

# Birtle Transmission Project

## Environmental Effects Monitoring Report 2023

Prepared by Manitoba Hydro

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Transmission & Distribution Environment and Engagement  
Department

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Environmental Approvals Branch





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## ACRONYMS

AC	Alternating Current
BFJV	Birdtail Sioux Dakota Nation Forbes Bros Joint Venture
EMP	Environmental Monitoring Plan
EA	Environmental Assessment
EEMP	Environmental Effects Monitoring Program
EPIMS	Environmental Protection Information Management System
EPP	Environmental Protection Program
HCR	Heritage and Culture Review Team
kV	Kilovolt
MCC	Manitoba Conservation and Climate
ROW	Right-of-way
VC	Valued Component

## 1 INTRODUCTION

This report presents the results of the environmental effects monitoring plan for Birtle Transmission Project, hereby known as “the Project”. This report is produced in compliance with clause 26 of *The Environment Act* licence No. 3314. Manitoba Hydro presents this information to inform interested parties, communities, stakeholders, and the public on progress made on construction and implementation of mitigation measures that minimize environmental effects.

This is the Project’s fourth and final annual monitoring report and describes monitoring from January 1, 2023, through December 31, 2023. Map 1 outlines the Birtle Transmission Project area. Anyone interested in further information about this report, or the Project is invited to visit <https://www.hydro.mb.ca/projects/expansion/birtle/> or contact Manitoba Hydro at:

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Engagement Dept  
360 Portage Avenue (18)  
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## 2 PROJECT OVERVIEW

The Birtle Transmission Project involves the construction and operation of a new 230 kV transmission line from the Birtle Station, located south of the community of Birtle, Manitoba to the Manitoba-Saskatchewan border (Map 1). SaskPower was responsible for building the transmission line in Saskatchewan that connects from the Manitoba-Saskatchewan border to a station in Tantallon, Saskatchewan.

## 3 PROJECT STATUS

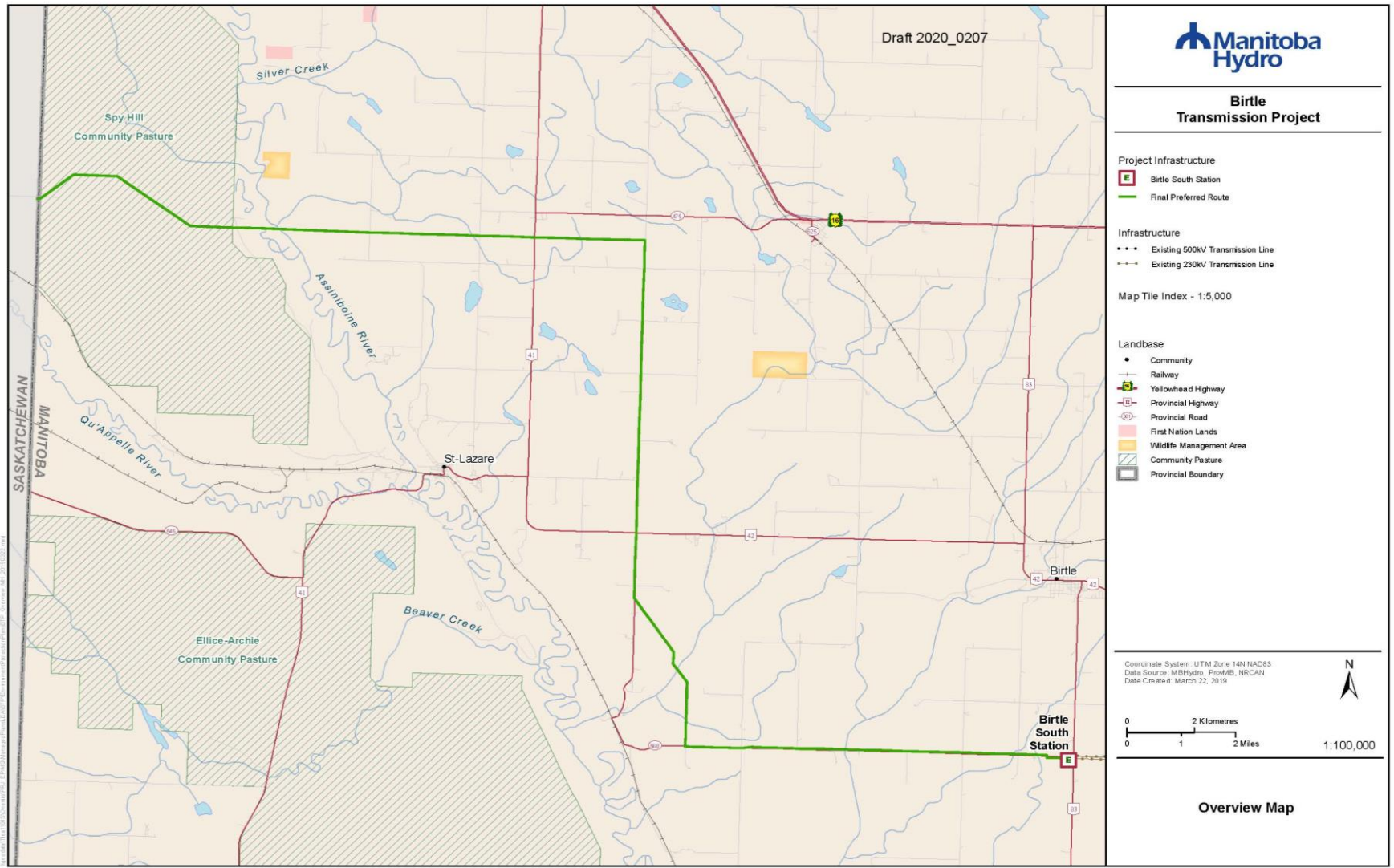
The project began with public and Indigenous engagement in fall 2016 to spring 2017. Manitoba Conservation and Climate (MCC) granted a licence for the Project on January 14, 2020. Construction activities began in July 2020. The construction contract was awarded to a joint venture between Birdtail Sioux Dakota Nation and Forbes Bros (BFJV). The Project was completed in March 2021 (Photo 1). Environmental monitoring for the Project concluded in 2023 (Photo 2).



