, Woodland Horsetail, and occasionally Tall Northern Green Orchid.

B085: Fresh, Clayey: Spruce – Fir Conifer - Limited to two locations, both sites were small and on the west side of Highway 655 within the Study Area.

B101: Fresh, Silty to Fine Loamy: Spruce – Fir Conifer - Small amounts were present across the Study Area. The canopy generally consists of Black Spruce, Balsam Fir, Paper Birch, and Eastern White Cedar. The subcanopy consisted of Mountain Maple, Speckled Alder, and American Mountain-ash. Shrubs present included Canada Yew, Northern Bush-honeysuckle, Swamp Red Currant, Bristly Dewberry, and Early Lowbush Blueberry. The ground layer generally consisted of Bunchberry, Interrupted Fern, Rose Twisted-Stalk, Twinflower, Northern Starflower, Wild Lily-of-the-valley, One-flowered Wintergreen, and occasionally Lesser Round-leaved Orchid.

B114: Moist, Fine: Pine – Black Spruce Conifer - A very common and abundant vegetation community across the Study Area. The canopy consisted of Black Spruce with Tamarack and Trembling Aspen. The subcanopy consisted of American Mountain-ash, Speckled Alder, and Willows. A rich shrub layer consisted of Leatherleaf, Labrador Tea, Sheep Laurel, Bog Willow, currants, raspberries, and blueberries. The ground layer consisted of Creeping Snowberry, Fireweed, Goldthread, Rough-Stem Goldenrod, and Wild Lily-of-the-valley.

B115: Moist, Fine: Cedar (Hemlock) Conifer - Limited to a single site on the west side of Highway 655 about 2.5 km from the south edge of the preliminary Project Boundary. This polygon is also where the only two observed occurrences of Black Ash were recorded during field surveys.

B116: Moist, Fine: Spruce – Fir Conifer - Present across the Study Area and largely associated with either watercourse or small lakes. The canopy consisted of Black Spruce, Balsam Fir, Trembling Aspen, and Tamarack. The subcanopy consisted of Paper Birch, Speckled Alder, willows, and American Mountain-ash. Shrubs present included Velvet-leaved Blueberry, Prickly Rose, Red Raspberry, and Labrador Tea. The ground layer consisted of Bunchberry, Yellow Clintonia, Rough-stemmed Goldenrod, Bog Goldenrod, Twinflower, and club mosses.

The predominant vegetation community in the Study Area is coniferous forest. Coniferous forests contain greater than 75% coniferous trees by percent cover, but may contain up to 25% deciduous trees, and are of widely varying height depending on age. These forests may have an open canopy or a closed canopy with very little vegetation underneath, and soils are dry to moist but are not hydric. The plant species range from facultative to obligate upland species. A complete list of plants recorded within each vegetation community is provided in Appendix A.

4.1.3 Bedrock

Exposed bedrock is rather rare in the Study Area and covers very small areas which are included in other ecosites. Plant species diversity in areas of exposed bedrock is relatively low. Typical species growing where the soil has accumulated include Jack Pine, Paper Birch, Black Spruce, and blueberries. Lichens and mosses are abundant.

4.1.4 Anthropogenic Areas

The following anthropogenic ecosites were identified during field investigations:

> **U998**: Utility Corridor community - Located beneath existing transmission lines and present within the preliminary Project Boundary and Study Area. Vegetation removals occur regularly within the utility corridor to maintain the safety of the transmission line. These communities generally lack a defined canopy or subcanopy and tend to be dominated by low shrubs and grasses. Species noted included Chokecherry, White Meadowsweet, Red Raspberry, Reed Canarygrass, Bluejoint Reedgrass, Canada Mannagrass, Fringed Brome, Grass-leaved Goldenrod, Spotted Joe Pye Weed, Wild Mint, Curled Dock, Bulrushes, Sedges, Yellow Avens. Rough-stemmed Goldenrod, Panicled Aster, Purple-stemmed Aster, and Broad-leaved Cattail.
>
> **B007**: – Active Mineral Barren - Present within the preliminary Project Boundary and Study Area and were generally located close to Highway 655 and along unnamed local roads where aggregate exaction has occurred. These B007 sites are associated with disturbed areas and are considered under the FRI categories as Sand / Gravel / Mine Tailings land use. Where regenerating plants were present, a sparse canopy generally consisted of Balsam Fir, Trembling Aspen, and Black Spruce. The shrub layer contained Red Osier Dogwood, Red Raspberry, and willows. While the ground layer often consisted of non-native species such as Common Yarrow, Wild Parsnip, Common Hawkweed, Red Clover, and Tufted Vetch. Some native plants such as Wild Strawberry, Fireweed and Goldenrods were often common as well.

These areas consist of clearcuts, burns, and cultural areas that have been heavily disturbed by fire or human activity. These habitats are extremely diverse, depending on the topography and the nature and history of disturbance. If the disturbance is not ongoing, shrubs and trees regrow, particularly Black Spruce, blueberries, Jack Pine, Labrador Tea, Speckled Alder, Trembling Aspen, and White Birch. Herbaceous vegetation is generally rare in communities with abundant shrubs and trees but may be the dominant plant form in open communities. A very wide array of herbaceous plants may be found in anthropogenic and disturbed areas, often dominated by grasses. Unlike other communities, these habitats often contain a variety of non-native plants.

4.1.5 Flora

A total of 238 vascular and non-vascular plant species were recorded in 2021, although exhaustive lists of mosses and lichens were not recorded. Of these, 10 plants were recorded to the genus level but could not be identified to species. In 2022, a total of 247 plant species were recorded, 27 of which were identified to the genus level and could not be identified to species. After removing the 31 plants identified to genus level, a total of 310 unique vascular and non-vascular plant species have been recorded in the Study Area to date.

The compiled plant species list and associated ranks, as well as species occurrences by vegetation community, are provided in Appendix A. Of the species present, 89% were native to Ontario, and 11% were non-native species. No SAR or SCC / provincially rare plants were documented.

4.2 Herptile Surveys

4.2.1 Amphibian Calling Surveys

Six species of frogs and amphibians were detected during the 2021 and 2022 amphibian call surveys (Appendix A). These species were Mink Frog, Spring Peeper, American Toad, Green Frog, Boreal Chorus Frog, and Wood Frog. Spring Peeper was detected in most of the wetlands surveyed within the Study Area. Boreal Chorus Frog was uncommon in the Study Area, detected by ear only at CL-AM-16 and seen on the road at station CL-AM-21 (Figure 3-2). Green Frog was also uncommon in the Study Area, detected at Stations CL-AM-06 and CL-AMPH-G1-05. Frogs and toads were found to have evidence of breeding in most of the wetlands that were surveyed.

Of the wetlands that were surveyed, one achieved the thresholds for SWH, which consider species abundance and diversity (see Section 5.2.2 for SWH). Targeted surveys for salamanders were not completed, though incidental records were documented. An unidentified salamander (believed to be an Ambystomid) was found in a pond at amphibian calling point CL-AM-15, located on the east side of Camp 40 road, near the intersection of Lower Sturgeon Dam Road and Camp 40 Road. A Blue-spotted Salamander was seen crossing Camp 40 Road at CL-OW-15 on May 14, 2022.

4.2.2 Turtle Basking Surveys

Candidate turtle basking habitat was found throughout the Study Area in lakes, ponds, and rivers with suitable basking features (e.g., stable rocks, logs, and mounds above the surface of the water). No turtles were recorded during the turtle basking surveys.

4.2.3 Targeted Blanding's Turtle Habitat Assessment

Locations of Blanding's Turtles shared with CNC from the communities were preliminarily investigated in 2022; however, site access was poor and surveys were limited. These areas were targeted for habitat assessments and eDNA sampling in 2023. MECP indicated during consultation in December 2022 that they consider Blanding's Turtles to have a high probability of occurrence in the Study Area.

Within the Study Area, Blanding's Turtle are at the northern limit of their Range; typically, they occupy large wetlands and shallow lakes (less than 2 m deep) with abundant submergent, floating, and emergent vegetation (MECP 2021a). Terrestrial habitat is also important for the species life processes (nesting, thermoregulation, inactivity, and movement); in particular, upland forest is an important habitat feature for Blanding's Turtle and has been shown to be a strong predictor of its presence in a landscape (MECP 2021a). The province has developed technical, science-based descriptions of the area of habitat protected for Blanding's Turtle under the Endangered Species Act:

> Category 1: Nest and/or Overwintering Sites and area within 30 m
>
> These areas are habitually used and may support concentrations of individuals. Nesting sites are typically within open habitats with low vegetation cover and high sun exposure; females will often show high fidelity to the same general nesting areas. Overwintering habitat typically includes permanent bogs, fens, marshes, ponds, channels, or other habitats with free shallow water. They may also overwinter in graminoid shallow marsh areas of larger marsh complexes by burying into substrate in areas of pooled water.
>
> Category 2: Wetland Complex (All suitable waterbodies within 500 m of each other) that extends up to 2 km from an occurrence, and the area within 30 m around those suitable waterbodies.

Blanding's Turtle depends on these wetlands and the surrounding habitat throughout their home range for life processes including feeding, mating, thermoregulation, movement, and protection from predators. The average home range length of some Blanding's Turtles in Ontario is documented as 1.8 km, with a maximum of 4.3 km. Blanding's Turtle regularly move between wetlands and other aquatic areas and are rarely located more than 200 m from water.

Category 3: Area between 30 m and 250 m around suitable waterbodies identified in Category 2, within 2 km from an occurrence.

Nests are typically close to permanent wetlands and the average distances between nests and nearest wetland ranges from 99.5 m to 242 m. The area within 250 m of suitable aquatic habitat provides critical movement corridors through which Blanding Turtles access wetland after hatching. Category 3 habitat further provides essential movement corridors of up to 50 m between wetlands, which encompasses the area most likely to be used for overland movement.

Category habitat based on the GHD was mapped at the three locations shared by communities. To be conservative, the provided observation was assumed to be the centre of Category 1 habitat. Blanding's Turtle is a disturbance-sensitive species with life history limitations (low recruitment rates, low annual survival of juveniles), resulting in sensitivity to even minor changes in mortality risk. Individuals are at risk along existing roads, and the risk is increased when these roads experience greater volumes of traffic and where new roads are created through suitable habitat, bisecting movement corridors. Significant draining, infilling, dredging, or other alterations of wetlands or other suitable waterbodies along with significant alterations to shorelines are deleterious to Blanding's Turtle where their habitat has been identified.

Ground-truthing exercises were conducted to further assess the habitat suitability of locations labelled as moderate to high suitability in the HSI and during aerial surveys. Lack of Permission to Enter (PTE) resulted in inaccessibility for most sites, primarily nesting and overwintering, that were marked for further evaluation.

The potential nesting sites that were accessible for ground evaluation were assessed as unsuitable due to substrate, lack of sun exposure, lack of functional habitat, and/or distance or lack of connectivity to overwintering habitats. Significant portions of the potential functional habitat identified during the HSI mapping exercise were deemed unsuitable from the air and/or on the ground due to rugged terrain or landscape disturbance such as slash piles left from logging processes; other portions were suitable for functional habitat. Overwintering sites of moderate-high suitability identified during aerial surveys and marked for further evaluation were inaccessible from the ground. No nesting or overwintering sites were confirmed during the ground-truthing exercise due lack of PTE and/or field evaluations that deemed potential habitats as unsuitable.

The locations of three historical observations of Blanding's Turtle were accessed via helicopter on August 17, 2023 as discussed in Section 3.2.3. Biologists were able to safely exit the helicopter at two of the three locations (Prosser Lake Outlet and West Buskegau River) to conduct field assessments on the ground. Biologists were unable to exit the helicopter to conduct a field assessment at Kidd Creek, and instead hovered over the area and flew waterbody edges to assess habitat from the air. Each of the three sites exhibited one or more habitat features suitable for Blanding's Turtle (i.e., suitable for nesting, overwintering, or functional habitat). Notably, the Prosser Lake Outlet location provided emergent and submerged aquatic vegetation, flowing water, mucky bottom, and habitat connectivity to other waterbodies. The combined results of the GHD, HSI desktop exercise, aerial survey, and ground truthing results for Blanding's Turtle habitat mapping is provided in Figure 4-2.

The eDNA sampling program was completed over two site visits to test for Blanding's Turtle DNA at the Kidd Creek, West Buskegau River, and Prosser Lake Outlet historical observation sites. All 20 eDNA samples yielded zero detection of Blanding's Turtle eDNA, all extraction and PCR negative controls were blank, and the PCR positive controls amplified as standard.

4.3 Bird Communities

WSP conducted Breeding Bird, Crepuscular Bird, Marsh Bird, Nocturnal Owl, Migratory Bird, SAR Bird, and Stick Nest Surveys to characterize the extent of avian presence, abundance, and density within the Study Area. ARUs were deployed to further document the presence/no detection of bird species.

One species designated as Threatened in Ontario, Lesser Yellowlegs, was documented in the Study Area. No provincially Endangered bird species were documented.

- Lesser Yellowlegs has been recorded at four ARU stations, one in 2023 (ARU-LEYE-02), and three in 2022 (CL-AM-ARU-4, CL-AM-ARU-7, and CL-AM-ARU-8). Station ARU-LEYE-02 had the most Lesser Yellowlegs recordings, with 18 display sounds. Station CL-AM-ARU-4 had the least Lesser Yellowlegs recordings with two display sounds. Lesser Yellowlegs was also documented during breeding bird surveys at CL-BB-G1-18 on June 13, 2021, and two were recorded at CL-BB-G1-14 on June 14, 2021, during Breeding Bird Surveys.
- Eastern Whip-poor-will, a Threatened species in Ontario, was not noted during any nocturnal surveys (i.e., amphibian calling surveys, marsh bird surveys, or crepuscular bird surveys).

WSP also documented five species of Special Concern between 2021 and 2023: Canada Warbler, Common Nighthawk, Evening Grosbeak, Olive-sided Flycatcher, and Rusty Blackbird. Records of observed Special Concern species are shown on Figure 5–8.

- Bald Eagle was documented incidentally during other field surveys, during 2021 aerial surveys, during 2023 Migratory Bird surveys, and was recorded at ARU stations CL-AM-ARU-11 (52 recordings) and CL-AM-ARU-2 (1 recording).
  - Note that as of 31 January 2024 Bald Eagle was removed from O. Reg. 230/08: Species at Risk In Ontario List as COSSARO determined that the species is not at risk.
- Canada Warbler was documented at seven (7) ARU stations: ARU-LEYE-02, ARU-LEYE-03, ARU-LEYE-04, ARU-LEYE-06, ARU-LEYE-10, CL-AM-ARU-1, and CL-DET-G2-01, with the most recordings (15) at ARU- LEYE-10. Canada Warbler was also documented during breeding bird point counts at stations BL- BB- G1-30 and CL-BB-G2-18.
- Common Nighthawk was recorded at 29 ARU stations across the Study Area. Station CL-AM-ARU-2 had the most audio recordings (180), while eight (9) stations had between 10-33 recordings, and 19 stations had nine (9) or fewer recordings. Common Nighthawk were incidentally heard during amphibian call surveys at stations CL-AM-13, CL-AMPH-G2-01 and CL-AM-16 (Figure 3-2). Station CL-AMPH-G2-01 is located along Highway 655 beside Noted Lake. Station CL-AM-13 is along Camp 40 Road about 1 km south of the intersection of Camp 40 Road and Lower Sturgeon Dam Road. CL-AM-16 is found 1 km west down Lower Sturgeon Dam Road from the intersection of Camp 40 Road and the Lower Sturgeon Dam Road.
- Evening Grosbeak was documented during breeding bird surveys at station CL-BBS-23-7 in 2023. Evening Grosbeak was not recorded on ARUs.
- Olive-sided Flycatcher was recorded at nine (9) ARU stations: ARU-LEYE-02, CL-AM-ARU-2, CL-AM-ARU-4, CL-AM-ARU-8, CL-AM-ARU-9, CL-AM-ARU-11, CL-DET-G1-08, CL-DET-G1-07b, and CL-DET-G2-04b, with

the highest number of recordings (4,244) at station CL-AM-ARU-8 in 2023. Olive-sided Flycatcher was not documented during any other survey type.

- Rusty Blackbird was documented incidentally during other field surveys, during Migratory Bird surveys at stations CRMB-24 and CRMB-25, Breeding Bird surveys at station LEYE014, and recorded at ARU stations ARU-LEYE-09, CL-AM-ARU-9, CL-DET-G1-09, and CL-DET-G2-01. ARU station CL-DET-G1-09 had the highest number of recordings (108).

Long-tailed Duck, a species identified as provincially rare when on breeding grounds, was recorded at ARU stations CL-AM-ARU-5 and CL-AM-ARU-4; the species was documented outside of the standard breeding period and is thus not considered to be a species of conservation concern for the purposes of these results.

SAR and species of conservation concern (SCC) are further discussed in Section 5.1.

4.3.1 Diversity, Density, and Abundance

A total of 102 bird species were recorded during targeted surveys (breeding bird point counts, marsh bird surveys, and nocturnal owl surveys) from 2021-2023. An additional 16 bird species were recorded during other investigations (aerial surveys, ARUs, incidental observations, and migratory bird surveys).

- In 2023, 97 bird species were documented. An average of 18.8 individuals were observed at each point count location (average species abundance), with a minimum count of 2 individuals at station LEYE019, and a maximum count of 124 individuals at station LEYE072.
- From the 118 bird species documented to date (Appendix A), an average of 19.2 individuals were observed at each point count location (average species abundance), with a minimum count of two individuals (at station LEYE019) and a maximum count of 124 individuals (at station LEYE072, Figure 3-3, Appendix E).
- In 2023, the average number of species per point count (average species richness) was 12.1, with a minimum count of 2 species at LEYE017 and LEYE019, and a maximum count of 22 species at CL-BB-G1-14 and CL- BBS-23-46.
- From all data collected to date the average number of species per point count (average species richness) was 12.7, with a minimum count of two species (at three stations: LEYE017, LEYE019 and CL-BB-EM-G1-06) and a maximum count of 30 species (at station CL-BB-G2-18). The most abundant and frequently observed species recorded were representative of the avifauna and habitats expected to be found in the boreal coniferous forest and wetlands.
- In 2023, the most abundant species were: White-throated Sparrow, Ruby-crowned Kinglet, and Magnolia Warbler. White-throated Sparrow was particularly ubiquitous, being found at 88.9% of all the point counts. Ruby-crowned Kinglet was the next most common species, detected at 70.6% of the point count stations, and Magnolia Warbler was reported at 54.8% of point count stations.

- From all data collected to date, the most abundant species were: White-throated Sparrow, Ruby-crowned Kinglet, and Tennessee Warbler. White-throated Sparrow was found at 84.4% of all the point counts. Ruby- crowned Kinglet was the next most common species, detected at 65.4% of the point count stations, and Tennessee Warbler was reported at 51.7% of point count stations.

Estimates of the highest breeding evidence amongst all study years (2021-2023) have been provided in Table 4-2. Breeding evidence follows the OBBA Guide for Participants (2020), where the strongest breeding evidence is assigned. There are four levels of evidence:

- **Observed**: Species observed in their breeding season (no evidence of breeding);
- **Possible**: Species observed or singing male present in its breeding season in suitable nesting habitat;
- **Probable**: Pair observed, territory and/or courtship displays, agitated behaviour / anxiety calls in the breeding season in suitable nesting habitat; and
- **Confirmed**: Distraction displays, nest or eggs, fledged young, and adults carrying food or nesting materials.

In 2023, five species (Canada Jay, Common Grackle, Common Raven, Dark-eyed Junco, and Northern Flicker) were confirmed breeding by the documented presence of recently fledged young or young in a nest in the Study Area. Thirty-two species were noted as “probable” breeding evidence. Most of the probable breeding codes were assigned due to the birds being on territory, which means the species was observed with a possible breeding code across two breeding bird surveys in a given year. Possible breeding was recorded in fifty-four species. Six species (American Wigeon, Gadwall, Great Blue Heron, Merlin, Redhead, and Semipalmated Plover) were observed during the breeding season, with no evidence of breeding noted.

For all breeding bird survey data collected to date, eight species (Canada Goose, Canada Jay, Common Grackle, Common Loon, Common Raven, Dark-eyed Junco, Green-winged Teal, and Northern Flicker) were confirmed breeding in the Study Area by the documented presence of recently fledged young or young in a nest. Fifty species were noted as “probable” breeding evidence. Most of the probable breeding codes were assigned due to species observed singing or in suitable territory across two breeding bird surveys in one year, thus uplisting breeding evidence from possible to probable. Possible breeding was recorded for 45 species. Eight species (American Wigeon, a Duck sp., Eastern Kingbird, Gadwall, Merlin, Mourning Dove, Redhead, and Semipalmated Plover) were observed during the breeding season, with no evidence of breeding noted.

4.3.2 Bird Survey Results

Analysis of 2021, 2022, and 2023 ARU data resulted in the detection and classification of 105 species of birds within the Study Area (Appendix A).

- Ten species detected in the Study Area were identified only through ARUs and were not captured during point counts or other targeted in-person efforts. Species detected exclusively by ARU included American Tree Sparrow, Barred Owl, Black-throated Green Warbler, Eastern Bluebird, Eastern Phoebe, Gray Catbird, LeConte’s Sparrow, Long-tailed Duck, Olive-sided Flycatcher, and Osprey.

Common Nighthawk was recorded during crepuscular bird surveys, and no other species were detected during this recording period.

Marsh Bird Surveys recorded: American Woodcock, Sora, Virginia Rail, and Wilson's Snipe.

- Other species documented by marsh bird surveys were Blue-headed Vireo, Northern Waterthrush, Red- winged Blackbird, Song Sparrow, Swainson's Thrush, Swamp Sparrow, and White-throated Sparrow.
- A candidate Yellow Rail was detected at survey location CL-BB-G1-11 in 2021, but the species was not confirmed (truncated call that was not repeated).
- Other than the candidate Yellow Rail, no SAR or species of Special Concern were recorded from marsh bird surveys.
- No marsh bird breeding habitat as defined as SWH was confirmed. SWH is discussed further in Section 5.2.2.

Nocturnal Owl Surveys were completed in March and May 2022; no owls were detected, though individuals were documented incidentally during other site surveys:

- Boreal Owls were detected during amphibian calling surveys at Station CL-AMPH-G1-02 on June 21, 2021 (Figure 3-3, Appendix E), and during breeding bird surveys at CL-BB-WM-G2-03 on June 13, 2021, and CL- BB-WM-GW-02 on June 15, 2021. These observations result in a "possible" breeding status for Boreal Owl within the Study Area. Other surveys and sources have reported Barred Owl (ARU) and Great Gray Owl (NHIC, OBBA) which likely breed in the Study Area.

Migratory bird / waterfowl surveys recorded 66 species of bird, most of which were believed to be migrating through the Study Area.

- Migratory species recorded during these surveys included four migratory shorebird species (Greater Yellowlegs, Semipalmated Plover, Solitary Sandpiper, and Spotted Sandpiper) and seven migratory waterfowl species (American Wigeon, Canada Goose, Gadwall, Hooded Merganser, Mallard, Ring-necked Duck, and Wood Duck).
- Habitat searched did not find diverse or large groups of birds. SWH for migratory birds, including shorebird migratory stopover area, waterfowl stopover and staging area (terrestrial), and waterfowl stopover and staging area (aquatic), were not found; SWH is discussed further in Section 5.2.2.

Other species observed during the migratory bird / waterfowl surveys included American Bittern, Common Loon, Herring Gull, Pied-billed Grebe, Savannah Sparrow, and White-crowned Sparrow. Species at Risk bird surveys were completed for Lesser Yellowlegs and Short-eared Owl; no targeted SAR birds were recorded during these surveys. Targeted survey locations are shown in Figure 3-4.

- Three Lesser Yellowlegs were recorded at CL-BB-G1-18 on June 13, 2021, and two were recorded at CL-BB-G1-14 on June 14, 2021, during Breeding Bird Surveys. No Lesser Yellowlegs were recorded during the 2023 targeted LEYE surveys, but Lesser Yellowlegs were recorded on ARUs as discussed in Section 4.3.
- No Short-eared Owl have been recorded in any surveys across the Study Area.

The geography of the Study Area is not believed to be suitable to funneling migratory songbirds. The best feature on the landscape that would be expected to result in congregations of migratory birds is the Mattagami River valley.

The open habitats created by current land uses such as mining, highways, logging, and transmission corridors are rare in the boreal forest and likely attract some uncommon birds to the area (e.g., those species with preferences for open habitats and edges) but not in significant numbers. Rough-legged Hawk, a species of conservation concern observed during migratory bird surveys, is an example of a species that could be drawn to the Study Area due to the open anthropogenic landscape.

4.3.3 Bird Conservation Regions

The Project falls within Bird Conservation Region (BCR) 8, the Boreal Softwood Shield. The Boreal Softwood Shield is described as a broad region that is more than 80% forested by closed stands of conifers, largely White and Black Spruce, Balsam Fir, and Tamarack. The region is a broadly rolling mosaic of uplands and associated wetlands dotted with numerous small to medium-sized lakes (Environment Canada 2014). Priority bird species (as listed in Element 1 to BCR 8) were assigned a population objective (Assess / Maintain, Increase, Maintain Current, Recovery) and reason for priority status in the Bird Conservation Strategy for Region 8: Ontario Boreal Softwood Shield (Environment Canada 2014). When monitoring data were insufficient to propose a population objective (for 18 of the 71 priority species [25%]), these species were assigned an objective of 'Assess / Maintain'. Most of the SAR and SCC species previously mentioned are considered priority bird species.

Priority bird species are also grouped by their habitat associations (as listed in Element 2 to BCR 8); however, groupings are not provided in the publicly available abridged version. Identifying the broad habitat requirements for each priority species allows species to be grouped by shared habitat-based conservation issues and actions (Environment Canada 2014). Until such a time that the groupings are provided (requested November 22, 2021 via email to: migratorybirds_oiseauxmigrateurs@ec.gc.ca), the following direct excerpt from the BCR 8 report for all priority species is provided:

"Priority species varied in their use of habitat types in BCR 8 ON. Dense forests, primarily coniferous or mixed, account for 60% of the terrestrial area of this BCR, and the diversity of landbirds can be moderately high in these forests. Coniferous, mixed and deciduous forests are used extensively by 31%, 32% and 11% of priority species, respectively. Wetlands are also important habitats that are used by 31% of priority species. A prominent feature of the landscape of BCR 8 ON is an abundance of lakes, including Lake Superior and Lake Nipigon, and 24% of priority species use waterbodies extensively. Shrub and early successional habitats as well as riparian habitats are used by 14% and 13% of priority species, respectively."

4.4 Bat Surveys

4.4.1 Bat Maternity Roosting Habitat

A total of 119 plots were surveyed for bat maternity roosting habitat across the Project; Figures B1-B3 in Appendix B provides an overview of overall bat activity in the project with respect to weather conditions during the survey period. Snag density was highly variable throughout the Study Area. The number of suitable cavity trees with a diameter at breast height (DBH) greater than 10 cm in each plot varied from 0 to 360 trees per hectare. Based on all sampled plots, average snag density was 65.6 snags/ha. Of the cavity trees identifiable to species, 50.0% were White Birch and 27.5% were Trembling Aspen. All others in order of representation were Black Spruce, Balsam Poplar, Balsam Fir, Northern White Cedar, Tamarack, Willow sp., Mountain Ash, Yellow Birch, Elderberry sp., and Eastern Cottonwood. Average snag density across the sampled ecosites ranged between 15 and 213.3 snags/ha: B101=213.3 snags/ha (3 plot), B114=36.7 snags/ha (18 plot), B115=213.3 snags/ha (3 plot), B116=75.0 snags/ha (4 plot), B119=51.4 snags/ha (7 plot), B127=15.0 snags/ha (4 plot), B128=40.6 snags/ha (32 plot), B129=66.0 snags/ha (10 plot), B136=20.0 snags/ha (1 plot).

4.4.2 Bat Maternity Habitat Acoustic Surveys

During Bat Maternity Habitat acoustic surveys, a total of 14,967 bat passes were recorded in 2021 (Table 4-4), 32,538 bat passes were recorded in 2022 (Table 4-5), and 3,706 bat passes were recorded in 2023 (Table 4-6). Of these, only 0.4% (53 passes in 2021, 132 passes in 2022, and 8 passes in 2023) were confirmed to be by SAR bat species. Only a single pass in 2021, and 10 in 2022 (none in 2023) could be accurately identified as Little Brown Myotis, while the remaining passes could only be classified as belonging to a Myotis species. An additional 28 passes in 2021, 26 passes in 2022, and 13 passes in 2023 were by an unknown high-frequency species. These high-frequency passes may have been emitted by either a SAR bat species or the Eastern Red Bat. Although snag density surveys revealed potentially high-quality maternity roosting habitat for SAR bats, the very low number of passes identified to SAR species relative to the total number of recorded passes suggests very few SAR bats are using this habitat.

The most frequently recorded species was the Silver-haired Bat, followed by the Hoary Bat. The Silver-haired Bat accounted for 68.7% (10,278 passes) of passes in 2021, 60.2% (19,599 passes) of passes in 2022, and 49.6% (1,839 passes) of passes in 2023. The Hoary Bat accounted for 16.5% (2,475 passes) of recorded passes in 2021, 15.2% (4,948 passes) of passes in 2022, and 15.8% (584 passes) of passes in 2023. An additional 193 passes in 2021, 1,019 in 2022, and 47 in 2023 were classified as belonging to either the Silver-haired Bat or the Big Brown Bat. Although these species have very similar echolocation calls, most of these were likely by Silver-haired bats given the large number of auto-classified Silver-haired bat calls, and that no passes by the Big Brown Bat could be confirmed in either year. The remaining 13.0% (1,951 passes) of passes in 2021, 20.9% (6,810 passes) of passes in 2022, and 32.8% (1,215 passes) of passes in 2023 were classified as an unknown low-frequency species, which may have been produced by either a Silver-haired, a Hoary, or a Big Brown Bat. Appendix B presents a complete account of bat passes by each species at each detector.

While bat activity was relatively low throughout the 2021 to 2023 maternity habitat monitoring periods, most of the activity by Silver-haired Bats in 2021 occurred at CL-DET-G2-04 where it reached over 125 passes/hr on three nights of which one saw an activity level of 237 passes/hr. Similarly, most Silver-haired Bat activity in 2022 occurred at two sites, CL-DET-CBM-11 and CL-DET-CBM-9. Activity was generally low throughout the study period at CL-DET-CBM-11, except for a short period between 17 and 20 July when activity rose quickly to 186 passes/hr followed by a sudden drop. At CL-DET-CBM-9, the elevated activity of Silver-haired Bats was more consistent, reaching over 100 passes/hr on four nights of which one saw an activity level of 241 passes/hr. Activity in 2023 was relatively low throughout the survey period at all sites (i.e. approximately 5 passes/hr or fewer). However, activity at site CL-DET-23-5 reached 18 passes/hr on 15 June and remained above 10 passes/hr until 17 June.

Although the presence of Northern Myotis could not be confirmed, the presence of this species cannot be ruled out. In most instances, the Northern Myotis emits echolocation calls that resemble those of the Little Brown Myotis. The Northern Myotis can, however, emit calls of much higher maximum frequency than the Little Brown Myotis in highly cluttered habitats (Figure 4-3a). Unfortunately, recordings made in high clutter are of poor quality, and higher frequencies attenuate much more quickly, making recordings of calls identifiable as Northern Myotis exceedingly rare.

The Tricolored Bat was not recorded in 2021, 2022, or 2023. Results from stable isotope analyses of fur samples from museum specimens suggest that Tricolored Bats may summer as far north as the southern edge of James Bay (Fraser et al. 2012). This notion was further supported by acoustic data from a comprehensive bat monitoring program across Northern Ontario (Layng et al. 2019). It should be noted that the data driving this conclusion are from a single museum specimen (Fraser et al. 2012) and only five of over 7,000 bat recordings, with all five giving different results when subjected to two different classifiers (Layng et al. 2019). However, the Tricolored bat range has continued to expand since the 1980s and based on stable isotope analyses may indeed extend further north than expected (Fraser et al. 2012). Nevertheless, range estimates based on stable isotopes have large error margins. Additionally, the aforementioned stable isotope study found that Tricolored Bats summer in the northern extent of their range and migrate southward to milder wintering sites, a pattern that fits with their thermo-behavioural ecology (Fraser et al. 2012). This strongly suggests that, while we cannot discount the likelihood that Tricolored bats might summer within or near the Study Area (though the probability of this is low given that we did not record any Tricolored bat passes within the Study Area), it is unlikely that Tricolored Bats hibernate within or near the Study Area.

4.4.3 Bat Hibernacula Surveys

Four locations of exposed bedrock (RB-1 to RB-4) were identified through desktop mapping in 2021 and surveyed to assess their suitability as overwintering habitat for bats. Exposed bedrock at RB-1 and RB-3 did not contain any cracks or other openings. RB-2 exhibited an abundance of exposed rock with cracks, but all were shallow and exposed to the elements rendering them unsuitable for hibernating bats. Exposed rock at RB-4 contained minimal amounts of cracks, all unsuitable as bat refugia. A fifth location, RB-5, was surveyed for potential bat hibernacula due to its primarily granite bedrock which may support talus caves. The site was characterized by a large bog and contained no habitat features for hibernating bats. The nine mine features identified through the AMIS database were part of the Kidd Creek mine and are therefore unlikely to be used by bats for overwintering as the mine is still active. Aerial surveys in 2022 confirmed that RB-1 to RB-5 did not contain suitable overwintering habitat for bats. Seven additional areas of exposed rock were identified in 2022 and assessed for presence of potentially suitable cracks, crevices, or talus formations for hibernating bats. Rock Barren 7, Rock Barren 9, and Rock Barren 10 did not contain any talus, cracks, or crevices within the rock. One site consisted of a vertical cut within the rock to make way for the railway (rock cut for railway). This site harboured some small but shallow cracks and was therefore determined to be unsuitable for bats. Another site consisted of a large boulder within the forest (boulder), but the rock was smooth with no cracks. Rock Barren 6 and Rock Barren 8 were both found to have potentially suitable features for overwintering bats. Twelve areas with cracks or talus were identified and assessed at Rock Barren 6. Of these, seven were too shallow to harbour suitable microclimates for hibernating bats.

A bat detector was placed at each of the remaining potentially suitable features during Spring 2022 and from mid-Summer to Fall 2023:

- Rock Barren 6-3 was a small talus chamber with a height of approximately 0.75 m and a depth of approximately 3 m. When looking into the chamber, light could be seen shining through a small opening at its farthest end.
- Rock Barren 6-5 was another talus structure with a 2 m-high and 15-20 cm-wide opening and a depth of approximately 2 m. Hibernating mosquitoes were observed along the walls of this small chamber.
- Rock Barren 6-8 consisted of a 4 m-long vertical crack in a large rock and a small chamber 1.5-2 m deep that opened up beneath the rock.

- Rock Barren 6-9 and Rock Barren 6-10 were comprised of several cracks that could not be easily examined.
- Rock Barren 6-12 consisted of a small chamber formed from cracked rock and talus that was over 2 m deep and had a 1 m-high and 15-30 cm-wide opening.
- At Rock Barren 8, four features were identified and surveyed, of which only one was potentially suitable habitat for hibernating bats. This feature, Rock Barren 8-3, was comprised of a crack that was 4-5m long, approximately 20 cm wide and at least 50 cm deep. The true depth could not be estimated as the crack curved beyond 50 cm.

4.4.4 Bat Hibernacula Acoustic Surveys

Acoustic bat activity was collected at six candidate hibernacula and one control site at Rock Barren 6, and at one candidate hibernaculum and one control site at Rock Barren 8. A total of 1,979 passes were recorded between May 17 and June 6, 2022. Of these, only 4 passes belonged to a Myotis species and one to an unknown high-frequency species. Two of the passes by a Myotis species were recorded at a control site. No passes could be accurately classified to a specific SAR bat species. A total of 1,456 bat passes were recorded during hibernacula surveys in 2023, which ran from July 10 to September 10, 2023. Only 9 SAR passes were recorded across the nine sites of which three were at control sites and none of this activity was concentrated in the late Summer / Fall period. Although presence of the Big Brown Bat could not be confirmed, passes classified as Silver-haired Bat/Big Brown Bat may still belong to the Big Brown Bat, a species that also hibernates in Ontario. Consequently, activity trends for the Silver-haired Bat/Big Brown Bat group were also examined for potential indicators of hibernation activity. This species group showed no marked peak in activity during Spring 2022 or late Summer / Fall 2023. Finally, activity of high-frequency species (primarily hibernating species) was consistently below that of low-frequency species (primarily non-hibernating species) during both seasons, though this difference was not statistically significant. These results confirm that none of the identified candidate hibernacula are being used as hibernacula.

4.5 Aerial Surveys

4.5.1 Mammals

Aerial surveys identified a total of nine mammal species present within the Study Area through direct observation of individuals and/or the identification of tracks. Moose and Red Fox were directly observed during the aerial surveys. Tracks of an additional six species including American Beaver, North American River Otter, Gray Wolf, Canada Lynx, American Marten, and Snowshoe Hare, were observed throughout the Study Area. Snowshoe Hare tracks were not always recorded because this species was prevalent and occurred at high densities throughout the Study Area. No Woodland Caribou were observed, nor any indication of presence from tracks or sign (e.g., cratering/slushing activity) detected in the portion of the survey area that overlaps the Kesagami Range of the Woodland Caribou. A summary of mammal occurrences is included in Table 4-7.

4.5.1.1 Moose

Evidence of Moose was observed throughout the Study Area, including 27 individual sightings during the winter aerial surveys (2021: n=15, 2022: n=12). Moose observations across both survey years comprised six bulls, 11 cows, and three unknown cow or calf. Observers were not able to reliably classify seven Moose observations; as such, they were recorded as unknown age and sex. A combined total of 57 separate sets of moose tracks were identified during aerial surveys across the two survey years, of which 24 track sets were believed to belong to more than one individual. Moose sightings were distributed throughout a 10 km buffer surrounding the Study

Area but were primarily documented southwest and north of the Study Area in 2021. In 2022, an additional area of medium high to high density of Moose observations was documented in the southeast portion of the aerial survey Study Area Figure 4-5.

Moose sightings and tracks were typically associated with clearcuts, regenerating forest, and riparian areas, particularly those dominated by aspen and abundant young hardwood saplings and shrubs that provide a browse forage source to Moose; these habitats, in proximity to adjacent thermal and hiding cover, are preferred by Moose in northern Ontario. Wolf tracks were detected in the Study Area with several areas of higher density including to the northwest and southwest of the Study Area (Figure 4-6). An area of relatively high density overlap for Moose and Wolf occurs to the northwest, with a small area of relatively high density overlap to the southwest (Figure 4-7). Wolves are further discussed below in Section 4.5.1.3. Moose and Wolf observations are summarized in Table 4-7.

4.5.1.2 Woodland Caribou (Boreal population)

No Woodland Caribou or tracks were documented during aerial surveys. The Study Area intersects with the most southern portion of the Kesagami Woodland Caribou Range (ON8; ECCC 2020). This Range was last assessed provincially in 2010 (MNRF 2014) and was characterized at the time as 43.8% disturbed, with a minimum animal count of 178 caribou and a declining population trend (low calf recruitment). Provincially, Woodland Caribou (Boreal Population) are listed as threatened and receive individual and general habitat protection under the ESA. Woodland Caribou (Boreal Population) habitat has been categorized by the province through the General Habitat Description for the Forest-dwelling Woodland Caribou (MECP 2021d) to support the implementation of the general habitat definition in the ESA. Habitat has been categorized as follows:

Category 1: Nursery Areas, Winter Use Areas, Travel Corridors

Sub-range habitat features and high use areas that exhibit repeated intensive use by individual Caribou or groups (e.g., nursery areas, winter use areas and travel corridors), often over multiple years. These habitat features or areas are considered to have low tolerance / high sensitivity to alteration from disturbance before their function or value in supporting Caribou is compromised (MECP 2021d). Category 1 areas are nested within Category 2 range areas and are dependent on the refuge function provided at this larger spatial scale.

Category 2: Seasonal Ranges

Seasonal ranges are large sub-range habitat features or areas with greater than 100 km² of interconnected patches of mature (greater than 40 to 60 years in age) Jack Pine and/or Black Spruce stands that are used across multiple years, which delineate the majority of current Caribou distribution within a range. Caribou are generally not distributed evenly within seasonal ranges within a given year. Individual animals and groups utilize the extent of these ranges over multiple years as a refuge to effectively space themselves out from threats such as anthropogenic disturbance or predators that may change annually. These landscape-scale habitat features or areas are considered to have moderate tolerance / sensitivity to disturbance before the function is compromised.

Category 3: Remaining Areas within the Range

The remaining areas within the range have a high tolerance to alteration before the function is compromised. These areas indirectly support Caribou by maintaining (buffering) the overall predator refuge function within their range. This category has biophysical features and forest composition consistent with seasonal ranges but is currently young vegetation communities such as regenerating burn areas that are less than 40 years

old. Category 3 can become future habitat when the forest cover matures and connectivity with Category 2 habitats is restored within the range. These areas are not generally occupied for long periods; however, Caribou may travel through them. These areas may become more highly used when forest cover matures, and connectivity with other currently occupied seasonal ranges is restored.

The aerial survey overlapped the southeastern extent of the Kesagami Woodland Caribou Range; the area of overlap is currently low likelihood occupied habitat for Woodland Caribou as a consequence of current habitat characteristics (early successional vegetation and has incurred significant forestry disturbance) and presence of alternate prey (moose), which typically attracts a known predator of Woodland Caribou, wolves. The majority of the Study Area where it overlaps the Kesagami Range is considered Category 3 (remaining area within Range) habitat (Figure 4-9). In the extreme southwest corner of the Kesagami Range, south and west of the Project Location, a small area of Category 2 (seasonal range) habitat is present. Woodland Caribou are disturbance-sensitive with life history limitations (low reproductive output, low annual calf survival), resulting in sensitivity to even minor changes in mortality risk. They naturally occur at low spatial density (typically 0.02 to 0.03 Caribou/km^2) but have large spatial home range requirements for well-connected old-growth boreal forest and lichen-rich peatlands. These large home ranges allow Caribou to spatially separate from predators and alternative prey and avoid disturbance (ECCC 2020).

4.5.1.3 Wolves

Wolf tracks were documented at eight locations during the 2021 aerial survey and at 13 locations during the 2022 aerial surveys. Sixteen observations of Wolf tracks consisted of more than one set of tracks, with one instance where five sets of Wolf tracks were observed together.

In 2021, areas of relatively high Wolf density were located northwest of the Project Location, and at the southwest edge of the 2021 aerial survey area. The 2022 aerial survey study area was slightly larger than the 2021 extent. Several areas within the 2022 aerial survey area exhibited sufficient evidence of wolf sign to be classified as medium-high to high relative wolf density; these areas were located near the northwest, northeast, and southwest extents of the Study Area (Figure 4-6). No Wolves were observed during aerial surveys.

Wolves in Ontario have an extensive history of hybridization with Coyotes and between Wolf species and subspecies. Hybridization has made management of Wolf species challenging, partly due to the difficulty in delineating species' ranges in Ontario. The present Canadian range of the Eastern Wolf is based on genetic analysis (COSEWIC 2015), and most *Canis* individuals recorded outside the core range of the Eastern Wolf are identified primarily as Great Lakes-Boreal Wolf or Eastern Coyote. The Eastern Wolf, renamed the Algonquin Wolf in 2016, is a Threatened species in Ontario, but the related subspecies, the Great Lakes-Boreal Wolf, is not at risk in Ontario. The Wolves in the Study Area are considered Gray Wolf.

4.5.1.4 Furbearers

Furbearing species detected across 2021 and 2022 surveys included North American River Otter, American Martin, Canada Lynx, American Beaver, and Snowshoe Hare. Evidence of Snowshoe Hare was only formally recorded at two locations during the aerial surveys, but this should not be interpreted as low-density occurrence; this species occurs frequently and is largely ubiquitous across the aerial survey Study Area. As such, documenting all occurrences of Snowshoe Hare tracks was unmanageable. Evidence of American Beaver was observed at 28 locations, of which one observation was a lodge and two observations were of both a lodge and a dam. The three lodges observed were located at the south end of the Study Area, one was located approximately 1.5 km west of Kidd Mine, another was approximately 2 km west of the Timmins airport, and the third was 600 m

west of the transmission line that runs parallel to Highway 655 (Figure 4–8). American Marten tracks were observed at 70 locations in the aerial survey Study Area (Figure 4-8). Evidence of North American River Otter in the form of tracks and ice holes was observed at 56 locations throughout the aerial survey Study Area (Figure 4-8), with the greatest density of sign at Kamiskotia Lake and along Mattagami River. Canada Lynx was detected 91 times in the aerial survey study area (Figure 4-8). Red Fox tracks were observed at 179 locations in the aerial survey study area. There were two instances where more than one set of Red Fox tracks were observed together at the same location. Furbearer observations are summarized in Table 4-7.

4.5.2 Birds

Many large birds, including some raptors (i.e., hawks, eagles, osprey, falcons, vultures, and owls), Common Ravens, and herons will nest in large trees. Some of these species will also readily use anthropogenic structures such as transmission line poles, bridges, or buildings located in open or forested areas and along forested edges of large water bodies. These species, as well as their nests, were documented during aerial surveys.

Two stick nests believing to belong to Bald Eagle and two Bald Eagle were recorded during targeted aerial surveys for stick nests in 2021 and 2022 (Figure 4-8). The Bald Eagle were observed at one location along the Mattagami River, near the Lower Sturgeon dam. The flow of this dam creates open water hunting habitat for Bald Eagles and other wildlife. A Bald Eagle nest was found approximately 550 m southwest of where the two Bald Eagle were observed. A second nest was located along the Mattagami River approximately 20 to 25 km northwest of the Study Area and is thought to be a possible Bald Eagle nest. Nine other stick nests could not be attributed to a specific species and were considered unidentified. Two of the unidentified stick nests were located within the Study Area, immediately west of Highway 655. The remaining five unidentified stick nests were located approximately 14 to 22 km north of the Study Area. A Common Raven nest was detected approximately 10 km southwest of the intersection of Highway 655 and Highway 11 during aerial surveys.

Other incidental observations during aerial surveys included sightings of approximately 20 crossbills (not identified to species) southeast of the aerial survey Study Area, and a grouse species wing print in the snow 2.3 km east of Highway 655. Fifteen Sharp-tailed Grouse were observed within the Study Area; at two of these locations, the numbers present, and timing of the aerial survey suggested that the area could be potential lekking sites. One of the candidate leks is located about 5 km northeast of the Lower Sturgeon Dam. The second potential lek is located 7 km northeast of the Lower Sturgeon Dam, about 3 km west of Highway 655. Candidate Sharp-tailed Grouse Lek sites are discussed further in Section 5.2.2 and candidate lek habitat is shown on Figure 5-11. A single Pileated Woodpecker was observed flying through the forest during the aerial survey. A summary of sightings of birds and evidence of birds is included in Table 4-8.

4.5.3 Targeted Blanding's Turtle Habitat Assessments

The Blanding's Turtle HSI mapping exercise identified potential nesting habitat, potential functional habitat, and vast expanses of potential overwintering habitat across the Study Area. The HSI map used for fieldwork can be found in Appendix E, and results of the ground-truthing exercise can be found in Section 4.2.3.

Potential nesting habitat was more concentrated in the southern portion of the Study Area, and consisted primarily of quarries, work sites, and heavily disturbed landscapes such as campgrounds. Several sites identified during aerial surveys as high-potential nesting areas were marked on the map and ground-truthing attempts were made, as discussed in Section 4.2.3.

Functional habitat was also found throughout the Study Area, consisting of landscapes that could be traversed by Blanding's Turtle or otherwise used in life processes. Some potential functional habitat was deemed unsuitable from the aerial surveys due to unmapped logged areas resulting in slash piles and rugged terrain.

Based on the extensive amount of wetland ELC types throughout the Study Area, large swaths of the landscape were classified as potential overwintering habitat for Blanding's Turtle. Aerial surveys were used to observe potential overwintering habitat and assess whether the landscape provided permanent water features such as bogs, fens, marshes, ponds, etc. as well as connectivity to other waterbodies, functional habitat, and potential nesting sites. Several potentially suitable overwintering wetlands were identified from the air and selected for the ground-truthing exercise.

Table 4-1: Vegetation Communities Occurring Within the Abitibi River Fri Preliminary Project Boundary (2022) and Study Area (5 Km Buffer)

Vegetation Community	Preliminary Project Boundary (2022)		Study Area (5 Km Buffer)	
	Area (Ha)	Percent Cover	Area (Ha)	Percent Cover
B005: Active Mineral Shoreline	-	-	10.5	0.021
B007: Active Mineral Barren	35.5	0.216	43.1	0.085
B012: Very Shallow, Dry to Fresh: Pine – Black Spruce Conifer	-	-	12.1	0.024
B024: Very Shallow, Humid: Black Spruce – Pine Conifer	16.9	0.103	16.9	0.033
B034: Dry, Sandy: Jack Pine – Black Spruce Dominated	15.3	0.093	15.3	0.030
B040: Dry, Sandy: Aspen – Birch Hardwood	16.5	0.100	59.4	0.117
B049: Dry to Fresh, Coarse: Jack Pine – Black Spruce Dominated	-	-	31.9	0.063
B050: Dry to Fresh, Coarse: Pine – Black Spruce Conifer	15.9	0.097	20.8	0.041
B052: Dry to Fresh, Coarse: Spruce – Fir Conifer	44.9	0.273	59.2	0.116
B055: Dry to Fresh, Coarse: Aspen – Birch Hardwood	31.8	0.193	99.7	0.196
B065: Moist, Coarse: Pine – Black Spruce Conifer	13.4	0.081	13.4	0.026
B067: Moist, Coarse: Spruce – Fir Conifer	48.6	0.295	49.7	0.098
B070: Moist, Coarse: Aspen – Birch Hardwood	-	-	33.2	0.065
B082: Fresh, Clayey: Jack Pine – Black Spruce Dominated	83.3	0.506	93.0	0.183
B083: Fresh, Clayey: Pine – Black Spruce Conifer	34.9	0.212	34.9	0.069
B085: Fresh, Clayey: Spruce – Fir Conifer	39.5	0.240	39.5	0.078
B088: Fresh, Clayey: Aspen – Birch Hardwood	17.2	0.104	206.4	0.406
B093: Fresh, Silty to Fine Loamy: Field	-	-	2.8	0.005
B098: Fresh, Silty to Fine Loamy: Jack Pine – Black Spruce Dominated	42.1	0.256	128.6	0.253
B099: Fresh, Silty to Fine Loamy: Pine – Black Spruce Conifer	120.2	0.730	934.8	1.838
B100: Fresh, Silty to Fine Loamy: Cedar (Hemlock) Conifer	-	-	8.3	0.016

Table 4-1: Vegetation Communities Occurring Within the Abitibi River Fri Preliminary Project Boundary (2022) and Study Area (5 Km Buffer)

Vegetation Community	Preliminary Project Boundary (2022)		Study Area (5 Km Buffer)	
	Area (Ha)	Percent Cover	Area (Ha)	Percent Cover
B101: Fresh, Silty to Fine Loamy: Spruce – Fir Conifer	401.6	2.439	750.3	1.475
B102: Fresh, Silty to Fine Loamy: Conifer	-	-	24.0	0.047
B104: Fresh, Silty to Fine Loamy: Aspen – Birch Hardwood	501.8	3.048	1747.4	3.436
B114: Moist, Fine: Pine – Black Spruce Conifer	1842.5	11.191	5321.1	10.464
B115: Moist, Fine: Cedar (Hemlock) Conifer	9.3	0.057	9.3	0.018
B116: Moist, Fine: Spruce – Fir Conifer	287.3	1.745	809.2	1.591
B117: Moist, Fine: Conifer	-	-	56.9	0.112
B119: Moist, Fine: Aspen – Birch Hardwood	697.0	4.233	1876.1	3.689
B126: Low Treed Bog	656.1	3.985	2282.9	4.489
B127: Organic Poor Conifer Swamp	414.7	2.519	1863.4	3.664
B128: Organic Intermediate Conifer Swamp	8381.5	50.908	25042.6	49.245
B129: Organic Rich Conifer Swamp	366.3	2.225	1035.3	2.036
B133: Hardwood Swamp	8.5	0.052	8.5	0.017
B134: Mineral Thicket Swamp	27.5	0.167	155.7	0.306
B135: Organic Thicket Swamp	307.3	1.867	867.6	1.706
B136: Sparse Treed Fen	576.0	3.499	2422.5	4.764
B137: Sparse Treed Bog	100.9	0.613	566.6	1.114
B138: Open Bog	1.2	0.007	10.5	0.021
B139: Poor Fen	88.5	0.538	304.6	0.599
B140: Open Moderately Rich Fen	29.1	0.177	62.1	0.122
B142: Mineral Meadow Marsh	98.7	0.599	303.5	0.597
B144: Organic Meadow Marsh	228.3	1.387	495.4	0.974
B146: Open Shore Fen	9.1	0.055	118.3	0.233
B164: Rock Barren	-	-	0.5	0.001
B197: Pavement / Concrete	257.0	1.561	423.6	0.833
B222: Mineral Poor Conifer Swamp	7.4	0.045	7.4	0.015
B223: Mineral Intermediate Conifer Swamp	72.2	0.438	172.1	0.338
Island	0.6	0.003	1.3	0.002
U997: Other Development	64.5	0.392	495.5	0.974
U998: Utility Corridor	245.9	1.493	375.4	0.738
Water	207.2	1.259	643.0	1.264

Table 4-2: Highest Breeding Evidence of Birds from Breeding Bird Surveys and Marsh Bird Surveys

English Name	Scientific Name	Breeding Evidence
Alder Flycatcher	*Empidonax alnorum*	Probable
American Bittern	*Botaurus lentiginosus*	Possible
American Black Duck	*Anas rubripes*	Possible
American Crow	*Corvus brachyrhynchos*	Probable
American Goldfinch	*Spinus tristis*	Probable
American Kestrel	*Falco sparverius*	Possible
American Redstart	*Setophaga ruticilla*	Probable
American Robin	*Turdus migratorius*	Probable
American Wigeon	*Anas americana*	Observed
American Woodcock	*Scolopax minor*	Probable
Barn Swallow	*Hirundo rustica*	Possible
Bay-breasted Warbler	*Setophaga castanea*	Probable
Belted Kingfisher	*Megaceryle alcyon*	Probable
Black-and-white Warbler	*Mniotilta varia*	Probable
Black-billed Cuckoo	*Coccyzus erythropthalmus*	Possible
Blackburnian Warbler	*Setophaga fusca*	Probable
Black-capped Chickadee	*Poecile atricapillus*	Probable
Blackpoll Warbler	*Setophaga striata*	Possible
Blue Jay	*Cyanocitta cristata*	Possible
Blue-headed Vireo	*Vireo solitarius*	Probable
Blue-winged Teal	*Anas discors*	Possible
Bonaparte's Gull	Larus philadelphia	Possible
Boreal Chickadee	*Poecile hudsonicus*	Possible
Boreal Owl	*Aegolius funereus*	Possible
Broad-winged Hawk	*Buteo platypterus*	Possible
Brown Creeper	*Certhia americana*	Possible

Table 4-2: Highest Breeding Evidence of Birds from Breeding Bird Surveys and Marsh Bird Surveys

English Name	Scientific Name	Breeding Evidence
Brown Thrasher	*Toxostoma rufum*	Possible
Canada Goose	*Branta canadensis*	Confirmed
Canada Jay	*Perisoreus canadensis*	Confirmed
Canada Warbler	*Thryothorus ludovicianus*	Possible
Cape May Warbler	*Setophaga tigrina*	Probable
Cedar Waxwing	*Bombycilla cedrorum*	Probable
Chestnut-sided Warbler	*Setophaga pensylvanica*	Probable
Chipping Sparrow	*Spizella passerina*	Probable
Common Grackle	*Quiscalus quiscula*	Confirmed
Common Loon	*Gavia immer*	Confirmed
Common Raven	*Corvus corax*	Confirmed
Common Yellowthroat	*Geothlypis trichas*	Probable
Connecticut Warbler	*Oporornis agilis*	Possible
Dark-eyed Junco	*Junco hyemalis*	Confirmed
Downy Woodpecker	*Picoides pubescens*	Possible
Eastern Kingbird	*Tyrannus tyrannus*	Observed
Eastern Phoebe	*Sayornis phoebe*	Possible
Evening Grosbeak	*Coccothraustes vespertinus*	Possible
Gadwall	*Anas strepera*	Observed
Golden-crowned Kinglet	*Regulus satrapa*	Probable
Great Blue Heron	*Ardea herodias*	Possible
Greater Yellowlegs	*Tringa melanoleuca*	Possible
Green-winged Teal	*Anas crecca*	Confirmed
Hairy Woodpecker	*Picoides villosus*	Possible
Hermit Thrush	*Catharus guttatus*	Possible
Killdeer	*Charadrius vociferus*	Probable

Table 4-2: Highest Breeding Evidence of Birds from Breeding Bird Surveys and Marsh Bird Surveys

English Name	Scientific Name	Breeding Evidence
Least Flycatcher	*Empidonax minimus*	Probable
Lesser Yellowlegs	*Tringa flavipes*	Probable
Lincoln's Sparrow	*Melospiza lincolnii*	Probable
Magnolia Warbler	*Setophaga magnolia*	Probable
Mallard	*Anas platyrhynchos*	Possible
Merlin	*Falco columarius*	Observed
Mourning Dove	*Zenaida macroura*	Observed
Mourning Warbler	*Geothlypis philadelphia*	Probable
Nashville Warbler	*Oreothlypis ruficapilla*	Probable
Northern Flicker	*Colaptes auratus*	Confirmed
Northern Harrier	*Circus hudsonius*	Possible
Northern Parula	*Setophaga americana*	Possible
Northern Waterthrush	*Parkesia noveboracensis*	Probable
Orange-crowned Warbler	*Oreothlypis celata*	Possible
Ovenbird	*Seiurus aurocapilla*	Probable
Palm Warbler	*Setophaga palmarum*	Possible
Philadelphia Vireo	*Vireo philadelphicus*	Possible
Pied-billed Grebe	*Podilymbus podiceps*	Possible
Pileated Woodpecker	*Dryocopus pileatus*	Possible
Pine Siskin	*Spinus pinus*	Possible
Pine Warbler	*Setophaga pinus*	Possible
Purple Finch	*Haemorhous purpureus*	Possible
Red-breasted Nuthatch	*Sitta canadensis*	Probable
Red Crossbill	*Loxia curvirostra*	Possible
Red-eyed Vireo	*Vireo olivaceus*	Probable
Redhead	*Aythya americana*	Observed

Table 4-2: Highest Breeding Evidence of Birds from Breeding Bird Surveys and Marsh Bird Surveys

English Name	Scientific Name	Breeding Evidence
Red-winged Blackbird	*Agelaius phoeniceus*	Probable
Ring-necked Duck	*Aythya collaris*	Probable
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Possible
Ruby-crowned Kinglet	*Regulus calendula*	Probable
Ruffed Grouse	*Bonasa umbellus*	Probable
Rusty Blackbird	*Euphagus carolinus*	Possible
Sandhill Crane	*Grus canadensis*	Probable
Savannah Sparrow	*Passerculus sandwichensis*	Possible
Semipalmated Plover	*Charadrius semipalmatus*	Observed
Sharp-shinned Hawk	*Accipiter striatus*	Possible
Solitary Sandpiper	*Tinga solitaria*	Probable
Song Sparrow	*Melospiza melodia*	Probable
Sora	*Porzana carolina*	Probable
Spotted Sandpiper	*Actitis macularius*	Probable
Swainson's Thrush	*Catharus ustulatus*	Probable
Swamp Sparrow	*Melospiza georgiana*	Probable
Tennessee Warbler	*Oreothlypis peregrina*	Probable
Tree Swallow	*Tachycineta bicolor*	Probable
Trumpeter Swan	*Cygnus buccinator*	Possible
Veery	*Catharus fuscescens*	Probable
Virginia Rail	*Rallus limicola*	Probable
White-throated Sparrow	*Zonotrichia albicollis*	Probable
White-winged Crossbill	*Loxia leucoptera*	Possible
Wilson’s Warbler	*Cardellina pusilla*	Possible
Wilson's Snipe	*Gallinago delicata*	Probable
Winter Wren	*Troglodytes hiemalis*	Probable

Table 4-2: Highest Breeding Evidence of Birds from Breeding Bird Surveys and Marsh Bird Surveys

English Name	Scientific Name	Breeding Evidence
Wood Duck	*Aix sponsa*	Possible
Yellow Warbler	*Setophaga petechia*	Probable
Yellow-bellied Flycatcher	*Sphyrapicus varius*	Probable
Yellow-bellied Sapsucker	*Sphyrapicus varius*	Possible
Yellow-rumped Warbler	*Setophaga coronata*	Probable

Notes:

Observed: Species observed in their breeding season (no evidence of breeding).

Possible: Species observed or singing male present in its breeding season in suitable nesting habitat.

Probable: Pair observed, territory and/or courtship displays, agitated behaviour/anxiety calls in the breeding season in suitable nesting habitat. Observations of possible breeding evidence across two breeding bird surveys at the same location in one year.

Confirmed: Distraction displays, nest or eggs, fledged young, and adults carrying food or nesting materials

Table 4-3: Mean Cavity Tree Density for Each Ecosite Surveyed

Ecosite	Mean Cavity Tree Density (Trees / Ha)	Number Of Plots Sampled
B024	26.7	3
B040	93.3	3
B055	120.0	3
B070	106.7	3
B088	106.7	3
B101	170.0	6
B104	80.0	6
B114	50.5	21
B115	213.3	3
B116	75.0	4
B119	56.9	13
B127	15.0	4
B128	37.1	35
B129	66.0	10
B133	120.0	3
B136	20.0	1

Table 4-4: Bat Passes Per Detector During 2021 Bat Maternity Habitat Acoustic Surveys

Detector	Little Brown Myotis	Myotis Species	Eastern Red Bat	High Frequency Bat Species	Hoary Bat	Silver-Haired Bat	Silver-Haired Bat/Big Brown Bat	Low Frequency Bat Species
CL-DET-EM-G2-01	0	0	0	0	3	28	0	2
CL-DET-ET-G2-1	0	4	0	1	1,057	494	17	550
CL-DET-ET-G2-2	0	12	3	2	233	380	15	215
CL-DET-EXTRA-02	0	0	0	0	50	355	1	28
CL-DET-EXTRA-02b	0	0	0	0	4	7	0	2
CL-DET-EXTRA-03	0	11	0	1	5	339	12	40
CL-DET-G1-02	0	0	0	0	0	0	0	1
CL-DET-G1-03	0	0	0	0	14	22	0	97
CL-DET-G1-07	0	3	0	1	17	294	8	74
CL-DET-G1-08	0	0	0	0	81	365	1	87
CL-DET-G1-09	0	0	0	0	102	250	4	43
CL-DET-G1-10	0	2	0	5	77	51	0	62
CL-DET-G1-11	0	0	0	0	3	34	3	6
CL-DET-G2-01	0	1	0	0	151	321	15	162
CL-DET-G2-03	0	0	0	0	70	93	0	41
CL-DET-G2-04	1	9	0	0	127	5,239	75	258
CL-DET-G2-11	0	0	0	0	0	6	0	1
CL-DET-WT-G2-02	0	10	0	2	239	1,383	36	165
CL-DET-WT-G2-02b	0	0	0	2	242	617	6	118
Total Number of Passes per Species/Species Group	1	52	3	14	2,475	10,278	193	1,952

Table 4-5: Bat Passes Per Detector During 2022 Bat Maternity Habitat Acoustic Surveys

Detector	Little Brown Myotis	Myotis Species	Eastern Red Bat	High Frequency Bat Species	Hoary Bat	Silver-Haired Bat	Silver-Haired Bat/Big Brown Bat	Low Frequency Bat Species
CL-DET-CBM-11	1	20	0	2	770	5,236	582	1347
CL-DET-CBM-12	8	6	4	0	535	2,112	82	263
CL-DET-CBM-14	0	14	0	4	237	202	4	255
CL-DET-CBM-16	0	0	0	0	583	607	60	1339
CL-DET-CBM-18	0	9	0	2	108	294	5	266
CL-DET-CBM-19	1	5	0	3	685	512	6	238
CL-DET-G1-04	0	7	0	0	236	266	4	214
CL-DET-CBM-17	0	2	0	5	407	1,029	58	931
CL-DET-CBM-13	0	55	0	4	202	774	22	240
CL-DET-CBM-8	0	0	0	0	280	143	5	260
CL-DET-CBM-7	0	0	0	1	104	527	6	147
CL-DET-CBM-3	0	0	0	0	30	65	0	23
CL-DET-CBM-2	0	1	0	0	18	72	1	38
CL-DET-CBM-5	0	0	0	0	175	293	4	113
CL-DET-EXTRA-01	0	0	0	3	144	963	19	575
CL-DET-CBM-9	0	0	0	0	319	6,054	158	423
CL-DET-G2-01	0	3	0	2	115	450	3	138
Total Number of Passes per Species/Species Group	10	122	4	26	4,948	19,599	1,019	6,810

Table 4-6: Bat Passes Per Detector During 2023 Bat Maternity Habitat Acoustic Surveys

Detector	Myotis Species	Eastern Red Bat	High Frequency Bat Species	Hoary Bat	Silver-Haired Bat	Silver-Haired Bat/Big Brown Bat	Low Frequency Bat Species
CL-DET-23-1	1	0	0	10	50	2	28
CL-DET-23-2	0	0	0	55	497	20	112
CL-DET-23-3	0	0	0	21	164	3	35
CL-DET-23-4	0	0	0	78	41	0	106
CL-DET-23-5	0	0	0	163	592	11	332
CL-DET-23-6	6	0	10	114	117	2	301
CL-DET-23-7	1	0	0	28	75	3	110
CL-DET-23-8	0	0	1	34	177	2	49
CL-DET-23-9	0	0	2	52	108	4	81
CL-DET-23-10	0	0	0	29	18	0	61
Total Number of Passes per Species/Species Group	8	0	13	584	1,839	47	1215

Table 4-7: Summary of Mammals and Tracks Observed During Aerial Surveys

English Name	Scientific Name	Sightings	Track or Equivalent Occurrences
Moose	*Alces americanus*	27	57
Gray Wolf	*Canis lupus*	0	21
Canada Lynx	*Lynx Canadensis*	0	91
North American River Otter	*Lontra canadensis*	0	56
American Marten	*Martes americana*	1	70
Snowshoe Hare	*Lepus americanus*	0	2[1]
American Beaver	*Castor canadensis*	0	28
Red Fox	*Vulpes vulpes*	0	179

1) Snowshoe Hares are largely ubiquitous across the landscape and documenting their occurrence was unmanageable; therefore, this number is not an accurate representation of the abundance of Snowshoe Hare expected within the Study Area.

Table 4-8: Summary of Birds or Evidence of Birds Observed During Aerial Surveys

English Name	Scientific Name	Sightings	Nests
Bald Eagle	*Haliaeetus leucocephalus*	2	1 (+ 1 possible)
Crossbill Species	*Loxia* sp.	20	-
Grouse Species	N/A	1	-
Unidentified Hawk Species or Common Raven	N/A	-	9
Sharp-tailed Grouse	*Tympanuchus phasianellus*	15	-
Pileated Woodpecker	*Dryocopus pileatus*	1	-
Common Raven	*Corvus corax*	-	1

N/A = not applicable

462000 464000 466000 468000 470000 472000

5422000 5420000 5418000 5416000

Aubin Lake

10km

5km

1km

Nesbitt Creek

CAMP 40 RD

North Driftwood River

655

B104 B114 B119 B127 B128 B135 B136 B139 B140 B142 B144 B129 B099 B126 B101 B107 B070 B116 B117 B197 U997 U998

X:\CA\CAOAK300-OAK\MIS-FS1-Project\P\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\FR1_Vegetation_Series_1.mxd

LEGEND

- Study Areas (labelled on map)
- Vegetation Communities (labelled with ecosite code)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 0.5 1 2 3 4 5 Kilometres

OVERVIEW MAP

a b c d e f g h i j

PROJECT LOCATION

10 km

NOTES:
- Waterbody and Watercourse information extracted from LIO data, 2021

Datum: NAD83
Projection: UTM Zone 17N

N W E S

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CRAWFORD NICKEL PROJECT

Vegetation Communities

PROJECT N°: OMEMA2304	**FIGURE: 4-1a**
SCALE: 1:30,000	DATE: December 2023

474000 476000 478000 480000 482000 484000

5422000 5420000 5418000 5416000

Buskegau River

West Buskegau River

1km 5km 10km

B128 B142 B135 B114 B136 B139 B127 B129 B104 B144 B126 B099 B101 B119 B070 B117 U998

LEGEND

- Study Areas (labelled on map)
- Vegetation Communities (labelled with ecosite code)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 0.5 1 2 3 4 5 Kilometres

OVERVIEW MAP

a b c d e f g h i j

PROJECT LOCATION

10 km

NOTES:
- Waterbody and Watercourse information extracted from LIO data, 2021

Datum: NAD83
Projection: UTM Zone 17N

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CRAWFORD NICKEL PROJECT

Vegetation Communities

PROJECT N°: OMEMA2304 | **FIGURE: 4-1b**

SCALE: 1:30,000 | DATE: December 2023

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462000 464000 466000 468000 470000 472000

5414000

5412000

5410000

Mattagami River

Nesbitt Creek

North Driftwood River

CAMP 240 RD

655

5km

1km

X:\CA\CAOAK300-OAK\MIS-FS1-Project\FI\2023\Projects\OMEMA23045_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\FRI_Vegetation_Series_1.mxd

LEGEND

- Study Areas (labelled on map)
- Vegetation Communities (labelled with ecosite code)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 0.5 1 2 3 4 5 Kilometres

OVERVIEW MAP

a b c d e f g h i j

PROJECT LOCATION

10 km

NOTES:
- Waterbody and Watercourse information extracted from LIO data, 2021

Datum: NAD83
Projection: UTM Zone 17N

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CRAWFORD NICKEL PROJECT

Vegetation Communities

PROJECT N°: OMEMA2304 | FIGURE: 4-1c

SCALE: 1:30,000 | DATE: December 2023

474000 476000 478000 480000 482000 484000

5414000

5412000

5410000

1km

5km

West Buskegau River

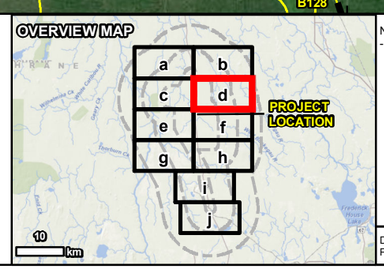
Buskegau River

LEGEND

- Study Areas (labelled on map)
- Vegetation Communities (labelled with ecosite code)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 0.5 1 2 3 4 5 Kilometres

OVERVIEW MAP



NOTES:
- Waterbody and Watercourse information extracted from LIO data, 2021

Datum: NAD83
Projection: UTM Zone 17N

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CRAWFORD NICKEL PROJECT

Vegetation Communities

PROJECT N°: OMEMA2304	**FIGURE: 4-1d**
SCALE: 1:30,000	DATE: December 2023

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462000 464000 466000 468000 470000 472000

5408000 5406000 5404000

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5km

1km

LOWER STURGEON DAM RD

Martin Lake

Gerry Lake

Jack Lake

Sutherland Lake

Mel Lake

Davis Lake

North Driftwood River

Jocko Creek

Mattagami River

LEGEND

- Study Areas (labelled on map)
- Vegetation Communities (labelled with ecosite code)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 0.5 1 2 3 4 5 Kilometres

OVERVIEW MAP

a b c d e f g h i j

PROJECT LOCATION

10 km

NOTES:
- Waterbody and Watercourse information extracted from LIO data, 2021

Datum: NAD83
Projection: UTM Zone 17N

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CRAWFORD NICKEL PROJECT

Vegetation Communities

PROJECT N°: OMEMA2304 | **FIGURE: 4-1e**

SCALE: 1:30,000 | DATE: December 2023

474000 476000 478000 480000 482000 484000

5408000 5406000 5404000

West Bustegair River

Prosser Creek

1km 5km

655

U998 B114 B223 B126 B128 B139 B135 B136 B119 B116 B127 B144 B142 B129 B140 B117 B083 B024 B104 B098 B052 B197

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LEGEND

- Study Areas (labelled on map)
- Vegetation Communities (labelled with ecosite code)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 0.5 1 2 3 4 5 Kilometres

OVERVIEW MAP

a b c d e f g h i j

PROJECT LOCATION

10 km

NOTES:
- Waterbody and Watercourse information extracted from LIO data, 2021

Datum: NAD83
Projection: UTM Zone 17N

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CRAWFORD NICKEL PROJECT

Vegetation Communities

PROJECT N°: OMEMA2304	**FIGURE: 4-1f**
SCALE: 1:30,000	DATE: December 2023

462000 464000 466000 468000 470000 472000

5402000 5400000 5398000

SW 4B 2PO 2BW 1SB 1
B 4BW 3SB 2PO 1
SW 4B 2PO 2BW 1SB 1

Mattagami River
Ward Creek
Jacko Creek
Zed Lake
1km
5km
10km

B119 B116 B139 B119 B136 B104 B119 B142 B114 B115 B197 B136 B119 B119 B140 B119 B116 B007 B129 B142 B197 B142 B128 U997 B135 B142 B128 B101 B128 B146 B116 B129 B101 B098 B099 B146 B134 B114 B135 B144 B128 B129 B114 B117 B127 B104 B126 B137 B144 B139 B100 B134 B136 B146

LEGEND

- Study Areas (labelled on map)
- Vegetation Communities (labelled with ecosite code)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 0.5 1 2 3 4 5 Kilometres

OVERVIEW MAP

a b c d e f g h i j

PROJECT LOCATION

10 km

NOTES:
- Waterbody and Watercourse information extracted from LIO data, 2021

Datum: NAD83
Projection: UTM Zone 17N

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CRAWFORD NICKEL PROJECT

Vegetation Communities

PROJECT N°: OMEMA2304	**FIGURE: 4-1g**
SCALE: 1:30,000	DATE: December 2023

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474000 476000 478000 480000 482000 484000

5402000 5400000 5398000

Prosser Lake

Jocko Creek

5km 1km 1km

655

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LEGEND

- Study Areas (labelled on map)
- Vegetation Communities (labelled with ecosite code)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

OVERVIEW MAP

a b c d e f g h i j

PROJECT LOCATION

10 km

NOTES:
- Waterbody and Watercourse information extracted from LIO data, 2021

Datum: NAD83
Projection: UTM Zone 17N

0 0.5 1 2 3 4 5 Kilometres

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CRAWFORD NICKEL PROJECT

Vegetation Communities

PROJECT N°: OMEMA2304 | **FIGURE: 4-1h**

SCALE: 1:30,000 | DATE: December 2023

470000 472000 474000 476000 478000 480000

5396000 5394000 5392000 5390000

Boundary Lake

Kidd Creek

5km 1km 1km 5km

655

LEGEND

- Study Areas (labelled on map)
- Vegetation Communities (labelled with ecosite code)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 0.5 1 2 3 4 5 Kilometres

OVERVIEW MAP

a b c d e f g h i j

PROJECT LOCATION

10 km

NOTES:
- Waterbody and Watercourse information extracted from LIO data, 2021

Datum: NAD83
Projection: UTM Zone 17N

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CRAWFORD NICKEL PROJECT

Vegetation Communities

PROJECT N°: OMEMA2304	FIGURE: 4-1i
SCALE: 1:30,000	DATE: December 2023

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470000 472000 474000 476000 478000 480000 482000

5386000

5384000

Kidd Creek

Feldman Lake

Duck Lake

Bouchard Lake

Noted Lake

Bigwater Lake

1km

5km

655

PO 6SB 4

PO 6BW 2SB 2

PO 7SB 3

PO 6SB 3BW 1

SB 0

SB 8L1B 1

X:\CA\CAOAK300-OAK\MIS-FS1-Project\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\FRI_Vegetation_Series_1.mxd

LEGEND

- Study Areas (labelled on map)
- Vegetation Communities (labelled with ecosite code)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 0.5 1 2 3 4 5 Kilometres

OVERVIEW MAP

a b c d e f g h i j PROJECT LOCATION

10 km

NOTES:
- Waterbody and Watercourse information extracted from LIO data, 2021

Datum: NAD83
Projection: UTM Zone 17N

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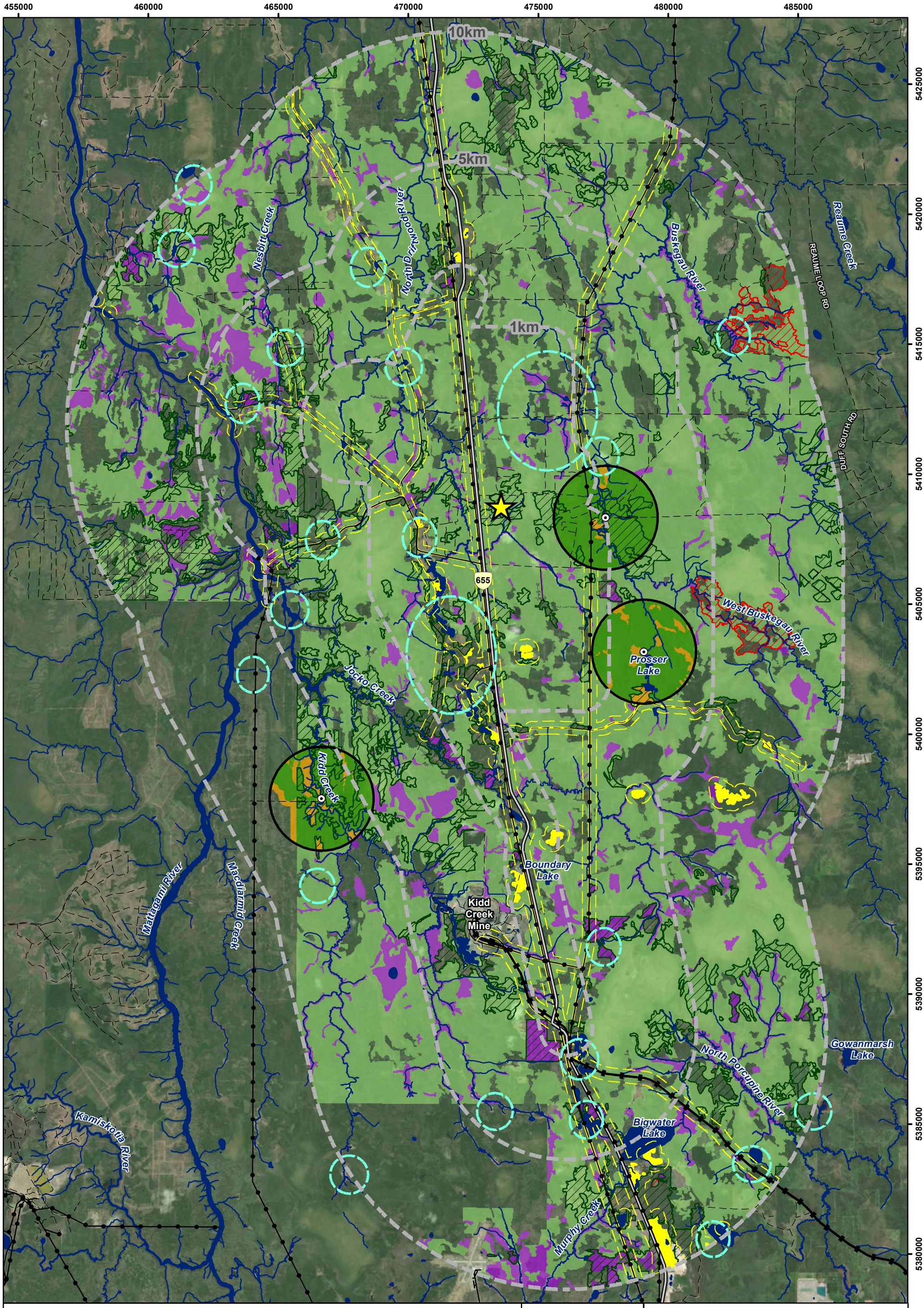
CRAWFORD NICKEL PROJECT

Vegetation Communities

PROJECT N°: OMEMA2304	**FIGURE: 4-1j**
SCALE: 1:30,000	DATE: December 2023



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LEGEND

- Project Location
- Study Areas (labelled on map)
- Blanding's Tutle Observation
- 2 km Buffer from Observation

Disturbed Areas (FRI)

- Forest Fire
- Flood
- Harvest

Habitat Suitability Index

- Blanding's Turtle Preferred Nesting Habitat
- Blanding's Turtle Preferred Nesting Habitat 240 m Buffer
- Blanding's Turtle Preferred Functional Habitat
- Blanding's Turtle Preferred Overwintering Habitat

General Habitat Description

- Category 1 Habitat
- Category 2 Habitat
- Category 3 Habitat

- Blanding's Turtle Highly Suitable Habitat
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 1 2 4 6 8 10 Kilometres

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2023.
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

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CRAWFORD NICKEL PROJECT

Blanding's Turtle Habitat Mapping

PROJECT N°:OMEMA2304	**FIGURE: 4-2**
SCALE: 1:135,000	DATE: December 2023

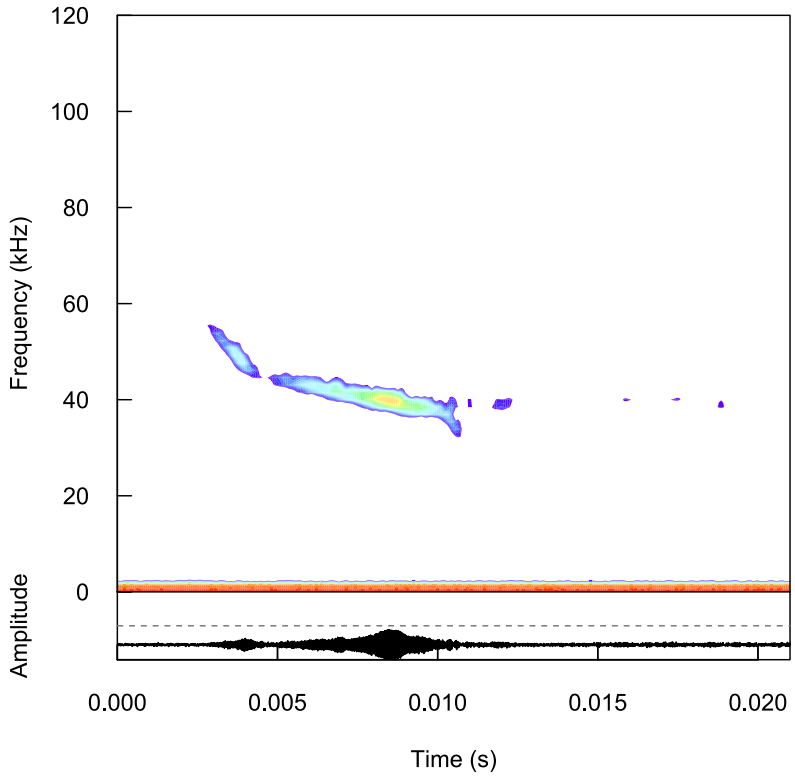
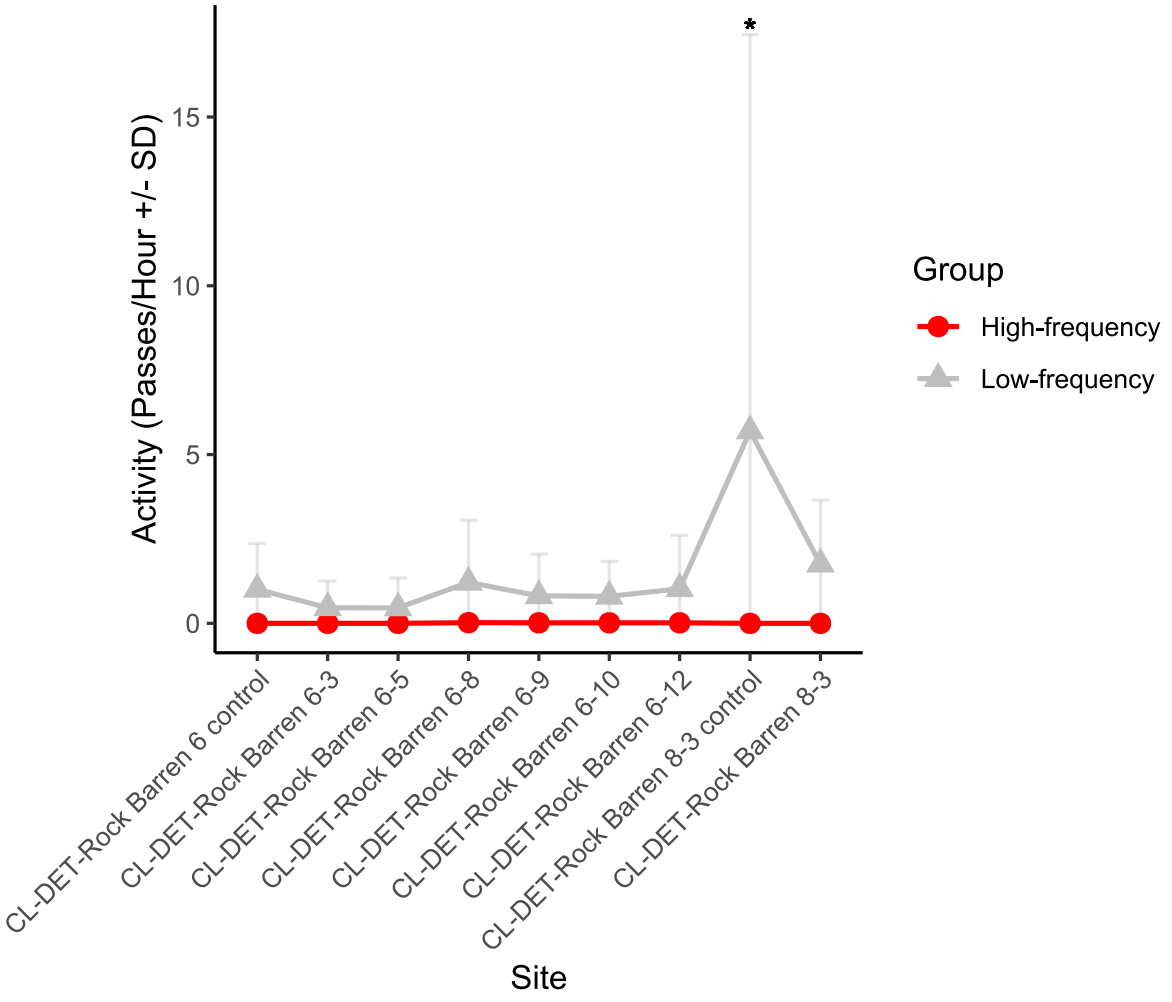


Figure 4–3:a: Spectrogram of an Echolocation Call produced by a Little Brown Myotis (*Myotis lucifugus*) on the Night of June 25, 2021, at Point CL-DET-G2-04

Note: This was the only recorded pass identifiable as Little Brown Myotis in 2021. Although the recording was of poor quality, acoustic features characteristic of the Little Brown Myotis were sufficiently preserved to allow a confident identification to this species. These include the position of the knee (slope change), the low dominant time-frequency slope of the call, the long duration (>7 msec), and the terminal downward tail. Little Brown Myotis is the only SAR bat species confirmed in the Study Area. See Figures B4 to B8 in Appendix B for representative spectrograms of all bat species confirmed in the Study Area.



Significant differences in activity between high-frequency and low-frequency groups at each site are denoted with an asterisk (*).

Figure 4-3b: Average Activity (passes/h +/- standard deviation) of High-frequency and Low-frequency Bat Species at Candidate Bat Hibernacula Recorded from May 17 – June 6, 2022.

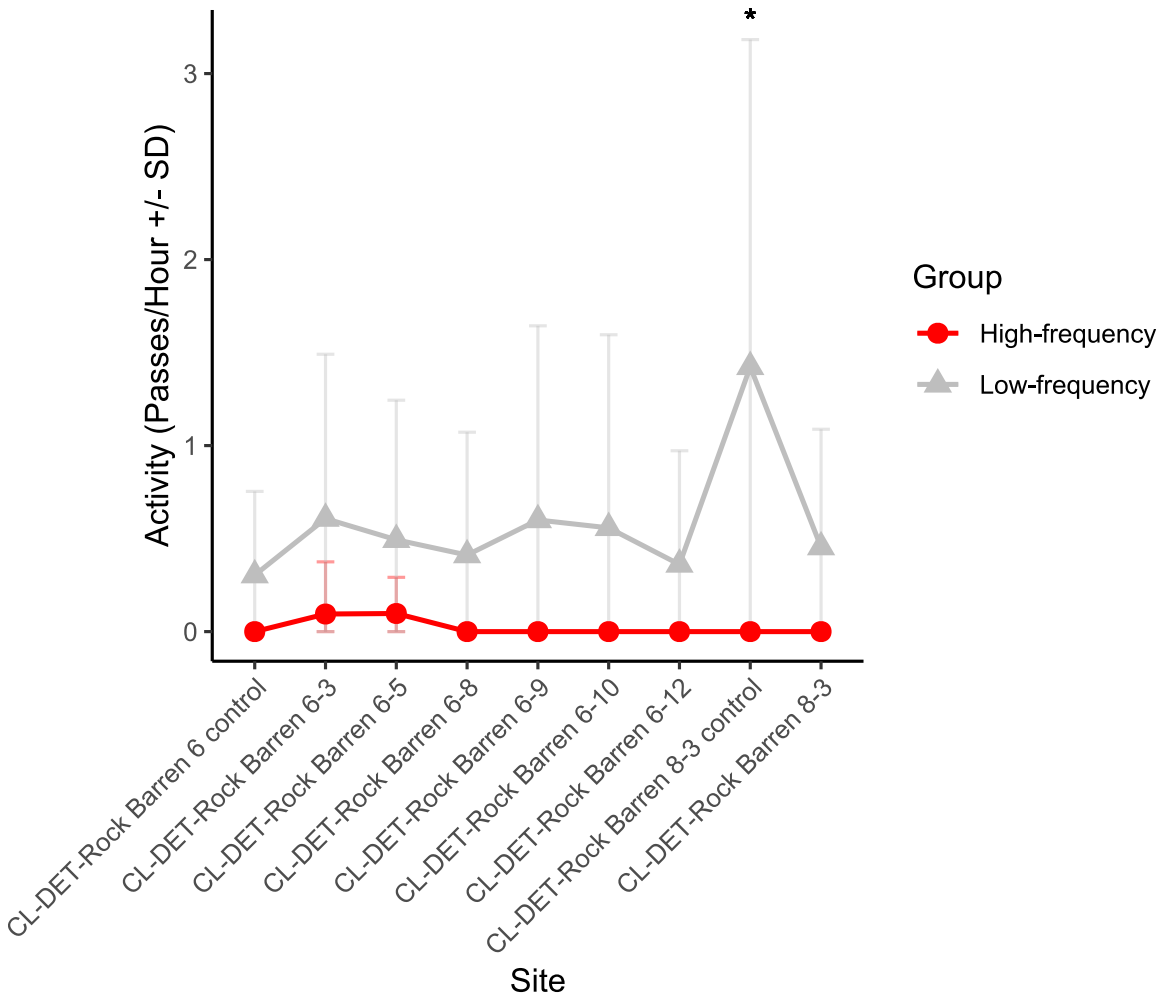


Figure 4-3c: Average Activity (passes/h +/- standard deviation) of High-frequency and Low-frequency Bat Species at Candidate Bat Hibernacula Recorded from August 20 - September 10, 2023

Notes: Significant differences in activity between high-frequency and low-frequency groups at each site are denoted with an asterisk (*).

