

APPENDIX 3

MANITOBA-MINNESOTA TRANSMISSION PROJECT

ENVIRONMENTAL MONITORING PLAN

GOLDEN-WINGED WARBLER MONITORING FIELD REPORT

Prepared for

Licensing and Environmental Assessment Department

Manitoba Hydro

By

Wildlife Resource Consulting Services MB Inc.

July 2017

This report should be cited as follows:

Wildlife Resource Consulting Services MB Inc. 2017. Golden-winged warbler monitoring field report. A report prepared for Licensing and Environmental Assessment Department, Manitoba Hydro, Winnipeg by Wildlife Resource Consulting Services MB Inc., July 2017. 9pp.

STUDY TEAM

Biologists and technicians who designed, participated in, and drafted the survey results included:

- Robert Berger – Design, analysis, surveys, and reporting
- Andrea Ambrose – Analysis and reporting
- Mark Baschuk – Surveys and mapping
- Riley Bartel – Surveys

INTRODUCTION

The golden-winged warbler (*Vermivora chrysoptera*) is listed as Threatened under the federal *Species at Risk Act* and under *The Endangered Species and Ecosystems Act* of Manitoba. An inhabitant of shrubby or early successional habitats near forest edges (Environment and Climate Change Canada 2016), it can be found in the Project regional assessment area (RAA), as indicated in the *Manitoba–Minnesota Transmission Project Environmental Impact Statement* (EIS). Hybridization and competition with the blue-winged warbler (*Vermivora cyanoptera*) is a primary threat to golden-winged warbler populations (Edie *et al.* 2003; Environment and Climate Change Canada 2016). Other important threats include habitat loss, nest parasitism by the brown-headed cowbird (*Molothrus ater*), and mortality due to collisions with human-made structures (Environment and Climate Change Canada 2016).

Four hundred and seventy-five hectares (ha) of critical golden-winged warbler habitat are anticipated to be affected when the final preferred route ROW is cleared. Of this, 473 ha are expected to regenerate into shrubby habitat that will likely be suitable for golden-winged warbler. As described in the draft *Environmental Monitoring Plan* (Manitoba Hydro 2017), pre-construction, construction, and post-construction monitoring will identify changes in golden-winged warbler habitat.

The primary purpose of the 2017 golden-winged warbler field study is to establish a baseline estimate of the local golden-winged warbler population by locating individuals and mapping their distribution on the final preferred route ROW. In 2017, data collected will be used to validate the vegetation management prescriptions for clearing golden-winged warbler habitat on the final preferred route ROW. For future monitoring purposes, reference sites will also be established.

METHODS

Surveys for golden-winged warbler were conducted from June 8 to 12, 2017, during the breeding period. Point counts with and without playback recordings was selected as the primary method to detect golden-winged warbler (Kubel and Yahner 2007). Suitable golden-winged warbler habitat was identified using a habitat model (Stantec 2015) and verified with high-resolution imagery. Potential high quality habitat sites consisting of a mixture of shrubs and grassland near forest edge, and spaced at least 400 m apart were selected (Photo 1) on and near the final preferred route, and in the area that overlaps five golden-winged warbler critical habitat grids (Stantec 2015; WRCS 2017). Sixty-seven potential sites were initially identified. Of these, 43 were surveyed on the final preferred route including four sites at intersecting roads, and 19 sites were selected in reference areas beyond the future right-of-way. One reference site was relocated and the remaining five sites could not be accessed. Two additional sites were surveyed opportunistically where suitable habitat was identified in the field. In all, 64 sites were surveyed, 44 on the final preferred route and 20 in reference areas (Map 1; Appendix A). Landowners were contacted and permission to access their property was obtained prior to the survey.

Surveys were conducted between 5:00 a.m. and 9:30 a.m. At each site surveyors listened for three minutes, played a recording of golden-winged warbler song for five minutes, and then listened for another two minutes. Recordings were played at 100 decibels with an MP3 player and speaker (Photo 2) (Artuso 2009). Broadcasting golden-winged warbler songs were conducted under Species at Risk Permit (SAR17007) conditions issued by Manitoba Sustainable Development (Watkins 2017, pers. comm.). All visual and aural detections of golden-winged warbler were noted over the 10-minute period. Recordings were made at each site with a TASCAM audio recorder (Photo 3), which can be used for validation and assessing the bird community. The audio recorder microphones were set to omni-directional and high gain.