**Photo 1. The Birtle Transmission Project was completed in March 2021.**



**Photo 2. Observer monitoring for birds in grassland habitat near the Birtle Transmission Project.**



Map 1. Birtle Transmission Project Area.

### 2023 Environmental Effects Monitoring Highlights

Key monitoring highlights during this reporting period include:

- No environmental regulatory warnings or citations were issued.
- No unexpected environmental effects were observed for any environmental component.
- No measurable adverse Project effects on the abundance of chestnut-collared longspurs or Sprague's pipits resulted from the construction and operation of the transmission line.
- Abundance of brown-headed cowbirds (a nest brood parasite) in the Spy Hill-Ellice Community Pasture was significantly lower after Project construction than before.
- No measurable Project effects were observed on the abundance of perching avian predators.
- Perch deterrents did not appear to be effective at reducing abundance of avian predators.

## 4 ENVIRONMENTAL EFFECTS MONITORING PLAN OVERVIEW

Manitoba Hydro's commitment to environmental protection included the development of a comprehensive Environmental Protection Program (EPP) for the Project. This included monitoring and follow-up of biophysical environmental components identified in the environmental assessment. The Environmental Effects Monitoring Plan (EEMP) was approved by MCC on June 11, 2020, and outlined the various monitoring activities that were to occur during the separate phases of the Project.

The scope of this plan included physical and biological components of the environment. The purpose of the EEMP was to identify the key activities that were to be conducted as part of the monitoring and follow-up component of the EPP that would verify potential effects and effectiveness of mitigation.

The objectives of the EEMP are to:

- Confirm the nature and magnitude of predicted environmental effects as stated in the environmental assessment (EA);
- Assess the effectiveness of mitigation measures implemented;
- Identify unexpected environmental effects of the Project, if they occur;
- Identify mitigation measures to address unanticipated environmental effects, if required
- Confirm compliance with regulatory requirements; and
- Provide baseline information to evaluate long-term changes or trends.

### Adaptive Management

Manitoba Hydro has accumulated a wealth of knowledge and lessons learned from previous monitoring programs. The successes of those programs have been useful in developing the EEMP for the Project. This previous experience has been used to improve upon the EEMP's approach, methods, and key environmental monitoring activities.

Going forward, an adaptive management framework will continue to be used through the end of the monitoring program to respond to unexpected outcomes or events based on information gathered. Data will be reviewed as collected to determine if any of the environmental thresholds specified in the EEMP have been exceeded due to shortfalls in impact prediction, ineffective mitigation measures or inadequate monitoring approaches. Actions will be developed in response to these contingencies.

## 5 IMPLEMENTATION OF MONITORING AND FOLLOW-UP ACTIVITIES

Environmental monitoring helps validate the accuracy of the EA and effectiveness of mitigation measures. Manitoba Hydro utilized internal staff for the implementation of the EEMP, funded participation for Indigenous community representatives, and retained highly qualified specialists in appropriate disciplines. Manitoba Hydro's Environmental Protection Information Management System (EPIMS) played a major role in the management of the EEMP implementation, the coordination of field work, and the data collection and communications amongst the monitoring team.