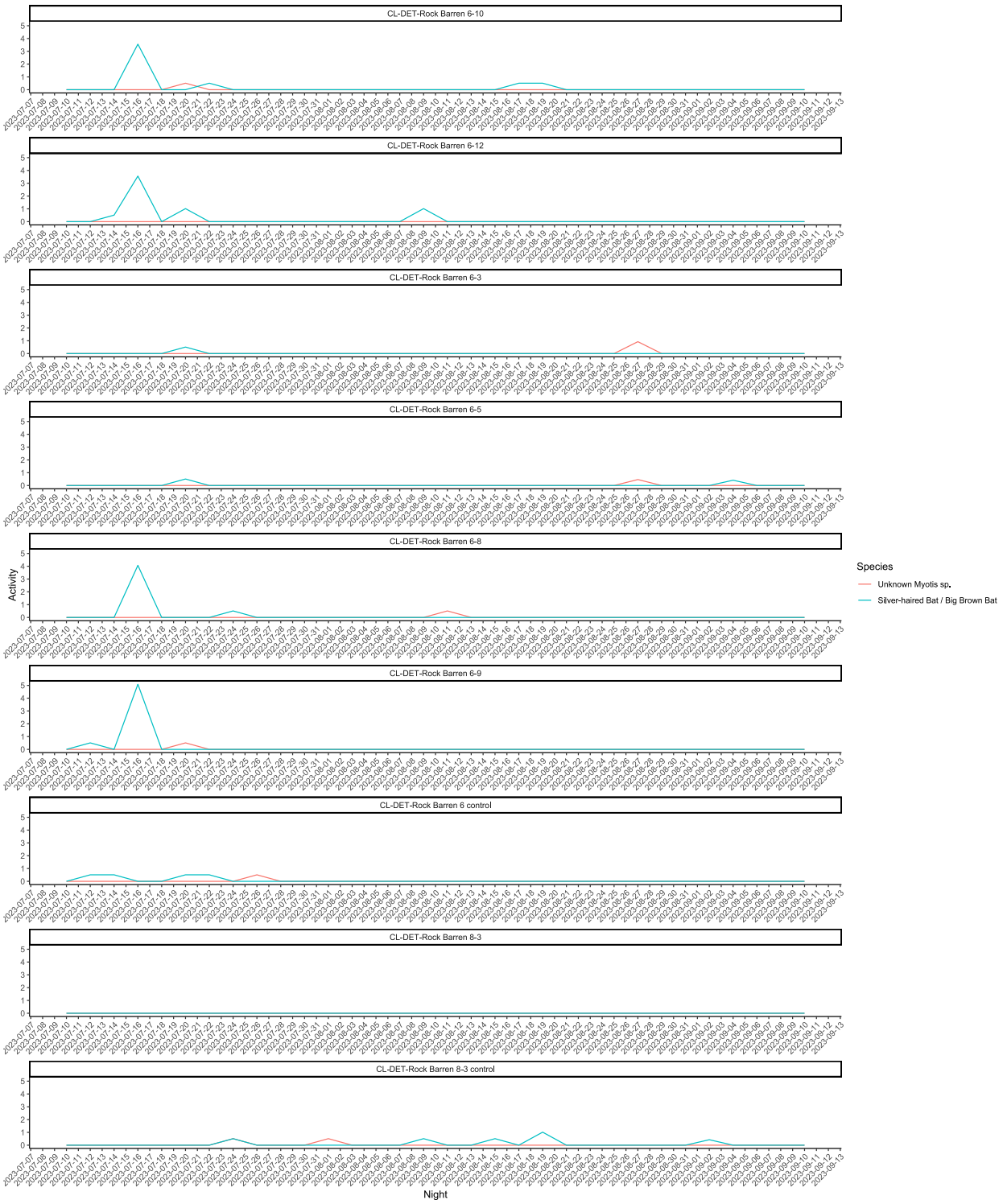


Figure 4-3d: Average Activity (passes/h +/- standard deviation) of Myotis Species and Potential Big Brown Bats (classified as either Silver-haired or Big Brown Bat) Between July 10 to September 10, 2023, to Identify Potential Swarming Activity

455000 460000 465000 470000 475000 480000 485000 490000

5430000 5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

CL-DET-23-6
Deception Lake
10km
CL-DET-23-7
Aubin Lake
5km
CAMP 40 RD
Nesbitt Creek
Buskegau River
1km
655
West Buskegau River
North Driftwood River
CL-DET-CBM-13
CL-DET-CBM-17
CL-DET-CBM-11
CL-DET-G1-07
CL-DET-CBM-18
CL-DET-EXTRA-03
CL-DET-G1-10
Martin Lake
Gerry Lake
Jack Lake
Mel Lake
Davis Lake
CL-DET-G1-04
CL-DET-G1-04
CL-DET-CBM-14
Zed Lake
CL-DET-23-1
CL-DET-CBM-12
Prosser Lake
Jocko Creek
Mattagami River
CL-DET-ET-G2-02
CL-DET-CBM-19
Kidd Creek
CL-DET-WT-G2-2
CL-DET-WT-G2-02
CL-DET-Rock Barren 8-3 control
CL-DET-ROCKBARREN 8-3
CL-DET-Rock Barren 8-3
CL-DET-Rock Barren 8-3
Macdiarmid Creek
Kidd Creek Mine
CL-DET-G2-01
CL-DET-G2-01
CL-DET-CBM-2
CL-DET-ET-G2-01
Feldman Lake
Gowanmarsh Lake
Noted Lake
Bigwater Lake
Rota Lake
Murphy Creek
Little Goose Lake

CL-DET-ROCKBARREN 6-5
CL-DET-Rock Barren 6-5
CL-DET-Rock Barren 6-5
CL-DET-ROCKBARREN 6 CONTROL
CL-DET-ROCKBARREN6-12
CL-DET-Rock Barren 6-12
CL-DET-ROCKBARREN 6-8
CL-DET-Rock Barren 6-8
CL-DET-ROCKBARREN 6-9
CL-DET-Rock Barren 6-9
CL-DET-ROCKBARREN 6-3
CL-DET-Rock Barren 6-3
CL-DET-ROCKBARREN 6-10
CL-DET-Rock Barren 6-10
200 m

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectFl\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\SAR_Bat_and_Bat_Habitat_2.mxd

LEGEND

- Project Location
- Study Areas (labelled on map)
- Myotis lucifugus Location (labelled by survey location ID)
- Myotis lucifugus / Myotis Species Location (labelled by survey location ID)
- Myotis Species Location (labelled by survey location ID)
- Candidate SAR Bat Hibernacula Habitat (labelled by survey location ID)
- Confirmed SAR Bat Maternity Roosting Habitat
- Candidate SAR Bat Maternity Roosting Habitat
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

NOTES:
- Waterbody, and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

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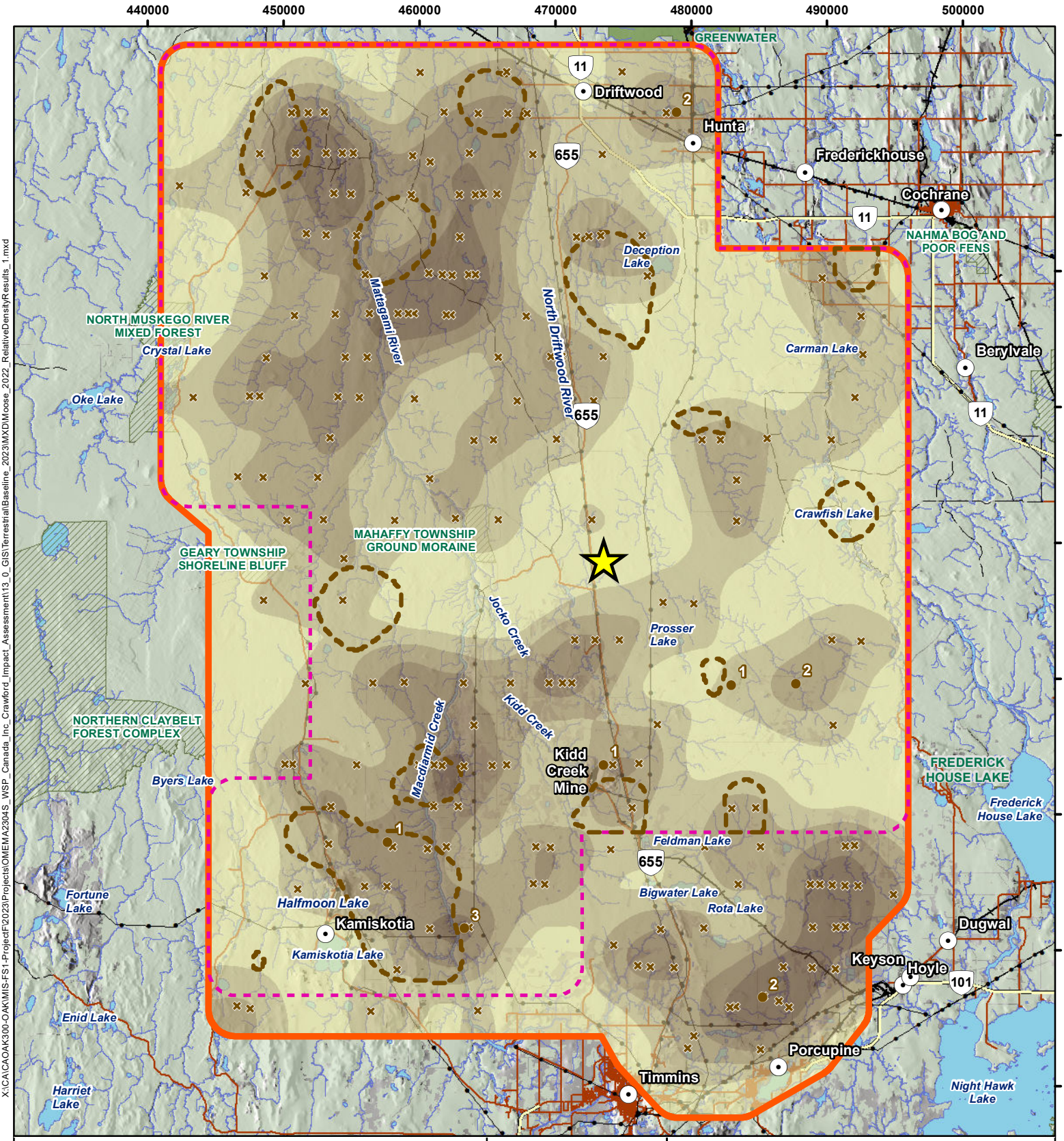
CRAWFORD NICKEL PROJECT

Species at Risk Bat Locations and Bat Habitat Locations

PROJECT N°:OMEMA2304 | **FIGURE: 4-4**

SCALE: 1:147,000 | DATE: February 2024



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LEGEND

- Project Location
- Town / Community
- Transmission Line
- Highway
- Local Road
- Resource/Recreation Road
- Railway
- Conservation Reserve
- Provincial Park
- Aerial Survey Study Area (2021)
- Relatively High Moose Density Areas (2021)*
- Aerial Survey Study Area (2022)
- Moose Sighting (2022) (labelled with number observed)
- Moose Tracks/Evidence Observed (2022)

General Relative Moose Density (2022)

- Low
- Medium Low
- Medium
- Medium High
- High

NOTES:
- Base data extracted from Ontario GeoHub, NDMNRF 2022.
- Aerial survey was conducted on March 12 and 13, 2022
* Relatively high density is a combination of the "High" and "Medium High" categories shown on the general relative density maps

Datum: NAD83
Projection: UTM Zone 17N

0 2.5 5 10 15 20 25 30 Kilometres

CANADA NICKEL COMPANY

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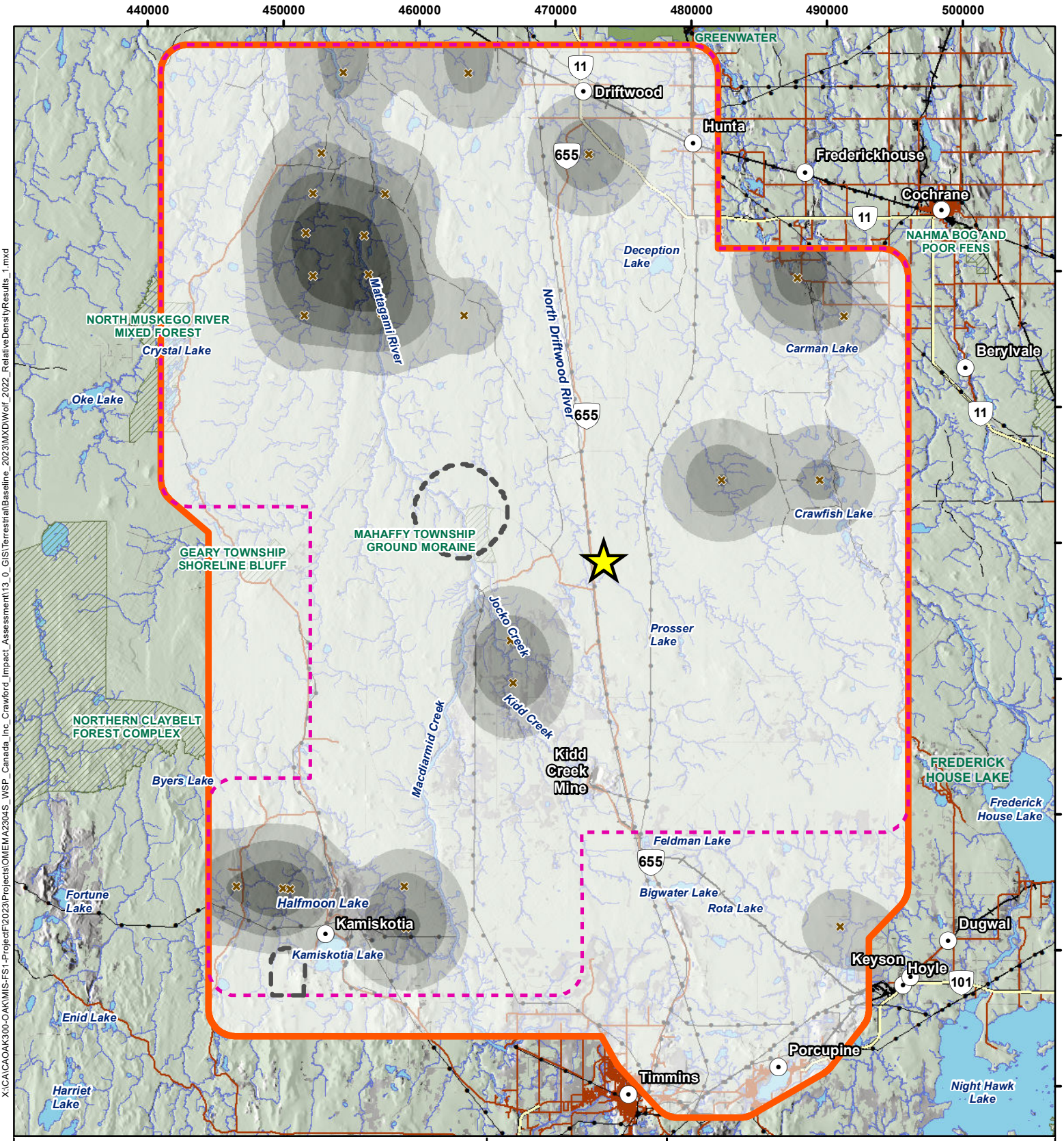
CRAWFORD NICKEL PROJECT

Relative Density Areas for Moose within the Aerial Survey Study Area

PROJECT N°:OMEMA2304	**FIGURE: 4-5**
SCALE: 1:380,000	DATE: February 2024



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LEGEND

- Project Location
- Town / Community
- Transmission Line
- Highway
- Local Road
- Resource/Recreation Road
- Railway
- Conservation Reserve
- Provincial Park
- Aerial Survey Study Area (2021)
- Relatively High Wolf Density Areas (2021)*
- Aerial Survey Study Area (2022)
- Wolf Tracks/Evidence Observed (2022)

General Relative Wolf Density (2022)

- Low
- Medium Low
- Medium
- Medium High
- High

NOTES:
- Base data extracted from Ontario GeoHub, NDMNRF 2022.
- Aerial survey was conducted on March 12 and 13, 2022
* Relatively high density is a combination of the "High" and "Medium High" categories shown on the general relative density maps

Datum: NAD83
Projection: UTM Zone 17N

0 2.5 5 10 15 20 25 30 Kilometres

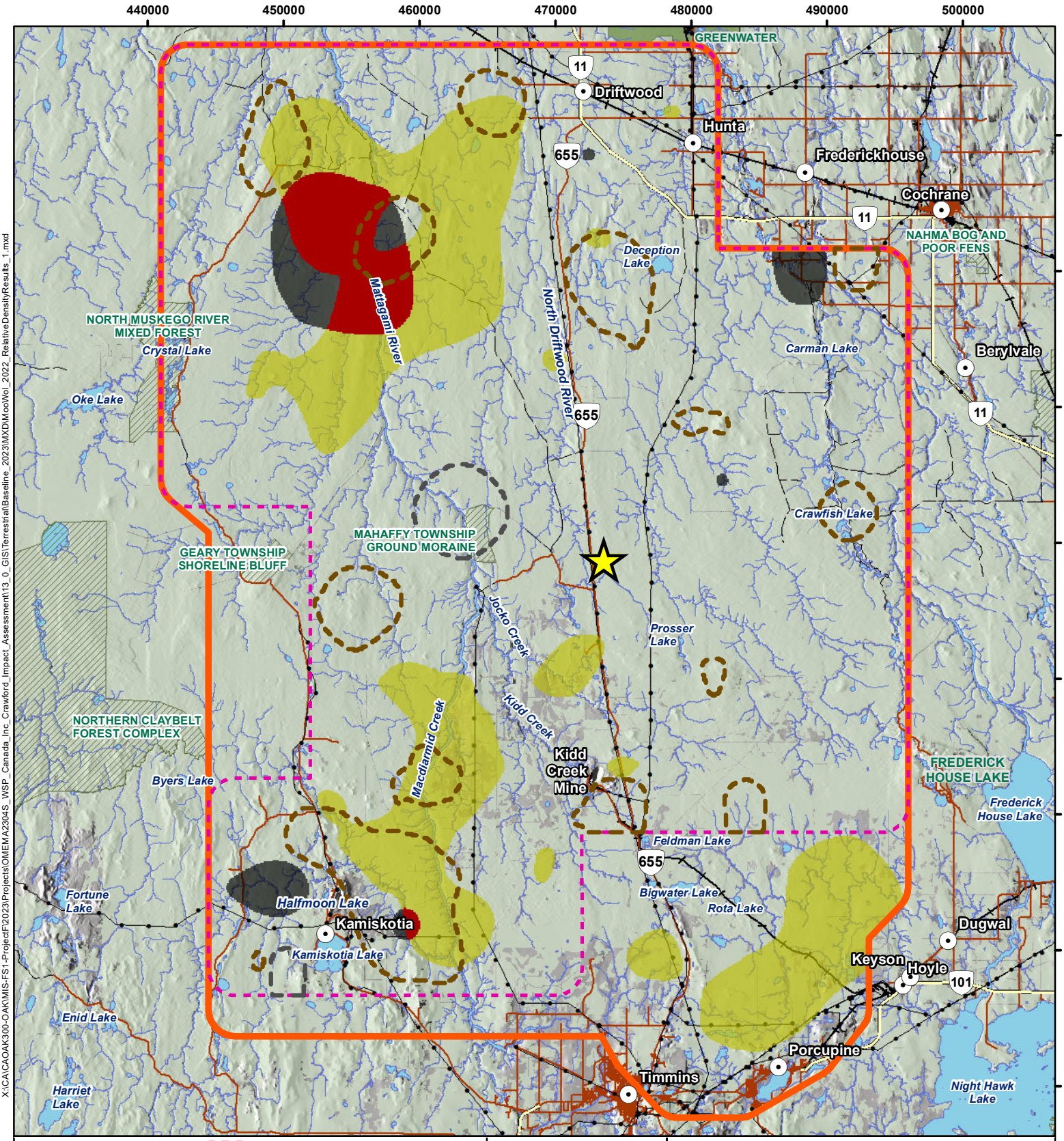
CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Relative Density Areas for Wolf within the Aerial Survey Study Area

PROJECT N°:OMEMA2304	**FIGURE: 4-6**
SCALE: 1:380,000	DATE: February 2024



X:\CA\CAOAK300-OAK\MIS-FS1-ProjectF\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\MooWol_2022_RelativeDensityResults_1.mxd

LEGEND

- Project Location
- Town / Community
- Transmission Line
- Highway
- Local Road
- Resource/Recreation Road
- Railway
- Conservation Reserve
- Provincial Park
- Aerial Survey Study Area (2021)
- Relatively High Wolf Density Areas (2021)*
- Relatively High Moose Density Areas (2021)*
- Aerial Survey Study Area (2022)
- Relatively High Moose Density Areas (2022) *
- Relatively High Wolf Density Areas (2022) *
- Areas of Relatively High Density Overlap (2022)

0 2.5 5 10 15 20 25 30 Kilometres

NOTES:
- Base data extracted from Ontario GeoHub, NDMNRF 2022.
- Aerial survey was conducted on March 12 and 13, 2022
* Relatively high density is a combination of the "High" and "Medium High" categories shown on the general relative density maps

Datum: NAD83
Projection: UTM Zone 17N

N W E S

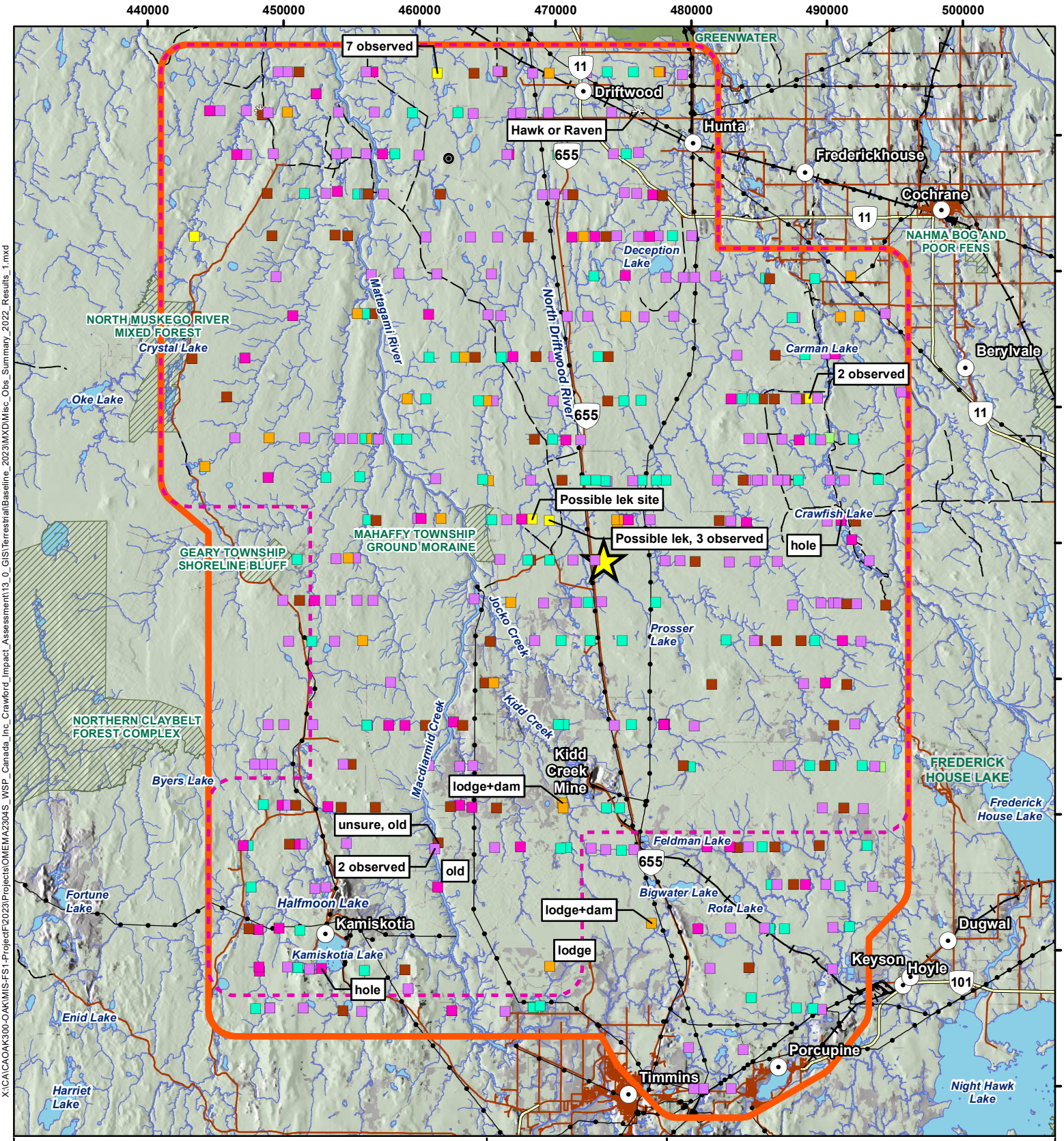
CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

High Relative Density Areas for Moose and Wolf within the Aerial Survey Study Area

PROJECT N°:OMEMA2304	**FIGURE: 4-7**
SCALE: 1:380,000	DATE: February 2024



X:\CA\CAOAK300-OAK\MIS-FS1-Project\F2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Misc_Obs_Summary_2022_Results_1.mxd

LEGEND

- Project Location
- Town / Community
- Transmission Line
- Highway
- Local Road
- Resource/Recreation Road
- Railway
- Conservation Reserve
- Provincial Park
- Aerial Survey Study Area (2021)
- Aerial Survey Study Area (2022)

Miscellaneous Wildlife Observations (labelled with comments)

- Beaver
- Fox
- Lynx
- Marten
- Rabbit
- Otter
- Sharp-tailed Grouse
- Raven Nest
- Unknown Nest

0 2.5 5 10 15 20 25 30 Kilometres

NOTES:
- Base data extracted from Ontario GeoHub, NDMNRF 2022.
- Aerial survey was conducted on March 12 and 13, 2022
* Relatively high density is a combination of the "High" and "Medium High" categories shown on the general relative density maps

Datum: NAD83
Projection: UTM Zone 17N

N W E S

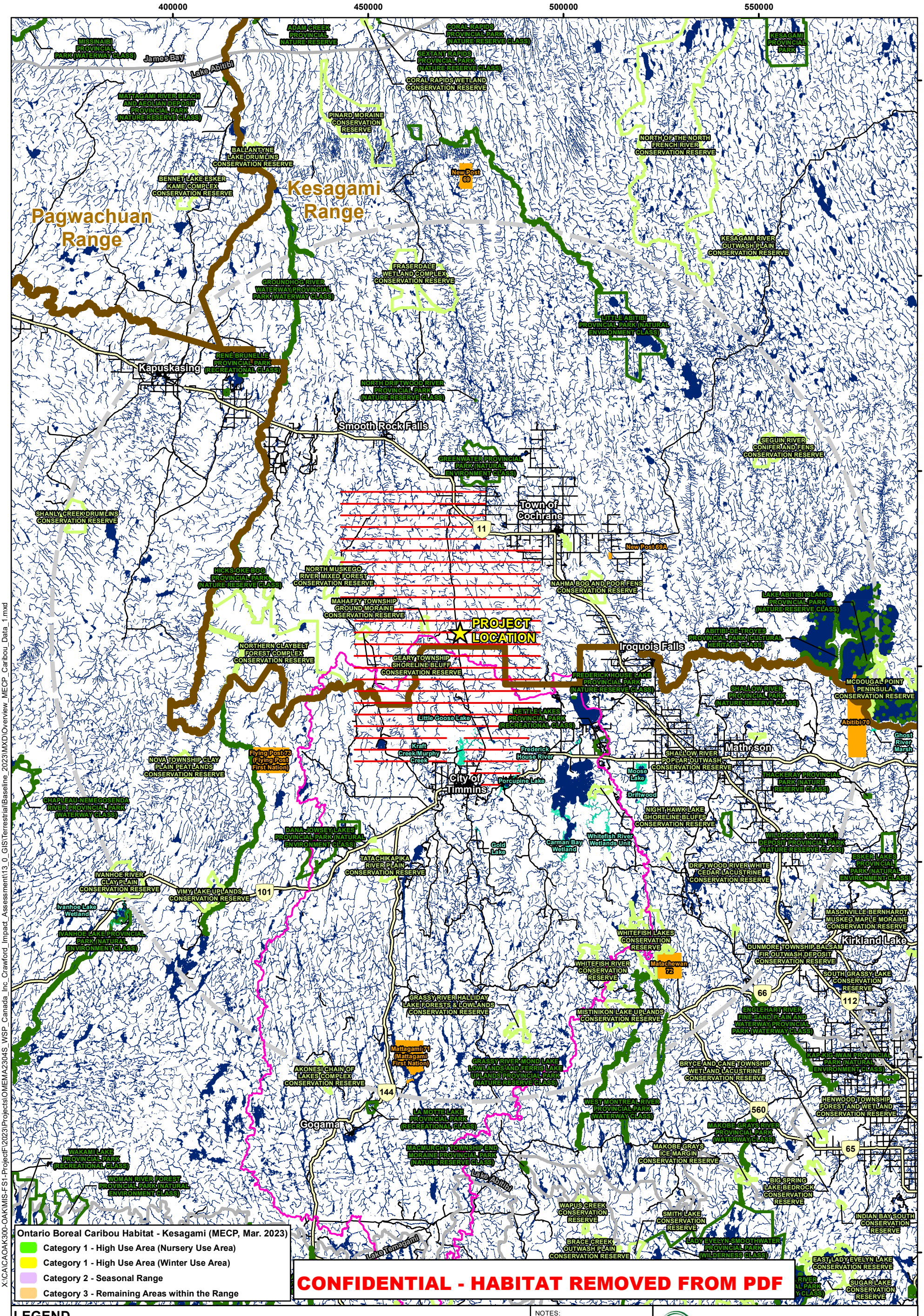
CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Miscellaneous Wildlife Observations within the Aerial Survey Study Area (Winter 2021 and 2022)

PROJECT N°:OMEMA2304	**FIGURE: 4-8**
SCALE: 1:380,000	DATE: February 2024



LEGEND

- Project Location
- Study Area (100km)
- First Nation Reserve
- Provincially Significant Wetland (Evaluated)
- Conservation Reserve (Regulated)
- Provincial Park (Regulated)
- Mattagami Region Conservation Authority
- Ontario Ecoregion Boundary (labelled)
- Primary Road / Highway
- Secondary / Local Road
- Caribou Range Boundary (labelled)
- Aerial Survey Flightline Transects (2022)

NOTES:
- Watercourse, Waterbody, Wetland, Conservation Reserve (Regulated), Provincial Park (Regulated), First Nation Reserve, Conservation Authority Area, ECO Region Area retrieved from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019
- Boreal caribou habitat provided by MECP, March 2023

Datum: NAD83
Projection: UTM Zone 17N

0 12.5 25 50 75 100 125 Kilometres

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Regional Caribou Habitat in Kesagami Range (MECP, 2023) and Other Natural Heritage and Protected Areas in Relation to Project Location

PROJECT N°:OMEMA2304	**FIGURE: 4-9**
SCALE: 1:900,000	DATE: February 2024

X:\CA\CAOAK300-OAK\MIS-FS1-Project\2023\Projects\OMEMA2304S_WSP_Canada_Inc._Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Overview_MECP_Caribou_Data_1.mxd

5.0 SIGNIFICANCE SCREENING

5.1 Species of Conservation Concern, including Species at Risk

In Ontario, Species of Conservation Concern (SCC) commonly include SAR and rare and rapidly declining species. Standard definitions vary across provincially available resources; for the purpose of this report SCC are defined as:

- Species classified as Extirpated (EXT), Endangered (END), Threatened (THR), or Special Concern (SC), by COSSARO
- Species classified as Extirpated (EXT), Endangered (END), Threatened (THR), or Special Concern (SC), by COSEWIC.
- Species classified as Extirpated (EXT), Endangered (END), Threatened (THR), or Special Concern (SC) under the provincial ESA.
- Species classified as Extirpated (EXT), Endangered (END), Threatened (THR), or Special Concern (SC) under the federal SARA.
- Provincially rare species with a provincial rank (sub-national rank) of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable). These species are tracked by the NHIC and are called SCC, though in this document the definition is more encompassing.
- Species of concern as identified by Indigenous Nations.

The potential for SCC to occur within the Study Area was determined based on a review of secondary source information and field investigations. Information collected was then used to evaluate occurrence potential based on known habitat for each species. An NHIC search was completed for the squares that encompass the Study Area. It is important to note that the NHIC search is based on element occurrences and does not necessarily confirm species' presence or absence within the Study Area. Additionally, there is potential for a SCC to occupy the Study Area or a species already occurring in the area to be newly listed or identified under the above categories at any time.

As outlined above, SAR are included as SCC; not all SCC are offered protection under provincial and federal law. Based on the results of field investigations and desktop screening, a list of species protected under the provincial ESA and the federal SARA that may occur within the Study Area was generated. The intent of this exercise is to inform the baseline assessment and the impact assessment while also providing early identification of species and habitats that may require additional permitting steps throughout the life of the Project. For each species classified as Endangered, Threatened, or Special Concern under the ESA or SARA, an assessment was made as to the likelihood of habitat occurrence based on the biology of the species and the results of field investigations. Each species was classified into one of five probabilities of occurrence (Table 5-1).

Confirmed – Species for which suitable habitat is present in the Study Area and the species was confirmed using habitat for life functions during field investigations or is confirmed in secondary sources (e.g., consultation with MECP).

High – Those species recorded in the vicinity of the Study Area during field surveys or typically within 10 km and recorded in the past 20 years in secondary sources. The preferred habitat is abundant within the Study Area. Species with a high probability of occurrence would be expected to breed within or frequently use the habitats available within the Study Area and would be known to have a high relative abundance within the region (i.e., compared to other regions in Ontario);

Moderate – Species for which suitable habitat is present but limited or uncommon in the Study Area and breeding in the area is rare. However, species with moderate probabilities of occurrence may intermittently use the area for foraging, migration, or movement to other parts of their home range and therefore may have been documented in secondary sources or field surveys;

Low – Those species recorded in the vicinity of the Study Area, but whose preferred habitat does not occur or is extremely limited within the Study Area. These species may intermittently move through the Study Area but are unlikely to become permanent residents. These species have likely not been documented in secondary sources or field surveys, but historical records are possible; and

None – Those species whose preferred habitat is completely absent from the Study Area. Unlikely these species have been documented. However, historical or vagrant records (e.g., a species that is currently outside their wintering and breeding area) may exist.

Species identified as Extirpated, Endangered, and Threatened are protected under the ESA. Those species identified as Special Concern are not afforded protection under Sections 9 and 10 of the ESA; however, they are assessed as part of SWH. Note that as of January 31, 2024, status for several of the SAR originally identified in 2020 for this Project has changed; Black Ash is longer a SAR in the Study Area, Bald Eagle is no longer listed as a SAR in Ontario, Barn Swallow was downgraded to Special Concern, and Lesser Yellowlegs was added as Threatened.

Nine SAR were confirmed within the Study Area: Barn Swallow, Blanding's Turtle, Canada Warbler, Common Nighthawk, Evening Grosbeak, Lesser Yellowlegs, Little Brown Myotis, Olive-sided Flycatcher, and Rusty Blackbird. The following six species have a potential occurrence rating of moderate or higher: Northern Myotis, Monarch, Peregrine Falcon, Snapping Turtle, Yellow-banded Bumble Bee, and Yellow Rail. Species that have a moderate or high potential to occur in the Study Area or have been confirmed in the Study Area should be carried forward to the EA (under separate cover). The locations of confirmed SAR are mapped in Figure 5-1.

Species identified as Extirpated, Endangered, and Threatened are protected under SARA, though the applicability of the protections varies across land ownership and varies by taxa. SARA contains prohibitions that make it an offence to:

- kill, harm, harass, capture, or take an individual of a species listed in Schedule 1 of SARA as endangered, threatened or extirpated;
- possess, collect, buy, sell, or trade an individual of a species listed in Schedule 1 of SARA as endangered, threatened or extirpated; and
- damage or destroy the residence (e.g. nest or den) of one or more individuals of a species listed in Schedule 1 of SARA as endangered, threatened or extirpated, if a recovery strategy has recommended the reintroduction of that extirpated species.

On public (provincial crown) and private land, these prohibitions only apply to:

- aquatic species listed as endangered, threatened, or extirpated in Schedule 1 of SARA; and
- migratory birds listed in the Migratory Birds Convention Act, 1994 and also listed as endangered, threatened, or extirpated in Schedule 1 of SARA.

In some circumstances the prohibitions that are not typically applicable to public/private lands could also be applied through an order if provincial measures are determined to not adequately protect the species and its residence.

5.2 Natural Heritage Features

Natural heritage features applicable under the Provincial Policy Statement (PPS) include significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E, and 7E1, SWH, ANSI, and adjacent lands.

5.2.1 Significant Wetlands

Almost the entire Study Area is represented as wetland in the provincial mapping (Figure 5-2), the vast majority of which has not been evaluated for Provincial Significance. Two Provincially Significant Wetlands (PSW) have been identified by others within the Study area; these are the Kraft Creek / Murphy Creek wetland and the Little Goose Creek wetland, both of which occupy small portions at the southern limit of the Study Area. These PSWs are also mapped in the City of Timmins OP as PSW. Other wetlands, as designated by the OP in the city limits, are also shown on Figure 5–2.

Significant wetlands are areas identified as provincially significant by the MNRF using evaluation procedures established by the province, as amended from time to time (MMAH 2020). The Ontario Wetland Evaluation System (OWES) Northern Manual 2nd Edition (MNRF 2022b) applies to the Study Area. A wetland that has been evaluated using OWES is known as an “evaluated wetland” and will have a “wetland evaluation file”. However, where there are wetland features on a site that have not been evaluated or that have not been recently evaluated, it should not be assumed that the wetland is not significant (MNRF 2022b).

The OWES manual notes that in the boreal forest extensive wetlands, often covering hundreds of square kilometres, dominate the landscape. OWES cannot be used to evaluate these extensive wetlands and they must be protected through other mechanisms (MNRF 2022b).

While most of the wetlands in the Study Area have not been formally evaluated for provincial significance there is the potential that additional PSWs are present within the Study Area based on wetland size, diversity, hydrological function, and presence of SAR. These wetlands support other marshes (open-water, emergent, and/or meadow marshes), as well as shore fen, thicket swamp, treed swamp, and potentially other contiguous wetland types. Fieldwork conducted in 2022 supported the preliminary evaluation of these wetlands; however, consultation is required with the MNRF to determine the appropriate route to, and finalization of, wetland classification given that OWES is not intended for boreal forest extensive wetland complexes.

Desktop delineation of non-evaluated wetlands was conducted through a combination of existing FRI polygons, as well as soil and flora data retrieved from the field, where applicable. These wetlands are shown below in Figure 5–2 in relation to their position within the Study Area.

Wetland types identified through this investigation include swamps, marshes, bogs, and fens. These habitats provide various wetland functions to the surrounding area within the following categories: hydrological functions, biogeochemical functions, and habitat functions.

Hydrological functions include the moderation of surface water flow, groundwater recharge, erosion control and shoreline protection, and climate regulation (Hanson et al. 2008). Moderation of surface water flow includes flood and stormwater protection services; the capacity for this depends on the difference in the volume of the normal versus high-water level as attenuated by topography and wetland size. This service is generally of moderate performance in fens, while marshes and swamps may be low to high capacity depending on their form and position within the watershed. Riparian and floodplain marshes and swamps often provide significant stormwater retention services. A wetland's ability to hold onto or slow down the flow in high precipitation or meltwater events is also related to the erosion control and shoreline protection services it provides. This is particularly important along shorelines to protect from wind and water action and depends on the local substrate. Fens are generally less able to provide this service as they form in low-energy environments, while shoreline marshes are generally a high-performance provider. Groundwater recharge is dependent on the ability of the water stored within a wetland to percolate into the groundwater, and this heavily depends on the wetland's form, substrate, and local groundwater gradients. A wetland's climate regulation services are dependent on the size of the wetland, and the forms of vegetation therein, impacting the evapotranspiration rates of the area; this is typically of moderate performance in fens and swamps and high performance in marshes.

Biogeochemical functions include services such as water quality treatment, nutrient and organic compound transportation, and carbon sequestration and storage (Hanson et al. 2008). Water quality treatment is related to the physical, chemical, and biological filtering of water through the vegetation and substrate of a wetland and is impacted by the loading rates of sediments, as well as the water balance and hydroperiod. Marshes, fens, and swamps may be all high-quality performers of these services due to flow and oxidation rates, as well as the high interaction of water with root-bacteria assemblages. The filtering and storage of these nutrient compounds can then be used by bacteria and be transported up the food chain. The key attributes of carbon sequestration and storage services in a wetland are the volume and degree/rate of decomposition of plant material, i.e., the accumulation of peat. Typically, the slower the decomposition rate in a wetland, the more carbon it can store. Larger, woody vegetation is also a considerable carbon store, though on a shorter timescale. Of the three wetland types in the area, marshes are typically the lowest performers of this service due to their lack of woody vegetation and high rate of metabolism and decomposition. Fens and organic substrate swamps are typically moderate to high performers owing to their accumulation of peat and woody vegetation. Higher productivity swamps with mineral substrates often have higher decomposition rates and accumulate less peat, so their carbon storage capacity is primarily due to their woody vegetation.

Habitat functions supported by wetlands include biological productivity and general support for biodiversity (Hanson et al. 2008). Factors in these functions include such things as species abundance and richness, the presence of significant species such as SAR, locally rare species, species of value to local subsistence, recreation or commercial uses, and habitats supporting these with particular emphasis on breeding grounds, food sources, and migration routes, as applicable. Local knowledge, database research, or site visitation is generally required to assess these functions of individual wetlands.

5.2.2 Significant Wildlife Habitat

Wildlife habitat is defined as areas where plants, animals, and other organisms live and can find adequate amounts of food, water, shelter, and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a point in their annual life cycle and those areas which are important to migratory and non-migratory species. Wildlife habitat is considered "significant" if it is deemed ecologically important in terms of feature, function, representation, or amount, and contributes to the quality and diversity of an identifiable geographic area or Natural Heritage System (MMAH, 2020). According to the SWHCS for Ecoregion 3E (OMNRF 2015a), SWH may consist of:

- Seasonal concentration areas for animals;
- Rare vegetation communities;
- Specialized habitat for wildlife; and
- Habitat for species of conservation concern.

Other provincial documents used to identify and assess SWH are the Natural Heritage Reference Manual (OMNR 2010), the SWH Technical Guide (OMNR 2000), and the Significant Wildlife Habitat Mitigation Support Tool (OMNRF 2014).

The Significant Wildlife Habitat Screening is provided in Appendix D. Candidate Significant Wildlife Habitat will be carried forward in the EA. Based on the conditions documented through field investigations, 19 candidate, six confirmed, and two confirmed and candidate SWH types have been identified. The SWH discussed below were determined to be either candidate or confirmed. Habitats not discussed below were evaluated as not present as either the ecosite or species requirements were not documented, or it has been confirmed through field surveys not to be present. The FRI for SWH was investigated up to the 10 km buffer.

5.2.2.1 Seasonal Concentration Areas for Animals

Seasonal concentration areas are those where wildlife species occur annually in aggregations at certain times of the year. Such areas are sometimes highly concentrated with members of a given species, or several species, within relatively small areas. Some wildlife species will concentrate where they can rest and feed, and other wildlife species require habitats where they can survive winter (OMNRF 2015a).

Moose Late Winter Cover – Confirmed

Late winter Moose habitat is characterized by dense conifer stands >50 ha, cover with greater than 60% canopy closure, dominated by trees >6 m in height, and on gentle to moderately rugged sites with deep soils. Upland sites are preferred, and these habitats are extensively used by Moose during late spring and summer due to the shade provided. Moose late winter cover quality is ranked according to the Ranking Early and Late Winter Habitat guidelines under the Selected Wildlife and Habitat Features: Inventory Manual (OMNR 1998) as low (1), moderate (2), high (3), or very high (4). Areas identified as ranking a 3 (high potential) or 4 (very high potential) for late winter Moose habitat are candidate SWH. High potential stands have excellent conifer cover and crown closure exceeding 75% and are usually large stands (>50 ha) and occur on gentle or moderately rugged sites. Very high potential stands are as defined for ranking 3 while also dominated by super-canopy trees (White Pine, Hemlock, White Spruce); in the far north, Jack Pine and Black Spruce on deep soil sites are more likely to be associated with high potential late winter habitat. Almost all very high potential areas are associated with deep soil sites and have abundant vegetation for browse. Field studies are used to confirm the use of these areas as late winter habitat by Moose during the months of March and April. Aerial surveys were completed in March 2021 and 2022. Moose density kernels were mapped (Figure 5–3) to illustrate the density estimation of Moose within the Study Area. As Moose are very difficult to observe in late winter habitat, any number of Moose observed or Moose

tracks and trails observed in conifer stands >50 ha, dominated by tall trees (>6 m), confirm the associated treed ecosite associated with the winter cover area and an adjacent 300 m buffer as a SWH.

In 2021, three potentially suitable forest stands were mapped, two to the east of the Project Location and one to the north of the Project Location. The forest to the far east of the Study Area overlapped an area of medium-high Moose density, while the other two forest stands, slightly overlapped areas of medium and medium-low Moose density respectively. These stands are considered confirmed Moose late winter cover SWH type. Each of the identified SWH areas for Moose late winter cover overlap relative moose density areas identified as medium-low to medium; the SWH does not overlap any medium-high or high density areas.

In 2022, three potentially suitable forest stands were mapped within the Study Area, one to the east of the Project location, and two to the north (Figure 5-3). The forest to the east has been rated as high-quality moose late winter cover. One forest to the north is also rated high quality, while the second northern habitat is rated low quality. Each of the identified SWH areas for moose late winter cover overlap relative moose density areas identified as medium-low to medium; the SWH does not overlap any medium-high or high-density areas.

Changes to the preliminary project boundary modified the Study Area between the 2021 to 2022 surveys, shrinking east-west and extending north. This change eliminated the eastern-most site for Moose late winter cover identified in 2021, and added area to the north where the northern-most site for Moose late winter cover was identified in 2022. SWH is the area of treed ecosites (mapped) associated plus 300 m surrounding the site. Consultation with the Ministry of Natural Resources and Forestry (MNRF) should occur to determine the significance of this SWH type at the landscape scale.

Bat Hibernacula – Candidate

Bat hibernacula are rare habitats in all Ontario landscapes and may be found in abandoned caves and mine shafts as well as underground foundations (Karsts) and some ecosites - commonly associated as components of either Cliff or Rock Barren ecosites. Mine shafts within and around the Study Area identified through the Ontario AMIS (Ministry of Mines 2022) all fell within the Kidd Mine Operations property and were still recorded as active. One indicator ecosite, B164, was identified on the west side of the Study Area.

Aerial surveys were conducted in 2021 and 2022 to identify potential bat hibernacula sites. Ground surveys were undertaken to assess the identified potential hibernacula sites where ARU were then established to monitor for indicator species. Neither of the indicator species, the Tri-colored Bat and Big Brown Bat, were recorded on ARUs between 2021 and 2023 (Section 4.4.4), thus the potential bat hibernacula SWH remains categorized as candidate.

Bat Maternity Colonies – Candidate

Maternity colonies can be found in tree cavities, vegetation, and often in buildings (although buildings are not considered to be SWH). Maternity roosts are not found in caves and mines in Ontario but in mature (dominant trees >80 years old) deciduous or mixed forest stands with >10 large diameters (>25 cm diameter breast height; dbh) wildlife trees/ha (snags) in the early stages of decay. Females of many bat species are colonial in the breeding season, leaving their young in tree cavities while they forage. Several qualifying ecosites occur in the Study Area (B024, B040, B055, B070, B088, B104 and B119). In Ontario Ecoregion E3, maternity habitat is defined as comprising cavity trees with a dbh > 25 cm. Bat habitat surveys (snag surveys) were completed and found an average density of cavity trees with a dbh > 25 cm of 49 trees per hectare in deciduous and mixed forests in the Study Area. Therefore, it is assumed that all deciduous or mixed forests in the Study Area have sufficient cavities to support bat maternity roosts.

About 40% of the habitat trees found were Paper Birch, and about 20% of the snags were so decayed species could not be identified. The most frequently recorded species within the Study Area was Silver-haired Bat (an indicator species for this SWH type), followed by Hoary Bat.

The area of candidate SWH includes the entire woodland or forest stand ELC Ecosite or an Eco element containing the maternity colonies (Figure 5-4). As determined during 2021, 2022, and 2023 field surveys, suitable cavities for bats are locally common in many mixed and deciduous forests in the Study Area, with concentrations along the Mattagami River, which runs through the west side of the Study Area. Therefore, all mixed treed and deciduous treed forests in the FRI data over 80 years old are considered candidate SWH (Figure 5–4).

Colonially Nesting Bird Breeding Habitat (Tree / Shrubs) – Candidate

Colonially nesting bird breeding habitat occurs in different habitats depending on the species. Great Blue Heron nest in trees over wetlands or near water. Bonaparte's Gull nest in coniferous trees near waterbodies and wetlands. Double-breasted Cormorants nest in trees or on the ground near water, usually in groups. WSP surveys, ARU data, and secondary sources reported Great Blue Heron in the Study Area. Secondary sources and ARU data also report Bonaparte's Gull in the Study Area. Many candidate ecosites were found in the Study Area (Appendix D). Defining criteria have not been confirmed, thus this SWH type remains candidate.

Colonially Nesting Bird Breeding Habitat (Ground) – Candidate

Colonially nesting bird breeding habitat (ground) occurs in different habitats depending on the species. Gulls and terns nest on islands or peninsulas associated with open water or marshy areas, lakes, or large rivers. Brewers Blackbird colonies are found loosely on the ground or in low bushes in close proximity to streams. Double-crested Cormorants prefer to nest in trees but will nest on the ground where trees are limited or have died and fallen. Three candidate ecosites (B142, B144, and B164) are present within the Study Area. One indicator species, Herring Gull, was reported to breed in the Study Area from the OBBA. Herring Gull was documented within the Study Area on 13 September 2023 during migratory bird surveys at station CRMB-21 but was not confirmed breeding.

Turtle Wintering Area - Candidate

Turtle wintering areas include permanent waterbodies, large wetlands, bogs, or fens with soft substrates, water deep enough not to freeze through to the bottom, and year-round standing or flowing water. Candidate turtle wintering areas are found in the Study Area in ecosites B128, B129, B133-B140, B142, and B146 (Figure 5-11). Wintering areas are in the same general area as core habitat, thus overwintering areas may be identified by searching for congregations of basking turtles on warm sunny days in spring and/or fall. Given the extent of wetlands throughout the Study Area, candidate turtle wintering area is similarly extensive. A record of one indicator species observation (Snapping Turtle) was found in the Ontario Reptile and Amphibian Atlas. Turtle basking surveys did not document any turtles, and no turtles were incidentally observed during other fieldwork.

Reptile Hibernaculum – Candidate

Reptile hibernaculum, for snakes, occurs in sites located below the frost line in burrows, rock crevices, and other natural locations, particularly in areas with broken and fissured rock as they provide access to subterranean sites. Indicator ecosites for reptile hibernaculum that occur in the Study Area include: B012, B024, B128, B129, B134, B135, B136, B137, B139, and B164. Field biologists incidentally observed Eastern Gartersnake while assessing rocky slopes and rock barrens for bat hibernaculum candidacy in 2022. Targeted field surveys for reptile congregations did not occur, and no congregations or SWH were confirmed. Given the expanse of indicator ecosite types across the Study, analysis on suitable geology may be used to narrow down candidate habitat.

5.2.2.2 Rare Vegetation Communities

Rare vegetation communities often contain rare species, particularly plants and small invertebrates, which depend on such habitats for their survival and cannot readily move to or find alternative habitats. One of the most important criteria for determining a rare vegetation community is the current representation of the community within a planning area based on its area relative to the total landscape or the number of examples within the planning area. NHIC uses a system that considers the provincial rank of a species or community type as a tool to prioritize protection efforts (the sub-national or s-rank) (OMNRF 2015a).

Hardwood Swamps – Confirmed

Hardwood swamps are forests dominated by a hardwood canopy located in a lower topographic position and subject to flooding. The ecosite B133 is found within the Study Area and was confirmed in 2022 as Hardwood Swamp SWH (Figure 5-10).

5.2.2.3 Specialized Habitat for Wildlife

Some wildlife species require large areas of suitable habitat for their long-term survival. Many wildlife species require substantial areas of suitable habitat for successful breeding. Their populations decline when habitat becomes fragmented and reduced in size (OMNRF 2015a). Specialized habitat for wildlife is a community or diversity-based category; therefore, the more wildlife species a habitat contains, the more significant the habitat becomes to the planning area. The largest and least fragmented habitats within a planning area will support the most significant populations of wildlife (OMNRF 2015a).

Waterfowl Nesting Area – Candidate

Important to local waterfowl populations, sites with the greatest number of species and the highest number of individuals are significant. All upland habitats located adjacent to suitable ecosites are also candidate SWH. Indicator ecosites in FRI data include: B129, B133, B134, B135, B140, B142, B144, and B146 (Figure 5–6). Candidate waterfowl nesting areas are found throughout the Study Area, consisting of the ecosite and a 120 m buffer. Nine indicator species (American Black Duck, American Wigeon, Canada Goose, Common Goldeneye, Common Merganser, Gadwall, Green-winged Teal, Hooded Merganser, Mallard, and Wood Duck) have been documented within the Study Area, but defining criteria have not been met to confirm SWH.

Bald Eagle and Osprey Nesting Habitat – Confirmed

Bald Eagle and Osprey forage primarily around lakes and large rivers and nest in nearby large trees. SWH habitat is confirmed if surveys document one or more active Osprey or Bald Eagle nest(s) in use or suspected to have been in use within the past five years, unless there is documentation that the nest and other associated nests in the nesting area have been unoccupied for the past three consecutive years.

Some species have more than one nest in a given area, and priority is given to the primary nest, with alternate nests included within the area of the SWH. To delineate the area of SWH for an Osprey, the active / main nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH; maintaining undisturbed shorelines with large trees within this area is important. For a Bald Eagle, the active / main nest and a 400 to 800 m radius around the nest is the SWH. The area of the habitat from 400 to 800 m is dependent on sightlines from the nest to the development and inclusion of perching and foraging habitat.

A Bald Eagle nest and two Bald Eagles were observed during aerial surveys. It is assumed that this pair nested during 2021 at the nest location near the observation, thus confirming this SWH type within the Study Area (Figure 5–7). Further surveys in the Study Area should look for Bald Eagles, Ospreys, and nesting sites.

Woodland Raptor Nesting Habitat – Confirmed and Candidate

Many species of hawk and owl nest in trees within forests and are vulnerable to disturbance. Seven indicator species were identified in the Study Area during field surveys: American Kestrel, Boreal Owl, Broad-winged Hawk, Common Raven, Merlin, Red-tailed Hawk, and Sharp-shinned Hawk. A Common Raven nest was identified in the aerial Study Area, confirming SWH. Aerial surveys also documented other “raptor nests” (other than Osprey and Bald Eagle) though species were not discernible (Figure 5-11) nor were nests determined to be occupied at the time of survey; these nests remain candidate SWH. Boreal Owl has been documented within the Study Area, though no occupied nests were detected. The SWH radius around an occupied nest is dependent on species, ranging from 50 m (Merlin and Sharp-shinned Hawk) to 400 m or 28 ha of suitable habitat (Northern Goshawk), with radii for other species falling between these limits. Any forested ELC ecosite is candidate habitat.

Seeps and Springs – Candidate

Seeps / springs are typical of headwater areas and are often at the source of coldwater streams. Seeps / springs are not associated with any particular ecosite type; any forested ecosite with <25% meadow/field/pasture within the headwaters of a stream or river system may be candidate SWH. Although they were not documented it is likely seeps / springs occur within the Study Area. The indicator species Black Bear, Moose, and Ruffed Grouse are found in the Study Area.

Aquatic Feeding Habitat – Confirmed

Aquatic feeding habitats are an extremely important habitat component for Moose and other wildlife as they supply important nutrients. This SWH type includes the ecosite and adjacent stands (120 m buffer) of mixed or conifer forest, particularly those that provide thermal cover and / or travel corridors to other habitat features. Numerous locations occur in the Study Area, according to provincial data (Figure 5-6). Provincial data does not contain ranks of 3 or 4, rather lists habitat as terms such as Nil, Low, Moderate, High, and Very High. Areas that were considered Moderate, High, and Very High are considered Confirmed.

Mineral Licks – Candidate

Mineral licks provide a source of sodium (Na) and minerals such as sulfur (S), calcium (Ca) and magnesium (Mg) to ungulates. Mineral lick use occurs year-round and is related to mineral loss in females due to pregnancy, parturition, and lactation. For males, it is related to the demands of antler production on mineral balance (Atwood and Weeks 2003). Dietary requirements for these elements are also obtained from natural forages, but mineral licks provide a concentrated source. Mineral licks are a valuable habitat component but are also very rare on the landscape and are difficult to find; field investigations should be conducted in early spring before leaf-out. This habitat component is found in upwelling groundwater and the soil around these seepage areas, typically occurring in areas of sedimentary and volcanic bedrock. In areas of granitic bedrock, the site is usually overlain with calcareous glacial till. Mineral licks likely occur somewhere in the Study Area, although they are very difficult to locate, and none were documented. Indicator species such as Moose are found in the Study Area.

Denning Sites for Mink, Otter, Gray Wolf, Eastern Wolf, Canada Lynx, Marten, Fisher, Black Bear – Candidate

Important fur-bearing mammals and den sites can be a limiting factor in sustaining populations. American Mink prefer shorelines dominated by coniferous or mixed forests with dens usually underground. American Mink will often use old muskrat lodges, or may den in root masses along shorelines of water bodies. North American River Otter prefer undisturbed shorelines along water bodies that support productive fish populations with abundant shrubby vegetation and downed woody debris for denning. They often use old beaver lodges or log jams and crevices in rock piles. American Marten and Fisher share the same general habitat, requiring large tracts of coniferous or mixed forests of mature or older age classes. Denning sites are often in cavities in large trees or under large, downed woody debris.

Wolves prefer a more interior forest condition for locating their den sites. Wolves often select sandy sites sloped for excavation (esker areas should be examined as potentially key sites). Wolf dens are often located near wetlands. Wolf den locations are generally randomly situated within the pack territory with the outer 1 km periphery avoided; the larger the territory, the closer the den is to the center (Packard 2003; Mech and Boitani (eds.) 2003). Rendezvous sites are usually located in the general denning region. Pack foraging excursions may be up to 48 km from the den or pups. Several dens within each home range may be used for pup rearing, with natal dens usually located near water (Packard 2003). The peak of parturition occurs near the end of April through early May. Pups are highly associated with the den for their first eight weeks. Den proximity to human disturbance is dependent on whether they have experienced negative interactions with humans. Disturbance is unlikely to have an effect unless it is widespread and intensive (Fuller et al. 2003). Dens and rendezvous sites have been documented within 1 to 2 km of active roadways and as close as 400 m to paved roadways (Fritts et al. 2003).

Canada Lynx den sites are most often associated with the presence of downed woody debris.

Black Bear, particularly sub-adults, will often den in the base of hollow trees. Such trees are rare in this ecoregion and primarily consist of large diameter cedar or sometimes large White Spruce. Black Bear are particularly sensitive to noise disturbance within 200 m of overwintering (hibernation) dens, with effects as great as 1 km, and may abandon the den in response to disturbance, especially early in the denning period (Linnell et al. 2000). Hibernation dens are seldom reused in consecutive years. Therefore, the loss of a single denning site from human disturbance is not deleterious if alternative sites are available within the home range (Linnell et al. 2000).

The indicator species confirmed during surveys were North American River Otter, Wolf, Canada Lynx, and American Marten; however, no denning sites were confirmed. Extensive searches for denning sites are not recommended as they are very difficult to locate, but protection of the most suitable habitat should be considered during planning. Any Wolf den sites would include a 200 m radius while active denning sites of the other species listed here would include a 100 m radius of SWH.

Rendezvous Sites – Candidate

Rendezvous sites may be found in a variety of habitats such as isolated areas including open bogs, burns, fens, other wetlands, meadows, and clear-cuts. No locations are provided in provincial data, but Wolf tracks were seen around the Study Area during aerial surveys, and a single Gray Wolf was observed within the Study Area during aerial transport to an ARU site in 2022. Rendezvous sites are often used by wolf packs for multiple years and may be used as den sites in a subsequent year. SWH consists of the rendezvous site and a 200 m radius.

Amphibian Breeding Habitat – Wetland – Confirmed

Wetlands and pools (including vernal pools) > 500 m^2 (about 25 m diameter) supporting high species diversity are significant; some small or ephemeral habitats may not be identified on mapping and could be important amphibian breeding habitats. Wetlands and pools need to persist until mid-July for this SWH type. The presence of shrubs and logs increases the pond's significance for some amphibian species because of the available structure for calling, foraging, escape, and concealment from predators. Candidate ecosites (B128, B129, B133, B134, B135, B142, B144, and B146) occur in the Study Area. Amphibian calling surveys and incidental observations during other field work documented eight indicator species in the Study Area (American Toad, Blue-spotted Salamander, Boreal Chorus Frog, Green Frog, Mink Frog, Northern Leopard Frog, Spring Peeper, and Wood Frog). One area of amphibian breeding habitat (wetland) was confirmed within the Study Area in ecosite B128 (Figure 5–6). The associated amphibian movement corridor was also identified and is shown on Figure 5–12.

Amphibian Breeding Habitat: Woodland – Candidate

These habitats are extremely important to amphibian biodiversity within Northern Ontario landscapes. They may include swamps and thickets, vernal / seasonal pooling, riparian, and a variety of wetland interiors and margins. A variety of suitable woodland ecosites occur in the Study Area. Indicator species, including adult American Toad, Spring Peeper, and Wood Frog, were documented in the Study Area. One Blue-spotted Salamander was incidentally documented in May 2022 at CL-OW-15 crossing the road and not in appropriate breeding habitat.

To confirm this SWH, wetlands and pools (including vernal pools) >500 m^2 (about 25 m diameter) persisting until mid-July must support a breeding population of 1 or more newt / salamander species or two or more of the listed frog / toad species and at least 100 breeding individuals (adults juveniles, eggs / larval masses), or two or more of the listed frog species with a call level code of three. Despite the required variety of indicator species being present in suitable ecosites, the defining criteria were not met (calling code level, number of individuals, and/or egg masses for the required number of species).

Turtle Nesting Areas – Candidate

This SWH type is rare, and when identified will often be the only breeding site for local populations of turtles. Turtle nesting areas are typically found in open sunny areas near water, with gravel or loose substrates that turtles can dig into for nest-making. Sand and gravel beaches adjacent to shallow weedy areas of lakes, rivers, or marshes are frequently used. Any confirmed turtle nesting area includes the area or collection of sites within an area of exposed mineral soils used for nesting, a 30-100 m radius dependent on slope and vegetation, and the travel route from wetland to nest. The Ontario Reptile and Amphibian Atlas has a documented observation of Snapping Turtle. Ecosite B007 provides candidate SWH for turtle nesting areas within the Study Area (Figure 5–11).

Mast Producing Areas – Candidate

Mast producing areas are significant to wildlife because they produce a large amount of food for their size. Significant tree species include Mountain Ash and Pin Cherry, and significant shrub species include Blueberry sp., Raspberry sp., Beaked Hazel, and Choke Cherry. Areas that have been disturbed by humans, such as transmission corridors and logged forests, may be considered significant at the discretion of the MNRF. Additionally, areas with recent fires, large bedrock outcroppings, forest openings or utility corridors >1 ha provide excellent sites for mast producing shrubs. Candidate mast producing areas in the Study Area included the transmission corridor and ecosite B114, which produced abundant blueberry sp. Two indicator species (Black Bear and Ruffed Grouse) have been documented by WSP biologists in the Study Area.

Sharp-tailed Grouse Leks – Candidate

Lek sites, or areas where males perform courtship displays, are important in the maintenance of Sharp-tailed Grouse populations. Sharp-tailed Grouse (the indicator species) were observed during field surveys (Figure 4–9), and candidate ecosites B093, B126, and B136-B140 are present in the Study Area (Figure 5–11). Surveys to confirm this SWH type must be completed from March to June to observe courtship activities; the area of significance for a confirmed site is the lek site plus a 200 m buffer area of shrub or deciduous trees.

5.2.2.4 Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)

Habitats of Species of Conservation Concern include wildlife species that are listed as Special Concern or rare, that are declining, or are featured species. Habitats of Species of Conservation Concern do not include habitats of Endangered or Threatened species. Species of Conservation Concern for the purpose of this assessment are as listed in Section 5.1 above.

Marsh Bird Breeding Habitat – Candidate

Marsh bird breeding habitat is rare in Northern Ontario and is very productive for marsh bird populations. Marsh Bird surveys documented the following indicator species: a possible Yellow Rail at CL-DET-G1-11; Sora at CL-BB-G1-11 on two occasions (14 June 2021 and 5 July 2021); two Sora at CL-AM-10 on 29 June 2022; and one Virginia Rail at CL-BB-G1-11 on both 14 June 2021 and 5 July 2021. Indicator species observed in the Study Area were not confirmed as breeding and as such do not confirm SWH. The marsh around CL-DET-G1-11, and other candidate ecosites within the Study Area (B134-B140, B142, B144, and B146), have been identified as a candidate marsh bird breeding habitat (Figure 5–7). Other indicator species such as American Bittern, Pied-billed Grebe, Ring-necked Duck, Sandhill Crane, and Trumpeter Swan were incidentally documented in the Study Area.

Shrub or Early Successional Breeding Bird Habitat – Candidate

Shrub or early successional breeding bird habitat is declining in Ontario and North America. Indicator species of this SWH that were observed included American Woodcock, Eastern Kingbird, and Ruffed Grouse. Ruffed Grouse and Eastern Kingbird were observed at Station CL-BB-WM-G2-04. No breeding evidence was recorded for the Eastern Kingbird at this location, and the habitat was not greater than 30 ha. The shrub areas need to be larger than 30 ha to meet the criteria for shrub breeding bird habitat. Other candidate ecosites (B134 and B135) were found along watercourses in the Study Area (Figure 5-7).

Special Concern and Rare Wildlife Species – Confirmed and Candidate

Several species documented in Secondary Sources are designated Special Concern or Provincially Rare. These species must be documented within the Study Area to confirm their presence.

Candidate Species include:

- Monarch
- Peregrine Falcon
- Yellow-banded Bumble Bee
- Yellow Rail

Confirmed Species include:

- Barn Swallow
- Canada Warbler
- Common Nighthawk
- Evening Grosbeak

- Olive-sided Flycatcher
- Redhead
- Rusty Blackbird
- Lesser Yellowlegs

The SWH for these species is the area of the habitat to the finest ELC scale that protects habitat form and function. Element occurrences and habitat mapping for these species has been completed (Figure 5–8).

5.2.2.5 Animal Movement Corridors

Animal movement corridors are elongated areas used by wildlife to move from one habitat to another. They are important to ensure genetic diversity in populations, to allow seasonal migration of animals (e.g., deer moving from summer to winter range) and to allow animals to move throughout their home range from feeding areas to cover areas (OMNRF 2015a). The SWH Criteria Schedules for Ecoregion 3E identifies the following Animal Movement Corridors:

- Amphibian Movement Corridors;
- Cervid Movement Corridors; and
- Furbearer Movement Corridors.

Where a confirmed or candidate Specialized Habitat for Wildlife has been identified, animal movement corridors must also be identified. No mineral lick habitat, or denning sites for American Mink, North American River Otter, American Marten, Fisher, or Wolf have been confirmed to date.

Amphibian Movement Corridors - Confirmed

An amphibian movement corridor, corresponding to the confirmed amphibian breeding habitat: wetland, was identified in the Study Area (Figure 5-12). The movement corridor consists of a 200 m area to the east of the amphibian breeding habitat, which connects the wetland to surrounding undeveloped areas.

Cervid Movement Corridors – Candidate

This SWH is considered candidate as Moose Aquatic Feeding Area was confirmed. Corridors typically follow riparian areas, woodlots, and areas of physical geography such as ravines or ridges. These corridors will be multi-functional in that they also function for smaller mammal species. To confirm this SWH, studies must be conducted from May to July when Moose are moving to aquatic feeding areas, and should include descriptions of surrounding forest matrices for determination of significance.

Furbearer Movement Corridor – Candidate

Given the high potential for Mink and Otter denning sites within the Study Area, this SWH type is also considered candidate. Studies must be conducted between March-June when Mink or Otter are using denning sites. All treed ecosites adjacent to or within shoreline habitats are considered candidate ecosites.

5.2.3 Area of Natural Scientific Interest

An Area of Natural Scientific Interest (ANSI) is defined in the PPS as “areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education.” Life science ANSIs are significant representative segments of Ontario’s biodiversity and natural heritage while earth science ANSIs are significant representative segments of bedrock, fossil, and landform in Ontario. ANSIs are classified as being either provincially or regionally significant. Provincially significant life science ANSIs include the most significant and best examples of the natural heritage features in the province (OMNR 2010). No ANSIs have been designated in the Study Area.

Table 5-1: Species at Risk Habitat Assessment and Potential Occurrence

Species Name, Status (Sara, Esa, S-Rank), and Data Source	Preferred Habitat	Potential For Sar Habitat / Species Occurrence in Study Area
Birds		
Bank Swallow (*Riparia riparia*) SARA: Threatened ESA: Threatened COSEWIC: Threatened COSSARO: Threatened S-Rank: S4B G-Rank: G5 Source: NHIC, and OBBA	Bank Swallows nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. Many nests are on banks of rivers and lakes, but they are also found in active sand and gravel pits or former ones where the banks remain suitable (COSEWIC 2013a).	**None** – While there were abundant watercourses located within the Study Area, none contain suitable bank habitats. Neither the species nor nests of the species were observed during targeted field investigations. No aggregate pits have been documented in the Study Area (Kidd Mine was not surveyed). Breeding bird surveys and ARUs set up during the breeding bird season did not record Bank Swallow.
Barn Swallow (*Hirundo rustica*) SARA: Threatened (under consideration for status change). Residence Description. ESA: Special Concern (This species was down listed from Threatened in 2022 to Special Concern under the ESA in January 2023) COSEWIC: Special Concern COSSARO: Special Concern S-Rank: S5B G-Rank: G5 Source: iNaturalist, and OBBA	Barn Swallows have shifted largely to nesting in and on artificial structures, including buildings, bridges, and road culverts. This species prefers various open habitats for foraging including grassy fields, pastures, agricultural crops, and over open water (Heagy, et al. 2014).	**Confirmed** – One Barn Swallow was documented during breeding bird surveys at station LEYE076 on 29 May 2023. Structures within the Study Area such as those within the Kidd Mine (Kidd Mine was not surveyed) could provide nesting habitat. Barn Swallows that breed north of the Study Area would migrate though the Study Area traveling between wintering and breeding grounds.
Canada Warbler (*Cardellina canadensis*) SARA: Threatened (under consideration for status change) ESA: Special Concern COSEWIC: Special Concern COSSARO: Special Concern S-Rank: S4B G-Rank: G5 Source: WSP breeding bird surveys, and WSP ARU Surveys	Found in a variety of upland and wetland forest types, but it is most abundant in wet, mixed deciduous-coniferous forests with a well-developed shrub layer. Nests are typically located on or near the ground on mossy logs or roots, along stream banks or on hummocks. Its primary breeding range is in the Boreal Shield, extending north into the Hudson Plains and south into the Mixedwood Plains. Although the Canada Warbler breeds at low densities across its range, in Ontario, it is most abundant along the Southern Shield (COSEWIC 2008a).	**Confirmed** – Seen by WSP during breeding bird surveys at point CL-BB-G1-30 and CLBB-G2-18 (Figure 5-9). Canada Warbler was also recorded on seven (7) ARUs: CL-DET-G2-01 (2021), CL-AM-ARU-1 (2022), and ARU-LEYE-02, ARU-LEYE-03, ARU-LEYE-04, ARU-LEYE-06, and ARU-LEYE-10 in 2023.

Table 5-1: Species at Risk Habitat Assessment and Potential Occurrence

Species Name, Status (Sara, Esa, S-Rank), and Data Source	Preferred Habitat	Potential For Sar Habitat / Species Occurrence in Study Area
Chimney Swift (*Chaetura pelagica*) SARA: Threatened ESA: Threatened COSEWIC: Threatened COSSARO: Threatened S-Rank: S4B, S4N G-Rank: G4G5 Source: NHIC	Chimney Swifts forage aerially over virtually any habitat. Nesting and roosting take place in a dark sheltered spot with vertical surfaces to cling to. This may include large hollow trees, chimneys, and other structures (COSEWIC, 2018b).	**Low**–No Chimney Swift were detected on ARU recordings. Although there is some suitable habitat for this species, this is the edge of Chimney swift range.
Common Nighthawk (*Chordeiles minor*) SARA: Special Concern ESA: Special Concern COSEWIC: Special Concern COSSARO: Special Concern S-Rank: S4B G-Rank: G5 Source: WSP ARU Surveys	Breeds in a wide range of open habitats, such as recently logged or burned-over areas, beaches, forest clearings, short-grass prairies, pastures, open forests, marshes, lakeshores, gravel roads, riverbanks, rocky outcrops or barrens, railways, and urban parks. Foraging is aerial over virtually any habitat (COSEWIC 2018c).	**Confirmed** – Common Nighthawks were heard at 29 ARUs. The Study Area consists of forested areas, wetlands, and recently logged areas; this may be considered suitable habitat for the species.
Evening Grosbeak (*Coccothraustes vespertinus*) SARA: Special Concern ESA: Special Concern COSEWIC: Special Concern COSSARO: Special Concern S-Rank: S4 G-Rank: G5 Source: WSP Breeding Bird Surveys	Optimal Evening Grosbeak breeding habitat generally includes open, mature mixedwood forests, where fir species and/or White Spruce are dominant, and Spruce Budworm is abundant. Outside the breeding season, the species seems to depend largely on seed crops from various trees such as firs and spruces in the boreal forest, but is also attracted to ornamental trees that produce seeds or fruit, and bird feeders stocked with sunflower seeds (COSEWIC 2016b). Evening Grosbeaks are found in a variety of forested areas, most typically mature mixed forests with an open canopy and high proportions of Balsam Fir, White Spruce and/or Trembling Aspen (COSEWIC 2016b).	**Confirmed** – Two Evening Grosbeak were recorded during breeding bird surveys on 20 June 2023 at point CL-BBS-23-7.
Lesser Yellowlegs (*Tringa flavipes*) SARA: Not on Schedule 1. Under consideration for addition ESA: Threatened COSEWIC: Threatened COSSARO: Threatened	The habitat used during breeding is northern peatlands, with a few trees and shrubs, and nearby ponds and pools. Lesser Yellowlegs can use human disturbed areas such as mine clearing for breeding (Cadman et al. 2007). During the breeding season the birds forage around lakes, and marshes. Breeding occurs from Alaska east to the James Bay region (O'Brien, Crossley, and Karson 2006).	**Confirmed** - Five Lesser Yellowlegs were documented in the Study Area during breeding bird surveys in June 2021 (Figure 5-1). Lesser Yellowlegs has been recorded at four ARU stations: ARU-LEYE-02, CL-AM-ARU-4, CL-AM-ARU-7, and CL-AM-ARU-8. No breeding evidence has been found for this species.

Table 5-1: Species at Risk Habitat Assessment and Potential Occurrence

Species Name, Status (Sara, Esa, S-Rank), and Data Source	Preferred Habitat	Potential For Sar Habitat / Species Occurrence in Study Area
S-Rank: S4B, S4N G-Rank: G5 Source: Field Observations		
Olive-sided Flycatcher (*Contopus cooperi*) SARA: Special Concern ESA: Special Concern COSEWIC: Special Concern COSSARO: Special Concern S-Rank: S4B G-Rank: G3G4 Source: Incidental, WSP ARU Surveys, and NHIC	Olive-sided Flycatchers are most often found in open areas containing tall trees or snags for perching. Open areas include forest openings, forest edges, burned forest or open to semi-open mature forest stands. Generally, forest habitat is either coniferous or mixed coniferous (COSEWIC 2018d).	**Confirmed** –Olive-sided Flycatcher was observed incidentally and recorded by WSP ARUs. The incidental observation was during vegetation surveys in 2021 (Figure 5-8). The ARU analyses found nine (9) stations with audio of Olive-sided Flycatcher (ARU-LEYE-02, CL-AM-ARU-2, CL-AM-ARU-4, CL-AM-ARU-8, CL-AM-ARU-9, CL-AM-ARU-11, CL-DET-G1-08, CL-DET-G1-07b, and CL-DET-G2-04b), with the highest number of recordings (4,244) at station CL-AM-ARU-8.
Peregrine Falcon (*Falco peregrinus*) SARA: No schedule, No Status ESA: Special Concern COSEWIC: Non-active COSSARO: Special Concern S-Rank: S4 G-Rank: G4 Source: NHIC	Most Peregrine Falcons nest on cliff ledges or crevices, but some will also use tall buildings and bridges near good foraging areas (COSEWIC 2017). Habitat for Peregrine Falcons has three scales: a nest site with associated perching sites, a nesting territory, and a home range (Ontario Peregrine Falcon Recovery Team, 2010). Characteristics of urban nests are often similar to those of natural cliff nests in that chosen nest sites are usually on one of the taller buildings in an area and within one block of other tall buildings and a reliable food source. They mostly feed on medium-sized birds such as Rock Pigeon and Ring-billed Gull. Other common prey are the European Starling, Blue Jay, Baltimore Oriole, House Sparrow, and Kinglet species (Ontario Peregrine Falcon Recovery Team, 2010).	**Moderate** – The Study Area lacks appropriate nest sites for the species. Breeding bird surveys and ARUs set up during the breeding bird season did not record Peregrine Falcon. This species likely migrates through the Study Area between breeding and wintering grounds.
Rusty Blackbird (*Euphagus carolinus*) SARA: Special Concern ESA: Special Concern COSEWIC: Special Concern COSSARO: Special Concern S-Rank: S4B	The Rusty Blackbird breeds in habitats that are dominated by coniferous forest with wetlands nearby including bogs, marshes, and beaver ponds. The Rusty Blackbird is only found in North America. It breeds in every province and territory in Canada and migrates to most of the central and eastern United States for winter. In Ontario, the breeding	**Confirmed –** Recorded at ARU stations ARU-LEYE-09 in 2023, CL-AM-ARU-9 in 2022, and CL-DET-G1-09 and CL-DET-G2-01 in 2021. The Rusty Blackbird audio recordings are from 19 June 2023, 17 May-8 June 2022, and 23 June-4 July 2021. All ARU observations were in the breeding

Table 5-1: Species at Risk Habitat Assessment and Potential Occurrence

Species Name, Status (Sara, Esa, S-Rank), and Data Source	Preferred Habitat	Potential For Sar Habitat / Species Occurrence in Study Area
G-Rank: G4 Source: WSP ARU	range is found in the Hudson Bay Lowlands and northern Boreal Shield ecozones (MECP 2021e).	period for Rusty Blackbird. One Rusty Blackbird was documented during breeding bird surveys at station LEYE014 on 24 May 2023. Migratory bird surveys documented two Rusty Blackbirds at station CRMB-24 and six flyovers at station CRMB-25 on September 14, 2023.
Yellow Rail (*Coturnicops noveboracensis*) SARA: Special Concern ESA: Special Concern COSEWIC: Special Concern COSSARO: No schedule, No Status S-Rank: S4B G-Rank: G4 Source: SARO List	Nesting Yellow Rails are typically found in marshes dominated by sedges, true grasses, and rushes, where there is little or no standing water (generally 0-12 cm water depth), and where the substrate remains saturated throughout the summer. They can be found in damp fields and meadows, on the floodplains of rivers and streams, in the herbaceous vegetation of bogs, and at the upper levels (drier margins) of estuarine and salt marshes. Nesting habitats usually have a dry mat of dead vegetation from previous growing seasons. A greater diversity of habitat types is used during migration and winter than during the breeding season. In winter, the rails are known to use coastal wetlands and rice fields (COSEWIC 2009). In Ontario, it is mainly found in the Hudson Bay Lowlands region and is only found in localized marshes in southern Ontario. The breeding status of Yellow Rail in boreal regions south of the Hudson Bay Lowlands is uncertain (MECP 2021b).	**Moderate** – There are abundant wetlands located within the Study Area. A possible Yellow Rail was heard in 2021 at station CL-BB-G1-11 but not well enough to confirm presence.
Amphibians and Reptiles		
Blanding's Turtle (*Emyonidea blandingii*) SARA: Endangered ESA: Threatened COSEWIC: Endangered COSSARO: Threatened S-Rank: S3 G-Rank: G4 Source: Community Record	Blanding's Turtles are found in a variety of productive wetlands, occurring primarily in shallow-water habitats-shallow lakes, ponds, and wetlands with mucky bottoms. This species hibernates in the soft bottoms of water bodies. Other habitat features include rocks, logs or substrates in sunny locations that provide basking opportunities (COSEWIC 2016a). Females nest on various substrates on land, while overwintering occurs underwater in permanent pools (COSEWIC 2016a).	**Confirmed** – There is suitable habitat within the Study Area, as well as three community observations of the species (locations only; Figure 3-2). Turtle basking surveys and Blanding's Turtle habitat assessments did not find any turtles.

Table 5-1: Species at Risk Habitat Assessment and Potential Occurrence

Species Name, Status (Sara, Esa, S-Rank), and Data Source	Preferred Habitat	Potential For Sar Habitat / Species Occurrence in Study Area
Midland Painted Turtle (*Chrysemys picta marginata*) SARA: Special Concern ESA: Not Listed COSEWIC: Special Concern COSSARO: NAR S-Rank: S5 G-Rank: G5T5 Source: Ontario Reptile and Amphibian Atlas	Inhabits waterbodies, such as ponds, marshes, lakes, and slow-moving creeks, with a soft bottom and provide abundant basking sites and aquatic vegetation. This species often basks on shorelines or on logs and rocks that protrude from the water. Overwintering occurs on the bottom of waterbodies (Ontario Nature 2022).	**High** – habitat for Midland Painted Turtle is abundant throughout the Study Area within lakes, marshes, ponds, and creeks. Turtle basking surveys did not record any turtles.
Snapping Turtle (*Chelydra serpentina*) SARA: Special Concern ESA: Special Concern COSEWIC: Special Concern COSSARO: No schedule, No Status S-Rank: S4 G-Rank: G5 Source: Ontario Reptile and Amphibian Atlas	Snapping Turtles prefer slow-moving waters with a soft mud bottom and dense aquatic vegetation. Established populations are most often located in ponds, sloughs, shallow bays or river edges and slow streams and wetlands. Individuals can also exist in developed areas (e.g., golf course ponds, irrigation canals); however, it is unlikely that populations persist in such habitats. Snapping Turtles can occur in highly polluted waterways, but environmental contamination is known to limit reproductive success (COSEWIC 2008b).	**High** – Habitat is abundant in the Study Area within the lakes, marshes, and rivers. Turtle basking surveys did not find any turtles.
Mammals		
Woodland Caribou (Boreal population) (*Rangifer tarandus* pop. 14) Kesagami Range SARA: Threatened ESA: Threatened COSEWIC: Threatened COSSARO: Threatened S-Rank: S4 G-Rank: G5TNR Source: Range plans	At the broad landscape scale, Caribou require large, undisturbed areas of old or mature conifer upland forest and lowlands dominated by jack pine and/or black spruce. These areas allow Caribou to effectively separate themselves from higher densities of Moose, White-tailed Deer, Grey Wolf, and Black Bear which tend to be associated with younger mixed or deciduous forest. At smaller scales, Caribou seasonally select specific habitat features and areas that support successful reproduction and calf rearing, provide summer and/or winter forage, and/or facilitate movement between discrete areas of use. Boreal caribou require large un-fragmented habitats for security from predators to space apart from other ungulate species, to distribute themselves over the landscape at naturally low population density, and to avoid disturbance from human activities that may increase mortality risk (COSEWIC 2002; ECCC 2020). Lichen species preferred	**Low** – The Study Area does not contain suitable habitat for the species and no individuals were observed during aerial surveys. The habitat configuration is conducive to increased numbers of alternate prey (Moose) and associated predators (Wolves) which represent a local landscape with high mortality risk to Caribou and has substantial anthropogenic disturbance; therefore, it currently has low habitat suitability.

Table 5-1: Species at Risk Habitat Assessment and Potential Occurrence

Species Name, Status (Sara, Esa, S-Rank), and Data Source	Preferred Habitat	Potential For Sar Habitat / Species Occurrence in Study Area
	by Caribou are a consistent feature of winter and summer home ranges. Lichens tend to be most abundant in mature and old forests, consequently fire, logging, and mining and sensory disturbance from linear anthropogenic disturbances can displace caribou for decades (COSEWIC 2002; ECCC 2020).	
Little Brown Myotis (*Myotis lucifugus*) SARA: Endangered ESA: Endangered COSEWIC: Endangered COSSARO: Endangered S-Rank: S3 G-Rank: G3 Source: OMA, BCI, SARO List and WSP ARUs	Roosts in tree cavities, including small spaces or crevices found in loose bark, hollow trees, rock faces and is widespread throughout the southern half of Canada and is especially associated with human structures often forming nursery colonies in buildings, attics, walls, and bat boxes. Hibernates in caves and abandoned mines during the winter months. Typically forages over water (MECP 2021c) where their diet consists of aquatic insects, mainly midges, mosquitoes, mayflies, and caddisflies. They also feed over forest trails, cliff faces, meadows, and farmland where they consume a wide variety of insects, from moths and beetles to crane flies. Maternity roosts are primarily live deciduous trees and males, juveniles, and non-reproductive females can be found in dead trees, on average all trees are over 20 cm DBH (Humphrey and Fotherby 2019). Maternity sites typically have sufficient protection from predators, an abundance of roosting locations, and adequate solar exposure (Humphrey and Fotherby 2019).	**Confirmed** –Little Brown Myotis recordings were obtained at points CL-DET-G2-04, CL-DET-CBM-11, CL-DET-CBM-19, and CL-DET-CBM-12 (Figure 5-1).
Northern Myotis (*Myotis septentrionalis*) SARA: Endangered ESA: Endangered COSEWIC: Endangered COSSARO: No schedule, No Status S-Rank: S3 G-Rank: G2 Source: BCI, SARO List	Roosts in canopies of deciduous trees, including small spaces or crevices found in loose bark, hollow trees. Rock faces and human structures can also be used though less frequently than Little Brown Myotis. Hibernates in caves and abandoned mines during the winter months. Typically forages over water. Maternity sites typically have sufficient protection from predators, an abundance of roosting locations, and adequate solar exposure (Humphrey and Fotherby 2019). The Northern Myotis is one of the less common species found to hibernate in Ontario. This species is closely associated with woodlands and uses trees as maternity sites (COSEWIC 2013b).	**High** – Although the presence of Northern Myotis could not be confirmed, presence of this species cannot be ruled out. In most instances, the Northern Myotis emits echolocation calls that resemble those of the Little Brown Myotis. The Northern Myotis can, however, emit calls of much higher maximum frequency than the Little Brown Myotis in highly cluttered habitat. Unfortunately, recordings made in high clutter are of poor quality and higher frequencies attenuate much more quickly

Table 5-1: Species at Risk Habitat Assessment and Potential Occurrence

Species Name, Status (Sara, Esa, S-Rank), and Data Source	Preferred Habitat	Potential For Sar Habitat / Species Occurrence in Study Area
		making recordings of calls identifiable as Northern Myotis exceedingly rare.

Table 5-1: Species at Risk Habitat Assessment and Potential Occurrence

Species Name, Status (Sara, Esa, S-Rank), and Data Source	Preferred Habitat	Potential For Sar Habitat / Species Occurrence in Study Area
Tricolored Bat (*Perimyotis subflavus*) SARA: Endangered ESA: Endangered COSEWIC: Endangered COSSARO: Endangered S-Rank: S3 G-Rank: G3Source: Ontario Mammal Atlas	Within treed habitats, Tricolored Bat primarily roosts in tree foliage (mainly within oak leaves). Leaf roosts are shaped like umbrellas with a "roof" and a hollow core where bats rest. Studies have shown that oak leaves are a preferred roost site. Maple leaves are also selected, although less commonly. It is thought that Tri-colored Bat may prefer roost trees in more open woodlands, as opposed to deep woods. Roosts in tree cavity are used less frequently than Myotis species (Humphrey and Fotherby 2019).	**None -** Tricolored bat was not identified in the Project area. Published results from a comprehensive bat monitoring program across Northern Ontario (Layng et al. 2019) have led to speculation that Tricolored Bats may occur further west than originally thought. Capture surveys would be required to verify presence of the species before any confirmation can be made. No Tricolored bat was identified by automated or manual methods in either survey period, providing strong evidence that this species does not occur in the Study Area.
Invertebrates		
Monarch (*Danaus plexippus*) SARA: Endangered (Since 2023-12-08) ESA: Special Concern COSEWIC: Endangered COSSARO: Special Concern S-Rank: S2N, S4B G-Rank: G4 Source: OBA	Monarch is very widely distributed across North America and found in a wide variety of habitats. Populations fluctuate dramatically but have been generally declining likely due to habitat destruction on the hibernation grounds in Mexico, as well as pesticide use and other factors on the vast breeding grounds. Monarchs require milkweeds (*Asclepias* sp.) to lay their eggs and will use a variety of other flowers for adult food. Different milkweed species grow in a variety of environments which include fields, roadsides, open areas, wet areas, and urban gardens (COSEWIC 2016c). In February Monarchs come out of hibernation and find a mate in the Oyamel Fir forests found in central Mexico; generation zero. They migrate north to the southern states to lay eggs on milkweed plants around March and April; first generation. The butterflies that result from those eggs continue to fly further north and lay eggs in May and June; second generation. The third generation will be born in July and August. The generation which reproduces dies after the egg laying stage except for the fourth generation. The fourth generation is born in September and October and does not die after two to six weeks but migrates south back to Mexico and will live for six to eight months until it is time	**Moderate** – Potentially suitable habitat may be present within the Study Area.

Table 5-1: Species at Risk Habitat Assessment and Potential Occurrence

Species Name, Status (Sara, Esa, S-Rank), and Data Source	Preferred Habitat	Potential For Sar Habitat / Species Occurrence in Study Area
	to start the whole process again. Sometimes in the southern states the Monarchs migrating south for the winter will breed again, creating a fifth generation which will continue south (Cavasin, 2016). Monarch butterfly is provincially listed as S2N, S4B, which means non-breeding Monarch in the province are imperiled while breeding Monarch are apparently secure. Monarch is also listed as a Special Concern in the ESA. Monarchs are frequently reported between May and September in Ontario (Cavasin, 2016) which can encompass all life stages and breeding and non-breeding individuals.	
Yellow-banded Bumble Bee (*Bombus terricola*) SARA: Special Concern ESA: Special Concern COSEWIC: Special Concern COSSARO: Special Concern S-Rank: S4 G-Rank: G3G4 Source: NHIC	This species is a forage and habitat generalist, able to use a variety of nectaring plants and environmental conditions. The Yellow-banded Bumble Bee has a large range throughout much of Canada and parts of the United States. It can be found in mixed woodlands, particularly for nesting and overwintering, as well as a variety of open habitat such as native grasslands, farmlands, and urban areas. Nest sites are often underground in abandoned rodent burrows or decomposing logs (COSSARO 2016).	**Moderate** – Potentially suitable habitat may be present within the Study Area.

NHIC = Natural Heritage Information Centre (MNRF 2022a)

OBBA = Ontario Breeding Birds Atlas (Cadman et al., 2007)

AMO = Atlas of Mammals of Ontario (Dobbyn 1994)

ORAA = Ontario Reptile and Amphibian Atlas (Ontario Nature 2020)

OBA = Ontario Butterfly Atlas (McNaughton et al., 2021)

BCI = Bat Conservation International (BCI 2022)

SARO List = Species at Risk in Ontario (Ontario Regulation 230/08: Species at Risk in Ontario List

SARA = Species at Risk Act, 2002

ESA = Endangered Species Act, 2007

S-Rank = Sub-national Rank: 1=Critically Imperiled, 2=Imperiled, 3=Vulnerable, 4=Apparently Secure, 5=Secure, T=Infraspecific Taxon (trinomial), NR=Unranked, N=Non-breeding, B=Breeding.

