

Supplementary Material

A comparison of methods for monitoring a sparse population of the red fox (*Vulpes vulpes*) subject to lethal control using GPS telemetry, camera traps and sand plots

Andrew Carter^{A,B,}, Joanne M. Potts^C, Joanne Stephens^A, and David A. Roshier^{A,D}*

^AAustralian Wildlife Conservancy, PO Box 8070, Subiaco East, WA 6008, Australia.

^BGulbali Institute of Agriculture, Water and Environment, Charles Sturt University, PO Box 789, Albury, NSW 2640, Australia.

^CThe Analytical Edge Pty Ltd, PO Box 47, Blackmans Bay, Tas. 7052, Australia.

^DSchool of Animal and Veterinary Science, University of Adelaide, Roseworthy, SA 5371, Australia.

*Correspondence to: Andrew Carter Australian Wildlife Conservancy, PO Box 8070, Subiaco East, WA 6008, Australia Email: acarter@csu.edu.au

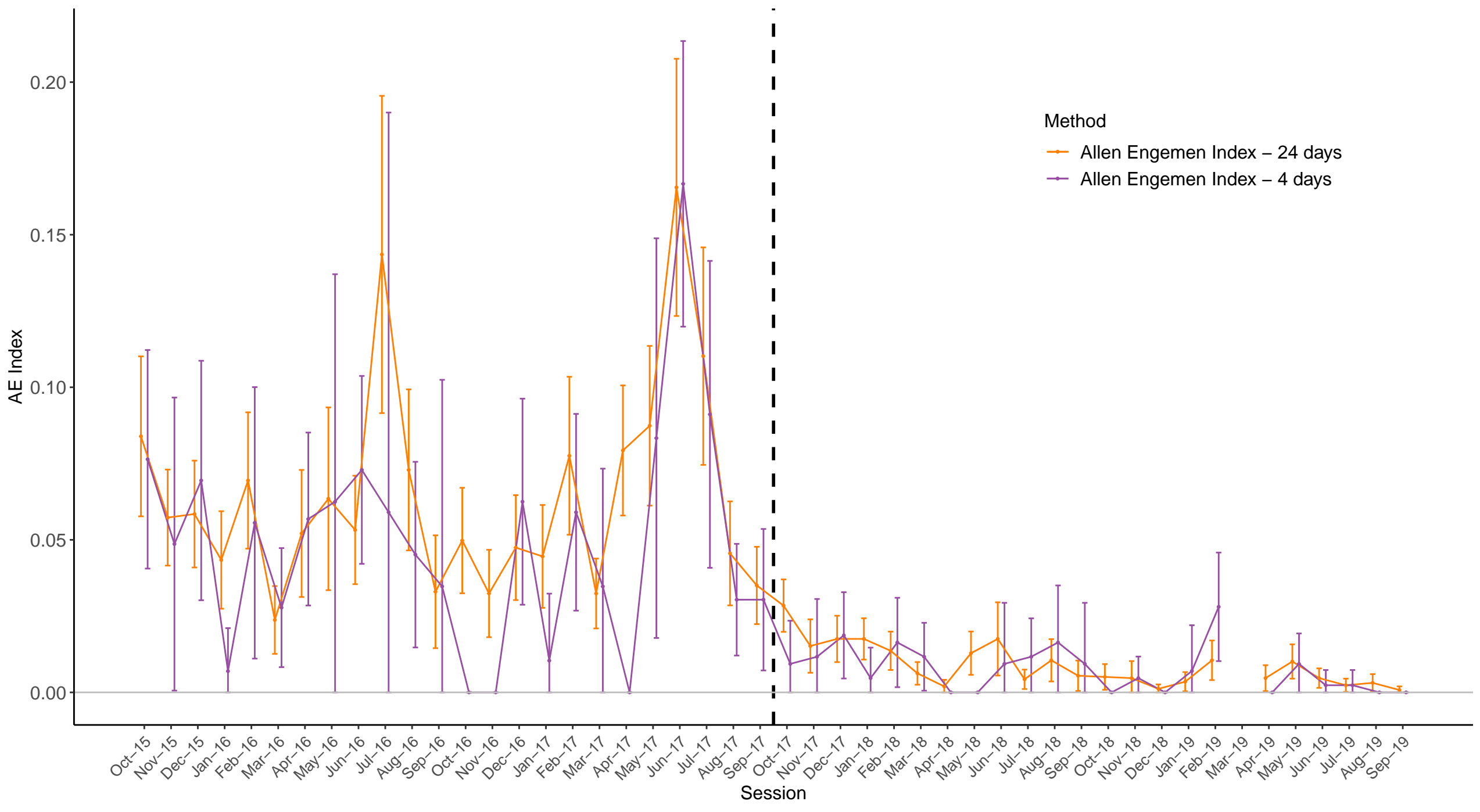


Fig. S1. Fox activity ($\pm 95\%$ CI) derived from camera traps as measured using the Allen-Engeman index. For each session where sampling occurred, data are presented separately for 24 occasions (i.e. all data) and 4 occasions (i.e. the dates when sand-plot sampling occurred). The dashed vertical line signifies commencement of lethal fox control. No foxes were detected on cameras in March 2019.

Table S1. For each primary session, the date, the number of sand plots and camera-trap sites monitored, the number of fox detection events, and the number of unique sites or plots with detections. For cameras, data are presented separately for ‘4 Occasions’ (i.e., dates identical to sand-plot monitoring) and ‘24 Occasions’ (i.e., the entire Session). Sessions with no surveys are signified by -; dashed line signifies commencement of lethal fox control.