**Table 1: 2023 Environmental Monitoring Activities**

Valued Component	Environmental Indicator	2023 Monitoring Status
Aquatic Habitat	Stream Crossings	Completed and reported in 2021
Grassland Habitat	Plant Species of Conservation Concern	Completed and reported in 2021
	Traditional Use Plant Species	Completed and reported in 2022
	Bird Species of Conservation Concern	Completed and reported in 2023
	Invasive Plant Species	Completed and reported in 2022
Forest Habitat	Ungulates	Completed and reported in 2022
	Plant Species of Conservation Concern	Completed and reported in 2021
	Traditional Use Plant Species	Completed and reported in 2022
	Invasive Plant Species	Completed and reported in 2022
	Predator and Resource User Access	Completed and reported in 2022

## 6 ENVIRONMENTAL COMPONENT MONITORING

Multiple environmental components were identified for follow-up in the environmental assessment and technical reports. For each environmental component, one or more environmental indicators were selected to focus monitoring and follow-up efforts as indicated in the EEMP (Table 1).

### 7 AQUATIC HABITAT

*Completed and reported in 2021*

### 8 GRASSLAND HABITAT

#### 8.1 Traditional Use Plant Species

*Completed and reported in 2022*

#### 8.2 Bird Species of Conservation Concern

Monitoring for bird species of conservation concern was the singular monitoring activity scheduled for 2023. Bird species of conservation concern monitoring focused on Sprague’s pipits (*Anthus spragueii*) and chestnut-collared longspurs (*Calcarius ornatus*), as they are listed in *The Manitoba Endangered Species and Ecosystems Act*. Map 2 shows the locations of the approximately 300 monitoring sites that were repeatedly surveyed in Spy Hill-Ellice Community Pasture. In 2023, surveys occurred between June 26-30<sup>th</sup>. A technical report of the findings from 2017 to 2023 is included in Appendix A. All surveys were conducted by qualified biologists in accordance with land access permission requirements for the Spy Hill-Ellice Community Pasture.

*Confirm the nature and magnitude of predicted environmental effects as stated in the EA:*

The environmental assessment predicted a possible displacement and disturbance of bird species of conservation concern from grassland habitat due to the Project. Post-construction monitoring results did not support this hypothesis. There were no significant changes observed in the abundance or distribution of chestnut-collared longspurs or Sprague’s pipits after Project construction.

Chestnut-collared longspur abundance (number observed and mean number of observations per site) in grassland sites remained steady, or was higher, during the post-construction phase (2021-2023) in comparison to the pre-construction phase (2017 and 2019). This suggests that the Project did not displace chestnut-collared longspurs from previously utilized grassland habitat.

Sprague’s pipits were more abundant and widely distributed in 2022 and 2023 than before Project construction. There was no statistically significant association between presence of Sprague’s pipit and distance from the ROW during any survey year.

Other statistically derived explanations for the distribution and abundance of these birds’ species in this study area were considered but did not provide conclusive results. Factors such as distance to forest habitat and grass height were evaluated and provided partial explanations.



An increase in perching avian predators (e.g., falcons, hawks, eagles) and nest brood parasites (e.g., brown-headed cowbirds) were also predicted in the EA but were not identified in post-construction surveys. Brown-headed cowbird abundance declined after construction, and therefore had no measurable adverse effect on grassland bird SOCCs. Perching avian predators were observed at sites with and without perch deterrents, and there was no difference in the abundance of perched raptors or nest predators at these sites. The Project had no measurable effects on the abundance of perching avian predators during post-construction monitoring.

*Assess the effectiveness of mitigation measures implemented:*

Mitigation measures implemented included project routing to avoid grassland habitat, construction under frozen-ground conditions, and installation of bird flight diverters and perch deterrents. Except for perch deterrents, all other mitigation measures appeared to be effective at lowering project effects on bird species of conservation concern. Restricting construction and maintenance activities to frozen ground conditions avoided damage to grassland habitat and nesting activity. Again in 2023, perching avian predators were observed at sites with and without perch deterrents. Perch deterrents did not seem to affect the abundance of perching avian predators during post-construction surveys.

*Identify mitigation measures to address unanticipated environmental effects, if required:*

None required at this time.

