

MANITOBA INFRASTRUCTURE - WATER MANAGEMENT AND STRUCTURES

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNEL PROJECT

PRECONSTRUCTION ENVIRONMENTAL FIELD WORK – WILDLIFE (CONS15843)

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PUBLIC DOCUMENT



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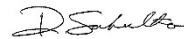


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EXECUTIVE SUMMARY

WSP Canada Group Limited was retained by Manitoba Infrastructure to complete pre-construction heritage resource investigations and additional terrestrial environmental surveys for plant and wildlife species at risk in support of the Lake Manitoba and Lake St. Martin Outlet Channel Project (“Project”) in the Interlake region of Manitoba (Figure 1A, Appendix A). The pre-construction surveys were completed in 2020 to supplement baseline environmental information previously collected and documented in an Environmental Impact Statement (EIS, Manitoba Infrastructure, 2020) developed in support of the Project and initially filed with Federal and Provincial agencies in August 2019 and refiled in March 2020.

The Project includes the construction of two new water diversion (“outlet”) channels as a permanent flood control management system for the Lake Manitoba and Lake St. Martin region of Manitoba, as well as associated infrastructure in support of channel construction including re-routing of Provincial Road 239 and construction of a Manitoba Hydro power distribution line (Figures 1A, 1B, 1C, Appendix A). The Lake Manitoba Outlet Channel will connect Lake Manitoba with Lake St. Martin, and the Lake St. Martin Outlet Channel will connect Lake St. Martin to Lake Winnipeg. Combined, these two channels will convey water from Lake Manitoba through Lake St. Martin to Lake Winnipeg in a manner that alleviates overland flooding in the Lake St. Martin area of Manitoba, such as occurred in the 2011 and 2014 floods.

The objective of the pre-construction wildlife survey was to identify occupied habitat and potentially suitable habitat within the wildlife Local Assessment Area, especially within the Project Development Area where direct impact from Project activities may occur for bird Species at Risk, with emphasis on the red-headed woodpecker and eastern whip-poor-will. Documenting occurrences of these species will inform development of species-specific mitigation measures for the future wildlife monitoring plan(s) and mitigation plans for red-headed woodpecker and eastern whip-poor-will being developed by MI (see EIS Section 12.7.1; MI, 2020). For example, monitoring during the construction and post-construction phases will focus on these previously identified areas of habitat use to assess the potential project interactions and effectiveness of mitigation measures and potential mitigation plan(s) in addition to reclamation and/or restoration efforts. The field investigations will also further identify potential effects and mitigation on other SAR, as well as environmentally sensitive areas within the Local Assessment Area/Project Development Area and be used to inform the environmental assessment process. Note: The 2020 wildlife studies should be interpreted as providing information for additional areas of occupancy and possible occupancy that were not included in the earlier Environmental Impact Statement baseline surveys and will be referred to as environmentally sensitive areas for each of the Species at Risk.

For the purposes of this report, Species at Risk were identified as those listed under Schedule 1 of the Federal *Species at Risk Act*, regulated under the Manitoba Provincial *Endangered Species and Ecosystems Act* (Government of Manitoba, 2016) and those listed by the Manitoba Conservation Data Centre as having an S-rank of S1, S2 or S3 as these species are tracked by the Manitoba Conservation Data Centre as they are considered to be rare and vulnerable to extirpation in Manitoba (Government of Manitoba, n.d.a, Personal Communication, November 19, 2020 MBCDC).

This wildlife report provides a summary of the information collected during the pre-construction wildlife surveys completed for the Project in July through August of 2020 and includes a summary of the desktop analysis, survey methods used for field data collection, and results of data collected during field surveys. The report also provides a list of bird species observed, general locations, figures depicting general locations of identified bird Species at Risk, as well as photos of representative habitats. In addition, a discussion of the findings of the field surveys and recommended mitigation measures for the red-headed woodpecker, eastern whip-poor-will, and other bird Species at Risk has been included.

A desktop review of background information for the Lake Manitoba Outlet Channel and Lake St. Martin Outlet Channel was completed to identify bird Species at Risk that have the potential to occur within the project areas as well as the potential for habitat to support these species. The desktop review identified 22 bird Species at Risk with the potential to occur in the Local Assessment Area, including the red-headed woodpecker and Eastern whip-poor-will. The desktop review identified areas where the current Project Development Area overlaps known critical wildlife habitat (identified by Environment and Climate Change Canada) as well as areas of potential suitable habitat for these species that required further field investigation through presence/non-detection surveys, collection of habitat descriptions at survey points as well as through the refined vegetation mapping (Work Package 1 component of the Project).

Based on the desktop review, the wildlife investigation aimed to survey for presence/non-detected status of bird Species at Risk in areas of low sampling density and previously non-surveyed areas that have the ability to support Species at Risk, in particular critical wildlife habitat identified in federal (Environment and Climate Change Canada) recovery strategies for both the red-headed woodpecker and eastern whip-poor-will. Surveys included multiple methodologies to determine occupancy and combine these results with a habitat suitability assessment to identify areas of potential occupancy classified as environmentally sensitive areas.

In-person breeding bird surveys were completed at 41 sites in the Lake Manitoba Outlet Channel Local Assessment Area, 13 sites along the Provincial Road 239 re-route, and 13 sites within the Local Assessment Area along the east shore of Lake St. Martin. Automated recording units were installed at 17 targeted locations for red-headed woodpecker within the Project Development Area and Local Assessment Area in July 2020. Habitat data was collected at each automated recording unit location and breeding bird point count stations with red-headed woodpecker detections.

The 2020 wildlife program resulted in the detection of six red-headed woodpeckers, including two birds during in-person breeding bird point count surveys, two detections via automated recording device analysis, and two red-headed woodpeckers through incidental observations. None of the observations were located within the Environment and Climate Change Canada critical wildlife habitat blocks for the red-headed woodpecker; the nearest sightings for this species were located within the Lake Manitoba Outlet Channel Project Development Area over eight kilometres to the south and over eight kilometers to the north of the critical habitat blocks. The detections made in the 2020 wildlife survey are considered probable breeders in the area as nest sites were not identified. The low number of red-headed woodpecker detections is likely due to the project occurring in the northern extent of this species' range. Information on the occurrences/locations of the red-headed woodpecker observed during the 2020 wildlife surveys will be utilized to inform mitigation plan(s) developed for the Project and future monitoring and offset plans if required. Potential mitigation measures for the red-headed woodpecker may include such measures as creation of natural or artificial snags or conserving snags outside of the Project Development Area during reclamation and/or restoration efforts.

The 2020 wildlife program resulted in the detection of 23 eastern whip-poor-will occurrences, including three birds during in-person eastern whip-poor-will surveys and 20 detections via automated recording analysis analyses. The 2020 detections within the Lake Manitoba Outlet Channel are likely a result of recent forest clearing. The detections along the eastern shore of Lake St. Martin and along the distribution line occur in more stable habitat. This species has been shown to successfully occupy recently cleared areas associated with construction (Wildlife Resource Consulting Services MB, Inc., 2016); therefore, it is possible the Project could result in a net gain of suitable habitat for this species. Information on the occurrences/locations of the eastern whip-poor-will observed during the 2020 wildlife surveys will be utilized to inform mitigation plan(s) developed for the Project and future monitoring and offset plans if required. Potential mitigation measures for the eastern whip-poor-will may include such measures as identification of areas where habitat enhancement can be developed during reclamation and/or restoration efforts to benefit the eastern whip-poor-will as well as the completion of construction and post-

construction surveys for eastern whip-poor-will to identify whether the Project has created additional eastern whip-poor-will habitat associated with clearing of vegetation for construction activities.

Other bird Species at Risk detected during the 2020 field surveys include yellow rail, common nighthawk, barn swallow and bobolink. Yellow rail preferred habitats are wet, marshy areas dominated by grassy vegetation and wet treed areas such as muskeg. Common nighthawks prefer logged forest, recently burned forest, woodland clearings, and open forests near areas of open rock outcrop, fence lines or fireguards. Species tracked by the Manitoba Conservation Data Centre that were observed during the 2020 surveys included Western meadowlark and bald eagle. For these Species at Risk and tracked species, the Project should adhere to provincial development setback distances should active nests be observed during construction activities (MBCDC, 2015). The observed bald eagle nest was found in trees along the Lake St. Martin shoreline and appropriate setback from this nest (1000 m) if deemed to be active, should be established. For all Species at Risk and birds protected under the federal *Migratory Bird Convention Act* and provincial legislation and regulations, it is recommended all clearing for the Project occur outside of the breeding bird timing window.

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1 INTRODUCTION

WSP Canada Group Limited (WSP) was retained by Manitoba Infrastructure (MI) to complete pre-construction heritage resource investigations and additional terrestrial environmental surveys for plant and wildlife Species at Risk (SAR) in support of the Lake Manitoba and Lake St. Martin Outlet Channel Project ("Project") in the Interlake region of Manitoba (Figure 1A, Appendix A). The pre-construction surveys were completed in 2020 to supplement baseline environmental information previously collected and documented in an Environmental Impact Statement (EIS, Manitoba Infrastructure, 2020) developed in support of the Project and initially filed with Federal and Provincial agencies in August 2019 and refiled in March 2020.

This wildlife report provides a summary of the information collected during the pre-construction wildlife surveys completed for the Project in July through August of 2020 and includes a summary of the desktop analysis, survey methods used for field data collection, and results of data collected during field surveys. The report also provides a list of bird species observed, as well as photos of representative habitats. In addition, a discussion of the findings of the field surveys and recommended mitigation measures for the red-headed woodpecker, eastern whip-poor-will, and other bird SAR has been included.

This document does not include confidential information such as specific locations of Species at Risk, Traditional Knowledge and environmentally sensitive areas/habitat.

1.1 Background

The Project involves the construction of two new water diversion ("outlet") channels as a permanent flood control management system for the Lake Manitoba and Lake St. Martin region of Manitoba. The Project will also entail associated infrastructure in support of channel construction including re-routing of Provincial Road (PR) 239 and construction of a Manitoba Hydro power distribution line (Figures 1A, 1B and 1C, Appendix A). The Lake Manitoba Outlet Channel (LMOC) will connect Lake Manitoba with Lake St. Martin. The Lake St. Martin Outlet Channel (LSMOC) will connect Lake St. Martin to Lake Winnipeg. Combined, these two channels will convey water from Lake Manitoba through Lake St. Martin to Lake Winnipeg in a manner that alleviates overland flooding in the Lake St. Martin area of Manitoba such as occurred in the 2011 and 2014 floods.

In August 2019, MI filed an Environmental Impact Statement (EIS) with federal and provincial regulators for the construction of the outlet channels. A revised version of the EIS was submitted to regulators in March 2020 following their review of the initial submission by MI. To further support the Project and confirm information provided in the EIS, pre-construction heritage resource investigations and terrestrial environmental surveys for plant and wildlife SAR were completed from July through September 2020. The pre-construction surveys were developed as three work packages and each involved desktop review and supporting field investigations.

Work Package 1 involved the completion of a pre-construction vegetation field investigation to assess the Project Development Area (PDA) of both the LMOC and the LSMOC, the re-route of PR 239 and Manitoba Hydro's planned distribution line for the presence of plant SAR. The vegetation investigation aimed to survey for occurrences of plant SAR in areas of low sampling density based on review of mapped data (provided by MI) collected during previous baseline studies completed in support of the EIS and previously non-surveyed areas of native vegetation that have the ability to support SAR including wetland transition zones and areas of shallow bedrock. In addition, wetland mapping was completed as a desktop mapping exercise. Field ground truthing of

wetland mapping was completed during the vegetation surveys to aid in identification of wetland transition zones and to inform vegetation cover class mapping the Project.

Work Package 2 involved completion of a pre-construction wildlife field investigations to assess previously non-surveyed areas with high potential for wildlife within the Local Assessment Area (LAA) of both the LMOC and the LSMOC, the PR 239 re-route right-of-way and Manitoba Hydro's planned distribution line. The focus of the investigation was to provide additional information on the presence/non-detection and potential habitat suitability for two key bird SAR, the red-headed woodpecker (RHWO; *Melanerpes erythrocephalus*) and eastern whip-poor-will (EWPW; *Antrostomus vociferus*), as well as to collect supplemental information on the presence/non-detection of other bird SAR to inform future wildlife monitoring and mitigation plan(s) developed for the Project.

Work Package 3 involved the completion of a pre-construction Heritage Resource Impact Assessment (HRIA) to assess the presence of heritage resources within the PDA of the LMOC, LSMOC, the PR 239 re-route and Manitoba Hydro's planned distribution line as well as development of a Heritage Resource Protection Plan (HRPP). The focus of the investigation was on areas of high potential for heritage and archaeological resources within the PDA.

This report addresses Work Package 2, pre-construction wildlife field investigations. Information collected during the pre-construction vegetation, wetland and heritage resources surveys has been provided as separate summary reports.

1.2 Study Limitations

The following limitations are applicable to this report.

- The refined vegetation mapping completed for the Project (as part of Work Package 1) was based on available LIDAR and ortho-imagery that only extended to 1.5 kilometres (km) on either side of the centreline of the PDA.
- Ortho-imagery used to design the sampling plan for the EWPW did not show all recently cleared areas. The latest Google Earth imagery is dated 2014.
- No up-to-date forest structural stage data was available from publicly available GIS layers.
- Areas of closed forest canopy visible on ortho-imagery are assumed to be unsuitable for the EWPW. Professional judgement based on the reconnaissance overflight was used to refine identification of areas that may have potential to support the EWPW identified during the vegetation program. Areas of flooded forest during the reconnaissance flight during the breeding season were determined to be unsuitable.
- Direct observations of bird breeding behaviour (e.g. birds entering nest cavities, feeding of young, fecal sac removal, visual detection of nests/young) was limited, especially in relation to the automated recording units utilized along the eastern shore of Lake St. Martin. As such, locations of actual nesting sites for the RHWO, EWPW and other SOCC were not mapped.
- The mean probability of detection for the EWPW in the literature is 0.27 +/- 0.02 (Farrell et al., 2019) and 0.433 (95% CI: 0.34, 0.52) 1 hour before sunset and 0.332 (95% CI: 0.25, 0.42) 1 hour after sunset (Vala et al., 2020).
- The mean probability of EWPW occupancy has been recorded at 0.29 +/- 0.06 (Farrell et al., 2019) and 0.224 (95% CI: 0.168, 0.320) (Vala et al., 2020).

1.3 Study Areas

The previous mapping completed in support of the EIS examined three spatial boundaries/study areas (Figures 1A, 1B, 1C, Appendix A):

1. The PDA, the area in which the Project components and activities are located (Project footprint), including the area of physical disturbance associated with the construction and operation of the Project. The PDA includes the LMOC (400-m right-of-way), the PR 239 re-route (including a 50-m right-of-way), the LSMOC (400-m right-of-way), power distribution connection to the water control structures, ancillary and temporary workspaces.
2. The LAA for the Wildlife Valued Component (VC) which was defined in the EIS as a 1-km buffer around the PDA including along the shore of Lake St. Martin.
3. The Regional Assessment Area (RAA) for the Wildlife VC, which was defined in the EIS as a 12-km buffer around the LAA.

The Project EIS identified suitable breeding habitat and Environment and Climate Change Canada (ECCC) critical habitat for two SAR, the RHWO and EWPW within the LAA and PDA, and as such a commitment was made in the Project EIS to conduct pre-construction monitoring surveys for these species. Similarly, survey gaps were identified for other bird SAR including least bittern (*Ixobrychus exilis*), yellow rail (*Coturnicops noveboracensis*) and piping plover (*Charadrius melodus*).

Note: “critical habitat” is identified under the Federal *Species at Risk Act* (SARA) for species listed as endangered or threatened. Under Section 2 of SARA, critical habitat is defined as:

“the habitat that is necessary for the survival or recovery of listed wildlife species (Schedule 1), and that is identified as the species’ critical habitat in a recovery strategy or in an action plan for the species. Critical habitat spatial data exists for 116 of the 469 Environment Canada – Species at Risk of interest, which includes draft, candidate, proposed and final critical habitat spatial data that were provided by Canadian Wildlife Service regional offices. In order to protect sensitive critical habitat information, or for some sharing data issues, critical habitat sites were generalized using a 10-kilometer (km) x 10 km national grid. The identification of critical habitat in federal recovery documents is reviewed by partners, stakeholders and jurisdictions and is also open to a public consultation process.” (Environment and Climate Change Canada, 2018; Government of Canada, 2016).

Reference to ECCC critical habitat made throughout this report is based on the 10 km x 10 km mapped blocks identified in association with the Project PDAs and LAAs for the RHWO and the EWPW as well as the ECCC critical habitat recovery strategies for these two species.

Pre-construction wildlife surveys in 2020 targeted areas identified as having potential or suitable breeding habitat for RHW and EWPW within the LAA as well as areas of the LAA within the ECCC critical habitat (as defined above and in Figures 1A, 1B, 1C, Appendix A). Therefore, the study areas for the pre-construction wildlife surveys included:

- LMOC PDA;
- PR 239 re-route;
- Areas within/adjacent to the ECCC critical habitat areas for RHW (refer to Figures 2A and 2C, Appendix A);
- Areas within/adjacent to the ECCC critical habitat for EWPW (refer to Figures 2A and 2B, Appendix A);
- Eastern shore of Lake St. Martin; and
- Potential suitable breeding habitat along the end of the Manitoba Hydro planned transmission distribution line.

In addition, suitable habitat for other avian SAR that may occur within the LAA such as golden-winged warbler (*Vermivora chrysolptera*), olive-sided flycatcher (*Contopus cooperi*), common nighthawk (*Chordeiles minor*), piping plover, least bittern and yellow rail, among others, was also taken into consideration when planning survey locations for pre-construction wildlife surveys (Figures 2A, 2B and 2C, Appendix A).

1.4 Study Objectives

The objective of the pre-construction wildlife survey was to identify occupied habitat and potentially suitable habitat within the wildlife LAA, especially within the PDA where direct impact from Project activities may occur for bird SAR, with emphasis on the RHW and EWPW. Documenting occurrences of these species will inform development of species-specific mitigation measures for the future wildlife monitoring plan(s) and mitigation plans for RHW and EWPW being developed by MI (see EIS Section 12.7.1; MI, 2020). For example, monitoring during the construction and post-construction phases will focus on these previously identified areas of habitat use to assess the potential project interactions and effectiveness of mitigation measures and potential mitigation plan(s) in addition to reclamation and/or restoration efforts. The field investigations will also further identify potential effects and mitigation on other SAR, as well as environmentally sensitive areas within the LAA/PDA and be used to inform the environmental assessment process. Note: The 2020 wildlife studies should be interpreted as providing information for additional areas of occupancy and possible occupancy that were not included in the earlier EIS baseline surveys and will be referred to as environmentally sensitive areas for each of the SAR.

2 METHODS

2.1 Desktop Studies

A desktop review was completed by qualified biologists and environmental technicians to identify potential SAR habitat and which SAR have the potential to occur in the PDA and LAA. The information collected during the review included previous field surveys that were completed in the area, data from existing sources including prior reports, data provided by MI and mapping available for the PDA and surrounding LAA.

2.1.1 Data Sources

A detailed review of background information was conducted to synthesize previously documented bird species, confirmed and potential SAR, ECCC critical habitat in proximity to the PDA and within the LAA and potential suitable habitat within the PDA and LAA. Data sources included but were not limited to:

Literature reviewed in the collection of background information included the EIS and baseline wildlife reports:

- Lake St. Martin Outlet Channel Access Road – Terrestrial Wildlife Technical Report (Ecologic Environmental Inc, 2016).
- Lake Manitoba Outlet Channel Options: Wildlife Technical Report (Ecologic Environmental Inc, 2017).
- Lake St Martin Outlet Channel Options: Wildlife Technical Report (Ecologic Environmental Inc, 2017).
- Lake Manitoba and Lake St. Martin Outlet Channels Project - Environmental Impact Statement, Volume 3, Biophysical Effects Assessment (MI, 2020).

Publicly available data sources reviewed included:

- Environment and Climate Change Canada (ECCC) critical habitat data and maps for the RHWO and EWPW and information for other SAR species with potential to occur within the LAA;
- Manitoba Breeding Bird Atlas (MBBBA);
- Manitoba Conservation Data Centre (MBCDC) - list of bird SAR for the Interlake Plain and Mid-Boreal Lowland Ecoregions;
- ECCC Species at Risk (SAR) Recovery Strategies;
- Grey literature including Master of Science thesis'; and
- Scientific literature.

The following spatial datasets were provided by MI:

- Ortho-imagery (5 cm resolution), extending approximately 1.5 km from the centerlines of LMOC, PR 239 re-route, LSMOC and Manitoba Hydro's distribution line;
- EIS land capability classification for the PDA, LAA, and RAA;
- Survey data for locations of some SAR previously identified and historical survey locations; and
- EIS PDA, LAA, and RAA, as well as the updated PDA used for 2020 assessments.

Other sources:

- Vegetation data mapped for the Pre-construction Vegetation Survey Report completed in conjunction with this wildlife survey; and
- Google Earth™ imagery.

2.1.2 Bird Species at Risk

For the purposes of this report, Species at Risk (SAR) were identified as those listed under Schedule 1 of the Federal *Species at Risk Act*, regulated under the Manitoba Provincial *Endangered Species and Ecosystems Act* (Government of Manitoba, 2016) and those listed by the MBCDC as having an S-rank of S1, S2 or S3 as these species are tracked by the MBCDC as they are considered to be rare and vulnerable to extirpation in Manitoba (Government of Manitoba, n.d.a, Personal Communication, November 19, 2020 MBCDC).

The desktop screening identified 22 bird SAR with potential to occur in the LAA (Table 1). The selection of survey locations for pre-construction surveys in 2020 focused on species identified in the Impact Assessment Agency Comments (IAAC) Technical Information Request (Questions IAAC-46 and IAAC-54) that was provided to MI in response to the EIS. These species are presented in bold text in Table 1.

Table 1 Bird SAR with Potential to Occur in the LAA

Common Name	COSEWIC Status^(a)	SARA Status^(b)	ESEA Status^(c)	MBCDC Status^(d)	Potential Breeding^(e) (Y = yes/ N = no/ Unk = unknown)
Bank Swallow	Threatened	Threatened	-	S5B	Y
Barn Swallow	Threatened	Threatened	-	S4B	Y
Bobolink	Threatened	Threatened	-	S4B	Y
California Gull	-	-	-	S3B	Y
Canada Warbler	Threatened	Threatened	Threatened	S3B	Y
Caspian Tern	Not at Risk	-	-	S3B	Y
Common Nighthawk	Special Concern	Threatened	Threatened	S3B	Y
Eastern Whip-poor-will	Threatened	Threatened	Threatened	S3B	Y
Eastern Wood-pewee	Special Concern	Special Concern	-	S4B	Y
Evening Grosbeak	Special Concern	Special Concern	-	S3	Y
Golden-winged Warbler	Threatened	Threatened	Threatened	S3B	Y
Horned Grebe	Special Concern	Special Concern	-	-	Y
Least Bittern	Threatened	Threatened	Endangered	S2B	Y
Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S3B	Y
Pine Warbler	-	-	-	S3B	Y
Piping Plover	Endangered	Endangered	Endangered	S1B	Y
Red-headed Woodpecker	Endangered	Threatened	Threatened	S3B	Y
Short-eared Owl	Special Concern	Special Concern	Threatened	S2S3B	Y
Trumpeter Swan	-	-	Endangered	S1B	Y

Common Name	COSEWIC Status ^(a)	SARA Status ^(b)	ESEA Status ^(c)	MBCDC Status ^(d)	Potential Breeding ^(e) (Y = yes/ N = no/ Unk = unknown)
Western Grebe	Special Concern	Special Concern	-	-	Y
Western Wood-pewee	-	-	-	S3B	Unk
Yellow Rail	Special Concern	Special Concern	-	-	Y
TOTAL (22 species)	18	17	10	-	

Notes:

Bolded text = focus of surveys as per IACC questions

a) Species designated by COSEWIC for listing under the *Species at Risk Act* (COSEWIC, 2020).

b) Species officially listed under the federal *Species at Risk Act*.

c) Species officially listed under the *Endangered Species and Ecosystems Act*.

d) Species province-wide (subnational-S) conservation ranking under the Manitoba Conservation Data Centre, where:

S1 – Critically Imperiled— At very high risk of extirpation due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors

S2- Imperiled— At high risk of extirpation due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

S3 - Vulnerable - At moderate risk of extirpation due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

S4 - Apparently Secure - At a fairly low risk of extirpation due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

S5 - Common - At very low or no risk of extirpation due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats.