G Rank = Global Conservation Status

SAR = Species at Risk

455000 460000 465000 470000 475000 480000 485000 490000

5430000 5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

Deception Lake
10km
Aubin Lake
5km
CAMP 40 RD
Nesbitt Creek
Buskegau River
1km
655
West Buskegau River
North Driftwood River
Martin Lake
Gerry Lake
Jack Lake
Mel Lake
Davis Lake
Zed Lake
Jocko Creek
Prosser Lake
Mattagami River
Kidd Creek
Macdiarmid Creek
Boundary Lake
Kidd Creek Mine
Feldman Lake
Gowanmarsh Lake
Kamiskotia River
Noted Lake
Bigwater Lake
Rota Lake
Murphy Creek
Little Goose Lake

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LEGEND

- Project Location
- Study Areas (labelled on map)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

Species at Risk (Provincially Regulated Only)

- Black Ash
- Black Ash Cluster
- Blanding's Turtle
- Lesser Yellowlegs
- Little Brown Myotis
- Little Brown Myotis / Myotis Sp.
- Myotis sp.
- Olive-sided Flycatcher

NOTES:
- Waterbody, and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

0 1 2 4 6 8 10 Kilometres

Datum: NAD83
Projection: UTM Zone 17N

N W E S

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wsp

CRAWFORD NICKEL PROJECT

Species at Risk (Provincially Regulated Only)

PROJECT N°:OMEMA2304 | **FIGURE: 5-1**

SCALE: 1:147,000 | DATE: Septemeber 2024

455000 460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km
5km
1km

Aubin Lake
Nesbitt Creek
CAMP 40 RD
Reaume Creek
REAUME LOOP RD
Buskegau River
North Driftwood River
DUFF SOUTH RD
LOWER STURGEON DAM RD
Martin Lake
Gerry Lake
Jack Lake
Sutherland Lake
Davis Lake
655
West Buskegau River
Prosser Lake
Jocko Creek
Kidd Creek
Boundary Lake
Kidd Creek Mine
Mattagami River
Macdiarmid Creek
Feldman Lake
Gowanmarsh Lake
North Porcupine River
Noted Lake
Bigwater Lake
Kamiskotia River
Kraft Creek/Murphy Creek
Murphy Creek
Little Goose Lake

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LEGEND

- Project Location
- Study Areas (labelled on map)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse
- Provincially Significant Wetlands (labelled with name)
- Non-evaluated Wetlands
- Wetland 120m Buffer

Timmins Wetlands

- Provincially Significant Wetlands
- All Other Wetlands

NOTES:
- Waterbody, Watercourse, and Wetland data extracted from Land Information Ontario (LIO), 2023
- Timmins Wetlands extracted from City of Timmins Official Plan - Schedule B Provincial and Resource Interests, November 2017
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

N W E S

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WSP

CRAWFORD NICKEL PROJECT

Wetlands

PROJECT N°:OMEMA2304	**FIGURE: 5-2**
SCALE: 1:135,000	DATE: December 2023

460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km
5km
1km

Aubin Lake
Nesbitt Creek
North Driftwood River
CAMP 40 RD
Buskegau River
Reaume Creek
REAUME LOOP RD
DUFF SOUTH RD
Mattagami River
LOWER STURGEON DAM RD
West Buskegau River
Martin Lake
Gerry Lake
Jack Lake
655
Prosser Lake
Jocko Creek
Kidd Creek
Macdiarmid Creek
Boundary Lake
Kidd Creek Mine
Feldman Lake
North Porcupine River
Gowanmarsh Lake
Kamiskotia River
Noted Lake
Bigwater Lake
Rota Lake
Little Goose Lake
Timmins Victor M. Power Airport

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LEGEND

- Project Location
- Study Areas (labelled on map)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse
- Moose Late Winter Cover
- Moose Late Winter Cover 300m buffer

Habitat Rating (Moose Late Wintering

- Low
- High

General Relative Moose Density (2021 and 2022 combined)

- Low
- Medium Low
- Medium
- Medium High
- High

NOTES:
- Waterbody, and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Moose Late Wintering Areas and Winter Cover extracted from Wildlife Values Area, Land Information Ontario (LIO), 2022
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

0 1 2 4 6 8 10 Kilometres

Datum: NAD83
Projection: UTM Zone 17N

N W E S

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CRAWFORD NICKEL PROJECT

Confirmed Significant Wildlife Habitat Moose Late Winter Cover

PROJECT N°:OMEMA2304	**FIGURE: 5-3**
SCALE: 1:135,000	DATE: December 2023

455000 460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km
5km
1km

Aubin Lake
Nesbitt Creek
North Driftwood River
CAMP 40 RD
Realme Creek
Mattagami River
Buskegau River
Jocko Creek
West Buskegau River
Prosser Lake
Kidd Creek
655
Macdiarmid Creek
Kidd Creek Mine
Kamiskotia River
Gowanmarsh Lake
North Porcupine River
Bigwater Lake
Rota Lake
Little Goose Lake

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LEGEND

- Project Location
- Study Areas (labelled on map)
- Candidate Bat Maternity Colonies
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

NOTES:
- Waterbody, and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

N W E S

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CRAWFORD NICKEL PROJECT

Significant Wildlife Habitat Bat Maternity Colonies

PROJECT N°:OMEMA2304	**FIGURE: 5-4**
SCALE: 1:135,000	DATE: February 2024

455000 460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km
5km
1km

Nesbitt Creek
Aubin Lake
Nesbitt Creek
Buskegau River
REAUME ESKER RD
Reaume Creek
REAUME LOOP RD
CAMP 40 RD
North Driftwood River
DUFF SOUTH RD
LOWER STURGEON DAM RD
West Buskegau River
655
Prosser Lake
Jocko Creek
Mattagami River
Kidd Creek
Mecdiarmid Creek
Kidd Creek Mine
Gowanmarsh Lake
Kamiskotia River
Bigwater Lake
Rota Lake
North Porcupine River
Little Goose Lake

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LEGEND

- Project Location
- Study Areas (labelled on map)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse
- Waterfowl Nursery Area
- Waterfowl Nesting Area (120m buffer)

NOTES:
- Waterbody, and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Candidate Significant Wildlife Habitat Waterfowl Nesting Area

PROJECT N°:OMEMA2304	**FIGURE: 5-5**
SCALE: 1:135,000	DATE: January 2024

455000 460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km
5km
1km

Aubin Lake
Nesbitt Creek
CAMP 40 RD
North Driftwood River
Buskegau River
West Buskegau River
REAUME LOOP RD
Reaume Creek
DUFF SOUTH RD
LOWER STURGEON DAM RD
Martin Lake
Gerry Lake
Jack Lake
Sutherland Lake
Mel Lake
Zed Lake
655
Jocko Creek
Prosser Lake
Mattagami River
Kidd Creek
Macdiarmid Creek
Boundary Lake
Kidd Creek Mine
Feldman Lake
Duck Lake
Gowanmarsh Lake
Kamiskotia River
Noted Lake
Bigwater Lake
Rota Lake
Murphy Creek
Little Goose Lake

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LEGEND

- Project Location
- Study Areas (labelled on map)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse
- Bald Eagle Nest
- Bald Eagle
- Bald Eagle Nesting Habitat (800m buffer)
- Amphibian Breeding Habitat: Wetland
- Moose Aquatic Feeding Habitat
- Moderate
- Very High
- Moose Aquatic Feeding Habitat (120m buffer)

NOTES:
- Waterbody, and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

N W E S

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Confirmed Significant Wildlife Habitat Specialized Habitat for Wildlife

PROJECT N°:OMEMA2304	**FIGURE: 5-6**
SCALE: 1:135,000	DATE: January 2024

455000 460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km

5km

1km

Kidd Creek Mine

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LEGEND

- Project Location
- Study Areas (labelled on map)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse
- Marsh Breeding Bird Habitat
- Shrub/Early Successional Bird Breeding Habitat

0 1 2 4 6 8 10 Kilometres

NOTES:
- Waterbody, and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

N W E S

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Candidate Significant Wildlife Habitat for Species of Conservation Concern

PROJECT N°:OMEMA2304	**FIGURE: 5-7**
SCALE: 1:135,000	DATE: January 2024

455000 460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km 5km 1km

Aubin Lake
Nesbitt Creek
CAMP 40 RD
655
North Driftwood River
Buskegau River
West Buskegau River
Reaume Creek
DUFF SOUTH RD
Gerry Lake
Jack Lake
Sutherland Lake
Mel Lake
Jocko Creek
Prosser Lake
Mattagami River
Kidd Creek
Boundary Lake
Kidd Creek Mine
Feldman Lake
Gowanmarsh Lake
Duck Lake
Noted Lake
Bigwater Lake
Rota Lake
Murphy Creek
Little Goose Lake

OVERVIEW
Enlarged Area
City of Timmins
101
10 Km

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LEGEND

- Project Location
- Study Areas (labelled on map)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line

Species Observations
- Bald Eagle
- Bald Eagle Nest
- Barn Swallow
- Canada Warbler
- Common Nighthawk
- Evening Grosbeak
- Olive-sided Flycatcher
- Yellow Rail (Potential)
- Redhead
- Rusty Blackbird

Species Habitat
- Bald Eagle Nesting Habitat (800m buffer)
- Barn Swallow
- Canada Warbler
- Common Nighthawk
- Evening Grosbeak
- Olive-sided Flycatcher
- Redhead
- Rusty Blackbird
- Common Nighthawk / Olive-sided Flycatcher
- Common Nighthawk / Rusty Blackbird
- Common Nighthawk / Yellow Rail
- Common Nighthawk / Olive-sided Flycatcher / Rusty Blackbird
- Canada Warbler / Common Nighthawk / Rusty Blackbird

NOTES:
- Waterbody, and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Confirmed Significant Wildlife Habitat for Species of Conservation Concern

PROJECT N°:OMEMA2304 | **FIGURE: 5-8**

SCALE: 1:135,000 | DATE: February 2024

455000 460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km
5km
1km

Aubin Lake
Nesbitt Creek
CAMP 40 RD
Reaume Creek
REAUME LOOP RD
Buskegau River
DUFF SOUTH RD
North Driftwood River
LOWER STURGEON DAM RD
Martin Lake
Gerry Lake
Jack Lake
Sutherland Lake
Davis Lake
655
West Buskegau River
Prosser Lake
Jocko Creek
Kidd Creek
Boundary Lake
Kidd Creek Mine
Mattagami River
Macdiarmid Creek
Feldman Lake
Gowanmarsh Lake
North Porcupine River
Noted Lake
Bigwater Lake
Kamiskotia River
Murphy Creek

B133
200 m
655

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LEGEND

- Project Location
- Study Areas (labelled on map)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

Rare Vegetation Community

- Hardwood Swamp (B133)

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2023.
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

N W E S

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Confirmed Significant Wildlife Habitat Rare Vegetation Communities

PROJECT N°:OMEMA2304	**FIGURE: 5-9**
SCALE: 1:135,000	DATE: January 2024

455000 460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km
5km
1km

Aubin Lake
Mattagami River
Nesbitt Creek
CAMP 40 RD
North Driftwood River
REAUME LOOP RD
Reaume Creek
Buskegau River
DUFF SOUTH RD
655
LOWER STURGEON DAM RD
Martin Lake
Gerry Lake
Jack Lake
Sutherland Lake
Davis Lake
Jocko Creek
West Buskegau River
Prosser Lake
Kidd Creek
Boundary Lake
Kidd Creek Mine
Feldman Lake
Gowanmarsh Lake
North Porcupine River
Bigwater Lake
Murphy Creek
Bouchard Lake
Noted Lake

5km
500 m
Mattagami River

500 m

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectF\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Candidate_SWH_Seasonal_Concentration_Areas_1.mxd

LEGEND

- Project Location
- Study Areas (labelled on map)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse
- Waterfowl Stopover and Staging Areas (Terrestrial)
- Waterfowl Stopover and Staging Areas
- Shorebird Migratory Stopover Area
- Turtle Wintering Area

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2023.
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019.

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

N W E S

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Candidate Significant Wildlife Habitat Seasonal Concentration Areas

PROJECT N°:OMEMA2304	**FIGURE: 5-10**
SCALE: 1:135,000	DATE: February 2024

460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km
5km
1km

Aubin Lake
Nesbitt Creek
CAMP 40 RD
North Driftwood River
Buskegau River
REAUME LOOP RD
Reaume Creek
DUFF SOUTH RD
LOWER STURGEON DAM RD
Martin Lake
Gerry Lake
Jack Lake
Sutherland Lake
Davis Lake
655
West Buskegau River
Prosser Lake
Jocko Creek
Kidd Creek
Mattagami River
Macdiarmid Creek
Boundary Lake
Kidd Creek Mine
Feldman Lake
Gowanmarsh Lake
North Porcupine River
Noted Lake
Bigwater Lake
Murphy Creek
Kamiskotia River

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectFl2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Candidate_SWH_Specialized_Habitat_Wildlife_2.mxd

LEGEND

- Project Location
- Study Areas (labelled on map)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse
- Turtle Nesting Habitat
- Turtle Nesting Habitat (100m buffer)
- Sharp-tailed Grouse Lek Habitat
- Sharp-tailed Grouse Lek Habitat (200m buffer)
- Broad-winged Hawk Nest
- Common Raven Nesting Site
- American Goshawk Nesting Site
- Unidentified Raptor Nesting Site
- Woodland Raptor Nesting Habitat

0 1 2 4 6 8 10 Kilometres

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2023.
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

N W E S

CANADA NICKEL COMPANY

wsp

CRAWFORD NICKEL PROJECT

Candidate Significant Wildlife Habitat Specialized Habitat for Wildlife

PROJECT N°:OMEMA2304	**FIGURE: 5-11**
SCALE: 1:135,000	DATE: January 2024

455000 460000 465000 470000 475000 480000 485000

5425000 5420000 5415000 5410000 5405000 5400000 5395000 5390000 5385000 5380000

10km
5km
1km

Aubin Lake
Nesbitt Creek
CAMP 40 RD
Reaume Creek
REAUME LOOP RD
Buskegau River
North Driftwood River
DUFF SOUTH RD
LOWER STURGEON DAM RD
Martin Lake
Gerry Lake
Jack Lake
Sutherland Lake
Davis Lake
655
West Buskegau River
Prosser Lake
Jocko Creek
Kidd Creek
Boundary Lake
Kidd Creek Mine
Mattagami River
Macdiarmid Creek
Feldman Lake
Gowanmarsh Lake
North Porcupine River
Noted Lake
Bigwater Lake
Kamiskotia River
Murphy Creek

200 m

X:\CA\CA\OAK300-OAK\MIS-FS1-ProjectF\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Confirmed_SWH_Amph_Corridors_1.mxd

LEGEND

- Project Location
- Study Areas (labelled on map)
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse
- Amphibian Breeding Habitat: Wetland
- Amphibian Movement Corridor

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2023.
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

N W E S

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Confirmed Significant Wildlife Habitat Amphibian Movement Corridors

PROJECT N°:OMEMA2304 | **FIGURE: 5-12**

SCALE: 1:135,000 | DATE: January 2024

6.0 CLOSURE

The reader is referred to the Study Limitations section, which precedes the text and forms an integral part of this report. The results from the 2021, 2022, and 2023 surveys and comments relating to the baseline data collection have been incorporated into this report.

Additional avian baseline surveys were completed in 2023 in portions of the Study Area to increase sample size in targeted habitats and sample underrepresented ELC types. Repeating sampling stations from 2021 and 2022 and visiting new areas improved the understanding of natural variability in populations that may interact with the Project and yielded the detection of additional species. These surveys included breeding bird surveys, migratory bird surveys, Short-eared Owl surveys, Lesser Yellowlegs surveys, and ARU monitoring for crepuscular and marsh birds.

- Short-eared Owl was listed under the ESA in January 2023. As such, presence/absence surveys were completed across the Study Area during the breeding season. No Short-eared Owl were detected during these surveys or incidentally during any other survey type.
- Lesser Yellowlegs was listed under the ESA in January 2023. As such, targeted breeding bird surveys were completed in suitable habitats across the Study Area, and ten ARUs were placed in suitable habitats. No Lesser Yellowlegs were detected in-person in 2023 during migration or breeding season. However, Lesser Yellowlegs was recorded via ARU at ARU-LEYE-02 in 2023 and previously at CL-AM-ARU-4, CL-AM-ARU-7, and CL-AM-ARU-8 in 2022.

To the extent possible, WSP increased survey efforts in 2023 for acoustic bat surveys. Although current MECP provincial guidelines outlined in the document “Treed Habitat-Maternity Roost Surveys (2021)” recommend using four acoustic monitoring stations per hectare of suitable ecosite, an updated “Bat Survey Standards Note 2021” for the province provides alternative guidance when this is not feasible (e.g., as with projects which contain extensive potentially suitable forested habitat). The document states that, in such situations, MECP “fully expect clients to apply some method of sampling/sub-sampling landscapes, where ELC plots, snag density calculations, and acoustic monitoring occur in randomly selected or representative locations. Information obtained from the sample may then be extrapolated”.

- Further SAR bat survey work was completed to delineate habitat use and confirm species presence/no detection through the deployment of acoustic monitoring stations at potential maternal roost ecosite types; ten ARUs were set up in suitable habitats across the Study Area from May 24 through July 3, 2023.
- The southern tip of the Study Area is primarily metasedimentary rock composed of wacke and other relatively soft stones, including mudstone and marble, which have the potential to harbour caves. Acoustic bat activity was collected between May 17 and June 6, 2022, and July 7 and September 11, 2023, with results suggesting that none of the identified potential candidate hibernacula are true hibernacula.

WSP staff have not detected Blanding’s Turtles within the Study Area to date. MECP and community members have records of this species in the general vicinity of the Project Location, with three historical community observations within the Study Area.

This Terrestrial Resources 2023 Baseline Report was prepared for CNC by WSP. The quality of information and conclusions contained herein is consistent with the level of effort involved in WSP's services and based on i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications outlined in this report.

Should you have any questions, please do not hesitate to contact the project team.

Signature Page

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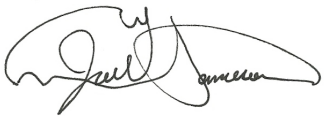

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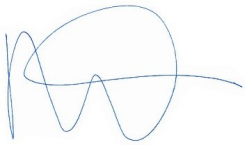

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APPENDIX A

Species List

English Name	Scientific Name	WSP Breeding bird Surveys 2021, 2022, and/or 2023	WSP Aerial survey 2022	WSP Aerial Survey 2021	WSP ARU Surveys 2021, 2022, and/or 2023	Migratory Bird surveys 2022 and/or 2023	Marsh Bird Survey 2021 and or 2022	Incidental Observation 2021, 2022, and/or 2023	NHIC	OBBA	iNaturalist	S Rank (Provincial)	G Rank (Global)	COSEWIC	SARO	SARA Schedule 1
Alder Flycatcher	*Empidonax alnorum*	x			x					x		S5B	G5			
American Bittern	*Botaurus lentiginosus*	x			x	x		x		x		S4B	G5			
American Black Duck	*Anas rubripes*	x								x		S4	G5			
American Crow	*Corvus brachyrhynchos*	x			x	x				x		S5B	G5			
American Goldfinch	*Spinus tristis*	x			x					x		S5B	G5			
American Kestrel	*Falco sparverius*	x			x	x				x		S4	G5			
American Pipit	*Anthus rubescens*				x	x						S4	G5			
American Redstart	*Setophaga ruticilla*	x			x					x		S5B	G5			
American Robin	*Turdus migratorius*	x			x	x				x		S5B	G5			
American Tree Sparrow	*Spizella arborea*				x							S4B	G5			
American Wigeon	*Anas americana*	x				x				x		S4	G5			
American Woodcock	*Scolopax minor*				x		x	x		x		S4B	G5			
Bald Eagle	*Haliaeetus leucocephalus*			x	x	x		x				S2N,S4B	G5	NAR	SC	
Bank Swallow	*Riparia riparia*								x	x		S4B	G5	THR	THR	THR
Barn Swallow	*Hirundo rustica*	x								x	x	S5B	G5	SC	SC	THR
Barred Owl	*Strix varia*				x							S5	G5			
Bay-breasted Warbler	*Setophaga castanea*	x			x			x		x		S5B	G5			
Belted Kingfisher	*Megaceryle alcyon*	x			x	x		x		x		S4B	G5			
Black-and-white Warbler	*Mniotilta varia*	x			x					x	x	S5B	G5			
Black-backed Woodpecker	*Picoides arcticus*				x	x		x		x		S4	G5			
Black-billed Cuckoo	*Coccyzus erythropthalmus*	x			x							S5B	G5			
Blackburnian Warbler	*Setophaga fusca*	x			x					x		S5B	G5			
Black-capped Chickadee	*Poecile atricapillus*	x			x	x				x		S5	G5			
Blackpoll Warbler	*Setophaga striata*	x										S4B	G5			
Black-throated Green Warbler	*Setophaga virens*				x					x	x	S5B	G5			
Blue Jay	*Cyanocitta cristata*	x			x	x				x		S5	G5			
Blue-headed Vireo	*Vireo solitarius*	x			x	x	x			x	x	S5B	G5			
Bonaparte's Gull	*Chroicocephalus philadelphia*	x			x							S4B,S4N	G5			
Boreal Chickadee	*Poecile hudsonicus*	x			x	x				x		S5	G5			
Boreal Owl	*Aegolius funereus*	x			x			x			x	S4	G5	NAR	NAR	
Broad-winged Hawk	*Buteo platypterus*	x			x			x		x		S5B	G5			
Brown Creeper	*Certhia americana*	x			x					x		S5B	G5			
Canada Goose	*Branta canadensis*	x			x	x		x			x	S5	G5			
Canada Jay	*Perisoreus canadensis*	x			x	x				x		S5	G5			
Canada Warbler	*Cardellina canadensis*	x			x							S5B	G5	SC	SC	THR
Cape May Warbler	*Setophaga tigrina*	x			x	x				x		S5B	G5			
Cedar Waxwing	*Bombycilla cedrorum*	x			x			x		x		S5B	G5			
Chestnut-sided Warbler	*Setophaga pensylvanica*	x			x					x		S5B	G5			
Chimney Swift	*Chaetura pelagica*											S4B,S4N	G4G5	THR	THR	THR
Chipping Sparrow	*Spizella passerina*	x			x	x				x		S5B	G5			
Common Goldeneye	*Bucephala clangula*									x		S5	G5			
Common Grackle	*Quiscalus quiscula*	x			x	x				x		S5B	G5			
Common Loon	*Gavia immer*	x			x	x		x		x		S5B,S5N	G5	NAR	NAR	
Common Merganser	*Mergus merganser*									x		S5B,S5N	G5			
Common Nighthawk	*Chordeiles minor*				x			x				S4B	G5	SC	SC	SC
Common Raven	*Corvus corax*	x	x	x	x	x		x		x		S5	G5			
Common Yellowthroat	*Geothlypis trichas*	x			x	x				x		S5B	G5			
Connecticut Warbler	*Oporornis agilis*	x								x		S4B	G4G5			
Dark-eyed Junco	*Junco hyemalis*	x			x	x				x		S5B	G5			
Downy Woodpecker	*Picoides pubescens*	x				x				x		S5	G5			
Duck sp.		x														
Eastern Bluebird	*Sialia sialis*				x							S5B	G5	NAR	NAR	
Eastern Kingbird	*Tyrannus tyrannus*	x			x					x		S4B	G5			
Eastern Phoebe	*Sayornis phoebe*				x							S5B	G5			
European Starling	*Sturnus vulgaris*									x		SNA	G5			
Evening Grosbeak	*Coccothraustes vespertinus*	x										S4	G5	SC	SC	SC
Golden-crowned Kinglet	*Regulus satrapa*	x			x	x		x		x		S4B	G5			
Gray Catbird	*Dumetella carolinensis*				x							S5B	G5			
Great Blue Heron	*Ardea herodias*	x			x			x		x		S4B	G5			
Great Crested Flycatcher	*Myiarchus crinitus*											S4	G5			
Great Gray Owl	*Strix nebulosa*								x	x		S4	G5	NAR	NAR	
Greater Yellowlegs	*Tringa melanoleuca*	x			x	x				x		S4B,S4N	G5			
Green-winged Teal	*Anas crecca*	x			x						x	S4	G5			
Hairy Woodpecker	*Picoides villosus*	x			x					x		S5	G5			
Hermit Thrush	*Catharus guttatus*	x			x					x		S5B	G5			
Herring Gull	*Larus argentatus*					x				x		S5B,S5N	G5			
Hooded Merganser	*Lophodytes cucullatus*				x	x						S5B,S5N	G5			
Horned Lark	*Eremophila alpestris*									x		S5B	G5			
Killdeer	*Charadrius vociferus*	x			x					x		S5B,S5N	G5			
Le Conte's Sparrow	*Ammodramus leconteii*				x							S4B	G5			
Least Flycatcher	*Empidonax minimus*	x			x	x				x		S4B	G5			
Lesser Yellowlegs	*Tringa flavipes*	x			x							S4B,S4N	G5	THR	THR	Not listed
Lincoln's Sparrow	*Melospiza lincolnii*	x			x	x				x		S5B	G5			
Long-tailed Duck	*Clangula hyemalis*				x							S3B	G5			

English Name	Scientific Name	WSP Breeding bird Surveys 2021, 2022, and/or 2023	WSP Aerial survey 2022	WSP Aerial Survey 2021	WSP ARU Surveys 2021, 2022, and/or 2023	Migratory Bird surveys 2022 and/or 2023	Marsh Bird Survey 2021 and or 2022	Incidental Observation 2021, 2022, and/or 2023	NHIC	OBBA	iNaturalist	S Rank (Provincial)	G Rank (Global)	COSEWIC	SARO	SARA Schedule 1
Magnolia Warbler	*Setophaga magnolia*	x			x	x				x		S5B	G5			
Mallard	*Anas platyrhynchos*	x			x	x		x		x		S5	G5			
Merlin	*Falco columbarius*	x			x	x				x		S5B	G5	NAR	NAR	
Mourning Dove	*Zenaida macroura*	x								x		S5	G5			
Mourning Warbler	*Geothlypis philadelphia*	x			x					x		S4B	G5			
Nashville Warbler	*Oreothlypis ruficapilla*	x			x	x				x		S5B	G5			
Northern Flicker	*Colaptes auratus*	x			x	x				x		S4B	G5			
(Northern) American Goshawk	*Accipiter gentilis*			x								S4	G5	NAR	NAR	
Northern Harrier	*Circus hudsonius*	x				x				x		S4B	G5	NAR	NAR	
Northern Parula	*Setophaga americana*	x			x	x				x		S4B	G5			
Northern Waterthrush	*Parkesia noveboracensis*	x			x		x			x		S5B	G5			
Olive-sided Flycatcher	*Contopus cooperi*				x				x			S4B	G4	SC	SC	SC
Orange-crowned Warbler	*Oreothlypis celata*	x										S4B	G5			
Osprey	*Pandion haliaetus*				x					x		S5B	G5			
Ovenbird	*Seiurus aurocapilla*	x			x	x				x		S4B	G5			
Palm Warbler	*Setophaga palmarum palmaru*	x			x	x				x		S5B	G5T5			
Peregrine Falcon	*Falco peregrinus*								x			S3B	G4	NAR	SC	Not listed
Philadelphia Vireo	*Vireo philadelphicus*	x			x					x		S5B	G5			
Pied-billed Grebe	*Podilymbus podiceps*	x				x		x				S4B,S4N	G5			
Pileated Woodpecker	*Dryocopus pileatus*	x		x	x	x			x	x		S5	G5			
Pine Siskin	*Spinus pinus*	x			x	x				x		S4B	G5			
Pine Warbler	*Setophaga pinus*	x										S5B	G5			
Purple Finch	*Haemorhous purpureus*	x			x					x	x	S4B	G5			
Red-breasted Nuthatch	*Sitta canadensis*	x			x			x		x		S5	G5			
Red-eyed Vireo	*Vireo olivaceus*	x			x					x		S5	G5			
Redhead	*Aythya americana*	x						x				S2B,S4N	G5			
Red-tailed Hawk	*Buteo jamaicensis*					x				x		S5	G5	NAR	NAR	
Red-winged Blackbird	*Agelaius phoeniceus*	x			x	x	x	x		x		S4	G5			
Ring-necked Duck	*Aythya collaris*	x			x	x		x		x		S5	G5			
Rock Pigeon	*Columba livia*									x	x	SNA	G5			
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	x								x		S4B	G5			
Rough-legged Hawk	*Buteo lagopus*					x						S1B,S4N	G5	NAR	NAR	
Ruby-crowned Kinglet	*Regulus calendula*	x			x	x				x		S5B	G5			
Ruby-throated Hummingbird	*Archilochus colubris*							x				S4B	G5			
Ruffed Grouse	*Bonasa umbellus*	x				x				x		S4	G5			
Rusty Blackbird	*Euphagus carolinus*	x			x	x		x				S4B	G4	SC	SC	SC
Sandhill Crane	*Grus canadensis*	x			x	x		x				S5B	G5			
Savannah Sparrow	*Passerculus sandwichensis*	x			x	x				x		S4B	G5			
Sharp-shinned Hawk	*Accipiter striatus*	x			x			x				S5	G5	NAR	NAR	
Sharp-tailed Grouse	*Tympanuchus phasianellus*		x		x					x	x	S4	G5			
Solitary Sandpiper	*Tringa solitaria*	x			x	x				x	x	S4B	G5			
Song Sparrow	*Melospiza melodia*	x				x	x			x		S5B	G5			
Sora	*Porzana carolina*	x			x		x	x				S4B	G5			
Spotted Sandpiper	*Actitis macularius*	x			x	x				x		S5	G5			
Spruce Grouse	*Falcipennis canadensis*				x	x				x	x	S5	G5			
Swainson's Thrush	*Catharus ustulatus*	x			x		x			x		S4B	G5			
Swamp Sparrow	*Melospiza georgiana*	x			x	x	x	x		x		S5B	G5			
Tennessee Warbler	*Oreothlypis peregrina*	x				x				x		S5B	G5			
Tree Swallow	*Tachycineta bicolor*	x			x					x		S4B	G5			
Turkey Vulture	*Cathartes aura*									x		S5B	G5			
Veery	*Catharus fuscescens*	x			x					x		S4B	G5			
Virginia Rail	*Rallus limicola*	x			x		x					S5B	G5			
White-crowned Sparrow	*Zonotrichia leucophrys*				x	x						S4B	G5			
White-throated Sparrow	*Zonotrichia albicollis*	x			x	x	x	x		x		S5B	G5			
White-winged Crossbill	*Loxia leucoptera*	x			x	x				x	x	S5B	G5			
Wilson's Snipe	*Gallinago delicata*	x			x		x	x		x		S5B	G5			
Wilson's Warbler	*Cardellina pusilla*	x			x					x		S4B	G5			
Winter Wren	*Troglodytes hiemalis*	x			x	x				x		S5B	G5			
Wood Duck	*Aix sponsa*	x			x	x						S5	G5			
Yellow Warbler	*Setophaga petechia*	x			x					x		S5B	G5			
Yellow-bellied Flycatcher	*Empidonax flaviventris*	x			x					x		S5B	G5			
Yellow-bellied Sapsucker	*Sphyrapicus varius*	x				x				x		S5B	G5			
Yellow-rumped Warbler	*Setophaga coronata*	x			x	x				x		S5B	G5			

Observer	Point	Easting	Northing	Date	Cloud Cover	Temp.	Wind	Precip.	Time	Common Name	Scientific Name	Count	Additional Comments
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	Yellow-rumped Warbler	Setophaga coronata	1	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	Downy Woodpecker	Picoides pubescens	1	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	Swamp Sparrow	Melospiza georgiana	2	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	Pileated Woodpecker	Dryocopus pileatus	1	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	White-winged Crossbill	Loxia leucoptera	10	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	Northern Flicker	Colaptes auratus	1	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	Common Yellowthroat	Geothlypis trichas	2	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	Pine Siskin	Carduelis pinus	1	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	White-throated Sparrow	Zonotrichia albicollis	4	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	Common Raven	Corvus corax	1	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	American Robin	Turdus migratorius	1	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	American Pipit	Anthus rubescens	9	
CB, TH	CR MB-01	469982	5408758	11-Sep-23	10	10	18	0	7:00	Ruby-crowned Kinglet	Regulus calendula	4	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Blue Jay	Cyanocitta cristata	1	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Common Raven	Corvus corax	2	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	White-crowned Sparrow	Zonotrichia leucophrys	1	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Yellow-rumped Warbler	Setophaga coronata	2	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Ruby-crowned Kinglet	Regulus calendula	6	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Common Yellowthroat	Geothlypis trichas	1	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Nashville Warbler	Oreothlypis ruficapilla	1	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Golden-crowned Kinglet	Regulus satrapa	4	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Northern Parula	Setophaga americana	1	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Black-capped Chickadee	Poecile atricapillus	3	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Tennessee Warbler	Oreothlypis peregrina	1	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Pine Siskin	Carduelis pinus	5	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Bald Eagle	Haliaeetus leucocephalus	1	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Savannah Sparrow	Passerculus sandwichensis	1	
CB, TH	CRMB-02	470334	5406852	11-Sep-23	10	10	18	0	7:47	Common Loon	Gavia immer	1	
CB, TH	CRMB-03	472299	5406653	11-Sep-23	10	10	18	0	8:21	American Crow	Corvus brachyrhynchos	1	ROAD NOISE
CB, TH	CRMB-03	472299	5406653	11-Sep-23	10	10	18	0	8:21	Wood Duck	Aix sponsa	1	
CB, TH	CRMB-03	472299	5406653	11-Sep-23	10	10	18	0	8:21	American Pipit	Anthus rubescens	1	
CB, TH	CRMB-04	464354	5417194	12-Sep-23	100	7	Medium	Rain	7:11	Swamp Sparrow	Melospiza georgiana	2	Snowmobile road, logged areas on sides
CB, TH	CRMB-04	464354	5417194	12-Sep-23	100	7	Medium	Rain	7:11	Canada Goose	Branta canadensis	60	
CB, TH	CRMB-04	464354	5417194	12-Sep-23	100	7	Medium	Rain	7:11	Palm Warbler	Setophaga palmarum	3	
CB, TH	CRMB-04	464354	5417194	12-Sep-23	100	7	Medium	Rain	7:11	Dark-eyed Junco	Junco hyemalis	1	
CB, TH	CRMB-04	464354	5417194	12-Sep-23	100	7	Medium	Rain	7:11	White-crowned Sparrow	Zonotrichia leucophrys	5	
CB, TH	CRMB-04	464354	5417194	12-Sep-23	100	7	Medium	Rain	7:11	Song Sparrow	Melospiza melodia	1	
CB, TH	CRMB-04	464354	5417194	12-Sep-23	100	7	Medium	Rain	7:11	White-throated Sparrow	*Zonotrichia albicollis*	1	
CB, TH	CRMB-04	464354	5417194	12-Sep-23	100	7	Medium	Rain	7:11	Northern Flicker	*Colaptes auratus*	1	
CB, TH	CRMB-05	468892	5417990	12-Sep-23	100	7	Medium	Rain	7:53	American Pipit	*Anthus rubescens*	1	Road through wetland
CB, TH	CRMB-05	468892	5417990	12-Sep-23	100	7	Medium	Rain	7:53	White-crowned Sparrow	*Zonotrichia leucophrys*	3	
CB, TH	CRMB-05	468892	5417990	12-Sep-23	100	7	Medium	Rain	7:53	Swamp Sparrow	*Melospiza georgiana*	1	
CB, TH	CRMB-05	468892	5417990	12-Sep-23	100	7	Medium	Rain	7:53	Yellow-rumped Warbler	*Setophaga coronata*	1	
CB, TH	CRMB-05	468892	5417990	12-Sep-23	100	7	Medium	Rain	7:53	Canada Goose	*Branta canadensis*	8	
CB, TH	CRMB-05	468892	5417990	12-Sep-23	100	7	Medium	Rain	7:53	Blue Jay	*Cyanocitta cristata*	1	
CB, TH	CRMB-06	470115	5416190	12-Sep-23	100	7	Medium	Rain	8:32	American Pipit	*Anthus rubescens*	3	Creek crosses road
CB, TH	CRMB-07	470956	5416424	12-Sep-23	100	7	Medium	Rain	8:38	Hooded Merganser	*Lophodytes cucullatus*	3	Coyote
CB, TH	CRMB-07	470956	5416424	12-Sep-23	100	7	Medium	Rain	8:38	Ruby-crowned Kinglet	*Regulus calendula*	1	

Observer	Point	Easting	Northing	Date	Cloud Cover	Temp.	Wind	Precip.	Time	Common Name	Scientific Name	Count	Additional Comments
CB, TH	CRMB-08	473359	5408866	12-Sep-23	100	7	Medium	Rain	9:15	American Pipit	*Anthus rubescens*	3	Wetland along access road
CB, TH	CRMB-08	473359	5408866	12-Sep-23	100	7	Medium	Rain	9:15	White-crowned Sparrow	*Zonotrichia leucophrys*	1	
CB, TH	CRMB-08	473359	5408866	12-Sep-23	100	7	Medium	Rain	9:15	Lincoln's Sparrow	*Melospiza lincolnii*	1	
CB, TH	CRMB-08	473359	5408866	12-Sep-23	100	7	Medium	Rain	9:15	American Crow	*Corvus brachyrhynchos*	1	
CB, TH	CRMB-09	475041	5409779	12-Sep-23	100	7	Medium	Rain	9:40	American Pipit	*Anthus rubescens*	10	Moose tracks
CB, TH	CRMB-09	475041	5409779	12-Sep-23	100	7	Medium	Rain	9:40	Lincoln's Sparrow	*Melospiza lincolnii*	1	
CB, TH	CRMB-10	474362	5408507	12-Sep-23	100	7	Medium	Rain	10:19	White-crowned Sparrow	*Zonotrichia leucophrys*	9	
CB, TH	CRMB-10	474362	5408507	12-Sep-23	100	7	Medium	Rain	10:19	White-throated Sparrow	*Zonotrichia albicollis*	1	
CB, TH	CRMB-10	474362	5408507	12-Sep-23	100	7	Medium	Rain	10:19	Dark-eyed Junco	*Junco hyemalis*	2	
CB, TH	CRMB-10	474362	5408507	12-Sep-23	100	7	Medium	Rain	10:19	Ruby-crowned Kinglet	*Regulus calendula*	1	
CB, TH	CRMB-11	472217	5415275	12-Sep-23	100	7	Medium	Rain	10:59	Canada Goose	*Branta canadensis*	50	Small wetland, no ducks on pond, CANG flyover
CB, TH	CRMB-12	472302	5412683	12-Sep-23	100	7	Medium	Rain	-	American Crow	*Corvus brachyrhynchos*	1	Wetland at side of road, no ducks
CB, TH	CRMB-13	473103	5400183	12-Sep-23	100	7	Medium	Rain	11:20	#N/A	*#N/A*		No ducks
CB, TH	CRMB-14	472763	5400414	12-Sep-23	100	7	Medium	Rain	-	#N/A	*#N/A*		No ducks
CB, TH	CRMB-15	472458	5401308	12-Sep-23	100	7	Medium	Rain	-	Canada Goose	*Branta canadensis*	2	Pond
CB, TH	CRMB-15	472458	5401308	12-Sep-23	100	7	Medium	Rain		Northern Flicker	*Colaptes auratus*	1	
CB, TH	CRMB-16	472355	5401657	12-Sep-23	100	7	Medium	Rain	11:38	Belted Kingfisher	*Ceryle alcyon*	1	No ducks
CB, TH	CRMB-17	477478	5385080	12-Sep-23	100	7	Medium	Rain	11:53	#N/A	*#N/A*		No ducks
CB, TH	CRMB-18	478162	5388681	12-Sep-23	100	7	Medium	Rain	11:56	#N/A	*#N/A*		No ducks
CB, TH	CRMB-19	472763	5408371	13-Sep-23	100	7	Light	Rain	7:00	Swamp Sparrow	*Melospiza georgiana*	3	Moose tracks
CB, TH	CRMB-19	472763	5408371	13-Sep-23	100	7	Light	Rain	7:00	White-crowned Sparrow	*Zonotrichia leucophrys*	18	Road noise
CB, TH	CRMB-19	472763	5408371	13-Sep-23	100	7	Light	Rain	7:00	White-throated Sparrow	*Zonotrichia albicollis*	2	
CB, TH	CRMB-19	472763	5408371	13-Sep-23	100	7	Light	Rain	7:00	Ruby-crowned Kinglet	*Regulus calendula*	2	
CB, TH	CRMB-19	472763	5408371	13-Sep-23	100	7	Light	Rain	7:00	American Pipit	*Anthus rubescens*	5	
CB, TH	CRMB-19	472763	5408371	13-Sep-23	100	7	Light	Rain	7:00	Common Yellowthroat	*Geothlypis trichas*	2	
CB, TH	CRMB-19	472763	5408371	13-Sep-23	100	7	Light	Rain	7:00	Song Sparrow	*Melospiza melodia*	1	
CB, TH	CRMB-19	472763	5408371	13-Sep-23	100	7	Light	Rain	7:00	Bald Eagle	*Haliaeetus leucocephalus*	1	
CB, TH	CRMB-19	472763	5408371	13-Sep-23	100	7	Light	Rain	8:16	Northern Flicker	*Colaptes auratus*	1	
CB, TH	CRMB-20	472519	5412220	13-Sep-23	100	7	Light	Rain	8:16	American Pipit	*Anthus rubescens*	14	Wetland & conifer
CB, TH	CRMB-20	472519	5412220	13-Sep-23	100	7	Light	Rain	8:16	Golden-crowned Kinglet	*Regulus satrapa*	2	Moose tracks
CB, TH	CRMB-20	472519	5412220	13-Sep-23	100	7	Light	Rain	8:16	Yellow-rumped Warbler	*Setophaga coronata*	3	
CB, TH	CRMB-11	472217	5415275	13-Sep-23	100	7	Light	Rain	9:00	Blue Jay	*Cyanocitta cristata*	1	Wolf tracks, fox tracks
CB, TH	CRMB-11	472217	5415275	13-Sep-23	100	7	Light	Rain	9:00	Common Yellowthroat	*Geothlypis trichas*	1	
CB, TH	CRMB-11	472217	5415275	13-Sep-23	100	7	Light	Rain	9:00	White-crowned Sparrow	*Zonotrichia leucophrys*	1	
CB, TH	CRMB-21	472296	5401899	13-Sep-23	100	7	Light	Rain	9:48	Northern Flicker	*Colaptes auratus*	2	Wolf scat, fox scat
CB, TH	CRMB-21	472296	5401899	13-Sep-23	100	7	Light	Rain	9:48	American Crow	*Corvus brachyrhynchos*	2	
CB, TH	CRMB-21	472296	5401899	13-Sep-23	100	7	Light	Rain	9:48	Common Raven	*Corvus corax*	2	
CB, TH	CRMB-21	472296	5401899	13-Sep-23	100	7	Light	Rain	9:48	White-throated Sparrow	*Zonotrichia albicollis*	1	
CB, TH	CRMB-21	472296	5401899	13-Sep-23	100	7	Light	Rain	9:48	Black-capped Chickadee	*Poecile atricapillus*	5	
CB, TH	CRMB-21	472296	5401899	13-Sep-23	100	7	Light	Rain	9:48	Ruby-crowned Kinglet	*Regulus calendula*	2	
CB, TH	CRMB-21	472296	5401899	13-Sep-23	100	7	Light	Rain	9:48	Yellow-rumped Warbler	*Setophaga coronata*	2	
CB, TH	CRMB-21	472296	5401899	13-Sep-23	100	7	Light	Rain	9:48	Herring Gull	*Larus argentatus*	1	
CB, TH	CRMB-3	472299	406653	13-Sep-23	100	7	Light	Rain	10:58	#N/A	*#N/A*		No ducks
CB, TH	CRMB-1	469982	5408758	13-Sep-23	100	7	Light	Rain	11:02	Wood Duck	*Aix sponsa*		
CB, TH	CRMB-22	465721	5407194	13-Sep-23	100	7	Light	Rain	11:14	American Pipit	*Anthus rubescens*	9	Near lower sturgeon dam gate
CB, TH	CRMB-22	465721	5407194	13-Sep-23	100	7	Light	Rain	11:14	White-crowned Sparrow	*Zonotrichia leucophrys*	10	
CB, TH	CRMB-22	465721	5407194	13-Sep-23	100	7	Light	Rain	11:14	Common Yellowthroat	*Geothlypis trichas*	2	
CB, TH	CRMB-22	465721	5407194	13-Sep-23	100	7	Light	Rain	11:14	Palm Warbler	*Setophaga palmarum*	1	

Observer	Point	Easting	Northing	Date	Cloud Cover	Temp.	Wind	Precip.	Time	Common Name	Scientific Name	Count	Additional Comments
CB, TH	CRMB-22	465721	5407194	13-Sep-23	100	7	Light	Rain	11:14	Ruby-crowned Kinglet	*Regulus calendula*	3	
CB, TH	CRMB-22	465721	5407194	13-Sep-23	100	7	Light	Rain	11:14	Dark-eyed Junco	*Junco hyemalis*	15	
CB, TH	CRMB-22	465721	5407194	13-Sep-23	100	7	Light	Rain	11:14	Red-tailed Hawk	*Buteo jamaicensis*	1	
CB, TH	CRMB-23	467242	5407641	13-Sep-23	100	7	Light	Rain	11:50	American Pipit	*Anthus rubescens*	2	Sparse treed bog
CB, TH	CRMB-23	467242	5407641	13-Sep-23	100	7	Light	Rain	11:50	White-crowned Sparrow	*Zonotrichia leucophrys*	1	
CB, TH	CRMB-23	467242	5407641	13-Sep-23	100	7	Light	Rain	11:50	#N/A	#N/A	2	
CB, TH	CRMB-23	467242	5407641	13-Sep-23	100	7	Light	Rain	11:50	Canada Jay	*Perisoreus canadensis*	1	
CB, TH	CRMB-24	474116	5400079	14-Sep-23	10	5	Light	0	7:22	Yellow-rumped Warbler	*Setophaga coronata*	1	Marsh along road
CB, TH	CRMB-24	474116	5400079	14-Sep-23	10	5	Light	0	7:22	Swamp Sparrow	*Melospiza georgiana*	5	
CB, TH	CRMB-24	474116	5400079	14-Sep-23	10	5	Light	0	7:22	Ruby-crowned Kinglet	*Regulus calendula*	9	
CB, TH	CRMB-24	474116	5400079	14-Sep-23	10	5	Light	0	7:22	Palm Warbler	*Setophaga palmarum*	1	
CB, TH	CRMB-24	474116	5400079	14-Sep-23	10	5	Light	0	7:22	Rusty Blackbird	*Euphagus carolinus*	2	Photos taken
CB, TH	CRMB-24	474116	5400079	14-Sep-23	10	5	Light	0	7:22	Pine Siskin	*Carduelis pinus*	9	

Observer	Point	Easting	Northing	Date	Cloud Cover	Temp.	Wind	Precip.	Time	Common Name	Scientific Name	Count	Additional Comments
LV, AG	CL-WF-11	469408	5416330	13-May-22	30	30	1	0	15:20	Spotted Sandpiper	*Actitis macularia*	2	
LV, AG	CL-WF-11	469408	5416330	13-May-22	30	30	1	0	15:20	Mallard	*Anas platyrhynchos*	2	WOFR
LV, AG	CL-WF-11	469408	5416330	13-May-22	30	30	1	0	15:20	Tennessee Warbler	*Oreothlypis peregrina*	1	
LV, AG	CL-WF-11	469408	5416330	13-May-22	30	30	1	0	15:20	Ovenbird	*Seiurus aurocapilla*	1	
LV, AG	CL-WF-11	469408	5416330	13-May-22	30	30	1	0	15:20	Cape May Warbler	*Setophaga tigrina*	1	
LV, AG	CL-WF-11	469408	5416330	13-May-22	30	30	1	0	15:20	Ruby-crowned Kinglet	*Regulus calendula*	1	
LV, AG	CL-WF-11	469408	5416330	13-May-22	30	30	1	0	15:20	White-throated Sparrow	*Zonotrichia albicollis*	1	
LV, AG	CL-WF-11	469408	5416330	13-May-22	30	30	1	0	15:20	Ruffed Grouse	*Bonasa umbellus*	1	
LV, AG	CL-WF-11	469408	5416330	13-May-22	30	30	1	0	15:20	Yellow-rumped Warbler	*Setophaga coronata*	1	
LV, AG	CL-WF-01	470706	5406217	14-May-22	50	28	1	0	17:30	Blue-headed Vireo	*Vireo solitarius*	1	SPPE, AMTO, beaver visual x2
LV, AG	CL-WF-01	470706	5406217	14-May-22	50	28	1	0	17:30	Ruffed Grouse	*Bonasa umbellus*	1	
LV, AG	CL-WF-01	470706	5406217	14-May-22	50	28	1	0	17:30	American Crow	*Corvus brachyrhynchos*	1	
LV, AG	CL-WF-01	470706	5406217	14-May-22	50	28	1	0	17:30	Ruby-crowned Kinglet	*Regulus calendula*	1	
LV, AG	CL-WF-01	470706	5406217	14-May-22	50	28	1	0	17:30	White-throated Sparrow	*Zonotrichia albicollis*	1	
LV, AG	CL-WF-01	470706	5406217	14-May-22	50	28	1	0	17:30	Winter Wren	*Troglodytes troglodytes*	1	
LV, AG	CL-WF-02	470342	5406855	14-May-22	100	28	0	2	16:00	Common Loon	*Gavia immer*	1	SPPE, WOFR, AMTO, BOCF
LV, AG	CL-WF-02	470342	5406855	14-May-22	100	28	0	2	16:00	Northern Flicker	*Colaptes auratus*	1	
LV, AG	CL-WF-02	470342	5406855	14-May-22	100	28	0	2	16:00	White-throated Sparrow	*Zonotrichia albicollis*	1	
LV, AG	CL-WF-02	470342	5406855	14-May-22	100	28	0	2	16:00	American Robin	*Turdus migratorius*	1	
LV, AG	CL-WF-02	470342	5406855	14-May-22	100	28	0	2	16:00	Merlin	*Falco columbarius*	1	
LV, AG	CL-WF-02	470342	5406855	14-May-22	100	28	0	2	16:00	Yellow-rumped Warbler	*Setophaga coronata*	1	
LV, AG	CL-WF-02	470342	5406855	14-May-22	100	28	0	2	16:00	Belted Kingfisher	*Ceryle alcyon*	1	
LV, AG	CL-WF-02	470342	5406855	14-May-22	100	28	0	2	16:00	Sandhill Crane	*Grus canadensis*	1	
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	Common Loon	*Gavia immer*	1	
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	Greater Yellowlegs	*Tringa melanoleuca*	1	
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	American Bittern	*Botaurus lentiginosus*	2	BOCF, WOFR, eastern cottontail
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	Yellow-rumped Warbler	*Setophaga coronata*	1	
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	Ruby-crowned Kinglet	*Regulus calendula*	1	
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	Golden-crowned Kinglet	*Regulus satrapa*	1	
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	Black-capped Chickadee	*Poecile atricapillus*	1	
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	Least Flycatcher	*Empidonax minimus*	1	
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	White-throated Sparrow	*Zonotrichia albicollis*	1	
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	Ovenbird	*Seiurus aurocapilla*	1	
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	Ruffed Grouse	*Bonasa umbellus*	1	
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	Belted Kingfisher	*Ceryle alcyon*	1	
LV, AG	CL-WF-10	472852	5407053	14-May-22	60	29	2	0	16:30	Golden-crowned Kinglet	*Regulus satrapa*	1	SPPE, WOFR, BOCFR, beaver lodge on E side of road
LV, AG	CL-WF-10	472852	5407053	14-May-22	60	29	2	0	16:30	Common Raven	*Corvus corax*	1	
LV, AG	CL-WF-10	472852	5407053	14-May-22	60	29	2	0	16:30	Nashville Warbler	*Oreothlypis ruficapilla*	1	
LV, AG	CL-WF-10	472852	5407053	14-May-22	60	29	2	0	16:30	Tennessee Warbler	*Oreothlypis peregrina*	1	
LV, AG	CL-WF-10	472852	5407053	14-May-22	60	29	2	0	16:30	Chipping Sparrow	*Spizella passerina*	1	
LV, AG	CL-WF-10	472852	5407053	14-May-22	60	29	2	0	16:30	White-throated Sparrow	*Zonotrichia albicollis*	1	
LV, AG	CL-WF-10	472852	5407053	14-May-22	60	29	2	0	16:30	Winter Wren	*Troglodytes troglodytes*	1	
LV, AG	CL-WF-10	472852	5407053	14-May-22	60	29	2	0	16:30	Magnolia Warbler	*Setophaga magnolia*	1	
LV, AG	CL-WF-10	472852	5407053	14-May-22	60	29	2	0	16:30	Sandhill Crane	*Grus canadensis*	1	
LV, AG	CL-WF-08	471459	5406829	15-May-22	50	24	2	0	15:51	Cape May Warbler	*Setophaga tigrina*	1	MIFR, woodchuck
LV, AG	CL-WF-08	471459	5406829	15-May-22	50	24	2	0	15:51	Sandhill Crane	*Grus canadensis*	1	
LV, AG	CL-WF-08	471459	5406829	15-May-22	50	24	2	0	15:51	Merlin	*Falco columbarius*	1	
LV, AG	CL-WF-08	471459	5406829	15-May-22	50	24	2	0	15:51	Ruby-crowned Kinglet	*Regulus calendula*	1	
LV, AG	CL-WF-08	471459	5406829	15-May-22	50	24	2	0	15:51	Ruffed Grouse	*Bonasa umbellus*	1	
LV, AG	CL-WF-08	471459	5406829	15-May-22	50	24	2	0	15:51	Yellow-rumped Warbler	*Setophaga coronata*	1	
LV, AG	CL-WF-09	472450	5406631	15-May-22	20	24	3	0	14:45	Mallard	*Anas platyrhynchos*	3	
LV, AG	CL-WF-09	472450	5406631	15-May-22	20	24	3	0	14:45	Spotted Sandpiper	*Actitis macularia*	2	SPPE, MIFR, RSGA, American mink

Observer	Point	Easting	Northing	Date	Cloud Cover	Temp.	Wind	Precip.	Time	Common Name	Scientific Name	Count	Additional Comments
LV, AG	CL-WF-09	472450	5406631	15-May-22	20	24	3	0	14:45	Red-winged Blackbird	*Agelaius phoeniceus*	1	
LV, AG	CL-WF-09	472450	5406631	15-May-22	20	24	3	0	14:45	Common Grackle	*Quiscalus quiscula*	1	
LV, AG	CL-WF-09	472450	5406631	15-May-22	20	24	3	0	14:45	Northern Harrier	*Circus cyaneus*	1	
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	Ring-necked Duck	*Aythya collaris*	2	
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	Spotted Sandpiper	*Actitis macularia*	1	
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	Pied-billed Grebe	*Podilymbus podiceps*	1	
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	Canada Goose	*Branta canadensis*	2	
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	Common Loon	*Gavia immer*	1	
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	Common Raven	*Corvus corax*	1	
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	Ruffed Grouse	*Bonasa umbellus*	1	
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	Northern Parula	*Setophaga americana*	1	
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	White-throated Sparrow	*Zonotrichia albicollis*	1	
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	Magnolia Warbler	*Setophaga magnolia*	1	
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	Belted Kingfisher	*Ceryle alcyon*	1	
LV, AG	CL-WF-24	479580	5401043	15-May-22	0	20	3	0	19:41	Golden-crowned Kinglet	*Regulus satrapa*		SPPE, beaver visual
LV, AG	CL-WF-24	479580	5401043	15-May-22	0	20	3	0	19:41	Ruffed Grouse	*Bonasa umbellus*		
LV, AG	CL-WF-24	479580	5401043	15-May-22	0	20	3	0	19:41	White-throated Sparrow	*Zonotrichia albicollis*		
LV, AG	CL-WF-24	479580	5401043	15-May-22	0	20	3	0	19:41	Dark-eyed Junco	*Junco hyemalis*		
LV, AG	CL-WF-22	473411	5398950	16-May-22	100	13	1	0	20:08	Sandhill Crane	*Grus canadensis*	1	SPPE, BOCF, moose tracks
LV, AG	CL-WF-22	473411	5398950	16-May-22	100	13	1	0	20:08	Red-winged Blackbird	*Agelaius phoeniceus*		
LV, AG	CL-WF-12	474080	5397578	17-May-22	10	13	0	0	16:49	White-throated Sparrow	*Zonotrichia albicollis*	1	
LV, AG	CL-WF-14	472552	5401152	17-May-22	20	8	2	0	16:19	Ring-necked Duck	*Aythya collaris*	6	
LV, AG	CL-WF-14	472552	5401152	17-May-22	20	8	2	0	16:19	Mallard	*Anas platyrhynchos*	4	
LV, AG	CL-WF-14	472552	5401152	17-May-22	20	8	2	0	16:19	Spotted Sandpiper	*Actitis macularia*	1	
LV, AG	CL-WF-14	472552	5401152	17-May-22	20	8	2	0	16:19	Belted Kingfisher	*Ceryle alcyon*	1	
LV, AG	CL-WF-14	472552	5401152	17-May-22	20	8	2	0	16:19	Cape May Warbler	*Setophaga tigrina*	1	
LV, AG	CL-WF-14	472552	5401152	17-May-22	20	8	2	0	16:19	Rough-legged Hawk	*Buteo lagopus*	2	
LV, AG	CL-WF-14	472552	5401152	17-May-22	20	8	2	0	16:19	Winter Wren	*Troglodytes troglodytes*	1	
LV, AG	CL-WF-14	472552	5401152	17-May-22	20	8	2	0	16:19	American Crow	*Corvus brachyrhynchos*	1	
LV, AG	CL-WF-14	472552	5401152	17-May-22	20	8	2	0	16:19	Northern Parula	*Setophaga americana*	1	
LV, AG	CL-WF-14	472552	5401152	17-May-22	20	8	2	0	16:19	Yellow-rumped Warbler	*Setophaga coronata*	1	
LV, AG	CL-WF-15	474395	5396766	17-May-22	10	13	3	0	17:20	Yellow-rumped Warbler	*Setophaga coronata*	1	
LV, AG	CL-WF-15	474395	5396766	17-May-22	10	13	3	0	17:20	Winter Wren	*Troglodytes troglodytes*	1	
LV, AG	CL-WF-15	474395	5396766	17-May-22	10	13	3	0	17:20	Ruby-crowned Kinglet	*Regulus calendula*	1	
LV, AG	CL-WF-15	474395	5396766	17-May-22	10	13	3	0	17:20	Northern Flicker	*Colaptes auratus*	1	
LV, AG	CL-WF-15	474395	5396766	17-May-22	10	13	3	0	17:20	Ruffed Grouse	*Bonasa umbellus*	1	
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	Mallard	*Anas platyrhynchos*	2	
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	Common Loon	*Gavia immer*	2	BOCF, WOFR egg mass, beaver visual
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	Yellow-bellied Sapsucker	*Sphyrapicus varius*	1	
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	Yellow-rumped Warbler	*Setophaga coronata*	1	
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	Ruby-crowned Kinglet	*Regulus calendula*	1	
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	Blue-headed Vireo	*Vireo solitarius*	1	
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	Ruffed Grouse	*Bonasa umbellus*	1	
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	American Crow	*Corvus brachyrhynchos*	1	
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	White-throated Sparrow	*Zonotrichia albicollis*	1	
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	Downy Woodpecker	*Picoides pubescens*	1	
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	Northern Flicker	*Colaptes auratus*	1	
LV, AG	CL-WF-18	476638	5387244	17-May-22	0	8	2	0	18:25	Mallard	*Anas platyrhynchos*	2	
LV, AG	CL-WF-18	476638	5387244	17-May-22	0	8	2	0	18:25	Yellow-rumped Warbler	*Setophaga coronata*	1	
LV, AG	CL-WF-18	476638	5387244	17-May-22	0	8	2	0	18:25	Belted Kingfisher	*Ceryle alcyon*	1	
LV, AG	CL-WF-18	476638	5387244	17-May-22	0	8	2	0	18:25	Ruby-crowned Kinglet	*Regulus calendula*	1	
LV, AG	CL-WF-19	477442	5385139	17-May-22	10	8	3	0	18:50	Ruby-crowned Kinglet	*Regulus calendula*	1	SPPE, MIFR

Observer	Point	Easting	Northing	Date	Cloud Cover	Temp.	Wind	Precip.	Time	Common Name	Scientific Name	Count	Additional Comments
LV, AG	CL-WF-20	478196	5383498	17-May-22	0	8	1	0	19:05	American Wigeon	*Anas americana*	3	
LV, AG	CL-WF-20	478196	5383498	17-May-22	0	8	1	0	19:05	Ring-necked Duck	*Aythya collaris*	2	
LV, AG	CL-WF-20	478196	5383498	17-May-22	0	8	1	0	19:05	Ruby-crowned Kinglet	*Regulus calendula*		
LV, AG	CL-WF-20	478196	5383498	17-May-22	0	8	1	0	19:05	White-throated Sparrow	*Zonotrichia albicollis*		
LV, AG	CL-WF-20	478196	5383498	17-May-22	0	8	1	0	19:05	Red-winged Blackbird	*Agelaius phoeniceus*		

Observer	Location	Primary Habitat	Secondary Habitat	Date	Start Time	End Time	Weather	Column1	Column2	Column3	Common Name	*Scientific Name*	during	column	column	column	column	column	column	column	column	column	column	column	column	column	column	Direction	Comments	O/F
							Cloud Cover	Temp.	Wind	Precip.			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				
LV, AG	CL-AM-16	11	5	16-May-22	21:27	21:37	90	10	0	1																			SPPE	CALL 3	
LV, AG	CL-AM-16	11	5	16-May-22	21:27	21:37	90	10	0	1																			AMTO	CALL 1	
LV, AG	CL-AM-16	11	5	16-May-22	21:27	21:37	90	10	0	1	Wilson's Snipe	*Gallinago delicata*											1								
LV, AG	CL-AM-06	14	15	16-May-22	21:54	22:04	90	9	0	1																			SPPE	CALL 3	
LV, AG	CL-AM-06	14	15	16-May-22	21:54	22:04	90	9	0	1																			MIFR	CALL 2	
LV, AG	CL-AMPH-IMP-03	14	10	18-May-22	22:29	22:39	100	12	1	0																			SPPE	CALL 3	
LV, AG	CL-AMPH-IMP-03	14	10	18-May-22	22:29	22:39	100	12	1	0																			AMTO	CALL 1	
LV, AG	CL-AMPH-IMP-03	14	10	18-May-22	22:29	22:39	100	12	1	0																			WOFR	CALL 2	
LV, AG	CL-AM-11	14	10	18-May-22	23:08	23:18	100	11	2	0																			SPPE	CALL 3	
LV, MB	CL-AM-06	14	15	27-Jun-22	22:42	22:52	0	15	1	0	Song Sparrow	*Melospiza melodia*																			1
LV, MB	CL-AM-06	14	15	27-Jun-22	22:42	22:52	0	15	1	0	White-throated Sparrow	*Zonotrichia albicollis*																			1
LV, MB	CL-AMPH-IMP-03	14	23	27-Jun-22	22:26	22:36	0	15	1	0	Swainson's Thrush	*Catharus ustulatus*																			1
LV, MB	CL-AM-10	12	15	29-Jun-22	22:47	22:57	0	13	1	0	Sora	*Porzana carolina*						2										SE	Pair detected		
LV, MB	CL-AM-10	12	15	29-Jun-22	22:47	22:57	0	13	1	0	Wilson's Snipe	*Gallinago delicata*																			
WV, JE	CL-BB-IMP-11	MAS	SWT	14-Jun-21	9:07	9:17	100	14	1	0	Blue-headed Vireo	*Vireo solitarius*	1																		
WV, JE	CL-BB-IMP-11	MAS	SWT	14-Jun-21	9:07	9:17	100	14	1	0	Northern Waterthrush	*Parkesia noveboracensis*	1																		
WV, JE	CL-BB-IMP-11	MAS	SWT	14-Jun-21	9:07	9:17	100	14	1	0	Red-winged Blackbird	*Agelaius phoeniceus*	4																		
WV, JE	CL-BB-IMP-11	MAS	SWT	14-Jun-21	9:07	9:17	100	14	1	0	Swamp Sparrow	*Melospiza georgiana*	1																		
WV, JE	CL-BB-IMP-11	MAS	SWT	14-Jun-21	9:07	9:17	100	14	1	0	Sora	*Porzana carolina*							1									SE			
WV, JE	CL-BB-IMP-11	MAS	SWT	14-Jun-21	9:07	9:17	100	14	1	0	Virginia Rail	*Rallus limicola*						1										SW			
WV, JE	CL-BB-IMP-11			5-Jul-21	9:34	9:44	100	20	1	0	Sora	*Porzana carolina*	1															SE			
WV, JE	CL-BB-IMP-11			5-Jul-21	9:34	9:44	100	20	1	0	Virginia Rail	*Rallus limicola*								1											
WV, JE	CL-BB-IMP-11			5-Jul-21	9:34	9:44	100	20	1	0	Red-winged Blackbird	*Agelaius phoeniceus*					4	1													
WV, JE	CL-BB-IMP-11			5-Jul-21	9:34	9:44	100	20	1	0	Swainson's Thrush	*Catharus ustulatus*					1	1													
WV, JE	CL-BB-IMP-11			5-Jul-21	9:34	9:44	100	20	1	0	Swamp Sparrow	*Melospiza georgiana*					1														
WV, JE	CL-BB-IMP-11			5-Jul-21	9:34	9:44	100	20	1	0	Blue-headed Vireo	*Vireo solitarius*						1													
LV, JK	CL-AM-10	15	23	3-Jun-22	22:00	22:10	100	11	2	2	American Woodcock	*Scolopax minor*	1																		
LV, JK	CL-IMP-03	12	3	1-Jun-22	22:44	22:54	40	12	1	0																					
LV, JK	CL-AM-17	Treed swamp	Aspen	2-Jun-22	21:03	21:13	15	15	0	0																					

Observer	Point	UTM		Date	Weather				Start Time	End Time	Owl	Conditions and Remarks		Comments
		Easting	Northing		Cloud Cover	Temp.	Wind	Precip.			Observations	Traffic Count (# cars)	Noise Level (1-4)	
Luke Visser, Alannah Gallo	CL-OW-STN4	472603	5410174	15-May-22	0	18	1	0	23:48	23:58	No owls	1	1	
Luke Visser, Alannah Gallo	CL-OW-STN5	472809	5408932	15-May-22	0	18	1	0	23:31	23:41	No owls	1	1	SPPE noise
Luke Visser, Alannah Gallo	CL-OW-STN6	472830	5406565	15-May-22	0	18	1	0	23:04	23:14	No owls	1	1	running water
Luke Visser, Alannah Gallo	CL-OW-STN7	473233	5402649	15-May-22	0	18	1	0	22:39	22:49	No owls	2	1	
Luke Visser, Alannah Gallo	CL-OW-STN8	473673	5400071	15-May-22	0	18	1	0	22:11	22:21	No owls	2	1	MOOSE, AMTO
Luke Visser, Alannah Gallo	CL-OWL-2	472401	5412224	18-May-22	100	15	2	0	22:04	22:14	No owls	0	1	WTSP
Luke Visser, Alannah Gallo	CL-OWL-3	472228	5412685	18-May-22	100	15	2	0	21:51	22:01	No owls	4	2	SPPE noise
Luke Visser, Alannah Gallo	CL-OWL-5	470450	5406623	15-May-22	90	21	1	0	0:01	0:11	No owls	0	1	SPPE, WOFR, CONI, WISN, WTSP
Luke Visser, Alannah Gallo	CL-OWL-10	474570	5394775	18-May-22	100	15	2	0	22:55	23:05	No owls	2	1	
Luke Visser, Alannah Gallo	CL-OWL-11	475174	5392166	18-May-22	100	15	2	0	23:17	23:27	No owls	1	1	AMTO, SPPE, WOFR
Luke Visser, Alannah Gallo	CL-OWL-12	476605	5386674	13-May-22	0	22	0	0	22:21	22:31	No owls	9	1	SPPE/WOFR
Luke Visser, Alannah Gallo	CL-OWL-13	475664	5400241	15-May-22	0	18	1	0	21:46	21:56	No owls	0	4	SPPE, WOFR, MOOSE, AMTO
Luke Visser, Alannah Gallo	CL-OWL-14	479036	5401163	15-May-22	0	18	1	0	21:30	21:40	No owls	0	2	amphibian call noise, CONI, SPPE, WTSP
Luke Visser, Alannah Gallo	CL-OWL-15	470145	5408366	14-May-22	90	21	1	0	23:35	23:45	No owls	0	1	SPPE; blue-spotted salamanders crossing road
Luke Visser, Alannah Gallo	CL-OWL-16	469786	5409140	14-May-22	90	21	1	0	22:57	23:07	No owls	0	1	SPPE
Luke Visser, Alannah Gallo	CL-OWL-17	467384	5407805	14-May-22	90	21	1	0	21:40	21:50	No owls	0	4	SPPE
Luke Visser, Alannah Gallo	CL-OWL-20	472052	5418694	18-May-22	100	15	2	0	21:30	21:40	No owls	1	2	SPPE noise; CONI, WTSP, WISN
TRH, RM, GG	CL-OW-STN1	471828	5416715	12-Mar-22	30	-15	0	0	20:00	20:10	No owls			none
TRH, RM, GG	CL-OW-STN2	472246.99	5412265.55	12-Mar-22	30	-15	0	0	20:10	20:20	No owls			none
TRH, RM, GG	CL-OW-STN3	472504.75	5410036.98	12-Mar-22	30	-15	0	0	20:20	20:30	No owls			none
TRH, RM, GG	CL-OW-STN4	472603.52	5410173.45	12-Mar-22	30	-15	0	0	20:30	20:40	No owls			none
TRH, RM, GG	CL-OW-STN5	472807.19	5408361.92	12-Mar-22	30	-15	0	0	20:40	20:50	No owls			none
TRH, RM, GG	CL-OW-STN6	472831.26	5406564.61	12-Mar-22	30	-15	0	0	20:50	21:00	No owls			none
TRH, RM, GG	CL-OW-STN7	473234.25	5402648.6	12-Mar-22	30	-15	0	0	21:00	21:10	No owls			none
TRH, RM, GG	CL-OW-STN8	473673.54	5400070.54	12-Mar-22	30	-15	0	0	21:10	21:20	No owls			none

Observer	Point	Easting	Northing	Date	Weather	Column1	Column2	Column3	Column4	Start Time	Owl Observations	Conditions and Remarks	Column6	Comments
					Cloud Cover	Start Temp	End Temp	Wind	Precip.			Traffic Count (# cars)	Noise Level (1-4)	Comments
CT/LV	04-SEOW-10-W	477538	5385079	4-Jun-23	100	23	15	0	0	08:08 PM	-	8	2	SWSP, COYE, TEWA, SWTH, COLO, WIWR, REVI, haze on all today's plots due to active forest fires in the area.
CT/LV	04-SEOW-09-W	476779	5386521	4-Jun-23	100	23	15	0	0	08:14 PM	-	6	2	RUGR, TEWA, WTSP
CT/LV	04-SEOW-08-W	476123	5388308	4-Jun-23	100	23	15	3	Light rain	08:20 PM	-	0	2	OVEN, AMCR Light rain
CT/LV	04-SEOW-07-W	475739	5389791	4-Jun-23	100	23	15	2	Light rain	08:26 PM	-	3	1	TEWA, COYE,SWTH, SWSP,
CT/LV	04-SEOW-06-W	475460	5390991	4-Jun-23	100	23	15	1	Light rain	08:30 PM	-	2	1	TEWA, BBWA, SWTH, WTSP, MAWA Light rain
CT/LV	04-SEOW-05-W	475171	5392256	4-Jun-23	100	23	15	0	Light rain	08:36 PM	-	2	2	AMRE, BBWA, WTSP, TEWA, CORA light rain
CT/LV	04-SEOW-04-W	474902	5393368	4-Jun-23	100	23	15	2	Light rain	08:40 PM	-	4	1	WTSP, SWTH, ATWO. Light rain
CT/LV	04-SEOW-03-W	474710	5394338	4-Jun-23	100	23	15	2	Light rain	08:47 PM	-	2	2	BBWA, WTSP, BLBW, AMRO
CT/LV	04-SEOW-02-W	474485	5395329	4-Jun-23	100	23	15	1	Light rain	08:52 PM	-	3	2	TEWA, DEJU, BBWA, RCKI, SWTH, PUFI
CT/LV	04-SEOW-01-W	474588	5396227	4-Jun-23	100	23	15	1	Light rain	08:57 PM	-	4	1	WTSP, SWTH, TEWA, COYE. Light rain
CT/LV	04-SEOW-01-E	474588	5396227	4-Jun-23	100	23	15	0	Light rain	09:01 PM	-	2	1	COYE, TEWA, SWTH, YEWA CHSP Light rain
CT/LV	04-SEOW-02-E	474485	5395329	4-Jun-23	100	23	15	1	0	09:06 PM	-	3	1	TEWA, BBWA, WTSP, CHSP, SWTH
CT/LV	04-SEOW-03-E	474710	5394338	4-Jun-23	100	23	15	0	0	09:11 PM	-	1	1	WTSP, TEWA, BBWA, OVEN
CT/LV	04-SEOW-04-E	474902	5393368	4-Jun-23	100	23	15	0	0	09:15 PM	-	0	1	WTSP, COYE, TEWA, ALFL
CT/LV	04-SEOW-05-E	475171	5392256	4-Jun-23	100	23	15	0	0	09:21 PM	-	0	1	TEWA, SWTH, BBWA, WTSP, NOPA, PUFI
CT/LV	04-SEOW-06-E	475460	5390991	4-Jun-23	100	23	15	0	0	09:26 PM	-	1	1	WTSP, TEWA, MAWA, BBWA, SWTH, WIWR
CT/LV	04-SEOW-07-E	475739	5389791	4-Jun-23	100	23	15	0	0	09:31 PM	-	5	1	WTSP, COYE, WOCO, MAWA,
CT/LV	04-SEOW-08-E	476123	5388308	4-Jun-23	100	23	15	0	0	09:45 PM	-	0	1	COLO
CT/LV	04-SEOW-09-E	476779	5386521	4-Jun-23	100	23	15	0	0	09:50 PM	-	0	1	RUGR, WTSP
CT/LV	04-SEOW-10-E	477538	5385079	4-Jun-23	100	23	15	0	0	09:56 PM	-	5	1	
CT/LV	03 SEOW 10 E	472024	5419308	2-Jun-23	0	26	20	2	0	08:15 PM	-	2	1	OVEN, CORA, HETH, DEJU,
CT/LV	03 SEOW 09 E	471898	5420154	2-Jun-23	0	26	20	1	0	08:19 PM	-	1	2	YRWA, CMWA, RUGR, TEWA
CT/LV	03 SEOW 08 E	471598	5421044	2-Jun-23	0	26	20	0	0	08:24 PM	-	0	1	AMBI, TEWA, RCKI, WTSP, MAWA, SWTH
CT/LV	03 SEOW 07 E	471342	5422053	2-Jun-23	0	26	20	0	0	08:28 PM	-	4	1	TEWA, WTSP, BLBW
CT/LV	03 SEOW 06 E	471227	5422866	2-Jun-23	0	26	20	0	0	08:35 PM	-	3	1	AMRO, BBWA, TEWA, WIWR, AMRE, RUGR, BWWA, OVEN, PUFI

Common Name	Scientific Name	Amphibian Call surveys 2021 and or 2022	Incidental Marsh Bird Surveys 2022	Incidental Owl Surveys 2022	Incidental Migratory Waterfowl Surveys 2022
American Toad	*Anaxyrus americanus*	x	x	x	x
Blanding's Turtle	*Emydoidea blandingii*				
Blue-spotted Salamander	*Ambystoma laterale*			x	
Boreal Chorus Frog	*Pseudacris maculata*	x			x
Eastern Gartersnake	*Thamnophis sirtalis sirtalis*				
Eastern Red-backed Salamander	*Plethodon cinereus*				
Green Frog	*Lithobates clamitans*	x			
Midland Painted Turtle	*Chrysemys picta marginata*				
Mink Frog	*Lithobates septentrionalis*	x	x		x
Northern Leopard Frog	*Lithobates pipiens*				
Snapping Turtle	*Chelydra serpentina*				

Observer	Point	Easting	Northing	Date	Cloud Cover	Temp.	Wind	Precip.	Time	Turtle Observations
LV, AG	CL-WF-01	470706	5406217	14-May-22	50	28	1	0	17:30	No turtles
LV, AG	CL-WF-02	470342	5406855	14-May-22	100	28	0	2	16:00	No turtles
LV, AG	CL-WF-07	469686	5409462	14-May-22	100	23	0	0	19:00	No turtles
LV, AG	CL-WF-08	471459	5406829	15-May-22	50	24	2	0	15:51	No turtles
LV, AG	CL-WF-09	472450	5406631	15-May-22	20	24	3	0	14:45	No turtles
LV, AG	CL-WF-10	472852	5407053	14-May-22	60	29	2	0	16:30	No turtles
LV, AG	CL-WF-11	469408	5416330	13-May-22	30	30	1	0	15:20	No turtles
LV, AG	CL-WF-12	474080	5397578	17-May-22	10	13	0	0	16:49	No turtles
LV, AG	CL-WF-13	472304	5401721	15-May-22	15	23	2	0	18:05	No turtles
LV, AG	CL-WF-14	472552	5401152	17-May-22	20	8	2	0	16:19	No turtles
LV, AG	CL-WF-15	474395	5396766	17-May-22	10	13	3	0	17:20	No turtles
LV, AG	CL-WF-17	476247	5388091	17-May-22	5	8	2	0	17:55	No turtles
LV, AG	CL-WF-18	476638	5387244	17-May-22	0	8	2	0	18:25	No turtles
LV, AG	CL-WF-19	477442	5385139	17-May-22	10	8	3	0	18:50	No turtles
LV, AG	CL-WF-20	478196	5383498	17-May-22	0	8	1	0	19:05	No turtles
LV, AG	CL-WF-22	473411	5398950	16-May-22	100	13	1	0	20:08	No turtles
LV, AG	CL-WF-24	479580	5401043	15-May-22	0	20	3	0	19:41	No turtles

Observer	Point	Easting	Northing	Round	Date	Habitat	Cloud	Temp	Wind	Precip.	Start Time	End time	Common Name	Scientific Name	Quad	<100 m	> 100 m	Comments
Luke Visser, Jessica Klassen	CL-AM-07	472529	5410411	2	01-Jun-22	Shrubby Open Water Marsh	0	13	0	0	23:00	23:03	American Toad	*Anaxyrus americanus*	1		1	
Luke Visser, Jessica Klassen	CL-AMPH-G1-02	473065	5406534	2	01-Jun-22	Treed Swamp	0	13	0	0	23:00	23:03	American Toad	*Anaxyrus americanus*	2		1	
Luke Visser, Alannah Gallo	CL-AM-06	472406	5406611	1	15-May-22	Fen	10	13	2	0	23:18	23:21	Mink Frog	*Lithobates septentrionalis*	2	1		
Luke Visser, Alannah Gallo	CL-AM-06	472406	5406611	1	15-May-22	Fen	10	13	2	0	23:18	23:21	Spring Peeper	*Pseudacris crucifer*	1	2	3	
Luke Visser, Alannah Gallo	CL-AM-06	472406	5406611	1	15-May-22	Fen	10	13	2	0	23:18	23:21	Spring Peeper	*Pseudacris crucifer*	2	2	3	
Luke Visser, Alannah Gallo	CL-AM-06	472406	5406611	1	15-May-22	Fen	10	13	2	0	23:18	23:21	Spring Peeper	*Pseudacris crucifer*	3	2	3	
Luke Visser, Alannah Gallo	CL-AM-06	472406	5406611	1	15-May-22	Fen	10	13	2	0	23:18	23:21	Spring Peeper	*Pseudacris crucifer*	4	2	3	
Luke Visser, Jessica Klassen	CL-AMPH-G1-02	473065	5406534	2	01-Jun-22	Treed Swamp	0	13	0	0	23:00	23:03	American Toad	*Anaxyrus americanus*	3		1	
Luke Visser, Jessica Klassen	CL-AMPH-G1-02	473065	5406534	2	01-Jun-22	Treed Swamp	0	13	0	0	23:00	23:03	Spring Peeper	*Pseudacris crucifer*	1	3		
Luke Visser, Alannah Gallo	CL-AM-07	472529	5410411	1	15-May-22	Mixed Wood	10	13	2	0	23:51	23:54	American Toad	*Anaxyrus americanus*	1		3	
Luke Visser, Jessica Klassen	CL-AMPH-G1-02	473065	5406534	2	01-Jun-22	Treed Swamp	0	13	0	0	23:00	23:03	Spring Peeper	*Pseudacris crucifer*	2	3		
Luke Visser, Alannah Gallo	CL-AM-07	472529	5410411	1	15-May-22	Mixed Wood	10	13	2	0	23:51	23:54	Wood Frog	*Lithobates sylvaticus*	2	1		
Luke Visser, Alannah Gallo	CL-AM-07	472529	5410411	1	15-May-22	Mixed Wood	10	13	2	0	23:51	23:54	Wood Frog	*Lithobates sylvaticus*	1	1		
Luke Visser, Jessica Klassen	CL-AMPH-G1-02	473065	5406534	2	01-Jun-22	Treed Swamp	0	13	0	0	23:00	23:03	Spring Peeper	*Pseudacris crucifer*	3	3		
Luke Visser, Alannah Gallo	CL-AM-10	474898	5393381	1	16-May-22	Coniferous, stream	100	8	1	3	22:33	22:36	American Toad	*Anaxyrus americanus*	1		1	
Luke Visser, Alannah Gallo	CL-AM-10	474898	5393381	1	16-May-22	Coniferous, stream	100	8	1	3	22:33	22:36	Spring Peeper	*Pseudacris crucifer*	4		3	
Luke Visser, Jessica Klassen	CL-AMPH-G1-02	473065	5406534	2	01-Jun-22	Treed Swamp	0	13	0	0	23:00	23:03	Spring Peeper	*Pseudacris crucifer*	4	3		
Luke Visser, Alannah Gallo	CL-AM-11	474392	5394987	1	16-May-22	Mixed Wood, open water	100	8	1	3	22:26	22:29	Spring Peeper	*Pseudacris crucifer*	1		3	
Luke Visser, Alannah Gallo	CL-AM-11	474392	5394987	1	16-May-22	Mixed Wood, open water	100	8	1	3	22:26	22:29	Spring Peeper	*Pseudacris crucifer*	4		3	
Luke Visser, Jessica Klassen	CL-AM-06	472406	5406611	2	02-Jun-22	Fen	25	12	0	0	22:42	22:45	American Toad	*Anaxyrus americanus*	4	1		
Luke Visser, Alannah Gallo	CL-AM-12	474063	5397602	1	16-May-22	Coniferous, stream	100	8	1	3	22:16	22:19	Mink Frog	*Lithobates septentrionalis*	2	1		
Luke Visser, Alannah Gallo	CL-AM-12	474063	5397602	1	16-May-22	Coniferous, stream	100	8	1	3	22:16	22:19	Spring Peeper	*Pseudacris crucifer*	3	1		
Luke Visser, Jessica Klassen	CL-AM-06	472406	5406611	2	02-Jun-22	Fen	25	12	0	0	22:42	22:45	Spring Peeper	*Pseudacris crucifer*	1	3		
Luke Visser, Jessica Klassen	CL-AM-06	472406	5406611	2	02-Jun-22	Fen	25	12	0	0	22:42	22:45	Spring Peeper	*Pseudacris crucifer*	4	3		AMBI
Luke Visser, Alannah Gallo	CL-AM-13	470287	5408222	1	14-May-22	Fen	100	21	1	0	23:47	23:50	American Toad	*Anaxyrus americanus*	4	1		
Luke Visser, Alannah Gallo	CL-AM-13	470287	5408222	1	14-May-22	Fen	100	21	1	0	23:47	23:50	Spring Peeper	*Pseudacris crucifer*	4	3		
Luke Visser, Alannah Gallo	CL-AM-13	470287	5408222	1	14-May-22	Fen	100	21	1	0	23:47	23:50	Wood Frog	*Lithobates sylvaticus*	1	2		CONI
Luke Visser, Jessica Klassen	CL-AM-16	468831	5408860	2	02-Jun-22	Black spruce	25	12	0	0	21:19	21:22						

Observer	Point	Easting	Northing	Round	Date	Habitat	Cloud	Temp	Wind	Precip.	Start Time	End time	Common Name	Scientific Name	Quad	<100 m	> 100 m	Comments
Luke Visser, Jessica Klassen	CL-AM-17	465203	5406910	1	02-Jun-22	Treed Swamp	25	12	0	0	21:03	21:06	Spring Peeper	*Pseudacris crucifer*	4	1		
Luke Visser, Alannah Gallo	CL-AM-14	470030	5408658	1	14-May-22	Fen	100	21	1	0	23:18	23:21	Spring Peeper	*Pseudacris crucifer*	1	3		
Luke Visser, Alannah Gallo	CL-AM-14	470030	5408658	1	14-May-22	Fen	100	21	1	0	23:18	23:21	Spring Peeper	*Pseudacris crucifer*	2	2		
Luke Visser, Jessica Klassen	CL-AM-20	473019	5405498	2	02-Jun-22	Shrubby meadow/wetland	25	12	0	0	23:04	23:07	Spring Peeper	*Pseudacris crucifer*	1	1		
Luke Visser, Alannah Gallo	CL-AM-14	470030	5408658	1	14-May-22	Fen	100	21	1	0	23:18	23:21	Wood Frog	*Lithobates sylvaticus*	1	2		
Luke Visser, Alannah Gallo	CL-AM-15	469691	5409505	1	14-May-22	Open Water/Mixed Wood	100	21	1	0	22:30	22:33	Spring Peeper	*Pseudacris crucifer*	1	2		WOFR, MIFR visuals
Luke Visser, Alannah Gallo	CL-AM-15	469691	5409505	1	14-May-22	Open Water/Mixed Wood	100	21	1	0	22:30	22:33	Spring Peeper	*Pseudacris crucifer*	4	2		salamander visual
Luke Visser, Jessica Klassen	CL-AM-20	473019	5405498	2	02-Jun-22	Shrubby meadow/wetland	25	12	0	0	23:04	23:07	Spring Peeper	*Pseudacris crucifer*	4		1	
Luke Visser, Alannah Gallo	CL-AM-16	468831	5408860	1	14-May-22	Fen	100	21	1	0	22:06	22:09	Spring Peeper	*Pseudacris crucifer*	4	1		
Luke Visser, Alannah Gallo	CL-AM-16	468831	5408860	1	14-May-22	Fen	100	21	1	0	22:06	22:09	Boreal Chorus Frog	*Pseudacris maculata*	4	1		
Luke Visser, Alannah Gallo	CL-AM-16	468831	5408860	1	14-May-22	Fen	100	21	1	0	22:06	22:09	Wood Frog	*Lithobates sylvaticus*	1	1		CONI
Luke Visser, Jessica Klassen	CL-AMPH-G1-01	473390	5401388	2	02-Jun-22	Graminoid marsh	25	12	0	0	23:16	23:19	American Toad	*Anaxyrus americanus*	4		1	
Luke Visser, Jessica Klassen	CL-AMPH-G1-01	473390	5401388	2	02-Jun-22	Graminoid marsh	25	12	0	0	23:16	23:19	Spring Peeper	*Pseudacris crucifer*	1	1		
Luke Visser, Jessica Klassen	CL-AMPH-G1-01	473390	5401388	2	02-Jun-22	Graminoid marsh	25	12	0	0	23:16	23:19	Spring Peeper	*Pseudacris crucifer*	2	1		
Luke Visser, Alannah Gallo	CL-AM-20	473019	5405498	1	15-May-22	Mixed Wood/Stream	10	13	2	0	22:52	22:55	American Toad	*Anaxyrus americanus*	2		1	
Luke Visser, Alannah Gallo	CL-AM-20	473019	5405498	1	15-May-22	Mixed Wood/Stream	10	13	2	0	22:52	22:55	Spring Peeper	*Pseudacris crucifer*	2	2		
Luke Visser, Jessica Klassen	CL-AMPH-G1-01	473390	5401388	2	02-Jun-22	Graminoid marsh	25	12	0	0	23:16	23:19	Spring Peeper	*Pseudacris crucifer*	3	1		
Luke Visser, Jessica Klassen	CL-AMPH-G1-01	473390	5401388	2	02-Jun-22	Graminoid marsh	25	12	0	0	23:16	23:19	Spring Peeper	*Pseudacris crucifer*	4	1		
Luke Visser, Alannah Gallo	CL-AM-20	473019	5405498	1	15-May-22	Mixed Wood/Stream	10	13	2	0	22:52	22:55	Wood Frog	*Lithobates sylvaticus*	2	2		
Luke Visser, Alannah Gallo	CL-AM-21	467285	5407680	1	14-May-22	Mixed Wood	100	21	1	0	21:47	21:50	American Toad	*Anaxyrus americanus*	3	2		Boreal chorus frog visual on road
Luke Visser, Alannah Gallo	CL-AM-21	467285	5407680	1	14-May-22	Mixed Wood	100	21	1	0	21:47	21:50	Spring Peeper	*Pseudacris crucifer*	4	3		
Luke Visser, Alannah Gallo	CL-AM-21	467285	5407680	1	14-May-22	Mixed Wood	100	21	1	0	21:47	21:50	Spring Peeper	*Pseudacris crucifer*	3	3		
Luke Visser, Alannah Gallo	CL-AM-21	467285	5407680	1	14-May-22	Mixed Wood	100	21	1	0	21:47	21:50	Wood Frog	*Lithobates sylvaticus*	4	2		
Luke Visser, Alannah Gallo	CL-AM-21	467285	5407680	1	14-May-22	Mixed Wood	100	21	1	0	21:47	21:50	Wood Frog	*Lithobates sylvaticus*	3	2		
Luke Visser, Jessica Klassen	CL-AMPH-G1-05	470315	5406886	2	02-Jun-22	Open Water Marsh	25	12	0	0	22:35	22:38	Spring Peeper	*Pseudacris crucifer*	1	3		
Luke Visser, Alannah Gallo	CL-AMPH-G1-01	473390	5401388	1	15-May-22	Fen	10	13	2	0	22:25	22:28	Spring Peeper	*Pseudacris crucifer*	1	2		
Luke Visser, Alannah Gallo	CL-AMPH-G1-01	473390	5401388	1	15-May-22	Fen	10	13	2	0	22:25	22:28	Spring Peeper	*Pseudacris crucifer*	4	3		
Luke Visser, Jessica Klassen	CL-AMPH-G1-05	470315	5406886	2	02-Jun-22	Open Water Marsh	25	12	0	0	22:35	22:38	Spring Peeper	*Pseudacris crucifer*	4	3		

