10.1071/WR22196

Wildlife Research

Supplementary Material

Effects of sardines as an attractant on carnivore detection and temporal activity patterns at remote camera traps

Anna C. Siegfried[A], *Stephen N. Harris*[A,*], *Colleen Olfenbuttel*[B], *and David S. Jachowski*[A]

[A]Department of Forestry and Environmental Conservation, Clemson University, Clemson, SC 29634, USA.

[B]Wildlife Management Division, North Carolina Wildlife Resources Commission, Pittsboro, NC 27312, USA.

[*]Correspondence to: Stephen N. Harris Department of Forestry and Environmental Conservation, Clemson University, Clemson, SC 29634, USA Email: esenaitch@gmail.com

Supplementary Table S1. Number of detections for each species and the number of remote camera traps that detected each species during periods with (treatment) and without (control) an attractant in DuPont State Recreational Forest (a) and in the South Mountains (b) of western North Carolina, USA, January–April 2020.

(a) *DuPont State Recreational Forest*

	Treatment		Control		Total	
Species	Detections	Cameras	Detections	Cameras	Detections	Cameras
Bobcat	3	1	3	3	6	3
Coyote	35	14	4	3	39	15
Opossum	111	11	10	4	121	11
Raccoon	81	10	3	2	84	10
Red fox	4	3	0	0	4	3
Eastern potted skunk	5	3	0	0	5	3
Striped skunk	10	2	4	2	14	3

(b) *South Mountains*

	Treatment-		Control		Total	
Species	Detections	Cameras	Detections	Cameras	Detections	Cameras
Bobcat	14	9	3	3	17	12
Coyote	42	19	26	9	68	22

Opossum	31	8	4	4	35	10
Raccoon	82	20	17	9	99	23
Red fox	0	0	0	0	0	0
Eastern spotted skunk	43	7	6	4	49	10
Striped skunk	3	2	1	1	4	3

Supplementary Table S2. Latency to detection (mean nights ± *SE*) for carnivore species at remote camera traps with (Attractant) or without (Control) an attractant in western North Carolina, USA, January–April 2020. T-value (*t*), degrees of freedom (df), and p-value (*p*) results from Welch's t-test comparing Attractant to Control camera traps for each species.

Species	Attractant	Control	*t*	df	*p*
Bobcat	18.90 ± 4.54	20.67 ± 5.04	0.260	12	0.80
Coyote	20.76 ± 1.92	19.58 ± 3.69	-0.282	17	0.78
Opossum	23.42 ± 2.77	9.13 ± 1.12	-4.786	22	<0.01
Raccoon	18.63 ± 2.34	17.09 ± 3.66	-0.355	18	0.73
Eastern spotted skunk	17.90 ± 4.41	21.75 ± 7.66	0.435	5	0.68
Striped skunk	14.75 ± 6.65	15.67 ± 10.65	0.073	3	0.95

Supplementary Table S3. Models for detection of raccoon (a), opossum (b), coyote (c), bobcat (d), eastern spotted skunk (e), and striped skunk (f) from remote camera trap data collected in western North Carolina, USA, January–April 2020.

Included for each model are the number of parameters (*K*), log-likelihood [log($\mathscr{L}$)], Akaike's Information Criterion corrected for small sample sizes (AIC*c*), the difference in AIC*c* score when compared to the model with the lowest AIC*c* (Δ AIC*c*), and the Akaike weight (w_i). Study site was included as a covariate for both detection and occupancy in all models.

(a) *Raccoon*

Hypothesis	*K*	log($\mathscr{L}$)	AIC*c*	Δ AIC*c*	w_i
Treatment only	5	-215.60	442.55	0.00	0.41
Vegetation, camera trap setup, treatment	9	-210.51	443.52	0.97	0.25
Treatment	6	-215.57	445.09	2.54	0.12
Global	10	-209.84	445.32	2.77	0.10
Camera trap setup and treatment	7	-214.98	446.63	4.08	0.05
Season and treatment	7	-215.43	447.52	4.97	0.03
Season, camera trap setup, treatment	8	-214.67	448.85	6.30	0.02

Vegetation, season, treatment	9	-213.57	449.64	7.09	0.01
Null	4	-236.19	481.27	38.72	<0.01
Vegetation only	6	-234.80	483.56	41.00	<0.01
Season	5	-236.16	483.69	41.14	<0.01
Vegetation and season	7	-234.64	485.95	43.39	<0.01

(b) *Opossum*

Hypothesis	*K*	log($\mathscr{L}$)	AIC*c*	Δ AIC*c*	w_i
Treatment only	5	-141.03	293.43	0.00	0.55
Treatment	6	-140.86	295.67	2.24	0.18
Vegetation, camera trap setup, treatment	9	-137.43	297.37	3.93	0.08
Vegetation, season, treatment	9	-137.46	297.42	3.98	0.07
Camera trap setup and treatment	7	-140.85	298.37	4.94	0.05
Season and treatment	7	-140.86	298.38	4.95	0.05
Global	10	-137.38	300.41	6.97	0.02