B – Breeding - Conservation status refers to the breeding population of the species in the province.

N – Non-breeding - Conservation status refers to the non-breeding population of the species in the province.

SU - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

e) Data source: Manitoba Breeding Bird Atlas Data Summaries for Region – South Interlake. Potential breeding indicated as a “Yes” if a species was listed as CONF, PROB or POSS based on this coding sheet (<https://www.birdatlas.mb.ca/mbdata/codes.jsp?lang=en&pg=breeding>).

“-” No status

2.1.3 Provincially Sensitive Bird Species

The desktop screening also identified 25 bird species (including 19 of the bird SAR listed in Table 1) with the potential to occur in the LAA that the MBCDC have a recommended development setback distance for. The proposed project is considered to be a High Disturbance Category (C. Friesen, MBCDC, pers. comm., October 28, 2020) and the setback distances are reflected in Table 2 below based on that disturbance category.

Table 2 Provincially Sensitive Bird Species with a Recommended Setback Distance

Common Name	Key Wildlife Feature	Restricted Activity Period	Recommended Setback Distance – High Disturbance (m) ¹	Species Detected During 2020 Breeding Bird Point Count and ARU Surveys
American White Pelican	Nesting Colony	April 1 - August 31	1000	No
Bald Eagle	Active or Traditional Nest Site	March 15 - July 15	1000	Yes
Bank Swallow	Nesting Colony	May 15 - July 31	300	Historic
Barn Swallow	Nest Site	May 15 - September 30	100	Yes
Bobolink	Nest Site	May 15 - August 15	400	Yes
California Gull	Nesting Colony	May 1 - July 15	750	No
Canada Warbler	Nest Site	May 1 - July 31	450	No
Caspian Tern	Nesting Colony	May 1 - July 15	750	No
Common Nighthawk	Nest Site	May 1 - August 31	300	Yes
Double-crested Cormorant	Nesting Colony	April 1 - August 31	750	No
Eastern Whip-poor-will	Nest Site	May 15 - July 16	300	Yes
Eastern Wood-pewee	Nest Site	May 15 - Aug 15	300	Historical (EIS baseline studies)
Golden-winged Warbler	Nest Site	May 15 - August 6	450	No
Great Blue Heron	Nesting Colony	April 1 - August 31	750	No
Great Grey Owl	Active or Traditional Nest Site	Feb 15 - July 15	1000	No
Horned Grebe	Nest Site	May 1 - Sep 15	400	No
Least Bittern	Nest Site	May 1 - July 31	400	No
Northern Hawk Owl	Nest Site	Feb 15 - July 15	1000	No
Olive-sided Flycatcher	Nest Site	May 1 - August 31	300	No

Common Name	Key Wildlife Feature	Restricted Activity Period	Recommended Setback Distance – High Disturbance (m) ¹	Species Detected During 2020 Breeding Bird Point Count and ARU Surveys
Piping Plover	Active or Traditional Nest Site	April 15 - August 15	600	No
Red-headed Woodpecker	Nest Site	April 15 - August 15	200	Yes
Short-eared Owl	Nest Site	April 15 - September 15	500	No
Trumpeter Swan	Nest Site	April 1 - July 31	1000	No
Western Grebe	Nesting Colony	May 15 - July 15	400	No
Yellow Rail	Nest Site	May 1 - July 15	350	Yes

¹Recommended Development Setback Distances from Birds, Manitoba Conservation Data Centre, June 24, 2015

2.1.4 Habitat Evaluation for Bird Species at Risk

Potential RWHO and EWPW habitat was the primary target for field surveys; therefore, a review of background information including maps, was completed to identify where the current PDA overlaps with mapped occupied habitat and potential habitat for both the RWHO and EWPW (EEI, 2017a and b; ECCC, 2015; ECCC, 2019). The pre-construction wildlife surveys discussed below focused on areas identified as ECCC critical habitat or as having suitable and potential breeding habitat in the desktop review. The 2020 wildlife studies should be interpreted as providing information for additional areas of occupancy and possible occupancy that were not included in the earlier EIS baseline surveys (Figure 2A, Appendix A). There was some overlap with previous baseline surveys (EEI, 2017a).

2.2 Field Studies

Field studies were undertaken to collect data to aid in the further identification and evaluation of species occurrences/occupancies to aid in development of mitigation measures or be included in the future development of an offsetting program, if required. Based on the desktop review, the wildlife investigation aimed to survey for presence/non-detected status of bird SAR in areas of low sampling density and previously non-surveyed areas that have the ability to support SAR, in particular critical wildlife habitat identified in federal (ECCC) recovery strategies for both the RWHO and EWPW. Surveys included multiple methodologies to determine occupancy and combine these results with a habitat suitability assessment to identify areas of potential occupancy classified as environmentally sensitive areas.

Suitable habitat identified during the habitat mapping was filtered using data gathered during the field assessment for the RWHO and the EWPW. A high-level habitat suitability assessment was also undertaken for the yellow rail however potentially suitable areas were not ground truthed. A detection of a species whether it be during a point count survey or during the analysis of automated recording unit data is inferred to be a breeding bird as the surveys were conducted during the breeding season when most species of birds are on territory and singing. The MBBA records all birds during their survey as either observed, possible, probable or confirmed breeder status (MBBBA, 2009). Observed is the only code that does not infer a breeding status and is defined as a detection during the breeding season but occurring in non-breeding habitat; the code is rarely used. All SAR birds detected

during the 2020 field program were found within or near breeding habitat and therefore are presumed to be breeding.

This data will aid in the improvement of confidence in the residual effects assessment and mitigation plans by:

- Supplementing existing baseline information to support comparisons between construction and post-construction mitigation and monitoring; and,
- Refining both general and site-specific mitigations, including details of whether and where mitigation plans for the RHWO and EWPW may be required.

2.2.1 Breeding Bird Point Count Surveys

Breeding bird surveys for the RHWO and EWPW were completed during the recommended breeding period in early July within the PDA and LAA (MBBBA, 2009; WildResearch, 2019). Surveys focused on identifying additional potential habitat not previously identified in the EIS and confirming the occupancy of RHWO and EWPW as well as other bird SAR.

Breeding bird surveys were conducted on July 8 to 10, 2020. Establishment of point count survey locations focused on areas of the PDA and LAA identified during the desktop mapping as potential RHWO or EWPW habitat, areas of the LAA within the ECCC critical habitat area block for RHWO, and in areas where low sampling density occurred during previous baseline studies (refer to Figure 2A, Appendix A for overview of 2020 survey locations – 2020 Survey [BBS] and 2020 Survey [ARU Locations]).

2.2.1.1 Red-headed Woodpecker

A total of 72-point count survey sites for RHWO were established during the 2020 baseline field program. Thirty were within 500 m of the PDA including 12 survey sites completed within the RHWO ECCC critical habitat block which included the PR 239 re-route PDA (refer to Figures 2A, 2B and 2C, Appendix A). Of the 72, 18 sites were within the LAA along the eastern shore of Lake St. Martin. Survey sites were placed to provide adequate coverage of the area targeting the PDA while also identifying other areas within the LAA with potential habitat for the RHWO.

Survey locations were established on the local road network and spaced approximately 800 m apart as per standard Point Count methodologies. Locations were spaced apart to maximize distance covered, minimize duplication of called areas while still being able to detect the species. Loud territorial calls of the RHWO as recorded during the point count surveys, are used during the breeding season to replace drumming in long-distance communication (Elliston, 1992). A detection radius around each point count survey station of approximately 400 - 500 m was estimated based on the flat terrain, openness of habitat and suitable weather conditions; allowing for detection within/adjacent to the PDA.

The 5-minute surveys began 30 minutes before sunrise and continued for no more than 5 hours after sunrise. The point counts were supplemented with general reconnaissance and incidental observations to assist with identification of habitat and potential nesting cavities, and with detection of individuals, fledglings, and family groups. Surveys were not conducted in temperatures <0°C, wind speeds greater than 20 km/hr or during any precipitation events.

At each point count survey site, the surveyor waited 1-minute prior to initiating the survey and then completed the 5-minute passive survey (MBBBA, 2009). During a point count, the surveyor recorded all bird vocalizations and visual sightings. Data collected at each site included:

- date;
- time;
- temperature;
- wind speed;
- cloud cover;
- precipitation;
- noise disturbance;
- dominant habitat type i.e., forest;
- bird behaviour (e.g., singing, calling, flying, food-carrying, nesting, etc.);
- number and direction of birds where possible;
- photographs; and
- incidental observations of other wildlife species.

2.2.1.2 Eastern Whip-poor-will

The survey timing for EWPW point count surveys was also suitable to simultaneously collect data on bird SAR species that are also active at dusk, such as yellow rail and common nighthawk. Surveys recorded all species detected during the surveys.

Manitoba does not have an EWPW survey protocol. As such, point counts followed a modified Canadian Nightjar Survey Protocol (WildResearch, 2019). Nightjars are a family of cryptic birds that forage for flying insects at night and include EWPW, common nighthawk, and common poorwill (*Phalaenoptilus nuttallii*) (WildResearch, 2019). Thus, the nightjar protocol aims to collect data for those species. The survey was modified as it is typically conducted by road transects. Instead, potential breeding habitat was targeted for surveys. EWPW surveys were conducted on July 6 and 8, 2020, within the required one-week timeframe from the July 5, 2020 full moon. A total of 25 survey sites for EWPW were established in the LAA: 17 within 500 m of the LMOC PDA and eight within the remainder of the LAA (Figures 2A, 2B, and 2C, Appendix A) based on the pre-screening for potential habitat completed during the desktop review. Survey sites were established along roads to provide adequate coverage of the area targeting the PDA while also allowing other areas within the LAA with potential EWPW habitat to be identified all while surveying within the correct moon cycle.

EWPW survey sites were spaced approximately 800 m apart. EWPW can be detected by sound over 1 km away from an observer in non-windy conditions (Johnson, 2011) however the infield estimate of a 400 - 500 m radius was based on the presence of woodlots across the landscape. The surveys began 30 minutes before sunset and continued for no more than 1.5 hours after sunset. The surveys were supplemented with general reconnaissance and incidental observations made during travels to and from the survey area. Surveys were not conducted in temperatures <0°C, wind speeds greater than 20 km/hr or with any precipitation.

At each point count survey site, the surveyor waited 1-minute prior to initiating the survey and then completed a 6-minute passive survey (WildResearch, 2019). During a survey, the surveyor listened for bird vocalizations and, when able, scanned the area for visual sightings. Data collected at each site included that outlined in Section 2.2.1.1.

2.2.1.3 Other Bird Species at Risk

As noted previously, breeding bird surveys focused on identifying potential habitat and confirming the presence of RHWO and EWPW. However, these breeding bird surveys also identified migratory birds included in the federal *Migratory Birds Convention Act* including birds protected by provincial legislation, such as golden-winged warbler, olive-sided flycatcher, common nighthawk, and yellow rail. Survey locations also took into account least bittern and piping plover; however, none were observed in 2020.

2.2.2 Automated Recording Units (ARUs)

Automated recording units (ARU) (Song Meter SM4; Wildlife Acoustics, 2020) were also employed to complete breeding bird surveys from early July to late July. Figures 2A, 2B and 2C, Appendix A provide locations of ARUs.

ARUs were deployed during the breeding bird point count timing window in areas of the LAA that were identified through the desktop survey as potential habitat for RHWO, EWPW and other SAR species (e.g. yellow rail). ARUs were strategically placed to record calls of birds particularly in areas where access to remote and wet locations to monitor for nocturnal SAR species was not feasible. The detections and habitat summaries around each ARU were to be used to identify potentially suitable habitat. The detection distance of ARUs depends on a variety of factors including the pitch of the call, openness of habitat, time of day and weather conditions (Bayne et al., 2017). Low pitch calls of birds can be detected from a larger distance, as well as birds that call during the crepuscular and night time periods. Calls occurring in more open habitats and under good weather conditions can also be detected from a greater distance. Placement of the ARUs thus aided to increase survey coverage in areas not previously surveyed (i.e., along the eastern shore of Lake St. Martin). ARUs also enabled multiple surveys to be accomplished during the breeding window while reducing resourcing and cost limitations. Twelve ARUs were deployed by helicopter on July 8, 2020. Ten of these ARUs had one recording before July 11, 2020 analyzed. The two that did not were due to weather conditions. Five additional ARUs were deployed by boat on July 17, 2020 along the northeastern shore of Lake St. Martin after unsuitable weather conditions terminated the boat point count survey program. The ARUs were established to enable two sampling events during the breeding season. The ARU surveys also identified migratory birds contained within the federal *Migratory Birds Convention Act* including birds protected by provincial legislation.

2.2.2.1 Red-headed Woodpecker and Eastern Whip-poor-will

WSP identified the potential 2020 baseline survey sites during the desktop planning using a combination of satellite imagery and the previous habitat mapping polygons (EEI 2017a and b). Many of these survey site locations were adjusted in the field based on in-situ conditions indicating less suitable habitat and habitat features for the RHWO or EWPW at these pre-selected sites. New, more suitable ARU stations were identified from the helicopter during a reconnaissance overflight.

The new ARU station locations to detect the RHWO were selected based on:

- the visual presence of mature deciduous trees (diameter at breast height (dbh) of > 30 cm, trees > 15 m tall);
- high stand diversity;
- low density understory; and
- the presence or potential presence of snags.

The new ARU station locations to detect EWPW were selected based on:

- the visual presence of upland forested areas surrounded by open habitat;
- a lack of water present on the forest floor;
- a sparse to moderate shrub and herbaceous cover; and
- the presence of CWD and rocks for perching.

The ARUs were programmed to record during the daily timing window as breeding bird surveys protocols dictate. The 5-minute surveys began 30 minutes before sunrise and continued for no more than 5 hours after sunrise for the RHWO and other diurnal species while sound recordings collected by the ARUs during the dusk timing window were analyzed as EWPW and other nocturnal species point count surveys. Recordings were randomly selected for analyses by using a random number generator that coincided with each hour within the survey window. Each randomly selected ARU recording was also analyzed according to the specified survey length of 5-minutes for diurnal species and 6-minutes for nocturnal species as per standard breeding bird and Canadian Nightjar survey protocols. Two recordings approximately 7-10 days apart (weather permitting) were analyzed at each location. ARUs are designed to act as remote point count stations for which both the Manitoba Breeding Bird Atlas and the Canadian Nightjar methodologies require one-point count visit for RHWO and the EWPW respectively (MBBBA, 2009; WildResearch, 2019). Two recordings were analyzed to increase the detection probability. A single point count visit, represented by analyzing one ARU recording can detect up to 70% of a bird community, and two visits, 90%, therefore two recordings were analyzed where possible (Petite et al., 1995). During sound recording analyses, the surveyor listened for bird vocalizations and non-vocal behaviours (e.g., woodpecker drumming) and documented all pertinent information associated with each observation including number of individuals detected. Incidental observations of other wildlife species were also documented as presence/non-detections.

2.2.2.2 Yellow Rail

Although surveys focused on identifying potential habitat and confirming the presence of RHWO and EWPW, sound recordings collected by the ARUs were programed to sample during the yellow rail timing window (2300 – 0300). Manitoba does not have a survey protocol for yellow rails; therefore, the daily timing survey window from the Saskatchewan species detection protocol for yellow rails was followed (Saskatchewan Ministry of Environment, 2014). The 5-minute surveys for yellow rails began no earlier than 30 minutes before sunset and continued until 0300. They were randomly selected for analyses for each survey day by using a random number generator that coincided with each hour within the survey window. Each randomly selected ARU recording was also analyzed according to the specified survey length of 5 minutes. At least two recordings approximately 7-10 days apart (weather permitting) were analyzed during the yellow rail survey hours at each location. During sound recording analyses, the surveyor listened for bird vocalizations and non-vocal behaviour and recorded all pertinent information associated with each observation, including incidental observations of other wildlife species.

2.2.2.3 Other Bird Species Including SAR

As mentioned, during sound recording analyses, the surveyor listened for bird vocalizations and non-vocal behaviours (e.g., common nighthawk booms) for all bird species recorded during the review time periods (as discussed in Section 2.2.2.1) and documented all pertinent information associated with each observation including species and number of individuals detected.

3 RESULTS AND DISCUSSION

3.1 Results - Red-Headed Woodpecker

3.1.1 Desktop Study - Identification of Suitable Habitat for Species at Risk in PDA and LAA

The initial desktop review identified potential suitable breeding habitat within the PDA for RHWO primarily along the LMOC and the PR 239 re-route as well as within the LAA along the eastern lakeshore of Lake St. Martin (EEL 2017a and b). The PR 239 re-route interacts with one 10 x 10 km area of ECCC critical habitat for RHWO (ECCC, 2018; ECCC, 2019) (Figures 2A and 2C; Appendix A). Pre-construction wildlife surveys targeted areas identified in the desktop review as having potential suitable and critical breeding habitat for the RHWO.

3.1.1.1 ECCC Critical Habitat Summary

ECCC habitat for RHWO has been identified near the LAA of the LMOC. The majority of the PR 239 re-route is located within an area identified as ECCC critical habitat by the federal government in the Federal Recovery Strategy (ECCC, 2019) (Figures 2A and 2C, Appendix A). The 10 x 10 km ECCC critical habitat blocks have been identified based on confirmed observations and the biophysical aspects of the habitat. The ECCC critical habitat is presented at this scale using standardized UTM squares however within these areas containing ECCC critical habitat (based on species observations), ECCC critical habitat occurs only where the biophysical attribute criteria are met. The Recovery Strategy states that in Saskatchewan and Manitoba, RHWO are associated with sparsely treed woodlands with an open or grazed understory located within cleared or urban areas. The ECCC critical habitat for the RHWO is the northernmost extent for the woodpecker near Lake St. Martin. The MBBBA notes that in Manitoba, the RHWO is strongly associated with mature aspen and aspen-oak woodlands with a sparse shrub layer and some snags or live trees with dead limbs (Harris, 2018). The MBBBA and citizen science datasets indicate that the range of the RHWO is at its northernmost extent south of Lake St. Martin and is not found within the LAA of the LSMOC or the Manitoba Hydro's distribution line (MBBA, 2016, Cornell Lab of Ornithology, 2020). The biophysical attributes identified within the Recovery Strategy include:

- potential nesting/roosting structures, decadent deciduous trees that are 18 cm dbh or having dead or dying limbs with a diameter of 13 cm or more;
- habitat that is located up to 190 m from the dripline of the decadent tree including for breeding, roosting and foraging; and,
- a detailed habitat description of sparsely treed woodlands such as those dominated by aspen with some elm and oak; bluffs (clumps or grove of trees) with an open or grazed understory located within pasture, crop fields, farm yards and urbanized areas; hedgerows and shelterbelts with mature and decadent elm, maple and/or ash trees, and; sparsely treed riparian habitat with aspen, cottonwood and oak.

Delineation of ECCC critical habitat is based on observations of species presence as identified by the Manitoba Breeding Bird Atlas (MBBA, 2016) and citizen science data. Species occurrence in an area identified as ECCC critical habitat can be triggered by presence during the breeding and/or wintering season (ECCC, 2019).

During the breeding season the observations that delineate ECCC critical habitat include:

- bird is either a confirmed or possible breeder; and,
- if a possible breeder and the detection is within 600 m of another detection (confirmed or possible), and the observations are at least 7 days apart or anytime in another breeding season.

During the winter season, the observations that delineate ECCC critical habitat include:

- an observation of a RHWO recorded within a 600 m distance, at least 5 weeks apart from another observation during the same winter season, or anytime in another winter season.

The RHWO is an irregular short distance or partial migrant (ECCC, 2019). The only overwintering location in Canada is southern Ontario therefore this species is not expected to be present in the PDA or LAA during the winter. The delineation of ECCC critical habitat based on observations depends on the nest cavity or non-nest observation. The area around a nest cavity identified during the breeding season includes a radius of 200 m centered on the observation location: radius of 190 m to include breeding pairs territory, plus 10 m to account for location accuracy. The delineation around a non-nest observation includes an area of 600 m centered on the observer location; 200 m to account for the maximum likely distance between the observer and the bird, plus 10 m to account for location accuracy, plus 380 m to include the diameter of the territory and 10 m to include the dripline of a potential nest/roost tree (ECCC, 2019).

3.1.2 Field Studies

3.1.2.1 Breeding Bird Surveys

As mentioned, a total of 72-point count survey sites were established for RHWO during the 2020 field baseline program. In summary of detection locations, all detections within 500 m of the PDA were assumed relevant to the PDA based on the average detection distance of 500 m from a point count station. Two RHWO were detected during the point count surveys and two RHWO were detected incidentally at two different locations (refer to Table 3) (Figure, Appendix A). One of the RHWO was detected in the LMOC PDA during the pre-construction vegetation survey (occurring concurrently with the wildlife survey), where direct effects of the Project may occur in the absence of mitigation. None of the observations were located within the ECCC critical wildlife habitat blocks for the red-headed woodpecker; the nearest sightings for this species were located within the LMOC PDA over eight km to the south and over eight km to the north of the critical habitat blocks.

Table 3 Summary of RHW O Observations during the 2020 Point Count Survey Baseline Program.

Survey Station	Observation Description
BBS - LMOC	Adult, unknown gender, visual observation, flying in area
BBS - LMOC	Adult, unknown gender, visual observation, flying in area
LMOC (during vegetation survey)	Incidental visual observation, landed on tree nearby; several snags identified in vegetation polygon, including one with cavities (refer to Section 3.1.2.3 for additional details)
Boat set up of ARUs – eastern shore Lake St. Martin	Incidental visual observation
ARU - MB Hydro Distribution Line	Auditory call recorded
ARU - eastern shore Lake St. Martin	Auditory call recorded

Overall, the breeding bird point count surveys detected 61 bird species and 747 individual observations as summarized in Table 4; note that bold type indicates a SAR observed during the 2020 field surveys. Additional information associated with each observation is provided in Appendix B.

3.1.2.2 Automated Recording Units (ARUs)

Ten of the ARUs established were placed in or near habitat near open areas. Based on the sampling method of reviewing two randomly selected 5-minute timeframes from each ARU to represent the equivalent of two, point count stations (refer to Section 2.2.2 for information on methodology), two RHW O were identified on the ARU recordings at two different locations (Table 3) (Figure3, Appendix A). Additional information associated with each observation is provided in Appendix B.

Overall, ARU recordings across the 17 sites detected a total of 46 bird species and 295 individual observations as summarized in Table 4. Additional details are provided in Appendix B.