Observer	Point	Easting	Northing	Round	Date	Habitat	Cloud	Temp	Wind	Precip.	Start Time	End time	Common Name	Scientific Name	Quad	<100 m	> 100 m	Comments
Luke Visser, Jessica Klassen	CL-AMPH-G1-05	470315	5406886	2	02-Jun-22	Open Water Marsh	25	12	0	0	22:35	22:38	Spring Peeper	*Pseudacris crucifer*	2	1		
Luke Visser, Jessica Klassen	CL-AMPH-G1-05	470315	5406886	2	02-Jun-22	Open Water Marsh	25	12	0	0	22:35	22:38	Spring Peeper	*Pseudacris crucifer*	3	1		
Luke Visser, Jessica Klassen	CL-AMPH-G2-01	477984	5384281	2	03-Jun-22	Roadside Marsh/Swamp	100	11	3	3	21:27	21:30						SWSP
Luke Visser, Jessica Klassen	CL-AMPH-G2-07	477402	5385182	2	03-Jun-22	Graminoid marsh	100	11	3	3	21:38	21:41	Spring Peeper	*Pseudacris crucifer*	3	2		
Luke Visser, Jessica Klassen	CL-AMPH-G2-08	477402	5385182	2	03-Jun-22	Graminoid marsh	100	11	3	3	21:38	21:41	Spring Peeper	*Pseudacris crucifer*	4	2		
Luke Visser, Alannah Gallo	CL-AMPH-G1-01	473390	5401388	1	15-May-22	Fen	10	13	2	0	22:25	22:28	Wood Frog	*Lithobates sylvaticus*	1	1		
Luke Visser, Alannah Gallo	CL-AMPH-G1-01	473390	5401388	1	15-May-22	Fen	10	13	2	0	22:25	22:28	Wood Frog	*Lithobates sylvaticus*	4	2		WISN
Luke Visser, MB	CL-AM-06	472406	5406611	3	22-Jun-22	Marsh wetland near culvert	0	16	1	0	22:42	22:45	Green Frog	*Lithobates clamitans*	4	1		SOSA, WTSP
Luke Visser, MB	CL-AM-07	472529	5410411	3	22-Jun-22	Shrubby drainage wetland	0	16	1	0	22:31	22:34						none
Luke Visser, MB	CL-AMPH-G1-03	472401	5411822	2	22-Jun-22	Marsh	0	16	1	0	22:26	22:29						SWTH
Luke Visser, MB	CL-AMPH-G1-06	472301	5412812	2	22-Jun-22	Graminoid marsh	0	16	1	0	22:10	22:13						SWTH, ALFL
Luke Visser, MB	CL-AMPH-G2-08	472193	5415234	2	22-Jun-22	Open Water Marsh	0	16	1	0	21:55	21:58						MAWA, SWTH
Luke Visser, MB	CL-AM-13	470287	5408222	2	27-Jun-22	Meadow marsh - open water pit	0	13	1	0	23:11	23:14						none
Luke Visser, Alannah Gallo	CL-AMPH-G1-02	473065	5406534	1	15-May-22	Mixed Wood	10	13	2	0	23:00	23:03	Wood Frog	*Lithobates sylvaticus*	2	1		
Luke Visser, MB	CL-AM-14	470030	5408658	2	27-Jun-22	Roadside creek	0	13	1	0	23:21	23:24	Mink Frog	*Lithobates septentrionalis*	1	1		
Luke Visser, Alannah Gallo	CL-AMPH-G1-03	472401	5411822	1	18-May-22	Open Water Marsh	100	14	2	0	22:16	22:19	American Toad	*Anaxyrus americanus*	3		1	
Luke Visser, Alannah Gallo	CL-AMPH-G1-03	472401	5411822	1	18-May-22	Open Water Marsh	100	14	2	0	22:16	22:19	Spring Peeper	*Pseudacris crucifer*	3		3	
Luke Visser, Alannah Gallo	CL-AMPH-G1-03	472401	5411822	1	18-May-22	Open Water Marsh	100	14	2	0	22:16	22:19	Wood Frog	*Lithobates sylvaticus*	3		2	
Luke Visser, MB	CL-AM-14	470030	5408658	2	27-Jun-22	Roadside creek	0	13	1	0	23:21	23:24	Spring Peeper	*Pseudacris crucifer*	1	1		
Luke Visser, Alannah Gallo	CL-AMPH-G1-04	472301	5412812	1	18-May-22	Cattail marsh, Mixed Wood	100	14	2	0	21:51	21:54	Spring Peeper	*Pseudacris crucifer*	4		3	
Luke Visser, Alannah Gallo	CL-AMPH-G1-05	472301	5412812	1	18-May-22	Cattail marsh, Mixed Wood	100	14	2	0	21:51	21:54	Wood Frog	*Lithobates sylvaticus*	4		1	
Luke Visser, MB	CL-AM-16	468831	5408860	3	27-Jun-22	Wetland on forest edge	0	13	1	0	23:28	23:31						
Luke Visser, Alannah Gallo	CL-AMPH-G1-05	470315	5406886	1	15-May-22	Open Water/Mixed Wood/creek	100	21	1	0	0:15	0:18	American Toad	*Anaxyrus americanus*	1	2		
Luke Visser, Alannah Gallo	CL-AMPH-G1-05	470315	5406886	1	15-May-22	Open Water/Mixed Wood/creek	100	21	1	0	0:15	0:18	Green Frog	*Lithobates clamitans*	4	2		Egg masses on E side of road
Luke Visser, MB	CL-AMPH-G1-05	470315	5406886	3	27-Jun-22	Creek-pond tributary	0	13	1	0	22:55	22:58	Green Frog	*Lithobates clamitans*	1	1		
Luke Visser, MB	CL-AMPH-G1-05	470315	5406886	3	27-Jun-22	Creek-pond tributary	0	13	1	0	22:55	22:58	Mink Frog	*Lithobates septentrionalis*	1	2		
Luke Visser, MB	CL-AMPH-G1-05	470315	5406886	3	27-Jun-22	Creek-pond tributary	0	13	1	0	22:55	22:58	Mink Frog	*Lithobates septentrionalis*	1	1		
Luke Visser, Alannah Gallo	CL-AMPH-G1-05	470315	5406886	1	15-May-22	Open Water/Mixed Wood/creek	100	21	1	0	0:15	0:18	Spring Peeper	*Pseudacris crucifer*	1		3	
Luke Visser, Alannah Gallo	CL-AMPH-G1-05	470315	5406886	1	15-May-22	Open Water/Mixed Wood/creek	100	21	1	0	0:15	0:18	Spring Peeper	*Pseudacris crucifer*	4		3	
Luke Visser, MB	CL-AM-15	469691	5409505	2	28-Jun-22	Pond-Lake	0	13	1	0	0:01	0:04						
Luke Visser, MB	CL-AM-10	474898	5393381	2	29-Jun-22	Shrub/fen drainage	0	15	1	0	22:46	22:49						
Luke Visser, MB	CL-AM-11	474392	5394987	2	29-Jun-22	ROW marsh	0	17	1	0	22:37	22:40						none
Luke Visser, MB	CL-AM-12	474063	5397602	2	29-Jun-22	Shrub/Graminoid marsh/Creek drainage	0	17	1	0	22:08	22:11						none
Luke Visser, Alannah Gallo	CL-AMPH-G2-01	477984	5384281	1	13-May-22	Mixed Wood	0	22	0	0	21:50	21:53	American Toad	*Anaxyrus americanus*	1		1	
Luke Visser, MB	CL-AM-12	474063	5397602	3	29-Jun-22	Creek	0	17	1	0	22:29	22:32						none

Observer	Point	Easting	Northing	Round	Date	Habitat	Cloud	Temp	Wind	Precip.	Start Time	End time	Common Name	Scientific Name	Quad	<100 m	> 100 m	Comments
Luke Visser, Alannah Gallo	CL-AMPH-G2-01	477984	5384281	1	13-May-22	Mixed Wood	0	22	0	0	21:50	21:53	Spring Peeper	*Pseudacris crucifer*	4	2		
Luke Visser, Alannah Gallo	CL-AMPH-G2-01	477984	5384281	1	13-May-22	Mixed Wood	0	22	0	0	21:50	21:53	Spring Peeper	*Pseudacris crucifer*	1	3		
Luke Visser, Alannah Gallo	CL-AMPH-G2-01	477984	5384281	1	13-May-22	Mixed Wood	0	22	0	0	21:50	21:53	Wood Frog	*Lithobates sylvaticus*	1	1		CONI, WTSP, WISN
Luke Visser, MB	CL-AMPH-G1-01	473390	5401388	3	29-Jun-22	Graminoid marsh	0	17	1	0	22:19	22:22	Spring Peeper	*Pseudacris crucifer*	3	2		
Luke Visser, MB	CL-AMPH-G1-01	473390	5401388	3	29-Jun-22	Graminoid marsh	0	17	1	0	22:19	22:22	Spring Peeper	*Pseudacris crucifer*	4	2		WTSP,VEER
Luke Visser, Alannah Gallo	CL-AMPH-G2-03	477402	5385182	1	13-May-22	Mixed Wood	0	22	0	0	22:03	22:06	Spring Peeper	*Pseudacris crucifer*	1	2	2	
Luke Visser, Alannah Gallo	CL-AMPH-G2-04	477402	5385182	1	13-May-22	Mixed Wood	0	22	0	0	22:03	22:06	Spring Peeper	*Pseudacris crucifer*	2	2	2	
Luke Visser, Alannah Gallo	CL-AMPH-G2-05	477402	5385182	1	13-May-22	Mixed Wood	0	22	0	0	22:03	22:06	Spring Peeper	*Pseudacris crucifer*	3	2	2	
Luke Visser, Alannah Gallo	CL-AMPH-G2-06	477402	5385182	1	13-May-22	Mixed Wood	0	22	0	0	22:03	22:06	Spring Peeper	*Pseudacris crucifer*	4	2	2	
Luke Visser, MB	CL-AMPH-G1-02	473065	5406534	3	29-Jun-22	Treed Swamp	0	17	1	0	21:59	22:02						SWTH, HETH, VEER
Luke Visser, MB	CL-AMPH-G2-01	477984	5384281	3	29-Jun-22	Graminoid marsh	0	15	1	0	23:12	23:09	Mink Frog	*Lithobates septentrionalis*	2	2		
Luke Visser, Alannah Gallo	CL-AMPH-G2-09	477402	5385182	1	13-May-22	Mixed Wood	0	22	0	0	22:03	22:06	Wood Frog	*Lithobates sylvaticus*	1	2		
Luke Visser, Alannah Gallo	CL-AMPH-G2-04	472193	5415234	1	18-May-22	Cattail marsh	100	14	2	0	21:41	21:44	Spring Peeper	*Pseudacris crucifer*	1		3	
Luke Visser, Alannah Gallo	CL-AMPH-G2-05	472193	5415234	1	18-May-22	Cattail marsh	100	14	2	0	21:41	21:44	Spring Peeper	*Pseudacris crucifer*	4		2	
Luke Visser, Alannah Gallo	CL-AMPH-G2-06	472193	5415234	1	18-May-22	Cattail marsh	100	14	2	0	21:41	21:44	Wood Frog	*Lithobates sylvaticus*	4		3	
Luke Visser, Alannah Gallo	CL-AMPH-G2-07	472193	5415234	1	18-May-22	Cattail marsh	100	14	2	0	21:41	21:44	Wood Frog	*Lithobates sylvaticus*	1		1	
Luke Visser, MB	CL-AMPH-G2-02	477402	5385182	3	29-Jun-22	Open Water Marsh	0	15	1	0	23:06	23:09	Mink Frog	*Lithobates septentrionalis*	4	3		
JE, WV	CL-AMPH-G2-03			2	12-Jun-21	walked to woodland edge	75	21		0	21:10	21:13						none
JE, WV	CL-AMPH-G2-04			2	12-Jun-21	walked to woodland edge	75	21		0	21:20	21:23						2x Red fox, Redhead, Mallard, Ring-necked Duck
JE, WV	CL-AMPH-G2-05			2	12-Jun-21	SWT alder thicket and beaverdam	75	21		0	21:30	21:33						none
JE, WV	CL-AMPH-G1-04			2	12-Jun-21	Sedge Marsh	75	21		0	21:31	21:34						none
JE, WV	CL-AMPH-G1-03			2	12-Jun-21	MAS	75	21		0	21:39	21:42						none
JE, WV	CL-AMPH-G1-02			2	12-Jun-21	SWC/ culvert at road	75	21		0	21:47	21:50	Spring Peeper	*Pseudacris crucifer*	2	2		Boreal Owl
JE, WV	CL-AMPH-G1-01			2	12-Jun-21	MAS Sedge Marsh	75	21		0	21:55	21:58	Spring Peeper	*Pseudacris crucifer*	2	3		
JE, WV	CL-AMPH-G1-5			2	14-Jun-21	OAO +MAM beaver pond inside	0	10	2	0	21:18	21:21						none
JE, WV	CL-AMPH-G2-1			2	14-Jun-21	SWT Willow Swamp thicket	0	10	2	0	21:49	21:52						none
JE, WV	CL-AMPH-G2-2			2	14-Jun-21	MAS/OAO	0	10	2	0	21:44	21:47						none

Transect Direction	Trancest Number	Location DD	MM	Year	WPT	Lat.	Long.	Observed Animals Species	Bull	Cow	Cow or Calve	unk.	Total #	Sign Track Sets Fresh /Old	Craters (Y/N)	Comments
E-W	CNC-1	12	3	2022	1081	49.153018	-81.2828	Fox					0			
E-W	CNC-1	12	3	2022	1082	49.154444	-81.30524204	Otter					0			
E-W	CNC-1	12	3	2022	1083	49.154466	-81.30660301	Beaver					0			
E-W	CNC-1	12	3	2022	1084	49.154563	-81.31763502						0			No nest seen
E-W	CNC-1	12	3	2022	1085	49.154395	-81.33213303	Lynx					0			
E-W	CNC-1	12	3	2022	1086	49.15418	-81.343561	Moose					0			Quite old
E-W	CNC-1	12	3	2022	1087	49.154183	-81.35868799	Lynx					0			
E-W	CNC-1	12	3	2022	1088	49.153863	-81.37927503	Fox					0			
E-W	CNC-1	12	3	2022	1089	49.153404	-81.41731697	Beaver					0			
E-W	CNC-1	12	3	2022	1090	49.153345	-81.43428303	Fox					0			
E-W	CNC-1	12	3	2022	1091	49.153969	-81.46017599	Moose					0			
E-W	CNC-1	12	3	2022	1092	49.153999	-81.46506197	Marten					0			
E-W	CNC-1	12	3	2022	1093	49.15418	-81.46892502	Fox					0			
E-W	CNC-1	12	3	2022	1094	49.150979	-81.48089698						0			No nest seen
E-W	CNC-1	12	3	2022	1095	49.152841	-81.49330102	Marten					0			
E-W	CNC-1	12	3	2022	1096	49.152993	-81.498792	Wolf					0	2		
E-W	CNC-1	12	3	2022	1097	49.152819	-81.52143303						0			No nest seen
E-W	CNC-1	12	3	2022	1098	49.152988	-81.530488						0			7 Sharp-tailed Grouse
E-W	CNC-1	12	3	2022	1099	49.153137	-81.54763604	Moose					0			Older
E-W	CNC-1	12	3	2022	1100	49.153058	-81.59526402	Otter					0			
E-W	CNC-1	12	3	2022	1101	49.152975	-81.60242996	Fox					0			
E-W	CNC-1	12	3	2022	1102	49.152805	-81.62536402	Wolf					0		2	
E-W	CNC-1	12	3	2022	1103	49.152723	-81.67036302	Marten					0			
E-W	CNC-1	12	3	2022	1104	49.152688	-81.68175898	Fox					0			
E-W	CNC-1	12	3	2022	1105	49.152627	-81.69096599	Fox					0			
W-E	CNC-2	12	3	2022	1106	49.1266	-81.76000798	Otter					0			
W-E	CNC-2	12	3	2022	1107	49.126652	-81.74902802	Fox					0			
W-E	CNC-2	12	3	2022	1108	49.126733	-81.72280298	Fox					0			
W-E	CNC-2	12	3	2022	1109	49.126885	-81.70853396						0			Nest? Photos
W-E	CNC-2	12	3	2022	1110	49.124254	-81.70658601	Marten					0			
W-E	CNC-2	12	3	2022	1111	49.125511	-81.70084197	Fox					0			
W-E	CNC-2	12	3	2022	1112	49.125886	-81.681145	Beaver					0			
W-E	CNC-2	12	3	2022	1113	49.125882	-81.67680502	Moose					0			Old
W-E	CNC-2	12	3	2022	1114	49.125875	-81.66011598	Moose					0			
W-E	CNC-2	12	3	2022	1115	49.126139	-81.64366499	Moose					0			Old
W-E	CNC-2	12	3	2022	1116	49.126462	-81.62962999	Fox					0			
W-E	CNC-2	12	3	2022	1117	49.126677	-81.59349997	Fox					0			
W-E	CNC-2	12	3	2022	1118	49.126364	-81.55535401	Lynx					0			
W-E	CNC-2	12	3	2022	1120	49.126786	-81.52314596	Moose					0			
W-E	CNC-2	12	3	2022	1121	49.126532	-81.50939402	Lynx					0			
W-E	CNC-2	12	3	2022	1122	49.126385	-81.49396403	Fox					0			
W-E	CNC-2	12	3	2022	1123	49.126308	-81.48870296	Moose					0			Old
W-E	CNC-2	12	3	2022	1124	49.126542	-81.458495	Moose					0			

Transect Direction	Trancest Number	Location DD	MM	Year	WPT	Lat.	Long.	Species	Observed Animals Bull	Cow	Cow or Calve	unk.	Total #	Sign Track Sets Fresh /Old	Craters (Y/N)	Comments
W-E	CNC-2	12	3	2022	1125	49.12669	-81.453289	Fox					0			
W-E	CNC-2	12	3	2022	1126	49.126765	-81.44599004	Fox					0			
W-E	CNC-2	12	3	2022	1127	49.126731	-81.43909198	Moose					0			
W-E	CNC-2	12	3	2022	1128	49.127004	-81.41816698	Fox					0			
W-E	CNC-2	12	3	2022	1129	49.127452	-81.35397099	Fox					0			
W-E	CNC-2	12	3	2022	1130	49.128212	-81.32755701						0			Nest hawk/raven, photos
W-E	CNC-2	12	3	2022	1131	49.127362	-81.29874196	Moose					0			
W-E	CNC-2	12	3	2022	1132	49.127595	-81.28886498	Moose		1		1	2			Photos
E-W	CNC-3	12	3	2022	1133	49.100868	-81.32706399	Fox					0			
E-W	CNC-3	12	3	2022	1134	49.100182	-81.33920602	Lynx					0			
E-W	CNC-3	12	3	2022	1135	49.099934	-81.35212303	Fox					0			
E-W	CNC-3	12	3	2022	1136	49.099738	-81.36321204	Moose					0			
E-W	CNC-3	12	3	2022	1137	49.099641	-81.37697596	Wolf					0	3		
E-W	CNC-3	12	3	2022	1138	49.099321	-81.40828597	Lynx					0			
E-W	CNC-3	12	3	2022	1139	49.099188	-81.43304997	Moose					0			
E-W	CNC-3	12	3	2022	1140	49.099103	-81.45723696	Otter					0			
E-W	CNC-3	12	3	2022	1141	49.099108	-81.45951399	Fox					0			
E-W	CNC-3	12	3	2022	1142	49.099643	-81.49720397	Moose					0			Old
E-W	CNC-3	12	3	2022	1143	49.096422	-81.51833902						0			Raven nest
E-W	CNC-3	12	3	2022	1144	49.094001	-81.53653303	Moose					0			
E-W	CNC-3	12	3	2022	1145	49.098298	-81.548421	Fox					0			
E-W	CNC-3	12	3	2022	1146	49.098164	-81.55440099	Moose					0			
E-W	CNC-3	12	3	2022	1147	49.099081	-81.57249802	Lynx					0			
E-W	CNC-3	12	3	2022	1148	49.099214	-81.58480299	Otter					0			
E-W	CNC-3	12	3	2022	1149	49.09932	-81.60153	Fox					0			
E-W	CNC-3	12	3	2022	1150	49.099327	-81.61454902	Moose					0			
E-W	CNC-3	12	3	2022	1151	49.099314	-81.62155503	Fox					0			
E-W	CNC-3	12	3	2022	1152	49.099175	-81.62551297	Moose					0			
E-W	CNC-3	12	3	2022	1153	49.099118	-81.63151299	Fox					0			
E-W	CNC-3	12	3	2022	1154	49.099029	-81.64150799	Moose					0			
E-W	CNC-3	12	3	2022	1155	49.098882	-81.64673201	Wolf					0			
E-W	CNC-3	12	3	2022	1156	49.098935	-81.67240703	Moose					0	2		
E-W	CNC-3	12	3	2022	1157	49.09864	-81.69520497	Fox					0			
E-W	CNC-3	12	3	2022	1158	49.098285	-81.70886999	Moose					0			
E-W	CNC-3	12	3	2022	1159	49.097946	-81.72219898	Fox					0			
E-W	CNC-3	12	3	2022	1160	49.097764	-81.73206196	Otter					0			
W-E	CNC-4	12	3	2022	1161	49.07647	-81.78915898	Moose					0			Old
W-E	CNC-4	12	3	2022	1162	49.072565	-81.72176999	Moose					0			
W-E	CNC-4	12	3	2022	1163	49.072505	-81.70094398	Marten					0			
W-E	CNC-4	12	3	2022	1164	49.072574	-81.66331301	Lynx					0			
W-E	CNC-4	12	3	2022	1165	49.07259	-81.65470798	Wolf					0	2		
W-E	CNC-4	12	3	2022	1166	49.07252	-81.64193203	Fox					0			

Transect Direction	Trancest Number	Location						Observed Animals					Sign			
		DD	MM	Year	WPT	Lat.	Long.	Species	Bull	Cow	Cow or Calve	unk.	Total #	Track Sets Fresh /Old	Craters (Y/N)	Comments
W-E	CNC-4	12	3	2022	1167	49.072445	-81.63334703	Moose					0			Old
W-E	CNC-4	12	3	2022	1168	49.072361	-81.61641902	Moose					0	2		
W-E	CNC-4	12	3	2022	1169	49.072285	-81.60968802	Lynx					0			
W-E	CNC-4	12	3	2022	1170	49.072327	-81.60264504	Fox					0			
W-E	CNC-4	12	3	2022	1171	49.072356	-81.60022401	Lynx					0			
W-E	CNC-4	12	3	2022	1172	49.072358	-81.59892197	Marten					0			
W-E	CNC-4	12	3	2022	1173	49.072345	-81.58347001	Fox					0			
W-E	CNC-4	12	3	2022	1174	49.072335	-81.58203796	Wolf					0	2		Old
W-E	CNC-4	12	3	2022	1175	49.072237	-81.55553799	Moose					0			
W-E	CNC-4	12	3	2022	1176	49.072802	-81.52629303	Marten					0			
W-E	CNC-4	12	3	2022	1177	49.072571	-81.50699998	Moose					0			
W-E	CNC-4	12	3	2022	1178	49.072672	-81.49079902	Moose					0			
W-E	CNC-4	12	3	2022	1179	49.072833	-81.48258802	Moose					0			
W-E	CNC-4	12	3	2022	1180	49.072914	-81.46912401	Moose					0	2+		Active area
W-E	CNC-4	12	3	2022	1181	49.072785	-81.42344297	Fox					0			
W-E	CNC-4	12	3	2022	1182	49.073173	-81.41151602	Fox					0			
W-E	CNC-4	12	3	2022	1183	49.072719	-81.39792301	Fox					0			
W-E	CNC-4	12	3	2022	1184	49.072524	-81.39288699	Marten					0			
W-E	CNC-4	12	3	2022	1185	49.074144	-81.34097502	Fox					0			
W-E	CNC-4	12	3	2022	1186	49.073603	-81.32869402	Fox					0			
W-E	CNC-4	12	3	2022	1187	49.073232	-81.31207799	Otter					0			
W-E	CNC-4	12	3	2022	1188	49.072636	-81.302401	Marten					0			
E-W	CNC-5	12	3	2022	1189	49.045986	-81.27292897	Fox					0			
E-W	CNC-5	12	3	2022	1190	49.046057	-81.29234003	Lynx					0			
E-W	CNC-5	12	3	2022	1191	49.045968	-81.306918	Fox					0			
E-W	CNC-5	12	3	2022	1192	49.045834	-81.31535204	Otter					0			
E-W	CNC-5	12	3	2022	1193	49.045721	-81.32251798	Moose					0			Old
E-W	CNC-5	12	3	2022	1194	49.045769	-81.326461	Fox					0			
E-W	CNC-5	12	3	2022	1195	49.045808	-81.34870498	Fox					0			
E-W	CNC-5	12	3	2022	1196	49.045704	-81.359135	Marten					0			
E-W	CNC-5	12	3	2022	1197	49.045487	-81.36453697	Moose					0			
E-W	CNC-5	12	3	2022	1198	49.045292	-81.37078098	Otter					0			
E-W	CNC-5	12	3	2022	1199	49.045214	-81.37623601	Moose					0			
E-W	CNC-5	12	3	2022	1200	49.045076	-81.38228204	Beaver					0			
E-W	CNC-5	12	3	2022	1201	49.04498	-81.38879897	Moose					0			
E-W	CNC-5	12	3	2022	1202	49.044933	-81.39359803	Otter					0			
E-W	CNC-5	12	3	2022	1203	49.044779	-81.43780301	Marten					0			
E-W	CNC-5	12	3	2022	1204	49.044196	-81.46826402	Fox					0			
E-W	CNC-5	12	3	2022	1205	49.044356	-81.49581299	Fox					0			
E-W	CNC-5	12	3	2022	1206	49.044427	-81.506312	Moose					0			Old
E-W	CNC-5	12	3	2022	1207	49.043867	-81.54071602	Fox					0			
E-W	CNC-5	12	3	2022	1208	49.044886	-81.60255703	Wolf					0	3		

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E-W	CNC-5	12	3	2022	1209	49.04483	-81.61018398	Moose					0			
E-W	CNC-5	12	3	2022	1210	49.04477	-81.61936099	Marten					0			
E-W	CNC-5	12	3	2022	1211	49.045303	-81.63224397	Marten					0			
E-W	CNC-5	12	3	2022	1212	49.044848	-81.64087499	Moose					0			
E-W	CNC-5	12	3	2022	1213	49.045587	-81.66071001	Moose					0	2		
E-W	CNC-5	12	3	2022	1214	49.046217	-81.66132901	Wolf					0	4		
E-W	CNC-5	12	3	2022	1215	49.044404	-81.69572096	Marten					0			
E-W	CNC-5	12	3	2022	1216	49.043474	-81.77394197						0			Sharp-tailed Grouse
W-E	CNC-6	12	3	2022	1217	49.01729	-81.70274399	Moose					0			Old
W-E	CNC-6	12	3	2022	1218	49.017246	-81.69108502	Fox					0			
W-E	CNC-6	12	3	2022	1219	49.017896	-81.65385797	Wolf					0		3	
W-E	CNC-6	12	3	2022	1220	49.018829	-81.60095399	Moose					0			
W-E	CNC-6	12	3	2022	1221	49.018889	-81.59795	Wolf					0		4	
W-E	CNC-6	12	3	2022	1222	49.018908	-81.59540903	Fox					0			
W-E	CNC-6	12	3	2022	1223	49.020018	-81.56776903	Fox					0			
W-E	CNC-6	12	3	2022	1224	49.020093	-81.53706302	Moose					0		2	
W-E	CNC-6	12	3	2022	1225	49.019621	-81.52948997	Fox					0			
W-E	CNC-6	12	3	2022	1226	49.019076	-81.52360302	Moose					0			
W-E	CNC-6	12	3	2022	1227	49.018837	-81.51392603	Moose					0			
W-E	CNC-6	12	3	2022	1228	49.01946	-81.49741301	Moose					0			
W-E	CNC-6	12	3	2022	1229	49.019571	-81.49005597	Moose					0		2	
W-E	CNC-6	12	3	2022	1230	49.020231	-81.47431199	Fox					0			
W-E	CNC-6	12	3	2022	1231	49.019305	-81.37124098	Lynx					0			
W-E	CNC-6	12	3	2022	1232	49.019652	-81.339506	Otter					0			
W-E	CNC-6	12	3	2022	1233	49.019166	-81.31742497	Moose					0			Old
W-E	CNC-6	12	3	2022	1234	49.018282	-81.298907	Fox					0			
W-E	CNC-6	12	3	2022	1235	49.018224	-81.28131498	Fox					0			
W-E	CNC-6	12	3	2022	1236	49.018722	-81.26960998	Fox					0			
W-E	CNC-6	12	3	2022	1237	49.019116	-81.24878196	Fox					0			
W-E	CNC-6	12	3	2022	1238	49.01807	-81.198541	Lynx					0			
W-E	CNC-6	12	3	2022	1239	49.017885	-81.19444904	Marten					0			
W-E	CNC-6	12	3	2022	1240	49.017942	-81.16647502	Wolf					0	4		
W-E	CNC-6	12	3	2022	1241	49.018094	-81.14880103	Lynx					0			
W-E	CNC-6	12	3	2022	1242	49.018245	-81.14113997	Moose					0	2		
W-E	CNC-6	12	3	2022	1243	49.019733	-81.11271098	Beaver					0			
E-W	CNC-7	12	3	2022	1244	48.994881	-81.07761998	Fox					0			
E-W	CNC-7	12	3	2022	1245	48.992939	-81.10204903	Moose					0			
E-W	CNC-7	12	3	2022	1246	48.992929	-81.10361603	Beaver					0			
E-W	CNC-7	12	3	2022	1247	48.992683	-81.11916396	Wolf					0			
E-W	CNC-7	12	3	2022	1248	48.992528	-81.12328802	Beaver					0			
E-W	CNC-7	12	3	2022	1249	48.991845	-81.16873696	Fox					0			
E-W	CNC-7	12	3	2022	1250	48.991769	-81.17135497	Lynx					0			

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E-W	CNC-7	12	3	2022	1251	48.99247	-81.29077404	Fox					0			
E-W	CNC-7	12	3	2022	1252	48.99219	-81.32054899	Fox					0			
E-W	CNC-7	12	3	2022	1253	48.992331	-81.33903603	Beaver					0			
E-W	CNC-7	12	3	2022	1254	48.992386	-81.37746303	Fox					0			
E-W	CNC-7	12	3	2022	1255	48.992453	-81.39813096	Fox					0			
E-W	CNC-7	12	3	2022	1256	48.992291	-81.438735	Moose					0			
E-W	CNC-7	12	3	2022	1257	48.992408	-81.464981	Fox					0			
E-W	CNC-7	12	3	2022	1258	48.992724	-81.47776499	Fox					0			
E-W	CNC-7	12	3	2022	1259	48.992426	-81.50120096	Fox					0			
E-W	CNC-7	12	3	2022	1260	48.992758	-81.51448603	Moose					0			
E-W	CNC-7	12	3	2022	1261	48.992964	-81.51935197	Moose					0			Old
E-W	CNC-7	12	3	2022	1262	48.992925	-81.53731397	Otter					0			
E-W	CNC-7	12	3	2022	1263	48.993327	-81.55188901	Moose					0			
E-W	CNC-7	12	3	2022	1264	48.993275	-81.55770002	Moose					0	2		
E-W	CNC-7	12	3	2022	1265	48.993148	-81.56781496	Moose					0			
E-W	CNC-7	12	3	2022	1266	48.993309	-81.58436998	Wolf					0	3		
E-W	CNC-7	12	3	2022	1267	48.993173	-81.59417203	Marten					0			
E-W	CNC-7	12	3	2022	1268	48.993135	-81.59696203	Moose					0			
E-W	CNC-7	12	3	2022	1269	48.993068	-81.60179403	Lynx					0			
E-W	CNC-7	12	3	2022	1270	48.992906	-81.60888998	Beaver					0			
E-W	CNC-7	12	3	2022	1271	48.992526	-81.63124904	Moose					0			
E-W	CNC-7	12	3	2022	1272	48.991685	-81.66219603	Wolf					0	2		
E-W	CNC-7	12	3	2022	1273	48.991529	-81.671825	Moose					0			
E-W	CNC-7	12	3	2022	1274	48.991352	-81.67421803	Otter					0			
E-W	CNC-7	12	3	2022	1275	48.990663	-81.77145196	Marten					0			
W-E	CNC-8	12	3	2022	1276	48.962595	-81.77509499	Marten					0			
W-E	CNC-8	12	3	2022	1277	48.96318	-81.72167402	Otter					0			
W-E	CNC-8	12	3	2022	1278	48.963332	-81.70013504	Moose					0	2		
W-E	CNC-8	12	3	2022	1279	48.964068	-81.62074702	Moose					0			
W-E	CNC-8	12	3	2022	1280	48.964122	-81.59854101	Moose					0			
W-E	CNC-8	12	3	2022	1281	48.964572	-81.53680603	Lynx					0			
W-E	CNC-8	12	3	2022	1282	48.96463	-81.50950198	Lynx					0			
W-E	CNC-8	12	3	2022	1283	48.96457	-81.50103601	Beaver					0			
W-E	CNC-8	12	3	2022	1284	48.964849	-81.49009603	Marten					0			
W-E	CNC-8	12	3	2022	1285	48.96507	-81.46681001	Moose					0			
W-E	CNC-8	12	3	2022	1286	48.965086	-81.46400199	Lynx					0			
W-E	CNC-8	12	3	2022	1287	48.965331	-81.45247998	Otter					0			
W-E	CNC-8	12	3	2022	1288	48.965496	-81.42919497	Marten					0			
W-E	CNC-8	12	3	2022	1289	48.965599	-81.41395298	Moose					0			
W-E	CNC-8	12	3	2022	1290	48.965556	-81.41082301	Fox					0			
W-E	CNC-8	12	3	2022	1291	48.96559	-81.40290102	Moose					0			
W-E	CNC-8	12	3	2022	1292	48.965771	-81.36653404	Lynx					0			

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W-E	CNC-8	12	3	2022	1293	48.965817	-81.361077	Moose					0			Old
W-E	CNC-8	12	3	2022	1294	48.965975	-81.35642404	Marten					0			
W-E	CNC-8	12	3	2022	1295	48.966885	-81.22735597	Fox					0			
W-E	CNC-8	12	3	2022	1296	48.967153	-81.18842002	Marten					0			
W-E	CNC-8	12	3	2022	1297	48.967531	-81.15855999	Lynx					0			
W-E	CNC-8	12	3	2022	1298	48.967784	-81.13696896	Fox					0			
W-E	CNC-8	12	3	2022	1299	48.967906	-81.12811801	Otter					0			
W-E	CNC-8	12	3	2022	1300	48.967438	-81.100375	Moose					0			
E-W	CNC-9	12	3	2022	1301	48.942796	-81.06190299	Fox					0			
E-W	CNC-9	12	3	2022	1302	48.939035	-81.10781704	Moose					0			Old
E-W	CNC-9	12	3	2022	1303	48.938734	-81.14561398	Fox					0			
E-W	CNC-9	12	3	2022	1304	48.938601	-81.15417902						0			2 Sharp-tailed Grouse
E-W	CNC-9	12	3	2022	1305	48.938441	-81.16359701	Marten					0			
E-W	CNC-9	12	3	2022	1306	48.938417	-81.16712303	Fox					0			
E-W	CNC-9	12	3	2022	1307	48.938361	-81.18925301	Marten					0			
E-W	CNC-9	12	3	2022	1308	48.938203	-81.201231	Marten					0			
E-W	CNC-9	12	3	2022	1309	48.938073	-81.20937604	Lynx					0			
E-W	CNC-9	12	3	2022	1310	48.93819	-81.22177497	Lynx					0			
E-W	CNC-9	12	3	2022	1311	48.938184	-81.23278501	Otter					0			
E-W	CNC-9	12	3	2022	1312	48.936973	-81.32315098	Lynx					0			
E-W	CNC-9	12	3	2022	1313	48.936646	-81.34033598	Lynx					0			
E-W	CNC-9	12	3	2022	1314	48.936497	-81.35649998	Marten					0			
E-W	CNC-9	12	3	2022	1315	48.936482	-81.37062801	Moose					0			Old
E-W	CNC-9	12	3	2022	1316	48.936085	-81.41172096	Fox					0			
E-W	CNC-9	12	3	2022	1317	48.935758	-81.44768997	Moose					0			
E-W	CNC-9	12	3	2022	1318	48.935636	-81.47158502	Fox					0			
E-W	CNC-9	12	3	2022	1319	48.935746	-81.478572	Beaver					0			
E-W	CNC-9	12	3	2022	1320	48.935823	-81.48691703	Lynx					0			
E-W	CNC-9	12	3	2022	1321	48.936903	-81.53937098	Lynx					0			
E-W	CNC-9	12	3	2022	1322	48.936974	-81.55074203	Moose					0			
E-W	CNC-9	12	3	2022	1323	48.937073	-81.55820201	Beaver					0			
E-W	CNC-9	12	3	2022	1324	48.93762	-81.60630802	Moose					0			
E-W	CNC-9	12	3	2022	1325	48.937797	-81.62792302	Moose					0	2		
E-W	CNC-9	12	3	2022	1326	48.937902	-81.70625299	Moose					0			
E-W	CNC-9	12	3	2022	1327	48.937884	-81.71673196	Moose					0			
E-W	CNC-9	12	3	2022	1328	48.937266	-81.73972503	Marten					0			
E-W	CNC-9	12	3	2022	1329	48.936434	-81.77313002	Moose					0			
W-E	CNC-10	12	3	2022	1330	48.910386	-81.73096502	Fox					0			
W-E	CNC-10	12	3	2022	1331	48.910501	-81.69667499	Beaver					0			
W-E	CNC-10	12	3	2022	1332	48.910593	-81.66132197	Fox					0			
W-E	CNC-10	12	3	2022	1333	48.910558	-81.63515098	Moose					0	2		
W-E	CNC-10	12	3	2022	1334	48.910407	-81.62563702	Fox					0			

Transect Direction	Trancest Number	Location DD	MM	Year	WPT	Lat.	Long.	Species	Observed Animals Bull	Cow	Cow or Calve	unk.	Total #	Sign Track Sets Fresh /Old	Craters (Y/N)	Comments
W-E	CNC-10	12	3	2022	1335	48.910381	-81.61305503	Fox					0			
W-E	CNC-10	12	3	2022	1336	48.910432	-81.60065099	Lynx					0			
W-E	CNC-10	12	3	2022	1337	48.910326	-81.593764	Beaver					0			
W-E	CNC-10	12	3	2022	1338	48.910126	-81.58835197	Lynx					0			
W-E	CNC-10	12	3	2022	1339	48.910081	-81.58705596	Fox					0			
W-E	CNC-10	12	3	2022	1340	48.910117	-81.56630899	Lynx					0			
W-E	CNC-10	12	3	2022	1341	48.910158	-81.55830997	Lynx					0			
W-E	CNC-10	12	3	2022	1342	48.909604	-81.49085702	Moose					0			
W-E	CNC-10	12	3	2022	1343	48.90991	-81.47098898	Moose					0		Old	
W-E	CNC-10	12	3	2022	1344	48.910638	-81.43047899	Marten					0			
W-E	CNC-10	12	3	2022	1345	48.910736	-81.41194803	Lynx					0			
W-E	CNC-10	12	3	2022	1346	48.910753	-81.40794399	Moose					0			
W-E	CNC-10	12	3	2022	1347	48.910696	-81.39853698	Otter					0			
W-E	CNC-10	12	3	2022	1348	48.910581	-81.38353698	Fox					0			
W-E	CNC-10	12	3	2022	1349	48.910769	-81.26182504	Moose					0			
W-E	CNC-10	12	3	2022	1350	48.91069	-81.24327698	Moose					0			
W-E	CNC-10	12	3	2022	1351	48.911893	-81.21487498	Fox					0			
W-E	CNC-10	12	3	2022	1352	48.911819	-81.20128599	Fox					0			
W-E	CNC-10	12	3	2022	1353	48.91171	-81.19620002	Moose					0			
W-E	CNC-10	12	3	2022	1354	48.911302	-81.18148098	Fox					0			
W-E	CNC-10	12	3	2022	1355	48.910965	-81.16403899	Otter					0			
W-E	CNC-10	12	3	2022	1356	48.911374	-81.148667	Lynx					0			
W-E	CNC-10	12	3	2022	1357	48.911295	-81.14255802	Fox					0			
W-E	CNC-10	12	3	2022	1358	48.911218	-81.131741	Moose					0			
W-E	CNC-10	12	3	2022	1359	48.911612	-81.10966198	Lynx					0			
E-W	CNC-11	12	3	2022	1360	48.884875	-81.08460302	Lynx					0			
E-W	CNC-11	12	3	2022	1361	48.884625	-81.11887302	Fox					0			
E-W	CNC-11	12	3	2022	1362	48.884501	-81.13301204	Fox					0			
E-W	CNC-11	12	3	2022	1363	48.884542	-81.14352101	Fox					0	2		
E-W	CNC-11	12	3	2022	1364	48.88444	-81.16487601	Lynx					0			
E-W	CNC-11	12	3	2022	1365	48.884389	-81.17775899	Marten					0			
E-W	CNC-11	12	3	2022	1366	48.88437	-81.17837104	Fox					0			
E-W	CNC-11	12	3	2022	1367	48.88428	-81.18555299	Fox					0			
E-W	CNC-11	12	3	2022	1368	48.884316	-81.20124802	Fox					0			
E-W	CNC-11	12	3	2022	1369	48.884315	-81.20627699	Fox					0			
E-W	CNC-11	12	3	2022	1370	48.884283	-81.21742199	Fox					0			
E-W	CNC-11	12	3	2022	1371	48.884223	-81.22036697	Marten					0			
E-W	CNC-11	12	3	2022	1372	48.884126	-81.22661702	Moose					0			
E-W	CNC-11	12	3	2022	1373	48.884161	-81.24154201	Fox					0	3		
E-W	CNC-11	12	3	2022	1374	48.884056	-81.24601602	Fox					0			
E-W	CNC-11	12	3	2022	1375	48.884065	-81.29793	Lynx					0			
E-W	CNC-11	12	3	2022	1376	48.883876	-81.30764597	Lynx					0			

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E-W	CNC-11	12	3	2022	1377	48.883751	-81.321874	Lynx					0				
E-W	CNC-11	12	3	2022	1378	48.883444	-81.33107901	Fox					0				
E-W	CNC-11	12	3	2022	1379	48.883225	-81.35732702	Fox					0				
E-W	CNC-11	12	3	2022	1380	48.883363	-81.35892101	Lynx					0				
E-W	CNC-11	12	3	2022	1381	48.883877	-81.36820396	Lynx					0				
E-W	CNC-11	12	3	2022	1382	48.883898	-81.37864698	Lynx					0				
E-W	CNC-11	12	3	2022	1383	48.883956	-81.40237497	Marten					0				
E-W	CNC-11	12	3	2022	1384	48.883688	-81.43344702	Fox					0				
E-W	CNC-11	12	3	2022	1385	48.883844	-81.48193298	Lynx					0				
E-W	CNC-11	12	3	2022	1386	48.884176	-81.529265	Fox					0				
E-W	CNC-11	12	3	2022	1387	48.884106	-81.534932	Moose					0				
E-W	CNC-11	12	3	2022	1388	48.885482	-81.60527998	Lynx					0				
E-W	CNC-11	12	3	2022	1389	48.884511	-81.63928997	Lynx					0				
E-W	CNC-11	12	3	2022	1390	48.884437	-81.64724104	Moose					0				
E-W	CNC-11	12	3	2022	1391	48.884235	-81.69728796	Otter					0				
E-W	CNC-11	12	3	2022	1392	48.884264	-81.70222599	Moose					0				
E-W	CNC-11	12	3	2022	1393	48.884253	-81.72756197	Moose					0				
W-E	CNC-12	12	3	2022	1394	48.855764	-81.678082	Moose					0				
W-E	CNC-12	12	3	2022	1395	48.85649	-81.64140296	Moose					0				
W-E	CNC-12	12	3	2022	1396	48.856643	-81.59707401	Lynx					0				
W-E	CNC-12	12	3	2022	1397	48.856513	-81.58850603	Marten					0				
W-E	CNC-12	12	3	2022	1398	48.856354	-81.56971598	Moose					0				
W-E	CNC-12	12	3	2022	1399	48.857993	-81.547025	Fox					0				
W-E	CNC-12	12	3	2022	1400	48.858008	-81.54339798	Otter					0				
W-E	CNC-12	12	3	2022	1401	48.857928	-81.52349196	Beaver					0				
W-E	CNC-12	12	3	2022	1402	48.857748	-81.50873001	Moose					0				
W-E	CNC-12	12	3	2022	1403	48.857366	-81.47255296	Lynx					0				
W-E	CNC-12	12	3	2022	1404	48.85745	-81.46573403	Moose					0				
W-E	CNC-12	12	3	2022	1405	48.857427	-81.45742597	Fox					0				
W-E	CNC-12	12	3	2022	1406	48.857611	-81.44237199	Otter					0				
W-E	CNC-12	12	3	2022	1407	48.857635	-81.43189897						0				Sharp-tailed Grouse - Possible Lek?
W-E	CNC-12	12	3	2022	1408	48.857378	-81.41478698						0				Another possibLe Lek site, 3 seen
W-E	CNC-12	12	3	2022	1409	48.857658	-81.37186401	Moose					0				
W-E	CNC-12	12	3	2022	1410	48.857691	-81.34726203	Beaver					0				
W-E	CNC-12	12	3	2022	1411	48.857805	-81.33958999	Beaver					0				
W-E	CNC-12	12	3	2022	1412	48.857887	-81.33543299	Otter					0				
W-E	CNC-12	12	3	2022	1413	48.857791	-81.31342898	Fox					0				
W-E	CNC-12	12	3	2022	1414	48.857509	-81.24421399	Marten					0				
W-E	CNC-12	12	3	2022	1415	48.857125	-81.23279298	Fox					0				
W-E	CNC-12	12	3	2022	1416	48.856898	-81.22681299	Moose					0	2			

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W-E	CNC-12	12	3	2022	1417	48.856476	-81.21688899	Otter					0			
W-E	CNC-12	12	3	2022	1418	48.857096	-81.13605098	Fox					0			
W-E	CNC-12	12	3	2022	1419	48.857021	-81.107523	Marten					0			
E-W	CNC-13	13	3	2022	1420	48.830985	-81.09393803	Fox					0			
E-W	CNC-13	13	3	2022	1421	48.830364	-81.18579296	Fox					0			
E-W	CNC-13	13	3	2022	1422	48.830237	-81.20820299	Fox					0			
E-W	CNC-13	13	3	2022	1423	48.830088	-81.23412302	Fox					0			
E-W	CNC-13	13	3	2022	1424	48.830472	-81.26828296	Marten					0			
E-W	CNC-13	13	3	2022	1425	48.830627	-81.283664	Fox					0			
E-W	CNC-13	13	3	2022	1426	48.830593	-81.29864599	Fox					0			
E-W	CNC-13	13	3	2022	1427	48.830689	-81.36849901	Fox					0			
E-W	CNC-13	13	3	2022	1428	48.830726	-81.39109896	Fox					0			
E-W	CNC-13	13	3	2022	1429	48.830633	-81.41416102	Lynx					0			
E-W	CNC-13	13	3	2022	1430	48.830844	-81.43297596	Marten					0			
E-W	CNC-13	13	3	2022	1431	48.830905	-81.43622302	Lynx					0			
E-W	CNC-13	13	3	2022	1432	48.830947	-81.46408699	Fox					0			
E-W	CNC-13	13	3	2022	1433	48.831267	-81.608922	Fox					0			
E-W	CNC-13	13	3	2022	1434	48.831055	-81.61650301	Beaver					0			
E-W	CNC-13	13	3	2022	1435	48.830898	-81.62042297	Moose					0			Old
E-W	CNC-13	13	3	2022	1436	48.830718	-81.62856901	Fox					0			
E-W	CNC-13	13	3	2022	1437	48.830196	-81.66751502	Lynx					0			
W-E	CNC-14	13	3	2022	1438	48.802548	-81.70036504	Moose					0			
W-E	CNC-14	13	3	2022	1439	48.802796	-81.68119504	Fox					0			
W-E	CNC-14	13	3	2022	1440	48.802889	-81.66476299	Marten					0			
W-E	CNC-14	13	3	2022	1441	48.802967	-81.64953399	Otter					0			
W-E	CNC-14	13	3	2022	1442	48.803304	-81.63362003	Fox					0			
W-E	CNC-14	13	3	2022	1443	48.803363	-81.62145797	Moose					0			
W-E	CNC-14	13	3	2022	1444	48.80342	-81.60722902	Fox					0			
W-E	CNC-14	13	3	2022	1445	48.803364	-81.59116703	Fox					0			
W-E	CNC-14	13	3	2022	1446	48.804693	-81.489659	Fox					0			
W-E	CNC-14	13	3	2022	1447	48.802726	-81.45313201	Beaver					0			
W-E	CNC-14	13	3	2022	1448	48.802604	-81.41995098	Fox					0			
W-E	CNC-14	13	3	2022	1449	48.802787	-81.38708697	Fox					0			
W-E	CNC-14	13	3	2022	1450	48.803041	-81.37552204	Lynx					0			
W-E	CNC-14	13	3	2022	1451	48.803195	-81.36200102	Fox					0			
W-E	CNC-14	13	3	2022	1452	48.803117	-81.33555201						0			Not a nest
W-E	CNC-14	13	3	2022	1453	48.803141	-81.30750298	Lynx					0			
W-E	CNC-14	13	3	2022	1454	48.802915	-81.30022899	Moose					0			
W-E	CNC-14	13	3	2022	1455	48.802201	-81.269268	Moose					0			
W-E	CNC-14	13	3	2022	1456	48.801755	-81.17030698	Fox					0			
W-E	CNC-14	13	3	2022	1457	48.802995	-81.14206298	Fox					0			
W-E	CNC-14	13	3	2022	1458	48.802937	-81.12978299	Fox					0			

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W-E	CNC-14	13	3	2022	1459	48.802918	-81.12857399						0				Sharp-tailed Grouse
W-E	CNC-14	13	3	2022	1460	48.802827	-81.12424901	Fox					0				
W-E	CNC-14	13	3	2022	1461	48.802781	-81.11620397	Marten					0				
W-E	CNC-14	13	3	2022	1462	48.802789	-81.10637703	Fox					0				
W-E	CNC-14	13	3	2022	1463	48.801531	-81.07693903	Marten					0				
E-W	CNC-15	13	3	2022	1464	48.77774	-81.101655	Moose					0				
E-W	CNC-15	13	3	2022	1465	48.777748	-81.10211198	Fox					0				
E-W	CNC-15	13	3	2022	1466	48.778089	-81.12021999	Otter					0				
E-W	CNC-15	13	3	2022	1467	48.778247	-81.13073199	Moose					0				
E-W	CNC-15	13	3	2022	1468	48.778332	-81.14815797	Lynx					0				
E-W	CNC-15	13	3	2022	1469	48.778408	-81.16179398	Marten					0				
E-W	CNC-15	13	3	2022	1470	48.77831	-81.18648003	Marten					0				
E-W	CNC-15	13	3	2022	1471	48.778248	-81.20571096	Marten					0				
E-W	CNC-15	13	3	2022	1472	48.778274	-81.20822403	Fox					0				
E-W	CNC-15	13	3	2022	1473	48.778422	-81.23674597	Lynx					0				
E-W	CNC-15	13	3	2022	1474	48.777956	-81.34098398	Lynx					0				
E-W	CNC-15	13	3	2022	1475	48.777899	-81.34391002	Moose					0				
E-W	CNC-15	13	3	2022	1476	48.777826	-81.36813599	Moose					0				
E-W	CNC-15	13	3	2022	1477	48.777802	-81.373114	Lynx					0				
E-W	CNC-15	13	3	2022	1478	48.777732	-81.38845297	Moose					0				
E-W	CNC-15	13	3	2022	1479	48.777531	-81.40231404	Lynx					0				
E-W	CNC-15	13	3	2022	1480	48.777299	-81.42850203	Fox					0				
E-W	CNC-15	13	3	2022	1481	48.777197	-81.45291097	Wolf					0	2			
E-W	CNC-15	13	3	2022	1482	48.77698	-81.47319904	Marten					0				
E-W	CNC-15	13	3	2022	1483	48.776681	-81.60136504	Beaver					0				
E-W	CNC-15	13	3	2022	1484	48.775814	-81.62913797	Fox					0				
E-W	CNC-15	13	3	2022	1485	48.775992	-81.65208201	Lynx					0				
E-W	CNC-15	13	3	2022	1486	48.775942	-81.675449	Fox					0				
W-E	CNC-16	13	3	2022	1487	48.747756	-81.65768296	Moose					0				
W-E	CNC-16	13	3	2022	1488	48.748946	-81.59041802	Moose					0				
W-E	CNC-16	13	3	2022	1489	48.749059	-81.57290898	Fox					0				
W-E	CNC-16	13	3	2022	1490	48.749188	-81.55872697	Moose					0	3			
W-E	CNC-16	13	3	2022	1491	48.749195	-81.49975902	Moose					0	2			
W-E	CNC-16	13	3	2022	1492	48.749152	-81.47813397	Marten					0				
W-E	CNC-16	13	3	2022	1493	48.749082	-81.47015699	Fox					0				
W-E	CNC-16	13	3	2022	1494	48.749085	-81.46978903	Beaver					0				
W-E	CNC-16	13	3	2022	1495	48.749308	-81.45253496	Moose					0				
W-E	CNC-16	13	3	2022	1496	48.749222	-81.44969802	Wolf					0	2			
W-E	CNC-16	13	3	2022	1497	48.749337	-81.41403898	Moose					0				
W-E	CNC-16	13	3	2022	1498	48.749517	-81.40060304	Moose					0				
W-E	CNC-16	13	3	2022	1499	48.749406	-81.39108103	Moose					0				
W-E	CNC-16	13	3	2022	1500	48.748846	-81.25099797	Marten					0				

Transect Direction	Trancest Number	Location DD	MM	Year	WPT	Lat.	Long.	Observed Animals Species	Bull	Cow	Cow or Calve	unk.	Total #	Sign Track Sets Fresh /Old	Craters (Y/N)	Comments
W-E	CNC-16	13	3	2022	1501	48.748566	-81.23174499	Moose				1	1			
W-E	CNC-16	13	3	2022	1502	48.749546	-81.16694801	Moose				2	2			
W-E	CNC-16	13	3	2022	1503	48.749648	-81.15914396	Fox					0			
W-E	CNC-16	13	3	2022	1506	48.74999	-81.13750298	Otter					0			
W-E	CNC-16	13	3	2022	1507	48.749223	-81.11585101	Marten					0			
W-E	CNC-16	13	3	2022	1508	48.722696	-81.107767	Fox					0			
E-W	CNC-17	13	3	2022	1509	48.722283	-81.12904899	Marten					0			
E-W	CNC-17	13	3	2022	1510	48.722256	-81.12943003	Moose					0			Old
E-W	CNC-17	13	3	2022	1511	48.721386	-81.26849703	Fox					0			
E-W	CNC-17	13	3	2022	1512	48.722169	-81.29895897	Lynx					0			
E-W	CNC-17	13	3	2022	1513	48.722161	-81.29928502	Otter					0			
E-W	CNC-17	13	3	2022	1514	48.722135	-81.30510198	Moose					0			
E-W	CNC-17	13	3	2022	1515	48.721954	-81.33166398	Lynx					0			
E-W	CNC-17	13	3	2022	1516	48.721825	-81.34853097	Fox					0			
E-W	CNC-17	13	3	2022	1517	48.721797	-81.39874301	Lynx					0			
E-W	CNC-17	13	3	2022	1518	48.721844	-81.40459098	Lynx					0			
E-W	CNC-17	13	3	2022	1519	48.721156	-81.48883598	Moose					0			Old
E-W	CNC-17	13	3	2022	1520	48.720935	-81.50020704	Marten					0			
E-W	CNC-17	13	3	2022	1521	48.720786	-81.53763701	Marten					0			
E-W	CNC-17	13	3	2022	1522	48.720775	-81.55815499	Otter					0			
E-W	CNC-17	13	3	2022	1523	48.720654	-81.57426702	Otter					0			
E-W	CNC-17	13	3	2022	1524	48.72036	-81.59574397	Otter					0			
E-W	CNC-17	13	3	2022	1525	48.72036	-81.59608997	Lynx					0			
E-W	CNC-17	13	3	2022	1526	48.720689	-81.65058701	Fox					0			
E-W	CNC-17	13	3	2022	1527	48.720628	-81.67927399	Fox					0			
E-W	CNC-17	13	3	2022	1528	48.720402	-81.69523297	Fox					0			
E-W	CNC-18	13	3	2022	1529	48.695099	-81.08791396	Fox					0			
E-W	CNC-18	13	3	2022	1530	48.695427	-81.10061296	Lynx					0			
E-W	CNC-18	13	3	2022	1531	48.695196	-81.13134102	Fox					0			
E-W	CNC-18	13	3	2022	1532	48.695179	-81.13184402	Lynx					0			
E-W	CNC-18	13	3	2022	1533	48.695118	-81.13791796	Marten					0			
E-W	CNC-18	13	3	2022	1534	48.695287	-81.15299198	Lynx					0			
E-W	CNC-18	13	3	2022	1535	48.695379	-81.17244696	Fox					0			
E-W	CNC-18	13	3	2022	1536	48.695142	-81.18424499	Fox					0			
E-W	CNC-18	13	3	2022	1537	48.694842	-81.279119	Marten				1	1			
E-W	CNC-18	13	3	2022	1538	48.696414	-81.32353798	Moose					0			
E-W	CNC-18	13	3	2022	1539	48.695435	-81.34988104	Moose					0			
E-W	CNC-18	13	3	2022	1540	48.695239	-81.35942903	Moose			1		1			
E-W	CNC-18	13	3	2022	1541	48.694577	-81.45600398	Moose					0			Old
E-W	CNC-18	13	3	2022	1542	48.694464	-81.47032698	Moose					0			Old
E-W	CNC-18	13	3	2022	1543	48.694311	-81.49009	Fox					0			
E-W	CNC-18	13	3	2022	1544	48.694072	-81.49861598	Moose					0			

Transect Direction	Trancest Number	Location DD	MM	Year	WPT	Lat.	Long.	Species	Observed Animals Bull	Cow	Cow or Calve	unk.	Total #	Sign Track Sets Fresh /Old	Craters (Y/N)	Comments
E-W	CNC-18	13	3	2022	1545	48.693954	-81.50311497	Fox					0			
E-W	CNC-18	13	3	2022	1546	48.69414	-81.52075603	Moose					0			
E-W	CNC-18	13	3	2022	1547	48.694357	-81.52848104	Moose					0			Old
E-W	CNC-18	13	3	2022	1548	48.694494	-81.53376801	Fox					0			
E-W	CNC-18	13	3	2022	1549	48.694483	-81.54384197	Moose					0			
E-W	CNC-18	13	3	2022	1550	48.694336	-81.60611398	Moose					0			Old
E-W	CNC-18	13	3	2022	1552	48.694503	-81.61160798	Marten					0			
E-W	CNC-18	13	3	2022	1553	48.694704	-81.61965997	Fox					0			
E-W	CNC-18	13	3	2022	1554	48.694461	-81.67030301	Moose					0			
E-W	CNC-18	13	3	2022	1555	48.694335	-81.67742897	Moose					0			
E-W	CNC-18	13	3	2022	1556	48.694057	-81.69115199	Fox					0			
E-W	CNC-18	13	3	2022	1557	48.694154	-81.700229	Fox					0			
E-W	CNC-18	13	3	2022	1558	48.694021	-81.70814998	Fox					0			
E-W	CNC-19	13	3	2022	1559	48.667569	-81.69934999	Lynx					0			
W-E	CNC-19	13	3	2022	1560	48.667334	-81.68019198	Otter					0			
W-E	CNC-19	13	3	2022	1561	48.667186	-81.67441601	Fox					0			
W-E	CNC-19	13	3	2022	1562	48.667105	-81.66663601	Marten					0			
W-E	CNC-19	13	3	2022	1563	48.66661	-81.63454397	Otter					0			
W-E	CNC-19	13	3	2022	1564	48.666527	-81.63120302	Moose					0	2		Old
W-E	CNC-19	13	3	2022	1565	48.666268	-81.62144003	Marten					0			
W-E	CNC-19	13	3	2022	1566	48.666449	-81.58721102	Marten					0			
W-E	CNC-19	13	3	2022	1567	48.666929	-81.52888102	Moose					0			
W-E	CNC-19	13	3	2022	1568	48.667152	-81.51227103	Marten					0			
W-E	CNC-19	13	3	2022	1569	48.667055	-81.50403002	Moose					0			
W-E	CNC-19	13	3	2022	1570	48.666837	-81.49058503	Otter					0			
W-E	CNC-19	13	3	2022	1571	48.666403	-81.46608003	Marten					0			
W-E	CNC-19	13	3	2022	1572	48.666544	-81.399316	Beaver					0			
W-E	CNC-19	13	3	2022	1573	48.666595	-81.35586899	Lynx					0			
W-E	CNC-19	13	3	2022	1574	48.666791	-81.34293697	Lynx					0			
W-E	CNC-19	13	3	2022	1575	48.667013	-81.33046302	Moose					0			
W-E	CNC-19	13	3	2022	1576	48.666716	-81.23070798	Moose					0			
W-E	CNC-19	13	3	2022	1577	48.666946	-81.20677999	Moose					0			
W-E	CNC-19	13	3	2022	1578	48.667267	-81.140341	Fox					0			
W-E	CNC-19	13	3	2022	1579	48.6672	-81.118884	Marten					0			
W-E	CNC-19	13	3	2022	1580	48.666887	-81.09921603	Fox					0			
E-W	CNC-20	13	3	2022	1581	48.642356	-81.09550897	Lynx					0			
E-W	CNC-20	13	3	2022	1582	48.642193	-81.107638	Moose					0			
E-W	CNC-20	13	3	2022	1583	48.642119	-81.11678098	Moose					0			
E-W	CNC-20	13	3	2022	1584	48.642289	-81.14316998	Marten					0			
E-W	CNC-20	13	3	2022	1585	48.641709	-81.187827	Marten					0			
E-W	CNC-20	13	3	2022	1586	48.641499	-81.20061401	Lynx					0			
E-W	CNC-20	13	3	2022	1587	48.64149	-81.20189502	Moose					0			Old

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E-W	CNC-20	13	3	2022	1588	48.641266	-81.21406403	Fox					0			
E-W	CNC-20	13	3	2022	1589	48.641062	-81.22495799	Marten					0			
E-W	CNC-20	13	3	2022	1590	48.641234	-81.23275903	Otter					0			
E-W	CNC-20	13	3	2022	1591	48.641329	-81.25550299	Otter					0			
E-W	CNC-20	13	3	2022	1592	48.641314	-81.25759302	Marten					0			
E-W	CNC-20	13	3	2022	1593	48.639236	-81.32826302	Fox					0			
E-W	CNC-20	13	3	2022	1594	48.638984	-81.34090503	Lynx					0			
E-W	CNC-20	13	3	2022	1595	48.639282	-81.35144301	Moose					0			
E-W	CNC-20	13	3	2022	1596	48.639443	-81.35666996	Fox					0			
E-W	CNC-20	13	3	2022	1597	48.640004	-81.37111198	Fox					0			
E-W	CNC-20	13	3	2022	1598	48.640386	-81.39578797	Lynx					0			
E-W	CNC-20	13	3	2022	1599	48.640215	-81.401905	Lynx					0			
E-W	CNC-20	13	3	2022	1600	48.640248	-81.41172901	Moose					0			
E-W	CNC-20	13	3	2022	1601	48.640584	-81.42605896	Moose					0			
E-W	CNC-20	13	3	2022	1602	48.640649	-81.44199899	Otter					0			
E-W	CNC-20	13	3	2022	1603	48.640173	-81.46762901	Fox					0			
E-W	CNC-20	13	3	2022	1604	48.64044	-81.51594901	Moose					0			Old
E-W	CNC-20	13	3	2022	1605	48.639049	-81.52744696	Fox					0			2 seen
E-W	CNC-20	13	3	2022	1606	48.639102	-81.53430697	Moose					0			
E-W	CNC-20	13	3	2022	1607	48.640468	-81.56952898	Moose					0			
E-W	CNC-20	13	3	2022	1608	48.643472	-81.574624	Moose				1	1			
E-W	CNC-20	13	3	2022	1609	48.642277	-81.61599096	Fox					0			
E-W	CNC-20	13	3	2022	1610	48.641814	-81.63319096	Moose					0			
E-W	CNC-20	13	3	2022	1611	48.64121	-81.66005597	Fox					0			
E-W	CNC-20	13	3	2022	1612	48.641268	-81.66688101	Otter					0			
E-W	CNC-20	13	3	2022	1613	48.64116	-81.67263703	Marten					0			
E-W	CNC-20	13	3	2022	1614	48.6404	-81.71388798	Lynx					0			
E-W	CNC-20	13	3	2022	1615	48.640023	-81.71894504	Otter					0			
W-E	CNC-21	13	3	2022	1616	48.612799	-81.72521202	Wolf					0	2		
W-E	CNC-21	13	3	2022	1617	48.612887	-81.71057898	Lynx					0			
W-E	CNC-21	13	3	2022	1618	48.612016	-81.67855298	Wolf					0	2		
W-E	CNC-21	13	3	2022	1619	48.611732	-81.67117196	Wolf					0	2		
W-E	CNC-21	13	3	2022	1620	48.611551	-81.66406604	Moose					0			Old
W-E	CNC-21	13	3	2022	1621	48.612208	-81.646788	Fox					0			
W-E	CNC-21	13	3	2022	1622	48.613309	-81.636017	Fox					0			
W-E	CNC-21	13	3	2022	1623	48.613992	-81.59704702	Moose					0			
W-E	CNC-21	13	3	2022	1624	48.613828	-81.57489801	Marten					0			
W-E	CNC-21	13	3	2022	1625	48.613809	-81.55739802	Wolf					0			
W-E	CNC-21	13	3	2022	1626	48.61624	-81.42855501	Moose					0			Old
W-E	CNC-21	13	3	2022	1627	48.615838	-81.417121	Moose					0			Old
W-E	CNC-21	13	3	2022	1628	48.616627	-81.22379098	Moose					0			Old
W-E	CNC-21	13	3	2022	1629	48.616749	-81.19101699	Lynx					0			

Transect Direction	Trancest Number	Location DD	MM	Year	WPT	Lat.	Long.	Species	Observed Animals Bull	Cow	Cow or Calve	unk.	Total #	Sign Track Sets Fresh /Old	Craters (Y/N)	Comments
W-E	CNC-21	13	3	2022	1630	48.616797	-81.18558099	Fox					0			
W-E	CNC-21	13	3	2022	1631	48.616508	-81.16905003	Marten					0			
W-E	CNC-21	13	3	2022	1632	48.616792	-81.15712602	Otter					0			
W-E	CNC-21	13	3	2022	1633	48.616669	-81.15192597	Moose					0			
W-E	CNC-21	13	3	2022	1634	48.616561	-81.14217496	Moose					0			Old
W-E	CNC-21	13	3	2022	1635	48.616472	-81.13639598	Fox					0			
W-E	CNC-21	13	3	2022	1636	48.616087	-81.130029	Moose					0			Old
W-E	CNC-21	13	3	2022	1637	48.615751	-81.122737	Lynx					0			
W-E	CNC-21	13	3	2022	1638	48.6157	-81.11744802	Moose					0			Old
W-E	CNC-21	13	3	2022	1639	48.615706	-81.10418902	Moose					0			Old
W-E	CNC-21	13	3	2022	1640	48.615474	-81.08974499	Fox					0			
W-E	CNC-21	13	3	2022	1641	48.610044	-81.06875402	Moose					0			
E-W	CNC-25	13	3	2022	1642	48.588731	-81.11271702	Lynx					0			
E-W	CNC-25	13	3	2022	1643	48.588605	-81.11666104	Moose					0			Old
E-W	CNC-25	13	3	2022	1644	48.588342	-81.12198103	Wolf					0			Old
E-W	CNC-25	13	3	2022	1645	48.588204	-81.12590997	Moose					0			Old
E-W	CNC-25	13	3	2022	1646	48.588089	-81.12935903	Fox					0			
E-W	CNC-25	13	3	2022	1647	48.58799	-81.14965104	Moose					0			Old
E-W	CNC-25	13	3	2022	1648	48.587266	-81.17782102	Lynx					0			
E-W	CNC-25	13	3	2022	1649	48.587259	-81.192572	Lynx					0			
E-W	CNC-25	13	3	2022	1650	48.58744	-81.19740802	Fox					0			
E-W	CNC-25	13	3	2022	1651	48.587508	-81.23177097	Fox					0			
E-W	CNC-25	13	3	2022	1652	48.587254	-81.258238	Moose					0			
E-W	CNC-25	13	3	2022	1653	48.587182	-81.26422201	Otter					0			
E-W	CNC-25	13	3	2022	1654	48.586586	-81.30139802	Moose					0			
W-E	CNC-26	13	3	2022	1655	48.576191	-81.34782798	Moose					0			Old
W-E	CNC-26	13	3	2022	1656	48.562532	-81.32384702	Moose					0			
W-E	CNC-26	13	3	2022	1657	48.561652	-81.31134097	Moose					0			
W-E	CNC-26	13	3	2022	1658	48.561292	-81.28781397	Moose					0			
W-E	CNC-26	13	3	2022	1659	48.560983	-81.25197999	Fox					0			
W-E	CNC-26	13	3	2022	1660	48.561414	-81.21315904	Marten					0			
W-E	CNC-26	13	3	2022	1661	48.561908	-81.17879299	Moose					0			
W-E	CNC-26	13	3	2022	1662	48.561479	-81.15002101	Moose					0	2		
W-E	CNC-26	13	3	2022	1663	48.560658	-81.12989003	Fox					0			
W-E	CNC-26	13	3	2022	1664	48.560551	-81.126692	Moose					0			
E-W	CNC-27	13	3	2022	1665	48.53413	-81.14091902	Fox					0			Missed Last 6km
E-W	CNC-27	13	3	2022	1666	48.534147	-81.14953302	Lynx					0			Missed Last 6km
E-W	CNC-27	13	3	2022	1667	48.534865	-81.165853	Lynx					0			Missed Last 6km
E-W	CNC-27	13	3	2022	1668	48.535215	-81.17289397	Moose					0			Missed Last 6km
E-W	CNC-27	13	3	2022	1669	48.539174	-81.18279702	Moose					0			Missed Last 6km
E-W	CNC-27	13	3	2022	1670	48.542372	-81.19806902	Moose					0			Missed Last 6km
E-W	CNC-27	13	3	2022	1671	48.541729	-81.19969896	Moose			1	1	2			Missed Last 6km

Transect Direction	Trancest Number	Location							Observed Animals					Sign		
		DD	MM	Year	WPT	Lat.	Long.	Species	Bull	Cow or Calve	unk.	Total #	Track Sets Fresh /Old	Craters (Y/N)	Comments	
E-W	CNC-27	13	3	2022	1672	48.541423	-81.21088201	Lynx				0			Missed Last 6km	
E-W	CNC-27	13	3	2022	1673	48.535353	-81.22595703	Moose				0			Missed Last 6km	
E-W	CNC-27	13	3	2022	1674	48.535087	-81.23191397	Moose				0			Missed Last 6km	
W-E	CNC-28	13	3	2022	1675	48.515761	-81.26767301	Moose				0			Missed W 6km	
W-E	CNC-28	13	3	2022	1676	48.507656	-81.273754	Moose				0			Missed W 6km	
W-E	CNC-28	13	3	2022	1677	48.508281	-81.27315603	Fox				0			Missed W 6km	
W-E	CNC-28	13	3	2022	1678	48.507263	-81.21863301	Fox				0			Missed W 6km	
W-E	CNC-28	13	3	2022	1679	48.507148	-81.20106596	Moose				0			Missed W 6km	
E-W	CNC-29	13	3	2022	1680	48.481037	-81.23086698	Fox				0				
E-W	CNC-29	13	3	2022	1681	48.48153	-81.25808696	Fox				0				
E-W	CNC-29	13	3	2022	1682	48.481297	-81.26756597	Fox				0				
W-E	CNC-22	13	3	2022	1683	48.587037	-81.49247901	Moose				0			Old	
W-E	CNC-22	13	3	2022	1684	48.586473	-81.49742701	Moose		1	1 1	3				
W-E	CNC-22	13	3	2022	1685	48.586219	-81.53186196	Moose				0	2			
W-E	CNC-22	13	3	2022	1686	48.586217	-81.55549197	Wolf				0	3			
W-E	CNC-22	13	3	2022	1687	48.584648	-81.66136396	Lynx				0				
W-E	CNC-22	13	3	2022	1688	48.584816	-81.70322503	Otter				0				
W-E	CNC-22	13	3	2022	1689	48.585124	-81.71253699	Marten				0				
W-E	CNC-23	13	3	2022	1690	48.559937	-81.70220302	Otter				0			Missed Last ~6km	
W-E	CNC-23	13	3	2022	1691	48.5599	-81.67387504	Fox				0			Missed Last ~6km	
W-E	CNC-23	13	3	2022	1692	48.559593	-81.66301503	Lynx				0			Missed Last ~6km	
W-E	CNC-23	13	3	2022	1693	48.558934	-81.65180197	Fox				0			Missed Last ~6km	
W-E	CNC-23	13	3	2022	1694	48.55844	-81.59687502	Lynx				0			Missed Last ~6km	
W-E	CNC-23	13	3	2022	1695	48.558756	-81.56434796	Moose				0			Missed Last ~6km	
W-E	CNC-23	13	3	2022	1696	48.558864	-81.55618499	Marten				0			Missed Last ~6km	
W-E	CNC-23	13	3	2022	1697	48.546094	-81.55313398	Fox				0				
W-E	CNC-24	13	3	2022	1698	48.53376	-81.72326297	Moose				0				
W-E	CNC-24	13	3	2022	1699	48.5323	-81.71054997	Moose				0				
W-E	CNC-24	13	3	2022	1700	48.532298	-81.70499302	Lynx				0				
W-E	CNC-24	13	3	2022	1701	48.532606	-81.690837	Otter				0				
W-E	CNC-24	13	3	2022	1702	48.532597	-81.69055704	Fox				0				
W-E	CNC-24	13	3	2022	1703	48.532731	-81.65780903	Fox				0				
W-E	CNC-24	13	3	2022	1704	48.531686	-81.61774697	Marten				0				
W-E	CNC-24	13	3	2022	1705	48.531156	-81.59898601	Fox				0				
W-E	CNC-24	13	3	2022	1706	48.531179	-81.59021602	Moose				0			Old	
W-E	CNC-24	13	3	2022	1707	48.532063	-81.50960198	Otter				0				
W-E	CNC-24	13	3	2022	1708	48.532076	-81.48332496	Moose				0			Old	
W-E	CNC-24	13	3	2022	1709	48.531752	-81.45626097	Fox				0				
W-E	CNC-24	13	3	2022	1710	48.534497	-81.42836298	Lynx				0				
W-E	CNC-24	13	3	2022	1711	48.535483	-81.42148403	Lynx				0				
E-W	CNC-23	17	3	2021	309	48.561988	-81.396508	Moose				0	1		old	
E-W	CNC-23	17	3	2021	310	48.561851	-81.412098	Beaver				0			lodge	

Transect Direction	Trancest Number	Location DD	MM	Year	WPT	Lat.	Long.	Species	Observed Animals Bull	Cow	Cow or Calve	unk.	Total #	Sign Track Sets	Fresh /Old	Craters (Y/N)	Comments
E-W	CNC-23	17	3	2021	311	48.559897	-81.44249	Moose					0	1			old
E-W	CNC-23	17	3	2021	312	48.559844	-81.522296	Moose					0	1			old
E-W	CNC-23	17	3	2021	313	48.559303	-81.542359	Moose					0	1			old
E-W	CNC-23	17	3	2021	314	48.558897	-81.601061	Moose					0	1			old
E-W	CNC-23	17	3	2021	315	48.559174	-81.639802	Otter					0				hole
E-W	CNC-23	17	3	2021	316	48.558861	-81.653642	Wolf					0	1			old
E-W	CNC-23	17	3	2021	317	48.558273	-81.670767	Moose					0	1			old
E-W	CNC-23	17	3	2021	318	48.55765	-81.69218	Wolf					0	1			old
E-W	CNC-23	17	3	2021	319	48.557201	-81.701551	Otter					0	1			
E-W	CNC-23	17	3	2021	320	48.563956	-81.720481	Moose					0	1			
E-W	CNC-23	17	3	2021	321	48.569096	-81.720634	Moose					0	1			
W-E	CNC-22	17	3	2021	322	48.585519	-81.682113	Otter					0	1			
W-E	CNC-22	17	3	2021	323	48.584994	-81.589079	Wolf					0	1			
W-E	CNC-22	17	3	2021	324	48.585256	-81.572307	Moose					0	1+			
W-E	CNC-22	17	3	2021	325	48.586816	-81.542695	Moose					0	1+			
E-W	CNC-21	17	3	2021	326	48.613346	-81.473352	Moose					0	1			star
E-W	CNC-21	17	3	2021	327	48.61391	-81.524378	Otter					0	1			old
E-W	CNC-21	17	3	2021	328	48.61679	-81.539582	Moose					0	1+			higher activity - old
E-W	CNC-21	17	3	2021	329	48.614513	-81.555731	Moose					0	1			old
E-W	CNC-21	17	3	2021	330	48.614396	-81.578021	Moose					0	1+			
E-W	CNC-21	17	3	2021	331	48.613651	-81.598405	Moose					0	1			
E-W	CNC-21	17	3	2021	332	48.601798	-81.715649	No nest					0				
W-E	CNC-20	17	3	2021	333	48.639728	-81.650801	Moose					0				star
W-E	CNC-20	17	3	2021	334	48.639969	-81.62443	Moose					0				star
W-E	CNC-20	17	3	2021	335	48.643133	-81.524246	Marten					0	1			unsure, old
W-E	CNC-20	17	3	2021	336	48.641087	-81.487268	Moose					0				
W-E	CNC-20	17	3	2021	337	48.642149	-81.401019	Moose					0	1			
E- W	Center 19&20	17	3	2021	338	48.658206	-81.438824	Moose					0				
E- W	Center 19&20	17	3	2021	339	48.656008	-81.554556	Moose					0	1			
E- W	Center 19&20	17	3	2021	340	48.655558	-81.580447	Moose					0				
E- W	Center 19&20	17	3	2021	341	48.655243	-81.641922	Moose					0				
E- W	Center 19&20	17	3	2021	342	48.653114	-81.674266	No nest					0				
E- W	Center 19&20	17	3	2021	343	48.654914	-81.67773	Moose					0	1			
W-E	CNC-19	17	3	2021	344	48.668246	-81.502975	Otter					0	1			
W-E	CNC-19	17	3	2021	345	48.668417	-81.49315	Moose					0	1			
W-E	CNC-19	17	3	2021	346	48.663826	-81.437208	Wolf					0	1			
W-E	CNC-19	17	3	2021	347	48.670155	-81.400265	Beaver					0				lodge+dam
W-E	CNC-19	17	3	2021	348	48.67105	-81.379469	Moose					0				
W-E	CNC-19	17	3	2021	349	48.669736	-81.34424	Moose					0	1+			
W-E	CNC-19	17	3	2021	350	48.669764	-81.308675	Moose					0				
W-E	CNC-19	17	3	2021	351	48.669247	-81.232327	Moose					0				star
W-E	CNC-19	17	3	2021	352	48.669382	-81.216813	Moose					0				

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W-E	CNC-19	17	3	2021	353	48.669587	-81.201658	Moose					0			
E-W	CNC-18	17	3	2021	354	48.694832	-81.082119	Rabbit					0			
E-W	CNC-18	17	3	2021	355	48.697931	-81.102975	Moose					0			
E-W	CNC-18	17	3	2021	356	48.69652	-81.136107	Moose					0			
E-W	CNC-18	17	3	2021	357	48.696284	-81.150366	Crossbills					0			~20
E-W	CNC-18	17	3	2021	358	48.69448	-81.272468	Lynx					0	1		
E-W	CNC-18	17	3	2021	359	48.695103	-81.521992	Moose					0	1+		
E-W	CNC-18	17	3	2021	360	48.694927	-81.562811	Moose					0			
E-W	CNC-18	17	3	2021	361	48.693828	-81.609034	Moose					0			
W-E	CNC-17	17	3	2021	362	48.722803	-81.612195	Moose					0			
W-E	CNC-17	17	3	2021	363	48.723349	-81.509623	Otter					0			
W-E	CNC-17	17	3	2021	364	48.722444	-81.458898	Moose					0			
W-E	CNC-17	17	3	2021	365	48.722917	-81.44371	Moose					0			
W-E	CNC-17	17	3	2021	366	48.722569	-81.298388	Otter					0			
W-E	CNC-17	17	3	2021	367	48.722598	-81.291412	Moose					0			
W-E	CNC-17	17	3	2021	368	48.721789	-81.210097	Moose					0			star
E-W	CNC-16	17	3	2021	369	48.749272	-81.160331	Moose					0			
E-W	CNC-16	17	3	2021	370	48.749189	-81.235229	Moose					0			
E-W	CNC-16	17	3	2021	371	48.749259	-81.264566	Moose		1			1			
E-W	CNC-16	17	3	2021	372	48.750533	-81.326998	Moose					0			+grouse-wing patches
E-W	CNC-16	17	3	2021	373	48.754737	-81.62304	Moose					0			
W-E	CNC-15	17	3	2021	374	48.770187	-81.623157	Moose					0			star
W-E	CNC-15	17	3	2021	375	48.776238	-81.24526	Moose					0			
W-E	CNC-15	17	3	2021	376	48.776199	-81.111994	Moose					0			checked-older, star
	head back	17	3	2021	377	48.590769	-81.310668	Beaver					0			lodge+dam
	head out	17	3	2021	378	48.626348	-81.29598	Moose					0	1		
	head out	17	3	2021	379	48.789031	-81.07675	Moose					0			
E-W	CNC-14	17	3	2021	380	48.826323	-81.373167	Nest					0			Pics, lined with red matter cup. Smaller sticks, kinda messy
E-W	CNC-14	17	3	2021	381	48.811103	-81.492	Nest					0			Pics, eagle
E-W	CNC-14	17	3	2021	382	48.801906	-81.582377	Moose					0	1+		
E-W	CNC-14	17	3	2021	383	48.800917	-81.59842	Moose					0			
E-W	CNC-14	17	3	2021	384	48.803204	-81.619304	Moose					0			
E-W	CNC-14	17	3	2021	385	48.815565	-81.637555	Moose					0			
W-E	CNC-13	17	3	2021	386	48.830666	-81.491779	No nest					0			
W-E	CNC-13	17	3	2021	387	48.847201	-81.377294	No nest					0			
E-W	CNC-12	17	3	2021	388	48.851004	-81.121023	No nest - both not there					0			
E-W	CNC-12	17	3	2021	389	48.85322	-81.243137	Wolf					0	1		
E-W	CNC-12	17	3	2021	390	48.855934	-81.346415	Beaver					0			
W-E	CNC-11	17	3	2021	391	48.883078	-81.476223	Beaver					0			

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W-E	CNC-11	17	3	2021	392	48.885065	-81.403331	Moose					0	1			
W-E	CNC-11	17	3	2021	393	48.895024	-81.384515	No nest					0				
W-E	CNC-11	17	3	2021	394	48.857609	-81.121815	Otter					0				hole
W-E	CNC-11	17	3	2021	395	48.84526	-81.111207	Otter					0				
W-E	CNC-11	17	3	2021	396	48.852688	-81.101866	Moose	2				2				
W-E	CNC-11	17	3	2021	397	48.87384	-81.126613	Moose					0	1+			
E-W	CNC-10	17	3	2021	398	48.912222	-81.134361	Rabbit					0				
E-W	CNC-10	17	3	2021	399	48.910621	-81.254727	Moose					0	1+			
	head back	17	3	2021	400	48.890962	-81.7611	Beaver					0				
	none indicated	19	3	2021	522	48.566796	-81.489352	Moose					0				star
	none indicated	19	3	2021	523	48.7531	-81.505306	Moose					0				
	none indicated	19	3	2021	524	48.815287	-81.488278	Bald Eagle					0				
	none indicated	19	3	2021	525	48.862326	-81.503347	Wolf					0	5			
	none indicated	19	3	2021	526	49.057584	-81.59196	Nest					0				clean and tight, small eagle?
	none indicated	19	3	2021	527	49.14259	-81.598464	No nest					0				
	none indicated	19	3	2021	528	49.138641	-81.652355	Otter					0				
	none indicated	19	3	2021	529	49.139301	-81.708958	Moose					0				
W-E	ONC-1	19	3	2021	530	49.152528	-81.692776	Moose					0				
W-E	ONC-1	19	3	2021	531	49.145177	-81.52024	Nest					0				
W-E	ONC-1	19	3	2021	532	49.14507	-81.521635	Wolf					0				
W-E	ONC-1	19	3	2021	533	49.144672	-81.522685	Moose					0				
W-E	ONC-1	19	3	2021	534	49.146402	-81.463675	Nest - old?					0				
W-E	ONC-1	19	3	2021	535	49.155721	-81.46549	Moose					0				
W-E	ONC-1	19	3	2021	536	49.16312	-81.452265	No nest					0				
W-E	ONC-1	19	3	2021	537	49.152614	-81.384625	No nest					0				
W-E	ONC-1	19	3	2021	538	49.152648	-81.345318	Moose					0				
W-E	ONC-1	19	3	2021	539	49.15508	-81.323151	No nest					0				
W-E	ONC-1	19	3	2021	540	49.160157	-81.306542	?					0				
W-E	ONC-1	19	3	2021	541	49.161306	-81.308178	?					0				
W-E	ONC-1	19	3	2021	542	49.161428	-81.308587	nest					0				
E-W	GNC-2	19	3	2021	543	49.133222	-81.313658	No nest					0				
E-W	GNC-2	19	3	2021	544	49.132852	-81.314976	No nest					0				
E-W	GNC-2	19	3	2021	545	49.12951	-81.443942	No nest					0				
E-W	GNC-2	19	3	2021	546	49.134456	-81.445349	No nest					0				
E-W	GNC-2	19	3	2021	547	49.127503	-81.455514	Moose					0				
E-W	GNC-2	19	3	2021	548	49.127305	-81.475666	Moose			1	1	2				
E-W	GNC-2	19	3	2021	549	49.126203	-81.670681	Moose					0				
W-E	CNC-3	19	3	2021	550	49.099195	-81.693465	Moose			3		3				need photo
W-E	CNC-3	19	3	2021	551	49.099582	-81.554859	Moose					0				
W-E	CNC-3	19	3	2021	552	49.110981	-81.470311	No nest					0				logging
W-E	CNC-3	19	3	2021	553	49.11139	-81.399587	No nest					0				Pileated Woodpecker

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W-E	CNC-3	19	3	2021	554	49.094125	-81.400753	No nest					0			
W-E	CNC-3	19	3	2021	555	49.099883	-81.372156	?					0			
W-E	CNC-3	19	3	2021	556	49.107065	-81.361329	No nest					0			
E-W	CNC-4	19	3	2021	557	49.073802	-81.30142	No nest					0			
E-W	CNC-4	19	3	2021	558	49.085434	-81.320315	Nest - only 1					0			
E-W	CNC-4	19	3	2021	559	49.084822	-81.322845	Moose					0			
E-W	CNC-4	19	3	2021	560	49.081001	-81.401049	nest					0			
E-W	CNC-4	19	3	2021	561	49.077172	-81.431651	Moose					0			
E-W	CNC-4	19	3	2021	562	49.076786	-81.441878	No nest					0			logging
E-W	CNC-4	19	3	2021	563	49.074916	-81.442937	No nest					0			logging
E-W	CNC-4	19	3	2021	564	49.025454	-81.36084	Moose					0			
E-W	CNC-4	19	3	2021	565	49.024318	-81.356869	Moose					0			
E-W	CNC-4	19	3	2021	566	49.020499	-81.354724	Moose					0			
E-W	CNC-4	19	3	2021	567	49.016205	-81.355012	Moose					0			
E-W	CNC-4	19	3	2021	568	48.981772	-81.343926	Moose					0			
E-W	CNC-4	19	3	2021	569	48.973618	-81.347479	Moose					0	1		+bed
E-W	CNC-4	19	3	2021	570	48.934958	-81.316387	Moose					0			
E-W	CNC-4	19	3	2021	571	48.929543	-81.312562	Moose					0			
E-W	CNC-4	19	3	2021	572	49.080907	-81.609839	No nest					0			
E-W	CNC-4	19	3	2021	573	49.074238	-81.630315	Otter					0			
E-W	CNC-4	19	3	2021	574	49.07418	-81.632189	Moose					0			
E-W	CNC-4	19	3	2021	575	49.072978	-81.721155	Moose					0			
W-E	CNC-5	19	3	2021	576	49.045907	-81.720828	Moose	1				1			
W-E	CNC-5	19	3	2021	577	49.046987	-81.586534	Moose					0			
W-E	CNC-5	19	3	2021	578	49.047518	-81.558059	Moose	1	2			3			
W-E	CNC-5	19	3	2021	579	49.025315	-81.120949	Moose					0			
W-E	CNC-5	19	3	2021	580	49.025307	-81.108485	Moose					0			
W-E	CNC-5	19	3	2021	581	49.022444	-81.090692	Moose					0			
E-W	CNC-6	19	3	2021	582	49.023437	-81.16897	No nest					0			
E-W	CNC-6	19	3	2021	583	49.018293	-81.28548	Wolf					0			
E-W	CNC-6	19	3	2021	584	49.018682	-81.343021	Moose					0			
E-W	CNC-6	19	3	2021	585	49.018475	-81.373243	Moose					0			
E-W	CNC-6	19	3	2021	586	49.016808	-81.599067	Moose					0			
E-W	CNC-6	19	3	2021	587	49.015621	-81.608378	Moose					0			
E-W	CNC-6	19	3	2021	588	49.016728	-81.716916	Moose					0			+bed
W-E	CNC-7	19	3	2021	589	48.990472	-81.717756	Moose					0			
W-E	CNC-7	19	3	2021	590	48.991613	-81.550446	Moose					0			
W-E	CNC-7	19	3	2021	591	48.992156	-81.456462	Moose					0			
W-E	CNC-7	19	3	2021	592	48.992875	-81.309903	Moose					0			
E-W	CNC-8	19	3	2021	593	48.968475	-81.136523	No nest					0			
E-W	CNC-8	19	3	2021	594	48.981755	-81.394482	No nest					0			
E-W	CNC-8	19	3	2021	595	48.960789	-81.394987	nest					0			

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E-W	CNC-8	19	3	2021	596	48.965108	-81.415422	Moose					0			
E-W	CNC-8	19	3	2021	597	48.965249	-81.490046	Moose					0			
E-W	CNC-8	19	3	2021	598	48.97674	-81.778135	No nest					0			
W-E	CNC-9	19	3	2021	599	48.937637	-81.623357	Moose					0			
W-E	CNC-9	19	3	2021	600	48.939818	-81.236033	Moose					0			
	none indicated	19	3	2021	601	48.824407	-81.284035	Moose	2				2			on site

Common Name	Scientific Name	Bat Acoustic Surveys 2021, 2022 and/or	Aerial Surveys 2021 and or 2022	Incidental 2021	Incidental 2022	Incidental 2023	NHIC	OMA	iNaturalist	S Rank (Provincial)	G Rank (Global)	COSEWIC	SARO	SARA Schedule 1
American Black Bear	*Ursus americanus*			x	x			x	x	S5	G5	NAR	NAR	
American Marten	*Martes americana*		x							S5	G5			
American Mink	*Neovison vison*				x			x		S4	G5			
Beaver	*Castor canadensis*		x	x	x			x		S5	G5			
Big Brown Bat	*Eptesicus fuscus*	x						x		S4	G5			
Canada Lynx	*Lynx canadensis*		x		x			x	x	S5	G5	NAR		NAR
Caribou (Boreal population)	*Rangifer tarandus pop. 14*						x			S4	G5TNR	THR	THR	THR
Coyote	*Canis latrans*							x		S5	G5			
Deer Mouse	*Peromyscus maniculatus*							x		S5	G5			
Eastern Chipmunk	*Tamias striatus*							x		S5	G5			
Eastern Cottontail	*Sylvilagus floridanus*		x		x	x				S5	G5			
Eastern Gray Squirrel	*Sciurus carolinensis*							x		S5	G5			
Eastern Red Bat	*Lasiurus borealis*	x						x		S4	G3G4			
Ermine	*Mustela erminea*							x		S5	G5			
Hoary Bat	*Lasiurus cinereus*	x						x		S4	G3G4			
House Mouse	*Mus musculus*							x		SNA	G5			
Little Brown Myotis	*Myotis lucifugus*	x						x		S3	G3	END	END	END
Long-tailed Weasel	*Mustela frenata*							x		S4	G5			
Meadow Vole	*Microtus pennsylvanicus*			x				x		S5	G5			
Moose	*Alces americanus*		x	x	x	x		x	x	S5	G5			
Muskrat	*Ondatra zibethicus*					x		x		S5	G5			
North American River Otter	*Lontra canadensis*		x					x		S5	G5			
Northern Flying Squirrel	*Glaucomys sabrinus*							x		S5	G5			
Northern Gray Wolf	*Canis lupus occidentalis*		x	x	x			x	x	S4	G5T4T5	NAR	NAR	
Northern Short-tailed Shrew	*Blarina brevicauda*							x		S5	G5			
Norway Rat	*Rattus norvegicus*							x		SNA	G5			
Porcupine	*Erethizon dorsatum*							x		S5	G5			
Red Fox	*Vulpes vulpes*		x	x	x	x		x		S5	G5			
Red Squirrel	*Tamiasciurus hudsonicus*			x	x	x		x		S5	G5			
Silver-haired Bat	*Lasionycteris noctivagans*	x						x		S4	G3G4			
Smoky Shrew	*Sorex fumeus*							x		S5	G5			
Snowshoe Hare	*Lepus americanus*		x					x		S5	G5			
Star-nosed Mole	*Condylura cristata*							x		S5	G5			
Striped Skunk	*Mephitis mephitis*							x		S5	G5			
Water Shrew	*Sorex palustris*							x		S5	G5			
White-tailed Deer	*Odocoileus virginianus*							x		S5	G5			
Woodchuck	*Marmota monax*				x			x		S5	G5			
Woodland Jumping Mouse	*Napaeozapus insignis*			x				x		S5	G5			

APPENDIX B

Bat Acoustic Results

Table B1. Number of Passes Recorded at Each Site

Detector	Year	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-EM-G2-01	2021	0	0	0	0	0	3	28	0	0	2	0
CL-DET-ET-G2-01	2021	0	0	4	0	1	1057	494	0	17	550	0
CL-DET-ET-G2-02	2021	0	0	12	3	2	233	380	0	15	215	0
CL-DET-EXTRA-02	2021	0	0	0	0	0	50	355	0	1	28	0
CL-DET-EXTRA-02b	2021	0	0	0	0	0	4	7	0	0	2	0
CL-DET-EXTRA-03	2021	0	0	11	0	1	5	339	0	12	40	0
CL-DET-G1-03	2021	0	0	0	0	0	14	22	0	0	97	0
CL-DET-G1-07	2021	0	0	3	0	1	17	294	0	8	74	0
CL-DET-G1-08	2021	0	0	0	0	0	81	365	0	1	87	0
CL-DET-G1-09	2021	0	0	0	0	0	102	250	0	4	43	0
CL-DET-G1-10	2021	0	0	2	0	5	77	51	0	0	62	0
CL-DET-G1-11	2021	0	0	0	0	0	3	34	0	3	6	0
CL-DET-G2-01	2021	0	0	1	0	0	151	321	0	15	162	0
CL-DET-G2-03	2021	0	0	0	0	0	70	93	0	0	41	0
CL-DET-G2-04	2021	1	0	9	0	0	127	5239	0	75	258	0
CL-DET-G2-11	2021	0	0	0	0	0	0	6	0	0	1	0
CL-DET-WT-G2-02	2021	0	0	10	0	2	239	1383	0	36	165	0
CL-DET-WT-G2-02b	2021	0	0	0	0	2	242	617	0	6	118	0
CL-DET-Rock Barren 6 control	2022	0	0	0	0	0	15	125	0	7	19	0
CL-DET-Rock Barren 6-3	2022	0	0	0	0	0	17	41	0	0	21	0
CL-DET-Rock Barren 6-5	2022	0	0	0	0	0	18	37	0	0	23	0
CL-DET-Rock Barren 6-8	2022	0	0	2	0	0	72	96	0	3	62	0
CL-DET-Rock Barren 6-9	2022	0	0	1	0	0	9	103	0	2	27	0
CL-DET-Rock Barren 6-10	2022	0	0	0	0	1	12	90	0	1	36	0
CL-DET-Rock Barren 6-12	2022	0	0	1	0	0	15	128	0	3	32	0
CL-DET-Rock Barren 8-3 control	2022	0	0	0	0	0	27	503	0	23	182	0
CL-DET-Rock Barren 8-3	2022	0	0	0	0	0	14	141	0	5	65	0
CL-DET-CBM-11	2022	1	0	20	0	2	770	5236	0	582	1347	0
CL-DET-CBM-12	2022	8	0	6	4	0	535	2112	0	82	263	0
CL-DET-CBM-14	2022	0	0	14	0	4	237	202	0	4	255	0
CL-DET-CBM-16	2022	0	0	0	0	0	583	607	0	60	1339	0
CL-DET-CBM-18	2022	0	0	9	0	2	108	294	0	5	266	0
CL-DET-CBM-19	2022	1	0	5	0	3	685	512	0	6	238	0
CL-DET-G1-04	2022	0	0	7	0	0	236	266	0	4	214	0

Detector	Year	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-17	2022	0	0	2	0	5	407	1029	0	58	931	0
CL-DET-CBM-13	2022	0	0	55	0	4	202	774	0	22	240	0
CL-DET-CBM-8	2022	0	0	0	0	0	280	143	0	5	260	0
CL-DET-CBM-7	2022	0	0	0	0	1	104	527	0	6	147	0
CL-DET-CBM-3	2022	0	0	0	0	0	30	65	0	0	23	0
CL-DET-CBM-2	2022	0	0	1	0	0	18	72	0	1	38	0
CL-DET-CBM-5	2022	0	0	0	0	0	175	293	0	4	113	0
CL-DET-EXTRA-01	2022	0	0	0	0	3	144	963	0	19	575	0
CL-DET-CBM-9	2022	0	0	0	0	0	319	6054	0	158	423	0
CL-DET-G2-01	2022	0	0	3	0	2	115	450	0	3	138	0
CL-DET-23-1	2023	0	0	1	0	0	10	50	0	2	28	0
CL-DET-23-2	2023	0	0	0	0	0	55	497	0	20	112	0
CL-DET-23-3	2023	0	0	0	0	0	21	164	0	3	35	0
CL-DET-23-4	2023	0	0	0	0	0	78	41	0	0	106	0
CL-DET-23-5	2023	0	0	0	0	0	163	592	0	11	332	0
CL-DET-23-6	2023	0	0	6	0	10	114	117	0	2	301	0
CL-DET-23-7	2023	0	0	1	0	0	28	75	0	3	110	0
CL-DET-23-8	2023	0	0	0	0	1	34	177	0	2	49	0
CL-DET-23-9	2023	0	0	0	0	2	52	108	0	4	81	0
CL-DET-23-10	2023	0	0	0	0	0	29	18	0	0	61	0
CL-DET-Rock Barren 6 control	2023	0	0	1	4	0	30	87	0	4	23	0
CL-DET-Rock Barren 6-3	2023	0	0	2	0	0	11	70	0	1	25	0
CL-DET-Rock Barren 6-5	2023	0	0	1	0	1	12	60	0	2	15	0
CL-DET-Rock Barren 6-8	2023	0	0	1	0	5	38	118	0	9	57	0
CL-DET-Rock Barren 6-9	2023	0	0	1	0	1	25	123	0	11	38	0
CL-DET-Rock Barren 6-10	2023	0	0	1	1	4	36	101	0	10	62	0
CL-DET-Rock Barren 6-12	2023	0	0	0	0	0	39	99	0	12	53	0
CL-DET-Rock Barren 8-3 control	2023	0	0	2	0	0	14	91	0	6	46	0
CL-DET-Rock Barren 8-3	2023	0	0	0	1	1	10	72	0	0	19	0

Table B2. Average Number of Passes per Hour Recorded at Each Site.