Season, camera trap setup, treatment	8	-140.85	301.22	7.78	0.01
Vegetation only	6	-149.37	312.70	19.26	<0.01
Null	4	-152.55	313.99	20.56	<0.01
Vegetation and season	7	-149.36	315.39	21.96	<0.01
Season	5	-152.55	316.46	23.03	<0.01

(c) *Coyote*

Hypothesis	*K*	log($\mathscr{L}$)	AIC*c*	Δ AIC*c*	w_i
Treatment only	5	-216.76	444.88	0.00	0.42
Treatment	6	-215.80	445.54	0.67	0.30
Camera trap setup and treatment	7	-215.40	447.47	2.59	0.11
Season and treatment	7	-215.75	448.16	3.28	0.08
Vegetation, camera trap setup, treatment	9	-213.76	450.02	5.14	0.03
Season, camera trap setup, treatment	8	-215.39	450.30	5.42	0.03
Vegetation, season, treatment	9	-214.23	450.95	6.08	0.02
Global	10	-213.71	453.07	8.19	0.01

Null	4	-223.19	455.28	10.40	<0.01
Season	5	-223.16	457.68	12.80	<0.01
Vegetation only	6	-222.10	458.15	13.27	<0.01
Vegetation and season	7	-221.92	460.51	15.63	<0.01

(d) *Bobcat*

Hypothesis	*K*	log($\mathscr{L}$)	AIC*c*	Δ AIC*c*	w_i
Treatment only	5	-81.27	173.91	0.00	0.33
Null	4	-82.94	174.77	0.86	0.21
Treatment	6	-80.62	175.20	1.29	0.17
Season	5	-82.56	176.49	2.58	0.09
Camera trap setup and treatment	7	-80.17	177.02	3.11	0.07
Season and treatment	7	-80.46	177.60	3.69	0.05
Vegetation only	6	-82.03	178.01	4.10	0.04
Season, camera trap setup, treatment	8	-80.13	179.77	5.86	0.02
Vegetation and season	7	-81.85	180.37	6.46	0.01
Vegetation, season, treatment	9	-79.90	182.29	8.38	<0.01

Vegetation, camera trap setup, treatment	9	-79.94	182.39	8.48	<0.01
Global	10	-79.88	185.40	11.49	<0.01

(e) *Eastern spotted skunk*

Hypothesis	*K*	log($\mathscr{L}$)	AIC*c*	Δ AIC*c*	w_i
Season and treatment	7	-82.18	181.03	0.00	0.28
Season, camera trap setup, treatment	8	-80.92	181.36	0.33	0.24
Treatment only	5	-85.37	182.10	1.07	0.17
Treatment	6	-84.27	182.49	1.46	0.14
Vegetation, season, treatment	9	-80.61	183.72	2.69	0.07
Camera trap setup and treatment	7	-84.03	184.72	3.69	0.04
Global	10	-80.06	185.76	4.73	0.03
Vegetation, camera trap setup, treatment	9	-81.83	186.16	5.13	0.02
Null	4	-91.81	192.51	11.48	<0.01
Season	5	-90.65	192.65	11.62	<0.01
Vegetation only	6	-91.53	197.00	15.97	<0.01
Vegetation and season	7	-90.43	197.54	16.50	<0.01

(f) *Striped skunk*

Hypotheses	*K*	log(ℒ)	AIC*c*	Δ AIC*c*	w_i
Vegetation and season	7	-40.35	97.36	0.00	0.51
Vegetation only	6	-43.28	100.51	3.15	0.11
Null	4	-45.84	100.57	3.21	0.10
Season	5	-44.64	100.64	3.27	0.10
Treatment only	5	-45.03	101.43	4.07	0.07
Season and treatment	7	-42.81	102.29	4.92	0.04
Vegetation, season, treatment	9	-40.19	102.87	5.51	0.03
Treatment	6	-44.93	103.81	6.45	0.02
Season, camera trap setup, treatment	8	-42.73	104.98	7.61	0.01
Global	10	-40.16	105.96	8.60	0.01
Camera trap setup and treatment	7	-44.87	106.41	9.05	0.01
Vegetation, camera trap setup, treatment	9	-43.10	108.70	11.34	<0.01

Supplementary Figure S1. Left: Sample images from remote camera traps that were set with an attractant (treatment) for the first 6 weeks of a survey conducted in western North Carolina, USA, January–April 2020. Right: Corresponding images from these same locations after cameras were moved 10–20 m from the previous cameras (to visually similar areas) and left without an attractant (control) for a subsequent 6 weeks.