Table 4 Bird Species Detected During Breeding Bird Surveys and by ARU in 2020 Field Program

Common Name	Abundance ¹ – Breeding Bird Survey	Abundance ² - ARU	Total Obs.	COSEWIC Status ^(a)	SARA Status ^(b)	ESEA Status ^(c)	MBCDC Status ^(d)	Provincially Sensitive ^(e)
Alder Flycatcher	0	11	11	-	-	-	S5B	-
American Crow	26	7	33	-	-	-	S5B,SUN	-
American Goldfinch	28	5	33	-	-	-	S5B	-
American Kestrel	3	0	3	-	-	-	S4B	-
American Robin	46	2	48	-	-	-	S5B	-
Barn Swallow	14	0	14	Threatened	Threatened	-	S4B	Yes
Black-and-white Warbler	2	5	7	-	-	-	S5B	-
Black-billed Cuckoo	25	12	37	-	-	-	S5B	-
Black-billed Magpie	6	0	6	-	-	-	S4	-
Black-capped Chickadee	3	1	4	-	-	-	S5	-
Blue Jay	1	0	1	-	-	-	S5	-
Bobolink	1	0	1	Threatened	Threatened	-	S4B	Yes
Boreal Chickadee	1	1	2	-	-	-	S4	-
Brewer's Blackbird	3	0		-	-	-	S5B	-
Brown-headed Cowbird	15	1	16	-	-	-	S5B	-
Cedar Waxwing	30	11	41	-	-	-	S5B,SUN	-
Chipping Sparrow	7	5	12	-	-	-	S5B	-
Clay-coloured Sparrow	48	1	49	-	-	-	S5B	-
Common Loon	0	6	6	-	-	-	S5B	-
Common Raven	6	9	15	-	-	-	S5	-
Common Yellowthroat	58	20	78	-	-	-	S5B	-
Eastern Kingbird	2	0	2	-	-	-	S4B	-
Eastern Phoebe	2	1	3	-	-	-	S5B	-
Gray Catbird	9	2	11	-	-	-	S5B	-
Greater Yellowlegs	1	2	3	-	-	-	S5B,SUM	-

Common Name	Abundance ¹ – Breeding Bird Survey	Abundance ² - ARU	Total Obs.	COSEWIC Status ^(a)	SARA Status ^(b)	ESEA Status ^(c)	MBCDC Status ^(d)	Provincially Sensitive ^(e)
Hairy Woodpecker	2	1	3	-	-	-	S5	-
Hermit Thrush	2	10	12	-	-	-	S5B	-
House Wren	11	0	11	-	-	-	S5B	-
Killdeer	1	3	4	-	-	-	S5B	-
Least Flycatcher	29	2	31	-	-	-	S5B	-
Lesser Yellowlegs	0	1	1	-	-	-	S4B,SUM	-
Lincoln's Sparrow	1	0	1	-	-	-	S5B	-
Mallard	3	0	3	-	-	-	S5B	-
Marsh Wren	5	4	9	-	-	-	S5B	-
Merlin	1	0	1	-	-	-	S5B,SUN	-
Mourning Dove	17	3	20	-	-	-	S4B	-
Nashville Warbler	0	11	11	-	-	-	S5B	-
Northern Flicker	9	6	15	-	-	-	S5B	-
Northern Waterthrush	0	7	7	-	-	-	S5B	-
Ovenbird	0	3	3	-	-	-	S5B	-
Pileated Woodpecker	1	0	1	-	-	-	S5	-
Purple Finch	2	0	2	-	-	-	S5B	-
Red-breasted Nuthatch	1	1	2	-	-	-	S5	-
Red-eyed Vireo	42	34	76	-	-	-	S5B	-
Red-headed Woodpecker	4	2	6	Endangered	Threatened	Threatened	S3B	Yes
Red-tailed Hawk	3	0	3	-	-	-	S5B	-
Red-winged Blackbird	74	11	85	-	-	-	S5B	-
Ring-billed Gull	8	0	8	-	-	-	S5B	-
Rose-breasted Grosbeak	0	5	5	-	-	-	S5B	-
Sandhill Crane	15	1	16	-	-	-	S5B	-
Savannah Sparrow	39	0	39	-	-	-	S5B	-

Common Name	Abundance ¹ – Breeding Bird Survey	Abundance ² - ARU	Total Obs.	COSEWIC Status ^(a)	SARA Status ^(b)	ESEA Status ^(c)	MBCDC Status ^(d)	Provincially Sensitive ^(e)
Sedge Wren	0	5	5	-	-	-	S5B	-
Sharp-shinned Hawk	1	0	1	-	-	-	S4B	-
Song Sparrow	50	18	68	-	-	-	S5B	-
Sora	11	2	13	-	-	-	S5B	-
Swainson's Thrush	1	5	6	-	-	-	S5B	-
Swamp Sparrow	2	15	17	-	-	-	S5B	-
Tennessee Warbler	1	0	1	-	-	-	S5B	-
Tree Swallow	4	0	4	-	-	-	S4B	-
Tundra Swan	3	0	3	-	-	-	S4B,SUM	-
Unknown	0	5	5	-	-	-	-	-
Veery	2	0	2	-	-	-	S5B	-
Vesper Sparrow	1	0	1	-	-	-	S5B	-
Warbling Vireo	1	0	1	-	-	-	S5B	-
Western Meadowlark	19	0	19	-	-	-	S3S4B	-
White-throated Sparrow	13	13	26	-	-	-	S5B	-
White-winged Scoter	1	0	1	-	-	-	S4B	-
Wilson's Snipe	13	15	28	-	-	-	S5B	-
Wilson's Warbler	0	2		-	-	-	S5B,SUM	-

Common Name	Abundance ¹ – Breeding Bird Survey	Abundance ² - ARU	Total Obs.	COSEWIC Status ^(a)	SARA Status ^(b)	ESEA Status ^(c)	MBCDC Status ^(d)	Provincially Sensitive ^(e)
Yellow Rail	0	3	3	Special Concern	Special Concern	-	S3B	Yes
Yellow Warbler	13	5	5	-	-	-	S5B	-
Yellow-bellied Sapsucker	4	0	4	-	-	-	S5B	-
TOTAL (70 species)	747	295	1042	4	4	1	-	4

Notes:

1 Abundance includes the total number of individual birds recorded during the point count surveys and incidental observations (during the pre-construction vegetation survey and ARU setup/retrieval).

2 Abundance includes the total number of individual birds distinguishable on all ARU recordings reviewed (tally includes review of two sets of recordings per ARU).

Bold type indicates a Species at Risk (SAR) observed during the 2020 field surveys.

a) Species designated by COSEWIC for listing under the *Species at Risk Act* (COSEWIC, 2020).

b) Species officially listed under the federal *Species at Risk Act*.

c) Species officially listed under the *Endangered Species and Ecosystems Act*.

d) Species province-wide (subnational-S) conservation ranking under the Manitoba Conservation Data Centre, where:

S3 - Vulnerable - At moderate risk of extirpation due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

S4 - Apparently Secure - At a fairly low risk of extirpation due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

S5 - Common - At very low or no risk of extirpation due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats.

B – Breeding - Conservation status refers to the breeding population of the species in the province.

M – Migrant - Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the province.

N – Non-breeding - Conservation status refers to the non-breeding population of the species in the province.

SU - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

e) Species considered provincially sensitive with restricted activity periods and development setback distances at breeding sites (MBCDC, 2015).

“-” = No status

3.1.2.3 Habitat Assessment – Environmentally Sensitive Areas

The following section includes a description of the habitat surrounding the sites where the RHWO was detected during the 2020 wildlife surveys as well as a summary correlation table of ECCC critical habitat features recorded during the assessment (Table 5). The ecosystem class around the ARUs and point count stations with detections was identified when an overlap occurred with the vegetation and wetland ecosystem mapping. When this was not possible, data was collected in the field to record habitat type and presence of snags (if observed). As mentioned, this species is at the northernmost extent of its range in the region therefore the low density of the RHWO across the landscape makes conjecture regarding the presence of the RHWO within areas mapped as suitable difficult. Following is a summary of habitat and habitat features found at each detection site.

LMOC-BBS

One RHWO was detected in a woodlot within an agricultural area within the LMOC LAA during the roadside point count survey. The bird was detected calling from a small dead snag (Photograph 1; Appendix C). After calling, the bird flew out of view and did not return. The snag was one of several small diameter at breast height (dbh) (approx. 15 cm) dead deciduous snags approximately 5 m tall at the edge of a small roadside woodlot beside a dirt road (Photograph 2; Appendix C). The habitat around the detection included the small roadside woodlot, a pasture and a surrounding large tract of deciduous forest. The habitat within the small roadside woodlot consisted of deciduous forest (trembling aspen and bur oak) with a range of dbhs between 10 and 40 cm (Photograph 3; Appendix C) and a dense shrubby understory. Several potential nesting cavities were noted in the main trunk of the oak tree however dead branches were also noted present. The larger oaks in the woodlot were approximately 15 m high with an approximate dbh of 40 cm. The cavities were 6 m high in the trunk with a dbh of 25 cm. Bark was present around the cavity. No active nest was detected. There was pasture/grassland within 50 m of the snag and mast (nut) bearing trees (oaks) were present within 190 m of the snag.

LMOC-BBS

One RHWO detected in the LMOC and another was later incidentally observed in the same area of a small mixed woodlot surrounded with pasture and cropland habitat. The RHWO was observed foraging between a power pole in the middle of the pasture and the edge of the forest. No snags were visible from the roadside and the site was not assessed further. The 2017 baseline report noted two detections of the RHWO less than a kilometer to the east of this area.

BOAT-BBS

One RHWO was detected incidentally during the boat point count survey on a tall snag within a previously flooded area of the eastern shore of Lake St. Martin. The bird was observed perching and then it flew out of view. Snags are present within much of the forested and wetland areas observed from the Lake edge along the eastern shore of Lake St. Martin likely due to the flood level of 2011 which killed many of the trees along the shoreline and created wetland habitat in formerly upland forest habitat. No detailed habitat assessments or vegetation classifications were completed along shoreline of Lake St. Martin within the LAA.

ARU

One RHWO was detected via ARU analyses; the ARU was stationed beside a side channel and the river just north of a distribution line and a large maturing aspen forest. There were a high number of burnt snags of a variety of heights and dbhs (Photographs 5-9; Appendix C). The understory was grassy with some shrubby patches and coarse woody debris was present.

ARU

One RHWO was detected via ARU analyses along the eastern edge of Lake St Martin on the edge of a young trembling aspen willow forest with an average tree dbh of 12 cm. The young forest surrounded a recently grazed grass and shrubland field with small rock exposures (Photographs 10-13; Appendix C). Snags were present at the edges of the forest. The grazed field within forested habitat close to the shores of Lake St Martin represents a unique habitat scenario that was not observed anywhere else during the helicopter reconnaissance flight of the PDA and LAA.

Table 5 Key Wildlife Habitat Variables and Features Noted at RHWO Detection Sites, 2020

RHWO Qualifier (ARU/PC ID/Incidental)	Deciduous (D) or Coniferous (C) Trees or Mixed (M)	Live (L), Dead (D), or Dead Portion (DP) of Tree	Sparse Woodlot or within 190 m of Sparse Woodlot	Open or Grazed Understory within 190 m	Understory Vegetation in Woodlot	Fruit or Mast Bearing Trees within 190 m	CWD within 190 m of tree	Pasture, Grassland, Old Field, Wetland or Shrubland within 50 m	Ecosystem Classification
LMOC	D	DP	√	√	√	√	√	√	U
Incidental near - LMOC	M	U	√	√	√	U	U	√	V5
ARU	D	D & DP & L	√	√	√	U	√	√	U
ARU	D	D & DP and L	√	√	√	U	√	√	U
Incidental near – Boat-BBS	D	D & DP	U	√	U	U	√	√	U

Note: √ = present; N = not present; U = unknown

3.2 Results - Eastern Whip-poor-will

3.2.1 Desktop Study - Identification of Suitable Habitat for Species at Risk in PDA and LAA

For EWPW, small patches along the LMOC PDA and within the LAA areas along the Manitoba Hydro distribution line, the LSMOC and the eastern lakeshore of Lake St. Martin were identified as potential habitat in the EIS (EEI 2017a and b). The LSMOC and transmission line PDA overlap at the southern extent of one 10 x 10 km ECCC critical habitat block designated for the EWPW (Figures 2A and 2B; Appendix A). Pre-construction wildlife surveys targeted areas identified in the desktop review as having potential suitable and critical breeding habitat (EEI 2017a and b).

3.2.1.1 ECCC Critical Habitat Summary

ECCC critical habitat has been identified by the federal government for the EWPW within the southern extent of the LSMOC LAA and PDA and the Manitoba Hydro's distribution line LAA and PDA. The ECCC critical habitat is based on two criteria: habitat occupancy and habitat suitability (COSEWIC, 2009). For habitat suitability, ECCC critical habitat is a mosaic of nesting and foraging habitat which includes open, upland deciduous or mixed woods forest that are open through disturbance (such as fire) as well as the presence of pine and trembling aspen. EWPW prefer to breed in semi-open or patchy forests but avoids wide open spaces and dense forests. The federal government has identified 10 km x 10 km standardized UTM squares to indicate the general geographic location of ECCC critical habitat (Figure 2B; Appendix A). The 10 km x 10 km square grid originates from breeding bird atlas squares. The identification of ECCC critical habitat is considered partial due to limited survey data availability in certain areas of the EWPWS's distribution and knowledge gaps related to the importance of landscape-level habitat attributes (COSEWIC, 2009). The recovery strategy states that regionally, forests (e.g., deciduous, mixed wood, coniferous, treed wetlands) and open habitats (e.g., shrublands, fallow fields, regeneration following fires or clear-cuts, rock and sand outcrops, shrubby wetlands) form a mosaic of ECCC critical habitat. The mosaic of nesting/foraging habitat requires forests with sparse to moderate (25-75%) tree cover or open habitats, with sparse to moderate shrub and herbaceous cover and well-drained soils. Important habitat for the EWPW includes the first 30 m of the forest edge in dense forests. The MBBA notes that the bird is strongly associated with open, upland deciduous or mixed woods (Mills, 2018). Recent studies assessing EWPW breeding habitat have identified open wetlands adjacent to forest as important within the boreal forest because of their forage potential as well as lack of herbicide treatments that commonly are used to treat recently cleared areas of forest (Farrell et al., 2019). English (2017) confirmed that insect availability of the nesting and/or adjacent habitat are related to both the presence of open canopy forest and open areas including agricultural fields.

3.2.2 Field Studies

3.2.2.1 Nightjar Surveys

A total of three EWPW were detected at three different locations during the nightjar point count surveys completed in association with the LMOC PDA/LAA (Table 6) (Figure 3, Appendix A). One of these EWPW was detected in the PDA while two were within the LAA. None of the observations completed during the Nightjar surveys were located within the ECCC critical wildlife habitat block for the EWPW; the critical habitat block is located more than 40 km to the north in association with the LSMOC (Figure 3, Appendix A). Additional information associated with each observation is provided in Appendix B.

Overall, the EWPW surveys across the 16 LMOC LAA sites and 9 sites along the PR 239 re-route detected a total of 28 bird species and 102 individual observations as summarized in Table 8. Additional details are provided in Appendix B.

Table 6 Summary of EWPW Observations

Survey Location Station	Observation Description
LMOC-EWPW	Sound
LMOC-EWPW	Sound
LMOC-EWPW	Sound

3.2.2.2 Automated Recording Devices (ARUs)

Based on the sampling method of reviewing two randomly selected 6-minute timeframes from each ARU (refer to Section 2.2.2 for information on methodology), 20 EWPW were observed on the ARU recordings over 9 different locations (refer to Table 7) (Figure 3, Appendix A). Two of the observations were recorded on ARUs located immediately adjacent to the EWPW ECCC critical wildlife habitat block while one ARU recorded two EWPW within the ECCC critical habitat block outside of the LAA. Additional information associated with each observation is provided in Appendix B.

Table 7 Summary of of EWPW Detected on ARUs during 2020 Baseline Field Program.

ARU Survey Location No.	Date of Observation	Abundance (# birds heard on recording)	General Location
ARU	July 8, 2020	2	Outside of LAA; within ECCC EWPW ECCC Critical Habitat Block
ARU	July 8, 2020	1	Along eastern shore of Lake St. Martin
ARU	July 8, 2020	1	Along eastern shore of Lake St. Martin
ARU	July 7, 2020	2	Along eastern shore of Lake St. Martin
ARU	July 14, 2020	1	
ARU	July 7, 2020	2	Outside of LAA; northwest of distribution line LAA
ARU	July 13, 2020	2	
ARU	July 12, 2020	1	Within LSMOC PDA
ARU	July 19, 2020	1	
ARU	July 7, 2020	2	Within LSMOC PDA
ARU	July 14, 2020	2	
ARU	July 8, 2020	1	Within the LAA
ARU	July 16, 2020	1	Within the LAA
ARU	July 8, 2020	1	Within LSMOC PDA

Overall, ARU recordings across the 17 sites detected a total of 35 bird species and 115 individual observations as summarized in Table 8; note that bold type indicates a SAR observed during the 2020 field surveys. Additional details are provided in Appendix B.

Table 8 Bird Species Detected During EWPW Surveys during 2020 Baseline ARU Field Program

Common Name	Abundance ¹ – EWPW Survey	Abundance ² - ARU	Total Obs.	COSEWIC Status ^(a)	SARA Status ^(b)	ESEA Status ^(c)	MBCDC Status ^(d)	Provincially Sensitive ^(f)
Alder Flycatcher	0	1	1	-	-	-	S5B	-
American Goldfinch	2	0	2	-	-	-	S5B	-
American Robin	4	0	4	-	-	-	S5B	-
Bald Eagle	0	1	1	Not at Risk	-	-	S5B,SUN	Yes
Black-billed Cuckoo	1	1	2	-	-	-	S5B	-
Black-capped Chickadee	2	1	3	-	-	-	S5	-
Canada Goose	0	1	1	-	-	-	S5B	-
Cedar Waxwing	3	4	7	-	-	-	S5B,SUN	-
Chipping Sparrow	1	0	1	-	-	-	S5B	-
Clay-coloured Sparrow	13	0	13	-	-	-	S5B	-
Common Loon	0	2	2	-	-	-	S5B	-
Common Nighthawk	10	1	11	Special Concern	Threatened	Threatened	S3B	Yes
Common Raven	0	1	1	-	-	-	S5	-
Common Yellowthroat	6	5	11	-	-	-	S5B	-
Eastern Whip-poor-will	3	20	23	Threatened	Threatened	Threatened	S3B	Yes
Great Horned Owl	0	1	1	-	-	-	S4	-
Hermit Thrush	2	6	8	-	-	-	S5B	-
Killdeer	1	4	5	-	-	-	S5B	-
Least Flycatcher	1	2	3	-	-	-	S5B	-
Lesser Yellowlegs	0	1	1	-	-	-	S4B,SUM	-
Marsh Wren	0	4	4	-	-	-	S5B	-
Mourning Warbler	0	3	3	-	-	-	S5B	-
Nashville Warbler	0	2	2	-	-	-	S5B	-
Ovenbird	1	1	2	-	-	-	S5B	-
Red-breasted Nuthatch	0	1	1	-	-	-	S5	-

Common Name	Abundance ¹ – EWPW Survey	Abundance ² - ARU	Total Obs.	COSEWIC Status ^(a)	SARA Status ^(b)	ESEA Status ^(c)	MBCDC Status ^(d)	Provincially Sensitive ^(f)
Red-eyed Vireo	1	1	2	-	-	-	S5B	-
Red-necked Grebe	0	2	2	-	-	-	S5B	-
Red-winged Blackbird	4	5	9	-	-	-	S5B	-
Sandhill Crane	5	0	5	-	-	-	S5B	-
Savannah Sparrow	10	0	10	-	-	-	S5B	-
Sedge Wren	0	1	1	-	-	-	S5B	-
Song Sparrow	5	1	6	-	-	-	S5B	-
Sora	1	2	3	-	-	-	S5B	-
Swainson's Thrush	1	2	3	-	-	-	S5B	-
Swamp Sparrow	0	2	2	-	-	-	S5B	-
Tree Swallow	10	0	10	-	-	-	S4B	-
Unknown	0	8	8	-	-	-		-
Veery	1	3	4	-	-	-	S5B	-
Vesper Sparrow	2	0	2	-	-	-	S5B	-
Western Meadowlark	3	0	3	-	-	-	S3S4B	-

Common Name	Abundance ¹ – EWPW Survey	Abundance ² - ARU	Total Obs.	COSEWIC Status ^(a)	SARA Status ^(b)	ESEA Status ^(c)	MBCDC Status ^(d)	Provincially Sensitive ^(f)
White-throated Sparrow	3	7	10	-	-	-	S5B	-
Wilson's Snipe	5	7	12	-	-	-	S5B	-
Winter Wren	0	1	1	-	-	-	S5B	-
Yellow Rail	0	10	10	Special Concern	Special Concern	-	S3B	Yes
Yellow Warbler	1	0	1	-	-	-	S5B	-
TOTAL (44 species)	102	115	217	4	4	1	-	4

Notes:

1 Abundance includes the total number of individual birds recorded during the point count surveys and incidental observations (during the pre-construction vegetation survey and ARU setup/retrieval).

Bold type indicates a Species at Risk (SAR) observed during the 2020 field surveys.

2 Abundance includes the total number of individual birds distinguishable on all ARU recordings reviewed (tally includes review of two sets of recordings per ARU).

a) Species designated by COSEWIC for listing under the *Species at Risk Act* (COSEWIC, 2020).

b) Species officially listed under the federal *Species at Risk Act*.

c) Species officially listed under the *Endangered Species and Ecosystems Act*.

d) Species province-wide (subnational-S) conservation ranking under the Manitoba Conservation Data Centre, where:

S3 - Vulnerable - At moderate risk of extirpation due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

S4 - Apparently Secure - At a fairly low risk of extirpation due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

S5 - Common - At very low or no risk of extirpation due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats.

B – Breeding - Conservation status refers to the breeding population of the species in the province.

M – Migrant - Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the province.

N – Non-breeding - Conservation status refers to the non-breeding population of the species in the province.

SU - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

e) Species considered provincially sensitive with restricted activity periods and development setback distances at breeding sites (MBCDC, 2015).

"-" = No status

3.2.2.3 Habitat Assessment – Environmentally Sensitive Areas

The following section includes a description of the habitat surrounding the sites where the EWPW was detected during the 2020 wildlife surveys as well as a summary correlation table of key habitat features noted during the assessment (Table 9). The ecosystem class around the ARUs and point count stations with detections was summarized when an overlap occurred with the vegetation and wetland ecosystem mapping. When this was not possible, data was collected in the field to record the habitat type and features important to the EWPW.

LMOC-EWPW

Three EWPWs were detected in relatively close proximity during the evening point counts within the LMOC. All were detected near small woodlots within an agricultural area that had been cleared the previous year or years by logging in preparation for farming. Note the most recent imagery used during the vegetation assessment did not show the area around the survey point LMOC-EWPW as cleared but as dense deciduous forest.

ARU

Two EWPW were observed at an ARU station was sited in a young pole sapling trembling aspen forest with an average dbh of 5 cm. There was sparse tree cover, sparse shrub cover and a moderately dense herbaceous cover (Photograph 14; Appendix C). The surrounding forested areas were investigated and found to be wet and unsuitable for the EWPW including the nearby areas of modelled habitat within the EIS. Rocks and coarse woody debris were present in the understory.

ARU

Three EWPW were detected at another ARU station however, the habitat was unlike that noted in the recovery strategy. The ARU was placed on some willows at the edge of a dense narrow wetland in between the shores of Lake St. Martin and a forested area damaged by the 2011 flood levels to the south (Photograph 15; Appendix C). The ARU was less than 10 m from the edge of the Lake St. Martin shoreline (Photograph 16; Appendix C); therefore, it is possible that the bird was calling from the shoreline or the forest.

ARU

One EWPW was detected at an ARU station where the habitat was a willow shoreline between the shore of Lake St. Martin and a densely vegetated, reedy wetland with surrounding deciduous forest approximately 100 m to the south (Photograph 17; Appendix C). The forested habitat was not assessed.

ARU

Two EWPW were detected on July 8, 2020 and one on July 14 at an ARU station established 125 m to the south east of a wetland with a less dense understory of grasses and closer to the surrounding deciduous forest (Photograph 18; Appendix C).

ARU

Two EWPW were detected on July 7, 2020 and two on July 13 at an ARU station with habitat where a RHW was also detected, was sited beside a side channel and the river just north of a distribution line, and between the river and a large, maturing aspen forest (Photographs 6-9; Appendix C). The understory was grassy with some shrubby patches, rocks and coarse woody debris was present.

ARU

One EWPW was detected on July 12, 2020 and one on July 19 at an ARU station with habitat that had recently been disturbed during clearing in the area for a right-of-way (ROW) for the Manitoba Hydro distribution line. The cleared ROW and opening is located within deciduous forest. The understory in the ROW was regenerating grassland with a small amount of shrubby areas (Photograph 19; Appendix C).

ARU

Two EWPW were detected on July 7, 2020 and two on July 14 at an ARU station that was established at the side of a large lay down area that had been cleared adjacent to the the Manitoba Hydro distribution line ROW (Photograph 20; Appendix C).

ARU

One EWPW was detected on July 8, 2020 and one on July 16 at an ARU station established along the eastern edge of Lake St Martin north of the Lake Manitoba outlet channel into Lake St. Martin. The ARU was placed on the edge of a young trembling aspen willow forest surrounded by a recently grazed grass and shrubland field resulting in a sparse to moderate understory (Photographs 10-13; Appendix C). Trees at the forest-clearing interphase were sparsely distributed. The clearing contained small raised rock exposures (Photograph 11; Appendix C). As mentioned in the RHWO habitat summary, this grazed field within forested habitat was uncommon across the PDA.

ARU

One EWPW was detected on July 8, 2020 at an ARU station which was placed 300 m to the east of another ARU. It is possible this is the same bird that was detected on the same day at both ARUs. The area had habitat that was on the edge of a young aspen willow forest surrounded by recently grazed grass; however, no snags were noted. This ARU also detected a common nighthawk on July 8, 2020.