Detector	Year	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-EM-G2-01	2021	0.00	0	0.00	0.00	0.00	0.35	1.95	0	0.00	0.11	0
CL-DET-ET-G2-01	2021	0.00	0	0.01	0.00	0.00	3.29	1.51	0	0.05	1.69	0
CL-DET-ET-G2-02	2021	0.00	0	0.03	0.01	0.01	0.70	1.12	0	0.04	0.64	0
CL-DET-EXTRA-02	2021	0.00	0	0.00	0.00	0.00	1.13	8.03	0	0.02	0.63	0
CL-DET-EXTRA-02b	2021	0.00	0	0.00	0.00	0.00	0.46	0.87	0	0.00	0.35	0
CL-DET-EXTRA-03	2021	0.00	0	0.25	0.00	0.02	0.11	7.65	0	0.27	0.90	0
CL-DET-G1-03	2021	0.00	0	0.00	0.00	0.00	0.32	0.50	0	0.00	2.19	0
CL-DET-G1-07	2021	0.00	0	0.07	0.00	0.02	0.38	6.65	0	0.18	1.67	0
CL-DET-G1-08	2021	0.00	0	0.00	0.00	0.00	0.36	1.65	0	0.00	0.39	0
CL-DET-G1-09	2021	0.00	0	0.00	0.00	0.00	0.52	1.28	0	0.02	0.22	0
CL-DET-G1-10	2021	0.00	0	0.01	0.00	0.03	0.39	0.26	0	0.00	0.32	0
CL-DET-G1-11	2021	0.00	0	0.00	0.00	0.00	0.07	0.76	0	0.07	0.14	0
CL-DET-G2-01	2021	0.00	0	0.00	0.00	0.00	0.74	1.57	0	0.07	0.79	0
CL-DET-G2-03	2021	0.00	0	0.00	0.00	0.00	0.38	0.50	0	0.00	0.22	0
CL-DET-G2-04	2021	0.01	0	0.09	0.00	0.00	1.31	54.07	0	0.77	2.66	0
CL-DET-G2-11	2021	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.00	0.04	0
CL-DET-WT-G2-02	2021	0.00	0	0.05	0.00	0.01	1.22	7.06	0	0.18	0.84	0
CL-DET-WT-G2-02b	2021	0.00	0	0.00	0.00	0.02	1.85	4.65	0	0.05	0.91	0
CL-DET-Rock Barren 6 control	2022	0.00	0	0.00	0.00	0.00	0.09	0.75	0	0.04	0.11	0
CL-DET-Rock Barren 6-3	2022	0.00	0	0.00	0.00	0.00	0.10	0.23	0	0.00	0.12	0
CL-DET-Rock Barren 6-5	2022	0.00	0	0.00	0.00	0.00	0.10	0.21	0	0.00	0.13	0
CL-DET-Rock Barren 6-8	2022	0.00	0	0.01	0.00	0.00	0.37	0.50	0	0.01	0.32	0
CL-DET-Rock Barren 6-9	2022	0.00	0	0.01	0.00	0.00	0.05	0.59	0	0.01	0.15	0
CL-DET-Rock Barren 6-10	2022	0.00	0	0.00	0.00	0.01	0.07	0.51	0	0.01	0.20	0
CL-DET-Rock Barren 6-12	2022	0.00	0	0.01	0.00	0.00	0.08	0.73	0	0.02	0.18	0
CL-DET-Rock Barren 8-3 control	2022	0.00	0	0.00	0.00	0.00	0.21	3.89	0	0.18	1.41	0
CL-DET-Rock Barren 8-3	2022	0.00	0	0.00	0.00	0.00	0.11	1.09	0	0.04	0.50	0
CL-DET-CBM-11	2022	0.00	0	0.07	0.00	0.01	2.52	17.11	0	1.89	4.46	0
CL-DET-CBM-12	2022	0.03	0	0.03	0.02	0.00	1.88	7.37	0	0.27	0.92	0
CL-DET-CBM-14	2022	0.00	0	0.04	0.00	0.01	0.76	0.64	0	0.01	0.82	0
CL-DET-CBM-16	2022	0.00	0	0.00	0.00	0.00	1.95	1.96	0	0.19	4.42	0
CL-DET-CBM-18	2022	0.00	0	0.03	0.00	0.01	0.36	0.98	0	0.02	0.89	0
CL-DET-CBM-19	2022	0.00	0	0.02	0.00	0.01	2.33	1.71	0	0.02	0.79	0
CL-DET-G1-04	2022	0.00	0	0.02	0.00	0.00	0.83	0.93	0	0.01	0.75	0

Detector	Year	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-17	2022	0.00	0	0.01	0.00	0.02	1.39	3.48	0	0.20	3.18	0
CL-DET-CBM-13	2022	0.00	0	0.18	0.00	0.01	0.70	2.68	0	0.07	0.83	0
CL-DET-CBM-8	2022	0.00	0	0.00	0.00	0.00	1.59	0.81	0	0.03	1.47	0
CL-DET-CBM-7	2022	0.00	0	0.00	0.00	0.01	0.59	2.98	0	0.03	0.83	0
CL-DET-CBM-3	2022	0.00	0	0.00	0.00	0.00	0.17	0.37	0	0.00	0.13	0
CL-DET-CBM-2	2022	0.00	0	0.01	0.00	0.00	0.10	0.39	0	0.01	0.20	0
CL-DET-CBM-5	2022	0.00	0	0.00	0.00	0.00	0.94	1.57	0	0.02	0.61	0
CL-DET-EXTRA-01	2022	0.00	0	0.00	0.00	0.02	0.77	5.16	0	0.10	3.08	0
CL-DET-CBM-9	2022	0.00	0	0.00	0.00	0.00	1.72	32.65	0	0.85	2.28	0
CL-DET-G2-01	2022	0.00	0	0.02	0.00	0.01	0.65	2.53	0	0.02	0.78	0
CL-DET-23-1	2023	0.00	0	0.00	0.00	0.00	0.04	0.21	0	0.01	0.12	0
CL-DET-23-2	2023	0.00	0	0.00	0.00	0.00	0.18	1.63	0	0.07	0.37	0
CL-DET-23-3	2023	0.00	0	0.00	0.00	0.00	0.06	0.50	0	0.01	0.11	0
CL-DET-23-4	2023	0.00	0	0.00	0.00	0.00	0.27	0.14	0	0.00	0.37	0
CL-DET-23-5	2023	0.00	0	0.00	0.00	0.00	0.55	1.97	0	0.04	1.13	0
CL-DET-23-6	2023	0.00	0	0.02	0.00	0.03	0.40	0.42	0	0.01	1.07	0
CL-DET-23-7	2023	0.00	0	0.00	0.00	0.00	0.10	0.26	0	0.01	0.39	0
CL-DET-23-8	2023	0.00	0	0.00	0.00	0.00	0.12	0.60	0	0.01	0.17	0
CL-DET-23-9	2023	0.00	0	0.00	0.00	0.01	0.20	0.42	0	0.02	0.31	0
CL-DET-23-10	2023	0.00	0	0.00	0.00	0.00	0.09	0.06	0	0.00	0.19	0
CL-DET-Rock Barren 6 control	2023	0.00	0	0.02	0.06	0.00	0.48	1.37	0	0.06	0.37	0
CL-DET-Rock Barren 6-3	2023	0.00	0	0.03	0.00	0.00	0.17	1.09	0	0.02	0.38	0
CL-DET-Rock Barren 6-5	2023	0.00	0	0.01	0.00	0.02	0.19	0.93	0	0.03	0.24	0
CL-DET-Rock Barren 6-8	2023	0.00	0	0.02	0.00	0.08	0.60	1.86	0	0.14	0.90	0
CL-DET-Rock Barren 6-9	2023	0.00	0	0.02	0.00	0.02	0.39	1.93	0	0.17	0.60	0
CL-DET-Rock Barren 6-10	2023	0.00	0	0.02	0.02	0.06	0.57	1.58	0	0.16	0.98	0
CL-DET-Rock Barren 6-12	2023	0.00	0	0.00	0.00	0.00	0.62	1.56	0	0.19	0.83	0
CL-DET-Rock Barren 8-3 control	2023	0.00	0	0.03	0.00	0.00	0.22	1.42	0	0.09	0.71	0
CL-DET-Rock Barren 8-3	2023	0.00	0	0.00	0.01	0.02	0.15	1.14	0	0.00	0.29	0

Table B3. Average Number of Passes per Hour Recorded at Each Site on Each Survey Night.

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-EM-G2-01	2021-06-17	0.00	0	0.00	0.00	0.00	0.11	2.73	0	0.00	0.23	0
CL-DET-EM-G2-01	2021-06-18	0.00	0	0.00	0.00	0.00	0.59	1.18	0	0.00	0.00	0
CL-DET-ET-G2-01	2021-07-07	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-ET-G2-01	2021-07-08	0.00	0	0.00	0.00	0.00	0.44	0.55	0	0.00	0.44	0
CL-DET-ET-G2-01	2021-07-09	0.00	0	0.00	0.00	0.00	2.53	3.41	0	0.11	2.53	0
CL-DET-ET-G2-01	2021-07-10	0.00	0	0.00	0.00	0.00	5.05	0.55	0	0.00	1.21	0
CL-DET-ET-G2-01	2021-07-11	0.00	0	0.00	0.00	0.00	9.31	0.66	0	0.00	2.41	0
CL-DET-ET-G2-01	2021-07-12	0.00	0	0.00	0.00	0.00	17.56	2.73	0	0.00	5.78	0
CL-DET-ET-G2-01	2021-07-13	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-ET-G2-01	2021-07-14	0.00	0	0.00	0.00	0.00	3.14	0.32	0	0.00	1.52	0
CL-DET-ET-G2-01	2021-07-15	0.00	0	0.00	0.00	0.00	2.92	2.16	0	0.00	3.03	0
CL-DET-ET-G2-01	2021-07-16	0.00	0	0.00	0.00	0.00	24.99	1.62	0	0.00	6.89	0
CL-DET-ET-G2-01	2021-07-17	0.00	0	0.00	0.00	0.00	2.15	0.43	0	0.00	1.07	0
CL-DET-ET-G2-01	2021-07-18	0.00	0	0.00	0.00	0.00	0.53	1.18	0	0.00	0.21	0
CL-DET-ET-G2-01	2021-07-19	0.00	0	0.00	0.00	0.00	0.21	0.21	0	0.00	0.21	0
CL-DET-ET-G2-01	2021-07-20	0.00	0	0.00	0.00	0.00	0.21	0.00	0	0.00	0.11	0
CL-DET-ET-G2-01	2021-07-21	0.00	0	0.11	0.00	0.00	1.05	1.58	0	0.21	1.16	0
CL-DET-ET-G2-01	2021-07-22	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.11	0
CL-DET-ET-G2-01	2021-07-23	0.00	0	0.00	0.00	0.00	1.15	3.98	0	0.00	1.88	0
CL-DET-ET-G2-01	2021-07-24	0.00	0	0.00	0.00	0.00	0.21	0.00	0	0.00	0.21	0
CL-DET-ET-G2-01	2021-07-25	0.00	0	0.00	0.00	0.00	0.93	0.42	0	0.00	0.10	0
CL-DET-ET-G2-01	2021-07-26	0.00	0	0.00	0.00	0.00	0.10	2.38	0	0.10	0.62	0
CL-DET-ET-G2-01	2021-07-27	0.00	0	0.00	0.00	0.00	4.84	0.93	0	0.00	4.73	0
CL-DET-ET-G2-01	2021-07-28	0.00	0	0.10	0.00	0.00	11.18	5.54	0	0.10	5.23	0
CL-DET-ET-G2-01	2021-07-29	0.00	0	0.00	0.00	0.00	0.92	2.34	0	0.00	1.12	0
CL-DET-ET-G2-01	2021-07-30	0.00	0	0.00	0.00	0.00	18.98	1.52	0	0.00	8.43	0
CL-DET-ET-G2-01	2021-07-31	0.00	0	0.00	0.00	0.00	0.30	1.21	0	0.00	0.20	0
CL-DET-ET-G2-01	2021-08-01	0.00	0	0.00	0.00	0.10	0.30	1.11	0	0.10	0.60	0
CL-DET-ET-G2-01	2021-08-02	0.00	0	0.00	0.00	0.00	0.10	0.20	0	0.20	0.40	0
CL-DET-ET-G2-01	2021-08-03	0.00	0	0.00	0.00	0.00	0.40	0.80	0	0.00	0.20	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-ET-G2-01	2021-08-04	0.00	0	0.10	0.00	0.00	1.09	6.84	0	0.00	2.48	0
CL-DET-ET-G2-01	2021-08-05	0.00	0	0.10	0.00	0.00	0.69	3.65	0	0.49	2.47	0
CL-DET-ET-G2-01	2021-08-06	0.00	0	0.00	0.00	0.00	0.00	0.20	0	0.00	0.10	0
CL-DET-ET-G2-01	2021-08-07	0.00	0	0.00	0.00	0.00	0.39	2.44	0	0.29	1.27	0
CL-DET-ET-G2-01	2021-08-08	0.00	0	0.00	0.00	0.00	0.19	1.75	0	0.10	0.78	0
CL-DET-ET-G2-01	2021-08-09	0.00	0	0.00	0.00	0.00	0.00	0.62	0	0.00	0.00	0
CL-DET-ET-G2-02	2021-07-07	0.00	0	0.11	0.00	0.00	0.22	0.00	0	0.00	0.00	0
CL-DET-ET-G2-02	2021-07-08	0.00	0	0.00	0.00	0.00	0.44	0.77	0	0.00	0.33	0
CL-DET-ET-G2-02	2021-07-09	0.00	0	0.00	0.00	0.00	1.76	0.11	0	0.00	0.88	0
CL-DET-ET-G2-02	2021-07-10	0.00	0	0.00	0.00	0.00	0.99	0.33	0	0.00	0.22	0
CL-DET-ET-G2-02	2021-07-11	0.00	0	0.00	0.00	0.00	1.10	1.21	0	0.00	0.55	0
CL-DET-ET-G2-02	2021-07-12	0.00	0	0.00	0.00	0.00	0.87	1.31	0	0.11	0.87	0
CL-DET-ET-G2-02	2021-07-13	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-ET-G2-02	2021-07-14	0.00	0	0.00	0.00	0.00	0.87	0.11	0	0.00	0.22	0
CL-DET-ET-G2-02	2021-07-15	0.00	0	0.11	0.00	0.00	0.97	0.87	0	0.11	0.32	0
CL-DET-ET-G2-02	2021-07-16	0.00	0	0.11	0.00	0.00	2.70	1.51	0	0.00	1.51	0
CL-DET-ET-G2-02	2021-07-17	0.00	0	0.00	0.00	0.00	2.04	1.72	0	0.11	0.86	0
CL-DET-ET-G2-02	2021-07-18	0.00	0	0.00	0.00	0.00	0.86	1.39	0	0.11	0.54	0
CL-DET-ET-G2-02	2021-07-19	0.00	0	0.00	0.00	0.00	0.21	0.21	0	0.00	0.11	0
CL-DET-ET-G2-02	2021-07-20	0.00	0	0.00	0.00	0.00	0.64	1.49	0	0.00	0.85	0
CL-DET-ET-G2-02	2021-07-21	0.00	0	0.00	0.00	0.00	0.74	2.01	0	0.00	0.53	0
CL-DET-ET-G2-02	2021-07-22	0.00	0	0.00	0.00	0.00	0.32	0.53	0	0.00	0.53	0
CL-DET-ET-G2-02	2021-07-23	0.00	0	0.00	0.00	0.00	1.36	3.88	0	0.31	1.78	0
CL-DET-ET-G2-02	2021-07-24	0.00	0	0.00	0.00	0.00	0.52	0.84	0	0.00	0.21	0
CL-DET-ET-G2-02	2021-07-25	0.00	0	0.00	0.00	0.00	0.21	0.00	0	0.00	0.10	0
CL-DET-ET-G2-02	2021-07-26	0.00	0	0.00	0.00	0.00	0.10	0.72	0	0.21	0.41	0
CL-DET-ET-G2-02	2021-07-27	0.00	0	0.10	0.00	0.00	1.13	2.99	0	0.10	1.65	0
CL-DET-ET-G2-02	2021-07-28	0.00	0	0.00	0.00	0.00	1.23	1.95	0	0.10	1.74	0
CL-DET-ET-G2-02	2021-07-29	0.00	0	0.00	0.00	0.20	1.33	1.53	0	0.10	1.22	0
CL-DET-ET-G2-02	2021-07-30	0.00	0	0.00	0.10	0.00	0.92	0.92	0	0.00	0.61	0
CL-DET-ET-G2-02	2021-07-31	0.00	0	0.10	0.00	0.00	0.61	1.42	0	0.00	1.01	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-ET-G2-02	2021-08-01	0.00	0	0.00	0.10	0.00	0.50	2.21	0	0.20	0.91	0
CL-DET-ET-G2-02	2021-08-02	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-ET-G2-02	2021-08-03	0.00	0	0.10	0.00	0.00	0.20	1.59	0	0.00	0.80	0
CL-DET-ET-G2-02	2021-08-04	0.00	0	0.30	0.00	0.00	0.50	1.69	0	0.00	2.19	0
CL-DET-ET-G2-02	2021-08-05	0.00	0	0.20	0.10	0.00	0.49	0.99	0	0.00	0.69	0
CL-DET-ET-G2-02	2021-08-06	0.00	0	0.00	0.00	0.00	0.10	0.10	0	0.00	0.00	0
CL-DET-ET-G2-02	2021-08-07	0.00	0	0.10	0.00	0.00	0.29	3.92	0	0.00	0.39	0
CL-DET-ET-G2-02	2021-08-08	0.00	0	0.00	0.00	0.00	0.39	0.58	0	0.10	0.29	0
CL-DET-ET-G2-02	2021-08-09	0.00	0	0.00	0.00	0.00	0.00	0.29	0	0.00	0.00	0
CL-DET-ET-G2-02	2021-08-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-EXTRA-02	2021-06-12	0.00	0	0.00	0.00	0.00	0.23	8.57	0	0.11	1.02	0
CL-DET-EXTRA-02	2021-06-13	0.00	0	0.00	0.00	0.00	1.81	11.41	0	0.00	1.24	0
CL-DET-EXTRA-02	2021-06-14	0.00	0	0.00	0.00	0.00	1.69	2.60	0	0.00	0.56	0
CL-DET-EXTRA-02	2021-06-15	0.00	0	0.00	0.00	0.00	0.68	1.81	0	0.00	0.11	0
CL-DET-EXTRA-02	2021-06-16	0.00	0	0.00	0.00	0.00	1.25	15.74	0	0.00	0.23	0
CL-DET-EXTRA-02b	2021-07-07	0.00	0	0.00	0.00	0.00	0.33	0.55	0	0.00	0.11	0
CL-DET-EXTRA-02b	2021-07-08	0.00	0	0.00	0.00	0.00	0.59	1.18	0	0.00	0.59	0
CL-DET-EXTRA-03	2021-06-13	0.00	0	0.56	0.00	0.00	0.34	22.67	0	0.56	1.35	0
CL-DET-EXTRA-03	2021-06-14	0.00	0	0.00	0.00	0.00	0.11	6.88	0	0.23	1.13	0
CL-DET-EXTRA-03	2021-06-15	0.00	0	0.68	0.00	0.00	0.00	1.47	0	0.00	0.11	0
CL-DET-EXTRA-03	2021-06-16	0.00	0	0.00	0.00	0.11	0.00	1.69	0	0.00	0.45	0
CL-DET-EXTRA-03	2021-06-17	0.00	0	0.00	0.00	0.00	0.11	5.54	0	0.56	1.47	0
CL-DET-G1-03	2021-06-12	0.00	0	0.00	0.00	0.00	0.11	0.68	0	0.00	0.11	0
CL-DET-G1-03	2021-06-13	0.00	0	0.00	0.00	0.00	0.11	1.35	0	0.00	1.13	0
CL-DET-G1-03	2021-06-14	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-G1-03	2021-06-15	0.00	0	0.00	0.00	0.00	1.24	0.00	0	0.00	9.49	0
CL-DET-G1-03	2021-06-16	0.00	0	0.00	0.00	0.00	0.11	0.45	0	0.00	0.11	0
CL-DET-G1-07	2021-06-12	0.00	0	0.00	0.00	0.00	0.11	2.03	0	0.00	0.34	0
CL-DET-G1-07	2021-06-13	0.00	0	0.11	0.00	0.00	1.36	7.12	0	0.34	0.79	0
CL-DET-G1-07	2021-06-14	0.00	0	0.23	0.00	0.00	0.23	4.63	0	0.56	3.16	0
CL-DET-G1-07	2021-06-15	0.00	0	0.00	0.00	0.00	0.00	8.83	0	0.00	3.74	0
CL-DET-G1-07	2021-06-16	0.00	0	0.00	0.00	0.11	0.23	10.64	0	0.00	0.34	0
CL-DET-G1-08	2021-06-13	0.00	0	0.00	0.00	0.00	0.68	3.95	0	0.00	1.13	0
CL-DET-G1-08	2021-06-14	0.00	0	0.00	0.00	0.00	0.23	0.56	0	0.00	0.45	0
CL-DET-G1-08	2021-06-15	0.00	0	0.00	0.00	0.00	0.00	0.68	0	0.00	0.00	0
CL-DET-G1-08	2021-06-16	0.00	0	0.00	0.00	0.00	0.34	1.47	0	0.00	0.11	0
CL-DET-G1-08	2021-06-17	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.11	0
CL-DET-G1-08	2021-06-18	0.00	0	0.00	0.00	0.00	0.00	4.31	0	0.00	0.57	0
CL-DET-G1-08	2021-06-19	0.00	0	0.00	0.00	0.00	0.11	1.25	0	0.00	0.11	0
CL-DET-G1-08	2021-06-20	0.00	0	0.00	0.00	0.00	0.23	1.47	0	0.00	0.11	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-G1-08	2021-06-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-08	2021-06-22	0.00	0	0.00	0.00	0.00	0.00	0.34	0	0.00	0.00	0
CL-DET-G1-08	2021-06-23	0.00	0	0.00	0.00	0.00	0.91	0.23	0	0.00	0.23	0
CL-DET-G1-08	2021-06-24	0.00	0	0.00	0.00	0.00	0.45	7.60	0	0.00	0.34	0
CL-DET-G1-08	2021-06-25	0.00	0	0.00	0.00	0.00	0.68	6.79	0	0.00	0.91	0
CL-DET-G1-08	2021-06-26	0.00	0	0.00	0.00	0.00	0.91	0.91	0	0.00	0.11	0
CL-DET-G1-08	2021-06-27	0.00	0	0.00	0.00	0.00	0.23	0.11	0	0.00	0.11	0
CL-DET-G1-08	2021-06-28	0.00	0	0.00	0.00	0.00	0.11	3.39	0	0.00	0.56	0
CL-DET-G1-08	2021-06-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-08	2021-06-30	0.00	0	0.00	0.00	0.00	0.90	3.04	0	0.00	2.14	0
CL-DET-G1-08	2021-07-01	0.00	0	0.00	0.00	0.00	0.11	0.56	0	0.00	0.00	0
CL-DET-G1-08	2021-07-02	0.00	0	0.00	0.00	0.00	0.22	1.57	0	0.00	0.67	0
CL-DET-G1-08	2021-07-03	0.00	0	0.00	0.00	0.00	0.11	0.90	0	0.00	0.78	0
CL-DET-G1-08	2021-07-04	0.00	0	0.00	0.00	0.00	1.90	0.34	0	0.11	0.56	0
CL-DET-G1-08	2021-07-05	0.00	0	0.00	0.00	0.00	0.22	0.00	0	0.00	0.11	0
CL-DET-G1-08	2021-07-06	0.00	0	0.00	0.00	0.00	0.78	1.00	0	0.00	0.67	0
CL-DET-G1-08	2021-07-07	0.00	0	0.00	0.00	0.00	0.00	0.55	0	0.00	0.00	0
CL-DET-G1-09	2021-06-16	0.00	0	0.00	0.00	0.00	0.57	5.22	0	0.00	0.00	0
CL-DET-G1-09	2021-06-17	0.00	0	0.00	0.00	0.00	0.45	0.79	0	0.23	0.34	0
CL-DET-G1-09	2021-06-18	0.00	0	0.00	0.00	0.00	0.00	0.34	0	0.00	0.00	0
CL-DET-G1-09	2021-06-19	0.00	0	0.00	0.00	0.00	0.45	0.34	0	0.00	0.23	0
CL-DET-G1-09	2021-06-20	0.00	0	0.00	0.00	0.00	0.68	1.25	0	0.00	0.11	0
CL-DET-G1-09	2021-06-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-09	2021-06-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-09	2021-06-23	0.00	0	0.00	0.00	0.00	1.47	0.57	0	0.00	0.23	0
CL-DET-G1-09	2021-06-24	0.00	0	0.00	0.00	0.00	3.29	1.25	0	0.00	1.02	0
CL-DET-G1-09	2021-06-25	0.00	0	0.00	0.00	0.00	0.23	1.25	0	0.00	0.23	0
CL-DET-G1-09	2021-06-26	0.00	0	0.00	0.00	0.00	0.23	0.11	0	0.00	0.00	0
CL-DET-G1-09	2021-06-27	0.00	0	0.00	0.00	0.00	0.45	0.23	0	0.00	0.23	0
CL-DET-G1-09	2021-06-28	0.00	0	0.00	0.00	0.00	1.69	4.29	0	0.00	0.68	0
CL-DET-G1-09	2021-06-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-09	2021-06-30	0.00	0	0.00	0.00	0.00	0.00	2.03	0	0.11	0.56	0
CL-DET-G1-09	2021-07-01	0.00	0	0.00	0.00	0.00	0.11	0.67	0	0.00	0.00	0
CL-DET-G1-09	2021-07-02	0.00	0	0.00	0.00	0.00	0.67	2.92	0	0.11	0.56	0
CL-DET-G1-09	2021-07-03	0.00	0	0.00	0.00	0.00	0.22	0.90	0	0.00	0.00	0
CL-DET-G1-09	2021-07-04	0.00	0	0.00	0.00	0.00	0.56	4.02	0	0.00	0.34	0
CL-DET-G1-09	2021-07-05	0.00	0	0.00	0.00	0.00	0.11	1.00	0	0.00	0.22	0
CL-DET-G1-09	2021-07-06	0.00	0	0.00	0.00	0.00	0.33	1.00	0	0.00	0.00	0
CL-DET-G1-09	2021-07-07	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-G1-10	2021-06-16	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.34	0
CL-DET-G1-10	2021-06-17	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-10	2021-06-18	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-10	2021-06-19	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-10	2021-06-20	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-10	2021-06-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-10	2021-06-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-10	2021-06-23	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.11	0
CL-DET-G1-10	2021-06-24	0.00	0	0.00	0.00	0.00	0.57	0.34	0	0.00	0.23	0
CL-DET-G1-10	2021-06-25	0.00	0	0.00	0.00	0.00	0.11	0.34	0	0.00	0.57	0
CL-DET-G1-10	2021-06-26	0.00	0	0.00	0.00	0.00	1.13	0.34	0	0.00	0.91	0
CL-DET-G1-10	2021-06-27	0.00	0	0.00	0.00	0.00	0.57	0.34	0	0.00	0.68	0
CL-DET-G1-10	2021-06-28	0.00	0	0.00	0.00	0.00	1.24	0.90	0	0.00	1.02	0
CL-DET-G1-10	2021-06-29	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-G1-10	2021-06-30	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.11	0
CL-DET-G1-10	2021-07-01	0.00	0	0.00	0.00	0.00	0.00	0.34	0	0.00	0.56	0
CL-DET-G1-10	2021-07-02	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.22	0
CL-DET-G1-10	2021-07-03	0.00	0	0.00	0.00	0.00	0.22	0.56	0	0.00	0.22	0
CL-DET-G1-10	2021-07-04	0.00	0	0.00	0.00	0.11	3.46	0.89	0	0.00	1.56	0
CL-DET-G1-10	2021-07-05	0.00	0	0.00	0.00	0.00	0.89	0.67	0	0.00	0.33	0
CL-DET-G1-10	2021-07-06	0.00	0	0.00	0.00	0.00	0.22	0.22	0	0.00	0.00	0
CL-DET-G1-10	2021-07-07	0.00	0	0.22	0.00	0.44	0.00	0.22	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-G1-11	2021-06-12	0.00	0	0.00	0.00	0.00	0.11	1.78	0	0.00	0.11	0
CL-DET-G1-11	2021-06-13	0.00	0	0.00	0.00	0.00	0.11	1.36	0	0.23	0.11	0
CL-DET-G1-11	2021-06-14	0.00	0	0.00	0.00	0.00	0.00	0.68	0	0.11	0.34	0
CL-DET-G1-11	2021-06-15	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-11	2021-06-16	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.11	0
CL-DET-G2-01	2021-06-15	0.00	0	0.00	0.00	0.00	0.00	0.56	0	0.00	1.02	0
CL-DET-G2-01	2021-06-16	0.00	0	0.00	0.00	0.00	0.90	1.81	0	0.00	0.90	0
CL-DET-G2-01	2021-06-17	0.00	0	0.00	0.00	0.00	0.57	4.08	0	0.45	1.36	0
CL-DET-G2-01	2021-06-18	0.00	0	0.00	0.00	0.00	1.36	1.02	0	0.00	2.49	0
CL-DET-G2-01	2021-06-19	0.00	0	0.00	0.00	0.00	0.23	1.36	0	0.00	0.57	0
CL-DET-G2-01	2021-06-20	0.00	0	0.00	0.00	0.00	1.13	1.13	0	0.11	1.02	0
CL-DET-G2-01	2021-06-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G2-01	2021-06-22	0.00	0	0.00	0.00	0.00	0.11	0.34	0	0.11	0.45	0
CL-DET-G2-01	2021-06-23	0.00	0	0.00	0.00	0.00	0.34	1.25	0	0.00	0.68	0
CL-DET-G2-01	2021-06-24	0.00	0	0.00	0.00	0.00	2.49	2.26	0	0.00	0.45	0
CL-DET-G2-01	2021-06-25	0.00	0	0.00	0.00	0.00	0.23	1.69	0	0.11	1.13	0
CL-DET-G2-01	2021-06-26	0.00	0	0.00	0.00	0.00	1.24	3.72	0	0.00	1.13	0
CL-DET-G2-01	2021-06-27	0.00	0	0.00	0.00	0.00	1.02	0.90	0	0.00	0.23	0
CL-DET-G2-01	2021-06-28	0.00	0	0.00	0.00	0.00	1.35	4.50	0	0.23	2.48	0
CL-DET-G2-01	2021-06-29	0.00	0	0.00	0.00	0.00	0.68	0.45	0	0.00	0.56	0
CL-DET-G2-01	2021-06-30	0.00	0	0.00	0.00	0.00	0.22	0.34	0	0.11	0.34	0
CL-DET-G2-01	2021-07-01	0.00	0	0.00	0.00	0.00	0.11	0.56	0	0.00	0.22	0
CL-DET-G2-01	2021-07-02	0.00	0	0.11	0.00	0.00	1.12	2.35	0	0.00	0.56	0
CL-DET-G2-01	2021-07-03	0.00	0	0.00	0.00	0.00	1.23	1.56	0	0.00	1.01	0
CL-DET-G2-01	2021-07-04	0.00	0	0.00	0.00	0.00	2.00	3.23	0	0.56	0.67	0
CL-DET-G2-01	2021-07-05	0.00	0	0.00	0.00	0.00	0.11	0.56	0	0.00	0.56	0
CL-DET-G2-01	2021-07-06	0.00	0	0.00	0.00	0.00	0.00	1.11	0	0.00	0.22	0
CL-DET-G2-01	2021-07-07	0.00	0	0.00	0.00	0.00	0.55	1.33	0	0.00	0.22	0
CL-DET-G2-03	2021-06-16	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G2-03	2021-06-17	0.00	0	0.00	0.00	0.00	0.45	0.57	0	0.00	0.11	0
CL-DET-G2-03	2021-06-18	0.00	0	0.00	0.00	0.00	0.68	0.11	0	0.00	0.34	0
CL-DET-G2-03	2021-06-19	0.00	0	0.00	0.00	0.00	0.34	0.00	0	0.00	0.11	0
CL-DET-G2-03	2021-06-20	0.00	0	0.00	0.00	0.00	0.34	0.80	0	0.00	0.34	0
CL-DET-G2-03	2021-06-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G2-03	2021-06-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G2-03	2021-06-23	0.00	0	0.00	0.00	0.00	0.23	0.00	0	0.00	0.23	0
CL-DET-G2-03	2021-06-24	0.00	0	0.00	0.00	0.00	0.45	0.00	0	0.00	0.11	0
CL-DET-G2-03	2021-06-25	0.00	0	0.00	0.00	0.00	0.45	1.47	0	0.00	0.11	0
CL-DET-G2-03	2021-06-26	0.00	0	0.00	0.00	0.00	0.23	0.23	0	0.00	0.00	0
CL-DET-G2-03	2021-06-27	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.00	0
CL-DET-G2-03	2021-06-28	0.00	0	0.00	0.00	0.00	1.13	1.47	0	0.00	0.11	0
CL-DET-G2-03	2021-06-29	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-G2-03	2021-06-30	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G2-03	2021-07-01	0.00	0	0.00	0.00	0.00	0.34	0.79	0	0.00	0.34	0
CL-DET-G2-03	2021-07-02	0.00	0	0.00	0.00	0.00	0.67	0.56	0	0.00	0.00	0
CL-DET-G2-03	2021-07-03	0.00	0	0.00	0.00	0.00	0.45	0.00	0	0.00	0.00	0
CL-DET-G2-03	2021-07-04	0.00	0	0.00	0.00	0.00	0.90	0.00	0	0.00	0.00	0
CL-DET-G2-03	2021-07-05	0.00	0	0.00	0.00	0.00	0.45	0.00	0	0.00	0.00	0
CL-DET-G2-03	2021-07-06	0.00	0	0.00	0.00	0.00	0.78	4.12	0	0.00	2.78	0
CL-DET-G2-04	2021-06-15	0.00	0	0.00	0.00	0.00	0.23	4.98	0	0.00	0.23	0
CL-DET-G2-04	2021-06-16	0.00	0	0.00	0.00	0.00	0.79	16.11	0	0.00	1.02	0
CL-DET-G2-04	2021-06-17	0.00	0	0.00	0.00	0.00	1.93	127.60	0	5.22	8.51	0
CL-DET-G2-04	2021-06-18	0.00	0	0.00	0.00	0.00	2.04	27.11	0	0.45	3.29	0
CL-DET-G2-04	2021-06-19	0.00	0	0.00	0.00	0.00	1.02	1.82	0	0.00	0.23	0
CL-DET-G2-04	2021-06-20	0.00	0	0.34	0.00	0.00	2.39	31.25	0	0.23	2.16	0
CL-DET-G2-04	2021-06-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G2-04	2021-06-22	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.00	0
CL-DET-G2-04	2021-06-23	0.00	0	0.00	0.00	0.00	1.47	142.34	0	0.45	4.88	0
CL-DET-G2-04	2021-06-24	0.00	0	0.23	0.00	0.00	2.27	237.27	0	2.16	8.41	0
CL-DET-G2-04	2021-06-25	0.11	0	0.45	0.00	0.00	2.27	6.01	0	0.00	0.57	0
CL-DET-G2-11	2021-06-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-G2-11	2021-06-30	0.00	0	0.00	0.00	0.00	0.00	0.67	0	0.00	0.11	0
CL-DET-G2-11	2021-07-01	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-WT-G2-02	2021-06-17	0.00	0	0.00	0.00	0.00	0.91	26.72	0	0.34	1.81	0
CL-DET-WT-G2-02	2021-06-18	0.00	0	0.00	0.00	0.00	0.00	3.62	0	0.00	1.25	0
CL-DET-WT-G2-02	2021-06-19	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.00	0
CL-DET-WT-G2-02	2021-06-20	0.00	0	0.79	0.00	0.00	2.49	9.40	0	0.00	0.91	0
CL-DET-WT-G2-02	2021-06-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-WT-G2-02	2021-06-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-WT-G2-02	2021-06-23	0.00	0	0.00	0.00	0.11	0.79	3.96	0	0.23	1.25	0
CL-DET-WT-G2-02	2021-06-24	0.00	0	0.00	0.00	0.00	2.49	10.62	0	0.11	1.47	0
CL-DET-WT-G2-02	2021-06-25	0.00	0	0.00	0.00	0.00	0.45	2.71	0	0.00	0.11	0
CL-DET-WT-G2-02	2021-06-26	0.00	0	0.00	0.00	0.00	0.56	3.61	0	0.00	0.45	0
CL-DET-WT-G2-02	2021-06-27	0.00	0	0.00	0.00	0.00	1.58	0.90	0	0.00	0.68	0
CL-DET-WT-G2-02	2021-06-28	0.00	0	0.00	0.00	0.00	3.94	13.06	0	0.00	1.58	0
CL-DET-WT-G2-02	2021-06-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-WT-G2-02	2021-06-30	0.00	0	0.00	0.00	0.00	5.28	7.19	0	1.01	1.80	0
CL-DET-WT-G2-02	2021-07-01	0.00	0	0.00	0.00	0.00	0.67	2.58	0	0.00	0.45	0
CL-DET-WT-G2-02	2021-07-02	0.00	0	0.00	0.00	0.00	1.12	19.74	0	0.00	2.13	0
CL-DET-WT-G2-02	2021-07-03	0.00	0	0.11	0.00	0.00	2.57	3.81	0	0.00	0.45	0
CL-DET-WT-G2-02	2021-07-04	0.00	0	0.11	0.00	0.00	2.12	30.95	0	2.23	2.68	0
CL-DET-WT-G2-02	2021-07-05	0.00	0	0.00	0.00	0.00	0.78	4.44	0	0.11	0.67	0
CL-DET-WT-G2-02	2021-07-06	0.00	0	0.00	0.00	0.11	0.22	1.00	0	0.00	0.22	0
CL-DET-WT-G2-02	2021-07-07	0.00	0	0.11	0.00	0.00	0.22	0.78	0	0.00	0.00	0
CL-DET-WT-G2-02	2021-07-08	0.00	0	0.00	0.00	0.00	0.55	10.18	0	0.00	0.66	0
CL-DET-WT-G2-02b	2021-06-17	0.00	0	0.00	0.00	0.00	0.00	0.57	0	0.11	0.00	0
CL-DET-WT-G2-02b	2021-06-18	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-WT-G2-02b	2021-06-19	0.00	0	0.00	0.00	0.23	9.96	0.00	0	0.00	0.45	0
CL-DET-WT-G2-02b	2021-06-20	0.00	0	0.00	0.00	0.00	3.85	35.09	0	0.23	4.98	0
CL-DET-WT-G2-02b	2021-06-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-WT-G2-02b	2021-06-22	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-WT-G2-02b	2021-06-23	0.00	0	0.00	0.00	0.00	0.91	3.06	0	0.00	0.68	0
CL-DET-WT-G2-02b	2021-06-24	0.00	0	0.00	0.00	0.00	7.68	12.77	0	0.11	2.82	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-WT-G2-02b	2021-06-25	0.00	0	0.00	0.00	0.00	1.81	14.01	0	0.00	1.69	0
CL-DET-WT-G2-02b	2021-06-26	0.00	0	0.00	0.00	0.00	1.47	3.50	0	0.23	1.24	0
CL-DET-WT-G2-02b	2021-06-27	0.00	0	0.00	0.00	0.00	0.56	0.00	0	0.00	0.11	0
CL-DET-WT-G2-02b	2021-06-28	0.00	0	0.00	0.00	0.00	0.45	0.45	0	0.00	0.79	0
CL-DET-WT-G2-02b	2021-06-29	0.00	0	0.00	0.00	0.00	0.34	0.23	0	0.00	0.34	0
CL-DET-WT-G2-02b	2021-06-30	0.00	0	0.00	0.00	0.00	0.22	0.00	0	0.00	0.00	0
CL-DET-WT-G2-02b	2021-07-01	0.00	0	0.00	0.00	0.00	0.43	0.00	0	0.00	0.43	0
CL-DET-Rock Barren 6 control	2022-05-17	0.00	0	0.00	0.00	0.00	0.00	0.21	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2022-05-18	0.00	0	0.00	0.00	0.00	0.10	0.10	0	0.10	0.00	0
CL-DET-Rock Barren 6 control	2022-05-19	0.00	0	0.00	0.00	0.00	0.10	1.47	0	0.10	0.21	0
CL-DET-Rock Barren 6 control	2022-05-20	0.00	0	0.00	0.00	0.00	0.00	0.63	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2022-05-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2022-05-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2022-05-23	0.00	0	0.00	0.00	0.00	0.00	2.45	0	0.11	0.11	0
CL-DET-Rock Barren 6 control	2022-05-24	0.00	0	0.00	0.00	0.00	0.00	0.21	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2022-05-25	0.00	0	0.00	0.00	0.00	0.00	0.21	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2022-05-26	0.00	0	0.00	0.00	0.00	0.22	0.22	0	0.00	0.11	0
CL-DET-Rock Barren 6 control	2022-05-27	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2022-05-28	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-Rock Barren 6 control	2022-05-29	0.00	0	0.00	0.00	0.00	0.33	1.31	0	0.00	0.11	0
CL-DET-Rock Barren 6 control	2022-05-30	0.00	0	0.00	0.00	0.00	0.11	2.62	0	0.00	0.55	0
CL-DET-Rock Barren 6 control	2022-05-31	0.00	0	0.00	0.00	0.00	0.66	3.29	0	0.44	0.44	0
CL-DET-Rock Barren 6 control	2022-06-01	0.00	0	0.00	0.00	0.00	0.00	0.44	0	0.00	0.11	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6 control	2022-06-02	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-Rock Barren 6 control	2022-06-03	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.22	0
CL-DET-Rock Barren 6-3	2022-05-17	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2022-05-18	0.00	0	0.00	0.00	0.00	0.10	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2022-05-19	0.00	0	0.00	0.00	0.00	0.10	0.52	0	0.00	0.31	0
CL-DET-Rock Barren 6-3	2022-05-20	0.00	0	0.00	0.00	0.00	0.00	0.21	0	0.00	0.11	0
CL-DET-Rock Barren 6-3	2022-05-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2022-05-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2022-05-23	0.00	0	0.00	0.00	0.00	0.11	0.85	0	0.00	0.11	0
CL-DET-Rock Barren 6-3	2022-05-24	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2022-05-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2022-05-26	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-Rock Barren 6-3	2022-05-27	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2022-05-28	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2022-05-29	0.00	0	0.00	0.00	0.00	0.22	0.22	0	0.00	0.76	0
CL-DET-Rock Barren 6-3	2022-05-30	0.00	0	0.00	0.00	0.00	0.22	0.33	0	0.00	0.11	0
CL-DET-Rock Barren 6-3	2022-05-31	0.00	0	0.00	0.00	0.00	0.88	1.86	0	0.00	0.55	0
CL-DET-Rock Barren 6-3	2022-06-01	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2022-06-02	0.00	0	0.00	0.00	0.00	0.11	0.22	0	0.00	0.22	0
CL-DET-Rock Barren 6-3	2022-06-03	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2022-06-04	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2022-05-17	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2022-05-18	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2022-05-19	0.00	0	0.00	0.00	0.00	0.21	0.21	0	0.00	0.10	0
CL-DET-Rock Barren 6-5	2022-05-20	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2022-05-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2022-05-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2022-05-23	0.00	0	0.00	0.00	0.00	0.00	0.53	0	0.00	0.21	0
CL-DET-Rock Barren 6-5	2022-05-24	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2022-05-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6-5	2022-05-26	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2022-05-27	0.00	0	0.00	0.00	0.00	0.43	0.00	0	0.00	0.11	0
CL-DET-Rock Barren 6-5	2022-05-28	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.22	0
CL-DET-Rock Barren 6-5	2022-05-29	0.00	0	0.00	0.00	0.00	0.33	0.22	0	0.00	0.54	0
CL-DET-Rock Barren 6-5	2022-05-30	0.00	0	0.00	0.00	0.00	0.22	0.22	0	0.00	0.11	0
CL-DET-Rock Barren 6-5	2022-05-31	0.00	0	0.00	0.00	0.00	0.55	2.30	0	0.00	0.99	0
CL-DET-Rock Barren 6-5	2022-06-01	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2022-06-02	0.00	0	0.00	0.00	0.00	0.11	0.44	0	0.00	0.11	0
CL-DET-Rock Barren 6-5	2022-06-03	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-Rock Barren 6-5	2022-06-04	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2022-05-17	0.00	0	0.00	0.00	0.00	0.00	0.31	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2022-05-18	0.00	0	0.10	0.00	0.00	0.10	0.21	0	0.21	0.10	0
CL-DET-Rock Barren 6-8	2022-05-19	0.00	0	0.00	0.00	0.00	0.00	0.73	0	0.10	0.10	0
CL-DET-Rock Barren 6-8	2022-05-20	0.00	0	0.00	0.00	0.00	0.21	0.00	0	0.00	0.11	0
CL-DET-Rock Barren 6-8	2022-05-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2022-05-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2022-05-23	0.00	0	0.00	0.00	0.00	0.00	1.07	0	0.00	0.11	0
CL-DET-Rock Barren 6-8	2022-05-24	0.00	0	0.00	0.00	0.00	0.00	0.21	0	0.00	0.11	0
CL-DET-Rock Barren 6-8	2022-05-25	0.00	0	0.00	0.00	0.00	0.11	0.32	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2022-05-26	0.00	0	0.00	0.00	0.00	4.74	0.43	0	0.00	2.37	0
CL-DET-Rock Barren 6-8	2022-05-27	0.00	0	0.00	0.00	0.00	0.22	0.43	0	0.00	0.43	0
CL-DET-Rock Barren 6-8	2022-05-28	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.00	0.11	0
CL-DET-Rock Barren 6-8	2022-05-29	0.00	0	0.00	0.00	0.00	0.55	0.65	0	0.00	0.65	0
CL-DET-Rock Barren 6-8	2022-05-30	0.00	0	0.00	0.00	0.00	0.11	1.53	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2022-05-31	0.00	0	0.11	0.00	0.00	0.11	3.62	0	0.00	1.10	0
CL-DET-Rock Barren 6-8	2022-06-01	0.00	0	0.00	0.00	0.00	0.77	0.55	0	0.00	0.88	0
CL-DET-Rock Barren 6-8	2022-06-02	0.00	0	0.00	0.00	0.00	0.88	0.11	0	0.00	0.66	0
CL-DET-Rock Barren 6-8	2022-06-03	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2022-06-04	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2022-06-05	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2022-06-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6-9	2022-05-17	0.00	0	0.00	0.00	0.00	0.00	0.31	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2022-05-18	0.00	0	0.00	0.00	0.00	0.00	0.31	0	0.00	0.21	0
CL-DET-Rock Barren 6-9	2022-05-19	0.00	0	0.00	0.00	0.00	0.00	1.05	0	0.00	0.21	0
CL-DET-Rock Barren 6-9	2022-05-20	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2022-05-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2022-05-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2022-05-23	0.00	0	0.00	0.00	0.00	0.11	0.75	0	0.00	0.43	0
CL-DET-Rock Barren 6-9	2022-05-24	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2022-05-25	0.00	0	0.00	0.00	0.00	0.00	0.21	0	0.00	0.11	0
CL-DET-Rock Barren 6-9	2022-05-26	0.00	0	0.00	0.00	0.00	0.22	0.86	0	0.00	0.22	0
CL-DET-Rock Barren 6-9	2022-05-27	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.00	0.11	0
CL-DET-Rock Barren 6-9	2022-05-28	0.00	0	0.00	0.00	0.00	0.11	0.65	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2022-05-29	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.22	0
CL-DET-Rock Barren 6-9	2022-05-30	0.00	0	0.00	0.00	0.00	0.00	1.64	0	0.00	0.44	0
CL-DET-Rock Barren 6-9	2022-05-31	0.00	0	0.11	0.00	0.00	0.44	3.84	0	0.11	0.88	0
CL-DET-Rock Barren 6-9	2022-06-01	0.00	0	0.00	0.00	0.00	0.11	0.99	0	0.00	0.11	0
CL-DET-Rock Barren 6-9	2022-06-02	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.11	0.00	0
CL-DET-Rock Barren 6-9	2022-06-03	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2022-06-04	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2022-05-17	0.00	0	0.00	0.00	0.00	0.00	0.31	0	0.00	0.31	0
CL-DET-Rock Barren 6-10	2022-05-18	0.00	0	0.00	0.00	0.00	0.10	0.21	0	0.10	0.10	0
CL-DET-Rock Barren 6-10	2022-05-19	0.00	0	0.00	0.00	0.00	0.00	1.15	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2022-05-20	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2022-05-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2022-05-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2022-05-23	0.00	0	0.00	0.00	0.00	0.11	1.28	0	0.00	0.53	0
CL-DET-Rock Barren 6-10	2022-05-24	0.00	0	0.00	0.00	0.00	0.00	0.21	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2022-05-25	0.00	0	0.00	0.00	0.00	0.11	0.21	0	0.00	0.21	0
CL-DET-Rock Barren 6-10	2022-05-26	0.00	0	0.00	0.00	0.00	0.32	0.32	0	0.00	0.43	0
CL-DET-Rock Barren 6-10	2022-05-27	0.00	0	0.00	0.00	0.00	0.11	0.22	0	0.00	0.22	0
CL-DET-Rock Barren 6-10	2022-05-28	0.00	0	0.00	0.00	0.00	0.11	0.43	0	0.00	0.54	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6-10	2022-05-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2022-05-30	0.00	0	0.00	0.00	0.00	0.00	1.09	0	0.00	0.33	0
CL-DET-Rock Barren 6-10	2022-05-31	0.00	0	0.00	0.00	0.11	0.22	3.29	0	0.00	0.88	0
CL-DET-Rock Barren 6-10	2022-06-01	0.00	0	0.00	0.00	0.00	0.11	0.77	0	0.00	0.11	0
CL-DET-Rock Barren 6-10	2022-06-02	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.00	0.22	0
CL-DET-Rock Barren 6-10	2022-06-03	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2022-06-04	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2022-05-17	0.00	0	0.00	0.00	0.00	0.21	0.42	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2022-05-18	0.00	0	0.10	0.00	0.00	0.00	0.31	0	0.21	0.21	0
CL-DET-Rock Barren 6-12	2022-05-19	0.00	0	0.00	0.00	0.00	0.00	1.15	0	0.00	0.21	0
CL-DET-Rock Barren 6-12	2022-05-20	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2022-05-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2022-05-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2022-05-23	0.00	0	0.00	0.00	0.00	0.11	1.17	0	0.00	0.32	0
CL-DET-Rock Barren 6-12	2022-05-24	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2022-05-25	0.00	0	0.00	0.00	0.00	0.00	0.64	0	0.00	0.11	0
CL-DET-Rock Barren 6-12	2022-05-26	0.00	0	0.00	0.00	0.00	0.65	0.43	0	0.00	0.43	0
CL-DET-Rock Barren 6-12	2022-05-27	0.00	0	0.00	0.00	0.00	0.11	0.32	0	0.00	0.22	0
CL-DET-Rock Barren 6-12	2022-05-28	0.00	0	0.00	0.00	0.00	0.00	0.54	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2022-05-29	0.00	0	0.00	0.00	0.00	0.00	0.54	0	0.00	0.33	0
CL-DET-Rock Barren 6-12	2022-05-30	0.00	0	0.00	0.00	0.00	0.11	1.64	0	0.00	0.33	0
CL-DET-Rock Barren 6-12	2022-05-31	0.00	0	0.00	0.00	0.00	0.22	5.81	0	0.00	0.99	0
CL-DET-Rock Barren 6-12	2022-06-01	0.00	0	0.00	0.00	0.00	0.11	0.77	0	0.11	0.00	0
CL-DET-Rock Barren 6-12	2022-06-02	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.33	0
CL-DET-Rock Barren 6-12	2022-06-03	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2022-06-04	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2022-05-19	0.00	0	0.00	0.00	0.00	0.00	0.84	0	0.00	0.31	0
CL-DET-Rock Barren 8-3 control	2022-05-20	0.00	0	0.00	0.00	0.00	0.00	0.21	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2022-05-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 8-3 control	2022-05-22	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.11	0
CL-DET-Rock Barren 8-3 control	2022-05-23	0.00	0	0.00	0.00	0.00	0.21	1.39	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2022-05-24	0.00	0	0.00	0.00	0.00	0.00	0.32	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2022-05-25	0.00	0	0.00	0.00	0.00	0.00	0.21	0	0.11	0.21	0
CL-DET-Rock Barren 8-3 control	2022-05-26	0.00	0	0.00	0.00	0.00	0.32	0.00	0	0.00	0.22	0
CL-DET-Rock Barren 8-3 control	2022-05-27	0.00	0	0.00	0.00	0.00	0.54	25.62	0	0.86	8.76	0
CL-DET-Rock Barren 8-3 control	2022-05-28	0.00	0	0.00	0.00	0.00	0.98	20.22	0	0.76	8.70	0
CL-DET-Rock Barren 8-3 control	2022-05-29	0.00	0	0.00	0.00	0.00	0.00	1.96	0	0.00	0.54	0
CL-DET-Rock Barren 8-3 control	2022-05-30	0.00	0	0.00	0.00	0.00	0.33	1.42	0	0.33	0.22	0
CL-DET-Rock Barren 8-3 control	2022-05-31	0.00	0	0.00	0.00	0.00	0.22	1.86	0	0.33	0.55	0
CL-DET-Rock Barren 8-3 control	2022-06-01	0.00	0	0.00	0.00	0.00	0.22	0.44	0	0.11	0.11	0
CL-DET-Rock Barren 8-3	2022-05-19	0.00	0	0.00	0.00	0.00	0.10	1.05	0	0.00	0.21	0
CL-DET-Rock Barren 8-3	2022-05-20	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2022-05-21	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2022-05-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2022-05-23	0.00	0	0.00	0.00	0.00	0.21	0.53	0	0.00	0.11	0
CL-DET-Rock Barren 8-3	2022-05-24	0.00	0	0.00	0.00	0.00	0.00	0.43	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2022-05-25	0.00	0	0.00	0.00	0.00	0.00	0.43	0	0.00	0.11	0
CL-DET-Rock Barren 8-3	2022-05-26	0.00	0	0.00	0.00	0.00	0.00	0.32	0	0.00	0.22	0
CL-DET-Rock Barren 8-3	2022-05-27	0.00	0	0.00	0.00	0.00	0.00	3.35	0	0.00	2.16	0
CL-DET-Rock Barren 8-3	2022-05-28	0.00	0	0.00	0.00	0.00	0.43	1.63	0	0.22	2.17	0
CL-DET-Rock Barren 8-3	2022-05-29	0.00	0	0.00	0.00	0.00	0.22	1.64	0	0.00	0.76	0
CL-DET-Rock Barren 8-3	2022-05-30	0.00	0	0.00	0.00	0.00	0.33	2.30	0	0.00	0.44	0
CL-DET-Rock Barren 8-3	2022-05-31	0.00	0	0.00	0.00	0.00	0.22	3.07	0	0.33	0.77	0
CL-DET-Rock Barren 8-3	2022-06-01	0.00	0	0.00	0.00	0.00	0.00	0.44	0	0.00	0.11	0
CL-DET-CBM-11	2022-06-28	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-11	2022-06-29	0.00	0	0.00	0.00	0.00	0.56	3.50	0	0.00	0.56	0
CL-DET-CBM-11	2022-06-30	0.00	0	0.00	0.00	0.00	0.45	2.36	0	0.00	0.45	0
CL-DET-CBM-11	2022-07-01	0.00	0	0.00	0.00	0.00	0.34	1.24	0	0.00	1.24	0
CL-DET-CBM-11	2022-07-02	0.00	0	0.00	0.00	0.00	0.90	2.13	0	0.00	1.12	0
CL-DET-CBM-11	2022-07-03	0.00	0	0.22	0.00	0.00	0.56	2.69	0	0.00	0.90	0
CL-DET-CBM-11	2022-07-04	0.00	0	0.00	0.00	0.00	0.78	16.42	0	0.45	3.02	0
CL-DET-CBM-11	2022-07-05	0.00	0	0.00	0.00	0.00	0.22	3.23	0	0.00	1.67	0
CL-DET-CBM-11	2022-07-06	0.00	0	0.00	0.00	0.00	0.33	6.89	0	0.00	1.11	0
CL-DET-CBM-11	2022-07-07	0.00	0	0.00	0.00	0.00	0.22	5.88	0	0.22	1.11	0
CL-DET-CBM-11	2022-07-08	0.00	0	0.00	0.00	0.00	0.33	0.88	0	0.00	0.44	0
CL-DET-CBM-11	2022-07-09	0.00	0	0.99	0.00	0.00	0.55	2.76	0	0.22	0.77	0
CL-DET-CBM-11	2022-07-10	0.00	0	0.00	0.00	0.00	0.88	5.39	0	1.65	3.63	0
CL-DET-CBM-11	2022-07-11	0.00	0	0.00	0.00	0.00	0.11	4.28	0	0.00	0.88	0
CL-DET-CBM-11	2022-07-12	0.00	0	0.00	0.00	0.00	0.44	2.41	0	0.00	0.77	0
CL-DET-CBM-11	2022-07-13	0.00	0	0.00	0.00	0.00	0.11	1.53	0	0.00	0.33	0
CL-DET-CBM-11	2022-07-14	0.00	0	0.00	0.00	0.00	0.43	1.96	0	0.00	0.22	0
CL-DET-CBM-11	2022-07-15	0.00	0	0.00	0.00	0.00	0.54	1.62	0	0.00	0.22	0
CL-DET-CBM-11	2022-07-16	0.00	0	0.00	0.00	0.00	1.94	32.10	0	1.18	3.23	0
CL-DET-CBM-11	2022-07-17	0.00	0	0.00	0.00	0.00	0.54	15.13	0	0.54	1.29	0
CL-DET-CBM-11	2022-07-18	0.00	0	0.00	0.00	0.00	18.61	134.33	0	11.44	26.20	0
CL-DET-CBM-11	2022-07-19	0.00	0	0.00	0.00	0.11	21.74	185.97	0	38.58	43.80	0
CL-DET-CBM-11	2022-07-20	0.00	0	0.00	0.00	0.00	19.43	28.46	0	1.59	20.71	0
CL-DET-CBM-11	2022-07-21	0.00	0	0.21	0.00	0.00	2.75	45.19	0	4.87	14.29	0
CL-DET-CBM-11	2022-07-22	0.11	0	0.21	0.00	0.00	1.58	7.37	0	0.32	3.05	0
CL-DET-CBM-11	2022-07-23	0.00	0	0.00	0.00	0.00	0.73	11.12	0	0.31	2.31	0
CL-DET-CBM-11	2022-07-24	0.00	0	0.00	0.00	0.00	0.84	3.14	0	0.21	0.84	0
CL-DET-CBM-11	2022-07-25	0.00	0	0.00	0.00	0.00	2.50	9.90	0	0.21	3.54	0
CL-DET-CBM-11	2022-07-26	0.00	0	0.31	0.00	0.00	1.34	5.48	0	0.00	1.24	0
CL-DET-CBM-11	2022-07-27	0.00	0	0.00	0.00	0.00	0.72	5.15	0	0.00	0.52	0
CL-DET-CBM-11	2022-07-28	0.00	0	0.00	0.00	0.00	0.00	0.92	0	0.00	0.00	0
CL-DET-CBM-11	2022-07-29	0.00	0	0.10	0.00	0.10	1.02	7.77	0	0.10	2.66	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-11	2022-07-30	0.00	0	0.30	0.00	0.00	1.80	7.20	0	0.60	5.10	0
CL-DET-CBM-12	2022-06-29	0.00	0	0.00	0.00	0.00	1.13	0.23	0	0.11	0.23	0
CL-DET-CBM-12	2022-06-30	0.00	0	0.00	0.00	0.00	1.91	7.30	0	0.34	0.79	0
CL-DET-CBM-12	2022-07-01	0.00	0	0.00	0.00	0.00	0.79	3.37	0	0.00	0.79	0
CL-DET-CBM-12	2022-07-02	0.34	0	0.00	0.00	0.00	0.56	6.95	0	0.00	0.34	0
CL-DET-CBM-12	2022-07-03	0.00	0	0.00	0.00	0.00	2.23	4.25	0	0.00	0.56	0
CL-DET-CBM-12	2022-07-04	0.00	0	0.00	0.00	0.00	1.56	5.36	0	0.22	0.56	0
CL-DET-CBM-12	2022-07-05	0.00	0	0.00	0.00	0.00	0.56	1.34	0	0.00	0.00	0
CL-DET-CBM-12	2022-07-06	0.11	0	0.11	0.00	0.00	1.11	0.33	0	0.00	0.00	0
CL-DET-CBM-12	2022-07-07	0.00	0	0.00	0.00	0.00	0.55	1.33	0	0.44	0.33	0
CL-DET-CBM-12	2022-07-08	0.11	0	0.00	0.00	0.00	1.55	3.20	0	0.00	0.44	0
CL-DET-CBM-12	2022-07-09	0.00	0	0.00	0.00	0.00	1.32	8.26	0	0.11	0.77	0
CL-DET-CBM-12	2022-07-10	0.00	0	0.00	0.00	0.00	0.99	6.06	0	0.11	0.33	0
CL-DET-CBM-12	2022-07-11	0.00	0	0.00	0.00	0.00	0.55	1.86	0	0.00	0.11	0
CL-DET-CBM-12	2022-07-12	0.11	0	0.00	0.00	0.00	1.20	0.66	0	0.00	0.22	0
CL-DET-CBM-12	2022-07-13	0.00	0	0.00	0.00	0.00	0.22	4.15	0	0.00	0.55	0
CL-DET-CBM-12	2022-07-14	0.00	0	0.00	0.00	0.00	1.74	9.02	0	0.00	0.43	0
CL-DET-CBM-12	2022-07-15	0.00	0	0.00	0.00	0.00	2.81	18.59	0	0.32	1.08	0
CL-DET-CBM-12	2022-07-16	0.00	0	0.00	0.00	0.00	5.17	7.43	0	0.11	0.65	0
CL-DET-CBM-12	2022-07-17	0.00	0	0.00	0.00	0.00	6.55	18.89	0	0.21	2.90	0
CL-DET-CBM-12	2022-07-18	0.00	0	0.00	0.00	0.00	0.11	2.67	0	0.00	1.28	0
CL-DET-CBM-12	2022-07-19	0.11	0	0.00	0.00	0.00	1.49	8.53	0	1.49	2.77	0
CL-DET-CBM-12	2022-07-20	0.00	0	0.00	0.00	0.00	0.21	1.59	0	0.00	0.00	0
CL-DET-CBM-12	2022-07-21	0.00	0	0.00	0.00	0.00	0.63	3.70	0	0.11	0.32	0
CL-DET-CBM-12	2022-07-22	0.00	0	0.11	0.00	0.00	2.00	25.89	0	3.47	3.47	0
CL-DET-CBM-12	2022-07-23	0.00	0	0.00	0.00	0.00	2.20	9.23	0	0.52	2.73	0
CL-DET-CBM-12	2022-07-24	0.00	0	0.00	0.00	0.00	0.31	0.63	0	0.00	0.21	0
CL-DET-CBM-12	2022-07-25	0.00	0	0.00	0.00	0.00	3.12	17.16	0	0.10	1.25	0
CL-DET-CBM-12	2022-07-26	0.00	0	0.10	0.31	0.00	5.69	15.83	0	0.10	1.03	0
CL-DET-CBM-12	2022-07-27	0.00	0	0.00	0.00	0.00	2.16	6.70	0	0.00	0.52	0
CL-DET-CBM-12	2022-07-28	0.00	0	0.00	0.00	0.00	0.72	3.69	0	0.92	0.62	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-12	2022-07-29	0.10	0	0.10	0.00	0.00	3.48	11.65	0	0.00	1.53	0
CL-DET-CBM-12	2022-07-30	0.00	0	0.43	0.22	0.00	5.43	20.00	0	0.00	2.61	0
CL-DET-CBM-14	2022-06-29	0.00	0	0.00	0.00	0.00	0.34	0.34	0	0.00	0.11	0
CL-DET-CBM-14	2022-06-30	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-14	2022-07-01	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-14	2022-07-02	0.00	0	0.00	0.00	0.00	0.00	0.56	0	0.00	0.79	0
CL-DET-CBM-14	2022-07-03	0.00	0	0.11	0.00	0.00	0.11	0.11	0	0.00	0.22	0
CL-DET-CBM-14	2022-07-04	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.11	0
CL-DET-CBM-14	2022-07-05	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-14	2022-07-06	0.00	0	0.00	0.00	0.00	5.33	0.22	0	0.00	4.00	0
CL-DET-CBM-14	2022-07-07	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.33	0
CL-DET-CBM-14	2022-07-08	0.00	0	0.00	0.00	0.00	0.22	0.22	0	0.00	0.33	0
CL-DET-CBM-14	2022-07-09	0.00	0	0.00	0.00	0.00	0.22	0.22	0	0.00	0.22	0
CL-DET-CBM-14	2022-07-10	0.00	0	0.22	0.00	0.00	0.22	0.11	0	0.00	0.00	0
CL-DET-CBM-14	2022-07-11	0.00	0	0.00	0.00	0.00	0.88	0.44	0	0.00	0.77	0
CL-DET-CBM-14	2022-07-12	0.00	0	0.00	0.00	0.00	0.22	0.44	0	0.00	0.00	0
CL-DET-CBM-14	2022-07-13	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-CBM-14	2022-07-14	0.00	0	0.11	0.00	0.00	0.11	0.22	0	0.00	0.22	0
CL-DET-CBM-14	2022-07-15	0.00	0	0.00	0.00	0.11	0.43	0.97	0	0.00	0.86	0
CL-DET-CBM-14	2022-07-16	0.00	0	0.00	0.00	0.00	0.43	0.75	0	0.00	1.51	0
CL-DET-CBM-14	2022-07-17	0.00	0	0.11	0.00	0.00	1.50	0.54	0	0.00	1.40	0
CL-DET-CBM-14	2022-07-18	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-14	2022-07-19	0.00	0	0.00	0.00	0.00	5.12	4.69	0	0.43	6.18	0
CL-DET-CBM-14	2022-07-20	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.00	0
CL-DET-CBM-14	2022-07-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-14	2022-07-22	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-CBM-14	2022-07-23	0.00	0	0.00	0.00	0.00	1.57	1.57	0	0.00	1.36	0
CL-DET-CBM-14	2022-07-24	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-14	2022-07-25	0.00	0	0.31	0.00	0.10	1.14	2.70	0	0.00	1.87	0
CL-DET-CBM-14	2022-07-26	0.00	0	0.52	0.00	0.00	2.07	0.62	0	0.00	1.66	0
CL-DET-CBM-14	2022-07-27	0.00	0	0.00	0.00	0.00	0.21	0.00	0	0.00	0.21	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-14	2022-07-28	0.00	0	0.00	0.00	0.00	0.10	0.00	0	0.00	0.00	0
CL-DET-CBM-14	2022-07-29	0.00	0	0.00	0.00	0.00	1.94	1.33	0	0.00	0.92	0
CL-DET-CBM-14	2022-07-30	0.00	0	0.10	0.00	0.20	1.83	2.03	0	0.00	2.14	0
CL-DET-CBM-14	2022-07-31	0.00	0	0.00	0.00	0.00	0.91	2.83	0	0.00	1.82	0
CL-DET-CBM-16	2022-06-30	0.00	0	0.00	0.00	0.00	1.35	0.00	0	0.00	1.91	0
CL-DET-CBM-16	2022-07-01	0.00	0	0.00	0.00	0.00	4.38	0.34	0	0.11	5.62	0
CL-DET-CBM-16	2022-07-02	0.00	0	0.00	0.00	0.00	5.50	1.91	0	0.00	11.44	0
CL-DET-CBM-16	2022-07-03	0.00	0	0.00	0.00	0.00	0.67	0.67	0	0.00	2.01	0
CL-DET-CBM-16	2022-07-04	0.00	0	0.00	0.00	0.00	1.34	0.11	0	0.00	1.56	0
CL-DET-CBM-16	2022-07-05	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-16	2022-07-06	0.00	0	0.00	0.00	0.00	0.56	0.22	0	0.00	1.33	0
CL-DET-CBM-16	2022-07-07	0.00	0	0.00	0.00	0.00	0.89	0.22	0	0.11	3.66	0
CL-DET-CBM-16	2022-07-08	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.66	0
CL-DET-CBM-16	2022-07-09	0.00	0	0.00	0.00	0.00	0.88	0.99	0	0.00	1.87	0
CL-DET-CBM-16	2022-07-10	0.00	0	0.00	0.00	0.00	0.88	0.11	0	0.00	0.44	0
CL-DET-CBM-16	2022-07-11	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.22	0
CL-DET-CBM-16	2022-07-12	0.00	0	0.00	0.00	0.00	1.86	0.11	0	0.00	0.98	0
CL-DET-CBM-16	2022-07-13	0.00	0	0.00	0.00	0.00	1.74	0.33	0	0.00	1.96	0
CL-DET-CBM-16	2022-07-14	0.00	0	0.00	0.00	0.00	2.28	0.43	0	0.00	3.04	0
CL-DET-CBM-16	2022-07-15	0.00	0	0.00	0.00	0.00	3.68	2.38	0	0.00	5.20	0
CL-DET-CBM-16	2022-07-16	0.00	0	0.00	0.00	0.00	4.64	0.54	0	0.00	4.32	0
CL-DET-CBM-16	2022-07-17	0.00	0	0.00	0.00	0.00	5.91	0.75	0	0.00	11.51	0
CL-DET-CBM-16	2022-07-18	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-CBM-16	2022-07-19	0.00	0	0.00	0.00	0.00	2.98	0.64	0	0.00	4.37	0
CL-DET-CBM-16	2022-07-20	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-CBM-16	2022-07-21	0.00	0	0.00	0.00	0.00	2.33	1.48	0	0.00	6.03	0
CL-DET-CBM-16	2022-07-22	0.00	0	0.00	0.00	0.00	3.06	2.95	0	0.11	6.01	0
CL-DET-CBM-16	2022-07-23	0.00	0	0.00	0.00	0.00	1.57	0.84	0	0.00	1.57	0
CL-DET-CBM-16	2022-07-24	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-16	2022-07-25	0.00	0	0.00	0.00	0.00	1.66	6.03	0	0.52	6.03	0
CL-DET-CBM-16	2022-07-26	0.00	0	0.00	0.00	0.00	1.76	1.97	0	0.21	2.80	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-16	2022-07-27	0.00	0	0.00	0.00	0.00	0.21	0.72	0	0.00	0.72	0
CL-DET-CBM-16	2022-07-28	0.00	0	0.00	0.00	0.00	0.10	0.10	0	0.00	0.21	0
CL-DET-CBM-16	2022-07-29	0.00	0	0.00	0.00	0.00	3.37	13.80	0	1.64	19.63	0
CL-DET-CBM-16	2022-07-30	0.00	0	0.00	0.00	0.00	2.75	8.64	0	1.73	12.00	0
CL-DET-CBM-16	2022-07-31	0.00	0	0.00	0.00	0.00	5.87	16.39	0	1.72	24.18	0
CL-DET-CBM-18	2022-07-01	0.00	0	0.00	0.00	0.00	0.11	0.45	0	0.00	0.45	0
CL-DET-CBM-18	2022-07-02	0.00	0	0.00	0.00	0.00	0.56	2.80	0	0.22	2.80	0
CL-DET-CBM-18	2022-07-03	0.00	0	0.00	0.00	0.00	0.11	3.03	0	0.11	1.79	0
CL-DET-CBM-18	2022-07-04	0.00	0	0.22	0.00	0.00	0.22	0.00	0	0.00	1.01	0
CL-DET-CBM-18	2022-07-05	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-18	2022-07-06	0.00	0	0.00	0.00	0.00	0.22	0.33	0	0.00	0.67	0
CL-DET-CBM-18	2022-07-07	0.00	0	0.00	0.00	0.00	0.55	1.66	0	0.00	0.78	0
CL-DET-CBM-18	2022-07-08	0.00	0	0.00	0.00	0.00	0.77	0.11	0	0.00	0.33	0
CL-DET-CBM-18	2022-07-09	0.00	0	0.00	0.00	0.00	0.33	1.22	0	0.11	0.88	0
CL-DET-CBM-18	2022-07-10	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.22	0
CL-DET-CBM-18	2022-07-11	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-CBM-18	2022-07-12	0.00	0	0.00	0.00	0.00	0.66	1.97	0	0.00	1.42	0
CL-DET-CBM-18	2022-07-13	0.00	0	0.00	0.00	0.00	0.33	0.33	0	0.00	0.22	0
CL-DET-CBM-18	2022-07-14	0.00	0	0.00	0.00	0.00	0.87	1.09	0	0.00	1.09	0
CL-DET-CBM-18	2022-07-15	0.00	0	0.00	0.00	0.00	0.32	0.43	0	0.00	0.76	0
CL-DET-CBM-18	2022-07-16	0.00	0	0.00	0.00	0.00	0.86	0.65	0	0.00	0.65	0
CL-DET-CBM-18	2022-07-17	0.00	0	0.00	0.00	0.00	1.07	1.18	0	0.00	2.58	0
CL-DET-CBM-18	2022-07-18	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-18	2022-07-19	0.00	0	0.00	0.00	0.11	0.21	1.07	0	0.00	2.98	0
CL-DET-CBM-18	2022-07-20	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-18	2022-07-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-18	2022-07-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-18	2022-07-23	0.00	0	0.00	0.00	0.00	0.10	0.63	0	0.00	0.21	0
CL-DET-CBM-18	2022-07-24	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-18	2022-07-25	0.00	0	0.10	0.00	0.00	1.46	2.81	0	0.00	2.08	0
CL-DET-CBM-18	2022-07-26	0.00	0	0.21	0.00	0.10	0.73	2.28	0	0.00	1.35	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-18	2022-07-27	0.00	0	0.00	0.00	0.00	0.10	0.00	0	0.00	0.10	0
CL-DET-CBM-18	2022-07-28	0.00	0	0.00	0.00	0.00	0.00	0.21	0	0.00	0.00	0
CL-DET-CBM-18	2022-07-29	0.00	0	0.31	0.00	0.00	0.41	5.11	0	0.10	3.68	0
CL-DET-CBM-18	2022-07-30	0.00	0	0.10	0.00	0.00	0.41	2.24	0	0.00	1.22	0
CL-DET-CBM-18	2022-07-31	0.00	0	0.00	0.00	0.00	1.01	1.52	0	0.00	1.01	0
CL-DET-CBM-18	2022-08-01	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.20	0
CL-DET-CBM-19	2022-06-30	0.00	0	0.00	0.00	0.00	2.59	0.34	0	0.00	0.79	0
CL-DET-CBM-19	2022-07-01	0.00	0	0.00	0.00	0.00	10.67	2.02	0	0.00	0.67	0
CL-DET-CBM-19	2022-07-02	0.00	0	0.00	0.00	0.00	13.88	6.38	0	0.11	2.80	0
CL-DET-CBM-19	2022-07-03	0.00	0	0.00	0.00	0.00	3.13	2.35	0	0.00	1.01	0
CL-DET-CBM-19	2022-07-04	0.00	0	0.00	0.00	0.00	4.58	1.56	0	0.00	0.67	0
CL-DET-CBM-19	2022-07-05	0.00	0	0.00	0.00	0.00	0.67	0.11	0	0.00	0.11	0
CL-DET-CBM-19	2022-07-06	0.00	0	0.00	0.00	0.00	1.67	1.22	0	0.00	0.56	0
CL-DET-CBM-19	2022-07-07	0.00	0	0.00	0.00	0.00	0.89	2.66	0	0.00	0.55	0
CL-DET-CBM-19	2022-07-08	0.00	0	0.00	0.00	0.00	0.11	0.55	0	0.00	0.00	0
CL-DET-CBM-19	2022-07-09	0.00	0	0.00	0.00	0.00	1.43	1.87	0	0.00	0.33	0
CL-DET-CBM-19	2022-07-10	0.00	0	0.00	0.00	0.00	2.75	0.00	0	0.00	0.33	0
CL-DET-CBM-19	2022-07-11	0.00	0	0.00	0.00	0.00	0.66	0.00	0	0.00	0.00	0
CL-DET-CBM-19	2022-07-12	0.00	0	0.00	0.00	0.00	0.33	3.17	0	0.00	0.22	0
CL-DET-CBM-19	2022-07-13	0.00	0	0.00	0.00	0.00	0.33	1.31	0	0.00	0.11	0
CL-DET-CBM-19	2022-07-14	0.00	0	0.00	0.00	0.00	0.65	0.22	0	0.00	0.54	0
CL-DET-CBM-19	2022-07-15	0.00	0	0.11	0.00	0.11	3.57	1.30	0	0.00	0.54	0
CL-DET-CBM-19	2022-07-16	0.00	0	0.00	0.00	0.22	1.94	0.86	0	0.00	0.43	0
CL-DET-CBM-19	2022-07-17	0.00	0	0.00	0.00	0.00	3.11	0.43	0	0.00	1.40	0
CL-DET-CBM-19	2022-07-18	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.11	0
CL-DET-CBM-19	2022-07-19	0.11	0	0.00	0.00	0.00	1.71	0.53	0	0.00	0.32	0
CL-DET-CBM-19	2022-07-20	0.00	0	0.00	0.00	0.00	0.42	0.21	0	0.00	0.00	0
CL-DET-CBM-19	2022-07-21	0.00	0	0.21	0.00	0.00	1.90	1.69	0	0.00	1.06	0
CL-DET-CBM-19	2022-07-22	0.00	0	0.00	0.00	0.00	2.32	3.37	0	0.00	1.27	0
CL-DET-CBM-19	2022-07-23	0.00	0	0.00	0.00	0.00	1.36	2.72	0	0.10	1.05	0
CL-DET-CBM-19	2022-07-24	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-19	2022-07-25	0.00	0	0.00	0.00	0.00	3.12	2.50	0	0.10	1.77	0
CL-DET-CBM-19	2022-07-26	0.00	0	0.00	0.00	0.00	1.55	4.35	0	0.21	2.07	0
CL-DET-CBM-19	2022-07-27	0.00	0	0.00	0.00	0.00	1.13	1.44	0	0.00	1.65	0
CL-DET-CBM-19	2022-07-28	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.31	0
CL-DET-CBM-19	2022-07-29	0.00	0	0.00	0.00	0.00	4.50	6.03	0	0.10	1.84	0
CL-DET-CBM-19	2022-07-30	0.00	0	0.00	0.00	0.00	2.64	4.06	0	0.00	2.03	0
CL-DET-CBM-19	2022-07-31	0.00	0	0.20	0.00	0.00	0.81	0.91	0	0.00	0.81	0
CL-DET-G1-04	2022-07-02	0.00	0	0.00	0.00	0.00	0.34	1.57	0	0.11	0.67	0
CL-DET-G1-04	2022-07-03	0.00	0	0.00	0.00	0.00	3.25	0.78	0	0.00	2.69	0
CL-DET-G1-04	2022-07-04	0.00	0	0.11	0.00	0.00	0.45	0.22	0	0.00	0.00	0
CL-DET-G1-04	2022-07-05	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-04	2022-07-06	0.00	0	0.00	0.00	0.00	0.78	0.00	0	0.00	0.11	0
CL-DET-G1-04	2022-07-07	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.11	0
CL-DET-G1-04	2022-07-08	0.00	0	0.00	0.00	0.00	0.00	0.33	0	0.00	0.00	0
CL-DET-G1-04	2022-07-09	0.00	0	0.00	0.00	0.00	0.77	0.33	0	0.00	0.88	0
CL-DET-G1-04	2022-07-10	0.00	0	0.00	0.00	0.00	0.44	0.22	0	0.00	0.33	0
CL-DET-G1-04	2022-07-11	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-04	2022-07-12	0.00	0	0.00	0.00	0.00	0.44	0.77	0	0.00	0.44	0
CL-DET-G1-04	2022-07-13	0.00	0	0.00	0.00	0.00	0.22	0.33	0	0.00	0.22	0
CL-DET-G1-04	2022-07-14	0.00	0	0.00	0.00	0.00	0.22	0.76	0	0.00	0.33	0
CL-DET-G1-04	2022-07-15	0.00	0	0.00	0.00	0.00	0.32	0.11	0	0.00	0.32	0
CL-DET-G1-04	2022-07-16	0.00	0	0.00	0.00	0.00	0.32	0.54	0	0.00	0.65	0
CL-DET-G1-04	2022-07-17	0.00	0	0.00	0.00	0.00	3.54	0.54	0	0.00	2.68	0
CL-DET-G1-04	2022-07-18	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-G1-04	2022-07-19	0.00	0	0.11	0.00	0.00	0.32	0.21	0	0.00	0.32	0
CL-DET-G1-04	2022-07-20	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G1-04	2022-07-21	0.00	0	0.11	0.00	0.00	1.69	1.48	0	0.00	1.48	0
CL-DET-G1-04	2022-07-22	0.00	0	0.00	0.00	0.00	0.21	0.11	0	0.00	0.11	0
CL-DET-G1-04	2022-07-23	0.00	0	0.10	0.00	0.00	0.31	0.94	0	0.10	1.36	0
CL-DET-G1-04	2022-07-24	0.00	0	0.00	0.00	0.00	0.10	0.00	0	0.00	0.10	0
CL-DET-G1-04	2022-07-25	0.00	0	0.10	0.00	0.00	1.77	4.47	0	0.10	2.08	0
CL-DET-G1-04	2022-07-26	0.00	0	0.21	0.00	0.00	1.24	2.28	0	0.00	1.24	0
CL-DET-G1-04	2022-07-27	0.00	0	0.00	0.00	0.00	0.52	0.10	0	0.00	0.10	0
CL-DET-G1-04	2022-07-28	0.00	0	0.00	0.00	0.00	0.62	0.21	0	0.00	0.31	0
CL-DET-G1-04	2022-07-29	0.00	0	0.00	0.00	0.00	0.92	1.94	0	0.00	1.02	0
CL-DET-G1-04	2022-07-30	0.00	0	0.00	0.00	0.00	1.63	6.41	0	0.10	1.53	0
CL-DET-G1-04	2022-07-31	0.00	0	0.00	0.00	0.00	4.45	3.04	0	0.00	3.54	0
CL-DET-CBM-17	2022-07-01	0.00	0	0.00	0.00	0.00	3.82	0.67	0	0.00	4.72	0
CL-DET-CBM-17	2022-07-02	0.00	0	0.00	0.00	0.00	1.80	1.80	0	0.11	6.07	0
CL-DET-CBM-17	2022-07-03	0.00	0	0.00	0.00	0.00	2.02	1.01	0	0.00	3.14	0
CL-DET-CBM-17	2022-07-04	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.67	0
CL-DET-CBM-17	2022-07-05	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-17	2022-07-06	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.56	0
CL-DET-CBM-17	2022-07-07	0.00	0	0.00	0.00	0.00	0.67	0.78	0	0.00	1.56	0
CL-DET-CBM-17	2022-07-08	0.00	0	0.00	0.00	0.00	0.66	0.22	0	0.00	1.22	0
CL-DET-CBM-17	2022-07-09	0.00	0	0.11	0.00	0.00	0.55	4.20	0	0.11	2.65	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-17	2022-07-10	0.00	0	0.00	0.00	0.00	0.44	1.98	0	0.00	1.21	0
CL-DET-CBM-17	2022-07-11	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.11	0
CL-DET-CBM-17	2022-07-12	0.00	0	0.00	0.00	0.00	0.22	1.09	0	0.00	1.31	0
CL-DET-CBM-17	2022-07-13	0.00	0	0.00	0.00	0.00	0.98	1.20	0	0.00	0.87	0
CL-DET-CBM-17	2022-07-14	0.00	0	0.00	0.00	0.00	0.33	2.93	0	0.00	0.87	0
CL-DET-CBM-17	2022-07-15	0.00	0	0.00	0.00	0.00	2.38	4.87	0	0.11	4.77	0
CL-DET-CBM-17	2022-07-16	0.00	0	0.00	0.00	0.00	1.40	8.85	0	0.22	2.27	0
CL-DET-CBM-17	2022-07-17	0.00	0	0.11	0.00	0.00	1.40	9.78	0	1.29	7.53	0
CL-DET-CBM-17	2022-07-18	0.00	0	0.00	0.00	0.00	0.96	0.75	0	0.11	2.03	0
CL-DET-CBM-17	2022-07-19	0.00	0	0.00	0.00	0.00	0.53	3.41	0	0.21	1.71	0
CL-DET-CBM-17	2022-07-20	0.00	0	0.00	0.00	0.00	0.21	0.21	0	0.00	0.21	0
CL-DET-CBM-17	2022-07-21	0.00	0	0.00	0.00	0.00	0.74	2.01	0	0.00	1.59	0
CL-DET-CBM-17	2022-07-22	0.00	0	0.00	0.00	0.00	0.74	0.63	0	0.11	1.05	0
CL-DET-CBM-17	2022-07-23	0.00	0	0.00	0.00	0.00	0.53	1.37	0	0.21	2.10	0
CL-DET-CBM-17	2022-07-24	0.00	0	0.00	0.00	0.00	0.00	0.10	0	0.00	0.21	0
CL-DET-CBM-17	2022-07-25	0.00	0	0.00	0.00	0.10	3.33	6.56	0	0.52	6.25	0
CL-DET-CBM-17	2022-07-26	0.00	0	0.00	0.00	0.10	1.14	3.11	0	0.10	3.11	0
CL-DET-CBM-17	2022-07-27	0.00	0	0.00	0.00	0.10	0.82	0.41	0	0.00	4.12	0
CL-DET-CBM-17	2022-07-28	0.00	0	0.00	0.00	0.00	3.08	2.67	0	0.00	10.07	0
CL-DET-CBM-17	2022-07-29	0.00	0	0.00	0.00	0.00	11.45	34.75	0	2.15	19.63	0
CL-DET-CBM-17	2022-07-30	0.00	0	0.00	0.00	0.10	1.22	7.23	0	0.41	3.77	0
CL-DET-CBM-17	2022-07-31	0.00	0	0.00	0.00	0.10	1.32	5.17	0	0.41	3.14	0
CL-DET-CBM-13	2022-06-29	0.00	0	0.00	0.00	0.00	0.68	2.03	0	0.00	0.56	0
CL-DET-CBM-13	2022-06-30	0.00	0	0.00	0.00	0.00	0.34	0.56	0	0.00	0.11	0
CL-DET-CBM-13	2022-07-01	0.00	0	0.00	0.00	0.00	0.79	0.90	0	0.00	0.23	0
CL-DET-CBM-13	2022-07-02	0.00	0	0.00	0.00	0.00	0.22	1.12	0	0.00	1.12	0
CL-DET-CBM-13	2022-07-03	0.00	0	0.00	0.00	0.00	0.90	1.01	0	0.00	1.01	0
CL-DET-CBM-13	2022-07-04	0.00	0	0.00	0.00	0.11	0.56	2.46	0	0.00	0.56	0
CL-DET-CBM-13	2022-07-05	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-13	2022-07-06	0.00	0	0.00	0.00	0.11	0.22	1.45	0	0.00	0.33	0
CL-DET-CBM-13	2022-07-07	0.00	0	0.11	0.00	0.00	0.44	1.22	0	0.00	0.67	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-13	2022-07-08	0.00	0	0.00	0.00	0.00	0.44	2.77	0	0.00	0.33	0
CL-DET-CBM-13	2022-07-09	0.00	0	0.00	0.00	0.00	0.33	2.54	0	0.00	0.55	0
CL-DET-CBM-13	2022-07-10	0.00	0	0.00	0.00	0.00	1.10	6.95	0	0.22	1.32	0
CL-DET-CBM-13	2022-07-11	0.00	0	0.00	0.00	0.00	0.22	0.22	0	0.00	0.22	0
CL-DET-CBM-13	2022-07-12	0.00	0	0.11	0.00	0.00	0.55	0.66	0	0.00	1.20	0
CL-DET-CBM-13	2022-07-13	0.00	0	0.11	0.00	0.00	0.22	0.76	0	0.00	0.33	0
CL-DET-CBM-13	2022-07-14	0.00	0	0.22	0.00	0.00	0.54	4.79	0	0.00	0.22	0
CL-DET-CBM-13	2022-07-15	0.00	0	0.00	0.00	0.00	0.32	2.71	0	0.00	0.43	0
CL-DET-CBM-13	2022-07-16	0.00	0	0.00	0.00	0.00	0.43	1.62	0	0.11	0.76	0
CL-DET-CBM-13	2022-07-17	0.00	0	0.00	0.00	0.00	0.75	11.94	0	0.00	1.94	0
CL-DET-CBM-13	2022-07-18	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-CBM-13	2022-07-19	0.00	0	0.21	0.00	0.11	1.07	4.80	0	0.21	1.28	0
CL-DET-CBM-13	2022-07-20	0.00	0	0.00	0.00	0.00	0.11	0.32	0	0.00	0.21	0
CL-DET-CBM-13	2022-07-21	0.00	0	0.21	0.00	0.00	1.59	5.51	0	0.00	2.33	0
CL-DET-CBM-13	2022-07-22	0.00	0	0.00	0.00	0.00	0.32	0.11	0	0.00	0.21	0
CL-DET-CBM-13	2022-07-23	0.00	0	0.11	0.00	0.00	0.42	4.41	0	0.00	1.05	0
CL-DET-CBM-13	2022-07-24	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-13	2022-07-25	0.00	0	2.60	0.00	0.00	4.58	5.62	0	0.21	2.50	0
CL-DET-CBM-13	2022-07-26	0.00	0	0.00	0.00	0.00	0.62	5.60	0	0.31	1.76	0
CL-DET-CBM-13	2022-07-27	0.00	0	0.10	0.00	0.00	1.65	3.82	0	0.93	1.86	0
CL-DET-CBM-13	2022-07-28	0.00	0	0.00	0.00	0.00	0.10	0.21	0	0.00	0.00	0
CL-DET-CBM-13	2022-07-29	0.00	0	1.94	0.00	0.10	2.04	6.75	0	0.31	2.45	0
CL-DET-CBM-8	2022-06-08	0.00	0	0.00	0.00	0.00	0.79	2.92	0	0.11	0.79	0
CL-DET-CBM-8	2022-06-09	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-CBM-8	2022-06-10	0.00	0	0.00	0.00	0.00	0.34	0.00	0	0.00	0.45	0
CL-DET-CBM-8	2022-06-11	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-8	2022-06-12	0.00	0	0.00	0.00	0.00	1.13	0.56	0	0.00	1.13	0
CL-DET-CBM-8	2022-06-13	0.00	0	0.00	0.00	0.00	0.45	0.23	0	0.11	1.36	0
CL-DET-CBM-8	2022-06-14	0.00	0	0.00	0.00	0.00	1.13	0.23	0	0.00	0.45	0
CL-DET-CBM-8	2022-06-15	0.00	0	0.00	0.00	0.00	0.68	1.25	0	0.11	0.79	0
CL-DET-CBM-8	2022-06-16	0.00	0	0.00	0.00	0.00	2.72	1.81	0	0.11	3.63	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-8	2022-06-17	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-8	2022-06-18	0.00	0	0.00	0.00	0.00	1.36	0.23	0	0.00	5.68	0
CL-DET-CBM-8	2022-06-19	0.00	0	0.00	0.00	0.00	2.61	0.34	0	0.00	2.27	0
CL-DET-CBM-8	2022-06-20	0.00	0	0.00	0.00	0.00	2.16	0.34	0	0.00	1.48	0
CL-DET-CBM-8	2022-06-21	0.00	0	0.00	0.00	0.00	0.23	0.45	0	0.00	0.79	0
CL-DET-CBM-8	2022-06-22	0.00	0	0.00	0.00	0.00	1.70	1.59	0	0.00	1.59	0
CL-DET-CBM-8	2022-06-23	0.00	0	0.00	0.00	0.00	2.50	1.36	0	0.00	0.68	0
CL-DET-CBM-8	2022-06-24	0.00	0	0.00	0.00	0.00	0.11	0.45	0	0.00	0.00	0
CL-DET-CBM-8	2022-06-25	0.00	0	0.00	0.00	0.00	4.99	1.70	0	0.11	4.08	0
CL-DET-CBM-8	2022-06-26	0.00	0	0.00	0.00	0.00	3.28	0.91	0	0.00	1.36	0
CL-DET-CBM-8	2022-06-27	0.00	0	0.00	0.00	0.00	5.43	1.81	0	0.00	2.94	0
CL-DET-CBM-7	2022-06-07	0.00	0	0.00	0.00	0.00	0.00	4.25	0	0.11	0.67	0
CL-DET-CBM-7	2022-06-08	0.00	0	0.00	0.00	0.11	0.11	5.60	0	0.00	1.34	0
CL-DET-CBM-7	2022-06-09	0.00	0	0.00	0.00	0.00	0.00	0.79	0	0.00	0.00	0
CL-DET-CBM-7	2022-06-10	0.00	0	0.00	0.00	0.00	0.00	4.84	0	0.00	0.90	0
CL-DET-CBM-7	2022-06-11	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.00	0
CL-DET-CBM-7	2022-06-12	0.00	0	0.00	0.00	0.00	0.00	0.79	0	0.00	0.00	0
CL-DET-CBM-7	2022-06-13	0.00	0	0.00	0.00	0.00	2.49	9.04	0	0.00	1.24	0
CL-DET-CBM-7	2022-06-14	0.00	0	0.00	0.00	0.00	0.00	2.49	0	0.00	0.34	0
CL-DET-CBM-7	2022-06-15	0.00	0	0.00	0.00	0.00	1.70	6.68	0	0.00	0.91	0
CL-DET-CBM-7	2022-06-16	0.00	0	0.00	0.00	0.00	1.02	1.47	0	0.00	2.04	0
CL-DET-CBM-7	2022-06-17	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.68	0
CL-DET-CBM-7	2022-06-18	0.00	0	0.00	0.00	0.00	0.23	1.02	0	0.00	0.34	0
CL-DET-CBM-7	2022-06-19	0.00	0	0.00	0.00	0.00	0.57	2.38	0	0.00	1.13	0
CL-DET-CBM-7	2022-06-20	0.00	0	0.00	0.00	0.00	1.02	0.34	0	0.00	0.45	0
CL-DET-CBM-7	2022-06-21	0.00	0	0.00	0.00	0.00	0.23	0.91	0	0.00	0.45	0
CL-DET-CBM-7	2022-06-22	0.00	0	0.00	0.00	0.00	0.34	3.40	0	0.00	1.02	0
CL-DET-CBM-7	2022-06-23	0.00	0	0.00	0.00	0.00	1.59	4.65	0	0.23	1.25	0
CL-DET-CBM-7	2022-06-24	0.00	0	0.00	0.00	0.00	0.34	2.16	0	0.11	0.57	0
CL-DET-CBM-7	2022-06-25	0.00	0	0.00	0.00	0.00	1.25	5.55	0	0.00	1.36	0
CL-DET-CBM-7	2022-06-26	0.00	0	0.00	0.00	0.00	0.79	2.83	0	0.23	1.92	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-3	2022-06-07	0.00	0	0.00	0.00	0.00	0.22	0.11	0	0.00	0.00	0
CL-DET-CBM-3	2022-06-08	0.00	0	0.00	0.00	0.00	0.22	0.22	0	0.00	0.00	0
CL-DET-CBM-3	2022-06-09	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-3	2022-06-10	0.00	0	0.00	0.00	0.00	0.00	0.45	0	0.00	0.00	0
CL-DET-CBM-3	2022-06-11	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-3	2022-06-12	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-3	2022-06-13	0.00	0	0.00	0.00	0.00	0.23	1.13	0	0.00	0.11	0
CL-DET-CBM-3	2022-06-14	0.00	0	0.00	0.00	0.00	0.11	0.45	0	0.00	0.00	0
CL-DET-CBM-3	2022-06-15	0.00	0	0.00	0.00	0.00	0.45	1.70	0	0.00	0.34	0
CL-DET-CBM-3	2022-06-16	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-CBM-3	2022-06-17	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-3	2022-06-18	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-CBM-3	2022-06-19	0.00	0	0.00	0.00	0.00	0.23	0.23	0	0.00	0.23	0
CL-DET-CBM-3	2022-06-20	0.00	0	0.00	0.00	0.00	0.57	0.11	0	0.00	0.68	0
CL-DET-CBM-3	2022-06-21	0.00	0	0.00	0.00	0.00	0.11	0.45	0	0.00	0.34	0
CL-DET-CBM-3	2022-06-22	0.00	0	0.00	0.00	0.00	0.11	0.57	0	0.00	0.23	0
CL-DET-CBM-3	2022-06-23	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-CBM-3	2022-06-24	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-3	2022-06-25	0.00	0	0.00	0.00	0.00	0.79	0.79	0	0.00	0.23	0
CL-DET-CBM-3	2022-06-26	0.00	0	0.00	0.00	0.00	0.34	0.91	0	0.00	0.34	0
CL-DET-CBM-2	2022-06-06	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-CBM-2	2022-06-07	0.00	0	0.00	0.00	0.00	0.00	0.33	0	0.00	0.11	0
CL-DET-CBM-2	2022-06-08	0.00	0	0.00	0.00	0.00	0.00	0.67	0	0.00	0.11	0
CL-DET-CBM-2	2022-06-09	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-2	2022-06-10	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-CBM-2	2022-06-11	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-2	2022-06-12	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-CBM-2	2022-06-13	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.11	0
CL-DET-CBM-2	2022-06-14	0.00	0	0.00	0.00	0.00	0.45	1.35	0	0.00	0.11	0
CL-DET-CBM-2	2022-06-15	0.00	0	0.00	0.00	0.00	0.45	1.92	0	0.00	2.15	0
CL-DET-CBM-2	2022-06-16	0.00	0	0.00	0.00	0.00	0.23	0.34	0	0.00	0.11	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-2	2022-06-17	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-2	2022-06-18	0.00	0	0.00	0.00	0.00	0.00	0.34	0	0.00	0.11	0
CL-DET-CBM-2	2022-06-19	0.00	0	0.11	0.00	0.00	0.00	0.11	0	0.00	0.45	0
CL-DET-CBM-2	2022-06-20	0.00	0	0.00	0.00	0.00	0.45	0.00	0	0.00	0.23	0
CL-DET-CBM-2	2022-06-21	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-CBM-2	2022-06-22	0.00	0	0.00	0.00	0.00	0.00	0.45	0	0.00	0.11	0
CL-DET-CBM-2	2022-06-23	0.00	0	0.00	0.00	0.00	0.11	0.34	0	0.00	0.23	0
CL-DET-CBM-2	2022-06-24	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-CBM-2	2022-06-25	0.00	0	0.00	0.00	0.00	0.23	0.56	0	0.11	0.11	0
CL-DET-CBM-2	2022-06-26	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.11	0
CL-DET-CBM-5	2022-06-07	0.00	0	0.00	0.00	0.00	0.22	2.23	0	0.00	0.67	0
CL-DET-CBM-5	2022-06-08	0.00	0	0.00	0.00	0.00	1.23	1.23	0	0.00	0.45	0
CL-DET-CBM-5	2022-06-09	0.00	0	0.00	0.00	0.00	0.56	1.46	0	0.00	0.11	0
CL-DET-CBM-5	2022-06-10	0.00	0	0.00	0.00	0.00	0.34	1.35	0	0.00	0.11	0
CL-DET-CBM-5	2022-06-11	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-5	2022-06-12	0.00	0	0.00	0.00	0.00	0.00	0.34	0	0.00	0.00	0
CL-DET-CBM-5	2022-06-13	0.00	0	0.00	0.00	0.00	0.11	1.02	0	0.00	0.00	0
CL-DET-CBM-5	2022-06-14	0.00	0	0.00	0.00	0.00	0.79	1.13	0	0.11	0.56	0
CL-DET-CBM-5	2022-06-15	0.00	0	0.00	0.00	0.00	2.94	5.42	0	0.23	1.69	0
CL-DET-CBM-5	2022-06-16	0.00	0	0.00	0.00	0.00	0.45	1.02	0	0.00	0.90	0
CL-DET-CBM-5	2022-06-17	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-CBM-5	2022-06-18	0.00	0	0.00	0.00	0.00	0.23	3.17	0	0.00	0.23	0
CL-DET-CBM-5	2022-06-19	0.00	0	0.00	0.00	0.00	1.70	2.49	0	0.00	2.49	0
CL-DET-CBM-5	2022-06-20	0.00	0	0.00	0.00	0.00	0.57	1.93	0	0.00	0.34	0
CL-DET-CBM-5	2022-06-21	0.00	0	0.00	0.00	0.00	0.23	0.57	0	0.00	0.11	0
CL-DET-CBM-5	2022-06-22	0.00	0	0.00	0.00	0.00	1.36	1.58	0	0.11	0.57	0
CL-DET-CBM-5	2022-06-23	0.00	0	0.00	0.00	0.00	1.47	2.38	0	0.00	0.68	0
CL-DET-CBM-5	2022-06-24	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.11	0
CL-DET-CBM-5	2022-06-25	0.00	0	0.00	0.00	0.00	1.81	0.56	0	0.00	2.03	0
CL-DET-CBM-5	2022-06-26	0.00	0	0.00	0.00	0.00	0.56	1.02	0	0.00	0.45	0
CL-DET-CBM-5	2022-06-27	0.00	0	0.00	0.00	0.00	4.96	4.06	0	0.00	1.24	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-EXTRA-01	2022-06-06	0.00	0	0.00	0.00	0.00	1.00	0.33	0	0.00	2.34	0
CL-DET-EXTRA-01	2022-06-07	0.00	0	0.00	0.00	0.11	0.56	3.34	0	0.00	1.45	0
CL-DET-EXTRA-01	2022-06-08	0.00	0	0.00	0.00	0.00	0.56	13.63	0	0.11	5.81	0
CL-DET-EXTRA-01	2022-06-09	0.00	0	0.00	0.00	0.00	0.22	8.62	0	0.11	5.15	0
CL-DET-EXTRA-01	2022-06-10	0.00	0	0.00	0.00	0.00	1.01	2.80	0	0.00	1.46	0
CL-DET-EXTRA-01	2022-06-11	0.00	0	0.00	0.00	0.00	0.00	6.62	0	0.22	5.05	0
CL-DET-EXTRA-01	2022-06-12	0.00	0	0.00	0.00	0.00	0.68	35.91	0	1.58	16.32	0
CL-DET-EXTRA-01	2022-06-13	0.00	0	0.00	0.00	0.00	0.34	6.08	0	0.11	1.91	0
CL-DET-EXTRA-01	2022-06-14	0.00	0	0.00	0.00	0.00	1.02	0.79	0	0.00	1.24	0
CL-DET-EXTRA-01	2022-06-15	0.00	0	0.00	0.00	0.00	1.35	3.50	0	0.00	2.59	0
CL-DET-EXTRA-01	2022-06-16	0.00	0	0.00	0.00	0.00	0.23	2.37	0	0.00	1.36	0
CL-DET-EXTRA-01	2022-06-17	0.00	0	0.00	0.00	0.00	0.00	0.90	0	0.00	0.00	0
CL-DET-EXTRA-01	2022-06-18	0.00	0	0.00	0.00	0.11	0.34	0.90	0	0.00	0.23	0
CL-DET-EXTRA-01	2022-06-19	0.00	0	0.00	0.00	0.11	0.00	2.03	0	0.00	0.90	0
CL-DET-EXTRA-01	2022-06-20	0.00	0	0.00	0.00	0.00	3.39	1.92	0	0.00	9.04	0
CL-DET-EXTRA-01	2022-06-21	0.00	0	0.00	0.00	0.00	0.90	2.49	0	0.00	1.24	0
CL-DET-EXTRA-01	2022-06-22	0.00	0	0.00	0.00	0.00	0.45	4.86	0	0.00	2.26	0
CL-DET-EXTRA-01	2022-06-23	0.00	0	0.00	0.00	0.00	2.37	2.94	0	0.00	1.58	0
CL-DET-EXTRA-01	2022-06-24	0.00	0	0.00	0.00	0.00	0.56	0.34	0	0.00	0.23	0
CL-DET-EXTRA-01	2022-06-25	0.00	0	0.00	0.00	0.00	0.79	3.28	0	0.00	2.94	0
CL-DET-EXTRA-01	2022-06-26	0.00	0	0.00	0.00	0.00	0.45	4.62	0	0.00	1.58	0
CL-DET-CBM-9	2022-06-08	0.00	0	0.00	0.00	0.00	0.34	15.03	0	1.79	2.92	0
CL-DET-CBM-9	2022-06-09	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.00	2.25	0
CL-DET-CBM-9	2022-06-10	0.00	0	0.00	0.00	0.00	0.45	0.45	0	0.00	0.34	0
CL-DET-CBM-9	2022-06-11	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-CBM-9	2022-06-12	0.00	0	0.00	0.00	0.00	0.23	2.15	0	0.00	0.00	0
CL-DET-CBM-9	2022-06-13	0.00	0	0.00	0.00	0.00	0.79	4.75	0	0.00	0.34	0
CL-DET-CBM-9	2022-06-14	0.00	0	0.00	0.00	0.00	0.34	5.55	0	0.45	1.02	0
CL-DET-CBM-9	2022-06-15	0.00	0	0.00	0.00	0.00	1.81	9.74	0	0.11	0.79	0
CL-DET-CBM-9	2022-06-16	0.00	0	0.00	0.00	0.00	1.59	15.65	0	0.00	1.59	0
CL-DET-CBM-9	2022-06-17	0.00	0	0.00	0.00	0.00	0.11	0.23	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-CBM-9	2022-06-18	0.00	0	0.00	0.00	0.00	0.00	0.91	0	0.23	0.57	0
CL-DET-CBM-9	2022-06-19	0.00	0	0.00	0.00	0.00	0.91	4.20	0	0.00	0.57	0
CL-DET-CBM-9	2022-06-20	0.00	0	0.00	0.00	0.00	0.68	16.90	0	0.00	0.79	0
CL-DET-CBM-9	2022-06-21	0.00	0	0.00	0.00	0.00	2.61	77.58	0	4.54	8.96	0
CL-DET-CBM-9	2022-06-22	0.00	0	0.00	0.00	0.00	2.16	7.15	0	0.11	1.13	0
CL-DET-CBM-9	2022-06-23	0.00	0	0.00	0.00	0.00	5.66	101.09	0	0.91	7.02	0
CL-DET-CBM-9	2022-06-24	0.00	0	0.00	0.00	0.00	0.91	16.33	0	0.00	0.91	0
CL-DET-CBM-9	2022-06-25	0.00	0	0.00	0.00	0.00	7.03	58.87	0	0.68	3.29	0
CL-DET-CBM-9	2022-06-26	0.00	0	0.00	0.00	0.00	3.51	241.36	0	3.62	9.96	0
CL-DET-CBM-9	2022-06-27	0.00	0	0.00	0.00	0.00	6.79	102.23	0	5.43	5.32	0
CL-DET-CBM-9	2022-06-28	0.00	0	0.00	0.00	0.00	0.23	5.19	0	0.00	0.11	0
CL-DET-G2-01	2022-06-07	0.00	0	0.00	0.00	0.00	1.12	12.18	0	0.11	1.79	0
CL-DET-G2-01	2022-06-08	0.00	0	0.00	0.00	0.00	1.01	4.69	0	0.11	0.56	0
CL-DET-G2-01	2022-06-09	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G2-01	2022-06-10	0.00	0	0.00	0.00	0.00	0.11	1.23	0	0.00	0.45	0
CL-DET-G2-01	2022-06-11	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-G2-01	2022-06-12	0.00	0	0.00	0.00	0.00	0.00	0.34	0	0.00	0.00	0
CL-DET-G2-01	2022-06-13	0.00	0	0.00	0.00	0.11	0.23	3.83	0	0.00	0.56	0
CL-DET-G2-01	2022-06-14	0.00	0	0.00	0.00	0.00	2.71	2.03	0	0.11	1.24	0
CL-DET-G2-01	2022-06-15	0.00	0	0.00	0.00	0.00	1.58	4.29	0	0.00	2.49	0
CL-DET-G2-01	2022-06-16	0.00	0	0.00	0.00	0.00	0.23	1.47	0	0.00	0.34	0
CL-DET-G2-01	2022-06-17	0.00	0	0.00	0.00	0.00	0.11	0.23	0	0.00	0.00	0
CL-DET-G2-01	2022-06-18	0.00	0	0.00	0.00	0.00	0.34	0.23	0	0.00	0.23	0
CL-DET-G2-01	2022-06-19	0.00	0	0.11	0.00	0.11	0.34	0.68	0	0.00	0.34	0
CL-DET-G2-01	2022-06-20	0.00	0	0.00	0.00	0.00	0.45	3.85	0	0.00	0.79	0
CL-DET-G2-01	2022-06-21	0.00	0	0.00	0.00	0.00	0.23	0.91	0	0.00	1.02	0
CL-DET-G2-01	2022-06-22	0.00	0	0.00	0.00	0.00	0.11	1.70	0	0.00	0.45	0
CL-DET-G2-01	2022-06-23	0.00	0	0.23	0.00	0.00	0.45	1.13	0	0.00	0.57	0
CL-DET-G2-01	2022-06-24	0.00	0	0.00	0.00	0.00	0.79	4.86	0	0.00	1.69	0
CL-DET-G2-01	2022-06-25	0.00	0	0.00	0.00	0.00	2.82	5.88	0	0.00	2.60	0
CL-DET-G2-01	2022-06-26	0.00	0	0.00	0.00	0.00	0.34	1.13	0	0.00	0.45	0
CL-DET-23-1	2023-05-24	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-1	2023-05-25	0.00	0	0.00	0.00	0.00	0.00	0.43	0	0.00	0.11	0
CL-DET-23-1	2023-05-26	0.00	0	0.00	0.00	0.00	0.11	0.97	0	0.00	0.43	0
CL-DET-23-1	2023-05-27	0.00	0	0.00	0.00	0.00	0.11	0.76	0	0.00	0.43	0
CL-DET-23-1	2023-05-28	0.00	0	0.11	0.00	0.00	0.00	0.22	0	0.00	0.11	0
CL-DET-23-1	2023-05-29	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-23-1	2023-05-30	0.00	0	0.00	0.00	0.00	0.22	0.66	0	0.00	0.11	0
CL-DET-23-1	2023-05-31	0.00	0	0.00	0.00	0.00	0.00	0.55	0	0.00	0.11	0
CL-DET-23-1	2023-06-01	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.22	0.22	0
CL-DET-23-1	2023-06-02	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.22	0
CL-DET-23-1	2023-06-03	0.00	0	0.00	0.00	0.00	0.11	0.55	0	0.00	0.33	0
CL-DET-23-1	2023-06-04	0.00	0	0.00	0.00	0.00	0.00	0.33	0	0.00	0.00	0
CL-DET-23-1	2023-06-05	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-1	2023-06-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-1	2023-06-07	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-1	2023-06-08	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.00	0.11	0
CL-DET-23-1	2023-06-09	0.00	0	0.00	0.00	0.00	0.11	0.22	0	0.00	0.22	0
CL-DET-23-1	2023-06-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-1	2023-06-11	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-23-1	2023-06-12	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-23-1	2023-06-13	0.00	0	0.00	0.00	0.00	0.11	0.23	0	0.00	0.11	0
CL-DET-23-1	2023-06-14	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-1	2023-06-15	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-1	2023-06-16	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-1	2023-06-17	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-23-1	2023-06-18	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-2	2023-05-25	0.00	0	0.00	0.00	0.00	0.00	1.72	0	0.00	0.22	0
CL-DET-23-2	2023-05-26	0.00	0	0.00	0.00	0.00	0.11	1.51	0	0.00	0.22	0
CL-DET-23-2	2023-05-27	0.00	0	0.00	0.00	0.00	0.11	1.08	0	0.00	0.32	0
CL-DET-23-2	2023-05-28	0.00	0	0.00	0.00	0.00	0.11	1.96	0	0.11	0.11	0
CL-DET-23-2	2023-05-29	0.00	0	0.00	0.00	0.00	0.22	1.31	0	0.00	0.33	0
CL-DET-23-2	2023-05-30	0.00	0	0.00	0.00	0.00	0.11	2.08	0	0.00	0.22	0
CL-DET-23-2	2023-05-31	0.00	0	0.00	0.00	0.00	0.11	6.47	0	1.21	1.86	0
CL-DET-23-2	2023-06-01	0.00	0	0.00	0.00	0.00	0.11	4.84	0	0.00	0.99	0
CL-DET-23-2	2023-06-02	0.00	0	0.00	0.00	0.00	0.11	1.99	0	0.22	0.22	0
CL-DET-23-2	2023-06-03	0.00	0	0.00	0.00	0.00	0.00	1.44	0	0.00	0.11	0
CL-DET-23-2	2023-06-04	0.00	0	0.00	0.00	0.00	0.11	1.11	0	0.00	0.11	0
CL-DET-23-2	2023-06-05	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.11	0
CL-DET-23-2	2023-06-06	0.00	0	0.00	0.00	0.00	0.00	0.56	0	0.00	0.45	0
CL-DET-23-2	2023-06-07	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.22	0
CL-DET-23-2	2023-06-08	0.00	0	0.00	0.00	0.00	0.00	0.67	0	0.00	0.22	0
CL-DET-23-2	2023-06-09	0.00	0	0.00	0.00	0.00	0.00	0.34	0	0.00	0.00	0
CL-DET-23-2	2023-06-10	0.00	0	0.00	0.00	0.00	0.34	0.00	0	0.00	0.00	0
CL-DET-23-2	2023-06-11	0.00	0	0.00	0.00	0.00	0.34	1.46	0	0.11	0.23	0
CL-DET-23-2	2023-06-12	0.00	0	0.00	0.00	0.00	0.34	2.37	0	0.00	0.23	0
CL-DET-23-2	2023-06-13	0.00	0	0.00	0.00	0.00	0.34	3.28	0	0.23	1.25	0
CL-DET-23-2	2023-06-14	0.00	0	0.00	0.00	0.00	0.34	2.49	0	0.00	0.34	0
CL-DET-23-2	2023-06-15	0.00	0	0.00	0.00	0.00	0.11	1.59	0	0.00	0.34	0
CL-DET-23-2	2023-06-16	0.00	0	0.00	0.00	0.00	0.34	0.68	0	0.00	0.11	0
CL-DET-23-2	2023-06-17	0.00	0	0.00	0.00	0.00	0.00	0.34	0	0.00	0.11	0
CL-DET-23-2	2023-06-18	0.00	0	0.00	0.00	0.00	0.34	0.34	0	0.00	0.00	0
CL-DET-23-2	2023-06-19	0.00	0	0.00	0.00	0.00	0.34	1.36	0	0.11	0.45	0
CL-DET-23-2	2023-06-20	0.00	0	0.00	0.00	0.00	0.34	1.13	0	0.11	0.57	0
CL-DET-23-2	2023-06-21	0.00	0	0.00	0.00	0.00	1.25	2.84	0	0.11	0.80	0
CL-DET-23-2	2023-06-22	0.00	0	0.00	0.00	0.00	0.00	1.82	0	0.00	0.23	0
CL-DET-23-2	2023-06-23	0.00	0	0.00	0.00	0.00	0.11	4.88	0	0.00	0.91	0
CL-DET-23-2	2023-06-24	0.00	0	0.00	0.00	0.00	0.34	1.93	0	0.00	0.34	0
CL-DET-23-2	2023-06-25	0.00	0	0.00	0.00	0.00	0.00	1.13	0	0.00	0.79	0
CL-DET-23-2	2023-06-26	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-23-2	2023-06-27	0.00	0	0.00	0.00	0.00	0.00	0.57	0	0.00	0.11	0
CL-DET-23-3	2023-05-26	0.00	0	0.00	0.00	0.00	0.00	0.65	0	0.00	0.11	0
CL-DET-23-3	2023-05-27	0.00	0	0.00	0.00	0.00	0.00	0.54	0	0.00	0.00	0
CL-DET-23-3	2023-05-28	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.11	0.00	0
CL-DET-23-3	2023-05-29	0.00	0	0.00	0.00	0.00	0.11	0.33	0	0.11	0.22	0
CL-DET-23-3	2023-05-30	0.00	0	0.00	0.00	0.00	0.11	0.77	0	0.00	0.22	0
CL-DET-23-3	2023-05-31	0.00	0	0.00	0.00	0.00	0.33	1.21	0	0.00	0.00	0
CL-DET-23-3	2023-06-01	0.00	0	0.00	0.00	0.00	0.11	0.99	0	0.00	0.33	0
CL-DET-23-3	2023-06-02	0.00	0	0.00	0.00	0.00	0.00	0.33	0	0.00	0.00	0
CL-DET-23-3	2023-06-03	0.00	0	0.00	0.00	0.00	0.00	1.55	0	0.00	0.22	0
CL-DET-23-3	2023-06-04	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.00	0.11	0
CL-DET-23-3	2023-06-05	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-23-3	2023-06-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-3	2023-06-07	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-23-3	2023-06-08	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-23-3	2023-06-09	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-3	2023-06-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-3	2023-06-11	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-3	2023-06-12	0.00	0	0.00	0.00	0.00	0.00	0.34	0	0.00	0.00	0
CL-DET-23-3	2023-06-13	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.00	0
CL-DET-23-3	2023-06-14	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-3	2023-06-15	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-23-3	2023-06-16	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.11	0
CL-DET-23-3	2023-06-17	0.00	0	0.00	0.00	0.00	0.00	0.34	0	0.00	0.00	0
CL-DET-23-3	2023-06-18	0.00	0	0.00	0.00	0.00	0.23	0.57	0	0.00	0.23	0
CL-DET-23-3	2023-06-19	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-23-3	2023-06-20	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-23-3	2023-06-21	0.00	0	0.00	0.00	0.00	0.00	0.34	0	0.00	0.00	0
CL-DET-23-3	2023-06-22	0.00	0	0.00	0.00	0.00	0.00	0.68	0	0.00	0.34	0
CL-DET-23-3	2023-06-23	0.00	0	0.00	0.00	0.00	0.23	0.34	0	0.00	0.34	0
CL-DET-23-3	2023-06-24	0.00	0	0.00	0.00	0.00	0.34	0.23	0	0.00	0.00	0
CL-DET-23-3	2023-06-25	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.11	0.00	0
CL-DET-23-3	2023-06-26	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-3	2023-06-27	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-23-3	2023-06-28	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-3	2023-06-29	0.00	0	0.00	0.00	0.00	0.68	7.02	0	0.00	1.36	0
CL-DET-23-3	2023-06-30	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-23-3	2023-07-01	0.00	0	0.00	0.00	0.00	0.00	0.46	0	0.00	0.15	0
CL-DET-23-4	2023-05-26	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-05-27	0.00	0	0.00	0.00	0.00	0.11	0.43	0	0.00	0.43	0
CL-DET-23-4	2023-05-28	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-23-4	2023-05-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-4	2023-05-30	0.00	0	0.00	0.00	0.00	0.22	0.00	0	0.00	0.22	0
CL-DET-23-4	2023-05-31	0.00	0	0.00	0.00	0.00	1.21	0.11	0	0.00	0.11	0
CL-DET-23-4	2023-06-01	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-06-02	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-06-03	0.00	0	0.00	0.00	0.00	0.55	0.11	0	0.00	1.00	0
CL-DET-23-4	2023-06-04	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-06-05	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.22	0
CL-DET-23-4	2023-06-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-06-07	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-06-08	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-23-4	2023-06-09	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-4	2023-06-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-06-11	0.00	0	0.00	0.00	0.00	0.23	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-06-12	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.23	0
CL-DET-23-4	2023-06-13	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-06-14	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-06-15	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-06-16	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.11	0
CL-DET-23-4	2023-06-17	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-23-4	2023-06-18	0.00	0	0.00	0.00	0.00	0.45	0.11	0	0.00	0.34	0
CL-DET-23-4	2023-06-19	0.00	0	0.00	0.00	0.00	0.00	0.57	0	0.00	0.11	0
CL-DET-23-4	2023-06-20	0.00	0	0.00	0.00	0.00	0.45	0.11	0	0.00	1.25	0
CL-DET-23-4	2023-06-21	0.00	0	0.00	0.00	0.00	0.45	0.11	0	0.00	0.11	0
CL-DET-23-4	2023-06-22	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.45	0
CL-DET-23-4	2023-06-23	0.00	0	0.00	0.00	0.00	4.43	1.14	0	0.00	6.25	0
CL-DET-23-4	2023-06-24	0.00	0	0.00	0.00	0.00	0.23	0.34	0	0.00	0.45	0
CL-DET-23-4	2023-06-25	0.00	0	0.00	0.00	0.00	0.11	1.02	0	0.00	0.23	0
CL-DET-23-4	2023-06-26	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-5	2023-05-27	0.00	0	0.00	0.00	0.00	0.22	0.76	0	0.00	0.22	0
CL-DET-23-5	2023-05-28	0.00	0	0.00	0.00	0.00	0.11	0.65	0	0.00	0.11	0
CL-DET-23-5	2023-05-29	0.00	0	0.00	0.00	0.00	0.22	0.22	0	0.00	0.44	0
CL-DET-23-5	2023-05-30	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-23-5	2023-05-31	0.00	0	0.00	0.00	0.00	0.11	0.22	0	0.00	0.11	0
CL-DET-23-5	2023-06-01	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-5	2023-06-02	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-23-5	2023-06-03	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.11	0
CL-DET-23-5	2023-06-04	0.00	0	0.00	0.00	0.00	0.22	0.78	0	0.00	0.22	0
CL-DET-23-5	2023-06-05	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-5	2023-06-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-5	2023-06-07	0.00	0	0.00	0.00	0.00	0.00	1.23	0	0.11	0.22	0
CL-DET-23-5	2023-06-08	0.00	0	0.00	0.00	0.00	0.00	0.79	0	0.00	0.45	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-23-5	2023-06-09	0.00	0	0.00	0.00	0.00	0.56	1.80	0	0.11	2.25	0
CL-DET-23-5	2023-06-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-5	2023-06-11	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-5	2023-06-12	0.00	0	0.00	0.00	0.00	2.94	1.69	0	0.00	7.01	0
CL-DET-23-5	2023-06-13	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-5	2023-06-14	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.11	0
CL-DET-23-5	2023-06-15	0.00	0	0.00	0.00	0.00	4.42	17.69	0	0.45	6.69	0
CL-DET-23-5	2023-06-16	0.00	0	0.00	0.00	0.00	3.74	11.12	0	0.23	5.78	0
CL-DET-23-5	2023-06-17	0.00	0	0.00	0.00	0.00	2.27	13.98	0	0.23	3.86	0
CL-DET-23-5	2023-06-18	0.00	0	0.00	0.00	0.00	0.68	4.09	0	0.00	2.61	0
CL-DET-23-5	2023-06-19	0.00	0	0.00	0.00	0.00	0.45	1.48	0	0.00	1.59	0
CL-DET-23-5	2023-06-20	0.00	0	0.00	0.00	0.00	0.80	1.25	0	0.11	1.36	0
CL-DET-23-5	2023-06-21	0.00	0	0.00	0.00	0.00	0.11	0.91	0	0.00	0.23	0
CL-DET-23-5	2023-06-22	0.00	0	0.00	0.00	0.00	0.00	0.80	0	0.00	0.34	0
CL-DET-23-5	2023-06-23	0.00	0	0.00	0.00	0.00	0.57	1.70	0	0.00	1.02	0
CL-DET-23-5	2023-06-24	0.00	0	0.00	0.00	0.00	0.34	1.93	0	0.00	0.79	0
CL-DET-23-5	2023-06-25	0.00	0	0.00	0.00	0.00	0.00	2.38	0	0.00	0.79	0
CL-DET-23-5	2023-06-26	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-5	2023-06-27	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.00	0
CL-DET-23-5	2023-06-28	0.00	0	0.00	0.00	0.00	0.34	1.02	0	0.00	0.68	0
CL-DET-23-5	2023-06-29	0.00	0	0.00	0.00	0.00	0.44	0.00	0	0.00	1.33	0
CL-DET-23-6	2023-05-27	0.00	0	0.00	0.00	0.00	0.00	0.15	0	0.00	0.31	0
CL-DET-23-6	2023-05-28	0.00	0	0.00	0.00	0.00	0.67	0.58	0	0.00	0.92	0
CL-DET-23-6	2023-05-29	0.00	0	0.00	0.00	0.00	0.38	1.13	0	0.00	1.00	0
CL-DET-23-6	2023-05-30	0.00	0	0.00	0.00	0.00	0.42	0.25	0	0.00	2.04	0
CL-DET-23-6	2023-05-31	0.00	0	0.00	0.00	0.00	0.38	0.58	0	0.00	0.50	0
CL-DET-23-6	2023-06-01	0.00	0	0.00	0.00	0.00	0.29	0.92	0	0.08	0.96	0
CL-DET-23-6	2023-06-02	0.00	0	0.00	0.00	0.00	0.13	0.25	0	0.00	0.58	0
CL-DET-23-6	2023-06-03	0.00	0	0.00	0.00	0.00	1.17	0.29	0	0.00	3.17	0
CL-DET-23-6	2023-06-04	0.00	0	0.00	0.00	0.00	0.75	0.25	0	0.00	1.75	0
CL-DET-23-6	2023-06-05	0.00	0	0.21	0.00	0.38	0.29	0.54	0	0.00	0.75	0
CL-DET-23-6	2023-06-06	0.00	0	0.04	0.00	0.04	0.21	0.00	0	0.00	0.42	0
CL-DET-23-6	2023-06-07	0.00	0	0.00	0.00	0.00	0.10	0.05	0	0.00	0.44	0
CL-DET-23-7	2023-05-27	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-7	2023-05-28	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.11	0.33	0
CL-DET-23-7	2023-05-29	0.00	0	0.00	0.00	0.00	0.22	0.33	0	0.00	0.55	0
CL-DET-23-7	2023-05-30	0.00	0	0.00	0.00	0.00	0.11	0.99	0	0.00	1.43	0
CL-DET-23-7	2023-05-31	0.00	0	0.00	0.00	0.00	0.11	0.33	0	0.11	0.44	0
CL-DET-23-7	2023-06-01	0.00	0	0.00	0.00	0.00	0.00	0.44	0	0.00	0.22	0
CL-DET-23-7	2023-06-02	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.22	0
CL-DET-23-7	2023-06-03	0.00	0	0.00	0.00	0.00	0.11	1.00	0	0.00	0.67	0
CL-DET-23-7	2023-06-04	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.00	0.33	0
CL-DET-23-7	2023-06-05	0.00	0	0.00	0.00	0.00	0.00	0.56	0	0.00	0.00	0
CL-DET-23-7	2023-06-06	0.00	0	0.00	0.00	0.00	0.11	0.34	0	0.00	1.12	0
CL-DET-23-7	2023-06-07	0.00	0	0.00	0.00	0.00	0.11	1.23	0	0.00	0.67	0
CL-DET-23-7	2023-06-08	0.00	0	0.00	0.00	0.00	0.22	0.56	0	0.00	0.56	0
CL-DET-23-7	2023-06-09	0.00	0	0.00	0.00	0.00	0.00	0.45	0	0.11	0.45	0
CL-DET-23-7	2023-06-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-7	2023-06-11	0.00	0	0.11	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-23-7	2023-06-12	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.34	0
CL-DET-23-7	2023-06-13	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-7	2023-06-14	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-7	2023-06-15	0.00	0	0.00	0.00	0.00	0.45	0.11	0	0.00	0.34	0
CL-DET-23-7	2023-06-16	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-23-7	2023-06-17	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-23-7	2023-06-18	0.00	0	0.00	0.00	0.00	0.45	0.23	0	0.00	0.23	0
CL-DET-23-7	2023-06-19	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-23-7	2023-06-20	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	1.37	0
CL-DET-23-7	2023-06-21	0.00	0	0.00	0.00	0.00	0.23	0.23	0	0.00	0.80	0
CL-DET-23-7	2023-06-22	0.00	0	0.00	0.00	0.00	0.23	0.00	0	0.00	0.11	0
CL-DET-23-7	2023-06-23	0.00	0	0.00	0.00	0.00	0.23	0.46	0	0.00	0.23	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-23-7	2023-06-24	0.00	0	0.00	0.00	0.00	0.23	0.00	0	0.00	0.91	0
CL-DET-23-7	2023-06-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.45	0
CL-DET-23-7	2023-06-26	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-7	2023-06-27	0.00	0	0.00	0.00	0.00	0.17	0.17	0	0.00	0.84	0
CL-DET-23-8	2023-05-29	0.00	0	0.00	0.00	0.00	0.22	0.76	0	0.00	0.22	0
CL-DET-23-8	2023-05-30	0.00	0	0.00	0.00	0.00	0.11	1.20	0	0.00	0.44	0
CL-DET-23-8	2023-05-31	0.00	0	0.00	0.00	0.00	0.00	1.32	0	0.00	0.11	0
CL-DET-23-8	2023-06-01	0.00	0	0.00	0.00	0.00	0.11	0.88	0	0.00	0.22	0
CL-DET-23-8	2023-06-02	0.00	0	0.00	0.00	0.00	0.22	0.33	0	0.00	0.22	0
CL-DET-23-8	2023-06-03	0.00	0	0.00	0.00	0.00	0.11	1.33	0	0.11	0.33	0
CL-DET-23-8	2023-06-04	0.00	0	0.00	0.00	0.00	0.00	0.44	0	0.00	0.11	0
CL-DET-23-8	2023-06-05	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-8	2023-06-06	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-23-8	2023-06-07	0.00	0	0.00	0.00	0.11	0.00	0.11	0	0.00	0.00	0
CL-DET-23-8	2023-06-08	0.00	0	0.00	0.00	0.00	0.11	0.56	0	0.00	0.11	0
CL-DET-23-8	2023-06-09	0.00	0	0.00	0.00	0.00	0.00	0.45	0	0.00	0.00	0
CL-DET-23-8	2023-06-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-8	2023-06-11	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-23-8	2023-06-12	0.00	0	0.00	0.00	0.00	0.00	0.79	0	0.00	0.34	0
CL-DET-23-8	2023-06-13	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.23	0
CL-DET-23-8	2023-06-14	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-8	2023-06-15	0.00	0	0.00	0.00	0.00	0.00	0.91	0	0.00	0.11	0
CL-DET-23-8	2023-06-16	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.11	0
CL-DET-23-8	2023-06-17	0.00	0	0.00	0.00	0.00	0.00	0.45	0	0.00	0.23	0
CL-DET-23-8	2023-06-18	0.00	0	0.00	0.00	0.00	0.11	1.47	0	0.11	0.23	0
CL-DET-23-8	2023-06-19	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.11	0
CL-DET-23-8	2023-06-20	0.00	0	0.00	0.00	0.00	0.11	0.45	0	0.00	0.00	0
CL-DET-23-8	2023-06-21	0.00	0	0.00	0.00	0.00	0.00	0.91	0	0.00	0.00	0
CL-DET-23-8	2023-06-22	0.00	0	0.00	0.00	0.00	0.45	0.11	0	0.00	0.11	0
CL-DET-23-8	2023-06-23	0.00	0	0.00	0.00	0.00	0.11	2.72	0	0.00	0.68	0
CL-DET-23-8	2023-06-24	0.00	0	0.00	0.00	0.00	0.23	1.70	0	0.00	0.34	0
CL-DET-23-8	2023-06-25	0.00	0	0.00	0.00	0.00	1.02	0.91	0	0.00	0.68	0
CL-DET-23-8	2023-06-26	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-8	2023-06-27	0.00	0	0.00	0.00	0.00	0.11	0.57	0	0.00	0.11	0
CL-DET-23-8	2023-06-28	0.00	0	0.00	0.00	0.00	0.11	0.23	0	0.00	0.00	0
CL-DET-23-8	2023-06-29	0.00	0	0.00	0.00	0.00	0.45	0.45	0	0.00	0.34	0
CL-DET-23-8	2023-06-30	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.00	0
CL-DET-23-9	2023-05-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-9	2023-05-30	0.00	0	0.00	0.00	0.00	0.11	1.42	0	0.11	0.33	0
CL-DET-23-9	2023-05-31	0.00	0	0.00	0.00	0.00	0.11	0.99	0	0.00	0.66	0
CL-DET-23-9	2023-06-01	0.00	0	0.00	0.00	0.00	0.11	0.77	0	0.00	0.55	0
CL-DET-23-9	2023-06-02	0.00	0	0.00	0.00	0.00	0.00	0.22	0	0.00	0.22	0
CL-DET-23-9	2023-06-03	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.11	0.11	0
CL-DET-23-9	2023-06-04	0.00	0	0.00	0.00	0.00	1.44	0.89	0	0.11	0.77	0
CL-DET-23-9	2023-06-05	0.00	0	0.00	0.00	0.00	0.11	0.22	0	0.00	0.22	0
CL-DET-23-9	2023-06-06	0.00	0	0.00	0.00	0.00	0.22	0.00	0	0.00	0.89	0
CL-DET-23-9	2023-06-07	0.00	0	0.00	0.00	0.00	0.33	0.78	0	0.00	0.45	0
CL-DET-23-9	2023-06-08	0.00	0	0.00	0.00	0.11	0.22	0.22	0	0.00	0.45	0
CL-DET-23-9	2023-06-09	0.00	0	0.00	0.00	0.11	0.00	0.22	0	0.00	0.22	0
CL-DET-23-9	2023-06-10	0.00	0	0.00	0.00	0.00	0.11	0.22	0	0.00	0.00	0
CL-DET-23-9	2023-06-11	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-9	2023-06-12	0.00	0	0.00	0.00	0.00	0.23	0.68	0	0.00	0.34	0
CL-DET-23-9	2023-06-13	0.00	0	0.00	0.00	0.00	0.23	0.00	0	0.00	0.11	0
CL-DET-23-9	2023-06-14	0.00	0	0.00	0.00	0.00	0.79	0.45	0	0.11	0.56	0
CL-DET-23-9	2023-06-15	0.00	0	0.00	0.00	0.00	0.00	0.56	0	0.00	0.23	0
CL-DET-23-9	2023-06-16	0.00	0	0.00	0.00	0.00	0.23	0.34	0	0.00	0.79	0
CL-DET-23-9	2023-06-17	0.00	0	0.00	0.00	0.00	0.11	0.79	0	0.00	0.00	0
CL-DET-23-9	2023-06-18	0.00	0	0.00	0.00	0.00	0.11	0.45	0	0.00	0.57	0
CL-DET-23-9	2023-06-19	0.00	0	0.00	0.00	0.00	0.45	0.57	0	0.00	0.34	0
CL-DET-23-9	2023-06-20	0.00	0	0.00	0.00	0.00	0.11	0.11	0	0.00	0.23	0
CL-DET-23-9	2023-06-21	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-23-9	2023-06-22	0.00	0	0.00	0.00	0.00	0.00	0.57	0	0.00	0.23	0
CL-DET-23-9	2023-06-23	0.00	0	0.00	0.00	0.00	0.34	0.45	0	0.00	0.57	0
CL-DET-23-9	2023-06-24	0.00	0	0.00	0.00	0.00	0.11	0.34	0	0.00	0.11	0
CL-DET-23-9	2023-06-25	0.00	0	0.00	0.00	0.00	0.23	0.56	0	0.00	0.00	0
CL-DET-23-9	2023-06-26	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-05-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-05-30	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-05-31	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-23-10	2023-06-01	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.22	0
CL-DET-23-10	2023-06-02	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-06-03	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.33	0
CL-DET-23-10	2023-06-04	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-06-05	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.11	0
CL-DET-23-10	2023-06-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-10	2023-06-07	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-06-08	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-10	2023-06-09	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-06-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-10	2023-06-11	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.22	0
CL-DET-23-10	2023-06-12	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-06-13	0.00	0	0.00	0.00	0.00	0.11	0.34	0	0.00	0.00	0
CL-DET-23-10	2023-06-14	0.00	0	0.00	0.00	0.00	0.00	0.23	0	0.00	0.11	0
CL-DET-23-10	2023-06-15	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-10	2023-06-16	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.23	0
CL-DET-23-10	2023-06-17	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-06-18	0.00	0	0.00	0.00	0.00	0.23	0.00	0	0.00	0.23	0
CL-DET-23-10	2023-06-19	0.00	0	0.00	0.00	0.00	0.11	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-06-20	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.00	0
CL-DET-23-10	2023-06-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-06-22	0.00	0	0.00	0.00	0.00	0.23	0.00	0	0.00	0.57	0
CL-DET-23-10	2023-06-23	0.00	0	0.00	0.00	0.00	0.23	0.00	0	0.00	0.34	0
CL-DET-23-10	2023-06-24	0.00	0	0.00	0.00	0.00	1.02	0.00	0	0.00	2.03	0
CL-DET-23-10	2023-06-25	0.00	0	0.00	0.00	0.00	0.11	0.23	0	0.00	0.11	0
CL-DET-23-10	2023-06-26	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-06-27	0.00	0	0.00	0.00	0.00	0.00	0.11	0	0.00	0.23	0
CL-DET-23-10	2023-06-28	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.11	0
CL-DET-23-10	2023-06-29	0.00	0	0.00	0.00	0.00	0.23	0.00	0	0.00	0.34	0
CL-DET-23-10	2023-06-30	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-23-10	2023-07-01	0.00	0	0.00	0.00	0.00	0.00	0.45	0	0.00	0.45	0
CL-DET-23-10	2023-07-02	0.00	0	0.00	0.00	0.00	0.22	0.11	0	0.00	0.56	0
CL-DET-23-10	2023-07-03	0.00	0	0.00	0.00	0.00	0.34	0.11	0	0.00	0.11	0
CL-DET-Rock Barren 6 control	2023-07-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-07-12	0.00	0	0.00	0.00	0.00	0.51	3.05	0	0.51	1.02	0
CL-DET-Rock Barren 6 control	2023-07-14	0.00	0	0.00	0.00	0.00	1.53	4.07	0	0.51	1.02	0
CL-DET-Rock Barren 6 control	2023-07-16	0.00	0	0.00	0.00	0.00	1.02	1.02	0	0.00	0.51	0
CL-DET-Rock Barren 6 control	2023-07-18	0.00	0	0.00	0.00	0.00	3.05	1.02	0	0.00	0.51	0
CL-DET-Rock Barren 6 control	2023-07-20	0.00	0	0.00	0.00	0.00	0.00	2.03	0	0.51	0.51	0
CL-DET-Rock Barren 6 control	2023-07-22	0.00	0	0.00	0.00	0.00	0.51	4.58	0	0.51	1.02	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6 control	2023-07-24	0.00	0	0.00	0.00	0.00	2.03	4.58	0	0.00	1.02	0
CL-DET-Rock Barren 6 control	2023-07-26	0.00	0	0.51	0.00	0.00	0.00	2.03	0	0.00	0.51	0
CL-DET-Rock Barren 6 control	2023-07-28	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-07-30	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-08-01	0.00	0	0.00	0.00	0.00	0.51	2.54	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-08-03	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-08-05	0.00	0	0.00	0.51	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-08-07	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.51	0
CL-DET-Rock Barren 6 control	2023-08-09	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.51	0
CL-DET-Rock Barren 6 control	2023-08-11	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.51	0
CL-DET-Rock Barren 6 control	2023-08-13	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-08-15	0.00	0	0.00	0.00	0.00	0.00	3.56	0	0.00	1.02	0
CL-DET-Rock Barren 6 control	2023-08-17	0.00	0	0.00	0.00	0.00	0.51	9.66	0	0.00	1.02	0
CL-DET-Rock Barren 6 control	2023-08-19	0.00	0	0.00	0.00	0.00	5.59	0.00	0	0.00	2.03	0
CL-DET-Rock Barren 6 control	2023-08-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-08-23	0.00	0	0.00	0.99	0.00	0.00	1.49	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-08-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-08-27	0.00	0	0.00	0.00	0.00	0.00	0.47	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-08-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-08-31	0.00	0	0.00	0.00	0.00	0.00	0.44	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-09-02	0.00	0	0.00	0.43	0.00	0.00	0.43	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6 control	2023-09-04	0.00	0	0.00	0.00	0.00	0.00	0.41	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-09-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-09-08	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6 control	2023-09-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-07-10	0.00	0	0.00	0.00	0.00	0.51	0.00	0	0.00	0.51	0
CL-DET-Rock Barren 6-3	2023-07-12	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.51	0
CL-DET-Rock Barren 6-3	2023-07-14	0.00	0	0.00	0.00	0.00	0.51	1.02	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-07-16	0.00	0	0.00	0.00	0.00	0.51	1.53	0	0.00	1.02	0
CL-DET-Rock Barren 6-3	2023-07-18	0.00	0	0.00	0.00	0.00	0.51	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-07-20	0.00	0	0.00	0.00	0.00	0.00	2.54	0	0.51	1.53	0
CL-DET-Rock Barren 6-3	2023-07-22	0.00	0	0.00	0.00	0.00	0.51	2.03	0	0.00	0.51	0
CL-DET-Rock Barren 6-3	2023-07-24	0.00	0	0.00	0.00	0.00	1.53	5.59	0	0.00	1.02	0
CL-DET-Rock Barren 6-3	2023-07-26	0.00	0	0.00	0.00	0.00	0.51	2.54	0	0.00	0.51	0
CL-DET-Rock Barren 6-3	2023-07-28	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.51	0
CL-DET-Rock Barren 6-3	2023-07-30	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-08-01	0.00	0	0.00	0.00	0.00	0.51	0.51	0	0.00	0.51	0
CL-DET-Rock Barren 6-3	2023-08-03	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-08-05	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-08-07	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-08-09	0.00	0	0.00	0.00	0.00	0.51	3.05	0	0.00	2.03	0
CL-DET-Rock Barren 6-3	2023-08-11	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.51	0
CL-DET-Rock Barren 6-3	2023-08-13	0.00	0	0.00	0.00	0.00	0.00	1.53	0	0.00	0.51	0
CL-DET-Rock Barren 6-3	2023-08-15	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-08-17	0.00	0	0.00	0.00	0.00	0.00	7.63	0	0.00	0.51	0
CL-DET-Rock Barren 6-3	2023-08-19	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-08-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-08-23	0.00	0	0.00	0.00	0.00	0.00	1.98	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-08-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-08-27	0.00	0	0.93	0.00	0.00	0.00	0.00	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6-3	2023-08-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-08-31	0.00	0	0.00	0.00	0.00	0.00	0.44	0	0.00	0.44	0
CL-DET-Rock Barren 6-3	2023-09-02	0.00	0	0.00	0.00	0.00	0.00	0.85	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-09-04	0.00	0	0.00	0.00	0.00	0.00	1.24	0	0.00	1.24	0
CL-DET-Rock Barren 6-3	2023-09-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-09-08	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-3	2023-09-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.38	0
CL-DET-Rock Barren 6-5	2023-07-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-07-12	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-07-14	0.00	0	0.00	0.00	0.00	0.51	0.00	0	0.00	0.51	0
CL-DET-Rock Barren 6-5	2023-07-16	0.00	0	0.00	0.00	0.00	1.02	1.02	0	0.00	1.53	0
CL-DET-Rock Barren 6-5	2023-07-18	0.00	0	0.00	0.00	0.00	1.02	0.51	0	0.00	1.02	0
CL-DET-Rock Barren 6-5	2023-07-20	0.00	0	0.00	0.00	0.00	0.00	2.03	0	0.51	0.51	0
CL-DET-Rock Barren 6-5	2023-07-22	0.00	0	0.00	0.00	0.00	0.51	2.03	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-07-24	0.00	0	0.00	0.00	0.00	1.02	3.56	0	0.00	1.02	0
CL-DET-Rock Barren 6-5	2023-07-26	0.00	0	0.00	0.00	0.00	0.51	1.02	0	0.00	0.51	0
CL-DET-Rock Barren 6-5	2023-07-28	0.00	0	0.00	0.00	0.00	0.00	1.53	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-07-30	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-01	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-03	0.00	0	0.00	0.00	0.00	0.00	2.03	0	0.00	0.51	0
CL-DET-Rock Barren 6-5	2023-08-05	0.00	0	0.00	0.00	0.00	0.51	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-07	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-09	0.00	0	0.00	0.00	0.00	0.00	2.54	0	0.00	0.51	0
CL-DET-Rock Barren 6-5	2023-08-11	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-13	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-15	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-17	0.00	0	0.00	0.00	0.00	0.51	5.08	0	0.00	1.53	0
CL-DET-Rock Barren 6-5	2023-08-19	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-23	0.00	0	0.00	0.00	0.50	0.00	1.49	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6-5	2023-08-27	0.00	0	0.47	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-08-31	0.00	0	0.00	0.00	0.00	0.00	1.75	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-09-02	0.00	0	0.00	0.00	0.00	0.00	0.43	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-09-04	0.00	0	0.00	0.00	0.00	0.41	0.83	0	0.41	0.00	0
CL-DET-Rock Barren 6-5	2023-09-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-09-08	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-5	2023-09-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-07-10	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-07-12	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.51	0
CL-DET-Rock Barren 6-8	2023-07-14	0.00	0	0.00	0.00	0.00	0.51	5.59	0	0.00	2.54	0
CL-DET-Rock Barren 6-8	2023-07-16	0.00	0	0.00	0.00	0.00	2.03	3.05	0	4.07	7.12	0
CL-DET-Rock Barren 6-8	2023-07-18	0.00	0	0.00	0.00	0.00	3.56	2.54	0	0.00	1.53	0
CL-DET-Rock Barren 6-8	2023-07-20	0.00	0	0.00	0.00	0.51	1.02	3.05	0	0.00	0.51	0
CL-DET-Rock Barren 6-8	2023-07-22	0.00	0	0.00	0.00	0.00	1.53	3.05	0	0.00	1.02	0
CL-DET-Rock Barren 6-8	2023-07-24	0.00	0	0.00	0.00	0.00	0.00	2.54	0	0.51	1.02	0
CL-DET-Rock Barren 6-8	2023-07-26	0.00	0	0.00	0.00	0.00	0.00	4.58	0	0.00	2.03	0
CL-DET-Rock Barren 6-8	2023-07-28	0.00	0	0.00	0.00	0.00	1.02	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-07-30	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-08-01	0.00	0	0.00	0.00	0.00	1.53	3.05	0	0.00	1.02	0
CL-DET-Rock Barren 6-8	2023-08-03	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-08-05	0.00	0	0.00	0.00	0.00	2.54	3.05	0	0.00	1.02	0
CL-DET-Rock Barren 6-8	2023-08-07	0.00	0	0.00	0.00	0.00	0.00	1.53	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-08-09	0.00	0	0.00	0.00	0.00	0.51	3.56	0	0.00	2.54	0
CL-DET-Rock Barren 6-8	2023-08-11	0.00	0	0.51	0.00	2.03	0.00	3.56	0	0.00	1.02	0
CL-DET-Rock Barren 6-8	2023-08-13	0.00	0	0.00	0.00	0.00	0.51	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-08-15	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.51	0
CL-DET-Rock Barren 6-8	2023-08-17	0.00	0	0.00	0.00	0.00	0.00	14.24	0	0.00	1.53	0
CL-DET-Rock Barren 6-8	2023-08-19	0.00	0	0.00	0.00	0.00	4.58	1.02	0	0.00	3.05	0
CL-DET-Rock Barren 6-8	2023-08-21	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-08-23	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6-8	2023-08-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-08-27	0.00	0	0.00	0.00	0.00	0.00	0.47	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-08-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-08-31	0.00	0	0.00	0.00	0.00	0.00	0.88	0	0.00	1.31	0
CL-DET-Rock Barren 6-8	2023-09-02	0.00	0	0.00	0.00	0.00	0.00	0.43	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-09-04	0.00	0	0.00	0.00	0.00	0.00	0.41	0	0.00	0.41	0
CL-DET-Rock Barren 6-8	2023-09-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-09-08	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-8	2023-09-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-07-10	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-07-12	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.51	0.51	0
CL-DET-Rock Barren 6-9	2023-07-14	0.00	0	0.00	0.00	0.00	0.00	4.58	0	0.00	1.02	0
CL-DET-Rock Barren 6-9	2023-07-16	0.00	0	0.00	0.00	0.00	0.51	2.03	0	5.08	2.54	0
CL-DET-Rock Barren 6-9	2023-07-18	0.00	0	0.00	0.00	0.00	3.05	2.03	0	0.00	1.02	0
CL-DET-Rock Barren 6-9	2023-07-20	0.00	0	0.51	0.00	0.00	0.00	2.54	0	0.00	0.51	0
CL-DET-Rock Barren 6-9	2023-07-22	0.00	0	0.00	0.00	0.00	1.02	6.10	0	0.00	3.05	0
CL-DET-Rock Barren 6-9	2023-07-24	0.00	0	0.00	0.00	0.00	0.00	2.54	0	0.00	0.51	0
CL-DET-Rock Barren 6-9	2023-07-26	0.00	0	0.00	0.00	0.00	0.51	7.12	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-07-28	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.51	0
CL-DET-Rock Barren 6-9	2023-07-30	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-08-01	0.00	0	0.00	0.00	0.00	0.51	2.54	0	0.00	1.02	0
CL-DET-Rock Barren 6-9	2023-08-03	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-08-05	0.00	0	0.00	0.00	0.00	1.53	4.07	0	0.00	1.02	0
CL-DET-Rock Barren 6-9	2023-08-07	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-08-09	0.00	0	0.00	0.00	0.00	0.00	1.53	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-08-11	0.00	0	0.00	0.00	0.51	0.00	2.54	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-08-13	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-08-15	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-08-17	0.00	0	0.00	0.00	0.00	0.00	16.78	0	0.00	1.53	0
CL-DET-Rock Barren 6-9	2023-08-19	0.00	0	0.00	0.00	0.00	4.07	0.51	0	0.00	4.58	0
CL-DET-Rock Barren 6-9	2023-08-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6-9	2023-08-23	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-08-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-08-27	0.00	0	0.00	0.00	0.00	0.47	0.00	0	0.00	0.47	0
CL-DET-Rock Barren 6-9	2023-08-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-08-31	0.00	0	0.00	0.00	0.00	0.44	2.63	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-09-02	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.43	0
CL-DET-Rock Barren 6-9	2023-09-04	0.00	0	0.00	0.00	0.00	0.41	1.24	0	0.00	0.41	0
CL-DET-Rock Barren 6-9	2023-09-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-09-08	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-9	2023-09-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-07-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-07-12	0.00	0	0.00	0.00	0.51	1.02	0.00	0	0.00	2.03	0
CL-DET-Rock Barren 6-10	2023-07-14	0.00	0	0.00	0.00	0.00	0.00	5.08	0	0.00	0.51	0
CL-DET-Rock Barren 6-10	2023-07-16	0.00	0	0.00	0.00	0.00	1.02	3.05	0	3.56	4.07	0
CL-DET-Rock Barren 6-10	2023-07-18	0.00	0	0.00	0.00	0.51	8.64	5.59	0	0.00	7.12	0
CL-DET-Rock Barren 6-10	2023-07-20	0.00	0	0.51	0.00	0.51	0.00	1.53	0	0.00	1.02	0
CL-DET-Rock Barren 6-10	2023-07-22	0.00	0	0.00	0.00	0.00	0.51	2.03	0	0.51	1.02	0
CL-DET-Rock Barren 6-10	2023-07-24	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	2.54	0
CL-DET-Rock Barren 6-10	2023-07-26	0.00	0	0.00	0.00	0.51	0.00	5.59	0	0.00	2.54	0
CL-DET-Rock Barren 6-10	2023-07-28	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-07-30	0.00	0	0.00	0.51	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-08-01	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	1.02	0
CL-DET-Rock Barren 6-10	2023-08-03	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-08-05	0.00	0	0.00	0.00	0.00	0.51	3.05	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-08-07	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-08-09	0.00	0	0.00	0.00	0.00	1.53	2.03	0	0.00	2.03	0
CL-DET-Rock Barren 6-10	2023-08-11	0.00	0	0.00	0.00	0.00	0.00	2.54	0	0.00	1.02	0
CL-DET-Rock Barren 6-10	2023-08-13	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-08-15	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-08-17	0.00	0	0.00	0.00	0.00	0.00	12.71	0	0.51	2.54	0
CL-DET-Rock Barren 6-10	2023-08-19	0.00	0	0.00	0.00	0.00	4.58	1.02	0	0.51	2.03	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6-10	2023-08-21	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-08-23	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-08-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-08-27	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.47	0
CL-DET-Rock Barren 6-10	2023-08-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-08-31	0.00	0	0.00	0.00	0.00	0.00	2.63	0	0.00	0.44	0
CL-DET-Rock Barren 6-10	2023-09-02	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.43	0
CL-DET-Rock Barren 6-10	2023-09-04	0.00	0	0.00	0.00	0.00	0.41	1.24	0	0.00	0.41	0
CL-DET-Rock Barren 6-10	2023-09-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-09-08	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-10	2023-09-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-07-10	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.51	0
CL-DET-Rock Barren 6-12	2023-07-12	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-07-14	0.00	0	0.00	0.00	0.00	0.51	3.56	0	0.51	0.51	0
CL-DET-Rock Barren 6-12	2023-07-16	0.00	0	0.00	0.00	0.00	2.54	3.56	0	3.56	5.59	0
CL-DET-Rock Barren 6-12	2023-07-18	0.00	0	0.00	0.00	0.00	3.05	1.53	0	0.00	3.56	0
CL-DET-Rock Barren 6-12	2023-07-20	0.00	0	0.00	0.00	0.00	0.00	2.03	0	1.02	0.00	0
CL-DET-Rock Barren 6-12	2023-07-22	0.00	0	0.00	0.00	0.00	0.51	1.53	0	0.00	1.53	0
CL-DET-Rock Barren 6-12	2023-07-24	0.00	0	0.00	0.00	0.00	0.00	6.10	0	0.00	0.51	0
CL-DET-Rock Barren 6-12	2023-07-26	0.00	0	0.00	0.00	0.00	0.51	3.05	0	0.00	1.02	0
CL-DET-Rock Barren 6-12	2023-07-28	0.00	0	0.00	0.00	0.00	0.51	1.53	0	0.00	0.51	0
CL-DET-Rock Barren 6-12	2023-07-30	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-08-01	0.00	0	0.00	0.00	0.00	0.00	2.03	0	0.00	1.02	0
CL-DET-Rock Barren 6-12	2023-08-03	0.00	0	0.00	0.00	0.00	0.00	1.53	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-08-05	0.00	0	0.00	0.00	0.00	2.03	4.07	0	0.00	1.02	0
CL-DET-Rock Barren 6-12	2023-08-07	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.51	0
CL-DET-Rock Barren 6-12	2023-08-09	0.00	0	0.00	0.00	0.00	0.51	2.54	0	1.02	2.54	0
CL-DET-Rock Barren 6-12	2023-08-11	0.00	0	0.00	0.00	0.00	0.00	3.05	0	0.00	2.54	0
CL-DET-Rock Barren 6-12	2023-08-13	0.00	0	0.00	0.00	0.00	0.51	0.00	0	0.00	0.51	0
CL-DET-Rock Barren 6-12	2023-08-15	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-08-17	0.00	0	0.00	0.00	0.00	0.00	10.17	0	0.00	2.03	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 6-12	2023-08-19	0.00	0	0.00	0.00	0.00	8.14	0.00	0	0.00	1.53	0
CL-DET-Rock Barren 6-12	2023-08-21	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-08-23	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-08-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-08-27	0.00	0	0.00	0.00	0.00	0.47	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-08-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-08-31	0.00	0	0.00	0.00	0.00	0.00	0.44	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-09-02	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-09-04	0.00	0	0.00	0.00	0.00	0.41	0.83	0	0.00	0.83	0
CL-DET-Rock Barren 6-12	2023-09-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-09-08	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 6-12	2023-09-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.38	0
CL-DET-Rock Barren 8-3 control	2023-07-10	0.00	0	0.00	0.00	0.00	0.00	1.53	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-07-12	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-07-14	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-07-16	0.00	0	0.00	0.00	0.00	1.02	0.00	0	0.00	0.51	0
CL-DET-Rock Barren 8-3 control	2023-07-18	0.00	0	0.00	0.00	0.00	0.51	0.00	0	0.00	0.51	0
CL-DET-Rock Barren 8-3 control	2023-07-20	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-07-22	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	1.02	0
CL-DET-Rock Barren 8-3 control	2023-07-24	0.00	0	0.51	0.00	0.00	0.51	5.08	0	0.51	0.51	0
CL-DET-Rock Barren 8-3 control	2023-07-26	0.00	0	0.00	0.00	0.00	1.02	1.02	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-07-28	0.00	0	0.00	0.00	0.00	0.00	1.53	0	0.00	0.51	0
CL-DET-Rock Barren 8-3 control	2023-07-30	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.51	0
CL-DET-Rock Barren 8-3 control	2023-08-01	0.00	0	0.51	0.00	0.00	0.51	1.53	0	0.00	1.53	0
CL-DET-Rock Barren 8-3 control	2023-08-03	0.00	0	0.00	0.00	0.00	0.00	3.05	0	0.00	2.03	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 8-3 control	2023-08-05	0.00	0	0.00	0.00	0.00	0.00	2.03	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-08-07	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-08-09	0.00	0	0.00	0.00	0.00	0.51	2.54	0	0.51	1.02	0
CL-DET-Rock Barren 8-3 control	2023-08-11	0.00	0	0.00	0.00	0.00	0.51	1.53	0	0.00	1.02	0
CL-DET-Rock Barren 8-3 control	2023-08-13	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-08-15	0.00	0	0.00	0.00	0.00	0.51	1.53	0	0.51	0.51	0
CL-DET-Rock Barren 8-3 control	2023-08-17	0.00	0	0.00	0.00	0.00	0.00	3.05	0	0.00	0.51	0
CL-DET-Rock Barren 8-3 control	2023-08-19	0.00	0	0.00	0.00	0.00	0.00	13.73	0	1.02	5.59	0
CL-DET-Rock Barren 8-3 control	2023-08-21	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.51	0
CL-DET-Rock Barren 8-3 control	2023-08-23	0.00	0	0.00	0.00	0.00	0.99	0.99	0	0.00	2.48	0
CL-DET-Rock Barren 8-3 control	2023-08-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-08-27	0.00	0	0.00	0.00	0.00	0.47	1.40	0	0.00	1.40	0
CL-DET-Rock Barren 8-3 control	2023-08-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-08-31	0.00	0	0.00	0.00	0.00	0.00	0.44	0	0.00	0.88	0
CL-DET-Rock Barren 8-3 control	2023-09-02	0.00	0	0.00	0.00	0.00	0.43	1.70	0	0.43	1.70	0
CL-DET-Rock Barren 8-3 control	2023-09-04	0.00	0	0.00	0.00	0.00	0.00	1.24	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-09-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-09-08	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3 control	2023-09-10	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-07-10	0.00	0	0.00	0.00	0.00	0.51	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-07-12	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-07-14	0.00	0	0.00	0.00	0.00	0.00	1.02	0	0.00	0.00	0