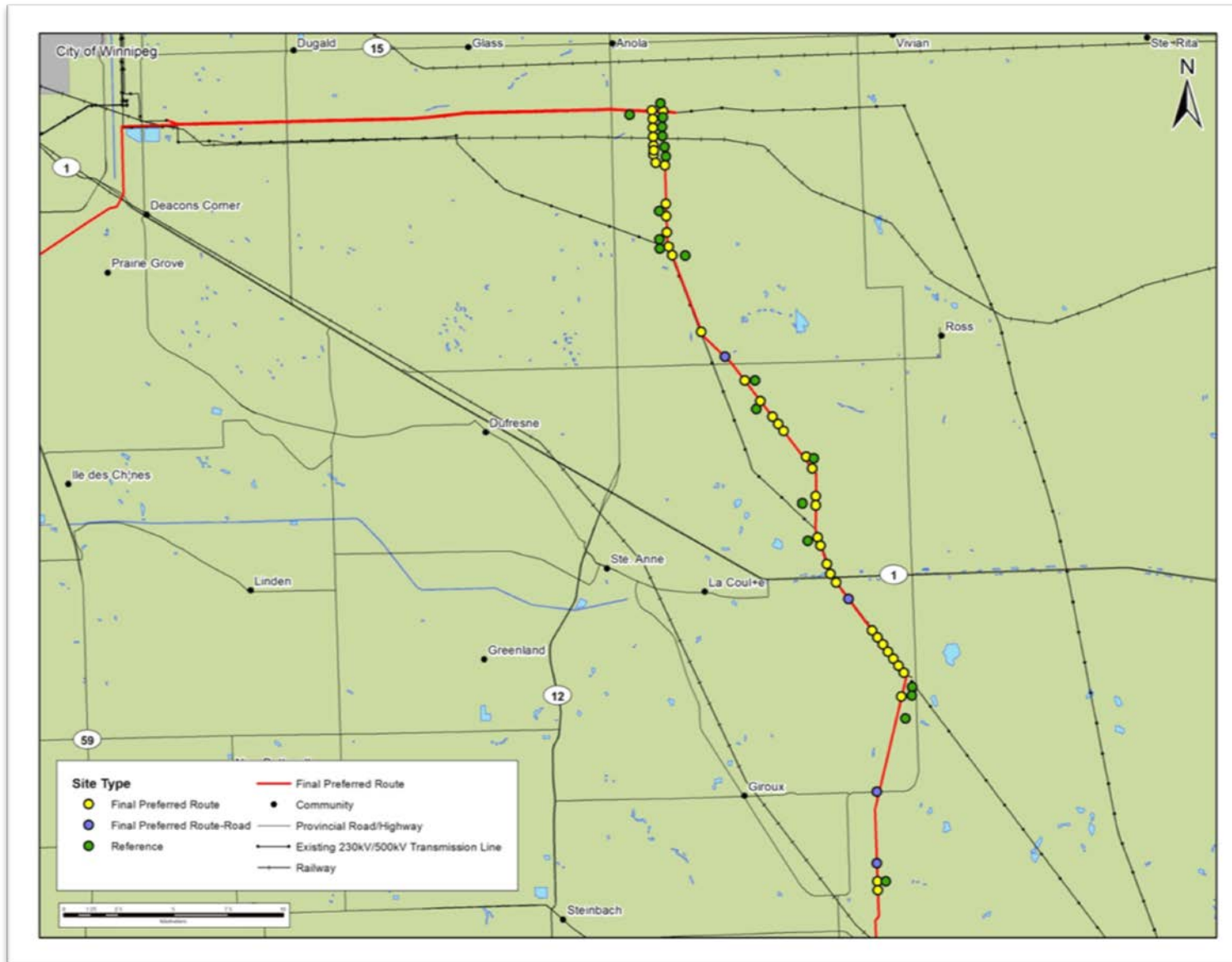
Photo 1: Golden-winged warbler habitat



Photo 2: MP3 player (right) and speaker (left)