Table 9 Key Wildlife Habitat Variables and Features Noted at EWPW Detection Sites, 2020

EWPW Qualifier (ARU/PC ID/Incidental)	Open Habitat Nearby	Deciduous or Mixedwood Forest	Forest Nearby with Sparse to Moderate Tree Cover	Dense Forest Nearby with Sparse Understory Near Edge	Area has Sparse to Moderate Shrub and Herbaceous Cover	Coarse Wood Debris or Rocks Present*
LMOC-EWPW	√	√	√	N	√	√
LMOC-EWPW	√	√	√	N	√	U
LMOC-EWPW	√	√	√	N	√	√
ARU	√	√	√	N	√	√
ARU	√	N	N	N	N	N
ARU	√	√	√	U	√	N
ARU	√	√	√	√	√	√
ARU	√	√	N	√	√	√
ARU	√	√	√	N	√	√
ARU	√	√	√	N	√	√
ARU	√	√	√	N	√	√
ARU	√	√	√	N	√	√

Note: √ = present; N = not present; U = unknown

3.3 Results - Other Bird Species at Risk and Species Tracked by the MBCDC

A summary of findings for other bird SAR and species tracked by the MBCDC is provided in this Section. Figure 3, Appendix A provide an overview of the general locations within the PDA and LAA where SAR including the RHW and EWPW were detected during the 2020 wildlife surveys.

3.3.1 Critical Wildlife Habitat

ECCC has not identified critical habitat for any other federally listed species within the PDA or LAA including yellow rail, common nighthawk and bobolink (*Dolichonyx oryzivorus*). The common nighthawk does have a federal recovery strategy; however, critical habitat has not been identified by ECCC for the common nighthawk because it is unknown whether breeding habitat is limiting in Canada (ECCC, 2016). The yellow rail and bobolink do not have recovery strategies to identify and describe critical habitat (ECCC, 2013; COSEWIC, 2010).

Modelling for the yellow rail in the EIS involved using the FRI with a focus on wet marshy areas, dominated by grassy vegetation around American beaver floods and wet treed areas (i.e., muskeg). Modelling for potential suitable habitat for the common nighthawk included using the LCC to identify dense and open coniferous stands with areas of open rock outcrop and exposed land and grasslands within 500 m of fence lines and fire guards. Potential habitat for bobolink was modelled in the EIS using the FRI focusing on cultivated lands, pasture lands, and marshes.

3.3.2 Breeding Bird Point Count Surveys

During the breeding bird point count surveys, two other bird SAR (for RHW0 see 3.2.1) were observed in six of the 67 survey sites. Two of the species are listed as at-risk by COSEWIC and Schedule 1 of SARA: barn swallow (*Hirundo rustica*) and bobolink; both species have recommended development setback distances (MBCDC, 2015).

During the EWPW surveys, one other bird SAR (for EWPW see 3.2.2) was observed at four of the 27 survey sites: common nighthawk. Common nighthawk is listed as at-risk by COSEWIC Schedule 1 of SARA. Common nighthawk also has recommended development setback distances (MBCDC, 2015) and is a tracked species in Manitoba (MBCDC, 2018).

During the point count surveys, Western meadowlark was also recorded. While not a SAR, this species is also tracked in Manitoba and has recommended development setback distances (MBCDC, 2015).

The additional SAR observations are illustrated on Figure 3 (Appendix A). Additional information associated with each observation is provided in Appendix B.

Table 10 Summary of Other SAR and Tracked Bird Species Observed within the PDA and LAA

Species Recorded	Survey Station	General Location
Bobolink (1 OBS)	LMOC-BBS	LMOC PDA
Barn Swallow (5 OBS)	LMOC-BBS	LMOC PDA
	LMOC-BBS	LMOC LAA
	LMOC-BBS	LMOC LAA
	LMOC-BBS	LMOC LAA
	Boat-BBS	Eastern side of Lake St. Martin
Common Nighthawk (7 OBS)	LMOC-BBS	LMOC LAA
	LMOC-BBS	LMOC PDA
	ARU	Eastern side of Lake St. Martin
	LMOC-EWPW	LMOC LAA
	LMOC-EWPW	LMOC PDA
	LMOC-EWPW	LMOC LAA
	LMOC-EWPW	LMOC LAA

Species Recorded	Survey Station	General Location
Yellow Rail (4 OBS)	ARU-5	Lake St. Martin
	ARU-6	Lake St. Martin
	ARU-7	MB Hydro distribution line
	ARU-9	MB Hydro distribution line
Western Meadowlark (15 OBS)	LMOC-BBS	LMOC LAA
	LMOC-BBS	LMOC PDA
	LMOC-BBS	LMOC LAA
	LMOC-BBS	LMOC PDA
	LMOC-BBS	LMOC PDA
	LMOC-BBS	LMOC PDA
	LMOC-BBS	LMOC PDA
	LMOC-BBS	LMOC PDA
	LMOC-BBS	LMOC LAA
	LMOC-BBS	LMOC LAA
	RHWO-239-BBS	PR 239
	RHWO-239-BBS	PR 239
	239-EWPW	LMOC LAA
	LMOC-EWPW	LMOC LAA
	LMOC-EWPW	LMOC LAA
Bald Eagle (1 OBS)	Nest observed during helicopter reconnaissance	LSMOC LAA

3.3.3 Automated Recording Devices (ARUs)

ARU analyses during the breeding bird window confirmed the breeding presence of 1 other SAR, the yellow rail in three of the 17 unique survey locations: yellow rail. This species is listed as at-risk by COSEWIC and Schedule 1 of *SARA*. Yellow rail have recommended development setback distances (MBCDC, 2015) and are a tracked species in Manitoba (MBCDC, 2015).

ARU analyses during the EWPW and yellow rail window confirmed the breeding presence of 2 other (for EWPW see 3.2.2) SAR in 5 of the 17 survey locations: common nighthawk and yellow rail. Both common nighthawk and yellow rail are listed as at-risk by COSEWIC Schedule 1 of *SARA*. They also have recommended development setback distances (MBCDC, 2015).

An incidental bald eagle (*Haliaeetus leucephalus*) nest was observed when deploying the ARU. Bald eagle nests have recommended development setback distances for high disturbance activities of 1000 m (MBCDC, 2015).

The additional SAR observations are illustrated on Figure 3 (Appendix A). Additional information associated with each observation is provided in Appendix B.

3.3.4 Habitat Assessment – Environmentally Sensitive Areas

When possible the ARUs were established to survey a mosaic of adjacent habitat types (refer to Section 1.2 Study Area).

Of the 12 ARUs established along the shores of Lake St. Martin and in the north around the LSMOC and the Manitoba Hydro distribution line, 10 of the ARUs detected a SAR. Of the 10 ARUs with SAR detections, six ARUs detected more than one SAR (Table 11).

Table 11 Detections of SAR and Habitat Types Surrounding ARUs, 2020

ARU #	Habitat Present*				SAR			
	Wetland	Upland Forest	Open Grassland, Farmland or Shoreline	River	RHWO	EWPW	Yellow Rail	Common Nighthawk
ARU 01	~	√	~	~	~	√	~	~
ARU 02	~	√	~	~	~	~	~	~
ARU 03	√	√	√	~	~	√	~	~
ARU - 04	~	√	√	~	~	~	~	~
ARU - 05	√	√	√	~	~	√	√	~
ARU - 06	√	√	√	~	~	√	√	~
ARU - 07	√	√	√	√	~	~	√	~
ARU - 08	~	√	√	√	√	√	~	~
ARU - 09	√	√	√	~	~	√	√	~
ARU - 10	~	√	√	~	~	√	~	~
ARU - 11	~	√	√	~	√	√	~	~
ARU - 12	~	√	√	~	~	√	~	√

Note: √ = present; - = not detected; * = visible from ARU and identified within 100 m during vegetation mapping

3.3.4.1 Yellow Rail

The MBBBA notes that yellow rails breed primarily in shallow grass/sedge wetlands (Bazin, 2018). The suitable habitat polygons for the yellow rail were identified based on the suitable habitat descriptions of Class II and Class III wetlands (Stewart and Kantrud, 1971). Class II wetlands are described as temporary graminoid/forb mineral wetland with wet meadow plant community; surface water is present for a short period of time after snowmelt or a heavy rainfall. Class III wetlands are described as seasonal graminoid/forb mineral wetland with shallow wetland plant community; surface water is present throughout the majority of the growing season, but it's typically dry by

the end of summer. Class II wetlands are not mapped within the distribution line and LSMOC PDA and a small single Class III polygon is located at the beginning of the LSMOC and the confluence at Lake Winnipeg.

One detection of a yellow rail was in an area mapped during the vegetation survey. In this instance, the ARU that detected the rail was sited in a disturbed area that was within 50 m of an area mapped as an unconfined flat swamp. The description of this wetland is broad shrubby or treed wetland with less than 40 cm of organic soil among other kinds of wetlands with poorly defined edges. This type of habitat is unsuitable for the yellow rail; however, it is possible the wetland was a mosaic of smaller wetlands of various classes - one of which was suitable for the yellow rail. Class II and III wetlands are present within the LMOC PDA; however, ARUs or point count stations were not established in this area to confirm the presence of this species. Critical habitat has not been identified or described for this species by ECCC.

3.3.4.2 Common Nighthawk

The common nighthawk was detected once on an ARU and once during the EWPW point count survey of the LMOC. This species requires open areas to breed and forage including open forest, grasslands, wetlands, gravelly areas and some cultivated areas (ECCC, 2016). The ARU was sited on the edge of a pastureland surrounded by a young sparse to moderate forest. Both common nighthawk and the EWPW were detected by this ARU. There are many habitat requirement similarities amongst these two species (Wildlife Resource Consulting Services MB, Inc., 2016). The detections within the LSMOC LAA occurred over agricultural cropland close to the detections of the EWPW. The dusk survey window for the EWPW is the same as required for surveys for the common nighthawk.

3.3.4.3 Barn Swallow

Barn swallows often inhabit agricultural areas that contain available buildings and/or bridges for nest construction. Nests are constructed from mud and any structure with a large opening or over-hanging roof can provide a suitable nesting site for these birds (COSEWIC, 2011). Barn swallows were detected at four LMOC-BBS stations and at one Boat-BBS station. Observations of this species were also made during the previous baseline studies completed in support of the EIS.

3.3.4.4 Bobolink and Western Meadowlark

The bobolink was detected within the LMOC LAA during the 2020 wildlife surveys and 2017 baseline surveys. Bobolink breed on the ground in a variety of grassland habitats, including native grasslands, pastures, hayfields, and wet meadows where herbaceous vegetation is relatively tall. The bobolink's distribution is very similar to that of the Western meadowlark (McCracken, 2018). The bobolink was found in the same areas of the LMOC as the Western meadowlark in 2020. It is unclear whether Western meadowlarks were observed in the same locations as bobolink in 2017 due to discrepancies in that dataset.

4 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The Project involves the construction of two new outlet channels, LMOC and LSMOC, as a permanent flood control management system for the Lake Manitoba and Lake St. Martin region. The Project will also include associated infrastructure including PR 239 re-route and construction of a Manitoba Hydro power distribution line. In 2019, MI filed an EIS with federal and provincial regulators for the construction of the outlet channels. The wildlife desktop studies and field studies in 2020 were completed to supplement the EIS, identify further environmentally sensitive areas for bird SAR with emphasis on the RHWO and EWPW, and inform a future wildlife monitoring plan being developed by MI, as well as mitigation plans for RHWO and EWPW if required.

The results of the 2020 wildlife surveys increased the proportion of the PDA and LAA that was sampled for the RHWO, EWPW and several other SAR. In addition, data collected in 2020 will augment existing baseline information to support comparisons between construction and post-construction monitoring results, and to refine the general and site-specific mitigations and mitigation plans. Caution should be exercised in the combination of the EIS and 2020 data as the survey areas differed based on new footprints, like the distribution line LAA, and some areas were only sampled once during the baseline program. However, the collection of the datasets (as reported in the EEI 2017a and b reports) has resulted in a greater ability to understand the occupancy levels of the RHWO and EWPW in the PDA and LAA during the 2020 assessment.

The 2020 wildlife program resulted in the detection of six RHWO, including two birds during in-person breeding bird point count surveys, two detections via ARU analysis, and two RHWO through incidental observations. The detections made in the 2020 wildlife survey are considered probable breeders in the area as nest sites were not identified. The low number of RHWO detections is likely due to the project occurring in the northern extent of this species' range. Information on the occurrences/locations of the RHWO observed during the 2020 wildlife surveys will be utilized to inform mitigation plan(s) developed for the Project and future monitoring and offset plans if required. Potential mitigation measures for the RHWO may include such measures as creation of natural or artificial snags or conserving snags outside of the PDA during reclamation and/or restoration efforts.

The 2020 wildlife program resulted in the detection of 23 EWPW occurrences, including three birds during in-person EWPW surveys and 20 detections via ARU analyses. The 2020 detections within the LMOC are likely a result of recent forest clearing creating a small patch of suitable habitat dissimilar to the remainder of the LMOC. The detections along the eastern shore of Lake St. Martin and along the distribution line occur in more stable habitat. This species has been shown to successfully occupy recently cleared areas associated with construction (Wildlife Resource Consulting Services MB, Inc., 2016); therefore, it is possible the Project could result in a net gain of suitable habitat for this species. Information on the occurrences/locations of the EWPW observed during the 2020 wildlife surveys will be utilized to inform mitigation plan(s) developed for the Project and future monitoring and offset plans if required. Potential mitigation measures for the EWPW may include such measures as identification of areas where habitat enhancement can be developed during reclamation and/or restoration efforts to benefit the EWPW as well as the completion of construction and post-construction surveys for EWPW to identify whether the Project has created additional EWPW habitat associated with clearing of vegetation for construction activities.

Other bird SAR detected during the 2020 field surveys include yellow rail, common nighthawk, barn swallow and bobolink. Yellow rail preferred habitats are wet, marshy areas dominated by grassy vegetation and wet treed areas such as muskeg. Common nighthawks prefer logged forest, recently burned forest, woodland clearings,

and open forests near areas of open rock outcrop, fence lines or fireguards. Species tracked by the MBCDC that were observed during the 2020 surveys included Western meadowlark and bald eagle. For these SAR and tracked species, the Project should adhere to provincial development setback distances should active nests be observed during construction activities (MBCDC, 2015). The observed bald eagle nest was found in trees along the Lake St. Martin shoreline and appropriate setback from this nest (1000 m) if deemed to be active, should be established. For all SAR and birds protected under the federal *Migratory Bird Convention Act* and provincial legislation and regulations, it is recommended all clearing for the Project occur outside of the breeding bird timing window.

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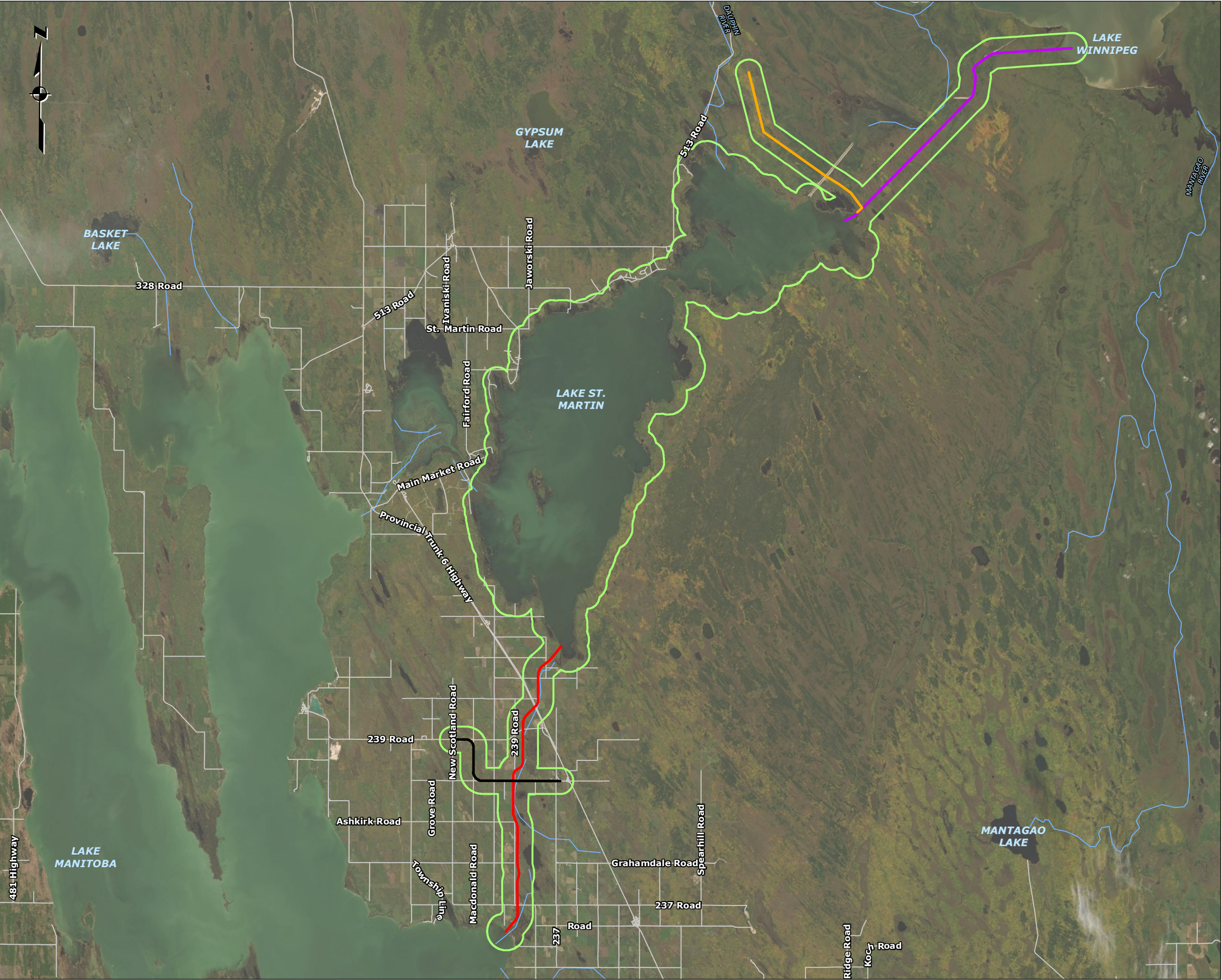
APPENDIX

A

FIGURES



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Legend

- Lake Manitoba Outlet Channel (LMOC)
- Lake St. Martin Outlet Channel (LSMOC)
- Manitoba Hydro's Distribution Line
- PR 239 Re-Route
- Local Assessment Area (LAA)
- Roads
- Watercourse

Map Location

KEY MAP
1:2,000,000

Manitoba
Infrastructure

Figure 1A: Project Location Overview

Lake Manitoba & Lake St.Martin

Manitoba, Canada

Scale: 1:300,000

0 2.5 5 10 15 Kilometers

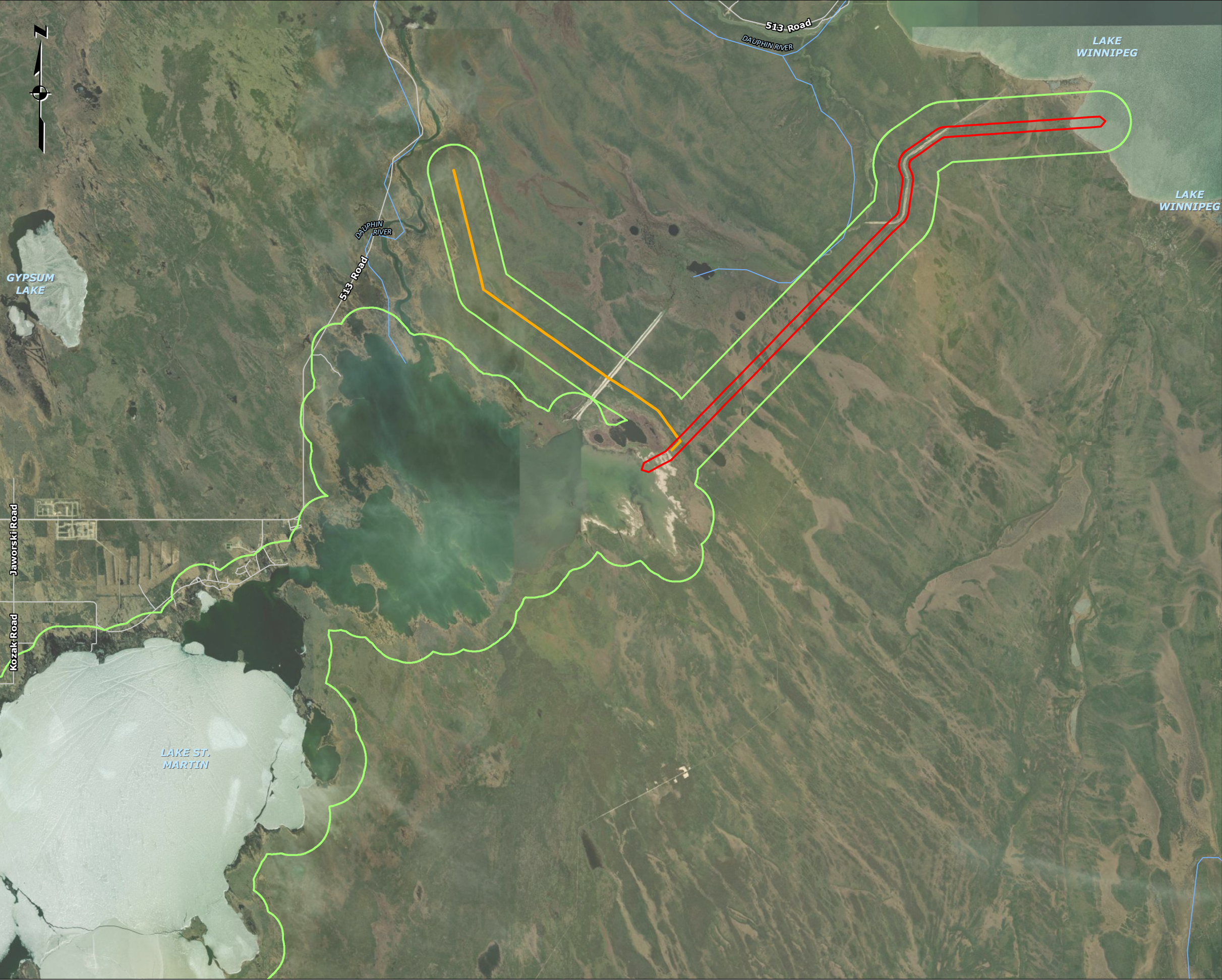
Universal Transverse Mercator (Zone 14)
North American Datum (1983)

wsp

Report By: DW
Drawn by: JH
Reviewed By: KT

WSP Job #: 20M-00910-00
Date: September 10, 2020
Office: Winnipeg

Notes: Data Source: Imagery ESRI, Base Data: Manitoba Infrastructure



- Legend**
- Project Development Area (PDA)
 - Manitoba Hydro's Distribution Line
 - Local Assessment Area (LAA)
 - Roads
 - Watercourse

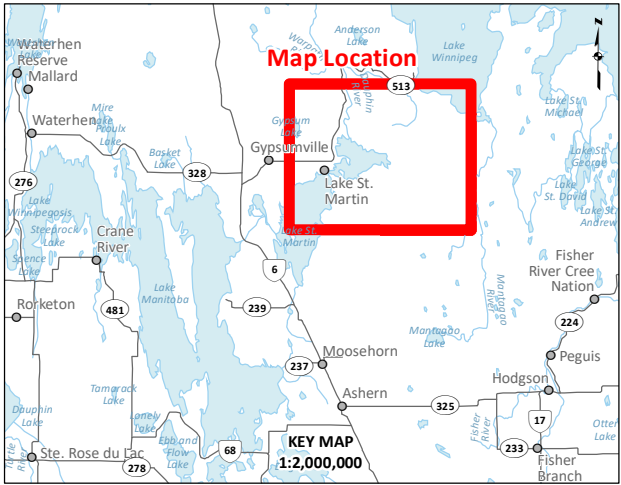
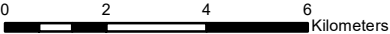


Figure 1B: Project Location - Lake St. Martin Outlet Channel and Manitoba Hydro's Distribution Line