Detector	Night	Little Brown Myotis	Northern Myotis	Unknown Myotis sp.	Eastern Red Bat	Unknown High-frequency	Hoary Bat	Silver-haired Bat	Big Brown Bat	Silver-haired Bat / Big Brown Bat	Unknown Low-frequency	Unknown
CL-DET-Rock Barren 8-3	2023-07-16	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-07-18	0.00	0	0.00	0.00	0.00	0.51	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-07-20	0.00	0	0.00	0.00	0.00	0.00	1.53	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-07-22	0.00	0	0.00	0.00	0.00	0.51	0.51	0	0.00	0.51	0
CL-DET-Rock Barren 8-3	2023-07-24	0.00	0	0.00	0.00	0.00	0.51	5.08	0	0.00	2.03	0
CL-DET-Rock Barren 8-3	2023-07-26	0.00	0	0.00	0.00	0.00	0.51	2.54	0	0.00	0.51	0
CL-DET-Rock Barren 8-3	2023-07-28	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-07-30	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-08-01	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.51	0
CL-DET-Rock Barren 8-3	2023-08-03	0.00	0	0.00	0.00	0.00	0.51	7.63	0	0.00	1.02	0
CL-DET-Rock Barren 8-3	2023-08-05	0.00	0	0.00	0.00	0.00	0.00	3.05	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-08-07	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-08-09	0.00	0	0.00	0.00	0.00	0.51	4.07	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-08-11	0.00	0	0.00	0.00	0.00	0.00	2.54	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-08-13	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-08-15	0.00	0	0.00	0.00	0.00	0.00	2.03	0	0.00	0.51	0
CL-DET-Rock Barren 8-3	2023-08-17	0.00	0	0.00	0.00	0.00	0.51	1.02	0	0.00	2.03	0
CL-DET-Rock Barren 8-3	2023-08-19	0.00	0	0.00	0.00	0.51	0.00	2.03	0	0.00	0.51	0
CL-DET-Rock Barren 8-3	2023-08-21	0.00	0	0.00	0.00	0.00	0.00	0.51	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-08-23	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.50	0
CL-DET-Rock Barren 8-3	2023-08-25	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-08-27	0.00	0	0.00	0.00	0.00	0.00	0.47	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-08-29	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-08-31	0.00	0	0.00	0.00	0.00	0.00	0.44	0	0.00	0.44	0
CL-DET-Rock Barren 8-3	2023-09-02	0.00	0	0.00	0.00	0.00	0.85	0.85	0	0.00	0.43	0
CL-DET-Rock Barren 8-3	2023-09-04	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.41	0
CL-DET-Rock Barren 8-3	2023-09-06	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-09-08	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
CL-DET-Rock Barren 8-3	2023-09-10	0.00	0	0.00	0.38	0.00	0.00	0.00	0	0.00	0.00	0

Table B4. Weather Conditions During Each Survey Night.

Night	Average Temperature	Total Precipitation	Hours Precipitation	Average Windspeed
2021-06-12	14.18	0.8	3	5.68
2021-06-13	13.84	0.0	0	9.14
2021-06-14	8.70	0.0	0	10.41
2021-06-15	5.82	0.0	0	9.77
2021-06-16	7.62	0.0	0	5.95
2021-06-17	18.47	0.2	1	10.77
2021-06-18	14.50	0.9	2	11.86
2021-06-19	8.94	0.0	0	3.09
2021-06-20	14.62	4.7	4	5.00
2021-06-21	2.67	0.0	0	5.09
2021-06-22	6.22	0.2	1	7.05
2021-06-23	16.63	0.0	0	22.09
2021-06-24	16.87	0.0	0	11.68
2021-06-25	17.30	0.0	0	5.55
2021-06-26	19.00	2.6	2	4.59
2021-06-27	16.50	0.4	1	4.45
2021-06-28	17.96	0.0	0	6.09
2021-06-29	16.32	4.4	6	5.68
2021-06-30	10.87	2.5	4	14.68
2021-07-01	9.92	0.0	0	8.09
2021-07-02	13.08	0.0	0	7.95
2021-07-03	11.55	0.0	0	4.50
2021-07-04	21.45	0.0	0	11.28
2021-07-05	18.21	2.0	4	9.27
2021-07-06	7.18	0.0	0	8.27
2021-07-07	5.89	0.0	0	4.41
2021-07-08	8.38	0.0	0	4.50
2021-07-09	11.21	0.0	0	3.95
2021-07-10	14.43	0.0	0	6.36
2021-07-11	12.66	0.0	0	3.50
2021-07-12	18.96	0.0	0	8.36
2021-07-13	17.02	1.1	2	6.68
2021-07-14	15.15	8.8	2	5.95
2021-07-15	11.16	0.0	0	3.00
2021-07-16	15.04	0.0	0	4.95
2021-07-17	17.03	0.0	0	6.09
2021-07-18	16.69	0.0	0	4.45
2021-07-19	10.99	9.0	6	14.27
2021-07-20	9.99	0.0	0	6.68
2021-07-21	13.59	0.0	0	4.68
2021-07-22	10.48	0.0	0	3.00
2021-07-23	17.18	0.0	0	11.32
2021-07-24	17.15	0.2	1	7.18
2021-07-25	15.15	3.6	2	8.36
2021-07-26	13.08	7.6	3	9.09
2021-07-27	10.75	0.0	0	2.86
2021-07-28	16.48	0.0	0	7.32
2021-07-29	8.79	0.0	0	11.36
2021-07-30	11.85	0.0	0	5.45
2021-07-31	11.44	1.2	1	8.09
2021-08-01	9.04	0.0	0	6.36
2021-08-02	15.72	7.1	5	8.00
2021-08-03	9.20	0.0	0	2.91
2021-08-04	18.93	0.0	0	8.32
2021-08-05	19.34	0.0	0	10.09
2021-08-06	10.42	0.5	1	10.32
2021-08-07	11.16	0.0	0	7.45
2021-08-08	19.01	0.1	1	11.86
2021-08-09	19.05	3.6	4	8.14
2021-08-10	21.11	0.3	1	9.77

Night	Average Temperature	Total Precipitation	Hours Precipitation	Average Windspeed
2022-05-17	1.78	0.0	0	5.05
2022-05-18	10.24	1.1	4	5.68
2022-05-19	11.52	0.0	0	12.00
2022-05-20	9.72	0.7	1	9.73
2022-05-21	4.51	0.0	0	4.50
2022-05-22	4.04	0.6	1	5.32
2022-05-23	6.29	0.0	0	7.41
2022-05-24	8.25	0.0	0	7.14
2022-05-25	11.59	11.9	8	15.55
2022-05-26	11.81	0.0	0	7.36
2022-05-27	8.15	NA	NA	7.09
2022-05-28	10.61	NA	NA	4.45
2022-05-29	14.77	NA	NA	8.55
2022-05-30	17.18	NA	NA	8.64
2022-05-31	21.42	NA	NA	11.73
2022-06-01	8.76	NA	NA	7.27
2022-06-02	7.95	NA	NA	4.73
2022-06-03	7.70	NA	NA	11.73
2022-06-04	7.34	NA	NA	5.09
2022-06-05	10.52	NA	NA	6.91
2022-06-06	11.79	NA	NA	10.00
2022-06-06	11.79	NA	NA	10.00
2022-06-07	9.83	NA	NA	7.91
2022-06-08	11.54	NA	NA	5.82
2022-06-09	11.17	NA	NA	9.27
2022-06-10	9.23	NA	NA	5.09
2022-06-11	8.75	NA	NA	9.64
2022-06-12	10.81	NA	NA	8.64
2022-06-13	11.97	NA	NA	3.36
2022-06-14	18.71	8.7	6	15.55
2022-06-15	18.99	0.0	0	12.32
2022-06-16	16.09	0.0	0	15.55
2022-06-17	6.44	0.0	0	18.91
2022-06-18	5.92	0.0	0	6.77
2022-06-19	11.84	0.0	0	6.50
2022-06-20	17.51	0.0	0	16.91
2022-06-21	21.90	0.0	0	11.86
2022-06-22	10.07	0.0	0	6.64
2022-06-23	18.84	0.4	1	6.86
2022-06-24	17.60	0.0	0	12.45
2022-06-25	21.31	0.0	0	9.32
2022-06-26	12.86	0.8	2	12.45
2022-06-27	10.32	0.0	0	9.64
2022-06-28	8.65	1.9	2	5.91
2022-06-29	10.20	0.0	0	8.95
2022-06-30	17.83	0.3	1	13.68
2022-07-01	11.03	0.0	0	10.68
2022-07-02	11.09	0.0	0	8.73
2022-07-03	9.20	0.0	0	4.50
2022-07-04	15.93	0.0	0	6.18
2022-07-05	9.54	0.0	0	10.36
2022-07-06	8.79	0.0	0	2.68
2022-07-07	11.64	0.0	0	8.73
2022-07-08	9.00	0.0	0	6.50
2022-07-09	13.59	0.0	0	4.95
2022-07-10	16.85	3.9	6	8.09
2022-07-11	12.93	3.6	7	15.73
2022-07-12	11.21	0.0	0	9.18
2022-07-13	10.90	0.0	0	5.68
2022-07-14	10.21	0.0	0	5.45
2022-07-15	15.79	0.0	0	7.55
2022-07-16	14.82	0.0	0	4.82
2022-07-17	17.02	0.0	0	4.59

Night	Average Temperature	Total Precipitation	Hours Precipitation	Average Windspeed
2022-07-18	17.03	1.6	1	9.77
2022-07-19	19.67	0.0	0	8.09
2022-07-20	18.42	1.1	4	6.73
2022-07-21	14.68	0.6	1	7.41
2022-07-22	16.43	1.5	1	8.73
2022-07-23	18.25	0.0	0	6.18
2022-07-24	13.46	11.2	6	13.23
2022-07-25	12.78	0.0	0	7.50
2022-07-26	15.42	0.0	0	7.14
2022-07-27	14.03	0.0	0	7.36
2022-07-28	13.90	0.1	1	7.36
2022-07-29	14.80	0.0	0	8.55
2022-07-30	17.12	0.0	0	9.05
2022-07-31	19.52	0.0	0	10.59
2022-08-01	11.02	0.1	1	10.45
2023-05-24	0.09	0.0	0	5.36
2023-05-25	5.84	0.0	0	4.86
2023-05-26	15.95	0.0	0	8.41
2023-05-27	16.67	0.0	0	9.32
2023-05-28	14.58	0.0	0	9.18
2023-05-29	16.70	0.0	0	7.05
2023-05-30	17.83	0.0	0	7.23
2023-05-31	20.22	0.0	0	6.68
2023-06-01	16.46	2.7	3	8.14
2023-06-02	14.26	0.0	0	8.59
2023-06-03	10.54	0.0	0	3.82
2023-06-04	15.90	0.0	0	11.00
2023-06-05	7.30	0.0	0	11.23
2023-06-06	8.86	0.0	0	15.18
2023-06-07	11.76	0.0	0	12.55
2023-06-08	11.21	0.0	0	8.27
2023-06-09	13.25	0.0	0	5.59
2023-06-10	5.35	2.1	9	11.14
2023-06-11	9.04	0.7	2	9.41
2023-06-12	15.19	3.8	6	11.45
2023-06-13	12.77	0.1	1	6.95
2023-06-14	9.12	0.3	2	9.09
2023-06-15	10.89	0.0	0	9.14
2023-06-16	8.86	0.0	0	6.50
2023-06-17	8.56	0.0	0	3.23
2023-06-18	13.20	0.0	0	5.59
2023-06-19	14.95	0.0	0	3.59
2023-06-20	18.95	0.0	0	8.91
2023-06-21	17.37	0.0	0	5.86
2023-06-22	17.27	0.0	0	7.86
2023-06-23	19.19	6.0	1	8.68
2023-06-24	17.23	0.0	0	8.64
2023-06-25	17.12	2.1	2	11.36
2023-06-26	10.92	15.0	10	16.91
2023-06-27	6.24	0.0	0	7.27
2023-06-28	8.71	0.0	0	2.50
2023-06-29	17.36	0.0	0	9.82
2023-06-30	15.55	0.0	0	5.32
2023-07-01	16.65	9.2	2	5.52
2023-07-02	15.96	NA	NA	2.82
2023-07-03	18.35	NA	NA	3.00
2023-07-10	15.13	NA	NA	8.00
2023-07-12	12.36	NA	NA	5.00
2023-07-14	15.54	NA	NA	8.45
2023-07-16	14.62	NA	NA	6.27
2023-07-18	11.59	NA	NA	4.45
2023-07-20	13.86	NA	NA	6.45
2023-07-22	11.89	NA	NA	5.27

Night	Average Temperature	Total Precipitation	Hours Precipitation	Average Windspeed
2023-07-24	10.86	NA	NA	3.55
2023-07-26	14.26	NA	NA	3.64
2023-07-28	8.61	0.0	0	5.41
2023-07-30	9.40	0.0	0	6.41
2023-08-01	12.11	0.0	0	6.00
2023-08-03	15.72	0.0	0	11.05
2023-08-05	10.06	0.0	0	2.32
2023-08-07	10.46	0.0	0	3.50
2023-08-09	13.38	0.0	0	6.50
2023-08-11	14.14	1.3	3	6.00
2023-08-13	11.07	0.0	0	8.36
2023-08-15	15.24	0.8	2	8.32
2023-08-17	13.09	0.9	3	14.14
2023-08-19	17.90	0.0	0	7.77
2023-08-21	9.35	0.0	0	3.86
2023-08-23	13.51	0.0	0	3.05
2023-08-25	9.03	0.0	0	13.50
2023-08-27	6.86	0.0	0	5.41
2023-08-29	4.26	0.4	2	11.59
2023-08-31	9.46	0.0	0	5.86
2023-09-02	17.95	0.0	0	9.55
2023-09-04	20.74	0.0	0	7.95
2023-09-06	7.90	18.6	9	17.20
2023-09-08	2.11	0.0	0	3.05
2023-09-10	11.65	0.0	0	6.77

Table B5. Results from a general linear model used to compare average activity (passes/hr) of high-frequency species (likely SAR species) to that of low-frequency species (non-SAR species) during 17 May - 6 June, 2022.

Parameter	Estimate	Standard Error	t value	p value
(Intercept)	0.00	0.61	0.00	1.00
GroupLoFspp	1.00	0.86	1.15	0.25
SiteCL-DET-Rock Barren 6-3	0.00	0.85	0.00	1.00
SiteCL-DET-Rock Barren 6-5	0.00	0.85	0.00	1.00
SiteCL-DET-Rock Barren 6-8	0.01	0.83	0.01	0.99
SiteCL-DET-Rock Barren 6-9	0.01	0.85	0.01	0.99
SiteCL-DET-Rock Barren 6-10	0.01	0.85	0.01	0.99
SiteCL-DET-Rock Barren 6-12	0.01	0.85	0.01	0.99
SiteCL-DET-Rock Barren 8-3 control	0.00	0.92	0.00	1.00
SiteCL-DET-Rock Barren 8-3	0.00	0.92	0.00	1.00
GroupLoFspp:SiteCL-DET-Rock Barren 6-3	-0.55	1.21	-0.45	0.65
GroupLoFspp:SiteCL-DET-Rock Barren 6-5	-0.55	1.21	-0.46	0.65
GroupLoFspp:SiteCL-DET-Rock Barren 6-8	0.20	1.18	0.17	0.87
GroupLoFspp:SiteCL-DET-Rock Barren 6-9	-0.20	1.21	-0.16	0.87
GroupLoFspp:SiteCL-DET-Rock Barren 6-10	-0.21	1.21	-0.18	0.86
GroupLoFspp:SiteCL-DET-Rock Barren 6-12	0.01	1.21	0.01	0.99
GroupLoFspp:SiteCL-DET-Rock Barren 8-3 control	4.69	1.31	3.59	0.00
GroupLoFspp:SiteCL-DET-Rock Barren 8-3	0.75	1.31	0.57	0.57

Table B6. Results from least-square means contrasts adjusting for multiple comparisons (Benjamini-Hochberg false discovery rate correction) used to assess differences in activity levels between high- and low-frequency bat species at each site surveyed during 17 May - 6 June, 2022.

Site	Estimate	Standard Error	df	t ratio	Unadjusted p value	Adjusted p value
CL-DET-Rock Barren 6 control	-1.00	0.86	306	-1.15	0.25	0.45
CL-DET-Rock Barren 6-3	-0.45	0.84	306	-0.54	0.59	0.60
CL-DET-Rock Barren 6-5	-0.45	0.84	306	-0.53	0.60	0.60
CL-DET-Rock Barren 6-8	-1.19	0.80	306	-1.49	0.14	0.41
CL-DET-Rock Barren 6-9	-0.80	0.84	306	-0.95	0.34	0.45
CL-DET-Rock Barren 6-10	-0.78	0.84	306	-0.93	0.35	0.45
CL-DET-Rock Barren 6-12	-1.01	0.84	306	-1.20	0.23	0.45
CL-DET-Rock Barren 8-3 control	-5.69	0.98	306	-5.81	0.00	0.00
CL-DET-Rock Barren 8-3	-1.74	0.98	306	-1.78	0.08	0.34

Table B7. Results from a general linear model used to compare average activity (passes/hr) of high-frequency species (likely SAR species) to that of low-frequency species (non-SAR species) during 20 August - 10 September, 2023.

Parameter	Estimate	Standard Error	t value	p value
(Intercept)	0.00	0.20	0.00	1.00
GroupLoFspp	0.29	0.29	1.02	0.31
SiteCL-DET-Rock Barren 6-3	0.08	0.29	0.29	0.77
SiteCL-DET-Rock Barren 6-5	0.09	0.29	0.30	0.76
SiteCL-DET-Rock Barren 6-8	0.00	0.29	0.00	1.00
SiteCL-DET-Rock Barren 6-9	0.00	0.29	0.00	1.00
SiteCL-DET-Rock Barren 6-10	0.00	0.29	0.00	1.00
SiteCL-DET-Rock Barren 6-12	0.00	0.29	0.00	1.00
SiteCL-DET-Rock Barren 8-3 control	0.00	0.29	0.00	1.00
SiteCL-DET-Rock Barren 8-3	0.00	0.29	0.00	1.00
GroupLoFspp:SiteCL-DET-Rock Barren 6-3	0.22	0.41	0.54	0.59
GroupLoFspp:SiteCL-DET-Rock Barren 6-5	0.10	0.41	0.25	0.80
GroupLoFspp:SiteCL-DET-Rock Barren 6-8	0.11	0.41	0.27	0.79
GroupLoFspp:SiteCL-DET-Rock Barren 6-9	0.30	0.41	0.73	0.47
GroupLoFspp:SiteCL-DET-Rock Barren 6-10	0.25	0.41	0.63	0.53
GroupLoFspp:SiteCL-DET-Rock Barren 6-12	0.06	0.41	0.14	0.89
GroupLoFspp:SiteCL-DET-Rock Barren 8-3 control	1.12	0.41	2.76	0.01
GroupLoFspp:SiteCL-DET-Rock Barren 8-3	0.15	0.41	0.37	0.71

Table B8. Results from least-square means contrasts adjusting for multiple comparisons (Benjamini-Hochberg false discovery rate correction) used to assess differences in activity levels between high- and low-frequency bat species at each site surveyed during 20 August - 10 September, 2023.