*Provide baseline information to evaluate long-term changes or trends:*

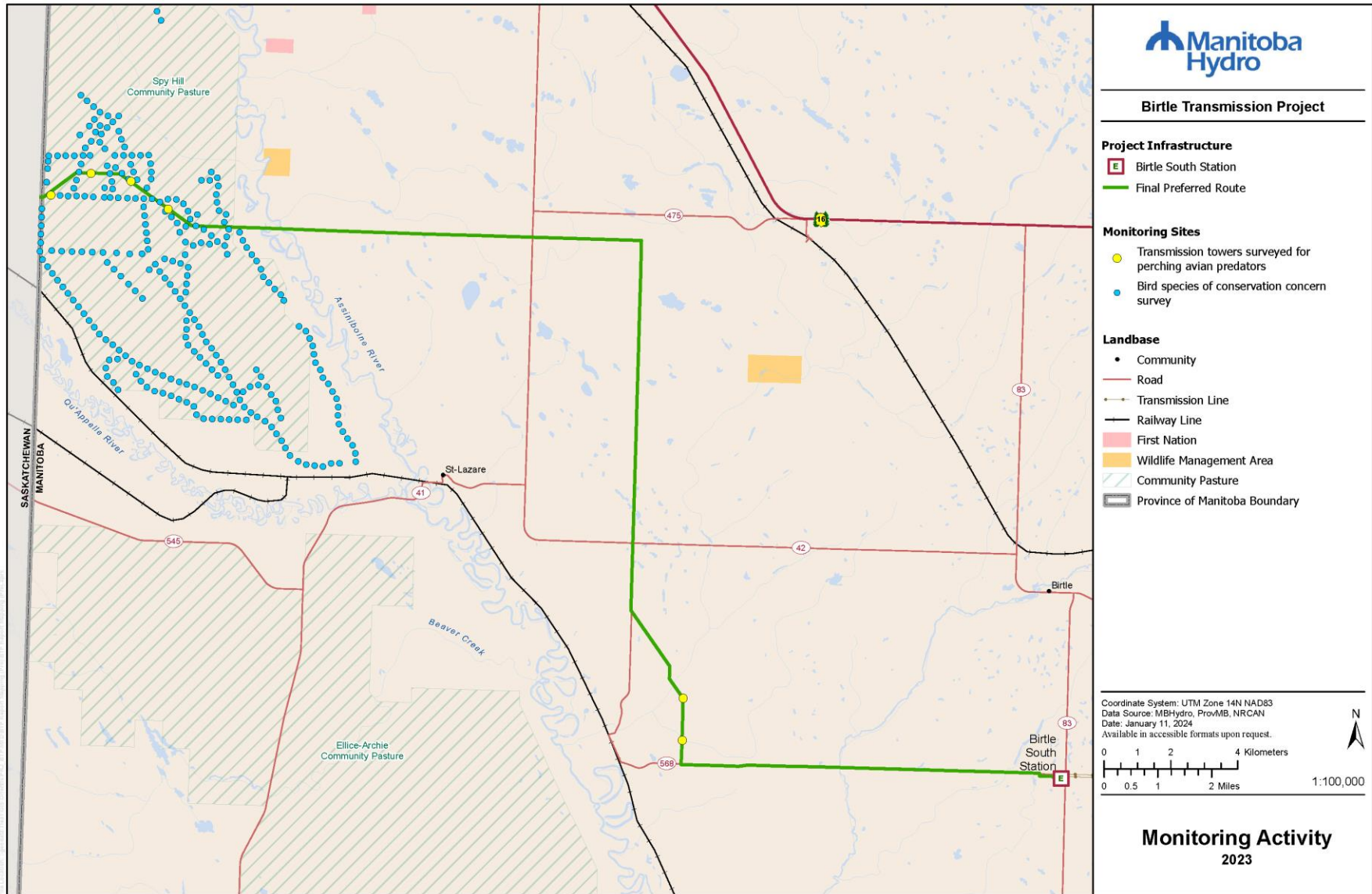
Survey information will contribute to understanding long-term changes or trends in chestnut-collared longspurs and Sprague's pipit populations in western Manitoba, especially with regards to threats and disturbances from transmission lines.



**Photo 3. Chestnut-collared longspur observed during the 2023 survey.**

## **9 FOREST HABITAT**

*Completed and reported in 2022*



Map 2. Birtle Transmission Project Monitoring Site Locations

## **10 COMPLIANCE MONITORING**

Compliance monitoring involves reviewing Project activities for adherence to legislation, licence conditions, permits, and environmental protection plans. No regulatory warnings or citations were issued in 2023.

## **11 CULTURE AND HERITAGE MONITORING**

During the construction phase of the Project a Heritage and Culture Review (HCR) Team was formed with representatives from Indigenous communities, Manitoba Hydro, and the project archaeologist. A final report was produced and published by the HCR team. This report can be found here:

[https://www.hydro.mb.ca/docs/projects/birtle/culture\\_and\\_heritage\\_monitoring\\_report\\_2021.pdf](https://www.hydro.mb.ca/docs/projects/birtle/culture_and_heritage_monitoring_report_2021.pdf)

No further culture and heritage monitoring was conducted in 2023.

## **12 FUTURE MONITORING**

All scheduled environmental monitoring activities are now complete. No further environmental monitoring is planned.

## **13 APPENDIX A:**

Birtle Transmission Project - Bird Species of Conservation Concern Monitoring Report (2017-2023)