Session	Date				4 Occasions			24 Occasions	
		No. Sand Plots	No. Detection Events	No. Plots with Detections	No. Camera Sites	No. Detection Events	No. Sites with Detections	No. Detection Events	No. Sites with Detections
1	Oct-15	17	9	4	63	22	16	145	48
2	Nov-15	17	13	10	63	14	11	99	42
3	Dec-15	17	4	4	63	20	18	101	46
4	Jan-16	17	15	10	63	2	2	75	34
5	Feb-16	17	8	6	63	16	13	120	41
6	Mar-16	17	7	6	63	8	7	41	25
7	Apr-16	17	8	7	35	10	8	55	22
8	May-16	17	7	5	35	11	8	67	28
9	Jun-16	17	9	7	63	21	16	92	39
10	Jul-16	17	8	6	63	17	16	248	56
11	Aug-16	17	8	7	63	13	9	126	45
12	Sep-16	17	4	3	63	10	8	57	21
13	Oct-16	-	-	-	63	-	-	86	37
14	Nov-16	17	7	4	63	1	1	56	29
15	Dec-16	17	11	7	63	18	13	82	32
16	Jan-17	17	24	10	63	3	3	77	34
17	Feb-17	17	13	9	63	17	15	134	49
18	Mar-17	17	9	8	63	10	10	56	33
19	Apr-17	-	-	-	63	-	-	137	55
20	May-17	17	11	6	63	24	18	151	51
21	Jun-17	17	25	12	63	48	30	286	56
22	Jul-17	17	9	6	98	39	26	283	69
23	Aug-17	17	3	3	98	13	12	117	50
24	Sep-17	17	7	5	98	13	8	90	48
25	Oct-17	17	3	3	98	4	4	73	49
26	Nov-17	17	1	1	98	5	5	39	26
27	Dec-17	17	4	3	98	8	8	45	30
28	Jan-18	17	6	4	98	2	2	45	30
29	Feb-18	17	3	3	63	7	6	35	22
30	Mar-18	17	2	2	63	5	5	16	14
31	Apr-18	17	2	2	63	1	1	5	4
32	May-18	-	-	-	63	-	-	33	21
33	Jun-18	17	0	0	63	4	4	45	24
34	Jul-18	17	2	2	63	5	5	11	11
35	Aug-18	17	4	4	63	7	6	27	22
36	Sep-18	17	4	4	63	4	4	14	12
37	Oct-18	17	2	2	63	0	0	13	11

38	Nov-18	17	6	6	63	2	2	12	11
39	Dec-18	17	0	0	63	0	0	3	3
40	Jan-19	17	1	1	63	3	3	9	9
41	Feb-19	17	2	2	63	12	11	27	20
42	Mar-19	17	2	1	63	0	0	0	0
43	Apr-19	17	1	1	63	0	0	12	10
44	May-19	17	2	2	63	4	4	26	19
45	Jun-19	17	1	1	63	1	1	12	10
46	Jul-19	17	2	2	63	1	1	6	6
47	Aug-19	-	-	-	63	-	-	8	8
48	Sep-19	17	0	0	63	0	0	2	2