Photo 3: TASCAM audio recorder



Map 1: Golden-winged warbler survey sites, June 2017

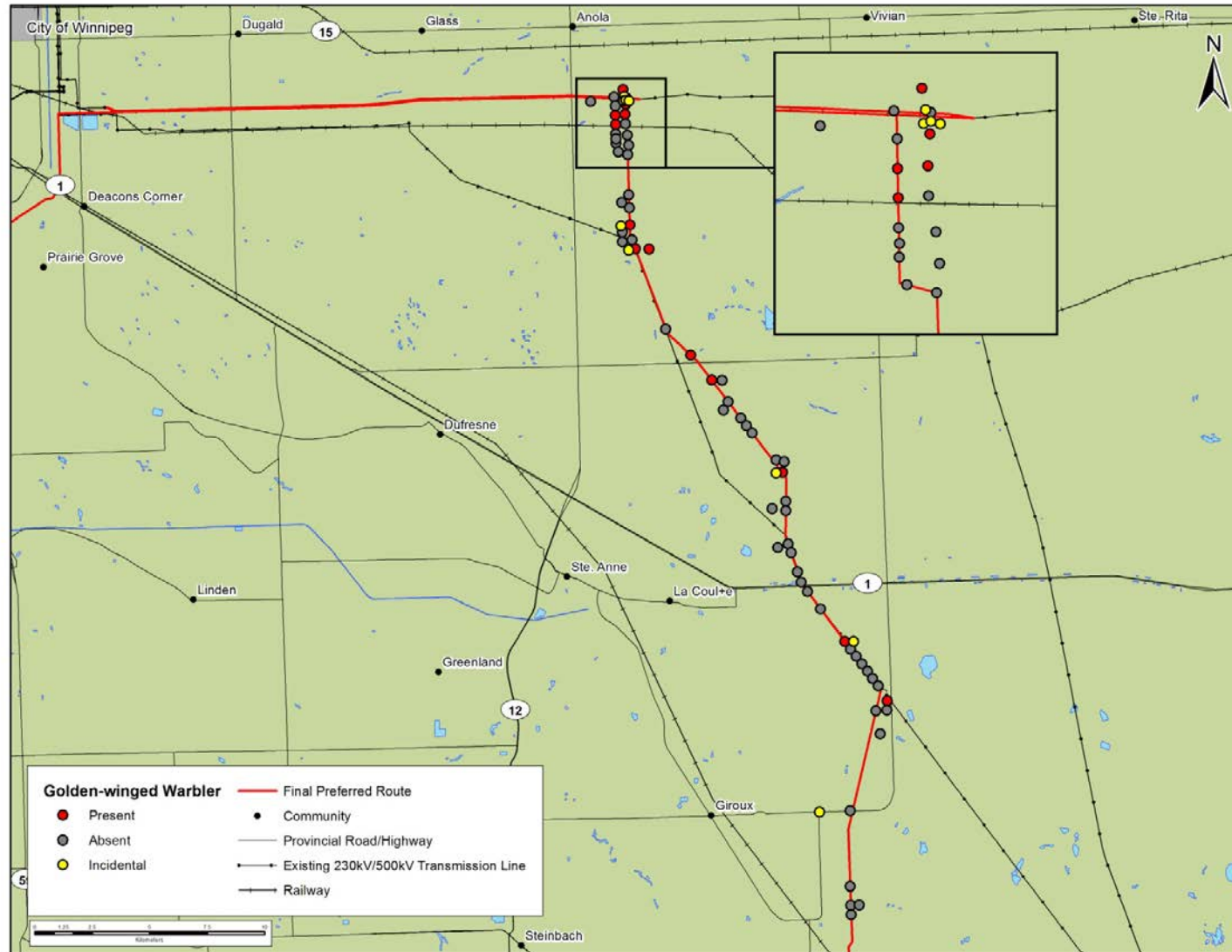
INITIAL RESULTS

Golden-winged warblers were found at eight (18%) sites on the final preferred route and at five (25%) reference sites (Table 1, Map 2). Nine golden-winged warblers were heard or observed incidentally at eight locations, at least two of which were also detected during the survey. None were observed at the two sites surveyed opportunistically in the field.

Table 1: Golden-winged warbler detections, June 2017

Site Type	Site	Location
Final preferred route	4	14 U 671704 5524669
	5	14 U 671714 5524261
	12	14 U 672340 5519896
	14	14 U 672576 5518849
	18	14 U 675894 5513125
	23	14 U 678971 5509100
	32	14 U 681699 5501729
	902	14 U 674989 5514213
Reference	501	14 U 672040 5525777
	502	14 U 672150 5525146
	503	14 U 672124 5524706
	510	14 U 673172 5518824
	518	14 U 683535 5499145
Incidental	001a	14 U 672064 5525289
	001b	14 U 672093 5525475
	001c	14 U 672616 5518808
	003 ¹	14 U 672166 5525322
	006	14 U 672119 5519689
	009	14 U 681737 5501734
	018	14 U 680591 5494302
	022	14 U 678901 5509098

