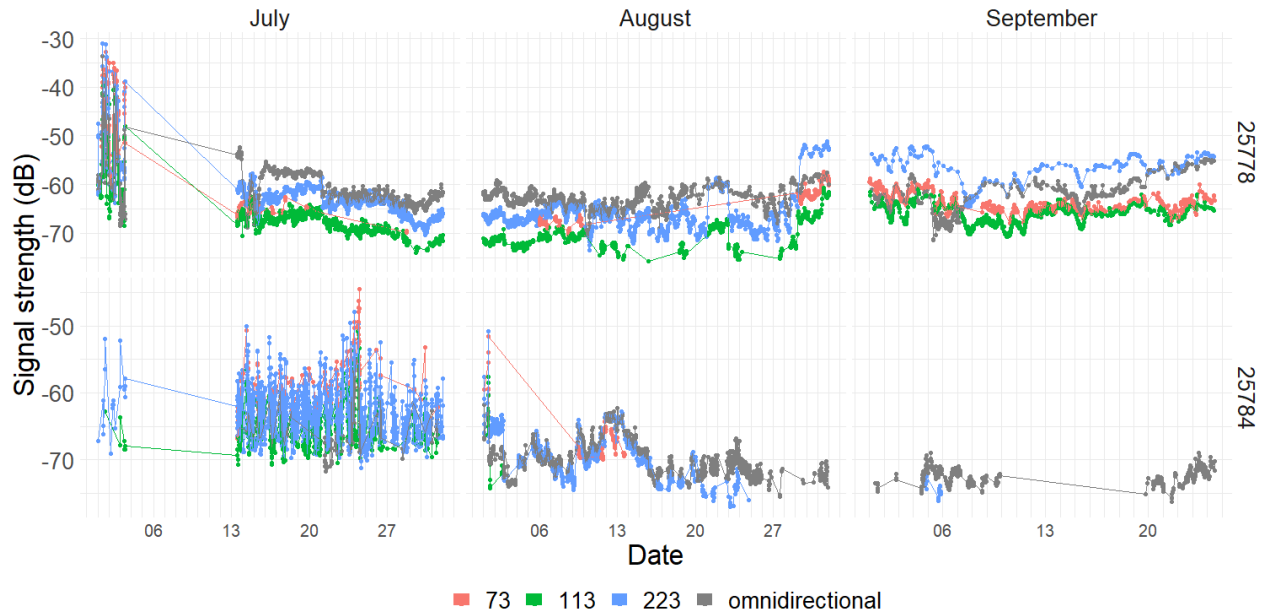


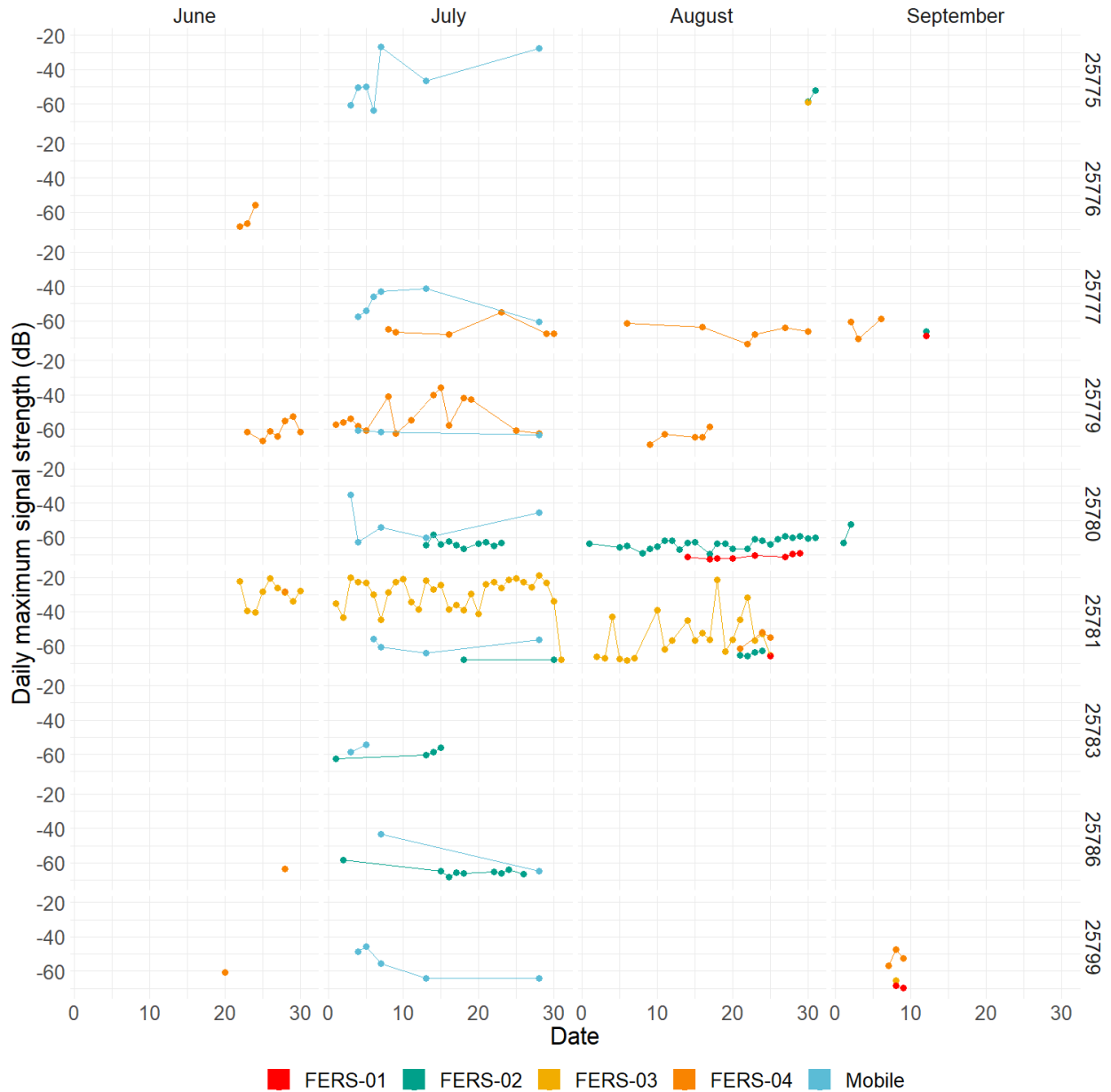
## Appendix 1

**Figure A1.1.** Variation of the signal strength of two Canada Warblers assumed to have lost their tag, and thus removed from further analysis. The signal was detected by one receiving tower (FERS-2) with 3 Yagi 9-element antennas oriented at 73, 113 and 223 degrees, and one omnidirectional antenna. ID 25778: Signal became stable in mid-July and stops at the end of September likely due to battery lifespan. ID 25784: Signal varied daily in July and became stable by the end of August near the receiving tower (detected by the omnidirectional antenna).