Site	Estimate	Standard Error	df	t ratio	Unadjusted p value	Adjusted p value
CL-DET-Rock Barren 6 control	-0.29	0.29	180	-1.02	0.31	0.31
CL-DET-Rock Barren 6-3	-0.51	0.29	180	-1.79	0.08	0.17
CL-DET-Rock Barren 6-5	-0.40	0.29	180	-1.38	0.17	0.22
CL-DET-Rock Barren 6-8	-0.40	0.29	180	-1.40	0.16	0.22
CL-DET-Rock Barren 6-9	-0.59	0.29	180	-2.06	0.04	0.17
CL-DET-Rock Barren 6-10	-0.55	0.29	180	-1.91	0.06	0.17
CL-DET-Rock Barren 6-12	-0.35	0.29	180	-1.22	0.22	0.25
CL-DET-Rock Barren 8-3 control	-1.41	0.29	180	-4.93	0.00	0.00
CL-DET-Rock Barren 8-3	-0.44	0.29	180	-1.55	0.12	0.22

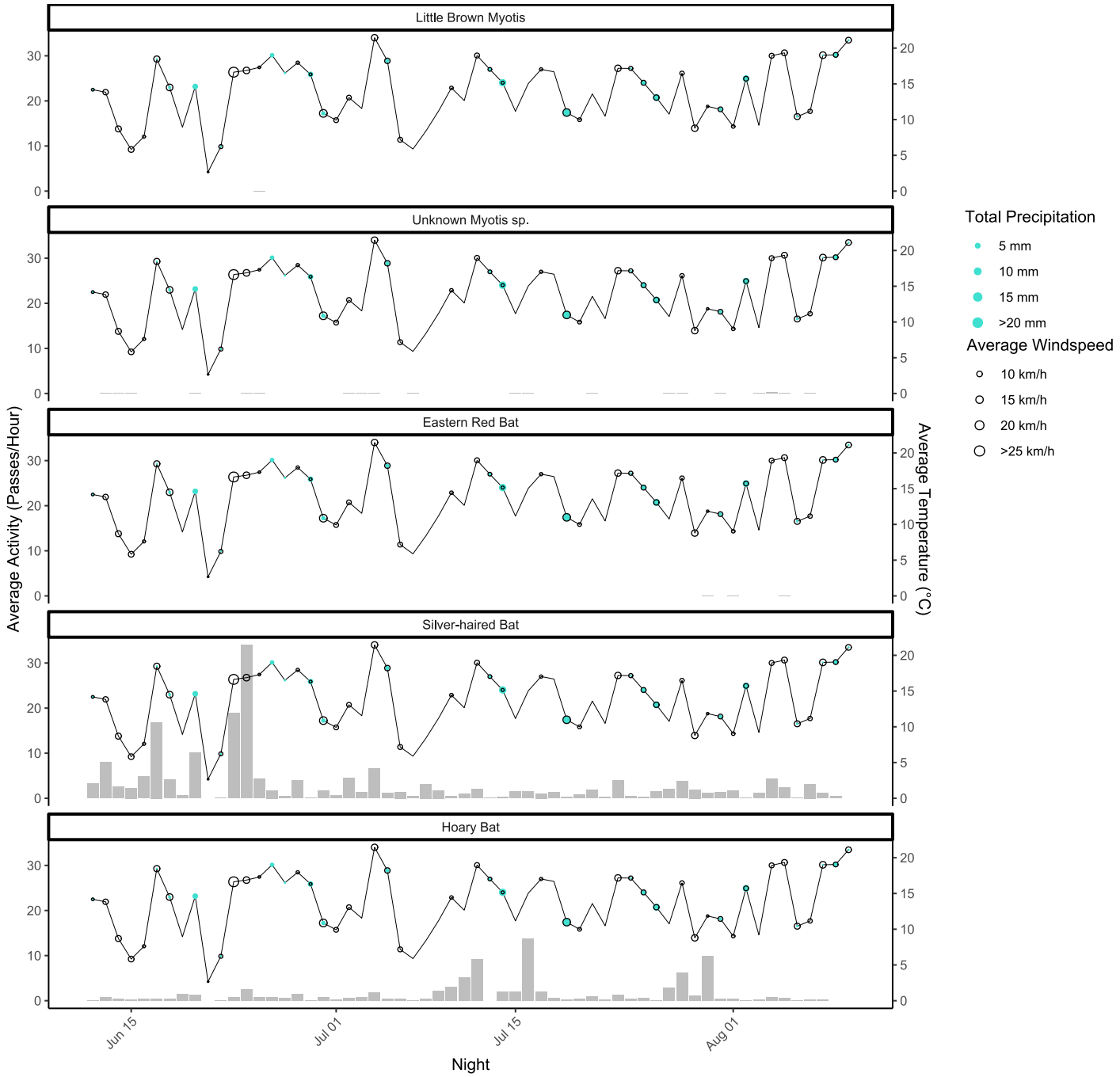


Figure B1. Activity of the most common bat species or species groups detected in the Study Area during 12 June - 10 August, 2021. The solid line denotes the average temperature (right axis) each night. The total amount of precipitation each night is represented by the size of the blue circles and the average windspeed each night is depicted by the size of the empty circles.

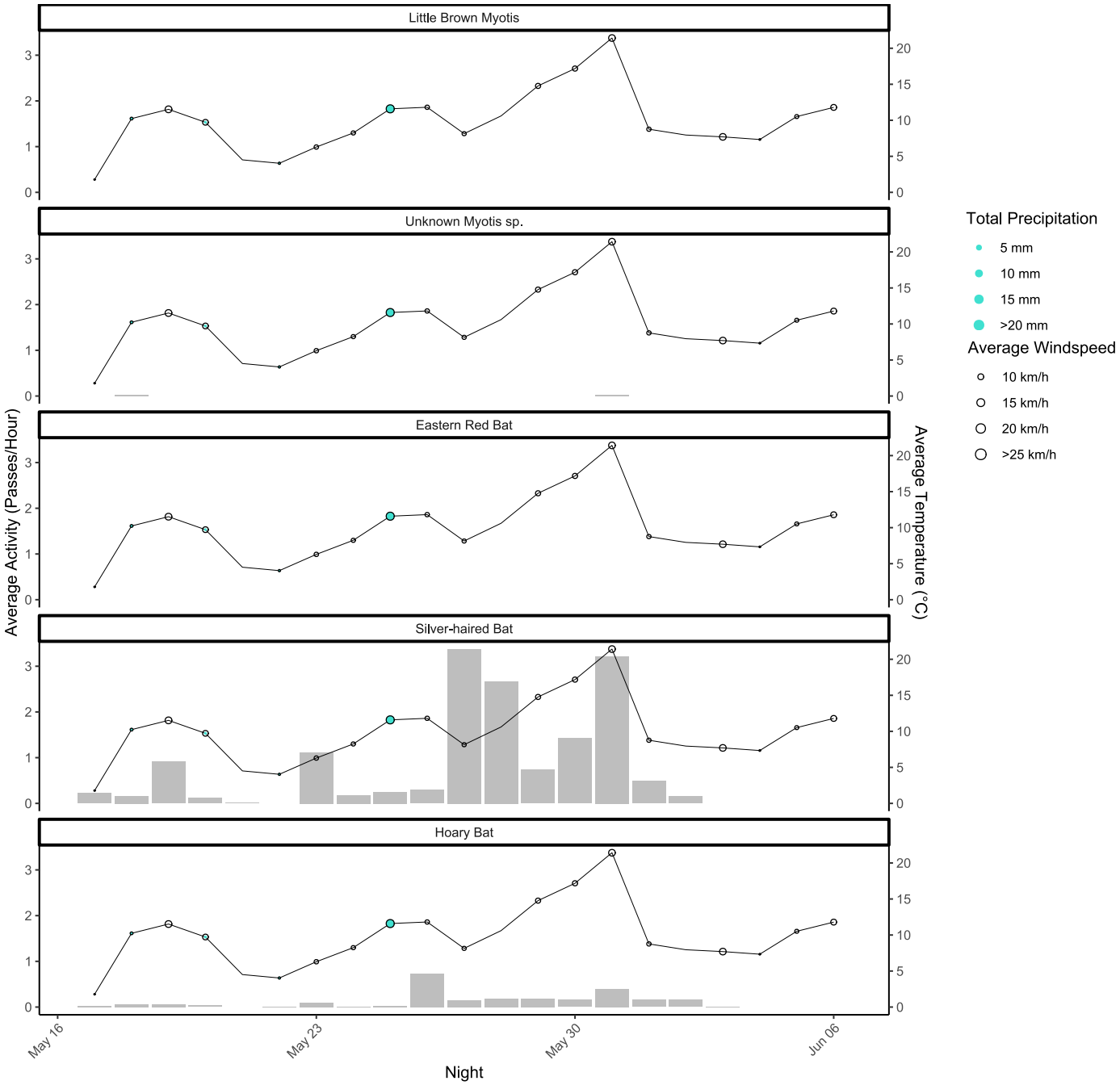


Figure B2. Activity of the most common bat species or species groups detected in the Study Area during 17 May - 6 June, 2022. The solid line denotes the average temperature (right axis) each night. The total amount of precipitation each night is represented by the size of the blue circles and the average windspeed each night is depicted by the size of the empty circles.

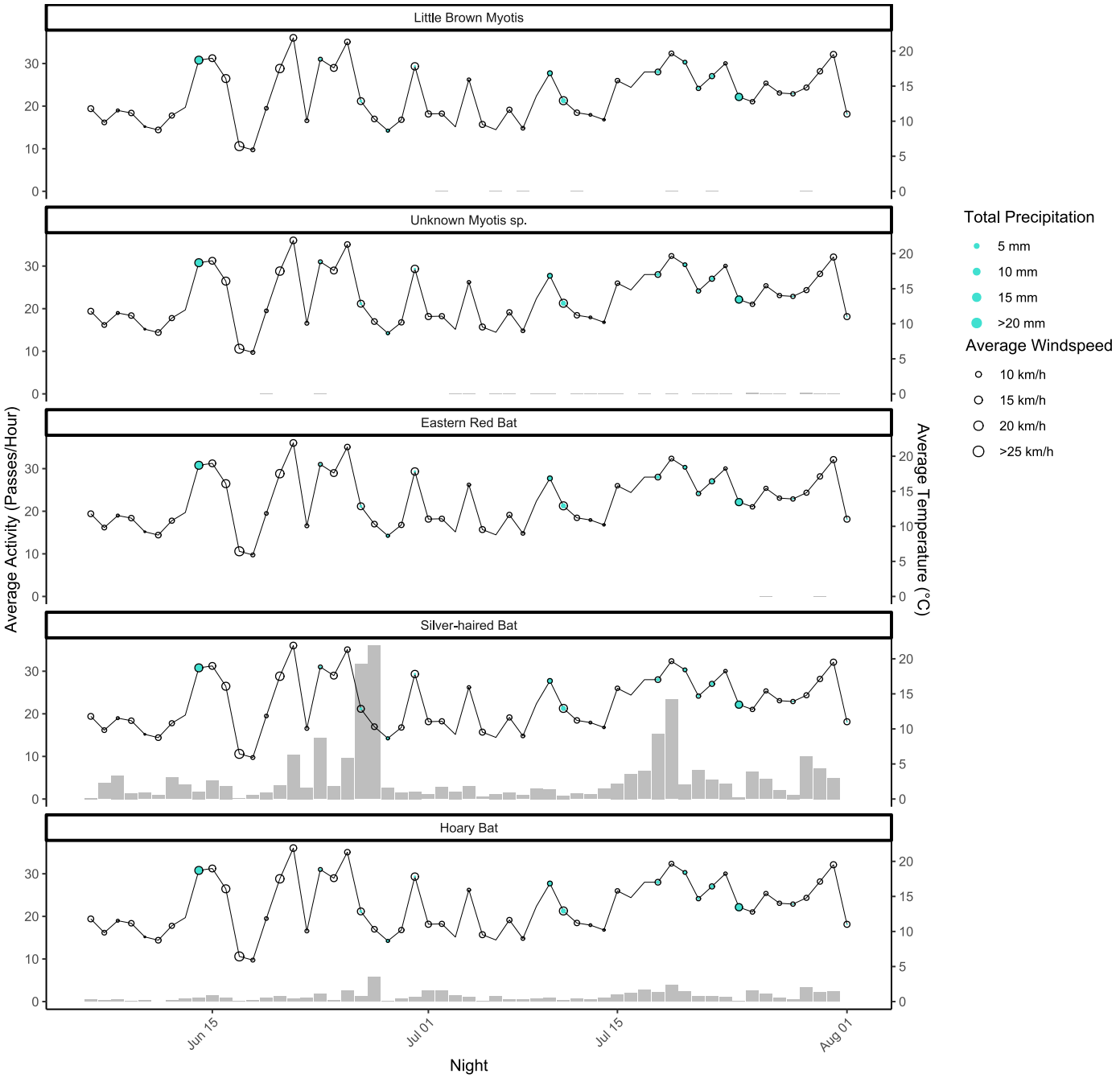


Figure B3. Activity of the most common bat species or species groups detected in the Study Area during 6 June - 1 August, 2022. The solid line denotes the average temperature (right axis) each night. The total amount of precipitation each night is represented by the size of the blue circles and the average windspeed each night is depicted by the size of the empty circles.

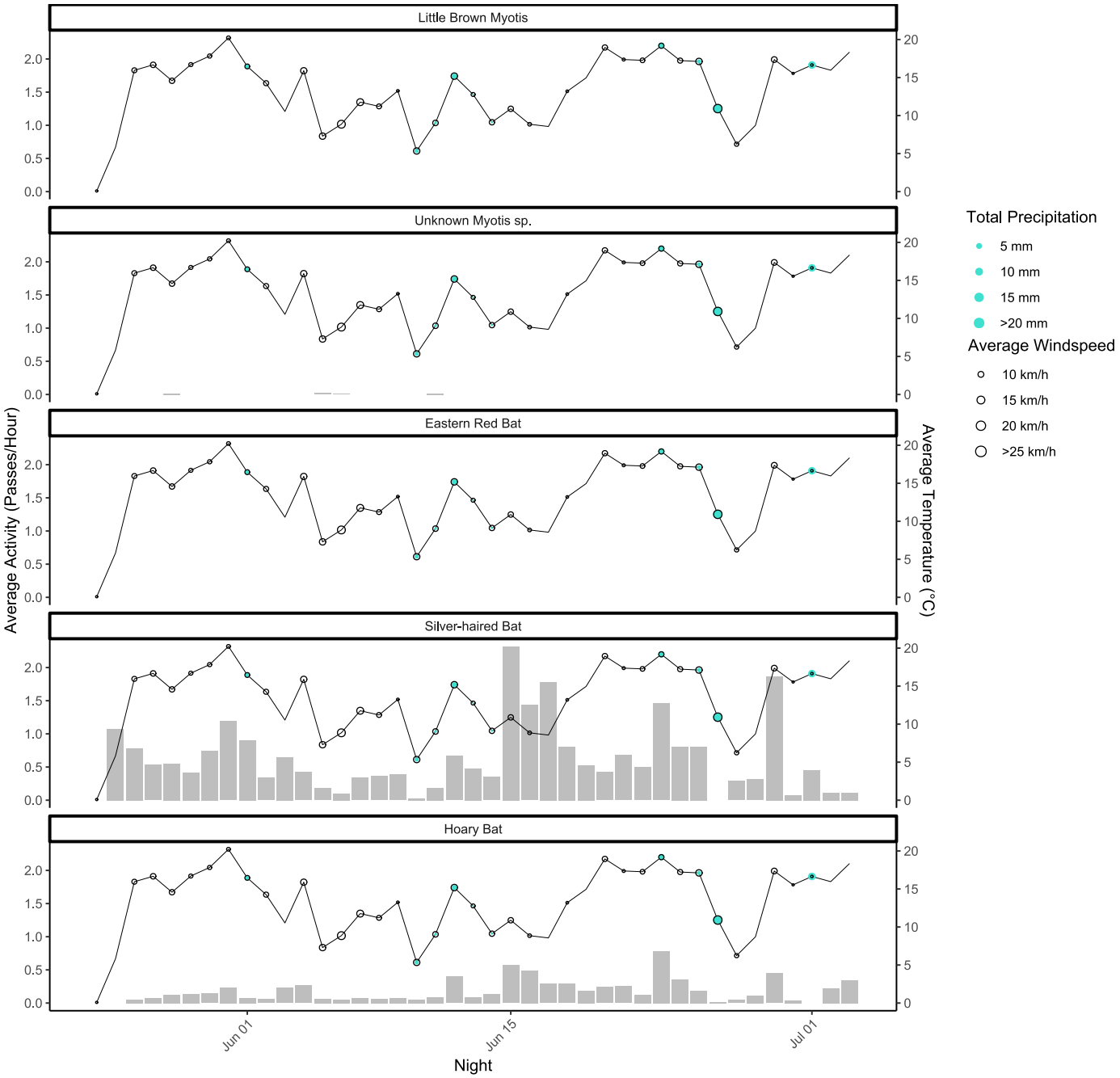


Figure B4. Activity of the most common bat species or species groups detected in the Study Area during 24 May - 3 July, 2023. The solid line denotes the average temperature (right axis) each night. The total amount of precipitation each night is represented by the size of the blue circles and the average windspeed each night is depicted by the size of the empty circles.

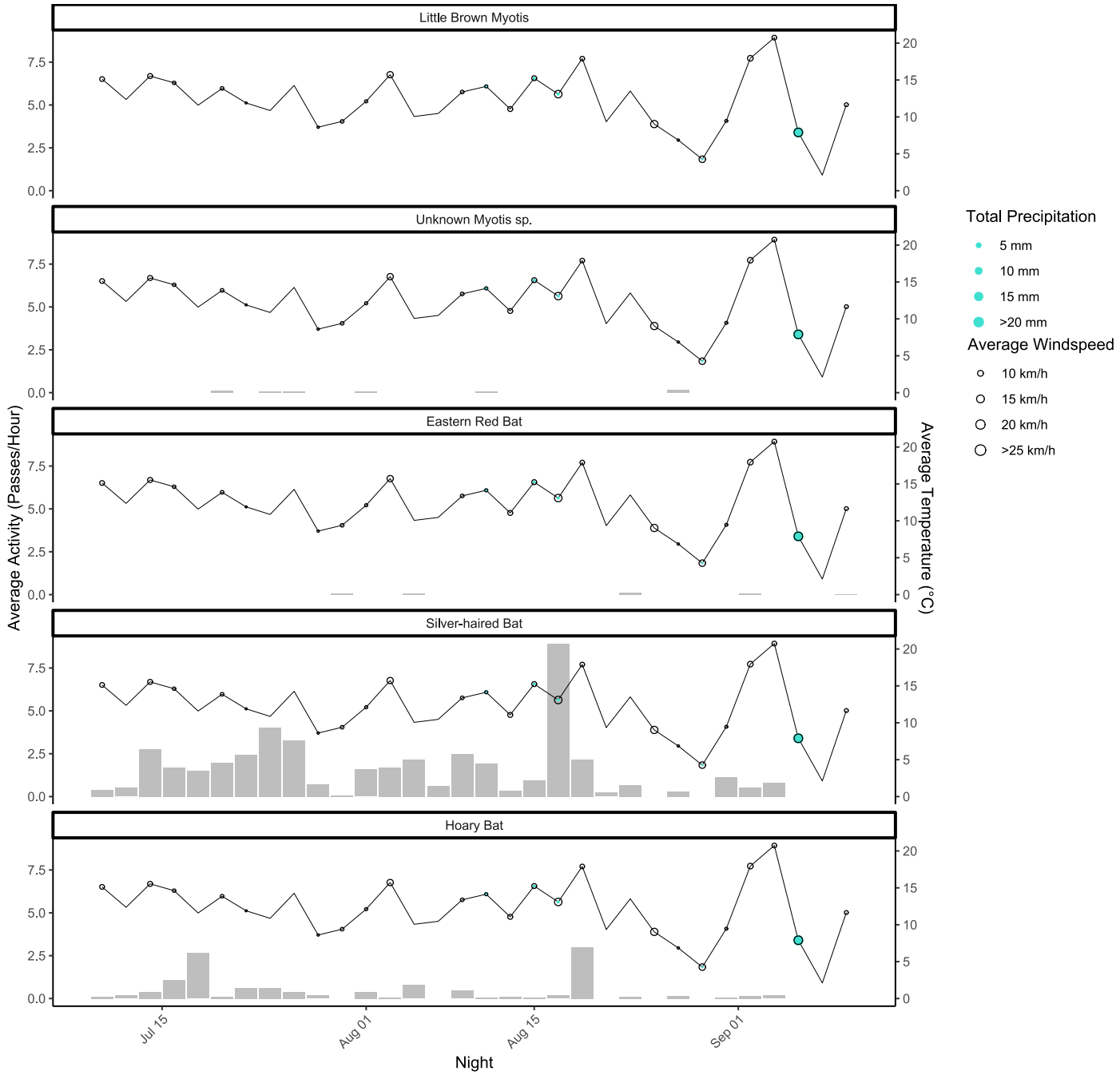
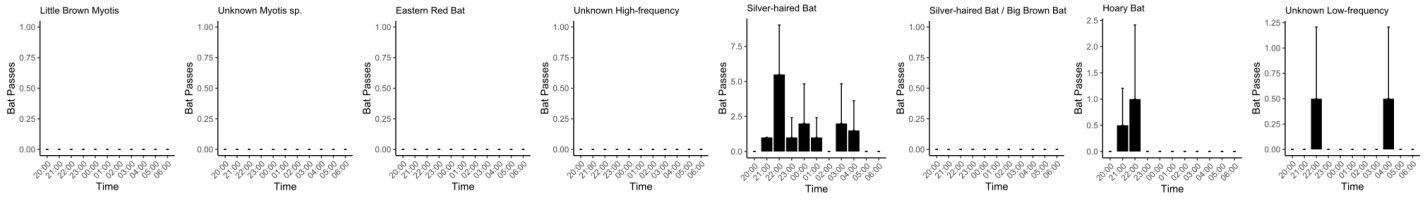
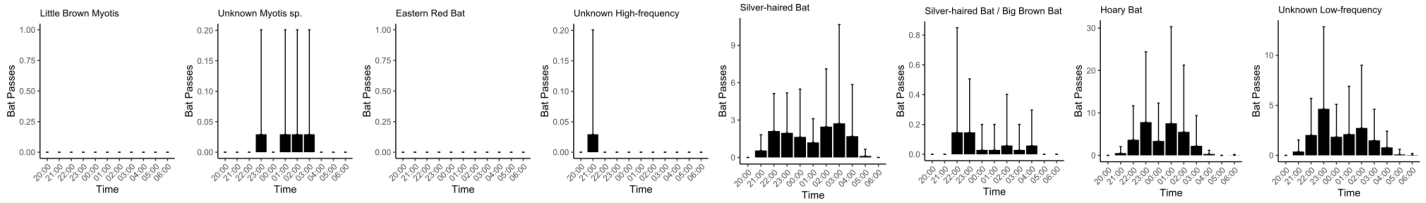


Figure B5. Activity of the most common bat species or species groups detected in the Study Area during 10 July - 10 September, 2023. The solid line denotes the average temperature (right axis) each night. The total amount of precipitation each night is represented by the size of the blue circles and the average windspeed each night is depicted by the size of the empty circles.

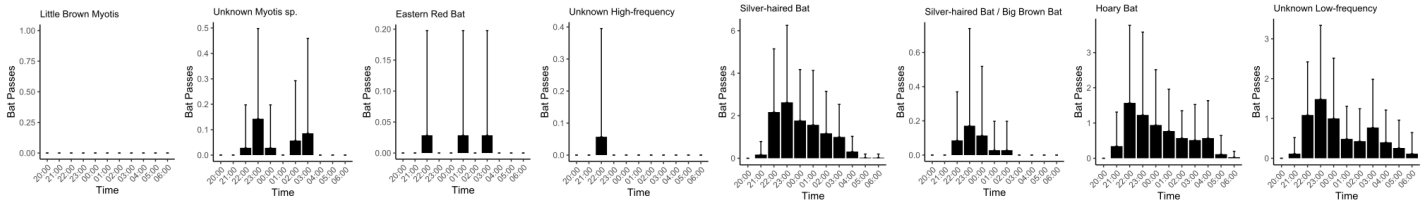
Detector: CL-DET-EM-G2-01 Dates: 2021-06-17 to 2021-06-18



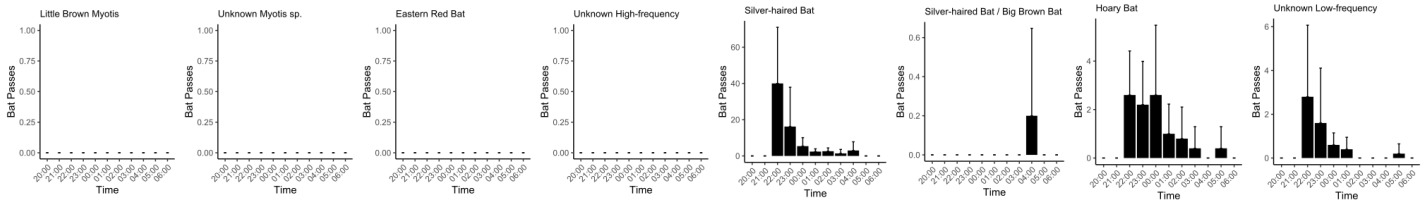
Detector: CL-DET-ET-G2-01 Dates: 2021-07-07 to 2021-08-09



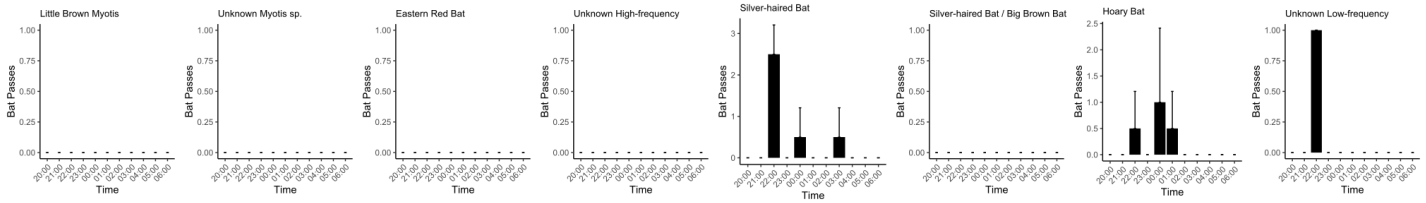
Detector: CL-DET-ET-G2-02 Dates: 2021-07-07 to 2021-08-10



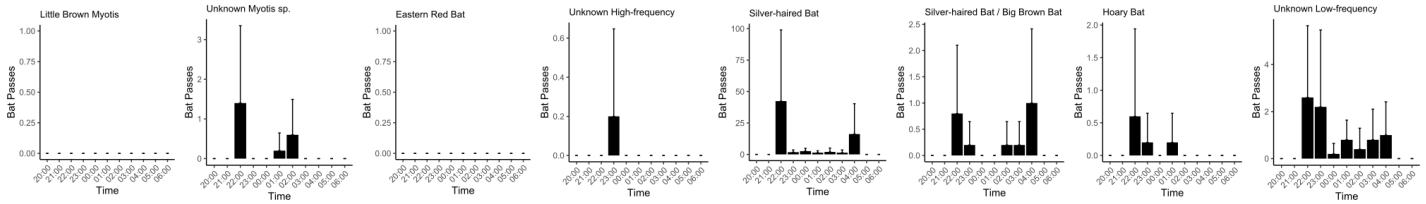
Detector: CL-DET-EXTRA-02 Dates: 2021-06-12 to 2021-06-16



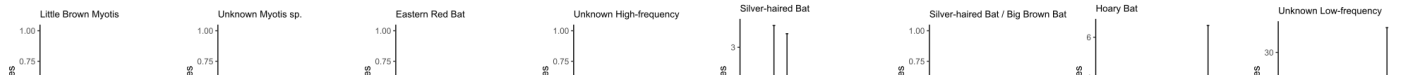
Detector: CL-DET-EXTRA-02b Dates: 2021-07-07 to 2021-07-08

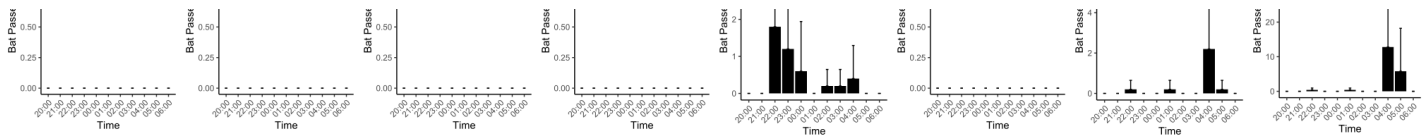


Detector: CL-DET-EXTRA-03 Dates: 2021-06-13 to 2021-06-17

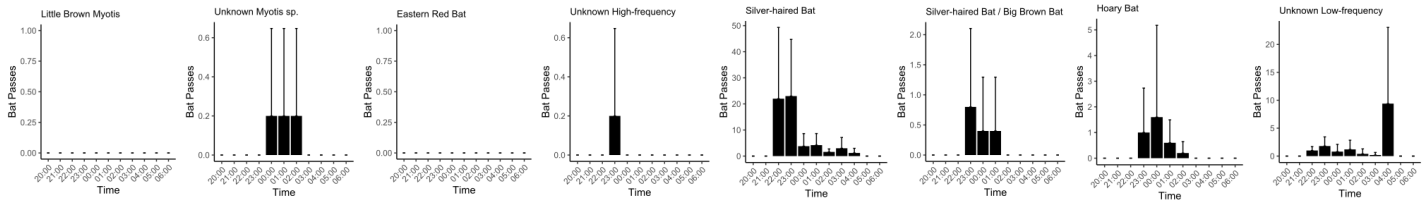


Detector: CL-DET-G1-03 Dates: 2021-06-12 to 2021-06-16

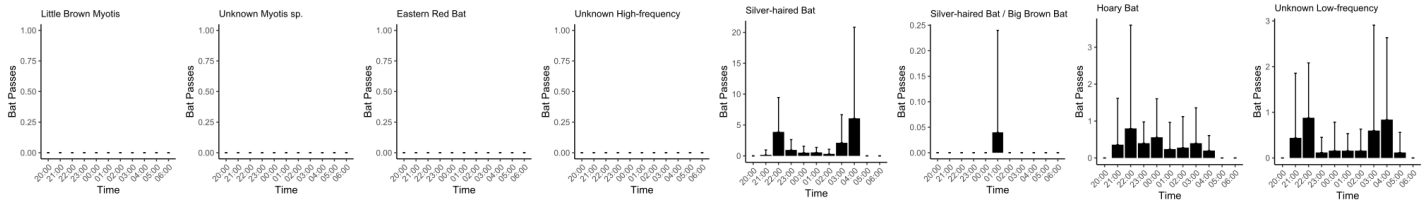




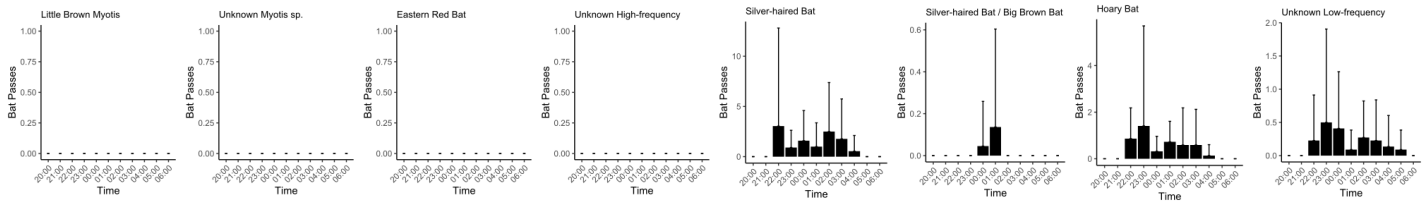
Detector: CL-DET-G1-07 Dates: 2021-06-12 to 2021-06-16



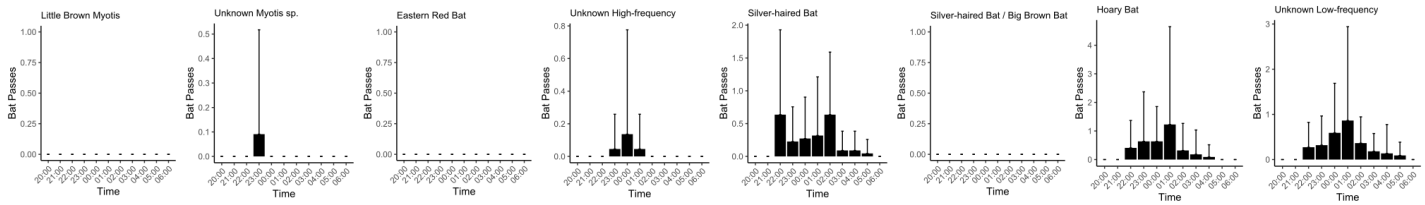
Detector: CL-DET-G1-08 Dates: 2021-06-13 to 2021-07-07



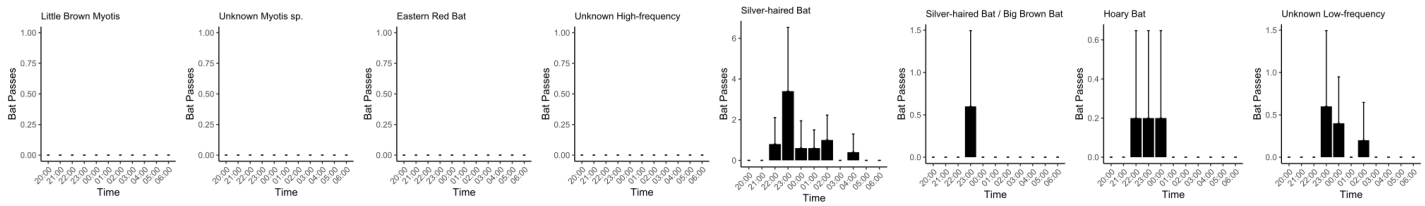
Detector: CL-DET-G1-09 Dates: 2021-06-16 to 2021-07-07



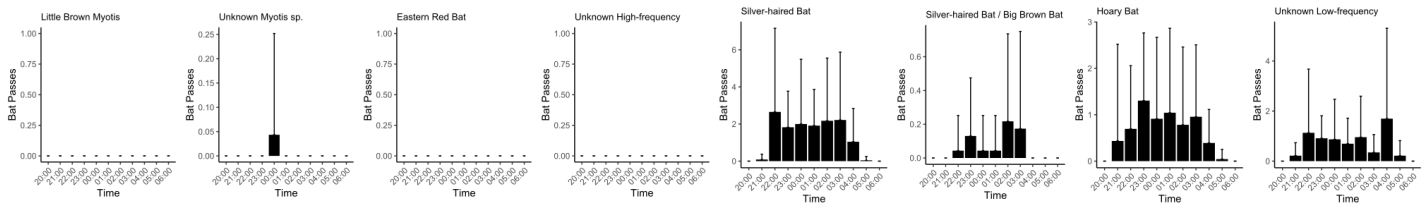
Detector: CL-DET-G1-10 Dates: 2021-06-16 to 2021-07-07



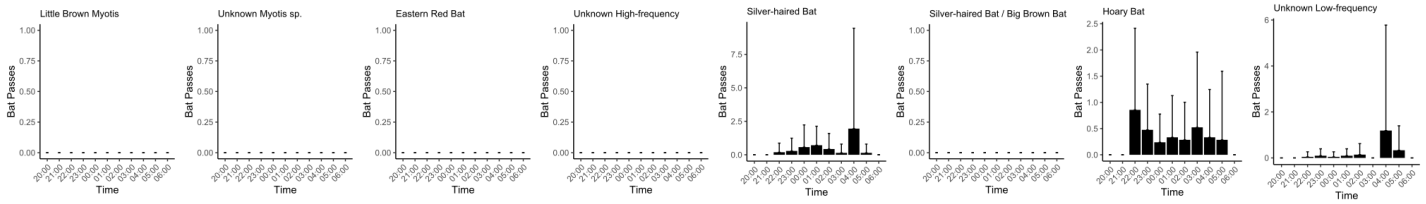
Detector: CL-DET-G1-11 Dates: 2021-06-12 to 2021-06-16



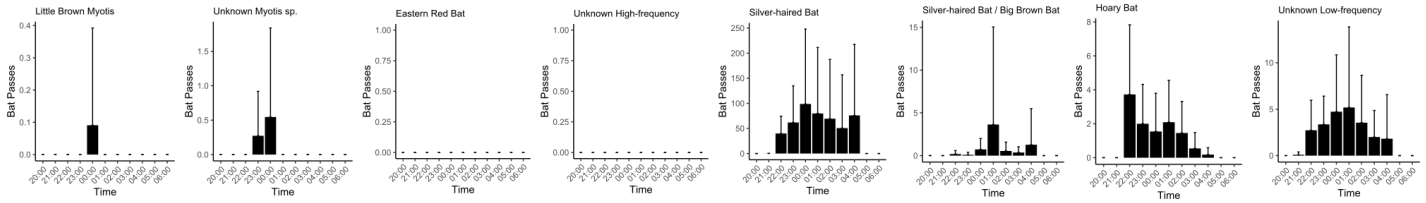
Detector: CL-DET-G2-01 Dates: 2021-06-15 to 2021-07-07



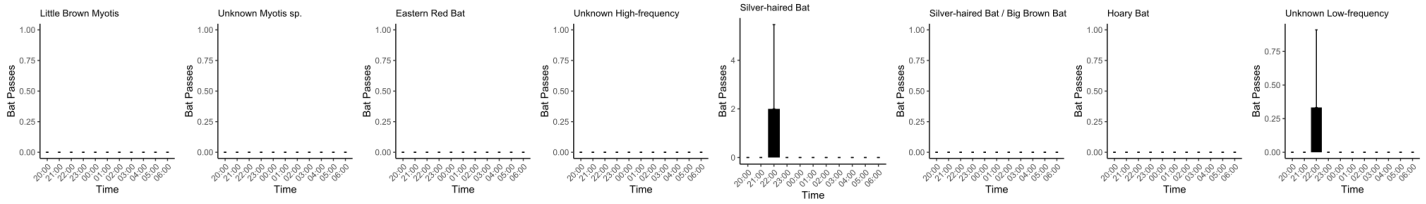
Detector: CL-DET-G2-03 Dates: 2021-06-16 to 2021-07-06



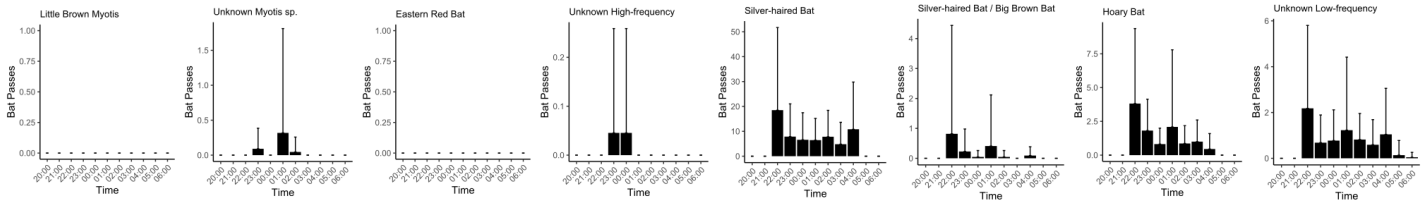
Detector: CL-DET-G2-04 Dates: 2021-06-15 to 2021-06-25



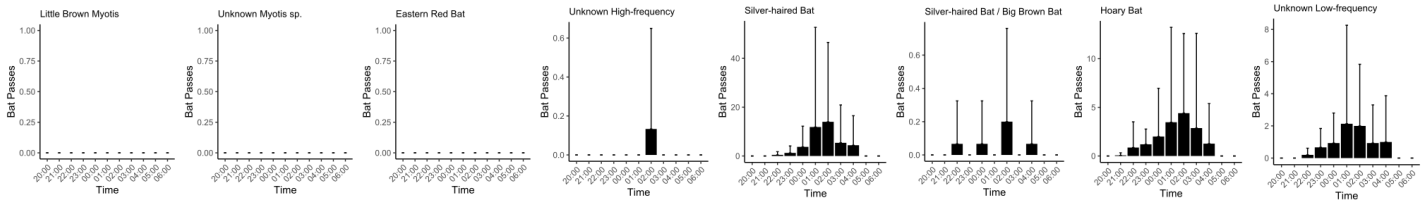
Detector: CL-DET-G2-11 Dates: 2021-06-29 to 2021-07-01



Detector: CL-DET-WT-G2-02 Dates: 2021-06-17 to 2021-07-08



Detector: CL-DET-WT-G2-02b Dates: 2021-06-17 to 2021-07-01



Detector: Total Dates: 2021-06-12 to 2021-08-10

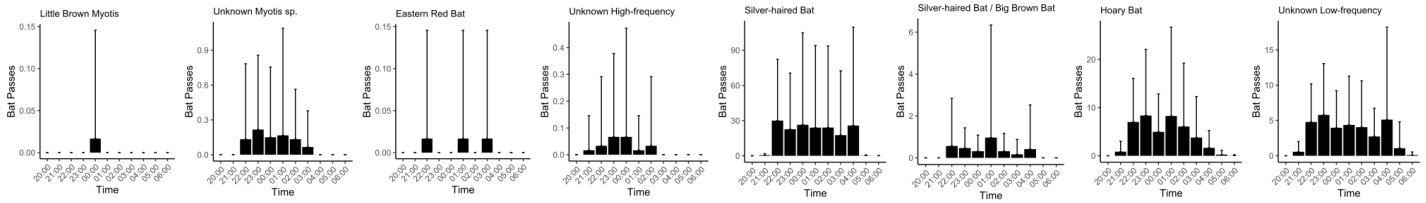
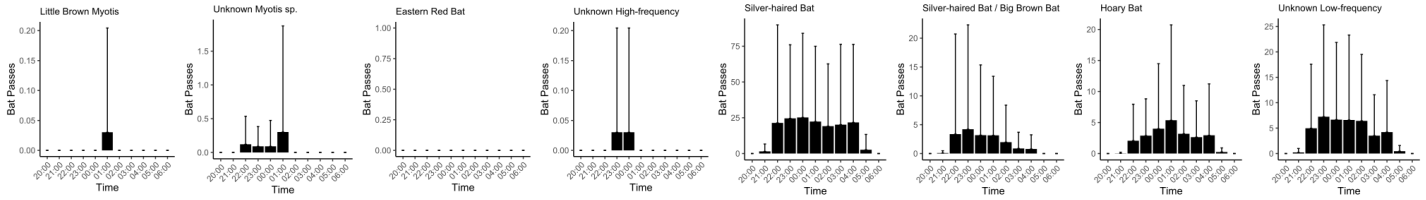
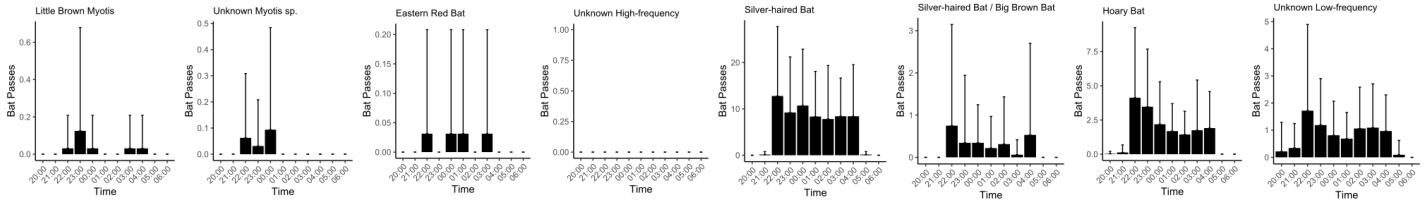


Figure B6. Average activity during each hour per species for the period of 12 June - 10 August, 2021

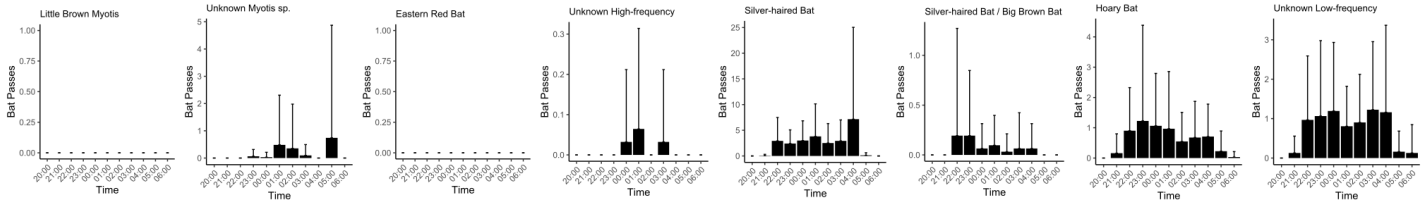
Detector: CL-DET-CBM-11 Dates: 2022-06-28 to 2022-07-30



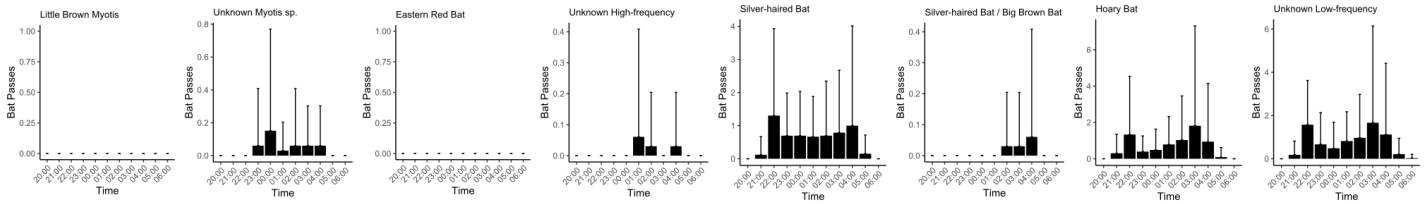
Detector: CL-DET-CBM-12 Dates: 2022-06-29 to 2022-07-30



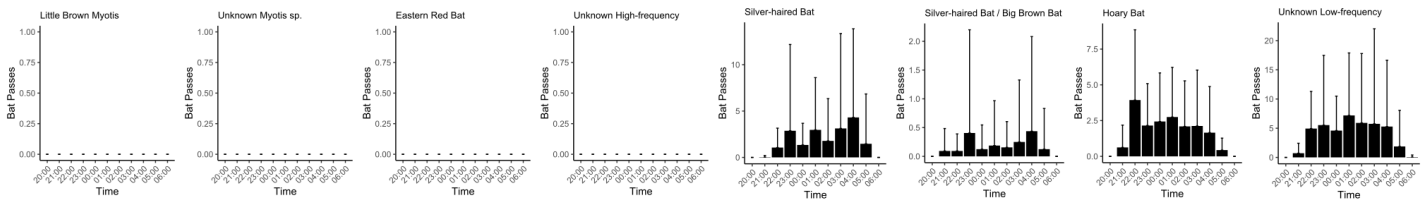
Detector: CL-DET-CBM-13 Dates: 2022-06-29 to 2022-07-29



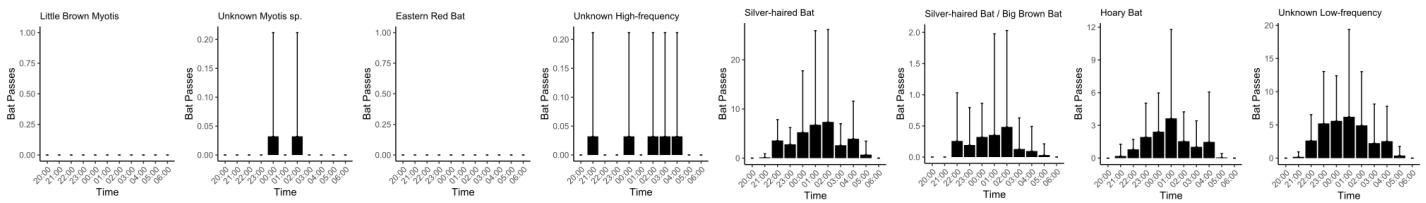
Detector: CL-DET-CBM-14 Dates: 2022-06-29 to 2022-07-31



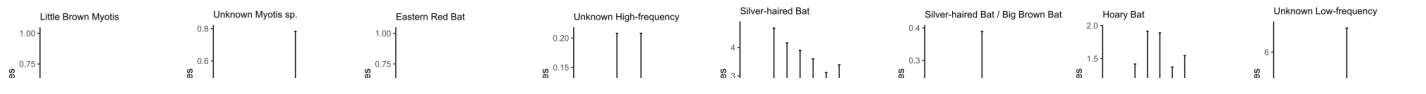
Detector: CL-DET-CBM-16 Dates: 2022-06-30 to 2022-07-31

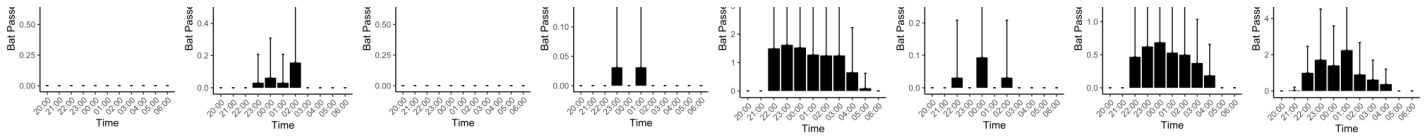


Detector: CL-DET-CBM-17 Dates: 2022-07-01 to 2022-07-31

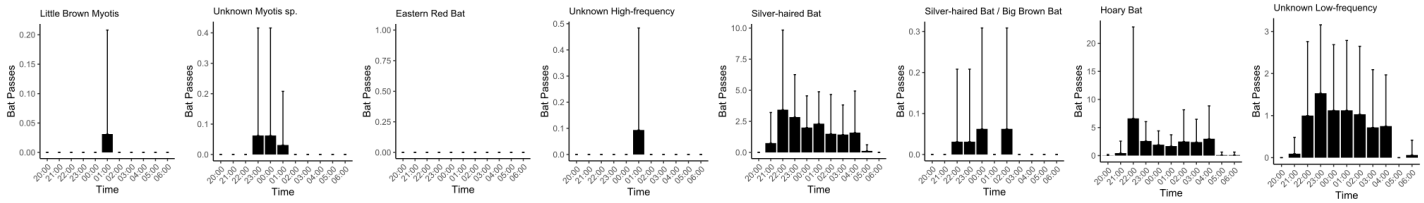


Detector: CL-DET-CBM-18 Dates: 2022-07-01 to 2022-08-01

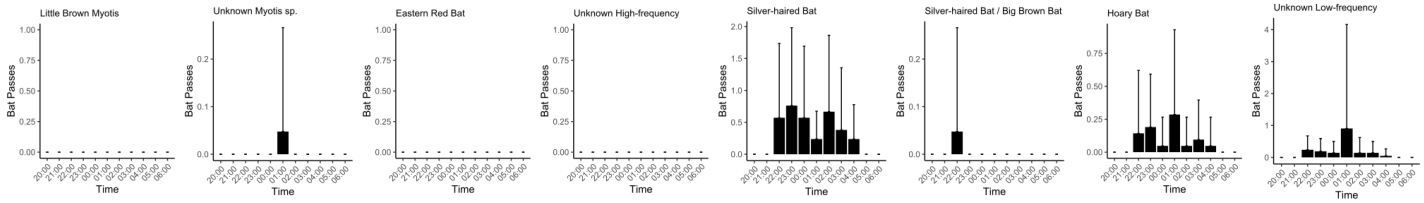




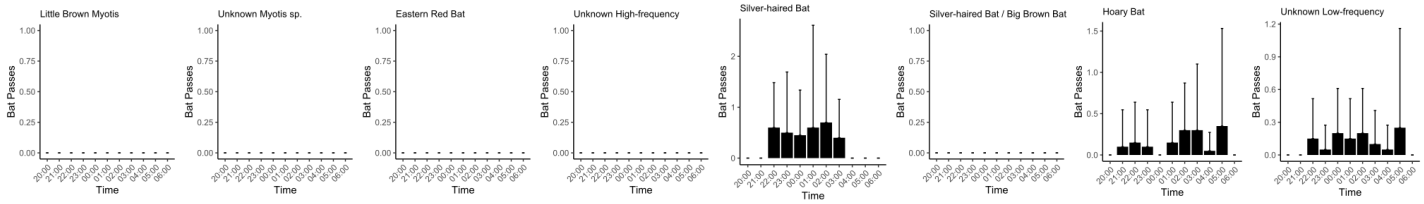
Detector: CL-DET-CBM-19 Dates: 2022-06-30 to 2022-07-31



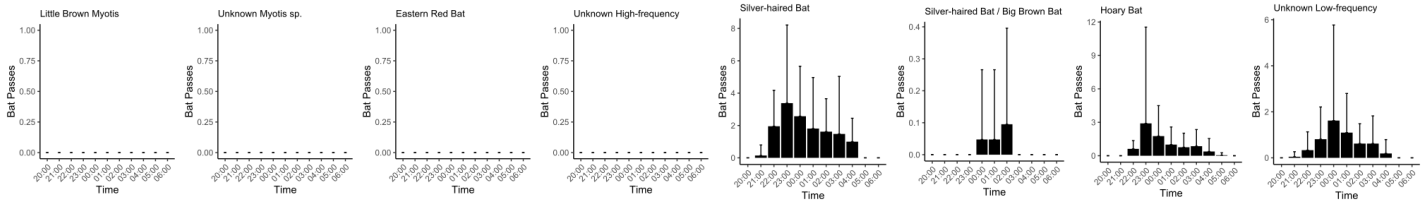
Detector: CL-DET-CBM-2 Dates: 2022-06-06 to 2022-06-26



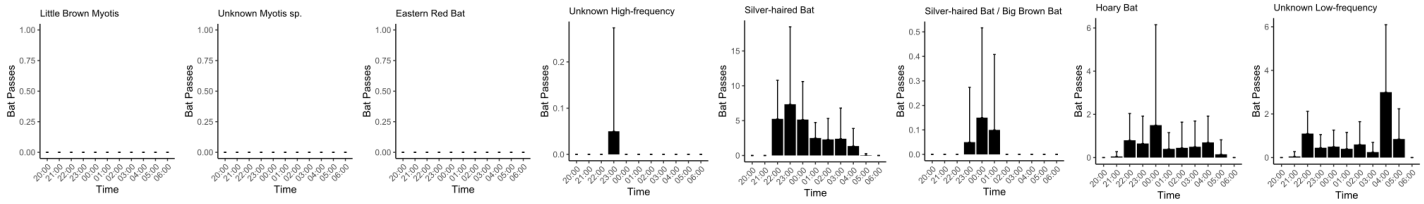
Detector: CL-DET-CBM-3 Dates: 2022-06-07 to 2022-06-26



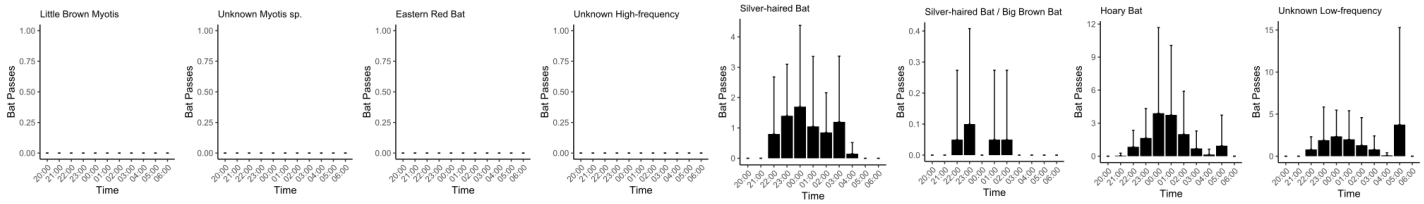
Detector: CL-DET-CBM-5 Dates: 2022-06-07 to 2022-06-27



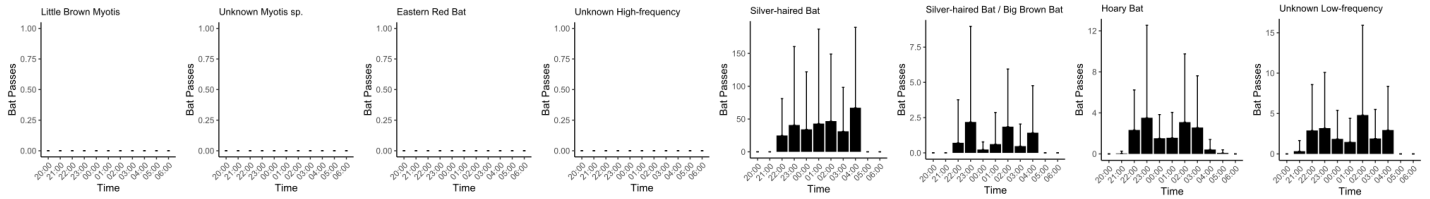
Detector: CL-DET-CBM-7 Dates: 2022-06-07 to 2022-06-26



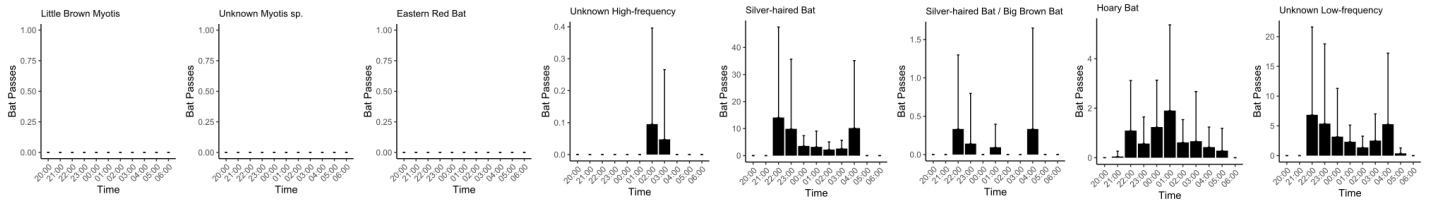
Detector: CL-DET-CBM-8 Dates: 2022-06-08 to 2022-06-27



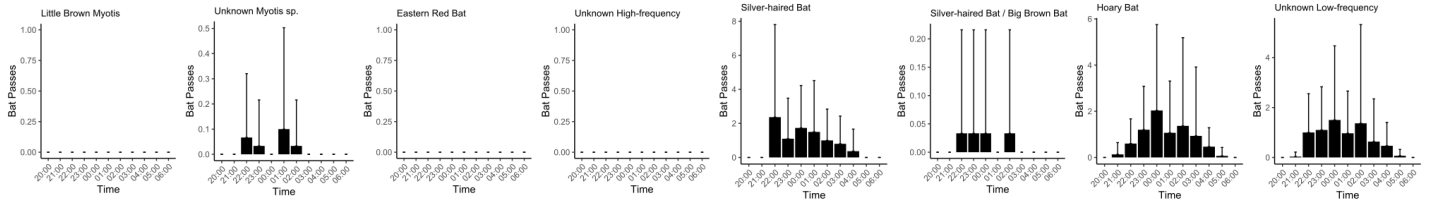
Detector: CL-DET-CBM-9 Dates: 2022-06-08 to 2022-06-28



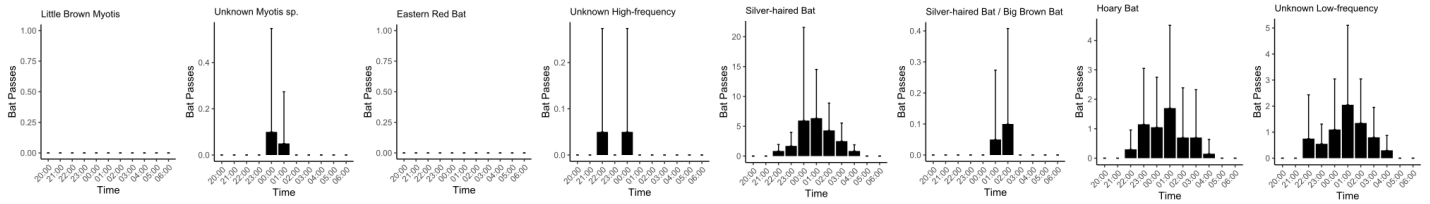
Detector: CL-DET-EXTRA-01 Dates: 2022-06-06 to 2022-06-26



Detector: CL-DET-G1-04 Dates: 2022-07-02 to 2022-07-31



Detector: CL-DET-G2-01 Dates: 2022-06-07 to 2022-06-26



Detector: Total Dates: 2022-06-06 to 2022-08-01

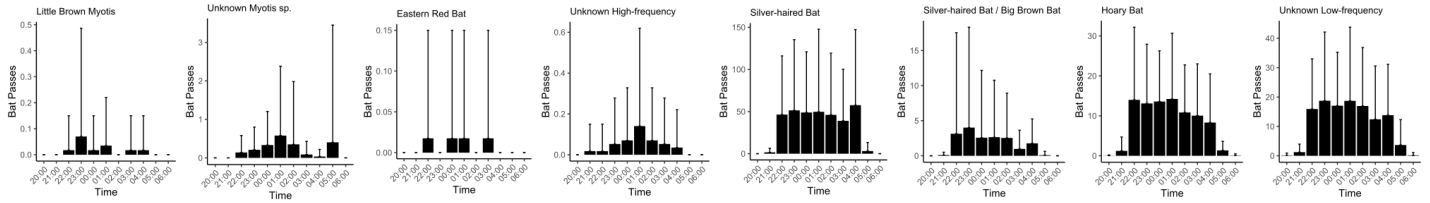
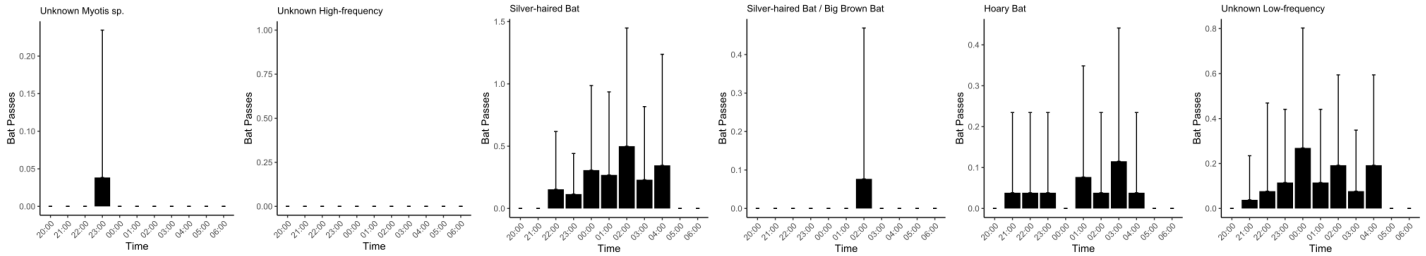
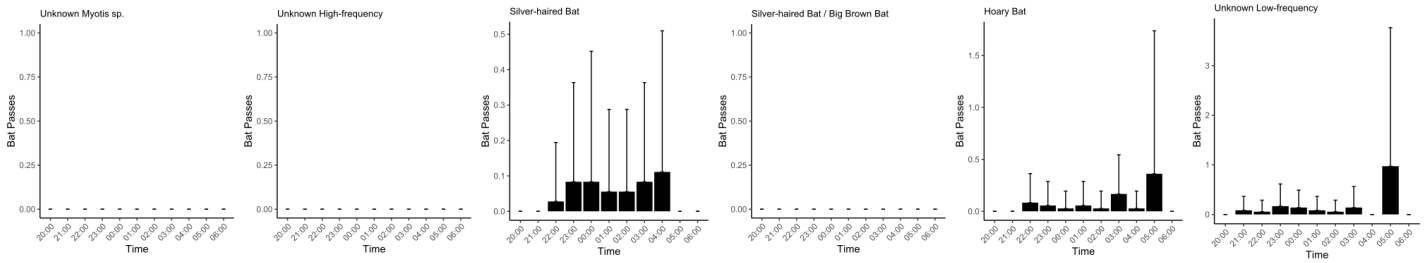


Figure B7. Average activity during each hour per species for the period of 6 June - 1 August, 2022

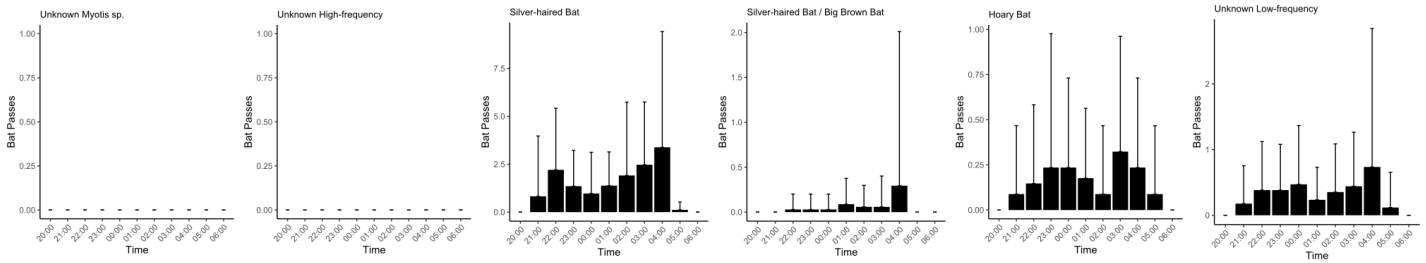
Detector: CL-DET-23-1 Dates: 2023-05-24 to 2023-06-18



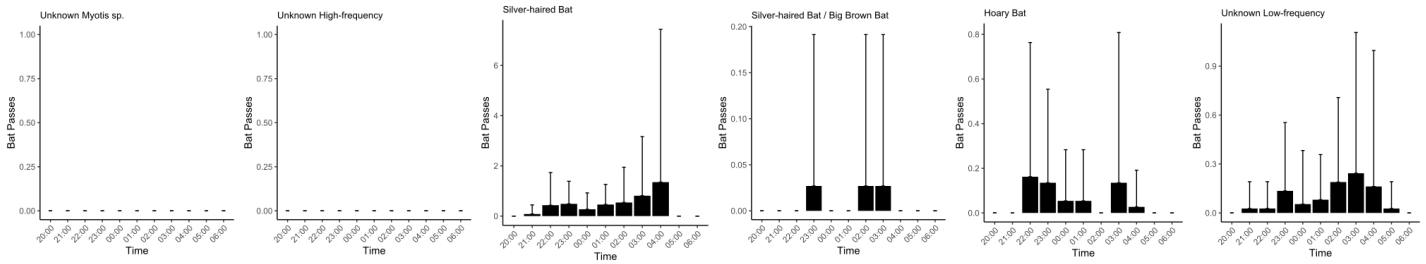
Detector: CL-DET-23-10 Dates: 2023-05-29 to 2023-07-03



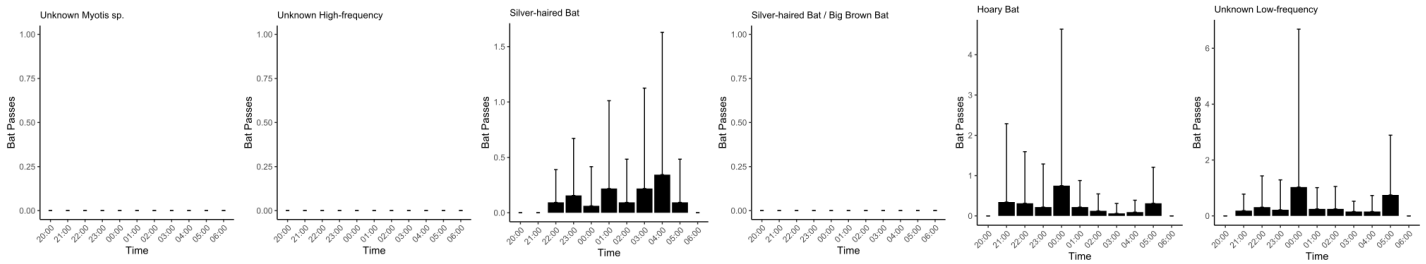
Detector: CL-DET-23-2 Dates: 2023-05-25 to 2023-06-27



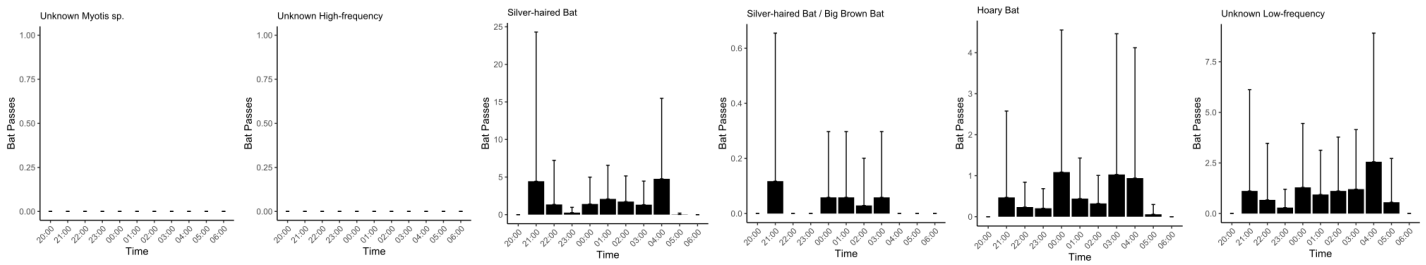
Detector: CL-DET-23-3 Dates: 2023-05-26 to 2023-07-01



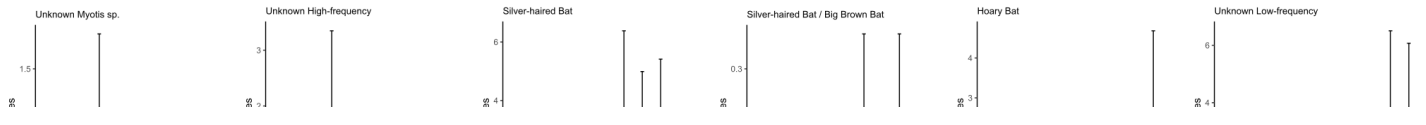
Detector: CL-DET-23-4 Dates: 2023-05-26 to 2023-06-26

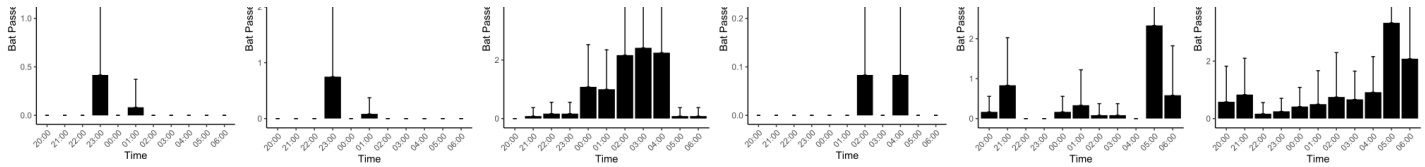


Detector: CL-DET-23-5 Dates: 2023-05-27 to 2023-06-29

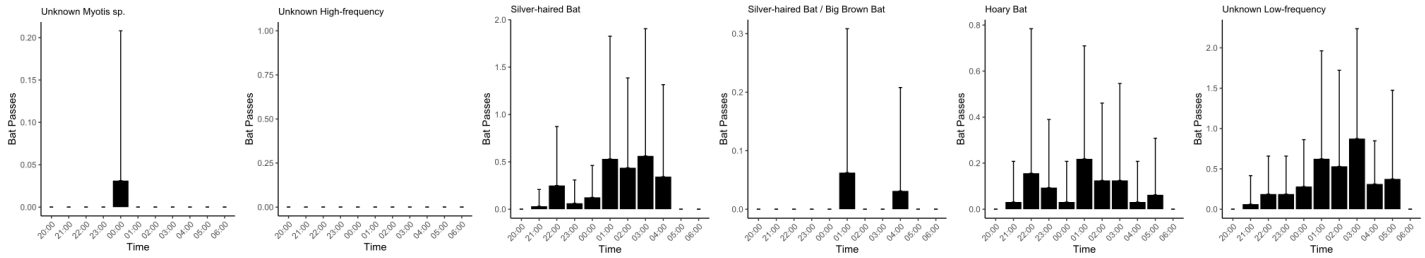


Detector: CL-DET-23-6 Dates: 2023-05-27 to 2023-06-07

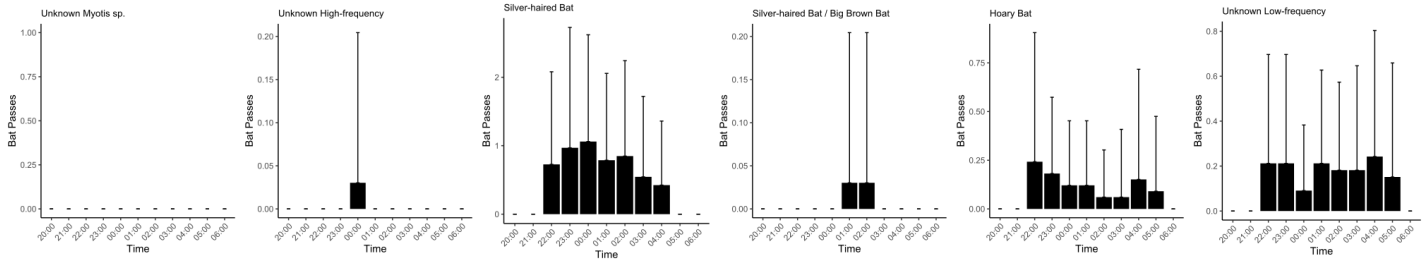




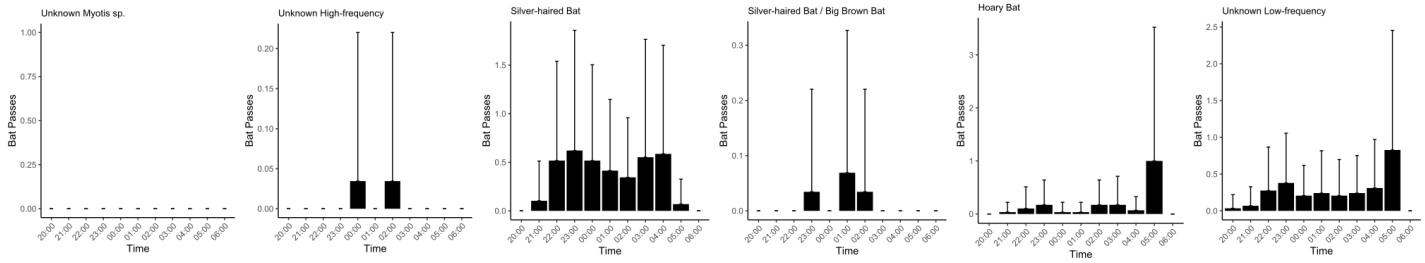
Detector: CL-DET-23-7 Dates: 2023-05-27 to 2023-06-27



Detector: CL-DET-23-8 Dates: 2023-05-29 to 2023-06-30



Detector: CL-DET-23-9 Dates: 2023-05-29 to 2023-06-26



Detector: Total Dates: 2023-05-24 to 2023-07-03

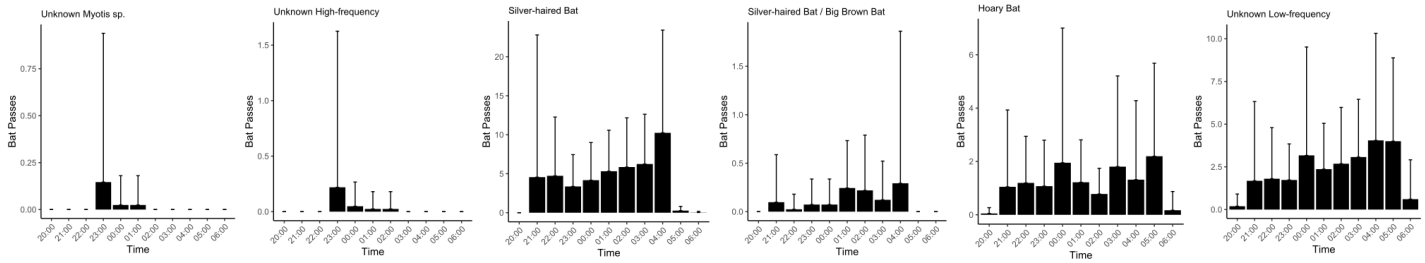


Figure B8. Average activity during each hour per species for the period of 24 May - 3 July, 2023

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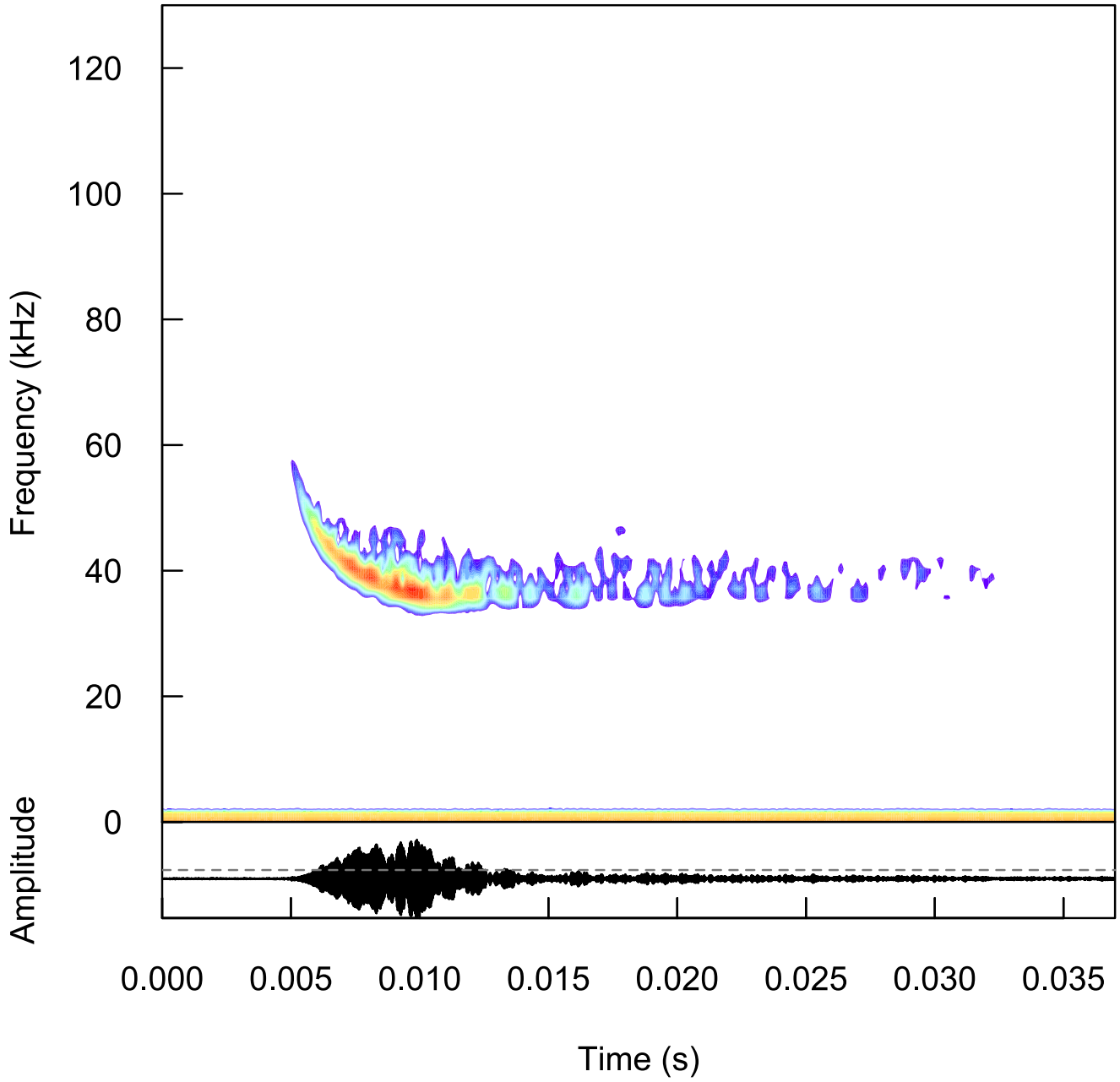


Figure B9. Sonogram of a Eastern Red Bat echolocation call recorded at CL-DET-ET-REF-2-SMU03403 on the night of July 30, 2021.

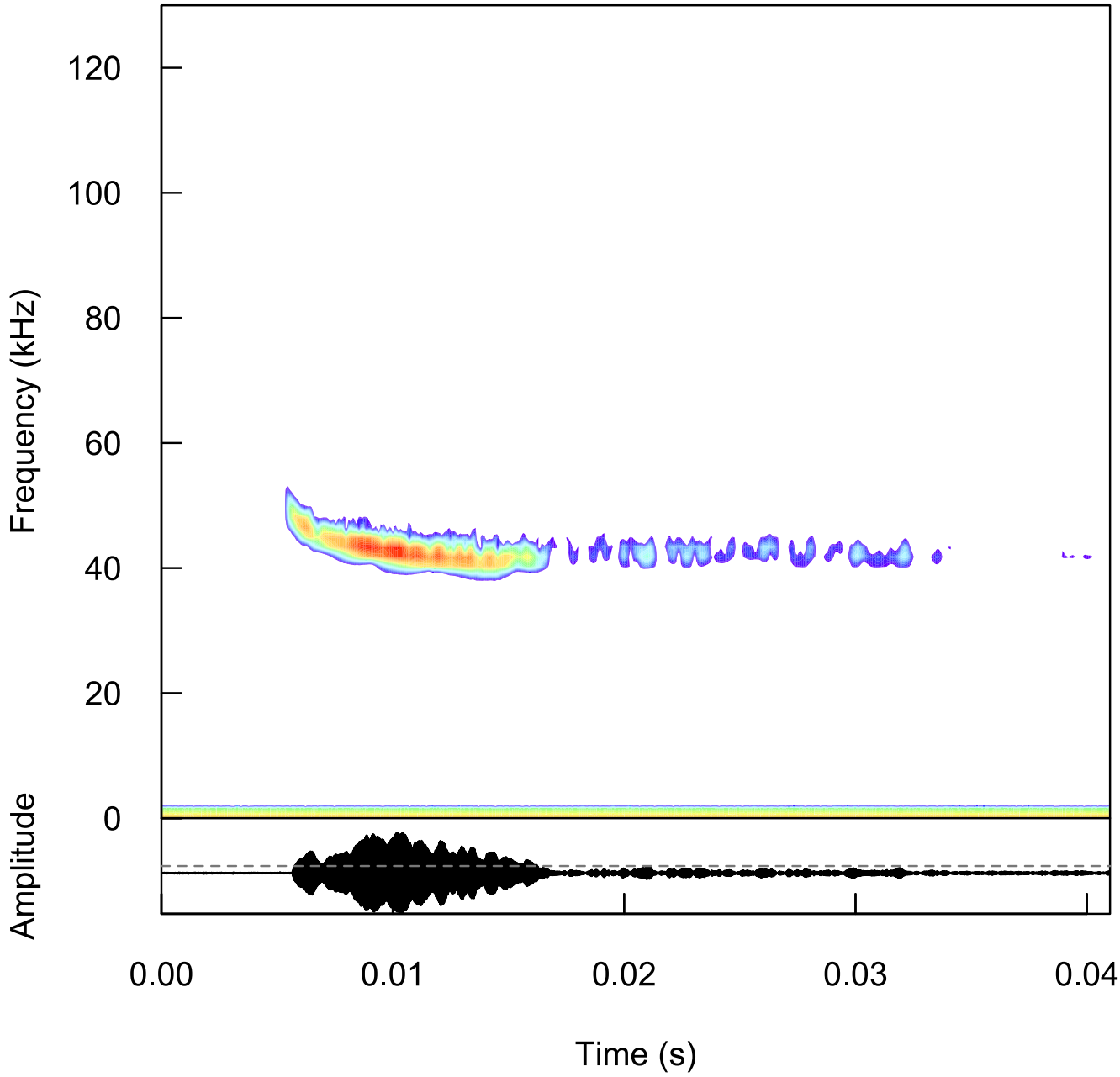


Figure B10. Sonogram of a Eastern Red Bat echolocation call recorded at CL-DET-ET-REF-2-SMU03403 on the night of August 01, 2021.

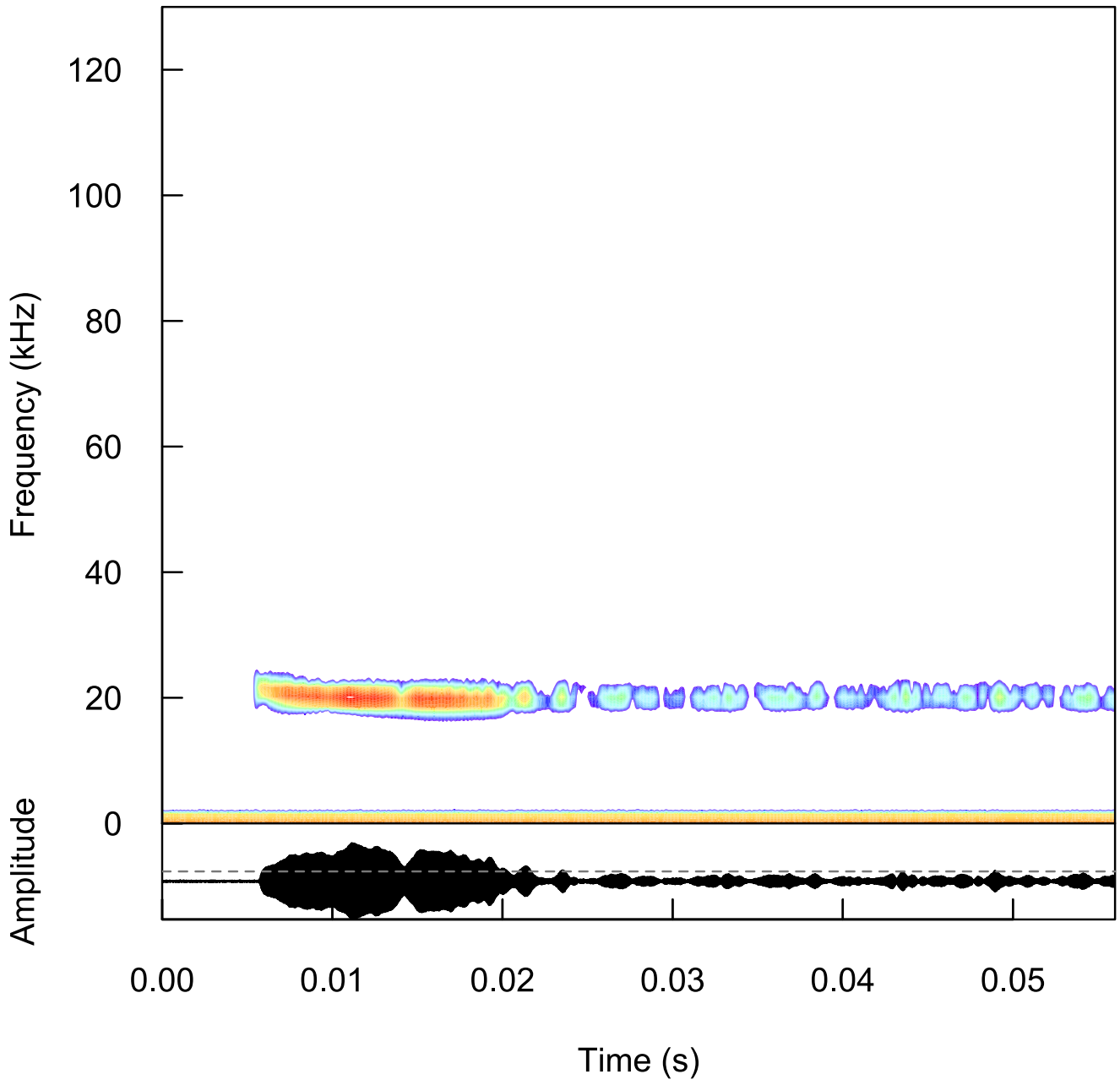


Figure B11. Sonogram of a Hoary Bat echolocation call recorded at CL-DET-ET-REF-2-SMU03403 on the night of July 17, 2021.

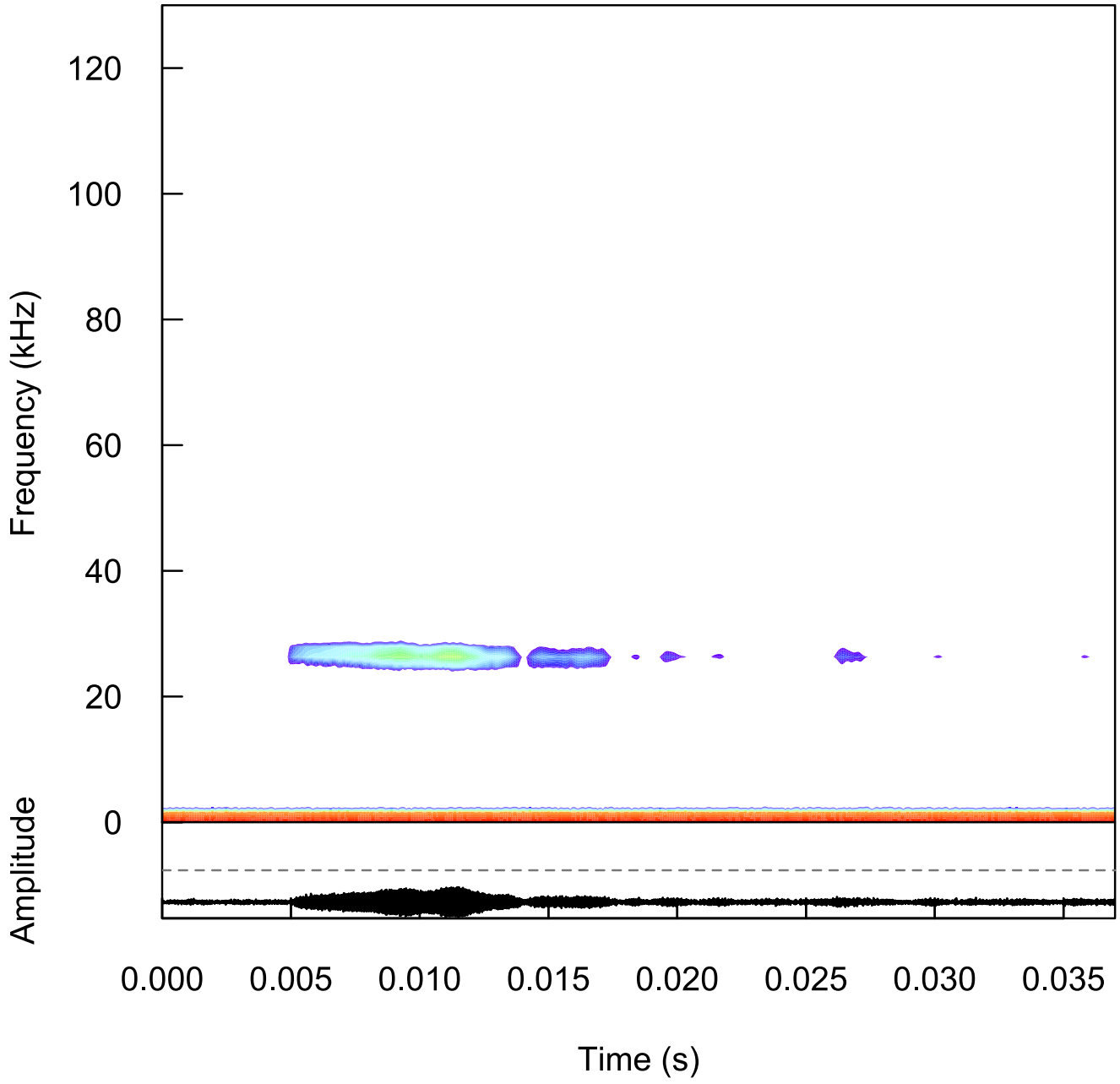


Figure B12. Sonogram of a Silver-haired Bat echolocation call recorded at CL-DET-ET-REF-2-SMU03403 on the night of July 20, 2021.