1. Two individuals were found at this location.



Map 2: Golden-winged warbler locations, June 2017

LITERATURE CITED

- Artuso, C. 2009. Golden-winged Warbler in Manitoba. Unpublished report (13 October 2009) by Bird Studies Canada. 18pp.
- Edie, S., Maynard, J., and Taylor, P. 2003. Golden-winged warbler In *The Birds of Manitoba*. Edited by P. Taylor. Manitoba Naturalists Society, Winnipeg, MB. pp. 316–317.
- Environment and Climate Change Canada. 2016. Recovery strategy for the golden-winged warbler (*Vermivora chrysoptera*) in Canada. *Species at Risk Act* Recovery Strategy Series. Environment and Climate Change Canada, Ottawa, ON. 59 pp.
- Kubel, J.E. and R. H. Yahner. 2007. Detection probability of Golden-winged Warblers during point counts with and without playback recordings. *Journal of Field Ornithology*. Vol 78:195-205.
- Manitoba Hydro. 2017. Manitoba-Minnesota Transmission Project Environmental Monitoring Plan. Draft 4/12/2017. Manitoba Hydro, Winnipeg. 95pp.
- Stantec. 2015. Manitoba-Minnesota Transmission Project Wildlife and Wildlife Habitat - Technical Data Report. Final Report. Prepared for Manitoba Hydro, Winnipeg. 274pp.
- Watkins, Bill. 2017. Zoologist, Manitoba Sustainable Development. Telephone conversation. email correspondence and permit application with Robert Berger. Wildlife Resource Consulting Services MB Inc., Winnipeg. February 28 to June 7, 2017.
- WRCS. 2017. Right-of Way Habitat Management Plan for Managing Critical Golden-winged Warbler Habitat during Construction and Operation. Manitoba-Minnesota Transmission Project Question # EC/MH-003. Prepared for Manitoba Hydro, Winnipeg, by Wildlife Resource Consulting Services MB Inc., Winnipeg.

APPENDIX A

Locations of golden-winged survey sites, June 2017

Site Type	Site	Location
Final preferred route	1	14 U 672166 5525442
	2	14 U 671653 5525464
	3	14 U 671699 5525078
	4	14 U 671704 5524669
	5	14 U 671714 5524261
	6	14 U 671720 5523847
	7	14 U 671727 5523444
	8	14 U 671834 5523063
	9	14 U 672245 5522952
	10	14 U 672286 5521194
	11	14 U 672313 5520626
	12	14 U 672340 5519896
	13	14 U 672429 5519232
	14	14 U 672576 5518849
	16	14 U 673900 5515344
	18	14 U 675894 5513125
	19	14 U 677162 5511472
	20	14 U 677413 5511141
	21	14 U 677659 5510811
	22	14 U 678698 5509640
	23	14 U 678971 5509100
	25	14 U 679129 5507844
	26	14 U 679124 5507439
	27	14 U 679220 5505982
	28	14 U 679349 5505605
	29	14 U 679637 5504764
	30	14 U 679792 5504310
	31	14 U 680060 5503915
	32	14 U 681699 5501729
	33	14 U 681946 5501401
	34	14 U 682188 5501088
	35	14 U 682432 5500756
	36	14 U 682679 5500436
	37	14 U 682901 5500115
	38	14 U 683148 5499799
	39	14 U 683042 5498707
	42	14 U 681951 5490236
	43	14 U 681966 5489830
	44	14 U 676610 5512187

Site Type	Site	Location
Final preferred route	50 ¹	14 U 671734 5523634
	901 ²	14 U 680626 5503160
	902	14 U 674989 5514213
	903	14 U 681919 5494353
	904	14 U 681922 5491065
Reference	501	14 U 672040 5525777
	502	14 U 672150 5525146
	503	14 U 672124 5524706
	504	14 U 672134 5524289
	505	14 U 672234 5523793
	506	14 U 672286 5523354
	507	14 U 671986 5520861
	508	14 U 672008 5519569
	509	14 U 672011 5519150
	510	14 U 673172 5518824
	512	14 U 676356 5513118
	513	14 U 676413 5511822
	514	14 U 679050 5509566
	515	14 U 678526 5507525
	516	14 U 678774 5505823
	517	14 U 683232 5497708
	518	14 U 683535 5499145
	519	14 U 683518 5498746
	520	14 U 682319 5490248
	550 ³	14 U 670636 5525256
1. Site 50 was added opportunistically in the field. 2. Sites 901 to 904 were at the intersection of the preferred route and a road. 3. Site 550 was added opportunistically in the field.		