Lake Manitoba & Lake St.Martin

Manitoba, Canada

Scale: 1:150,000

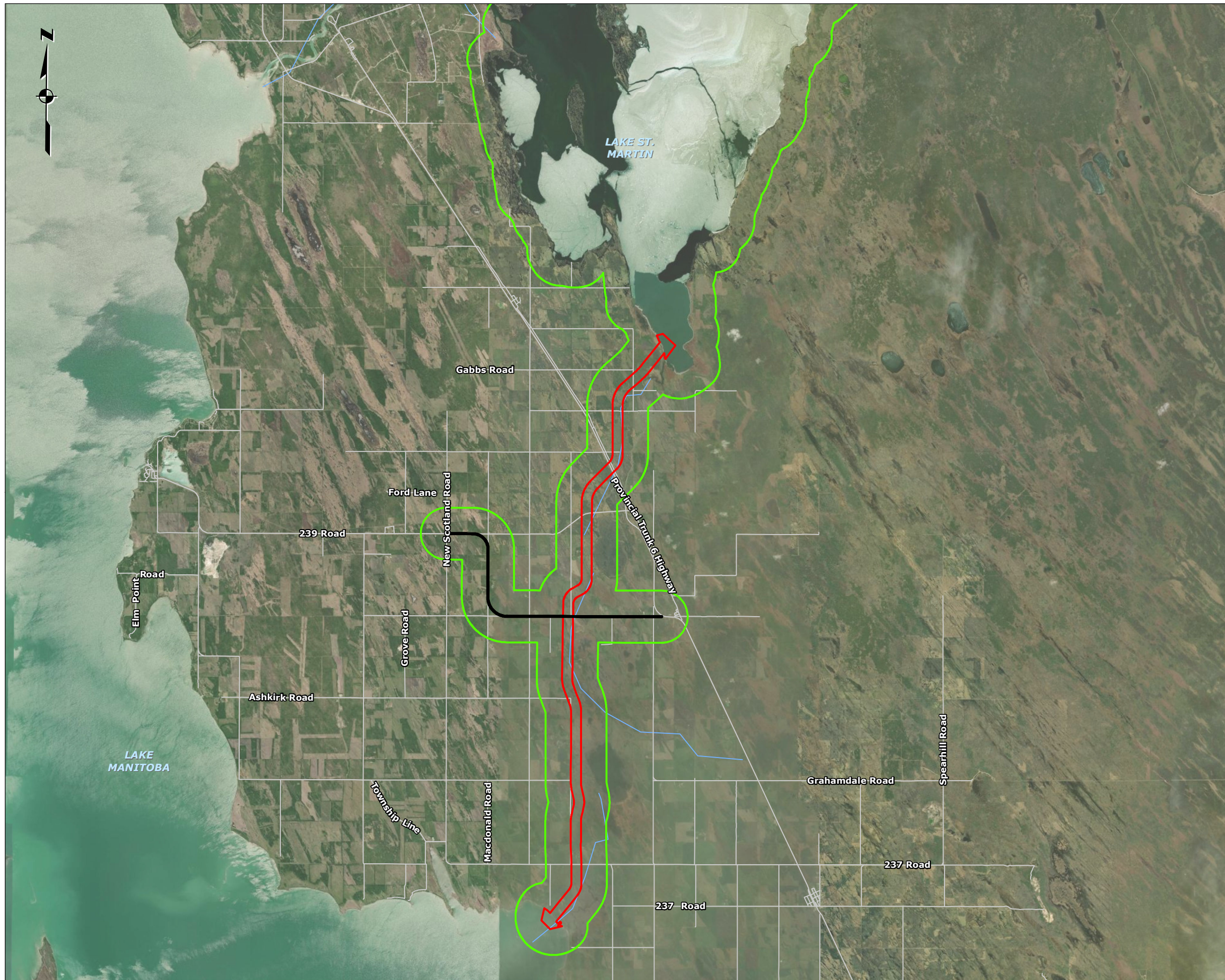


Universal Transverse Mercator (Zone 14)
North American Datum (1983)



Report By: DW
Drawn by: JH
Reviewed By: KT
WSP Job #: 20M-00910-00
Date: September 10, 2020
Office: Winnipeg

Notes: Data Source: Imagery ESRI, Base Data: Manitoba Infrastructure



Legend

- Project Development Area (PDA)
- PR 239 Re-Route
- Local Assessment Area (LAA)
- Roads
- Watercourse

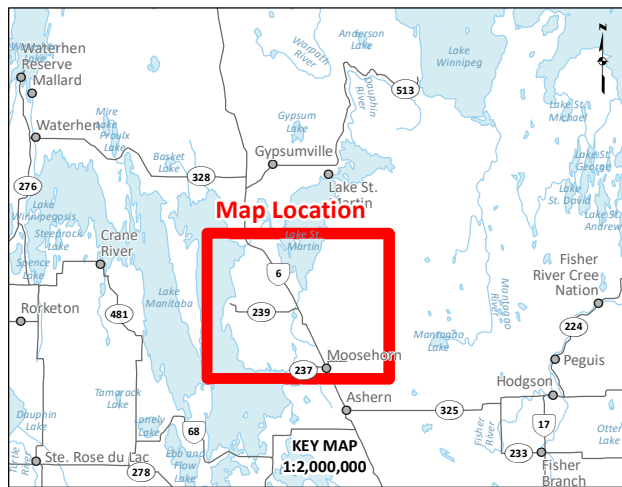
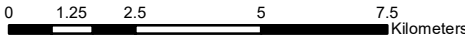


Figure 1C: Project Location - Lake Manitoba Outlet Channel and PR 239 Road Re-route

Lake Manitoba & Lake St.Martin

Manitoba, Canada

Scale: 1:150,000



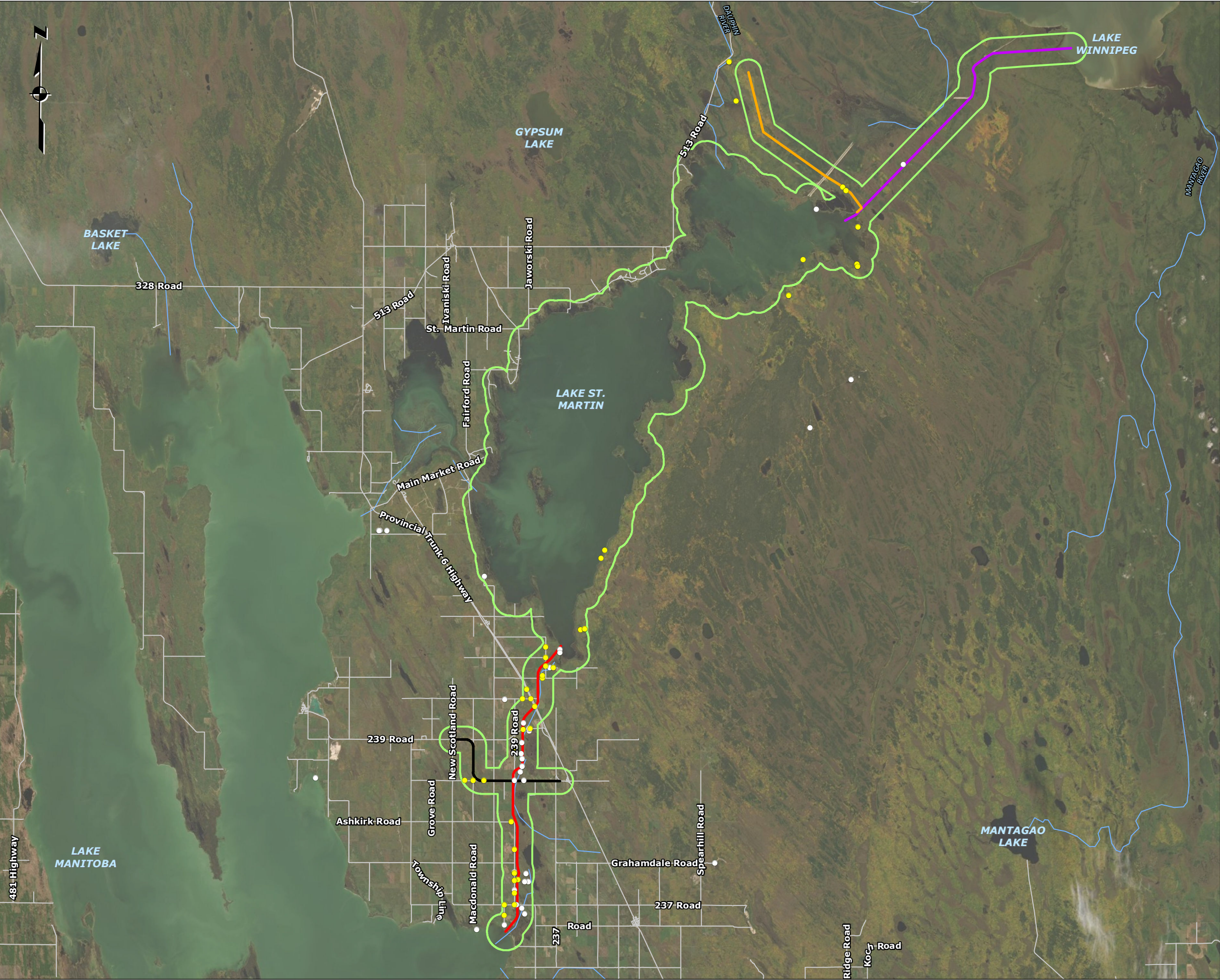
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North American Datum (1983)



Report By: DW
Drawn by: JH
Reviewed By: KT

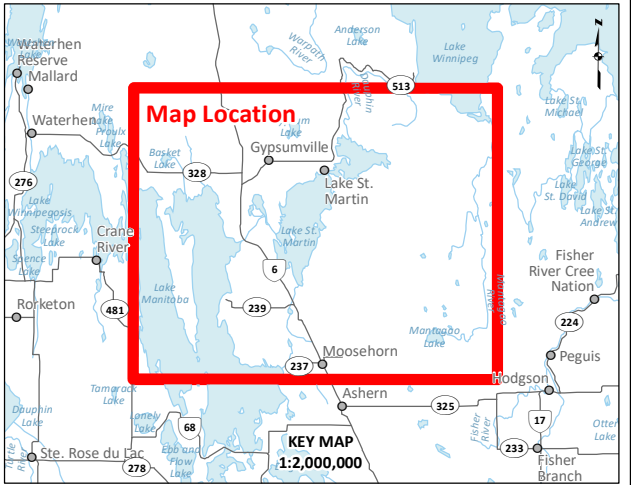
WSP Job #: 20M-00910-00
Date: September 10, 2020
Office: Winnipeg

Notes: Data Source: Imagery ESRI, Base Data: Manitoba Infrastructure



Legend

- Lake Manitoba Outlet Channel (LMOC)
- Lake St. Martin Outlet Channel (LSMOC)
- Manitoba Hydro's Distribution Line
- PR 239 Re-Route
- Local Assessment Area (LAA)
- WSP 2020 SAR Detection Locations
- EIS Historic SAR Detection Locations
- Roads
- Watercourse

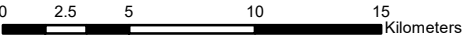


**Figure 3 Species at Risk
Detections Overview**

Lake Manitoba & Lake St. Martin

Manitoba, Canada

Scale: 1:300,000



Universal Transverse Mercator (Zone 14)
North American Datum (1983)



Report By: DW
Drawn by: JH
Reviewed By: KT
WSP Job #: 20M-00910-00
Date: September 10, 2020
Office: Winnipeg

Notes: Data Source: Imagery ESRI, Base Data: Manitoba Infrastructure

APPENDIX

B

WILDLIFE SPECIES
OBSERVED DURING
PRE-CONSTRUCTION
SURVEYS IN 2020

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Table B-1. Summary of ARU Data from LMOC and LSMOC 2020 Surveys

Survey	Obs.	S_Time	Date	Round	Species	Abund	Time_SAR	Time_UNK	Noise
BBS	DW	4:56	July 9, 2020	1	HETH	3			
BBS	DW	4:56	July 9, 2020	1	NAWA	4			
BBS	DW	4:56	July 9, 2020	1	REVI	1			
BBS	DW	4:56	July 9, 2020	1	WISN	2			
BBS	DW	4:56	July 9, 2020	1	AMCR	2			
BBS	DW	4:56	July 9, 2020	1	SWTH	1			
BBS	DW	6:09	July 20, 2020	2	HETH	3			HETH very close to recorder
BBS	DW	6:09	July 20, 2020	2	REVI	1			
BBS	DW	6:09	July 20, 2020	2	RBNU	1			
BBS	DW	6:09	July 20, 2020	2	NOFL	1		DRUMMING - 2:15	
EWPW/YEAR/AMPHIB	DW	22:21	July 8, 2020	1	EWPW	2	0:01		LIGHT DRIZZLE/WIND
EWPW/YEAR/AMPHIB	DW	22:21	July 8, 2020	1	WISN	1			LIGHT DRIZZLE/WIND
EWPW/YEAR/AMPHIB	DW	1:10	July 20, 2020	2	RBNU	1			
BBS	DW	7:55	July 8, 2020	1	YEWA	1			LIGHT DRIZZLE FROM 2:00 - 3:00
BBS	DW	7:55	July 8, 2020	1	NAWA	2			LIGHT DRIZZLE FROM 2:00 - 3:00
BBS	DW	7:55	July 8, 2020	1	REVI	2			LIGHT DRIZZLE FROM 2:00 - 3:00
BBS	DW	7:55	July 8, 2020	1	WTSP	1			LIGHT DRIZZLE FROM 2:00 - 3:00
BBS	DW	7:55	July 8, 2020	1	HETH	1			LIGHT DRIZZLE FROM 2:00 - 3:00
BBS	DW	7:55	July 8, 2020	1	AMGO	1			LIGHT DRIZZLE FROM 2:00 - 3:00
BBS	DW	5:04	July 16, 2020	2	REVI	2			LIGHT DRIZZLE/WIND FOR LAST 30 SECONDS
BBS	DW	5:04	July 16, 2020	2	NAWA	1			LIGHT DRIZZLE/WIND FOR LAST 30 SECONDS
BBS	DW	5:04	July 16, 2020	2	WTSP	1			LIGHT DRIZZLE/WIND FOR LAST 30 SECONDS
BBS	DW	5:04	July 16, 2020	2	HETH	1			LIGHT DRIZZLE/WIND FOR LAST 30 SECONDS
BBS	DW	5:04	July 16, 2020	2	UNKN	1		3:34	LIGHT DRIZZLE/WIND FOR LAST 30 SECONDS
EWPW/YEAR/AMPHIB	DW	21:21	July 7, 2020	1	SWTH	2			
EWPW/YEAR/AMPHIB	DW	21:21	July 7, 2020	1	COYOTE	2			
EWPW/YEAR/AMPHIB	DW	21:21	July 7, 2020	1	HETH	2			
EWPW/YEAR/AMPHIB	DW	21:21	July 7, 2020	1	NAWA	2			
EWPW/YEAR/AMPHIB	DW	21:21	July 7, 2020	1	CEDW	2			
EWPW/YEAR/AMPHIB	DW	21:21	July 7, 2020	1	MOWA	2		1:08	
EWPW/YEAR/AMPHIB	DW	21:21	July 7, 2020	1	WTSP	1			
EWPW/YEAR/AMPHIB	DW	21:21	July 7, 2020	1	WIWR	1			
EWPW/YEAR/AMPHIB	DW	21:21	July 7, 2020	1	OVEN	1			
EWPW/YEAR/AMPHIB	DW	21:14	July 15, 2020	2	WTSP	2			
EWPW/YEAR/AMPHIB	DW	21:14	July 15, 2020	2	COYOTE	1			
EWPW/YEAR/AMPHIB	DW	21:14	July 15, 2020	2	HETH	2			
EWPW/YEAR/AMPHIB	DW	21:14	July 15, 2020	2	VEER	1			
EWPW/YEAR/AMPHIB	DW	21:14	July 15, 2020	2	MOWA	1			
EWPW/YEAR/AMPHIB	DW	21:14	July 15, 2020	2	ALFL	1			
BBS	DW	5:55	July 8, 2020	1	NOWA	1			
BBS	DW	5:55	July 8, 2020	1	COYE	1			
BBS	DW	5:55	July 8, 2020	1	CORA	2			
BBS	DW	5:55	July 8, 2020	1	REVI	2			
BBS	DW	5:55	July 8, 2020	1	BAWW	1			
BBS	DW	5:55	July 8, 2020	1	SOSP	1			
BBS	DW	5:55	July 8, 2020	1	WTSP	1			
BBS	DW	5:55	July 8, 2020	1	UNKN	1		2:30	
BBS	DW	5:55	July 8, 2020	1	WIWA	1		3:36 AND 3:55	
BBS	DW	9:00	July 13, 2020	2	AMCR	1			WIND/LIGHT RAIN
BBS	DW	9:00	July 13, 2020	2	REVI	1			WIND/LIGHT RAIN
BBS	DW	9:00	July 13, 2020	2	BAWW	1			WIND/LIGHT RAIN
BBS	DW	9:00	July 13, 2020	2	COYE	1			WIND/LIGHT RAIN
BBS	DW	9:00	July 13, 2020	2	SWTH	1			WIND/LIGHT RAIN
BBS	DW	9:00	July 13, 2020	2	SOSP	1			WIND/LIGHT RAIN
BBS	DW	9:00	July 13, 2020	2	BOCH	1			WIND/LIGHT RAIN
EWPW/YEAR/AMPHIB	DW	1:21	July 8, 2020	1	EWPW	1	0:50, 4:00		WIND/LIGHT RAIN
EWPW/YEAR/AMPHIB	DW	1:21	July 8, 2020	1	UNKN	1		1:34	WIND/LIGHT RAIN
EWPW/YEAR/AMPHIB	DW	1:21	July 8, 2020	1	KILL	1			WIND/LIGHT RAIN
EWPW/YEAR/AMPHIB	DW	1:21	July 8, 2020	1	UNKN	1		4:34	WIND/LIGHT RAIN
EWPW/YEAR/AMPHIB	DW	0:17	July 14, 2020	2	UNKN	1		0:03	
BBS	DW	6:09	July 20, 2020	1	REVI	2			
BBS	DW	6:09	July 20, 2020	1	SWSP	1			
BBS	DW	6:09	July 20, 2020	1	AMCR	3			
BBS	DW	6:09	July 20, 2020	1	ALFL	1			
BBS	DW	6:09	July 20, 2020	1	SWTH	1			
BBS	DW	6:09	July 20, 2020	1	BAWW	1			
BBS	DW	6:09	July 20, 2020	1	HAWO	1		1:08, 1:38, 1:46, 1:56, 3:42, 3:53	
BBS	DW	6:09	July 20, 2020	1	SOSP	1			
BBS	DW	6:09	July 20, 2020	1	CEDW	1			
BBS	DW	9:21	July 28, 2020	2	ALFL	1			RUSHING WATER. OCCASIONAL THUNDER, L. DRIZZLE

Survey	Obs.	S_Time	Date	Round	Species	Abund	Time_SAR	Time_UNK	Noise
BBS	DW	9:21	July 28, 2020	2	MAWR	1		0:52, 4:55	RUSHING WATER. OCCASIONAL THUNDER, L. DRIZZLE
BBS	DW	9:21	July 28, 2020	2	GRYE	1			RUSHING WATER. OCCASIONAL THUNDER, L. DRIZZLE
BBS	DW	9:21	July 28, 2020	2	COYE	1			
BBS	DW	9:21	July 28, 2020	2	SOSP	1			
BBS	DW	9:21	July 28, 2020	2	NOWA	1			
EWPW/YEAR/AMPHIB	DW	1:10	July 20, 2020	1	UNKN	1		0:10	
EWPW/YEAR/AMPHIB	DW	1:10	July 20, 2020	1	CANG	1			
EWPW/YEAR/AMPHIB	DW	1:10	July 20, 2020	1	UNKN	1		2:00, 3:31	
EWPW/YEAR/AMPHIB	DW	20:58	July 28, 2020	2	BCCH	1			L. DRIZZLE
BBS	DW	6:55	July 8, 2020	1	WISN	1			
BBS	DW	6:55	July 8, 2020	1	COYE	1			
BBS	DW	6:55	July 8, 2020	1	REVI	1			
BBS	DW	6:55	July 8, 2020	1	BBCU	2			
BBS	DW	6:55	July 8, 2020	1	EAPH	1			
BBS	DW	6:55	July 8, 2020	1	SWSP	1			
BBS	DW	6:55	July 8, 2020	1	SEWR	1			
BBS	DW	6:55	July 8, 2020	1	CEDW	1			
BBS	DW	6:55	July 8, 2020	1	LEYE	1			
BBS	DW	6:55	July 8, 2020	1	YERA	1	3:50		
BBS	DW	6:55	July 17, 2020	2	NOWA	1			
BBS	DW	6:55	July 17, 2020	2	YEWA	1			
BBS	DW	6:55	July 17, 2020	2	RWBL	1			
BBS	DW	6:55	July 17, 2020	2	SWSP	3			
BBS	DW	6:55	July 17, 2020	2	WISN	1			
BBS	DW	6:55	July 17, 2020	2	REVI	1			
BBS	DW	6:55	July 17, 2020	2	COYE	1			
EWPW/YEAR/AMPHIB	DW	0:21	July 8, 2020	1	YERA	2	0:01		
EWPW/YEAR/AMPHIB	DW	0:21	July 8, 2020	1	EWPW	1	0:10		
EWPW/YEAR/AMPHIB	DW	0:21	July 8, 2020	1	SEWR	1			
EWPW/YEAR/AMPHIB	DW	0:21	July 8, 2020	1	GRTF	1			
EWPW/YEAR/AMPHIB	DW	1:15	July 15, 2020	2	YERA	1	0:01		WINDS. OCCASIONAL THUNDER AND RAINS
BBS	DW	6:55	July 8, 2020	1	SEWR	2			
BBS	DW	6:55	July 8, 2020	1	CEDW	1			
BBS	DW	6:55	July 8, 2020	1	LEFL	1			
BBS	DW	6:55	July 8, 2020	1	COYE	1			
BBS	DW	6:55	July 8, 2020	1	WISN	2			
BBS	DW	6:55	July 8, 2020	1	ALFL	1			
BBS	DW	6:55	July 8, 2020	1	SWSP	2			
BBS	DW	6:55	July 8, 2020	1	REVI	1			
BBS	DW	6:55	July 8, 2020	1	NOFL	1			
BBS	DW	6:55	July 8, 2020	1	NAWA	1			
BBS	DW	6:55	July 8, 2020	1	RWBL	1			
BBS	DW	6:55	July 8, 2020	1	BBCU	2			
BBS	DW	6:55	July 8, 2020	1	YERA	1	2:40, 3:50		
BBS	DW	7:03	July 15, 2020	2	COYE	1			
BBS	DW	7:03	July 15, 2020	2	WISN	2			WIND, LIGHT RAIN
BBS	DW	7:03	July 15, 2020	2	SWSP	2			
BBS	DW	7:03	July 15, 2020	2	NOWA	1			
BBS	DW	7:03	July 15, 2020	2	LEFL	1			
BBS	DW	7:03	July 15, 2020	2	RBGR	1			
EWPW/YEAR/AMPHIB	DW	23:21	July 7, 2020	1	EWPW	2			
EWPW/YEAR/AMPHIB	DW	23:21	July 7, 2020	1	GRTF				
EWPW/YEAR/AMPHIB	DW	23:21	July 7, 2020	1	YERA	2	1:25, 2:15		
EWPW/YEAR/AMPHIB	DW	23:21	July 7, 2020	1	WISN	1			
EWPW/YEAR/AMPHIB	DW	23:21	July 7, 2020	1	CORA	1			
EWPW/YEAR/AMPHIB	DW	21:15	July 14, 2020	2	WISN	2			
EWPW/YEAR/AMPHIB	DW	21:15	July 14, 2020	2	WTSP	1			
EWPW/YEAR/AMPHIB	DW	21:15	July 14, 2020	2	VEER	1			
EWPW/YEAR/AMPHIB	DW	21:15	July 14, 2020	2	EWPW	1	0:50, 1:30		
EWPW/YEAR/AMPHIB	DW	21:15	July 14, 2020	2	SWSP	1			
EWPW/YEAR/AMPHIB	DW	21:15	July 14, 2020	2	LEYE	1			
BBS	DW	5:56	July 9, 2020	1	BBCU	1			
BBS	DW	5:56	July 9, 2020	1	COYE	2			
BBS	DW	5:56	July 9, 2020	1	CCSP	1			
BBS	DW	5:56	July 9, 2020	1	CORA	1			
BBS	DW	5:56	July 9, 2020	1	WISN	1			
BBS	DW	5:56	July 9, 2020	1	NOFL	1			
BBS	DW	5:56	July 9, 2020	1	SOSP	1			
BBS	DW	5:56	July 9, 2020	1	SACR	1			
BBS	DW	5:56	July 9, 2020	1	AMGO	1			
BBS	DW	5:56	July 9, 2020	1	YERA	1	4:35		
BBS	DW	9:05	July 17, 2020	2	COYE	1			OCCASIONAL THUNDER
BBS	DW	9:05	July 17, 2020	2	SOSP	1			OCCASIONAL THUNDER
BBS	DW	9:05	July 17, 2020	2	WISN	3			OCCASIONAL THUNDER
BBS	DW	9:05	July 17, 2020	2	YEWA	1			OCCASIONAL THUNDER
BBS	DW	9:05	July 17, 2020	2	RWBL	1			OCCASIONAL THUNDER
BBS	DW	9:05	July 17, 2020	2	KILL	2			OCCASIONAL THUNDER
BBS	DW	9:05	July 17, 2020	2	SEWR	1			OCCASIONAL THUNDER
BBS	DW	9:05	July 17, 2020	2	CORA	1			OCCASIONAL THUNDER
BBS	DW	9:05	July 17, 2020	2	SWSP	1			
BBS	DW	9:05	July 17, 2020	2	NOWA	1			OCCASIONAL THUNDER
EWPW/YEAR/AMPHIB	DW	22:22	July 10, 2020	1	WISN	1			
EWPW/YEAR/AMPHIB	DW	22:22	July 10, 2020	1	YERA	1	0:01, 1:45		
EWPW/YEAR/AMPHIB	DW	22:22	July 10, 2020	1	SWSP	1			