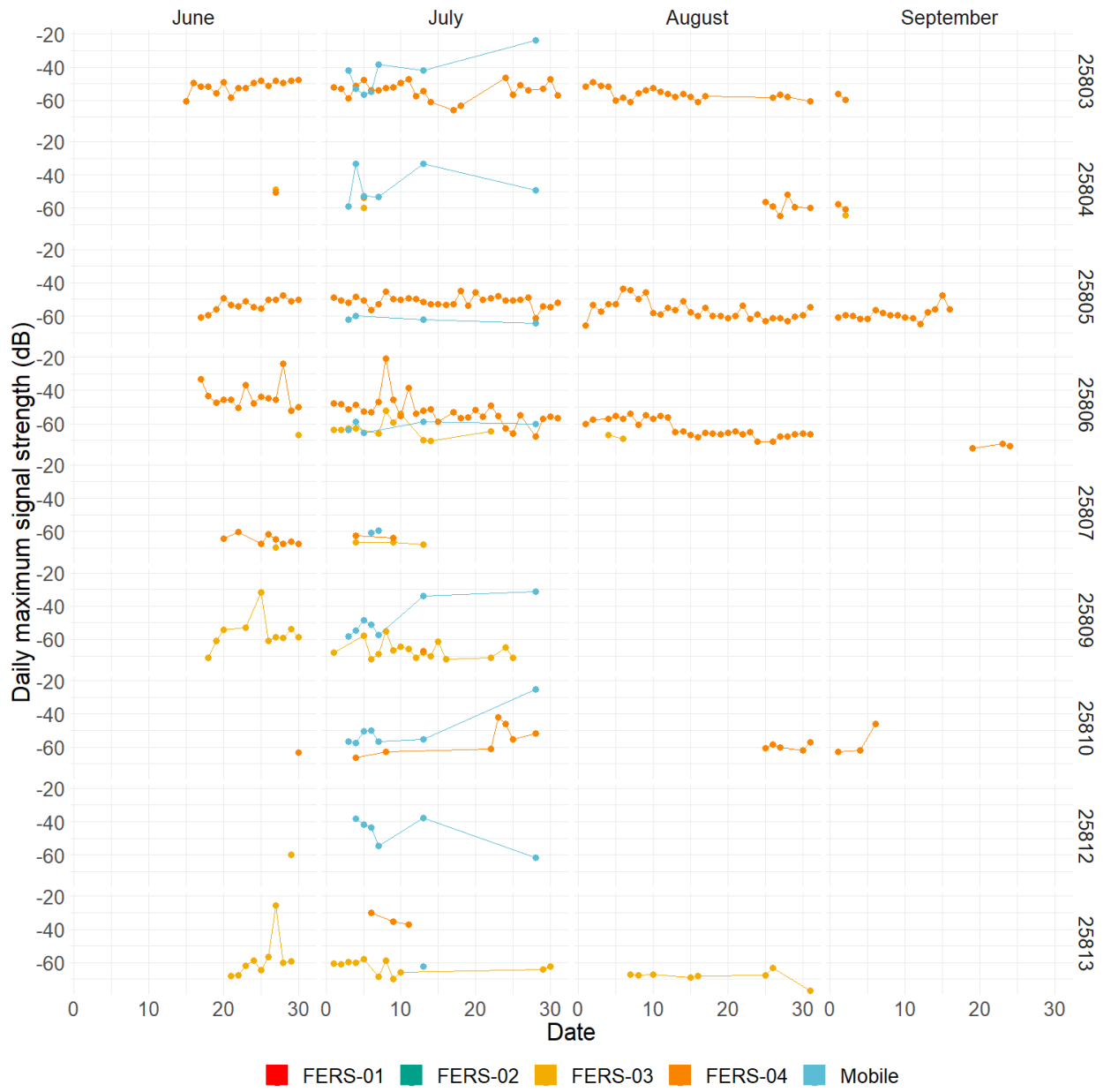


Appendix 1

**Figure A1.2.** Variation of the daily maximum signal strength at every receiving tower on the study site (FERS-01, FERS-02, FERS-03, FERS-04) and from the mobile receiver, between date of capture and date of departure from the study site for 18 Canada Warblers (tag ID on the right).