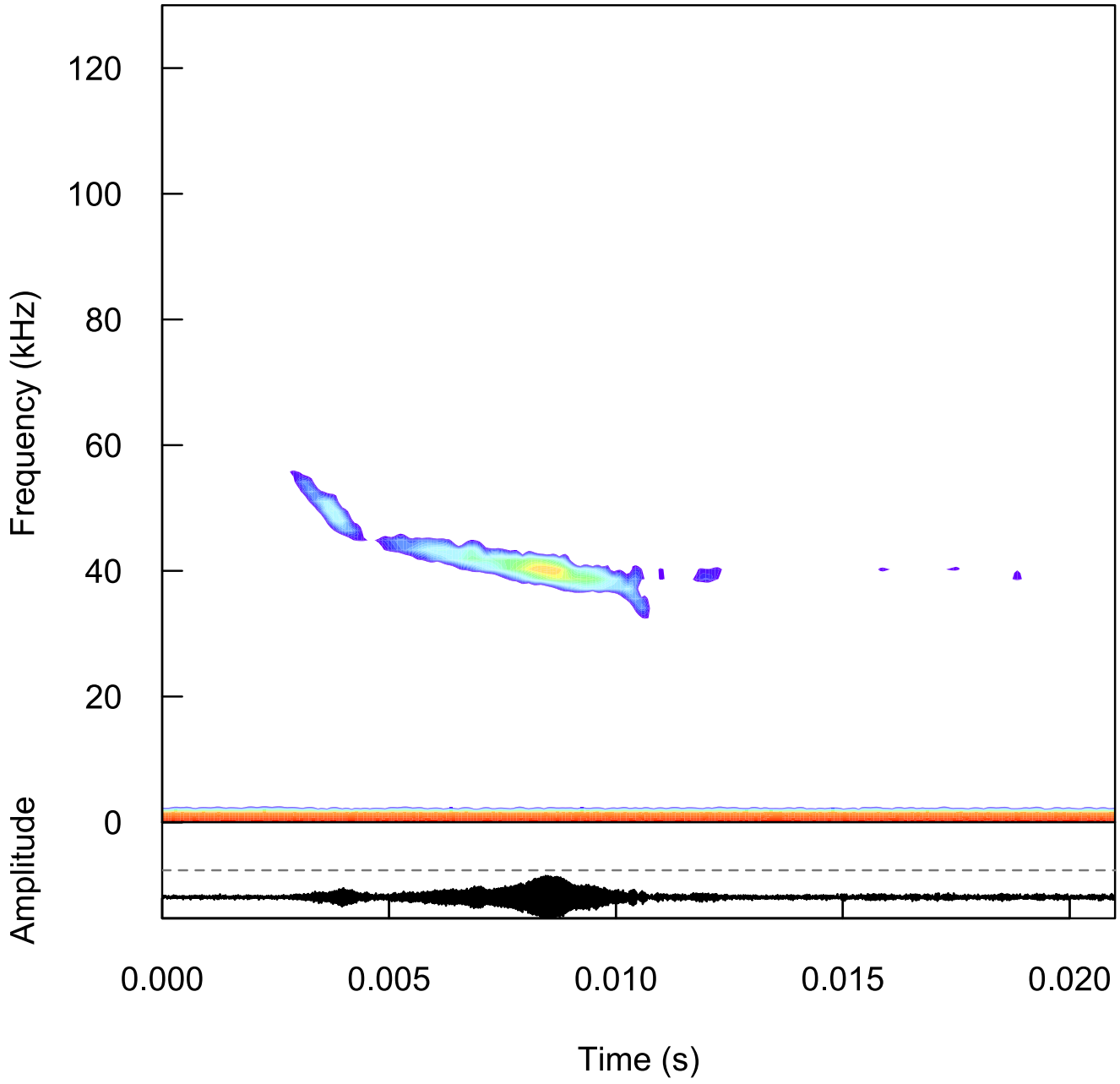


Figure B13. Sonogram of a Little Brown Myotis echolocation call recorded at CL-DET-REF-04-SMU03403 on the night of June 25, 2021.

APPENDIX C

Photograph Log

Unidentified Stick Nest, March 2021

Bald Eagle Nest, March 2021

Unidentified Stick Nest, possibly Bald Eagle, March 2021

Unidentified Stick nest, March 2021

Unidentified Stick Nest, March 2021

Unidentified Stick Nest, March 2021

Unidentified Stick Nest, March 2021

Moose, one of two animals present visible, March 2021

wsp	Crawford Lake Baseline Report REPRESENTATIVE PHOTOGRAPHS	Date: November 29, 2023 Project No: OMEMA2002 Figure No: #.1

Moose, one of two animals present visible, March 2021

Moose, March 2021

Moose, two of three animals present visible, March 2021

Two Moose, March 2021

Moose tracks, March 2021

Aerial view of site, March 2021

Aerial view of site, March 2021

Aerial view of site, March 2021

wsp

Crawford Lake Baseline Report
REPRESENTATIVE PHOTOGRAPHS

Date: November 29, 2023
Project No: OMEMA2002
Figure No: #.2

Breeding Bird Station CL-BB-G1-03 surrounding habitat, June 2021

Breeding Bird Station CL-BB-G1-09 surrounding habitat, June 2021

Breeding Bird Station CL-BB-G1-14 and CL-DET-G1-07 surrounding habitat, June 2021

Breeding Bird Station CL-BB-G1-16, surrounding habitat, June 2021

CL-BB-G1-23 surrounding habitat, June 2021

CL-BB-G1-28 surrounding habitat, June 2021

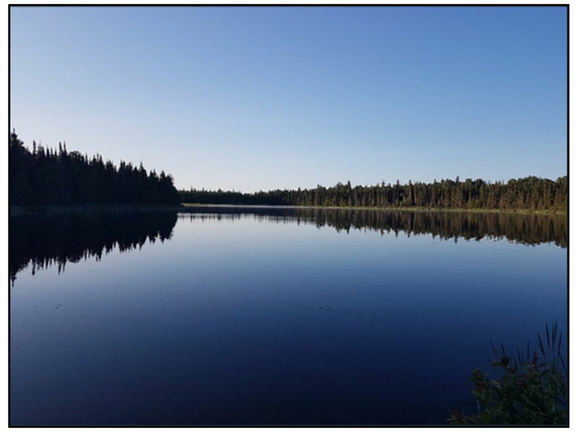
Breeding Bird Station CL-BB-G1-29 surrounding habitat, June 2021

Breeding Bird Station CL-BB-G2-01 surrounding habitat, June 2021

Breeding Bird Station CL-BB-G2-02 surrounding habitat, June 2021

Breeding Bird Station CL-BB-G2-03 surrounding habitat, June 2021

Breeding Bird Station CL-BB-G2-05 surrounding habitat, June 2021



Breeding Bird Station CL-BB-G2-09 (Duck Lake) surrounding habitat, June 2021

Breeding Bird Station CL-BB-G2-15 surrounding habitat, Summer 2021

Breeding Bird Station CL-BB-G2-17 surrounding habitat, Summer 2021

Breeding Bird Station CL-BB-G2-19 surrounding habitat, June 2021

Breeding Bird Station CL-BB-WM-G2-04 surrounding habitat, facing south, June 2021

Crawford Lake Baseline Report
REPRESENTATIVE PHOTOGRAPHS

Date: November 29, 2023
Project No: OMEMA2002
Figure No: #.4

Breeding Bird Station CL-BB-WM-G2-04 surrounding habitat, facing north, June 2021

Breeding Bird Station CL-BB-WM-G2-10 , June 2021

Breeding Bird Station CL-BB-WM-G2-10 facing west, June 2021

Breeding Bird Station CL-DET-WT-G2-02b Bird Autonomous Recording Unit Equipment Set up, June 2021

Breeding Bird Station CL-DET-WT-G2-02b, June 2021

Breeding Bird Station CL-BB-ET-G2-03, June 2021

Vegetation Type: B082 – Fresh, Clayey: Jack Pine – Black Spruce, June 2021

Vegetation Type: B101 – Fresh, Silty to Fine Loamy: Spruce – Fir Conifer, June 2021

wsp	Crawford Lake Baseline Report REPRESENTATIVE PHOTOGRAPHS	Date: November 29, 2023 Project No: OMEMA2002 Figure No: #.5

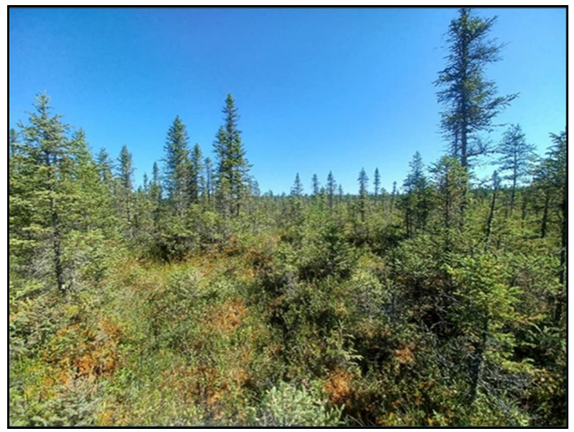
Vegetation Type: B104 – Fresh, Silty to Fine Loamy: Aspen – Birch Hardwood, August 2021

Vegetation Type: B114 – Moist, Fine: Pine Black Spruce Conifer, August 2021

Vegetation Type: B119 – Moist, Fine Aspen – Birch Hardwood, August 2021

Vegetation Type: B126 – Treed Bog, August 2021

Vegetation Type: B127 – Poor Conifer Swamp, August 2021



Vegetation Type: B128 – Intermediate Conifer Swamp, August 2021

Vegetation Type: B129 – Rich Conifer Swamp, August 2021

Vegetation Type: B135 – Organic Thicket Swamp, August 2021

wsp	Crawford Lake Baseline Report REPRESENTATIVE PHOTOGRAPHS	Date: November 29, 2023 Project No: OMEMA2002 Figure No: #.6

Vegetation Type: B136 – Sparse Treed Fen, August 2021

Vegetation Type: B139 – Poor Fen, August 2021

Vegetation Type: B140 – Open Moderately Rich Fen, August 2021

Vegetation Type: B223 – Mineral Intermediate Conifer Swamp, August 2021

Open Water down stream of the Lower Sturgeon Dam, March 2022

Moose seen during aerial mammal survey, March 2022

Moose seen during aerial mammal survey, March 2022

Potential bat hibernaculum, Rock Barren 6-8, May 2022

wsp	Crawford Lake Baseline Report REPRESENTATIVE PHOTOGRAPHS	Date: November 29, 2023 Project No: OMEMA2002 Figure No: #.7

Bat detector at potential bat hibernaculum, Rock Barren 6-8, May 2022

Potential bat hibernaculum, Rock Barren 6-9, May 2022

Gap under rock overhang at Rock Barren 6-9, May 2022

Bat detector at potential bat hibernaculum, Rock Barren 6-9, May 2022

Potential bat hibernaculum, Rock Barren 6-12, May 2022

Bat detector at potential bat hibernaculum, Rock Barren 6-12, May 2022

Void in rocks at a potential bat hibernaculum, Rock Barren 8-3, May 2022

Potential bat hibernaculum, Rock Barren 8-3, May 2022

wsp	Crawford Lake Baseline Report REPRESENTATIVE PHOTOGRAPHS	Date: November 29, 2023 Project No: OMEMA2002 Figure No: #.8

Bat detector at potential bat hibernaculum, Rock Barren 8-3, May 2022

Moose seen during travel to potential bat hibernaculum sites, May 2022

Amphibian egg mass seen during travel to potential bat hibernaculum sites, May 2022

Bog, May 2022

Ground cover of a bog ecosite, August 2022

Canopy cover of a mixed deciduous coniferous forest, August 2022

Spruce forest, August 2022

Lower Sturgeon Dam, August 2022

Crawford Lake Baseline Report
REPRESENTATIVE PHOTOGRAPHS

Date: November 29, 2023
Project No: OMEMA2002
Figure No: #.9

Conifer forest from helicopter, August 2022

Wetland meadow, August 2022

Wetland from helicopter, August 2022

Poplar forest , August 2022

Rattlesnake Plantain Orchid, August 2022

Spruce forest from helicopter, August 2022

Iris species in wetland, August 2022

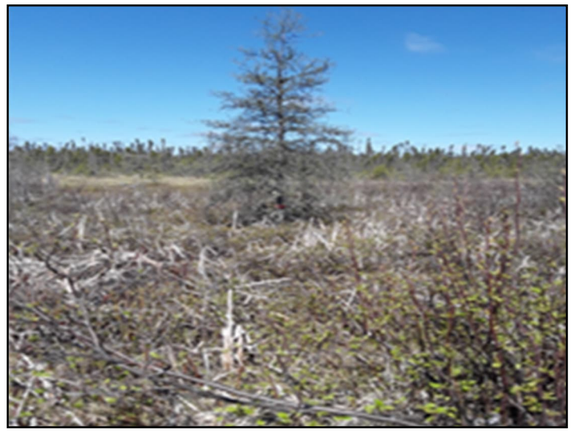
Yellow Lady Slipper Orchid, August 2022

wsp

Crawford Lake Baseline Report
REPRESENTATIVE PHOTOGRAPHS

Date: November 29, 2023
Project No: OMEMA2002
Figure No: #.10

Bat maternity roost, ARU Bat-01, May 2023



Bird Autonomous Recording Unit, LEYE-02, May 2023

Gravel road through wetland, May 2023

Cattail Marsh, May 2023

Main gate to access Canada Nickel property, May 2023

Common Gartersnake, June 2023

Greater Yellowlegs, June 2023

Yellow-bellied Sapsucker, June 2023

Crawford Lake Baseline Report
REPRESENTATIVE PHOTOGRAPHS

Date: November 29, 2023
Project No: OMEMA2002
Figure No: #.11

Eastern Cedar trees found during breeding bird surveys, June 2023

Dragon Mouth Orchid, June 2023

Bog, August 2023

Blanding's Turtle northmost location, August 2023

Prosser lake, August 2023

Bunchberry, August 2023

Lookout from Rock Barren 6, September 2023

Bulk sample area from helicopter, September 2023

wsp

Crawford Lake Baseline Report
REPRESENTATIVE PHOTOGRAPHS

Date: November 29, 2023
Project No: OMEMA2002
Figure No: #.12

Solitary Sandpiper, September 2023

Palm Warbler, September 2023

Rusty Blackbird, September 2023

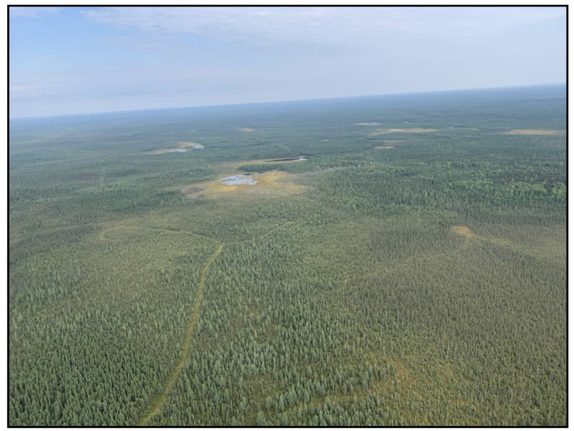
American Pipet, September 2023

Black-backed Woodpecker, September 2023

Savannah Sparrow, September 2023

Wood Duck, September 2023

Bulk sample area from helicopter, September 2023



Bulk sample area from helicopter, September 2023

Potential bat hibernaculum site, Cl-det-rock barren 8-3, September 2023

Potential bat hibernaculum site, Cl-det-rock barren 6-8, September 2023

wsp	Crawford Lake Baseline Report REPRESENTATIVE PHOTOGRAPHS	Date: November 29, 2023 Project No: OMEMA2002 Figure No: #.14

APPENDIX D

Significant Wildlife Habitat Screening

SWH Screening 3E For Crawford Lake Mine

- Confirmed: Documented through ministry mapping or other secondary sources or through fieldwork
- Candidate: Vegetation communities and indicator species documented on site through secondary sources or fieldwork but defining criteria has not been met (e.g., field surveys to confirm have not been undertaken)
- Not Present: Either vegetation communities and/or indicator species are not documented on site through secondary sources or field surveys.

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
Seasonal Concentration Areas					
Moose Late Winter Cover (Rationale: Habitat important for providing cover and minimizing snow depths allowing movement of moose in late winter.)	Moose	B036-038, B049-053, B065-068 B081-087 B098-102 B114-117 More common on deeper soils with dense conifer cover and vegetation in the understory for browse.	• Late winter moose habitat is characterized by dense conifer cover with greater than 60% canopy closure and >6m in height. Upland sites are preferred. • Snow depth in excess of 70cm restrict moose movement during winter, however late winter thermal refuge is important in relieving heat stress. • These habitats are extensively used by moose during late spring and summer due to the shade provided. • Conifer stands >50ha, dominated by tall trees >6m, on gentle to moderately rugged sites with deep soils. Areas identified as rating 3 or 4 cxcv for late winter moose habitat are Candidate SWH. Information Sources • OMNRF Forester, Ecologist or Biologist may be aware of locations. • The Selected Wildlife and habitat Inventory Manual (1998) outlines the inventory method for Late Winter Moose Habitat.	Field Studies will confirm the use of these areas as late winter habitat by moose during the months of March and April. Moose are very difficult to observe in late winter habitat, therefore any number of moose observed, or moose tracks and trails observed in the habitat confirm this habitat as a SWH. The area of the SWH is the area of treed ecosites associated with the winter cover area plus 300 m surrounding the site.	Confirmed – Aerial surveys found Moose, and Moose tracks Figure 5-2a show Moose Late Winter Cover and a buffer. Ecosites present in the Study Area include B049, B050, B052, B065, B067, B082, B083, B085, B098, B099, B100, B101, B102, B114, B115, B116, and B117.
Waterfowl Stopover and Staging Areas (Terrestrial) (Rationale: Habitat important to migrating waterfowl).	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	Focus on sites that have appropriate vegetation and highest likelihood of seasonal water accumulation B060-062 B077-079 B093-095 B109-111 Plus, evidence of annual spring flooding from melt	Fields with sheet water during Spring (mid-March to May). • Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. • Flood plains (flooded riverbanks) • Cultivated fields with waste grains are commonly used by waterfowl, these are not considered SWH. Information Sources	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bat Habitats: Guidelines for Wind Power Projects” • Any mixed species aggregations of 100 or more individuals required • The flooded field ecosite habitat plus a 100-300m radius, dependent on local	Not Present – Ecosite B093 is present in the Study Area. Field investigations found American Black Duck, American Wigeon, Gadwall, Green-winged Teal, Mallard, and Wood Duck. Although indicator species and ecosites are present within the Study Area, multi-year field studies have not found any locations with

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
		water or run-off within identified Ecosites.	• Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. • EIS Reports • Sites documented through waterfowl planning processes (e.g., EHJV implementation plan) • Naturalist Clubs • Ducks Unlimited Canada • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area • eBird Canada http://ebird.org/content/canada/	site conditions and adjacent land use is the significant wildlife habitat • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates) • SWH MIST Index #7 provides development effects and mitigation measures.	congregations nearing the defining criteria to consider this Candidate SWH.
Waterfowl Stopover and Staging Areas (Aquatic) (Rationale: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.)	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Tundra Swan Trumpeter Swan	B142-152	• Ponds, marshes, lakes, bays, coastal inlets and watercourses used during migration. • Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). Information Sources • OMNRF District staff. • Canadian Wildlife Service staff may know the larger, most significant sites. Check website: http://wildspace.ec.gc.ca • Naturalist clubs often are aware of staging/stopover areas. • OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. • Sites documented through waterfowl planning processes (e.g., EHJV implementation plan) • Ducks Unlimited projects • Element occurrence specification on Nature Serve Explorer: http://www.natureserve.org • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area • eBird Canada http://ebird.org/content/2anada/	Studies carried out and verified presence of: • Aggregations of 100 or more of listed species for 7 days, results in >700 waterfowl use days • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH • The combined area of the ELC ecosites and a 100m radius area is the SWH • Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat. • Evaluation methods to follow “Bird and Bat Habitats: Guidelines for Wind Power Projects” • Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). • SWH MIST Index #7 provides development effects and mitigation measures.	Not Present – Ecosite types B142, B144, and B146 are present in the Study Area. Field investigations found American Black Duck, American Wigeon, Canada Goose, Common Goldeneye, Common Merganser, Gadwall, Green-winged Teal, Hooded Merganser, Ring-necked Duck, and Redhead. Criteria were not met to confirm SWH. Although indicator species and ecosites are present within the Study Area, multi-year field studies have not found any locations with congregations nearing the defining criteria to consider this Candidate SWH.
Shorebird Migratory Stopover Area	Greater Yellowlegs Lesser Yellowlegs	B005-006 B160-162	• Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally	Studies confirming: • Presence of 3 or more of	Not Present – FRI has records of B005 in the Study

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
(Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.)	Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Wilson's Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin Wilson's Snipe	B170-172 B176-178 B186-188 B204 B207	flooded, muddy and un-vegetated shoreline habitats. • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. • Storm water retention ponds and sewage lagoons are not considered SWH. Information Sources • Western hemisphere shorebird reserve network. • Canadian Wildlife Service (CWS) Ontario Shorebird Survey. • Bird Studies Canada • Ontario Nature • Local birders and naturalist clubs. • Temiskaming Birds: http://timbirds.info/ • NHIC Shorebird Migratory Concentration Area • eBird Canada http://ebird.org/content/canada/	listed species and > 1000 shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) • Sites used for multiple years are more significant. • The area of significant shorebird habitat includes the mapped ELC ecosites plus a 100m radius area. • Evaluation methods to follow "Bird and Bat Habitats: Guidelines for Wind Power Projects". •SWHMiST Index #8 provides development effects and mitigation measures.	Area. Several indicator wildlife species including Greater Yellowlegs, Solitary Sandpiper, and Spotted Sandpiper, were observed during the migratory bird season. Lesser Yellowlegs, another indicator species, was observed in the Study Area during the breeding bird season. Secondary Sources found Greater Yellowlegs, Spotted Sandpiper, Solitary Sandpiper, and Wilson's Snipe. The criteria of the ELC type and number of shorebird use days was not met and SWH could not be confirmed. Although indicator species and ecosites are present within the Study Area, multi-year field studies have not found any locations with congregations nearing the defining criteria to consider this Candidate SWH.
Bat Hibernacula (Rationale: Bat hibernacula are rare habitats in all Ontario landscapes.)	Big Brown Bat Tri-colored Bat	Hibernacula may be found in abandoned caves, mine shafts, underground foundations (Karsts) and these ecosites: B158-159 B164-165 B174-175 B180-181 Caves and mine shafts are the important features. Commonly associated as components of either Cliff or Rock Barren ecosites. Once feature is identified the substrate classification	• Hibernacula may be found in abandoned caves, mine shafts, underground foundations and karsts. • The locations and site characteristics of bat hibernacula are relatively poorly known. • Primary criteria is identification of known feature. • Buildings or active mine sites are not considered to be SWH). Information Sources • OMNRF for possible locations and contact for local experts • NHIC Bat Hibernaculum/Nursery. • Ministry of Northern Development and Mines and NRVIS for location of mine shafts and mine locations.	• All sites with confirmed hibernating bats are SWH Symbol of the letter E within a circle Symbol of the letter E within a circle • The area includes 1000m radius around the entrance of the hibernaculum. • Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects"	Candidate – Abandoned mine shafts are present but were not investigated as they were on private property without access. Candidate cliffs and rock barrens were investigated in the Bat hibernacula habitat surveys. ARUs set up at candidate bat hibernacula did not have evidence to confirm bats using the areas as hibernacula. Ecosite type B164 occurs, but swarming surveys were not completed at cliff sites. During detector investigations some passes that could be identified to

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
		can be used to identify characteristics and potential/suitability of identified or suspected hibernacula.	• Clubs that explore caves (e.g., Caving Canada (http://www.cancaver.ca/) Sierra Club) • University Biology Departments with bat experts.	• SWHMiST Index #1 provides development effects and mitigation measures.	being Silver-haired or Big-Brown Bat were found. Silver-haired Bats are confirmed in the Study Area. No Tri-colored Bats were noted.
Bat Maternity Colonies (Rationale: Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.)	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH Maternity colonies considered SWH are found in treed Ecosites. B015-019 B023-028 B039-043 B054-059 B069-076 B087-092 B103-108 B118-125 Aspen is an important feature in Ecoregion 3E, primarily the presence of larger diameter trees in older mixed-wood stands.	• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). • Maternity roosts are not found in caves and mines in Ontario • Maternity colonies located in Mature (dominant trees > 80yrs old) deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees. • Female Bats prefer wildlife trees (snags) of decay class 1 or 2 class 2-4, can be living or with bark mostly intact. • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred. Information Sources • OMNRF for possible locations and contact for local experts • University Biology Departments with bat experts.	• All Maternity Colonies are considered SWH • The area of the habitat includes the entire woodland or the forest stand ELC Ecosite or an Ecoelement containing the maternity colony. • Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bird and Bat Habitats: Guidelines for Wind Power Projects” • SWHMiST Index #12 provides development effects and mitigation measures.	Candidate – Ecosites meeting the dominant trees >80 years old criteria are presented on Figure 5-2c. Bat habitat surveys (snag surveys) were completed and found an average snag density of 56.6 trees per hectare. This indicates that nearly all deciduous or mixed forest in the Study Area have sufficient cavities to support bat maternity roosts. Silver-haired bat was by far the most common. No passes could be confirmed as Big Brown Bat. Many calls could only be identified as Silver-haired Bat or Big Brown Bat. Silver-haired Bats are confirmed in the Study Area.
Turtle Wintering Areas (Rationale: Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.)	Painted Turtle Special Concern: Snapping Turtle	B128-142 B145-152	• For most turtles, wintering areas are in the same general areas as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands and bots or fens with adequate Dissolved Oxygen. • Year-round persistence of standing or flowing water to depth, or presence of springs to prevent freezing is key. • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. Information Sources • Reports and other information available from CAs.	• Presence of one or more over-wintering Painted Turtles is significant. • One or more Snapping Turtle over-wintering within a wetland is significant. • The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH. • Over wintering areas may be identified by searching for congregations (Basking	Candidate – Candidate ecosite types in the Study Area include: B128, B129, B133, B134, B135, B136, B137, B138, B139, B140, B142, and B146. Turtle basking surveys were completed during migratory waterfowl surveys and did not find any turtles. No turtles were reported by field investigations. Snapping Turtle also occurs in the Study Area because there is a record from Ontario Reptile and Amphibian Atlas (2023).

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
			• Local naturalists and experts, as well as university herpetologists may also know where to find some of these sites. • OMNRF ecologist or biologist may be aware of locations of wintering turtles • NHIC, Ontario Herpetofaunal Summary Atlas, Ontario Herpetofaunal Atlas.	Areas) of turtles on warm, sunny days during the fall (Aug. – Sept.) or spring (Apr. - May). Congregation of turtles is more common where wintering areas are limited and therefore significant. • SWHMiST cxlix Index #28 provides development effects and mitigation measures for turtle wintering habitat.	
Reptile Hibernaculum (Rationale: Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.)	Snakes: Eastern Gartersnake Smooth Green Snake Northern Ringneck Snake Northern Redbelly Snake	For all snakes, habitat may be found in any forested ecosite in northern Ontario. Talus, rock barren, crevice and caves are more typically related to these habitats. Many suitable conditions also observed in the very shallow ecosites particularly on fractured bedrock and lower veg cover Open and Sparse Tall/Low Treed or Shrub Systems. B008-028 B128-139 B158-159 B164-165 B167-172 B174-175 B180-181 B183-188	• For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line • Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. • Observation of congregating snakes on sunny warm days in the spring or fall is a good indicator. The existence of rock piles or slopes, stone fences, and crumbling foundations. Information Sources • In spring, local residents or landowners have observed the emergence of snakes on their property (e.g., old dug wells). • Reports and other information available from CAs. • Local naturalists and experts, as well as university herpetologists may also know where to find some of these sites. • OMNRF ecologist or biologist. • NHIC.	Studies confirming: •Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. •Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (*e.g.,* foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct) •NOTE: Sites for hibernation possess specific habitat parameters (*e.g.,* temperature, humidity, *etc.*) and consequently are used annually, often by many of the same individuals of a local population. Other critical life processes (e.g., mating) often take place in close proximity to hibernacula. As such, the feature in which the hibernacula is located plus a 30 m radius buffer is the SWH.	Candidate– Eastern Gartersnake was incidentally observed in the Study Area while Biologists were around rocky slopes and rock barrens during the candidate bat hibernaculum evaluations in Spring 2022. Targeted field surveys for congregations did not occur. No snake congregations were found. Candidate ecosites within the Study Area include: B012, B024, B128, B129, B133, B134, B135, B136, B137, B138, B139, and B164. Candidate ecosite B164 along Lower Sturgeon Dam were assessed as not being Rock Barren.

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
				• SWHMiST Index #13 provides development effects and mitigation measures for snake hibernacula.	
Colonially Nesting Bird Breeding Habitat: Cliff (Rationale: Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow populations are declining in Ontario.)	Cliff Swallow	Cliff faces, bridge abutments, silos, barns (Cliff Swallows). Habitat may be found in, but not limited to the following ecosites: B001-004 B157-159 B173-175	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation. INFORMATION SOURCES • Reports and other information available from Conservation Authorities • Ontario Breeding Bird Atlas • Bird Studies Canada; http://www.birdscanada.org/birdmon • Field Naturalist Clubs. • eBird Canada http://ebird.org/content/canada/	Studies confirming: • Presence of 1 or more nesting sites with 8 or more cliff swallow pairs during the breeding season. • A colony identified as SWH will include a 50m radius habitat area from the peripheral nests. • Field surveys to observe and count swallow nests are to be completed during the breeding season (May-July). Evaluation methods to follow "Bird and Bat Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #4 provides development effects and mitigation measures.	Not Present – Breeding bird surveys did not find the indicator species. Background sources did not find the indicator species. No candidate ecosites present.
Colonially Nesting Bird Breeding Habitat: Tree/Shrubs (Rationale: Large colonies are important to local bird populations, typically sites are only known colony in area and are used annually.)	Great Blue Heron Bonaparte's Gull Double-crested Cormorant	May include a wide variety of tall treed ecosites. Habitat selection based on close proximity to water body or on island: B045-059 B064-076 B081-092 B097-108 B113-137 B161-162 B177-178	• Great Blue Herons nest in live or dead standing trees in wetlands, lakeshores, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree. • Bonaparte's Gulls nest in coniferous trees (preferably spruce-fir) near fens, bogs, swamps, ponds or lakes. • Double-crested Cormorants prefer to nest in trees but will nest on the ground as well where trees are limited or have died and fallen (OBBA). Information Sources • Ontario Breeding Bird Atlas, colonial nest records. • Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF).	Studies confirming: • Presence of 4 or more active nests of Great Blue Heron or 10 or more nests of Bonaparte's Gull. • For Great Blue Heron: the edge of the colony and a minimum 300m radius area of habitat or extent of the ELC ecosite containing the colony or any island <15.0ha with a colony is the SWH. • For Bonaparte's Gull: the edge of the colony and a minimum 150m radius area of habitat surrounding the colony is the SWH. • For Double-crested Cormorants: OMNRF District offices will identify	Candidate – Candidate ecosite types B049, B050, B052, B055, B065, B067, B070, B082, B083, B085, B088, B098, B099, B100, B101, B102, B104, B114, B115, B116, B117, B119, B126, B127, B128, B129, B133, B134, B135, B136, and B137 occur in the Study Area. WSP field investigations and ARUs found Great Blue-Heron and Bonaparte's Gull. Secondary sources also had documented Great Blue-Heron and Bonaparte's Gull. No active colonies were observed, and SWH was not confirmed.

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
			• NHIC Mixed Wader Nesting Colony • Aerial photographs can help identify large heronries. • Reports and other information available from CAs • OMNRF District Offices. • Local naturalist clubs. • NRVIS • eBird Canada http://ebird.org/content/canada/	significance of colony and mitigation measures. • Confirmation of active colonies must be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh whitewash, dead young and/or eggshells • SWHMiST Index #5 provides development effects and mitigation measures.	
Colonially Nesting Bird Breeding Habitat: Ground (Rationale: Colonies are important to local bird populations, typically sites are only known colony in area and are used annually.)	Herring Gull Ring-billed Gull Common Tern Double-crested Cormorant Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). B160-165 B169-172 B176-181 B185-188 Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) B008 B020-021 B030-031 B045-046 B061-062 B078-079 B094-095 B110-111 B142-144	• Nesting colonies of gulls and terns are on islands or peninsulas (natural or artificial) associated with open water or in marshy areas, lakes or large rivers (two-lined on a 1:50,000 NTS map). • Brewers Blackbird colonies are found loosely on the ground or in low bushes in close proximity to streams and irrigation ditches within farmlands. • Double-crested Cormorants prefer to nest in trees but will nest on the ground as well where trees are limited or have died and fallen (OBBA). Information Sources • Ontario Breeding Bird Atlas, rare/colonial species records. • Canadian Wildlife Service • Reports and other information available from CAs • OMNRF District Offices. • Local naturalist clubs. • NHIC Colonial Waterbird Nesting Area • eBird Canada http://ebird.org/content/canada/	Studies confirming: • Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern • Presence of 5 or more pairs for Brewer's Blackbird • The edge of the colony and a minimum 150m area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH • For Double-crested Cormorants: OMNRF District offices will identify significance of colony and mitigation measures. • Studies should be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bat Habitats: Guidelines for Wind Power Projects" • SWHMiST Index #6 provides development effects and mitigation measures.	Candidate – Herring Gull was reported to breed in the Study Area from the OBBA. Candidate ecosite types within the Study Area include B142, and B144. Herring Gull was documented during a migratory bird survey at station CRMB-21 on 13 September 2023. Candidate ecosite type B164 along Lower Sturgeon Dam was assessed as not being Rock Barren and is thus not considered candidate in this context.
Rare Vegetation Communities or Specialized Habitat for Wildlife					
Rare Vegetation Communities					

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
Cliffs and Talus Slopes (Rationale: Uncommon to rare in Ecoregion 3E.)	Characteristic plant species of cliffs in 3E may include: *Polypodium virginianum, Woodsia ilvensis, Cystopteris fragilis, Danthonia spicata, Dechampsia flexuosa, Aquilegia Canadensis, Sibbaldiopsis tridentate, Selaginella rupestris, Cladina rangiferina, Cladina mitis, Vaccinium angustifolium, Arctostaphylus uva-ursi, Diervilla lonicera, Betula papyrifera* Characteristic plant species of talus in 3E may include: *Polypodium virginanum, Agrostis scabra, Aralis hispida, Woodisa ilvensis, Aralia nudicaulis, Cladina rangiferina, Cladina mitis, Diervilla lonicera, Alnus viridis ssp. crispa, Prunus pensylvanica, Betula papyrifera, Populus tremuloides*	Cliffs: B157-159 B173-175 B201-203 Vertical consolidate bedrock communities with a minimum height of 3 m and a slope of >60° or 173%. They have limited plant growth and species diversification. Ground cover dominated by lichen and bryophytes. Plant communities are tolerant of environmental extremes, well adapted to desiccation, rapid fluctuations in temperature, and low availability of nutrients. Talus: B166-168 B182-184 Rock accumulations at the base of cliffs, or former cobble beaches left behind after lake levels drop. These have a skeletal soil structure and can have organic accumulations between the rocks. Lichen cover usually extensive. Trees and shrubs are stunted. Herbs and graminoids limited to patches of organic or mineral soil accumulations.	• OMNRF Forester, Ecologist or Biologist maybe aware of locations. • Noble 1982. • NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer). • Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp). • Banton et al. 2009. • Forest Resources Inventory (FRI). • Aerial photographs. • ANSI Site District and Inventory reports. • Significant Wildlife Habitat Technical Guide (OMNRF 2000). • Topographical maps of area. • Soil survey reports and Northern Ontario Engineering Geology Terrain Study mapping (NOEGTS). • Local naturalists. • High cliffs (>40 m) can be queried from Digital Elevation Models. • Conservation Authority.	All cliff and talus slope ecosites are considered significant. The cliff or talus slope ecosite area is the SWH. • SWHMiST cxlix Index #21 provides development effects and mitigation measures.	Not Present – No cliffs observed from ELC surveys, aerial surveys, or background sources. No candidate ecosites were included in FRI data.
Rare Treed Type: Red and White Pine Stands (Rationale: Uncommon to rare in central and northern areas of Ecoregion 3E – they amount to less than		B011 B015 B023 B027 B033 B039	• OMNRF Forester, Ecologist or Biologist may be aware of locations. • NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer). • Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp). • Banton et al. 2009.	Stands should have > 10% absolute cover or > 35% relative cover of white and/or red pine. The red and white pine ecosite is the SWH. • SWHMiST	Not Present – No appropriate ecosites found through ELC surveys and background sources.

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
1% of the total forest.)		B048 B054 B064 B069 B081 B087 B097 B103 B113 B118 Red and White Pine stands attain their northern limit near the northern margin of the Clay Belt. They occur as sporadic, small stands and are generally found on dry, often exposed, and rocky sites. However, these conditions can vary.	• Forest Resource Inventory (FRI). • Noble 1982. • Crins et al. 2009. • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations.	cxlix Index #37 provides direction for rare species and habitats.	
Rare Treed Type: Black Ash (Rationale; Uncommon to rare in central and northern areas of Ecoregion 3E.)		B019 B028 B056 B059 B071 B076 B089 B092 B105 B108 B120 B125 Black Ash stands are found within low lying, predominantly alluvial material throughout the Clay Belt.	OMNRF Forester, Ecologist or Biologist may be aware of locations. • Noble 1982. • NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer). • Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp). • Banton et al. 2009. • Forest Resource Inventory (FRI) – but may be under reported, especially along rivers. • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Conservation Authority.	Stands should have > 10% absolute cover or > 35% relative cover of Black Ash. The black ash ecosite is the SWH. • SWHMiST Index #37 provides direction for rare species and habitats.	Not Present – Two colonies of Black Ash were found in non-candidate ecosite type B115. The amount of Black Ash in this Ecosite is not high enough to meet the defining criteria. FRI mapping and ELC surveys did not find the required ecosites.

Appendix D: Significant Wildlife Habitat (SWH) Screening

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
Rare Treed Type: Elm (Rationale; Uncommon to rare in central and northern areas of Ecoregion 3E.)		B019 B043 B056 B059 B071 B076 B089 B092 B105 B108 B120 B125 Elm stands are found within low lying, predominantly alluvial material throughout the Clay Belt.	• OMNRF Forester, Ecologist or Biologist may be aware of locations. • Noble 1982. • Crins et al. 2009. • NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer). • Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp). • Banton et al. 2009. • Forest Resource Inventory (FRI) – but may be under reported, especially along rivers. • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Conservation Authority.	Stands should have > 10% absolute cover or > 35% relative cover of Elm. The elm ecosite is the SWH. • SWHMiST Index #37 provides direction for rare species and habitats.	Not Present – No Elms found in the Study Area through ELC surveys and a background search.
Rare Treed Type: Oak (Rationale: Only found in southern portions of Ecoregion 3E.)		B017 B019 B028 B041 B043 B057 B059 B072 B076 B090 B092 B106 B108 B121 B125 Hardwood canopy within lower topographic positions. Fresh to moist moisture regimes with variable substrate textures.	• OMNRF Forester, Ecologist or Biologist may be aware of locations. • NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer). • Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp). • Banton et al. 2009. • Forest Resource Inventory (FRI) – but may be under reported, especially along rivers. • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Conservation Authority.	Stands should have > 10% absolute cover or > 35% relative cover of Oak. The oak ecosite is the SWH. • SWHMiST Index #37 provides direction for rare species and habitats.	Not Present – No Oaks found in the Study Area through ELC surveys and a background search.

Appendix D: Significant Wildlife Habitat (SWH) Screening

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
Rare Treed Type: Red and Sugar Maple (Rationale: Uncommon to rare in central and northern areas of Ecoregion 3E.)		B018 B019 B028 B042 B043 B058 B059 B073(Mh) B074(Mr) B075 B076 B091 B092 B107 B108 B122(Mh) B123(Mr) B124 B125 Hardwood canopy containing red and/or sugar maple. Generally, on warmer-than-normal sites with a higher nutrient regime.	• OMNRF Forester, Ecologist or Biologist may be aware of locations. • Noble 1982. • NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer). • Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp). • Banton et al. 2009. • Forest Resource Inventory (FRI). • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Conservation Authority.	Stands should have > 10% absolute cover or > 35% relative cover of red and/or sugar maple. The red and/or sugar maple ecosite is the SWH. • SWHMiST Index #37 provides direction for rare species and habitats.	Not Present – No Red and Sugar Maples found in the Study Area through ELC surveys and a background search.
Rare Treed Type: Yellow Birch (Rationale: Uncommon to rare in central and northern areas of Ecoregion 3E.)		B019 B028 B040 B043 B055 B059 B070 B076 B088 B092	• OMNRF Forester, Ecologist or Biologist may be aware of locations. • NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer). • Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp). • Banton et al. 2009. • Forest Resource Inventory (FRI) – some stands may have been misclassified as white birch.	Stands should have > 10% absolute cover or > 35% relative cover of yellow birch The yellow birch ecosite is the SWH. • SWHMiST Index #37 provides direction for rare species and habitats.	Not present – Ecosite types B040, B055, B070, B088, B104, and B119 were found in the Study Area. Eighteen Candidate Rare Treed Type: Yellow Birch sites were inspected during the vegetation surveys and found meet the SWH criteria. Seventeen of these 18 candidate polygons were visually inspected for Yellow Birch from a helicopter.

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
		B0104 B108 B119 B125 Hardwood canopy consisting mostly of yellow birch. Generally, on warmer-than-normal sites with a higher nutrient regime.	• Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Conservation Authority.		Based on field observations of 94% of candidate SWH yielding no confirmed SWH for Rare Treed Type: Yellow Birch, this SWH has been assessed as Not Present in the Study Area.
Rock Barren (Rationale: Rock barrens that are close to roads or trails can be significantly impacted by invasive species and/or trampling.)	Characteristic plant species of rock barrens in 3E may include *Danthonia spicata, Dechampsia flexuosa, Carex pensylvanica, Corydalis sempervirens, Aralis hispida, Agrostis scabra, Aralia nudicaulis, Pteridium aquilinum, Vaccinium angustifolium, Rubus spp., Diervilla lonicera, Betula papyrifera, Pinus banksiana, Populus tremuloides*	Calcareous Rock Barren B179 B180 B181 Precambrian Rock Barren B163 B164 B165 Exposed bedrock areas (mostly exposed rock with < 5 cm mineral or < 10 cm organic material) and < 25% vascular vegetation.	• OMNRF Forester, Ecologist or Biologist may be aware of locations. • Noble 1982. • NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer). • Banton et al. 2009. • Forest Resource Inventory (FRI). • Conservation Authority. • Soil survey reports and Northern Ontario Engineering Geology Terrain Study mapping (NOEGTS).	All rock barren ecosites are considered significant Symbol of the letter E within a circle The rock barren ecosite area is the SWH. • SWHMiST Index #21 provides development effects and mitigation measures.	Not Present – FRI mapping found ecosite type B164 near the Lower Sturgeon dam. The B164 ecosites around the Lower Sturgeon dam could not be accessed but were visually scanned and determined to not be rock barrens. The Rock Barren around the Lower Sturgeon dam was labeled Rock Barren 2. During the bat hibernacula surveys a candidate rock barren was found on the west bank of Jocko Creek, roughly 4km east of Highway 655 and later evaluated during vegetation surveys and found not to be a rock barren. This area was referred to Rock Barren 1
Sand Dunes Notably: American Dune Grass Type (Rationale: Uncommon to rare in Ecoregion 3E.)	Characteristic plant species of sand dunes grass type in 3E may include: *Leymus mollis, Lathyrus japonicus, Prunus pumila var. pumila*	B005 B006 B142 Exposed mineral material community often associated with shorelines of lakes or exposed inland mineral material that has been shaped by eolian (wind) processes.	• OMNRF Forester, Ecologist or Biologist may be aware of locations. • NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer). • Banton et al. 2009. • Forest Resource Inventory (FRI). • Soil survey reports and Northern Ontario Engineering Geology Terrain Study mapping (NOEGTS).	Field studies confirm the presence of any of the characteristic plant species. The American Dune Grass Type of Sand Dune ecosite area is the SWH. B006 ecosites are considered rare in 3E and are considered SWH.	Not Present – The B005 ecosites are found along the east side of Mattagami River about 3 km north of the Lower Sturgeon Dam. Ecosite B142 is also found within the Study Area. Field assessments indicate these ecosite types do not contain the characteristic plant species. As such, this SWH type has been assessed as

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
		American Dune Grass Type Open grassy sand dunes with Indicator Species: American dune grass, beach pea, and sand cherry. Scattered white spruce forest islands may also occur.	• Conservation Authority.	SWHMiST Index #37 provides direction for rare species and habitats.	Not Present in the Study Area.
Great Lakes Arctic-Alpine Shoreline Type Rationale; Rare in Ecoregion 3E.	Characteristic plant species of Great Lakes arctic-alpine shoreline type in 3E may include: *Carex capillaries, Castilleja septentrionalis, Cypripedium passerinum, Dryopteris fragrans, Elymus mollis, Empetrum nigrum, Euphrasia hudsoniana, Festuca brachyphylla, Hedysarum alpinum, Listera borealis, Lycopodium selago, Pinguicula vulgaris, Poa glauca, Poa glaucantha, Polygonum viviparum, Primula mistassinica, Sagina nodosa, Saxifraga aizoon, Scirpus cespitosus, Selaginella selanginoides, Tofieldia palustris, Trisetum spicatum, Vaccinium uliginosum, Vaccinium vitis-idaea, Woodsia glabella*	B161 B162 Found on the shoreline of Lake Superior on open basic bedrock. Vegetation consists mostly of arctic-alpine species.	• OMNRF Forester, Ecologist or Biologist may be aware of locations. • NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer). • Banton et al. 2009. • Conservation Authority.	Limited to the shore of the Great Lakes. All Great Lakes Arctic-Alpine Shoreline Type ecosites are considered significant. The Great Lakes Arctic-Alpine Shoreline Type ecosite area is the SWH. SWHMiST Index #37 provides direction for rare species and habitats.	Not Present – No Great Lake Artic – Alpine Shoreline ecosites found during ELC surveys.
Hardwood Swamps (Rationale: Rare in Ecoregion 3E.)		B130 B131 B132 B133 Dominant hardwood canopy that is located within lower topographic positions and subject to flooding. Nutrient regime is rich, and substrate is mostly moderately deep to deep with variable textures.	• OMNRF Forester, Ecologist or Biologist may be aware of locations. • NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer). • Banton et al. 2009. • Conservation Authority. • Riley 1994.	All hardwood swamp ecosites are considered significant. The hardwood swamp ecosite is the SWH. • SWHMiST Index #37 provides direction for rare species and habitats.	Confirmed – One B133 location was visited by WSP staff and found to be a Hardwood swamp.
Specialized Habitat for Wildlife					
Waterfowl Nesting Area (Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant)	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser	All upland habitats located adjacent to ELC ecosites; B129-135 B140-152 B224 are Candidate SWH: Note: includes adjacency to provincially Significant Wetlands	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. • Upland areas should be at least 120 m wide so that predators such as raccoons, skunks, and foxes have difficulty finding nests.	Studies confirmed: • Presence of 3 or more nesting pairs for listed species excluding Mallards, or; • Presence of 10 or more nesting pairs for listed species including Mallards. • Nesting studies should be completed during the spring breeding season (April - July). Evaluation methods to follow	Candidate – Ecosites B129, B133, B134, 135, B140, B142, B144, and B146 occur in the Study Area. Some of these ecosites are within 100 m of breeding bird surveys and no breeding bird surveys met the criteria for Waterfowl Nesting Area. WSP surveys found American Black Duck, American Wigeon, Canada Goose, Common Goldeneye,

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
	Common Merganser Red-breasted Merganser Mallard Canada Goose American Wigeon Bufflehead Common Goldeneye		• Wood Ducks, Bufflehead, Common Goldeneye and Hooded Mergansers utilize large diameter trees in woodlands for cavity nest sites. Information Sources • Ducks Unlimited staff may know the locations of particularly productive nesting sites. • OMNRF District Staff • OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. • Reports and other information available from CAs. • eBird Canada http://ebird.org/content/canada/	"Bird and Bat Habitats: Guidelines for Wind Power Projects" • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. • SWHMiST Index #25 provides development effects and mitigation measures.	Common Merganser, Gadwall, Green-winged Teal, Hooded Merganser, Mallard, and Wood Duck. Defining criteria for SWH were not met.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat (Rationale: Nests are used annually by these species. Suitable nesting locations may be impacted due to shoreline development.)	Osprey Special Concern: Bald Eagle	Treed communities directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along treed shorelines, islands, or on structures over water. Osprey nests are usually at the top of a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. Nests located on man-made objects such as telephone or hydro poles will not normally be considered as SWH, however the OMNRF District retains discretion regarding significance of constructed nesting platforms. Information Sources • NHIC compiles all known nesting sites for Bald Eagles in Ontario. • OMNRF values information (LIO/NRVIS) will list known nesting locations • Nature Counts, Ontario Nest Records Scheme data. • OMNRF Ecologist or Biologist may be aware of locations of nesting raptors. In addition, these staff may know local naturalists that may be aware of the locations of raptor nests. • Sustainable Forestry Licence (SFL) companies will identify additional nesting locations through field operations. • Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented	Studies confirm: • One or more active Osprey or Bald Eagle nests in an area. • Considered SWH if the nest has been used or suspected of use within the past 5 years; unless documented that the nest and other associated nests in the nesting area have been unoccupied within the past 3 consecutive years by Osprey or Bald Eagle: • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest is the SWH. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependent on sight lines from the nest to the development and inclusion of	Confirmed – Bald Eagle nests were documented during aerial surveys and incidentally during vegetation surveys Both the closest Bald Eagle and Bald Eagle nests were near the 5 km buffer within the Study Area.

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
			• Reports and other information available from Cas. • Local naturalists may know of other locations. • Use maps and aerial photographs to identify forests with few roads that tend to have less human disturbance. • eBird Canada http://ebird.org/content/15anada/	perching and foraging habitat. • SWHMiST Index #26 provides development effects and mitigation measures • Evaluation methods to follow “Bird and Bat Habitats: Guidelines for Wind Power Projects”.	
Woodland Raptor Nesting Habitat (Rationale: These habitats may be used annually by some species. Nests sites for these species are rarely identified in advance site investigations.)	Red-tailed Hawk Great Horned Owl: Broad-winged Hawk Sharp-shinned Hawk Merlin Coopers Hawk Northern Goshawk Great gray Owl Long-eared Owl Common Raven Cavity Nesters/users: Saw-whet Owl Boreal Owl Barred Owl Northern Hawk Owl American Kestrel (Northern Flying Squirrel use cavities as roosting sites in winter)	May be found in all forested ELC Ecosites.	• All natural or conifer plantation woodland/forest stands. • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests, within tops or crotches of trees. Species such as Cooper’s Hawk nest along forest edges sometimes on peninsulas or small offshore islands. • Some woodland raptors rely on cavity trees for nesting. They do not excavate their own cavities but rely on natural cavities of sufficient size and those excavated by Pileated Woodpeckers. Larger diameter trees are used most frequently, with nest cavities most often found in trembling aspen. • Nests may be used again, or a new nest may be in close proximity to old nest. Information Sources • OMNRF Ecologist or Biologist may be aware of locations of nesting raptors. • Sustainable Forestry Licence (SFL) companies will identify additional nesting locations through field operations. • Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. • Check data from Bird Studies Canada. • Reports and other information available from Cas. • Use maps and aerial photographs to identify forests with few roads that tend to have less human disturbance. • eBird Canada http://ebird.org/content/canada/	Studies confirm: • Presence of 1 or more occupied nests from species list is considered significant. • Northern Goshawk – A 400m radius around the nest or 28 ha of suitable habitat is the SWH. • Barred Owl – A 200m radius around the nest is the SWH. • Broad-winged Hawk, Coopers Hawk, Great Horned Owl, Red-tailed Hawk, Long-eared Owl – A 100m radius around the nest is the SWH. • Merlin and Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. • Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • SWHMiST Index #27 provides development effects and mitigation measures.	Confirmed and – Candidate - Aerial surveys found stick nests in the Study Area belonging to a variety of indicator species (Broad-winged Hawk, Common Raven, American Goshawk), most of which could not be confirmed as occupied and active . A Common Raven nest was found approximately 10 km southwest of the intersection of Highway 655 and Highway 11, within the aerial study area but outside the project Study Area. None of the other stick nests were confirmed to be active Field studies documented many indicator species in the Study Area: American Kestrel, Boreal Owl, Broad-winged Hawk, Common Raven, Merlin, and Sharp-shined Hawk. Secondary sources found Broad-winged Hawk, Common Raven, Great Gray Owl, Merlin, and Red-tailed Hawk.
Turtle Nesting Areas (Rationale: These	Painted Turtle	B003 B006-007	• Best nesting habitat for turtles are close to water and away from roads and sites less prone	Studies confirm: • Presence of 5 or more	Candidate – Secondary sources reported Snapping

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
habitats are rare and when identified will often be the only breeding site for local populations of turtles.)	Special Concern: Snapping Turtle	B031 B171-172 B187-188	to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and is located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes and rivers are most frequently used. Information Sources • Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). • Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. • Natural Heritage Information Centre (NHIC). • Use aerial photographs and maps to narrow the search for prime nesting areas including shoreline beaches located near weedy areas of wetlands, lake and river shorelines, road embankments near turtle habitat, and stream crossings/culverts. • Reports and other information available from CAs. • Sightings by local Naturalist groups.	nesting Midland Painted Turtles. • One or more Northern Map Turtles or Snapping Turtles nesting is a SWH. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30 to 100 m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30 to 100 m area of habitat. • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. • SWH MIST Index #28 provides development effects and mitigation measures for turtle nesting habitat.	Turtle (Ontario Reptile and Amphibian Atlas 2023). One candidate ecosite, B007, is found in the Study Area. No turtle nests have been documented within the Study Area.
Seeps and Springs (Rationale: Seeps/springs are typical of headwater areas and are often at the source of Coldwater streams.)	Selected wildlife species that utilize this feature: Ruffed Grouse Moose White-tailed Deer Black bear Northern two-lined Salamander	Seeps/springs are areas where groundwater comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	• Any forested area (with <25% meadow/field/ pasture) within the headwaters of a stream or river system • Seeps and springs are important feeding and drinking areas. Especially in the winter will support a variety of plant and animal species. Information Sources • Topographical Map. • Thermography. • Hydrological surveys conducted by Conservation Authorities and MOECC. • Field Naturalists Clubs and landowners. • Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	Field studies confirm: • Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of an ELC forest ecosite or an Eco element within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat • SWH MIST Index #30 provides development effects and mitigation measures	Candidate – No seeps or spring recorded in the Study Area, it is likely seeps and springs occur somewhere in the Study Area. Indicator species Black Bear, Ruffed Grouse, and Moose were seen in the Study Area by WSP. Black Bear or evidence of Black Bear was incidentally seen in 2021 and 2022. Evidence of Black Bear was noted in the form of scat at Breeding bird station CL-BB-WM-G2-08 for 2021. In 2022 a Black Bear was seen from the helicopter in the vicinity of RB-1, about 1km east of Highway 655. All three of

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
					these species are reported by secondary sources.
Aquatic Feeding Habitat (Rationale: Aquatic Feeding habitats are an extremely important habitat component for moose and other wildlife as they supply important nutrients. Forest cover adjacent to these areas is important as well to provide for summer thermal cover, screening and escape cover.)	Moose	Habitat may be found in all forested ecosites adjacent to water.	• OMNRF maps these locations on Crown land and rate the site on a scale of 1 – 4, with 4 having the greatest potential. Feeding sites classed 3 or 4 are candidate significant areas. • OMNRF District should be contacted where Class 2 feeding sites are identified as these may be considered significant by OMNRF if higher quality sites are absent in the surrounding landscape. • Identification of Moose Aquatic Feeding Areas should follow the method outlined in OMNRF's Selected Wildlife and Habitat Features: Inventory Manual. • Wetlands and isolated embayment's in rivers or lakes which provide an abundance of submerged aquatic vegetation such as pondweeds, water milfoil and yellow water lily are preferred sites. Adjacent stands of lowland conifer or mixed woods will provide cover and shade. Information Sources • Local naturalists and landowners may know some locations. • OMNRF values information (NRVIS) may list known locations. • OMNRF Biologist may be aware of locations. • Sustainable Forestry Licence (SFL) companies may identify additional MAFA locations through field operations. • Topographical Maps together with aerial photographs will help locate potential sites.	• Moose Aquatic Feeding Habitat identified and ranked 3 or 4 by OMNRF are considered SWH. • The area of the habitat includes the ELC ecosite area and adjacent stands (120m) of mixed or conifer forest, particularly those that provide thermal cover and/or travel corridors to other habitat features are considered significant. • Surveys should be conducted from mid-June to end of July when submergent aquatic vegetation has peaked. • Surveys should confirm the use of the site by moose or other species through observation of animal presence, tracks, etc. • If a SWH is determined for Aquatic Feeding Habitat then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule • SWHMiST Index #24 provides development effects and mitigation measures.	Confirmed- Numerous locations occur in the Study are, according to provincial data. Provincial data does not contain ranks of 3 or 4, rather lists habitat as term such as Nil, Low, Moderate, High, and Very High. Areas which were considered Moderate, High, and Very High are considered Confirmed.
Mineral Licks (Rationale: Mineral licks are a valuable habitat component but are also very rare on the landscape.)	Moose Porcupine	Habitat may be found in all treed ecosites.	This habitat component is found in upwelling groundwater and the soil around these seepage areas. It typically occurs in areas of sedimentary and volcanic bedrock. In areas of granitic bedrock, the site is usually overlain with calcareous glacial till. Information Sources • Local naturalists and landowners may know some locations. • OMNRF values information (NRVIS) may list known locations	• The area of the habitat is the wetland, seep or spring containing the mineral lick and 120m of undisturbed contiguous forest around the site dependent on level of disturbance in the area. • Field investigations should be conducted in early spring prior to leaf out. Since sites will be very difficult to locate,	Candidate – No mineral licks were found during field investigations, including an aerial survey. Moose were seen in the Study Area. It is likely mineral licks occur somewhere in the Study Area, but are very difficult to locate

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
			• OMNRF Ecologist or Biologist may be aware of locations. • Sustainable Forestry Licence (SFL) companies may identify additional locations through field operations.	consider using a small aircraft. • SWHMiST Index #29 provides development effects and mitigation measures.	
Denning Sites for Mink, Otter, Wolf, Canada Lynx, Marten, Fisher, Black Bear (Rationale: Species are important fur-bearing mammals and den sites can be a limiting factor in sustaining populations.)	Mink Otter Gray Wolf Canada Lynx Special Concern Eastern Wolf Cavity Users Marten Fisher	Habitat may be found in all treed ecosites.	Mink prefer shorelines dominated by coniferous or mixed forests with dens usually underground. Mink will often use old muskrat lodges cxlviii. Mink may den in root masses along shorelines of water bodies. Otters prefer undisturbed shorelines along water bodies that support productive fish populations with abundant shrubby vegetation and downed woody debris for denning. They often use old beaver lodges or log jams and crevices in rock piles. Marten and fisher share the same general habitat, requiring large tracts of coniferous or mixed forests of mature or older age classes. Denning sites are often in cavities in large trees or under large downed woody debris. Wolves prefer a more interior forest condition for locating their den sites. Wolves often select sandy sites, sloped for excavation (esker areas should be examined as potentially key sites). Wolf dens are often located in close proximity to wetlands. Lynx den sites are most often associated with the presence of downed woody debris. Black bears, particularly sub-adults, will often den in the base of hollow trees. In 3E such trees are rare and primarily consist of large diameter cedar or sometimes large white spruce. Information Sources • Local naturalists and landowners may know some locations. • OMNRF values information (NRVIS) may list known locations. • OMNRF Ecologist or Biologist may be aware of locations. • Sustainable Forestry Licence (SFL) companies may identify additional denning sites through field operations.	Wolf den sites (gray or eastern) and a 200m radius will be considered significant. • Any known active denning site and a 100 m radius around it with the remaining listed species is considered to be significant. • Extensive searches for denning sites are not recommended as they are very difficult to locate but protection of most suitable habitat should be considered during planning. • SWHMiST Index #31 provides development effects and mitigation measures.	Candidate – No denning sites were found during field investigations, including an aerial survey. Canada Lynx, Gray Wolf, Otter, and Marten were found in the Study Area by WSP. It is likely that denning sites occur in the Study Area.

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
			• Topographical Maps together with aerial photographs will help locate potential sites. • Local trappers may know the location of prime denning sites.		
Rendezvous Sites	Gray Wolf Special Concern Eastern Wolf	Isolated open areas including bogs, fens, other wetlands, meadows, clearcuts.	• Rendezvous sites may be found in a variety of habitats such as open bogs, burns, clearcuts, beaver meadows, and open forest. • Rendezvous sites are often used by wolf packs during multiple years. • Areas used as rendezvous sites one year may be used as den sites in a subsequent year. • Wolves appear to have a low tolerance for human activity near rendezvous sites.	The identified rendezvous site and a 200 m radius from the site are considered the SWH.	Candidate – Not confirmed but possible in the Study Area.
Amphibian Breeding Habitat: Woodland (Rationale: These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.)	Eastern Newt Blue-spotted Salamander Spotted Salamander Four-toed Salamander Spring Peeper Wood Frog American Toad	All treed upland ecosites, however more likely on fine textured moist ecosites (e.g., B119-125) The wetland breeding ponds (including vernal pools) may be permanent or seasonal, large or small in size and could be located within or adjacent to the woodland.	• Presence of a wetland, pond or woodland pool (including vernal pools) >500 m2 (about 25 m diameter) within or adjacent (within 120 m) to a woodland (no minimum size). • The wetland, lake or pond and surrounding forest, would be the Candidate SWH. Some small wetlands may not be mapped and may be important breeding pools for amphibians. • Pools need to be present until mid-July. • Breeding pools within the woodland or the shortest distance from forest habitat are more significant because of reduced risk to migrating amphibians and more likely to be used. • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. Information Sources • Ontario Herpetofaunal Summary Atlas for historical records • Ontario Reptile and Amphibian Atlas (Ontario Nature). • Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. • Contact local OMNRF Ecologist or Biologist and wetland evaluations. • Local field naturalist clubs • Canadian Wildlife Service Amphibian Road Call Survey information.	Studies confirm; • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 100 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. • The habitat is the wetland and treed area or adjacent ELC treed ecosites. The amount of area protected is dependent on slope, riparian vegetation, high water mark, density and height of trees and ground/surface water condition. • A combination of observational study and call count surveys will be required during the spring when amphibians are migrating or are concentrated around suitable breeding habitat within the woodland. • SWHMiST Index #14 provides development effects and mitigation measures.	Candidate – American Toad, Spring Peeper, and Wood Frog were heard during amphibian call surveys. Amphibian calling surveys did not record either enough species or a call level code high enough to meet the criteria for Amphibian Breeding Habitat: Woodland. A salamander was observed at amphibian calling survey point CL-AM-15. The ELC around CL-AM-15 is B128. B128 better fits Amphibian Breeding Habitat Wetland. This observation is further described below. A Blue-spotted Salamander was seen in May 2022 at CL-OW-15. This individual was seen crossing the road and not in appropriate breeding habitat. The Study Area is large with many wetlands and forests (ecosites required for breeding habitat) in the Study Area so it is highly likely this habitat exists.

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
			• Ontario Vernal Pool Association (http://www.ontariovernalpools.org/)		
Amphibian Breeding Habitat: Wetland (Rationale: Wetlands supporting breeding for these amphibian species are extremely important within Northern Ontario landscapes.)	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Boreal Chorus Frog Northern Leopard Frog Green Frog Mink Frog Wood Frog Spring Peeper	Rich swamps and thickets, vernal/seasonal pooling, riparian and variety of wetland interiors and margins B128-135 B141-152 B223-224 Typically, these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g., Green Frog) may be adjacent to woodlands.	• Wetlands and pools (including vernal pools) >500m^2 (about 25m diameter) supporting high species diversity are significant; some small or ephemeral habitats may not be identified on OMNRF mapping and could be important amphibian breeding habitats. • Wetlands and pools need to persist until mid-July. • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. Information Sources • Ontario Herpetofaunal Summary Atlas • Ontario Reptile and Amphibian Atlas (Ontario Nature). • Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. • OMNRF Ecologist or Biologist may know of populations, wetland evaluations may be a good source of information. • Use maps or aerial photography to locate marsh habitat. • Reports and other information available from CAs.	Studies confirm: • Presence of breeding population of 1 or more of the listed newt/salamander species or 3 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 3 or more of the listed frog/toad species with Call Level Codes of 3. • The ELC ecosite area and the shoreline are the SWH. • A combination of observational study and call count surveys will be required during the spring (Apr to June) when amphibians are migrating, calling and breeding within the wetland habitats. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #15 provides development effects and mitigation measures.	Confirmed – A salamander was seen at amphibian call survey CL-AM-15. Although the species of salamander was not identified it must be one of the three listed as an indicator species. Point CL-AM-15 is within wetland ecosite type B128, thus this observation confirms Amphibian Breeding Habitat: Wetland and not Woodland. A Blue-spotted Salamander was seen in May 2022 at CL-OW-15. This individual was seen crossing the road and not in appropriate breeding habitat. Boreal Chorus Fog, Green Frog, Mink Frog, and Spring Peeper were heard during Amphibian call surveys. Wood Frog, American Toad, Mink Frog and Northern Leopard Frog were also seen during field work. The Study Area is large with many wetlands and forests (ecosite required for breeding habitat) in the Study Area, so it is highly likely this habitat exists elsewhere. Candidate ecosite types in the Study Area include B128, B129, B133, B134, B135, B142, B144, and B146.
Mast Producing Areas (Rationale: Mast is a very important food requirement for	Examples of wildlife species utilizing this habitat: Black Bear White-tailed deer Ruffed Grouse	All shrub and treed ecosites capable of producing mast.	• Significant tree species include mountain ash and pin cherry. Significant shrub species include blueberries, raspberries, beaked hazel and choke cherry. • Some Oak or other hard-mast producing species may be present in 3E and significance	• Natural open sites with abundant (50% ground cover) producing shrubs (e.g., Raspberry, Blueberry and Beaked hazel) species are considered significant.	Candidate – The transmission corridor and B114 (Go West Road) had many blueberries in the ground layer. The MNRF may need to determine candidacy since there are

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
many wildlife species.)			should be evaluated as encountered because of its importance as a food source for various wildlife species. • Recently disturbed sites (fire or logging), large bedrock outcroppings, forest openings or utility corridors >1 ha provide excellent sites for mast producing shrubs significant. Information Sources • OMNRF Ecologists, Biologists or Foresters may know of important feeding sites or areas with high composition of mast producing trees through OMNRF Wildlife Food Surveys. • FRI maps to locate stands with mast producing trees. • SFL companies may know of areas through regular forest inventory work. • Local naturalists clubs or hunters may be aware of important locations. • Aerial photography will assist in locating forest openings and bedrock outcrops. • Permanent open sites providing long-term food sources are more	• Anthropogenic disturbances (logging or otherwise) may be considered significant at the discretion of OMNRF. • Area of the early successional habitat or treed ELC ecosite with mast-producing trees or shrubs is the SWH. • Surveys should be conducted during the active growing season from June to August however may be assessed at other times particularly for tree species. • SWHMiST Index #3 provides development effects and mitigation measures	anthropogenic disturbances in the area. ELC surveys found many ecosites within the Study Area that include mast species. Ruffed Grouse and Black Bear were observed by WSP biologists.
Sharp-tailed Grouse Leks (Rationale: Leks are an important habitat feature required to maintain populations of sharp-tailed grouse.)	Sharp-tailed Grouse	B029-031 B044-046 B060-062 B077-079 B093-095 B109-111 B126 B136-141	• The lek or dancing ground consists of bare, grassy area as the core of the lekking area, and may contain some sparse shrubland. • There is often a knoll or slightly elevated rise in topography associated with the site. This is a better drained site less likely to collect water. • Leks are typically a grassy field/meadow separated by >15ha from adjacent shrublands and >30ha from adjacent treed areas. • Field/meadows are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous stands • Field/meadows are to be as undisturbed as possible with low intensities of agriculture (light grazing or late haying) • Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting Information Sources	Studies confirming lek habitat are to be completed from March to June. • Any site confirmed with sharp-tailed grouse courtship activities is considered significant. • The ELC ecosite plus a 200 meter area with shrub or deciduous trees is the lek habitat. • SWHMiST Index #32 provides development effects and mitigation measures.	Candidate– Ecosites B093, B126, B136, B137, B138, B139 and B140 are found within the Study Area. During aerial surveys Sharp-tailed Grouse were observed, and with several observations being of gatherings of seven individuals. During aerial surveys the birds were seen flushing and were not confirmed to be completing courtship displays. To confirm SWH, studies must occur from March to June to confirm courtship activities.

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
			• OMNRF district office • Bird watching clubs • Local landowners • Ontario Breeding Bird Atlas • eBird Canada http://ebird.org/content/canada/		
Habitats of Species of Conservation Concern					
Marsh Bird Breeding Habitat (Rationale: Rich wetlands for these bird species are very productive and rare in Northern Ontario landscapes.)	American Bittern Sora Red-necked Grebe Pied-billed Grebe Ring-necked Duck Lesser Scaup Ruddy Duck American Coot Sandhill Crane Virginia Rail Trumpeter Swan Special Concern: Yellow Rail Black Tern	MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, FEO1, BOO1 Ecosites: B134-B152	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. • Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. Information Sources • Contact OMNRF, wetland evaluations are a good source of information. • Local naturalist clubs • NHIC Records. • Reports and other information available from CAs. • Ontario Breeding Bird Atlas. • eBird Canada http://ebird.org/content/canada/	Studies confirm: • Presence of any combination of 5 or more of the listed species. • Presence of one or more breeding pair of trumpeter swans is significant. • Note: any wetland with breeding of 1 or more Black Terns or Yellow Rail is SWH. • Area of the ELC ecosite is the SWH. • Breeding surveys should be done in May-July when these species are actively nesting in wetland habitats. • Evaluation methods to follow “Bird and Bat Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #35 provides development effects and mitigation measures	Candidate – A possible Yellow Rail was observed during the marsh bird survey at CL-BB-G1-11. Virginia Rail was observed at CL- BB-G2-11 on 14 June 2021 and 5 July 2021; one Sora was documented at CL-BB-G1-11 on two occasions (14 June 2021 and 5 July 2021); and two Sora were recorded at CL-AM-10 on 29 June 2022. American Bittern, Sandhill Crane, Pied-billed Grebe, and Ring-necked Duck were found incidentally in the Study Area. Candidate ecosites in the Study Area include: B134, B135, B136, B137, B138, B139, B140, B142, B144, and B146. . There was an insufficient variety of indicator species and lack of confirmed breeding for select species to confirm SWH.
Open Country Bird Breeding Habitat (Rationale: This wildlife habitat is declining throughout Ontario and North America.)	Vesper Sparrow Le Conte’s Sparrow Northern Harrier Savannah Sparrow Special Concern: Short-eared Owl	All Field, Meadow and Sparse Shrub ecosites B08-09 B20-21 B29-31 B44-46 B60-62 B77-79 B93-95	Large field/meadow areas (includes natural and cultural fields and meadows) >30 ha. Field/meadow not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e., no row cropping or intensive hay or livestock pasturing in the last 5 years). Field/meadow sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older.	Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas.	Not Present –Northern Harrier was observed each year of field studies during breeding bird surveys. Savannah Sparrow was documented during breeding bird surveys in a non-candidate ecosite type. LeConte’s Sparrow audio was classified during ARU analyses. Candidate ecosite B093 was sampled during

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
		B109-111	The Indicator bird species are area sensitive requiring larger Field/meadow areas than the common Field/meadow species. Information Sources • Use Agricultural land classification maps with aerial photographs to determine the potential Fields/meadows that might be candidate sites. • Ask local birders for location of Fields/meadows that support abundant and species rich populations of area-sensitive species. • Reports and other information available from CAs. • Ontario Breeding Bird Atlas. • eBird Canada http://ebird.org/content/canada/	• Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bat Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #32 provides development effects and mitigation measures.	breeding bird surveys (CL-BB-G2-02) and no indicator species were documented. No Short-eared Owl have been documented in any field surveys to date, including targeted Short-eared Owl surveys in June 2023.
Shrub / Early Successional Breeding Bird habitat (Rationale: This wildlife habitat is declining throughout Ontario and North America.)	Clay-colored Sparrow Field Sparrow Ruffed Grouse Eastern Kingbird American Woodcock	All sparse shrub and shrub ecosites B09-10 B21-22 B31-32 B46-47 B62-63 B79-80 B95-96 B111-112 B134-135	Large natural field areas succeeding to shrub and thicket habitats>30 ha in size. Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e., no row-cropping, haying or live-stock pasturing in the last 5 years). Larger shrub thicket habitats (>30 ha) are most likely to support and sustain a diversity of these species. Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or lightly grazed pasturelands. Information Sources • Use agricultural land classification maps and recent aerial photographs to determine the amount of potential shrub and thicket habitats. • Ask local birders for location of shrub and thicket habitats that support abundant and species rich populations of area-sensitive species. • Reports and other information available from CAs. • Ontario Breeding Bird Atlas. • eBird Canada http://ebird.org/content/canada/	Field Studies confirm: • Presence of nesting or breeding of 2 or more of species listed. • The area of the SWH is the contiguous ELC ecosite area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories • Evaluation methods to follow “Bird and Bat Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #33 provides development effects and mitigation measures.	Candidate - Although Ruffed Grouse and Eastern Kingbird were seen around CL-BB-WM-REF-04, no presence of nesting or breeding was recorded for Eastern Kingbird. Eastern Kingbird was also recorded at ARUs CL-DET-EM-G2-01, and CL-AM-ARU-7. No other indicator species were observed at these ARU stations. American Woodcock was found in the Study Area but not in a habitat with the other indicator species. Breeding bird surveys did not find this SWH in the Study Area. Field surveys and secondary source data found Ruffed Grouse. Two candidate ecosite types, B134 and B135, are present within the Study Area.
Special Concern and Rare Wildlife Species (Rationale: These	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO).	• When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC	Studies confirm: • Assessment/inventory of the site for the identified special concern or rare	Confirmed – Species of special concern and rare species found during field work include: Bald Eagle,

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
species are quite rare or have experienced significant population declines in Ontario.)		Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	Ecosites. Information Sources • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. • NHIC Website “Get Information”: http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas • Expert advice should be sought as many of the rare spp. Have little information available about their requirements.	species needs to be completed during the time of year when the species is present or easily identifiable. • The habitat needs be easily mapped and cover an important life stage component for a species *e.g.,* specific nesting habitat or foraging habitat. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH; this must be delineated through detailed field studies. • SWH MIST Index #37 provides development effects and mitigation measures	Canada Warbler, Common Nighthawk, Evening Grosbeak, Long-tailed Duck, Olive-sided Flycatcher, Redhead, and Rough-legged Hawk. The habitat these species were found in is considered SWH.
Animal Movement Corridors					
Amphibian Movement Corridors (Rationale: Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.)	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Wood Frog Spring Peeper Boreal Chorus Frog Wood Frog Northern Leopard Frog Green Frog Mink Frog American Toad Four-toed Salamander	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.2.2	• Movement corridors between breeding habitat and summer habitat • Movement corridors must be determined when amphibian breeding habitat is confirmed as SWH (Amphibian Breeding Habitat, Wetland) of this Schedule. Information Sources • OMNRF District Office. • Natural Heritage Information Centre (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites (April-July). • Corridors should consist of native vegetation, roadless area, no gaps such as fields, waterways or bodies, and undeveloped areas are most significant • Corridors should be at least 200m wide with gaps<20m, and if following riparian area, with at least15m of vegetation on both sides of waterway. Shorter corridors are more significant than longer corridors; however, amphibians must be able to get to and from their summer and breeding habitat. • SWHMiST Index #40provides development effects and mitigation measures.	Confirmed – Amphibian breeding habitat, Wetland was confirmed at amphibian call survey location CL-AM-15. A 200 m buffer around this Amphibian breeding habitat is amphibian movement corridor.

Significant Wildlife Habitat Type (3E)	Indicator Wildlife Species	Ecosites/ Habitat Description	Criteria and Information Sources	Defining Criteria	Confirmed or Candidate SWH at Project Site
Cervid Movement Corridors Rationale: Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.	Moose	Corridors may be found in all treed ecosites.	Movement corridor must be determined when Moose Aquatic Feeding Area and Mineral Lick Habitat are confirmed from Table 1.2.2 of this schedule. Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). Corridors will be multi-functional i.e.; these will function for any smaller mammal species as well. Information Sources • OMNRF District Office. • NHIC. • EIS reports and other studies prepared by CAs. • Naturalist Clubs.	• Studies must be conducted at the time of year when moose are moving to mineral licks or aquatic feeding areas (May – July). • Studies should include a description of surrounding forest matrix for determination of significance. • Corridors that lead moose to MAFAs and mineral licks should remain intact. • SWHMiST Index #39 provides development effects and mitigation measures. • Corridors with greater canopy coverage width having fewer gaps are more significant.	Candidate - Moose Aquatic Feeding Area is confirmed but mineral licks are not.
Furbearer Movement Corridor (Rationale: Intact forest corridors are critical for movements within territories for hunting, breeding, and maintenance of populations. For habitat related to denning sites, a corridor to and from the denning site must be maintained as this habitat is extremely important for local populations and is rarely identified.)	Mink Marten Fisher Otter Canada Lynx	All treed Ecosites adjacent to or within shoreline habitats.	Mink and Otter den sites are typically found within a riparian area of a lake, river, stream or wetland. The den site will potentially have a movement corridor associated with it. Den sites of other furbearer species may be more associated with social, hunting, breeding or other behaviours. All den sites identified using Table 1.2.2 of this schedule under the habitat of Denning Sites for Mink, Otter, Marten Fisher and Eastern Wolf are to be considered for an animal movement corridor. Information Sources • Local naturalists and landowners may know some locations. • OMNRF values information (NRVIS) may list known locations • OMNRF Ecologist or Biologist may be aware of locations. • Topographical Maps together with aerial photographs will help locate potential sites. • Local trappers may know the location of prime denning sites and movement corridors.	Studies to confirm: • Studies must be conducted at the time of year (March to June) when mink or otter are using the denning sites. Studies can be based on observation or from track and scat surveys. • SWHMiST Index #31provides development effects and mitigation measures.	Candidate - Denning Sites for Mink, Otter, Wolf, Canada Lynx, Marten, Fisher, Black Bear have not been confirmed. It is likely mammals are denning in the Study Area.

APPENDIX E

Supplemental Figures Wildlife Survey Locations

460000 470000 480000 490000

5420000 5410000 5400000 5390000 5380000

10km 5km 1km

Aubin Lake
Nesbitt Creek
North Driftwood River
Thorburn Creek
Mattagami River
Buskegau River
Reaume Creek
Reaume Lake
REAUME LOOP RD
REAUME ESKER RD
Jocko Creek
West Buskegau River
Zed Lake
Prosser Lake
Boundary Lake
Kidd Creek Mine
Martin Lake
Gerry Lake
Kamiskotia River
Kamiskotia Lake
Christmas Lake
Murphy Creek
Bigwater Lake
Feldman Lake
Duck Lake
Bouchard Lake
Noted Lake
655

CL-DET-EM-G2-01
CL-BB-G2-16
CL-BB-G2-17
CL-BB-G2-13
CL-BB-G2-12
CL-BB-G2-11
CL-BB-G2-19
CL-BB-G2-20
CL-BB-G2-18
CL-BB-G2-15
CL-DET-G2-04
CL-BB-WM-G2-10
CL-BB-WM-G2-09
CL-BB-WM-G2-08
CL-BB-WM-G2-07
CL-BB-WM-G2-06
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CL-BB-WM-G2-04
CL-BB-WM-G2-03
CL-BB-WM-G2-02
CL-BB-WM-G2-01
CL-BB-G1-20
CL-DET-EXTRA-02b
CL-DET-EXTRA-05
CL-BB-G1-16
CL-BB-G1-29
CL-BB-G1-23
CL-BB-G1-28
CL-BB-G1-26
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CL-BB-G1-27
CL-BB-G1-22
CL-BB-G1-25
CL-BB-G1-34
CL-BB-G1-34
CL-BB-EM-G1-01-2021
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CL-BB-G1-03
CL-DET-G2-01
CL-BB-G1-02

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CL-BB-G1-30
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CL-BB-G1-18
CL-BB-G1-19
CL-BB-G1-35
CL-BB-G1-17
CL-DET-G1-7
CL-BB-G1-21
CL-DET-G1-08
CL-DET-G1-07b
CL-BB-G1-13
CL-BB-G1-14
CL-BB-G1-15
CL-BB-G1-12
CL-BB-G1-11
CL-DET-EXTRA-03
500 m

CL-BB-G1-01
CL-BB-G2-10
CL-BB-G2-09
CL-DET-EXTRA-02
CL-BB-G2-07
CL-BB-G2-03
CL-BB-G2-06
CL-BB-G2-05
CL-BB-G2-04
CL-BB-G2-02
CL-BB-G2-01
CL-DET-EXTRA-04
1km
500 m

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectF\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Bird_Survey_Locations_2021_1.mxd

LEGEND

- Project Location
- Study Areas (labelled on map)
- Breeding Bird Survey Station, 2021
- Marsh Bird Survey Station, 2021
- Bird Detector Station, 2021
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Bird Survey Locations (2021)

PROJECT N°:OMEMA2304 | FIGURE: 1

SCALE: 1:155,000 | DATE: December 2023

460000 470000 480000 490000

5420000 5410000 5400000 5390000 5380000

10km 5km 1km

CL-AM-ARU-2
CL-BB-NE-03
CL-AM-ARU-6
CL-OWL-20
CL-BB-G2-16
CL-BB-G2-20
CL-OW-STN1
CL-WF-11
CL-BB-G2-18
CL-BB-NE-02
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CL-BB-G1-22
CL-WF-07
CL-BB-G1-25
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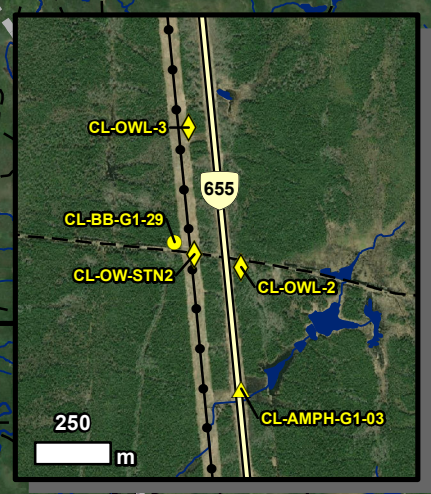
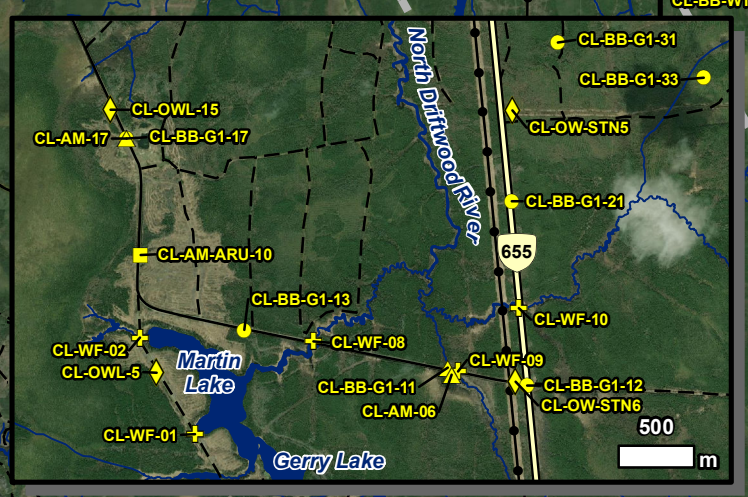
CL-AM-10
CL-G1-03
CL-BB-G1-03
CL-OWL-11
CL-AM-ARU-5
CL-BB-G1-02
CL-AM-ARU-4
CL-BB-G2-08
CL-WF-20
CL-BB-T4

655

Aubin Lake
Nesbitt Creek
North Driftwood River
Thorburn Creek
Mattagami River
Buskegau River
Jocko Creek
West Buskegau River
Zed Lake
Prosser Lake
Boundary Lake
Kidd Creek Mine
Martin Lake
Gerry Lake
Kamiskotia River
Kamiskotia Lake
Christmas Lake
Murphy Creek
Bigwater Lake
Feldman Lake
Duck Lake
Bouchard Lake
Noted Lake





LEGEND

- Project Location
- Study Areas (labelled on map)
- Breeding Bird Survey Station, 2022
- Marsh Bird Survey Station, 2022
- Bird Detector Station, 2022
- Owl Survey Station, 2022
- Migratory Bird Survey Station, 2022
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Railway
- Existing Utility Line
- Waterbody
- Watercourse

0 1 2 4 6 8 10 Kilometres

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

N W E S

CANADA NICKEL COMPANY

WSP

CRAWFORD NICKEL PROJECT

Bird Survey Locations (2022)

PROJECT N°:OMEMA2304	**FIGURE: 2**
SCALE: 1:155,000	DATE: May 2023

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectF\2023\Projects\OMEMA2304S_WSP_Canada_Inc_Crawford_Impact_Assessment\13_0_GIS\Terrestrial\Baseline_2023\MXD\Bird_Survey_Locations_2022_1.mxd

450000 460000 470000 480000 490000

5430000 5420000 5410000 5400000 5390000 5380000 5370000

LEYE065 LEYE064 LEYE063 CL-BBS-23-46 LEYE040 CL-BBS-23-29 LEYE062 CL-BBS-23-17 LEYE061 LEYE039 ARU-LEYE-06 LEYE038 LEYE037 LEYE036 LEYE035 LEYE034 ARU-LEYE-05 CRMB-05 CL-BBS-23-31 CRMB-04 LEYE032 CRMB-07 CRMB-06 CL-BB-G2-12 CL-BB-G2-11 CRMB-11 CL-BBS-23-21B CL-BBS-23-1 CL-BBS-23-21 ARU-LEYE-09 LEYE058 LEYE018 LEYE017 CL-BB-G1-28 ARU-LEYE-01 LEYE021 LEYE016 LEYE019 CL-BB-G1-20 LEYE020 ARU-LEYE-02 LEYE080 CRMB-22 CRMB-23 LEYE033 LEYE051 LEYE082 CL-BBS-23-25 LEYE027 LEYE028 LEYE079 LEYE029 LEYE049 LEYE048 LEYE047 CL-BBS-23-24 CL-BB-G1-34 CL-BBS-23-6 CL-BB-G1-03 CL-BBS-23-20 CL-BBS-23-38 CL-BBS-23-36 LEYE046 CRMB-18 LEYE045 CL-BB-G2-05 LEYE044 CRMB-17 LEYE043 LEYE042 LEYE041 CL-BBS-23-27 LEYE078 LEYE071 LEYE066 LEYE070 LEYE067 LEYE072 LEYE068 LEYE069 LEYE077 LEYE074 LEYE073 LEYE076 LEYE075 LEYE031 CRMB-29 CL-BBS-BS-01 CRMB-09 LEYE030 ARU-LEYE-07 LEYE053 CRMB-28 CRMB-26 LEYE005 CL-BB-ET-G2-09 LEYE006 CRMB-27 LEYE004 CL-BB-ET-G2-06 CRMB-25 CL-BB-ET-G2-05 LEYE007 CL-BBS-23-30 LEYE008 LEYE009 LEYE010

10km 5km 1km

Aubin Lake

Nesbitt Creek

North Driftwood River

Thorburn Creek

Mattagami River

Buskegau River

West Buskegau River

Jock River

Murphy Creek

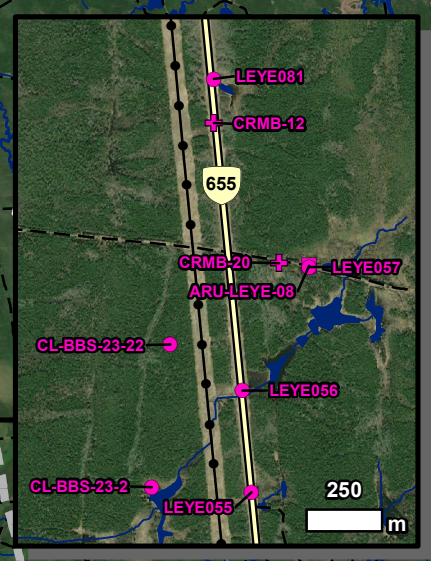
Kidd Creek Mine

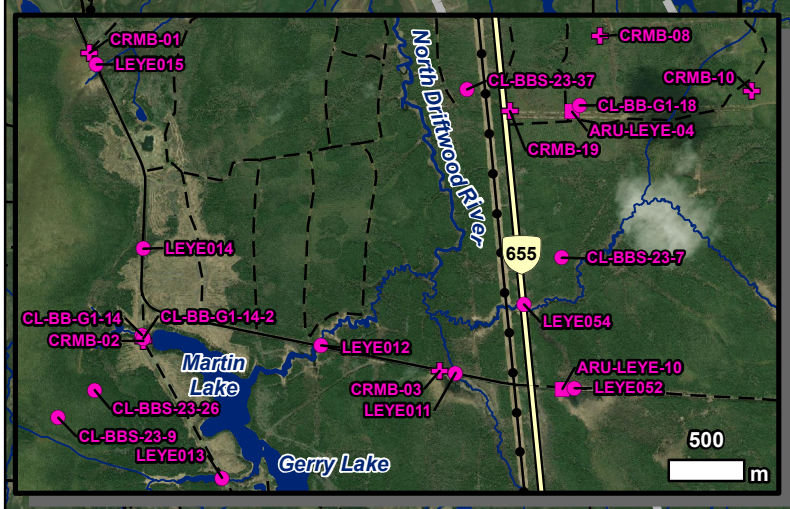
Bigwater Lake

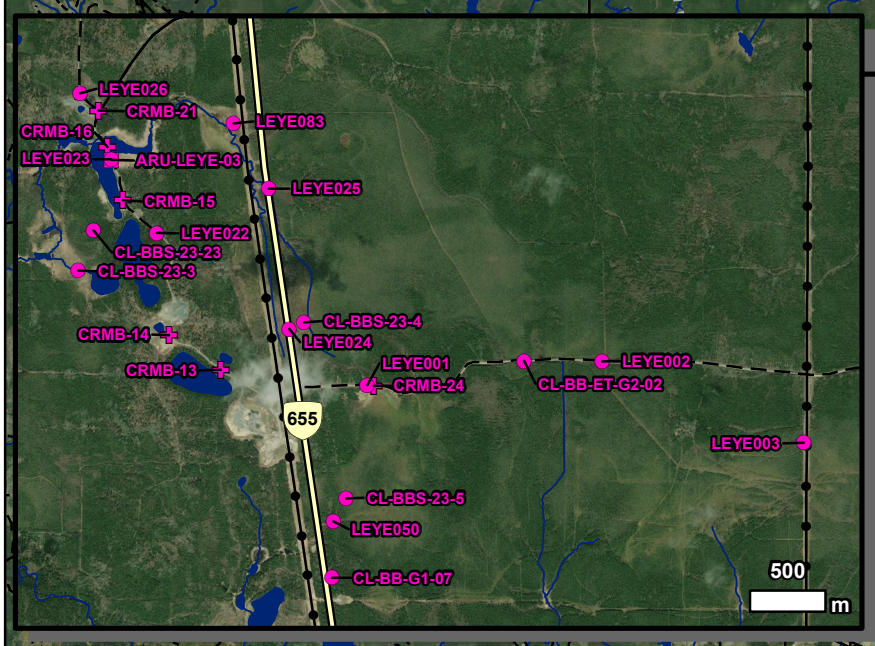
Porcupine Lake

City of Timmins

655 101







LEGEND

- Project Location
- Study Areas (labelled on map)
- Breeding Bird Survey Station, 2023
- Bird Detector Station, 2023
- Migratory Bird Survey Station, 2023
- Primary Road / Highway
- Secondary / Local Road
- Resource / Recreation Road
- Existing Utility Line
- Watercourse
- Waterbody

NOTES:
- Waterbody and Watercourse data extracted from Land Information Ontario (LIO), 2021
- Aerial imagery extracted from ESRI ArcGIS Online image service, 2019

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 4 6 8 10 Kilometres

N W E S

CANADA NICKEL COMPANY

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CRAWFORD NICKEL PROJECT

Bird Survey Locations (2023)

PROJECT N°:OMEMA2304 | **FIGURE: 3**

SCALE: 1:185,000 | DATE: December 2023

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