Survey	Obs.	S_Time	Date	Round	Species	Abund	Time_SAR	Time_UNK	Noise
EWPW/YEAR/AMPHIB	DW	22:22	July 10, 2020	1	KILL	1			
EWPW/YEAR/AMPHIB	DW	22:22	July 10, 2020	1	SOSP	1			
EWPW/YEAR/AMPHIB	DW	22:22	July 10, 2020	1	COYE	1			
EWPW/YEAR/AMPHIB	DW	22:22	July 10, 2020	1	BBCU	1			
EWPW/YEAR/AMPHIB	DW	22:22	July 10, 2020	1	WTSP	1			
EWPW/YEAR/AMPHIB	DW	2:14	July 17, 2020	2	YERA	3	0:01		
EWPW/YEAR/AMPHIB	DW	2:14	July 17, 2020	2	SORA	1			
BBS	DW	8:58	July 11, 2020	1	CEDW	3			
BBS	DW	8:58	July 11, 2020	1	WTSP	2			
BBS	DW	8:58	July 11, 2020	1	NOFL	2			
BBS	DW	8:58	July 11, 2020	1	SWSP	1			
BBS	DW	8:58	July 11, 2020	1	WISN	1			
BBS	DW	8:58	July 11, 2020	1	COYE	1			
BBS	DW	8:58	July 11, 2020	1	REVI	1			
BBS	DW	8:58	July 11, 2020	1	SEWR	1			
BBS	DW	8:58	July 11, 2020	1	GRYE	1			
BBS	DW	8:58	July 11, 2020	1	RHWO	1	2:21, 3:09, 3:33		AGITATION CALLS
BBS	DW	8:58	July 11, 2020	1	NAWA	1			
BBS	DW	8:09	July 20, 2020	2	CORA	3			
BBS	DW	8:09	July 20, 2020	2	KILL	1			
BBS	DW	8:09	July 20, 2020	2	REVI	1			
BBS	DW	8:09	July 20, 2020	2	SWSP	1			
BBS	DW	8:09	July 20, 2020	2	ALFL	1			
BBS	DW	8:09	July 20, 2020	2	WTSP	1			
BBS	DW	8:09	July 20, 2020	2	RWBL	5			
BBS	DW	8:09	July 20, 2020	2	SOSP	1			
BBS	DW	8:09	July 20, 2020	2	BAWW	1			
BBS	DW	8:09	July 20, 2020	2	COYE	1			
BBS	DW	8:09	July 20, 2020	2	AMGO	1			
EWPW/YEAR/AMPHIB	DW	23:23	July 7, 2020	1	EWPW	2	0:01		WIND
EWPW/YEAR/AMPHIB	DW	23:23	July 7, 2020	1	KILL	1			
EWPW/YEAR/AMPHIB	DW	23:18	July 13, 2020	2	EWPW	2	0:01		
EWPW/YEAR/AMPHIB	DW	23:18	July 13, 2020	2	COYE	1			
BBS	DW	6:55	July 9, 2020	1	REVI	1			
BBS	DW	6:55	July 9, 2020	1	UNKN	1		0:01	
BBS	DW	6:55	July 9, 2020	1	OVEN	1			
BBS	DW	6:55	July 9, 2020	1	RBGR	1			
BBS	DW	6:55	July 9, 2020	1	GRCA	1			
BBS	DW	6:55	July 9, 2020	1	WTSP	1			
BBS	DW	6:55	July 9, 2020	1	CORA	1			
BBS	DW	6:55	July 9, 2020	1	WIWA	1			
BBS	DW	6:55	July 9, 2020	1	BBCU	1			
BBS	DW	6:55	July 9, 2020	1	COLO	1			
BBS	DW	9:05	July 17, 2020	2	COLO	1			
BBS	DW	9:05	July 17, 2020	2	REVI	1			
BBS	DW	9:05	July 17, 2020	2	CEDW	1			
BBS	DW	9:05	July 17, 2020	2	WISN	1			
BBS	DW	9:05	July 17, 2020	2	OVEN	1			
BBS	DW	9:05	July 17, 2020	2	WTSP	1			
BBS	DW	9:05	July 17, 2020	2	BAWW	1			
EWPW/YEAR/AMPHIB	DW	1:18	July 12, 2020	1	EWPW	1			
EWPW/YEAR/AMPHIB	DW	1:18	July 12, 2020	1	YERA	1			
EWPW/YEAR/AMPHIB	DW	1:18	July 12, 2020	1	GHOW	1			
EWPW/YEAR/AMPHIB	DW	1:18	July 12, 2020	1	LEFL	1			
EWPW/YEAR/AMPHIB	DW	1:18	July 12, 2020	1	RNGR	2			
EWPW/YEAR/AMPHIB	DW	23:10	July 19, 2020	2	WISN	1			
EWPW/YEAR/AMPHIB	DW	23:10	July 19, 2020	2	UNKN	1		0:52	
EWPW/YEAR/AMPHIB	DW	23:10	July 19, 2020	2	EWPW	1	4:23		
BBS	DW	4:55	July 8, 2020	1	REVI	2			WIND
BBS	DW	4:55	July 8, 2020	1	WTSP	2			WIND
BBS	DW	4:55	July 8, 2020	1	BBCU	1			WIND
BBS	DW	6:04	July 16, 2020	2	REVI	2			WIND
BBS	DW	6:04	July 16, 2020	2	RBGR	1			WIND
BBS	DW	6:04	July 16, 2020	2	WTSP	1			WIND
BBS	DW	6:04	July 16, 2020	2	COLO	1			WIND
EWPW/YEAR/AMPHIB	DW	23:21	July 7, 2020	1	EWPW	2	0:01		WIND
EWPW/YEAR/AMPHIB	DW	23:21	July 7, 2020	1	GRTF				WIND
EWPW/YEAR/AMPHIB	DW	23:21	July 7, 2020	1	KILL	1			WIND
EWPW/YEAR/AMPHIB	DW	0:17	July 14, 2020	2	EWPW	2			WIND
EWPW/YEAR/AMPHIB	DW	0:17	July 14, 2020	2	COLO	1			WIND
EWPW/YEAR/AMPHIB	DW	0:17	July 14, 2020	2	GRTF				WIND
BBS	DW	6:57	July 8, 2020	1	CHSP	1			WIND
BBS	DW	6:57	July 8, 2020	1	RHWO	1	0:17, 0:22		WIND
BBS	DW	6:57	July 8, 2020	1	MODO	1			WIND
BBS	DW	6:57	July 8, 2020	1	SWTH	1			WIND
BBS	DW	6:57	July 8, 2020	1	REVI	2			WIND
BBS	DW	6:57	July 8, 2020	1	NAWA	1			WIND
BBS	DW	6:57	July 8, 2020	1	RBGR	2			WIND
BBS	DW	6:57	July 8, 2020	1	BBCU	2			WIND
BBS	DW	6:57	July 8, 2020	1	OVEN	1			WIND
BBS	DW	5:06	July 16, 2020	2	REVI	2			WIND
BBS	DW	5:06	July 16, 2020	2	WTSP	1			WIND
BBS	DW	5:06	July 16, 2020	2	CHSP	2			WIND
BBS	DW	5:06	July 16, 2020	2	HETH	1			WIND
BBS	DW	5:06	July 16, 2020	2	BBCU	1			WIND
EWPW/YEAR/AMPHIB	DW	2:21	July 8, 2020	1	EWPW	1	0:01		WIND
EWPW/YEAR/AMPHIB	DW	22:13	July 16, 2020	2	HETH	2			
EWPW/YEAR/AMPHIB	DW	22:13	July 16, 2020	2	WTSP	1			
EWPW/YEAR/AMPHIB	DW	22:13	July 16, 2020	2	REVI	1			

Survey	Obs.	S_Time	Date	Round	Species	Abund	Time_SAR	Time_UNK	Noise
EWPW/YEAR/AMPHIB	DW	22:13	July 16, 2020	2	EWPW	1	4:24		
BBS	DW	8:00	July 11, 2020	1	REVI	2			
BBS	DW	8:00	July 11, 2020	1	AMRO	1			
BBS	DW	8:00	July 11, 2020	1	WISN	1			
BBS	DW	8:00	July 11, 2020	1	CEDW	3			
BBS	DW	8:00	July 11, 2020	1	SWTH	1			
BBS	DW	8:00	July 11, 2020	1	MODO	1			
BBS	DW	8:00	July 11, 2020	1	BBCU	2			
BBS	DW	8:00	July 11, 2020	1	CHSP	1			
BBS	DW	8:00	July 11, 2020	1	BHCO	1			
BBS	DW	8:00	July 11, 2020	1	HETH	1			
BBS	DW	8:00	July 11, 2020	1	LEFL	1			
BBS	DW	9:09	July 18, 2020	2	REVI	3			WIND
BBS	DW	9:09	July 18, 2020	2	WTSP	1			WIND
BBS	DW	9:09	July 18, 2020	2	CHSP	1			WIND
BBS	DW	9:09	July 18, 2020	2	AMRO	1			WIND
EWPW/YEAR/AMPHIB	DW	23:20	July 8, 2020	1	CONI	1	0:01		
EWPW/YEAR/AMPHIB	DW	23:20	July 8, 2020	1	EWPW	1	0:01		
EWPW/YEAR/AMPHIB	DW	23:20	July 8, 2020	1	GRTF	1			
EWPW/YEAR/AMPHIB	DW	23:20	July 8, 2020	1	WISN	1			
EWPW/YEAR/AMPHIB	DW	2:12	July 18, 2020	2	LEFL	1			
BBS	DW	8:08	July 18, 2020	1	RWBL				
BBS	DW	8:08	July 18, 2020	1	MAWR	1			
BBS	DW	8:08	July 18, 2020	1	GULLS				
BBS	DW	8:08	July 18, 2020	1	COLO	1			
BBS	DW	8:08	July 18, 2020	1	ALFL	1			
BBS	DW	8:08	July 18, 2020	1	COYE	1			
BBS	DW	8:08	July 18, 2020	1	NAWA	1			
BBS	DW	5:17	July 25, 2020	2	SOSP	1			
BBS	DW	5:17	July 25, 2020	2	GULLS				
BBS	DW	5:17	July 25, 2020	2	COLO	1			
BBS	DW	5:17	July 25, 2020	2	UNKN	1		1:25	
BBS	DW	5:17	July 25, 2020	2	NOWA	1			
BBS	DW	5:17	July 25, 2020	2	SWSP	1			
EWPW/YEAR/AMPHIB	DW	1:00	July 20, 2020	1	MAWR	1			
EWPW/YEAR/AMPHIB	DW	1:00	July 20, 2020	1	GULLS				
EWPW/YEAR/AMPHIB	DW	23:59	July 27, 2020	2	GULLS				
BBS	DW	7:10	July 20, 2020	1	COYE	2			
BBS	DW	7:10	July 20, 2020	1	RWBL	3			
BBS	DW	7:10	July 20, 2020	1	SOSP	2			
BBS	DW	7:10	July 20, 2020	1	ALFL	2			
BBS	DW	7:10	July 20, 2020	1	MODO	1			
BBS	DW	7:10	July 20, 2020	1	MAWR	1			
BBS	DW	7:10	July 20, 2020	1	SORA	1			
BBS	DW	7:10	July 20, 2020	1	UNKN	1		4:01	
BBS	DW	6:23	July 29, 2020	2	RWBL				
BBS	DW	6:23	July 29, 2020	2	MAWR	1			
BBS	DW	6:23	July 29, 2020	2	SOSP	1			
BBS	DW	6:23	July 29, 2020	2	COYE	1			
EWPW/YEAR/AMPHIB	DW	0:13	July 18, 2020	1	MAWR	1			
EWPW/YEAR/AMPHIB	DW	2:04	July 25, 2020	2	MAWR	1			WIND
BBS	DW	5:08	July 18, 2020	1	SOSP	3			
BBS	DW	5:08	July 18, 2020	1	ALFL	2			
BBS	DW	5:08	July 18, 2020	1	COYE	1			
BBS	DW	9:17	July 25, 2020	2	YEWa	1			
BBS	DW	9:17	July 25, 2020	2	SOSP	1			
BBS	DW	9:17	July 25, 2020	2	ALFL	1			
BBS	DW	9:17	July 25, 2020	2	SOSP	1			
BBS	DW	9:17	July 25, 2020	2	SWSP	1			
BBS	DW	9:17	July 25, 2020	2	NOWA	1			
BBS	DW	9:17	July 25, 2020	2	REVI	1			
EWPW/YEAR/AMPHIB	DW	22:13	July 17, 2020	1	WTSP	1			WIND
EWPW/YEAR/AMPHIB	DW	22:13	July 17, 2020	1	VEER	1			WIND
EWPW/YEAR/AMPHIB	DW	22:13	July 17, 2020	1	SORA	1			WIND
EWPW/YEAR/AMPHIB	DW	22:13	July 17, 2020	1	COYE	1			WIND
EWPW/YEAR/AMPHIB	DW	0:06	July 23, 2020	2					WIND
BBS	DW	10:10	July 20, 2020	1	REVI	2			
BBS	DW	10:10	July 20, 2020	1	GULLS				
BBS	DW	10:10	July 20, 2020	1	CORA	1			
BBS	DW	10:10	July 20, 2020	1	COLO	1			
BBS	DW	10:10	July 20, 2020	1	AMGO	2			
BBS	DW	9:12	July 21, 2020	2	REVI				
BBS	DW	9:12	July 21, 2020	2	GULLS				
EWPW/YEAR/AMPHIB	DW	23:13	July 17, 2020	1	UNKN			0:01	WIND
EWPW/YEAR/AMPHIB	DW	23:13	July 17, 2020	1	GHOW			3:04	
EWPW/YEAR/AMPHIB	DW	23:13	July 17, 2020	1	GULLS				
EWPW/YEAR/AMPHIB	DW	1:09	July 21, 2020	2					
BBS	DW	6:08	July 18, 2020	1	SOSP	1			
BBS	DW	6:08	July 18, 2020	1	RWBL	3			
BBS	DW	6:08	July 18, 2020	1	YEWa	1			
BBS	DW	6:08	July 18, 2020	1	COYE	1			
BBS	DW	6:08	July 18, 2020	1	BCCH	1			
BBS	DW	6:08	July 18, 2020	1	NOFL	1			
BBS	DW	6:08	July 18, 2020	1	CEDW	1			
BBS	DW	6:08	July 18, 2020	1	SWSP	1			
BBS	DW	6:08	July 18, 2020	1	AMCR	1			
BBS	DW	5:17	July 25, 2020	2	GULLS				
BBS	DW	5:17	July 25, 2020	2	COYE	2			
BBS	DW	5:17	July 25, 2020	2	ALFL	1			

Survey	Obs.	S_Time	Date	Round	Species	Abund	Time_SAR	Time_UNK	Noise
BBS	DW	5:17	July 25, 2020	2	SORA	1			
BBS	DW	5:17	July 25, 2020	2	GRCA	1			
BBS	DW	5:17	July 25, 2020	2	SOSP	1			
EWPW	DW	1:13	July 18, 2020	1					
EWPW	DW	21:04	July 24, 2020	2	GULLS				
EWPW	DW	21:04	July 24, 2020	2	COYE	2			
EWPW	DW	21:04	July 24, 2020	2	CEDW	2			
EWPW	DW	21:04	July 24, 2020	2	RWBL				
EWPW	DW	21:04	July 24, 2020	2	MAWR	1			

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Contains Confidential Information>

Table B-3. Raw Survey Data from In-person Point Count Surveys from LMOC and LSMOC 2020 Field Surveys

Survey Site Unique Name/ID	Date (yyyy-mm-dd)	Common Name	Scientific Name	Observer Name(s)	Adults Unknown Gender	Adult Males	Adult Females	Juveniles/ Young-of-Year	Total	Search Evidence	Breeding Bird Status	Comments
239-BBS	2020-07-08	American Crow	<i>Corvus brachyrhynchos</i>	KT	3				3	Sight	H	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		2			2	Sound	S	
	2020-07-08	Greater Yellowlegs	<i>Tringa melanoleuca</i>	KT	1				1	Sight	H	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	2				2	Sight	H	
	2020-07-08	Sandhill Crane	<i>Antigone canadensis</i>	KT	1				1	Sight	H	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KT		1			1	Sound	S	
	2020-07-08	Tree Frog		KT					0			
	2020-07-08	Wilson's Snipe	<i>Gallinago delicata</i>	KT	1				1	Sight	H	
239-BBS	2020-07-08	American Crow	<i>Corvus brachyrhynchos</i>	KT	1				1	Sight	H	
	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	KT		1			1	Sound	S	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		2			2	Sound	S	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	1				1	Sight	H	
239-BBS	2020-07-08	? Frog		KT					0			
	2020-07-08	American Crow	<i>Corvus brachyrhynchos</i>	KT	1				1	Sight	H	
	2020-07-08	American Robin	<i>Turdus migratorius</i>	KT	1				1	Sight	H	
	2020-07-08	Black-capped Chickadee	<i>Poecile atricapillus</i>	KT	1				1	Sight	H	
	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	KT	1	1			2	Sound	S	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		2			2	Sound	S	
	2020-07-08	Least Flycatcher	<i>Empidonax minimus</i>	KT		1			1	Sound	S	
239-EWPW	2020-07-06	Boreal Chorus Frog	<i>Pseudacris maculata</i>	DW					0			Individuals estimated, overlapping but still distinguishable
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	DW					0			Individual(s) estimated, not overlapping
239-EWPW	2020-07-06	Boreal Chorus Frog	<i>Pseudacris maculata</i>	DW					0			Individuals estimated, overlapping and not distinguishable
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	DW					0			Individuals estimated, overlapping but still distinguishable
	2020-07-06	Wilson's Snipe	<i>Gallinago delicata</i>	DW		1			1	Sound	D	
239-EWPW	2020-07-06	Boreal Chorus Frog	<i>Pseudacris maculata</i>	DW					0			Individual(s) estimated, not overlapping
	2020-07-06	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		1			1	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	DW					0			Individuals estimated, overlapping but still distinguishable
	2020-07-06	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		1			1	Sound	S	
	2020-07-06	Vesper Sparrow	<i>Pooecetes gramineus</i>	DW		1			1	Sound	S	
	2020-07-06	Wilson's Snipe	<i>Gallinago delicata</i>	DW	1				1	Sound	H	
239-EWPW	2020-07-06	Boreal Chorus Frog	<i>Pseudacris maculata</i>	DW					0			Individuals estimated, overlapping but still distinguishable
	2020-07-06	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		2			2	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	DW					0			Individual(s) estimated, not overlapping
	2020-07-06	Ovenbird	<i>Seiurus aurocapilla</i>	DW		1			1	Sound	S	
	2020-07-06	Song Sparrow	<i>Melospiza melodia</i>	DW		1			1	Sound	S	
	2020-07-06	Swainson's Thrush	<i>Catharus ustulatus</i>	DW		1			1	Sound	S	
	2020-07-06	Western Meadowlark	<i>Sturnella neglecta</i>	DW		1			1	Sound	S	
	2020-07-06	White-throated Sparrow	<i>Zonotrichia albicollis</i>	DW		1			1	Sound	S	

Survey Site Unique Name/ID	Date (yyyy-mm-dd)	Common Name	Scientific Name	Observer Name(s)	Adults Unknown Gender	Adult Males	Adult Females	Juveniles/ Young-of-Year	Total	Search Evidence	Breeding Bird Status	Comments
239-EWPW	2020-07-06	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	DW		1			1	Sound	S	
	2020-07-06	Boreal Chorus Frog	<i>Pseudacris maculata</i>	DW					0			Individuals estimated, overlapping and not distinguishable
	2020-07-06	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		2			2	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	DW					0			Individuals estimated, overlapping and not distinguishable
	2020-07-06	Sandhill Crane	<i>Antigone canadensis</i>	DW	5				5	Sight	H	
	2020-07-06	White-throated Sparrow	<i>Zonotrichia albicollis</i>	DW		1			1	Sound	S	
239-EWPW	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	DW					0			Individuals estimated, overlapping but still distinguishable
	2020-07-06	Veery	<i>Catharus fuscescens</i>	DW		1			1	Sound	S	
	2020-07-06	Yellow Warbler	<i>Setophaga petechia</i>	DW		1			1	Sound	S	
239-EWPW	2020-07-06	American Goldfinch	<i>Spinus tristis</i>	DW	1				1	Sight	H	
	2020-07-06	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		1			1	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	DW					0			Individual(s) estimated, not overlapping
	2020-07-06	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		2			2	Sound	S	
	2020-07-06	Vesper Sparrow	<i>Poocetes gramineus</i>	DW		1			1	Sound	S	
239-EWPW	2020-07-06	Boreal Chorus Frog	<i>Pseudacris maculata</i>	DW					0			Individuals estimated, overlapping but still distinguishable
	2020-07-06	Cedar Waxwing	<i>Bombycilla cedrorum</i>	DW		1			1	Sound	S	
	2020-07-06	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		2			2	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	DW					0			Individuals estimated, overlapping but still distinguishable
	2020-07-06	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	DW	1				1	Sound	H	
	2020-07-06	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		1			1	Sound	S	
	2020-07-06	Song Sparrow	<i>Melospiza melodia</i>	DW		1			1	Sound	S	
	2020-07-06	White-throated Sparrow	<i>Zonotrichia albicollis</i>	DW		1			1	Sound	S	
239-EWPW	2020-07-06	Boreal Chorus Frog	<i>Pseudacris maculata</i>	DW					0			Individual(s) estimated, not overlapping
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	DW					0			Individual(s) estimated, not overlapping
	2020-07-06	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		1			1	Sound	S	
	2020-07-06	Song Sparrow	<i>Melospiza melodia</i>	DW		1			1	Sound	S	
BOAT-BBS	2020-07-09	Marsh Wren	<i>Cistothorus palustris</i>	KT		1			1	Sound	S	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
BOAT-BBS	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	2				2	Sight	H	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
BOAT-BBS	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KT		1			1	Sound	S	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	1				1	Sight	H	
BOAT-BBS	2020-07-09	Barn Swallow	<i>Hirundo rustica</i>	KT	1				1	Sight	H	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		2			2	Sound	S	
	2020-07-09	Hermit Thrush	<i>Catharus guttatus</i>	KT		1			1	Sound	S	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	1				1	Sight	H	
BOAT-BBS	2020-07-09	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KT	7				7	Sight	H	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		2			2	Sound	S	
	2020-07-09	Tree Swallow	<i>Tachycineta bicolor</i>	KT	3				3	Sight	H	

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BOAT-BBS	2020-07-09	Black-capped Chickadee	<i>Poecile atricapillus</i>	KT	1				1	Sight	H	
	2020-07-09	Hermit Thrush	<i>Catharus guttatus</i>	KT		1			1	Sound	S	
	2020-07-09	Least Flycatcher	<i>Empidonax minimus</i>	KT		2			2	Sound	S	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	1				1	Sight	H	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
BOAT-BBS	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KT		1			1	Sound	S	
BOAT-BBS	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
BOAT-BBS	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
BOAT-BBS	2020-07-09	Mourning Dove	<i>Zenaida macroura</i>	KT	1				1	Sight	H	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	2				2	Sight	H	
BOAT-BBS	2020-07-09	American Robin	<i>Turdus migratorius</i>	KT	1				1	Sight	H	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KT		1			1	Sound	S	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	1				1	Sight	H	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
BOAT-BBS	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-09	Marsh Wren	<i>Cistothorus palustris</i>	KT		1			1	Sound	S	
	2020-07-09	Northern Flicker	<i>Colaptes auratus</i>	KT	1				1	Sight	H	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	2				2	Sight	H	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
BOAT-BBS	2020-07-09	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KT	2				2	Sight	H	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KT		1			1	Sound	S	
	2020-07-09	Tundra Swan	<i>Cygnus columbianus</i>	KT	3				3	Sight		
	2020-07-09	White-winged Scoter	<i>Melanitta deglandi</i>	KT	1				1	Sight		
LMOC-BBS	2020-07-10	American Crow	<i>Corvus brachyrhynchos</i>	KG	3				3	Sight	H	
	2020-07-10	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	KG		1			1	Sound	S	
	2020-07-10	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-10	Least Flycatcher	<i>Empidonax minimus</i>	KG		2			2	Sound	S	
	2020-07-10	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		2			2	Sound	S	
	2020-07-10	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	1				1	Sight	H	
	2020-07-10	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG	1	1			2	Sound	S	
	2020-07-10	Yellow Warbler	<i>Setophaga petechia</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-08	Boreal Chickadee	<i>Poecile hudsonicus</i>	KT	1				1	Sight	H	
	2020-07-08	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KT	1				1	Sight	H	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-08	Least Flycatcher	<i>Empidonax minimus</i>	KT		1			1	Sound	S	
	2020-07-08	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	KT	1				1	Sight	H	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	1				1	Sight	H	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KT	1	1			2	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
LMOC-BBS	2020-07-08	Red-eyed Vireo	<i>Vireo olivaceus</i>	KT		1			1	Sound	S	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KT		1			1	Sound	S	
	2020-07-08	Western Meadowlark	<i>Sturnella neglecta</i>	KT		1			1	Sound	S	
	2020-07-08	Wilson's Snipe	<i>Gallinago delicata</i>	KT		1			1	Sound	D	