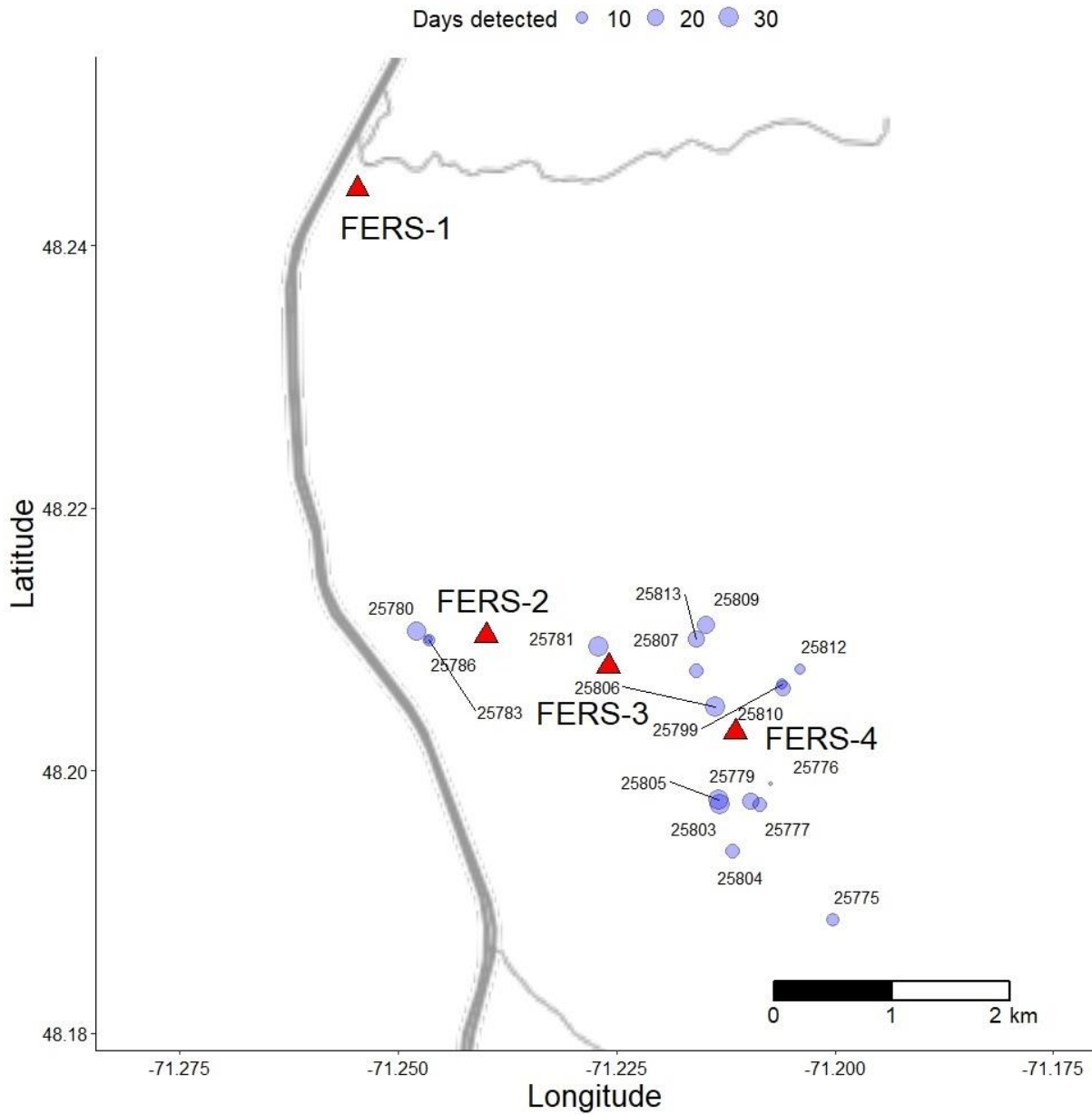


# Appendix 1



Appendix 1

**Figure A1.3.** Tagging location of 18 Canada Warbler (blue circles with tag ID) at Forêt d'Enseignement et de Recherche de Simoncouche (FERS), location of 4 receiving towers (red triangles) and number of days detected within the radio-telemetry array within the study site represented by the circle size.



**Appendix 1****Table A1.1** Departure date of 18 Canada Warblers tracked on the study site in Quebec (48.2314, -71.2508): tag ID, sex (M = Male, F = Female), age (SY = Second-year, ASY = After Second-year, AHY = After Hatching-Year), and departure type (Explicit or Ambiguous).

<b>Tag ID</b>	<b>Sex</b>	<b>Age</b>	<b>Departure date</b>	<b>Departure type</b>
25803	M	SY	2017-09-02	Ambiguous
25804	M	SY	2017-09-02	Ambiguous
25805	M	ASY	2017-09-16	Ambiguous
25806	M	SY	2017-09-24	Ambiguous
25807	M	SY	2017-07-13	Ambiguous
25809	M	SY	2017-07-24	Ambiguous
25810	M	ASY	2017-09-06	Explicit
25812	M	AHY	2017-06-29	Ambiguous
25813	M	ASY	2017-06-26	Ambiguous
25775	M	ASY	2017-08-31	Explicit
25776	M	ASY	2017-06-23	Ambiguous
25777	M	ASY	2017-09-12	Explicit
25779	M	ASY	2017-08-17	Ambiguous
25780	M	SY	2017-09-02	Explicit
25781	M	SY	2017-08-25	Explicit
25783	F	SY	2017-08-25	Ambiguous
25786	M	SY	2017-07-26	Ambiguous
25799	M	ASY	2017-09-09	Explicit