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LMOC-BBS	2020-07-08	Black-billed Magpie	<i>Pica hudsonia</i>	KT	4				4	Sight	H	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KT	2				2	Sight	H	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
	2020-07-08	Western Meadowlark	<i>Sturnella neglecta</i>	KT	1				1	Sight	H	
	2020-07-08	Wilson's Snipe	<i>Gallinago delicata</i>	KT	1				1	Sight	H	
LMOC-BBS	2020-07-08	American Crow	<i>Corvus brachyrhynchos</i>	KT	1				1	Sight	H	
	2020-07-08	Mallard	<i>Anas platyrhynchos</i>	KT	1				1	Sight	H	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	6				6	Sight	H	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
	2020-07-08	Sora	<i>Porzana carolina</i>	KT	1				1	Sight	H	
	2020-07-08	Wilson's Snipe	<i>Gallinago delicata</i>	KT	1				1	Sight	H	
LMOC-BBS	2020-07-10	American Crow	<i>Corvus brachyrhynchos</i>	KG	2				2	Sight	H	
	2020-07-10	American Robin	<i>Turdus migratorius</i>	KG	1				1	Sight	H	
	2020-07-10	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	KG		1			1	Sound	S	
	2020-07-10	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-10	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		1			1	Sound	S	
	2020-07-10	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		2			2	Sound	S	
	2020-07-10	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	12				12	Sight	H	
	2020-07-10	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-10	Western Meadowlark	<i>Sturnella neglecta</i>	KG		2			2	Sound	S	
	2020-07-10	Yellow Warbler	<i>Setophaga petechia</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-10	American Crow	<i>Corvus brachyrhynchos</i>	KG	1				1	Sight	H	
	2020-07-10	American Goldfinch	<i>Spinus tristis</i>	KG	1				1	Sight	H	
	2020-07-10	Bobolink	<i>Dolichonyx oryzivorus</i>	KG		1			1	Sight	D	
	2020-07-10	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-10	Eastern Phoebe	<i>Sayornis phoebe</i>	KG	1	1			2	Sound	S	
	2020-07-10	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		1			1	Sound	S	
	2020-07-10	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		1			1	Sound	S	
	2020-07-10	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-10	Western Meadowlark	<i>Sturnella neglecta</i>	KG		1			1	Sound	S	
	2020-07-10	American Crow	<i>Corvus brachyrhynchos</i>	KG	2				2	Sight	D	
LMOC-BBS	2020-07-10	Barn Swallow	<i>Hirundo rustica</i>	KG	2				2	Sight	D	
	2020-07-10	Brown-headed Cowbird	<i>Molothrus ater</i>	KG		1			1	Sound	S	
	2020-07-10	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		2			2	Sound	S	
	2020-07-10	Northern Flicker	<i>Colaptes auratus</i>	KG	1				1	Sight	D	
	2020-07-10	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		1			1	Sound	S	
	2020-07-10	Western Meadowlark	<i>Sturnella neglecta</i>	KG		2			2	Sound	S	
	2020-07-10	Yellow Warbler	<i>Setophaga petechia</i>	KG		1			1	Sound	S	
	2020-07-10	American Crow	<i>Corvus brachyrhynchos</i>	KG	3				3	Sight	H	
	2020-07-10	American Goldfinch	<i>Spinus tristis</i>	KG	2				2	Sight	H	
	2020-07-10	American Robin	<i>Turdus migratorius</i>	KG	1				1	Sight	H	
LMOC-BBS	2020-07-10	Brown-headed Cowbird	<i>Molothrus ater</i>	KG	1				1	Sight	H	
	2020-07-10	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KG	2				2	Sight	H	
	2020-07-10	Least Flycatcher	<i>Empidonax minimus</i>	KG		2			2	Sound	S	

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LMOC-BBS	2020-07-10	Mourning Dove	<i>Zenaida macroura</i>	KG	1				1	Sight	H	
	2020-07-10	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	2				2	Sight	H	
	2020-07-10	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-10	Tennessee Warbler	<i>Leiothlypis peregrina</i>	KG		1			1	Sound	S	
	2020-07-10	Warbling Vireo	<i>Vireo gilvus</i>	KG		1			1	Sound	S	
	2020-07-10	Wilson's Snipe	<i>Gallinago delicata</i>	KG		1			1	Sound	D	
	2020-07-10	Yellow Warbler	<i>Setophaga petechia</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-10	American Crow	<i>Corvus brachyrhynchos</i>	KG	2				2	Sight	H	
	2020-07-10	American Goldfinch	<i>Spinus tristis</i>	KG	3				3	Sight	H	
	2020-07-10	American Robin	<i>Turdus migratorius</i>	KG	2				2	Sight	H	
	2020-07-10	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	KG		1			1	Sound	S	
	2020-07-10	Brown-headed Cowbird	<i>Molothrus ater</i>	KG	3				3	Sight	H	
	2020-07-10	Least Flycatcher	<i>Empidonax minimus</i>	KG		2			2	Sound	S	
	2020-07-10	Northern Flicker	<i>Colaptes auratus</i>	KG	2				2	Sight	H	
	2020-07-10	Red-breasted Nuthatch	<i>Sitta canadensis</i>	KG	1				1	Sight	H	
	2020-07-10	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		1			1	Sound	S	
	2020-07-10	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	4				4	Sight	H	
	2020-07-10	Sandhill Crane	<i>Antigone canadensis</i>	KG	3				3	Sight	H	
	2020-07-10	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		1			1	Sound	S	
	2020-07-10	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-10	Sora	<i>Porzana carolina</i>	KG	1				1	Sight	H	
	2020-07-10	Western Meadowlark	<i>Sturnella neglecta</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-10	American Crow	<i>Corvus brachyrhynchos</i>	KG	1				1	Sight	H	
	2020-07-10	American Robin	<i>Turdus migratorius</i>	KG	1				1	Sight	H	
	2020-07-10	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	KG		1			1	Sound	S	
	2020-07-10	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		2			2	Sound	S	
	2020-07-10	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		2			2	Sound	S	
	2020-07-10	House Wren	<i>Troglodytes aedon</i>	KG		1			1	Sound	S	
	2020-07-10	Killdeer	<i>Charadrius vociferus</i>	KG	1				1	Sight	H	
	2020-07-10	Least Flycatcher	<i>Empidonax minimus</i>	KG		1			1	Sound	S	
	2020-07-10	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		1			1	Sound	S	
	2020-07-10	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	2				2	Sight	H	
	2020-07-10	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		1			1	Sound	S	
	2020-07-10	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-10	Sora	<i>Porzana carolina</i>	KG	1				1	Sight	H	
	2020-07-10	Wilson's Snipe	<i>Gallinago delicata</i>	KG	2				2	Sight	H	
	2020-07-10	Yellow Warbler	<i>Setophaga petechia</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-10	American Robin	<i>Turdus migratorius</i>	KG	2				2	Sight	H	
	2020-07-10	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	KG		1			1	Sound	S	
	2020-07-10	Brown-headed Cowbird	<i>Molothrus ater</i>	KG		1			1	Sound	S	
	2020-07-10	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-10	Mourning Dove	<i>Zenaida macroura</i>	KG	1				1	Sight	H	
	2020-07-10	Red-tailed Hawk	<i>Buteo jamaicensis</i>	KG	2				2	Sight	H	
	2020-07-10	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	1				1	Sight	H	
	2020-07-10	Sandhill Crane	<i>Antigone canadensis</i>	KG	2				2	Sight	H	

Survey Site Unique Name/ID	Date (yyyy-mm-dd)	Common Name	Scientific Name	Observer Name(s)	Adults Unknown Gender	Adult Males	Adult Females	Juveniles/ Young-of-Year	Total	Search Evidence	Breeding Bird Status	Comments
	2020-07-10	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		1			1	Sound	S	
	2020-07-10	Song Sparrow	<i>Melospiza melodia</i>	KG		2			2	Sound	S	
	2020-07-10	Wilson's Snipe	<i>Gallinago delicata</i>	KG		1			1	Sound	D	
LMOC-BBS	2020-07-10	American Robin	<i>Turdus migratorius</i>	KG	1				1	Sight	H	
	2020-07-10	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	KG		2			2	Sound	S	
	2020-07-10	Black-billed Magpie	<i>Pica hudsonia</i>	KG	1				1	Sight	H	
	2020-07-10	Blue Jay	<i>Cyanocitta cristata</i>	KG	1				1	Sight	H	
	2020-07-10	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-10	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		3			3	Sound	S	
	2020-07-10	Northern Flicker	<i>Colaptes auratus</i>	KG	1				1	Sight	H	
	2020-07-10	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	3				3	Sight	H	
	2020-07-10	Sandhill Crane	<i>Antigone canadensis</i>	KG	2				2	Sight	H	
	2020-07-10	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-10	Sora	<i>Porzana carolina</i>	KG	1				1	Sight	H	
	2020-07-10	Wilson's Snipe	<i>Gallinago delicata</i>	KG	1				1	Sight	H	
	2020-07-10	Yellow Warbler	<i>Setophaga petechia</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-10	Black-and-white Warbler	<i>Mniotilta varia</i>	KG		1			1	Sound	S	
	2020-07-10	Brown-headed Cowbird	<i>Molothrus ater</i>	KG		2			2	Sound	S	
	2020-07-10	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		2			2	Sound	S	
	2020-07-10	Northern Flicker	<i>Colaptes auratus</i>	KG	3				3	Sight	H	
	2020-07-10	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		2			2	Sound	S	
	2020-07-10	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		1			1	Sound	S	
	2020-07-10	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-10	Western Meadowlark	<i>Sturnella neglecta</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-08	American Robin	<i>Turdus migratorius</i>	KT	2				2	Sight	H	
	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	KT		1			1	Sound	S	
	2020-07-08	Red-eyed Vireo	<i>Vireo olivaceus</i>	KT		1			1	Sound	S	
	2020-07-08	Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	KT	1				1	Sight	H	
LMOC-BBS	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	KT		1			1	Sound	S	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-08	Gray Catbird	<i>Dumetella carolinensis</i>	KT		1			1	Sound	S	
	2020-07-08	Sandhill Crane	<i>Antigone canadensis</i>	KT	1				1	Sight	H	
LMOC-BBS	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	KT		3			3	Sound	S	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	2				2	Sight	H	
	2020-07-08	Sandhill Crane	<i>Antigone canadensis</i>	KT	1				1	Sight	H	
	2020-07-08	Sora	<i>Porzana carolina</i>	KT	1				1	Sight	H	
LMOC-BBS	2020-07-08	American Goldfinch	<i>Spinus tristis</i>	KT	1				1	Sight	H	
	2020-07-08	American Robin	<i>Turdus migratorius</i>	KT	1				1	Sight	H	
	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	KT		2			2	Sound	S	
	2020-07-08	Chipping Sparrow	<i>Spizella passerina</i>	KT		1			1	Sound	S	
	2020-07-08	Least Flycatcher	<i>Empidonax minimus</i>	KT		1			1	Sound	S	
	2020-07-08	Sandhill Crane	<i>Antigone canadensis</i>	KT	1				1	Sight	H	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KT		1			1	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	

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	2020-07-08	Sora	<i>Porzana carolina</i>	KT	1				1	Sight	H	
	2020-07-08	Tree Swallow	<i>Tachycineta bicolor</i>	KT	1				1	Sight	H	
LMOC-BBS	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-08	Red-eyed Vireo	<i>Vireo olivaceus</i>	KT		1			1	Sound	S	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KT		1			1	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
	2020-07-08	American Kestrel	<i>Falco sparverius</i>	KT	1				1	Sight	H	
LMOC-BBS	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		3			3	Sound	S	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	1				1	Sight	H	
	2020-07-08	Sandhill Crane	<i>Antigone canadensis</i>	KT	1				1	Sight	H	
	2020-07-08	Tree Frog		KT					0			
	2020-07-08	Wilson's Snipe	<i>Gallinago delicata</i>	KT	1				1	Sight	H	
LMOC-BBS	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	DW		1			1	Sound	S	
	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		1			1	Sound	S	
	2020-07-08	Common Raven	<i>Corvus corax</i>	DW	3				3	Sight	H	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	DW		2			2	Sound	S	
	2020-07-08	Marsh Wren	<i>Cistothorus palustris</i>	DW		2			2	Sound	S	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	DW		2			2	Sound	S	
	2020-07-08	Sandhill Crane	<i>Antigone canadensis</i>	DW		1			1	Sound	S	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		1			1	Sound	S	
	2020-07-08	Wilson's Snipe	<i>Gallinago delicata</i>	DW		1			1	Sound	D	
LMOC-BBS	2020-07-08	American Robin	<i>Turdus migratorius</i>	DW	1	1			2	Sound	S	
	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	DW		1			1	Sound	S	
	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		1			1	Sound	S	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	DW		3			3	Sound	S	
	2020-07-08	Hairy Woodpecker	<i>Dryobates villosus</i>	DW	1				1	Sight	H	
	2020-07-08	Lincoln's Sparrow	<i>Melospiza lincolni</i>	DW		1			1	Sound	S	
	2020-07-08	Mourning Dove	<i>Zenaida macroura</i>	DW		1			1	Sound	S	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	DW		1			1	Sound	S	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		1			1	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	DW		1			1	Sound	S	
LMOC-BBS	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		1			1	Sound	S	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	DW		1			1	Sound	S	
	2020-07-08	Least Flycatcher	<i>Empidonax minimus</i>	DW		2			2	Sound	S	
	2020-07-08	Northern Flicker	<i>Colaptes auratus</i>	DW		1			1	Sound	S	
	2020-07-08	Red-tailed Hawk	<i>Buteo jamaicensis</i>	DW	1				1	Sight	H	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	DW		1			1	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	DW		2			2	Sound	S	
LMOC-BBS	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG		1			1	Sound	S	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		2			2	Sound	S	
	2020-07-09	Common Raven	<i>Corvus corax</i>	KG	1				1	Sight	H	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		2			2	Sound	S	
	2020-07-09	Gray Catbird	<i>Dumetella carolinensis</i>	KG	1				1	Sight	H	
	2020-07-09	House Wren	<i>Troglodytes aedon</i>	KG		3			3	Sound	S	
	2020-07-09	Mourning Dove	<i>Zenaida macroura</i>	KG	2				2	Sight	H	

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	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		1			1	Sound	S	
	2020-07-09	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		1			1	Sound	S	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	Vesper Sparrow	<i>Poocetes gramineus</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-09	American Goldfinch	<i>Spinus tristis</i>	KG	2				2	Sight	H	
	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG		3			3	Sound	S	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-09	House Wren	<i>Troglodytes aedon</i>	KG		2			2	Sound	S	
	2020-07-09	Least Flycatcher	<i>Empidonax minimus</i>	KG		2			2	Sound	S	
	2020-07-09	Yellow Warbler	<i>Setophaga petechia</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-09	American Goldfinch	<i>Spinus tristis</i>	KG	1				1	Sight	H	
	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG	2				2	Sight	H	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-09	Common Raven	<i>Corvus corax</i>	KG	2				2	Sight	H	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		1			1	Sound	S	
	2020-07-09	Gray Catbird	<i>Dumetella carolinensis</i>	KG		1			1	Sound	S	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	3				3	Sight	H	
	2020-07-09	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		1			1	Sound	S	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	Sora	<i>Porzana carolina</i>	KG		2			2	Sound	S	
	2020-07-09	American Goldfinch	<i>Spinus tristis</i>	KG	1				1	Sight	H	
LMOC-BBS	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG		1			1	Sound	S	
	2020-07-09	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KG	2				2	Sight	H	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-09	Least Flycatcher	<i>Empidonax minimus</i>	KG		1			1	Sound	S	
	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		2			2	Sound	S	
	2020-07-09	Sandhill Crane	<i>Antigone canadensis</i>	KG	2				2	Sight	H	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	Swainson's Thrush	<i>Catharus ustulatus</i>	KG		1			1	Sound	S	
	2020-07-09	White-throated Sparrow	<i>Zonotrichia albicollis</i>	KG		3			3	Sound	S	
	2020-07-09	Yellow Warbler	<i>Setophaga petechia</i>	KG		1			1	Sound	S	
	2020-07-09	American Crow	<i>Corvus brachyrhynchos</i>	KG	2				2	Sight	H	
LMOC-BBS	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG		2			2	Sound	S	
	2020-07-09	Barn Swallow	<i>Hirundo rustica</i>	KG	8				8	Sight	H	
	2020-07-09	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	KG		1			1	Sound	S	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		2			2	Sound	S	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		1			1	Sound	S	
	2020-07-09	Mallard	<i>Anas platyrhynchos</i>	KG	2				2	Sight	H	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	3				3	Sight	H	
	2020-07-09	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		1			1	Sound	S	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	Sora	<i>Porzana carolina</i>	KG	1				1	Sight	H	
	2020-07-09	American Crow	<i>Corvus brachyrhynchos</i>	KG	1				1	Sight	H	
LMOC-BBS	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG	1				1	Sight	H	
	2020-07-09	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KG	1				1	Sight	H	

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	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		2			2	Sound	S	
LMOC-BBS	2020-07-09	American Goldfinch	<i>Spinus tristis</i>	KG	4				4	Sight	H	
	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG		1			1	Sound	S	
	2020-07-09	Black-capped Chickadee	<i>Poecile atricapillus</i>	KG	1				1	Sight	H	
	2020-07-09	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KG	2				2	Sight	H	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		1			1	Sound	S	
	2020-07-09	Gray Catbird	<i>Dumetella carolinensis</i>	KG	2	1			3	Sound	S	
	2020-07-09	House Wren	<i>Troglodytes aedon</i>	KG		1			1	Sound	S	
	2020-07-09	Least Flycatcher	<i>Empidonax minimus</i>	KG		2			2	Sound	S	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	1				1	Sight	H	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		2			2	Sound	S	
	2020-07-09	Sora	<i>Porzana carolina</i>	KG		1			1	Sound	S	
	2020-07-09	Veery	<i>Catharus fuscescens</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-09	American Goldfinch	<i>Spinus tristis</i>	KG	3				3	Sight	H	
	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG		1			1	Sight	H	
	2020-07-09	Brown-headed Cowbird	<i>Molothrus ater</i>	KG	2				2	Sight	H	
	2020-07-09	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KG	2				2	Sight	H	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		1			1	Sound	S	
	2020-07-09	Least Flycatcher	<i>Empidonax minimus</i>	KG		1			1	Sound	S	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	2				2	Sight	H	
	2020-07-09	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		1			1	Sound	S	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	Sora	<i>Porzana carolina</i>	KG	1				1	Sight	H	
	2020-07-09	Veery	<i>Catharus fuscescens</i>	KG		1			1	Sound	S	
	2020-07-09	Yellow Warbler	<i>Setophaga petechia</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-09	American Goldfinch	<i>Spinus tristis</i>	KG	1				1	Sight	H	
	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG		1			1	Sound	S	
	2020-07-09	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KG	3				3	Sight	H	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		2			2	Sound	S	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		1			1	Sound	S	
	2020-07-09	Gray Catbird	<i>Dumetella carolinensis</i>	KG		1			1	Sound	S	
	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		1			1	Sound	S	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	1				1	Sight	H	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	White-throated Sparrow	<i>Zonotrichia albicollis</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-09	American Goldfinch	<i>Spinus tristis</i>	KG	2				2	Sight	H	
	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG		2			2	Sound	S	
	2020-07-09	Brown-headed Cowbird	<i>Molothrus ater</i>	KG		3			3	Sound	S	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		1			1	Sound	S	
	2020-07-09	Least Flycatcher	<i>Empidonax minimus</i>	KG		1			1	Sound	S	
	2020-07-09	Mourning Dove	<i>Zenaida macroura</i>	KG	1				1	Sight	H	

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	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		1			1	Sound	S	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	4				4	Sight	H	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	Wilson's Snipe	<i>Gallinago delicata</i>	KG		1			1	Sound	D	
LMOC-BBS	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG	3				3	Sight	H	
	2020-07-09	Barn Swallow	<i>Hirundo rustica</i>	KG	2				2	Sight	H	
	2020-07-09	Brown-headed Cowbird	<i>Molothrus ater</i>	KG		1			1	Sound	S	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		2			2	Sound	S	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		2			2	Sound	S	
	2020-07-09	House Wren	<i>Troglodytes aedon</i>	KG		2			2	Sound	S	
	2020-07-09	Mourning Dove	<i>Zenaida macroura</i>	KG	2				2	Sight	H	
	2020-07-09	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KG	5				5	Sight	H	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	Yellow Warbler	<i>Setophaga petechia</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-09	American Goldfinch	<i>Spinus tristis</i>	KG	1				1	Sight	H	
	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG		2			2	Sound	S	
	2020-07-09	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KG	1				1	Sight	H	
	2020-07-09	Chipping Sparrow	<i>Spizella passerina</i>	KG	2				2	Sight	H	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		1			1	Sound	S	
	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		2			2	Sound	S	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		2			2	Sound	S	
	2020-07-09	White-throated Sparrow	<i>Zonotrichia albicollis</i>	KG		2			2	Sound	S	
	2020-07-09	Yellow Warbler	<i>Setophaga petechia</i>	KG	2				2	Sight	H	
LMOC-BBS	2020-07-09	American Goldfinch	<i>Spinus tristis</i>	KG	3				3	Sight	H	
	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG		3			3	Sound	S	
	2020-07-09	Chipping Sparrow	<i>Spizella passerina</i>	KG		1			1	Sound	S	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		2			2	Sound	S	
	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		2			2	Sound	S	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		2			2	Sound	S	
	2020-07-09	White-throated Sparrow	<i>Zonotrichia albicollis</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-09	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KG	5				5	Sight	H	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-09	Least Flycatcher	<i>Empidonax minimus</i>	KG	1				1	Sight	H	
	2020-07-09	Mourning Dove	<i>Zenaida macroura</i>	KG	2				2	Sight	H	
	2020-07-09	Pileated Woodpecker	<i>Dryocopus pileatus</i>	KG		1			1	Sound	S	
	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		2			2	Sound	S	
	2020-07-09	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	KG	1				1	Sight	H	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	Western Meadowlark	<i>Sturnella neglecta</i>	KG	1	2			3	Sound	S	
LMOC-BBS	2020-07-09	American Crow	<i>Corvus brachyrhynchos</i>	KG	1				1	Sight	H	
	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		1			1	Sound	S	
	2020-07-09	Mourning Dove	<i>Zenaida macroura</i>	KG	3				3	Sight	H	
	2020-07-09	Ring-billed Gull	<i>Larus delawarensis</i>	KG	5				5	Sight	H	
	2020-07-09	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		3			3	Sound	S	

Survey Site Unique Name/ID	Date (yyyy-mm-dd)	Common Name	Scientific Name	Observer Name(s)	Adults Unknown Gender	Adult Males	Adult Females	Juveniles/ Young-of-Year	Total	Search Evidence	Breeding Bird Status	Comments
	2020-07-09	Sharp-shinned Hawk	<i>Accipiter striatus</i>	KG					0	Sight	H	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	Western Meadowlark	<i>Sturnella neglecta</i>	KG		2			2	Sound	S	
LMOC-BBS	2020-07-09	American Robin	<i>Turdus migratorius</i>	KG		1			1	Sound	S	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-09	House Wren	<i>Troglodytes aedon</i>	KG		2			2	Sound	S	
	2020-07-09	Merlin	<i>Falco columbarius</i>	KG	1				1	Sight	H	
	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		1			1	Sound	S	
	2020-07-09	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		2			2	Sound	S	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	Western Meadowlark	<i>Sturnella neglecta</i>	KG		2			2	Sound	S	
	2020-07-09	Black-and-white Warbler	<i>Mniotilta varia</i>	KG		1			1	Sound	S	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		2			2	Sound	S	
LMOC-BBS	2020-07-09	Common Yellowthroat	<i>Geothlypis trichas</i>	KG		1			1	Sound	S	
	2020-07-09	Least Flycatcher	<i>Empidonax minimus</i>	KG		2			2	Sound	S	
	2020-07-09	Mourning Dove	<i>Zenaida macroura</i>	KG	1				1	Sight	H	
	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		2			2	Sound	S	
	2020-07-09	Ring-billed Gull	<i>Larus delawarensis</i>	KG	3				3	Sight	H	
	2020-07-09	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KG		1			1	Sound	S	
	2020-07-09	Song Sparrow	<i>Melospiza melodia</i>	KG		1			1	Sound	S	
	2020-07-09	White-throated Sparrow	<i>Zonotrichia albicollis</i>	KG		1			1	Sound	S	
	2020-07-09	American Goldfinch	<i>Spinus tristis</i>	KG	2				2	Sight	H	
	2020-07-09	Barn Swallow	<i>Hirundo rustica</i>	KG	1				1	Sight	H	
LMOC-BBS	2020-07-09	Chipping Sparrow	<i>Spizella passerina</i>	KG	2				2	Sight	H	
	2020-07-09	Clay-coloured Sparrow	<i>Spizella pallida</i>	KG		1			1	Sound	S	
	2020-07-09	Least Flycatcher	<i>Empidonax minimus</i>	KG		1			1	Sound	S	
	2020-07-09	Red-eyed Vireo	<i>Vireo olivaceus</i>	KG		1			1	Sound	S	
	2020-07-09	White-throated Sparrow	<i>Zonotrichia albicollis</i>	KG		1			1	Sound	S	
	2020-07-09	Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	KG	1				1	Sight	H	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
	2020-07-08	Grey Treefrog	<i>Dryophytes versicolor</i>	KT					0			Individual(s) estimated, not overlapping
LMOC-EWPW	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	KT		1			1	Sound	S	
	2020-07-08	Tree Swallow	<i>Tachycineta bicolor</i>	KT	10				10	Sight	H	
	2020-07-06	Boreal Chorus Frog	<i>Pseudacris maculata</i>	DW					0			Individuals estimated, overlapping but still distinguishable
LMOC-EWPW	2020-07-06	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		1			1	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	DW					0			Individual(s) estimated, not overlapping
	2020-07-06	Sora	<i>Porzana carolina</i>	DW		1			1	Sound	S	
	2020-07-06	Wilson's Snipe	<i>Gallinago delicata</i>	DW		1			1	Sound	D	
	2020-07-06	Wood Frog	<i>Lithobates sylvaticus</i>	DW					0			Individual(s) estimated, not overlapping
	2020-07-06	Boreal Chorus Frog	<i>Pseudacris maculata</i>	DW					0			Individuals estimated, overlapping and not distinguishable
LMOC-EWPW	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	DW					0			Individual(s) estimated, not overlapping
	2020-07-06	Wilson's Snipe	<i>Gallinago delicata</i>	DW	1				1	Sound	H	
	2020-07-06	Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	KT		1			1	Sound	S	
LMOC-EWPW	2020-07-06	Killdeer	<i>Charadrius vociferus</i>	KT	1				1	Sound	H	

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LMOC-EWPW	2020-07-06	Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	KT		1			1	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	KT					0			Individual(s) estimated, not overlapping
LMOC-EWPW	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	KT					0			Individual(s) estimated, not overlapping
LMOC-EWPW	2020-07-06	Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	KT		1			1	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	KT					0			Individual(s) estimated, not overlapping
LMOC-EWPW	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	KT					0			Individual(s) estimated, not overlapping
LMOC-EWPW	2020-07-06	Common Nighthawk	<i>Chordeiles minor</i>	KT		2			2	Sound	D	
	2020-07-06	Hermit Thrush	<i>Catharus guttatus</i>	KT		1			1	Sound	S	
	2020-07-06	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KT		1			1	Sound	S	
LMOC-EWPW	2020-07-06	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KT	1				1	Sight	H	
	2020-07-06	Common Nighthawk	<i>Chordeiles minor</i>	KT		2			2	Sound	D	
	2020-07-06	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	KT					0			Individuals estimated, overlapping but still distinguishable
	2020-07-06	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	1				1	Sight	H	
	2020-07-06	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KT		1			1	Sound	S	
LMOC-EWPW	2020-07-06	American Robin	<i>Turdus migratorius</i>	KT	2				2	Sight	H	
	2020-07-06	Black-capped Chickadee	<i>Poecile atricapillus</i>	KT	1				1	Sound	H	
	2020-07-06	Common Nighthawk	<i>Chordeiles minor</i>	KT		3			3	Sound	D	
	2020-07-06	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	KT					0			Individual(s) estimated, not overlapping
	2020-07-06	Hermit Thrush	<i>Catharus guttatus</i>	KT		1			1	Sound	S	
	2020-07-06	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	1				1	Sight	H	
	2020-07-06	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KT		1			1	Sound	S	
LMOC-EWPW	2020-07-06	American Robin	<i>Turdus migratorius</i>	KT	1				1	Sight	H	
	2020-07-06	Common Nighthawk	<i>Chordeiles minor</i>	KT		3			3	Sound	D	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	KT					0			Individual(s) estimated, not overlapping
	2020-07-06	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KT		1			1	Sound	S	
LMOC-EWPW	2020-07-06	Chipping Sparrow	<i>Spizella passerina</i>	KT		1			1	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	KT					0			Individual(s) estimated, not overlapping
	2020-07-06	Western Meadowlark	<i>Sturnella neglecta</i>	KT		1			1	Sound	S	
LMOC-EWPW	2020-07-06	American Robin	<i>Turdus migratorius</i>	KT	1				1	Sight	H	
	2020-07-06	Clay-coloured Sparrow	<i>Spizella pallida</i>	KT		2			2	Sound	S	
	2020-07-06	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		3			3	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	KT					0			Individual(s) estimated, not overlapping
	2020-07-06	Savannah Sparrow	<i>Passerculus sandwichensis</i>	KT		1			1	Sound	S	
	2020-07-06	Western Meadowlark	<i>Sturnella neglecta</i>	KT		1			1	Sound	S	
	2020-07-06	Wilson's Snipe	<i>Gallinago delicata</i>	KT		1			1	Sound	D	
LMOC-EWPW	2020-07-06	American Goldfinch	<i>Spinus tristis</i>	KT	1				1	Sight	H	
	2020-07-06	Black-capped Chickadee	<i>Poecile atricapillus</i>	KT	1				1	Sight	H	
	2020-07-06	Cedar Waxwing	<i>Bombycilla cedrorum</i>	KT	1				1	Sight	H	
	2020-07-06	Clay-coloured Sparrow	<i>Spizella pallida</i>	KT		2			2	Sound	S	
	2020-07-06	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-06	Grey Treefrog	<i>Dryophytes versicolor</i>	KT					0			Individual(s) estimated, not overlapping
	2020-07-06	Least Flycatcher	<i>Empidonax minimus</i>	KT		1			1	Sound	S	
	2020-07-06	Red-eyed Vireo	<i>Vireo olivaceus</i>	KT		1			1	Sound	S	

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	2020-07-06	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	KT	1				1	Sight	H	
RHWO-239-BBS	2020-07-08	American Kestrel	<i>Falco sparverius</i>	KT	1				1	Sight	H	
	2020-07-08	American Robin	<i>Turdus migratorius</i>	KT	2				2	Sight	H	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	KT		1			1	Sound	S	
	2020-07-08	Red-eyed Vireo	<i>Vireo olivaceus</i>	KT		1			1	Sound	S	
RHWO-239-BBS	2020-07-08	American Crow	<i>Corvus brachyrhynchos</i>	DW	1				1	Sight	H	
	2020-07-08	American Kestrel	<i>Falco sparverius</i>	DW			1		1	Sight	H	
	2020-07-08	American Robin	<i>Turdus migratorius</i>	DW		1			1	Sound	S	
	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	DW		1			1	Sound	S	
	2020-07-08	Black-billed Magpie	<i>Pica hudsonia</i>	DW	1				1	Sight	H	
	2020-07-08	Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	DW		2	1		3	Sight	P	
	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		2			2	Sound	S	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	DW		2			2	Sound	S	
	2020-07-08	Eastern Kingbird	<i>Tyrannus tyrannus</i>	DW		1	1		2	Sight	P	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		1			1	Sound	S	
RHWO-239-BBS	2020-07-08	American Crow	<i>Corvus brachyrhynchos</i>	DW	1				1	Sight	H	
	2020-07-08	American Robin	<i>Turdus migratorius</i>	DW	1				1	Sight	H	
	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	DW		2			2	Sound	S	
	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		1			1	Sound	S	
	2020-07-08	Red-eyed Vireo	<i>Vireo olivaceus</i>	DW		1			1	Sound	S	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		2			2	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	DW		2			2	Sound	S	
	2020-07-08	Western Meadowlark	<i>Sturnella neglecta</i>	DW		1			1	Sound	S	
	2020-07-08	White-throated Sparrow	<i>Zonotrichia albicollis</i>	DW		1			1	Sound	S	
RHWO-239-BBS	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	DW		1			1	Sound	S	
	2020-07-08	Marsh Wren	<i>Cistothorus palustris</i>	DW		1			1	Sound	S	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	DW		1			1	Sound	S	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		2			2	Sound	S	
	2020-07-08	Swamp Sparrow	<i>Melospiza georgiana</i>	DW		1			1	Sound	S	
	2020-07-08	Western Meadowlark	<i>Sturnella neglecta</i>	DW		2			2	Sound	S	
RHWO-239-BBS	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	DW		1			1	Sound	S	
	2020-07-08	Cedar Waxwing	<i>Bombycilla cedrorum</i>	DW		1			1	Sound	S	
	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		1			1	Sound	S	
	2020-07-08	Red-eyed Vireo	<i>Vireo olivaceus</i>	DW		1			1	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	DW		1			1	Sound	S	
	2020-07-08	White-throated Sparrow	<i>Zonotrichia albicollis</i>	DW		1			1	Sound	S	
	2020-07-08	Yellow Warbler	<i>Setophaga petechia</i>	DW		1			1	Sound	S	
RHWO-239-BBS	2020-07-08	American Robin	<i>Turdus migratorius</i>	DW	1				1	Sight	H	
	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	DW		2			2	Sound	S	
	2020-07-08	Brown-headed Cowbird	<i>Molothrus ater</i>	DW		1			1	Sound	S	
	2020-07-08	Cedar Waxwing	<i>Bombycilla cedrorum</i>	DW		1			1	Sound	S	
	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		1			1	Sound	S	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	DW		2			2	Sound	S	
	2020-07-08	Hairy Woodpecker	<i>Dryobates villosus</i>	DW			1		1	Sight	H	
	2020-07-08	Least Flycatcher	<i>Empidonax minimus</i>	DW		1			1	Sound	S	

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	2020-07-08	Purple Finch	<i>Haemorhous purpureus</i>	DW		2			2	Sound	S	
	2020-07-08	Red-eyed Vireo	<i>Vireo olivaceus</i>	DW		1			1	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	DW		1			1	Sound	S	
RHWO-239-BBS	2020-07-08	American Goldfinch	<i>Spinus tristis</i>	DW		1			1	Sound	S	
	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	DW		1			1	Sound	S	
	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		2			2	Sound	S	
	2020-07-08	Red-eyed Vireo	<i>Vireo olivaceus</i>	DW		1			1	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	DW		1			1	Sound	S	
	2020-07-08	White-throated Sparrow	<i>Zonotrichia albicollis</i>	DW		1			1	Sound	S	
RHWO-239-BBS	2020-07-08	American Robin	<i>Turdus migratorius</i>	DW		1			1	Sound	S	
	2020-07-08	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	DW		1			1	Sound	S	
	2020-07-08	Least Flycatcher	<i>Empidonax minimus</i>	DW		1			1	Sound	S	
	2020-07-08	Mourning Dove	<i>Zenaida macroura</i>	DW		1			1	Sound	S	
	2020-07-08	Red-eyed Vireo	<i>Vireo olivaceus</i>	DW		3			3	Sound	S	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		2			2	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	DW		1			1	Sound	S	
	2020-07-08	White-throated Sparrow	<i>Zonotrichia albicollis</i>	DW		1			1	Sound	S	
	2020-07-08	Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	DW	1				1	Sight	H	
RHWO-239-BBS	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		1			1	Sound	S	
	2020-07-08	Gray Catbird	<i>Dumetella carolinensis</i>	DW		1			1	Sound	S	
	2020-07-08	Least Flycatcher	<i>Empidonax minimus</i>	DW		1			1	Sound	S	
	2020-07-08	Red-eyed Vireo	<i>Vireo olivaceus</i>	DW		1			1	Sound	S	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	DW		1			1	Sight	H	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		3			3	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	DW		1			1	Sound	S	
	2020-07-08	Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	DW		1			1	Sound	D	
RHWO-239-BBS	2020-07-08	American Robin	<i>Turdus migratorius</i>	DW		1			1	Sound	S	
	2020-07-08	Chipping Sparrow	<i>Spizella passerina</i>	DW		1			1	Sound	S	
	2020-07-08	Clay-coloured Sparrow	<i>Spizella pallida</i>	DW		1			1	Sound	S	
	2020-07-08	Common Yellowthroat	<i>Geothlypis trichas</i>	DW		2			2	Sound	S	
	2020-07-08	Gray Catbird	<i>Dumetella carolinensis</i>	DW		1			1	Sound	S	
	2020-07-08	Least Flycatcher	<i>Empidonax minimus</i>	DW		1			1	Sound	S	
	2020-07-08	Mourning Dove	<i>Zenaida macroura</i>	DW		1			1	Sound	S	
	2020-07-08	Red-eyed Vireo	<i>Vireo olivaceus</i>	DW		1			1	Sound	S	
	2020-07-08	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	DW		1			1	Sound	S	
	2020-07-08	Savannah Sparrow	<i>Passerculus sandwichensis</i>	DW		1			1	Sound	S	
	2020-07-08	Song Sparrow	<i>Melospiza melodia</i>	DW		1			1	Sound	S	
	2020-07-08	Swamp Sparrow	<i>Melospiza georgiana</i>	DW		1			1	Sound	S	
	2020-07-08	Wilson's Snipe	<i>Gallinago delicata</i>	DW		1			1	Sound	D	

Table B-4a. Species at Risk and Provincially Sensitive Species Observed During In-person Point Count Surveys during LMOC and LSMOC 2020 Field Surveys

Survey Site	Date (yyyy-mm-dd)	Common Name	Scientific Name	Observer Name(s)	Adults Unknown Gender	Adult Males	Adult Females	Juveniles/ Young-of-Year	Total	Search Evidence	Breeding Bird Status	Comments
Incidental		Bald Eagle	<i>Haliaeetus leucocephalus</i>							Sight		Nest
LMOC-BBS	2020-07-10	Barn Swallow	<i>Hirundo rustica</i>	KG	2				2	Sight	D	
LMOC-BBS	2020-07-09	Barn Swallow	<i>Hirundo rustica</i>	KG	8				8	Sight	H	
LMOC-BBS	2020-07-09	Barn Swallow	<i>Hirundo rustica</i>	KG	2				2	Sight	H	
LMOC-BBS	2020-07-09	Barn Swallow	<i>Hirundo rustica</i>	KG	1				1	Sight	H	
BOAT-BBS	2020-07-09	Barn Swallow	<i>Hirundo rustica</i>	KT	1				1	Sight	H	
LMOC-BBS	2020-07-10	Bobolink	<i>Dolichonyx oryzivorus</i>	KG		1			1	Sight	D	
LMOC-EWPW	2020-07-06	Common Nighthawk	<i>Chordeiles minor</i>	KT		2			2	Sound	D	
LMOC-EWPW	2020-07-06	Common Nighthawk	<i>Chordeiles minor</i>	KT		2			2	Sound	D	
LMOC-EWPW	2020-07-06	Common Nighthawk	<i>Chordeiles minor</i>	KT		3			3	Sound	D	
LMOC-EWPW	2020-07-06	Common Nighthawk	<i>Chordeiles minor</i>	KT		3			3	Sound	D	
LMOC-EWPW	2020-07-06	Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	KT		1			1	Sound	S	
LMOC-EWPW	2020-07-06	Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	KT		1			1	Sound	S	
LMOC-EWPW	2020-07-06	Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	KT		1			1	Sound	S	
LMOC-BBS	2020-07-08	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	KT	1				1	Sight	H	
LMOC-BBS	2020-07-09	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	KG	1				1	Sight	H	
Incidental		Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>		1				1	Sight		
Incidental		Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>		1				1	Sight		
LMOC-BBS	2020-07-08	Western Meadowlark	<i>Sturnella neglecta</i>	KT		1			1	Sound	S	
LMOC-BBS	2020-07-08	Western Meadowlark	<i>Sturnella neglecta</i>	KT	1				1	Sight	H	
LMOC-BBS	2020-07-10	Western Meadowlark	<i>Sturnella neglecta</i>	KG		2			2	Sound	S	
LMOC-BBS	2020-07-10	Western Meadowlark	<i>Sturnella neglecta</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-10	Western Meadowlark	<i>Sturnella neglecta</i>	KG		2			2	Sound	S	
LMOC-BBS	2020-07-10	Western Meadowlark	<i>Sturnella neglecta</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-10	Western Meadowlark	<i>Sturnella neglecta</i>	KG		1			1	Sound	S	
LMOC-BBS	2020-07-09	Western Meadowlark	<i>Sturnella neglecta</i>	KG	1	2			3	Sound	S	
LMOC-BBS	2020-07-09	Western Meadowlark	<i>Sturnella neglecta</i>	KG		2			2	Sound	S	
LMOC-BBS	2020-07-09	Western Meadowlark	<i>Sturnella neglecta</i>	KG		2			2	Sound	S	
RHWO-239-BBS	2020-07-08	Western Meadowlark	<i>Sturnella neglecta</i>	DW		1			1	Sound	S	
RHWO-239-BBS	2020-07-08	Western Meadowlark	<i>Sturnella neglecta</i>	DW		2			2	Sound	S	
239-EWPW	2020-07-06	Western Meadowlark	<i>Sturnella neglecta</i>	DW		1			1	Sound	S	
LMOC-EWPW	2020-07-06	Western Meadowlark	<i>Sturnella neglecta</i>	KT		1			1	Sound	S	
LMOC-EWPW	2020-07-06	Western Meadowlark	<i>Sturnella neglecta</i>	KT		1			1	Sound	S	

Table B-4b. Species at Risk and Provincially Sensitive Species Recorded on ARUs from LMOC and LSMOC 2020 Field Surveys

Site	Survey	Obs.	S_Time	Date	Round	SPECIES	Abund	Time_SAR	Noise	Comments
ARU	EWPW/YEAR/AMPHIB	DW	23:20	July 8, 2020	1	CONI	1	0:01		Booms and calls
ARU	EWPW/YEAR/AMPHIB	DW	22:21	July 8, 2020	1	EWPW	2	0:01	LIGHT DRIZZLE/WIND	
ARU	EWPW/YEAR/AMPHIB	DW	23:21	July 7, 2020	1	EWPW	2	0:01	WIND	
ARU	EWPW/YEAR/AMPHIB	DW	2:21	July 8, 2020	1	EWPW	1	0:01	WIND	
ARU	EWPW/YEAR/AMPHIB	DW	23:20	July 8, 2020	1	EWPW	1	0:01		
ARU	EWPW/YEAR/AMPHIB	DW	23:23	July 7, 2020	1	EWPW	2	0:01	WIND	
ARU	EWPW/YEAR/AMPHIB	DW	23:18	July 13, 2020	2	EWPW	2	0:01		
ARU	EWPW/YEAR/AMPHIB	DW	0:21	July 8, 2020	1	EWPW	1	0:10		
ARU	EWPW/YEAR/AMPHIB	DW	23:10	July 19, 2020	2	EWPW	1	4:23		
ARU	EWPW/YEAR/AMPHIB	DW	22:13	July 16, 2020	2	EWPW	1	4:24		
ARU	EWPW/YEAR/AMPHIB	DW	21:15	July 14, 2020	2	EWPW	1	0:50, 1:30		
ARU	EWPW/YEAR/AMPHIB	DW	1:21	July 8, 2020	1	EWPW	1	0:50, 4:00	WIND/LIGHT RAIN	
ARU	EWPW/YEAR/AMPHIB	DW	0:17	July 14, 2020	2	EWPW	2		WIND	
ARU	EWPW/YEAR/AMPHIB	DW	23:21	July 7, 2020	1	EWPW	2			
ARU	EWPW/YEAR/AMPHIB	DW	1:18	July 12, 2020	1	EWPW	1			
ARU	BBS	DW	6:57	July 8, 2020	1	RHWO	1	0:17, 0:22	WIND	
ARU	BBS	DW	8:58	July 11, 2020	1	RHWO	1	2:21, 3:09, 3:33	AGITATION CALLS	
ARU	BBS	DW	6:55	July 8, 2020	1	YERA	1	3:50		
ARU	BBS	DW	5:56	July 9, 2020	1	YERA	1	4:35		
ARU	BBS	DW	6:55	July 8, 2020	1	YERA	1	2:40, 3:50		
ARU	EWPW/YEAR/AMPHIB	DW	0:21	July 8, 2020	1	YERA	2	0:01		
ARU	EWPW/YEAR/AMPHIB	DW	1:15	July 15, 2020	2	YERA	1	0:01	WINDS. OCCASIONAL THUNDER AND RAINS	
ARU	EWPW/YEAR/AMPHIB	DW	2:14	July 17, 2020	2	YERA	3	0:01		
ARU	EWPW/YEAR/AMPHIB	DW	22:22	July 10, 2020	1	YERA	1	0:01, 1:45		
ARU	EWPW/YEAR/AMPHIB	DW	23:21	July 7, 2020	1	YERA	2	1:25, 2:15		
ARU	EWPW/YEAR/AMPHIB	DW	1:18	July 12, 2020	1	YERA	1			

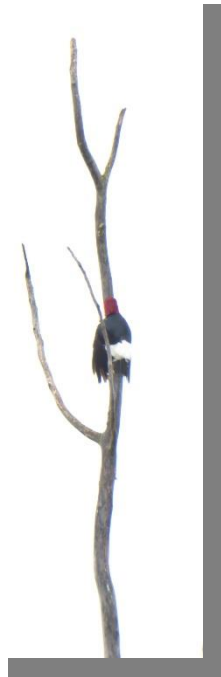
APPENDIX

C

PHOTOGRAPHS

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July 8, 2020



Photograph 1 – RHWO
RHWO observed at LMOC-BBS

July 8, 2020



Photograph 2 – RHWO detection site
Photo taken from road, snags on left of photo.

July 8, 2020



Photograph 2 – RHWO Habitat
Oak tree with nesting cavities.

July 8, 2020



Photograph 4 – RHWO detection
RHWO observed near BOAT-BBS.

July 8, 2020



Photograph 5 – ARU
EWPW and RHW0 observed at this location .

July 8, 2020



Photograph 3 – ARU
EWPW and RHW0 observed at this location.

July 8, 2020



Photograph 4 – ARU

EWPW and RHW0 observed at this location .

July 8, 2020



Photograph 5 – ARU

EWPW and RHW0 observed at this location

July 8, 2020



Photograph 6 – ARU
EWPW and RHW0 observed at this location .

July 8, 2020



Photograph 7 – ARU
EWPW and RHW0 observed at this location.

July 8, 2020



Photograph 11 – ARU

EWPW and RHW0 observed at this location .

July 8, 2020



Photograph 12 – ARU

EWPW and RHW0 observed at this location .

July 8, 2020



Photograph 13 – ARU

EWPW and RHWO observed at this location .

July 8, 2020



Photograph 14 – ARU

EWPW observed at this location .

July 8, 2020



Photograph 15 – ARU
EWPW observed at this location.

July 8, 2020



Photograph 16 – ARU
EWPW observed at this location .

July 8, 2020



Photograph 17 – ARU

EWPW and yellow rail observed at this location.

July 8, 2020



Photograph 18 – ARU

EWPW and yellow rail observed at this location.

July 8, 2020



Photograph 19 – ARU
EWPW and YEAR detected.

July 8, 2020



Photograph 20 – ARU
EWPW detected.