## Appendix 1

**Table A1.2.** Detections of 9 Canada Warblers tracked outside their breeding site in Quebec: bird ID, tag ID, sex (M = Male, F = Female), age (SY = Second-year, ASY = After Second-year, AHY = After Hatching-Year), Departure type (Explicit/Ambiguous), location of the detection (latitude/longitude), date, distance from last receiver and time elapsed between last detection at the preceding receiving station, i.e. from breeding site if there is only one detection outside the breeding site. The bird ID refers to different segments from the same individual and to the ID illustrated in Figure 3. The letter following the Bird ID refers to the segment measured in Figure 3.

<b>Bird ID- track</b>	<b>Tag ID</b>	<b>Age - Sex</b>	<b>Departure type</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Detection date</b>	<b>Distance (km)</b>	<b>Time (day)</b>	<b>Speed (km*day<sup>-1</sup>)</b>
1	25777	ASY-M	Explicit	46.85	-71.20	2017-09-15	155.89	2.00	77.92
2	25799	ASY-M	Explicit	45.00	-74.80	2017-09-15	452.16	4.98	90.88
3-a	25803	SY-M	Ambiguous	44.35	-76.90	2017-09-10	612.89	7.31	83.89
3-b				44.35	-76.90	2017-09-14	0.00	3.77	0.00
4	25810	ASY-M	Explicit	44.95	-75.10	2017-09-10	468.86	3.04	154.17
5-a	25775	ASY-M	Explicit	44.35	-76.90	2017-09-06	610.15	5.36	113.81
5-b				44.00	-77.75	2017-09-07	78.25	0.68	115.83
5-c				43.10	-79.85	2017-09-08	196.83	1.06	184.94
5-d				42.90	-80.30	2017-09-09	42.87	0.91	47.23
6-a	25780	SY-M	Explicit	40.00	-75.50	2017-09-09	973.60	6.35	153.35
6-b	25780			29.25	-90.00	2017-09-25	1756.32	15.68	112.04

**Appendix 1**

7	25781	SY-M	Explicit	40.30	-77.30	2017-09-06	1007.07	11.01	91.47
8	25804	SY-M	Ambiguous	40.00	-75.50	2017-09-10	973.60	7.30	133.44
9	25812	AHY-M	Ambiguous	42.80	-70.80	2017-09-02	601.93	35.67	16.87

---