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Wildlife Research

Supplementary Material

Mesocarnivores in residential yards: influence of yard features on the occupancy, relative abundance, and overlap of coyotes, grey fox, and red fox

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Yard Feature Effects on Mammalian Predators

Supplemental Information

Supplemental Table S1. Model selection statistics for detection and ψ of Coyotes (*Canis latrans*), Gray Fox (*Urocyon cinereoargenteus*), and Red Fox (*Vulpes vulpes*) based on a two year study done in 2021 and 2022 in northwest Arkansas, USA. Covariates of occupancy included surrounding landscape and backyard variables and the interaction of average precipitation and week of survey were set at the covariates of detection. Models were ranked using Akaike's Information Criterion (AICc) and included with each model is the number of parameters (K), AICc difference between model of interest and model with lowest AICc (Δ AICc), model weight (AICcwt) and log-likelihood estimate (LL).

Models	K	AICc	ΔAICc	ModelLik	AICcWt	LL	Cum.Wt
Fence	18.00	2492.70	0.00	1.00	0.18	-1225.50	0.18
Fence +	21.00	2494.45	1.74	0.42	0.08	-1222.28	0.26
Compost							
Shelter Site	18.00	2494.52	1.82	0.40	0.07	-1226.41	0.33
Fence + Open	21.00	2494.71	2.00	0.37	0.07	-1222.41	0.39
HUD + Open	18.00	2494.75	2.05	0.36	0.06	-1226.53	0.46
Shelter Site +	18.00	2495.20	2.50	0.29	0.05	-1226.75	0.51
Compost							
Firewood	18.00	2495.21	2.51	0.29	0.05	-1226.76	0.56
Fence + Shelter	21.00	2495.69	2.99	0.22	0.04	-1222.90	0.60
Site							
~1	9.00	2495.93	3.22	0.20	0.04	-1238.27	0.68

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Fence +	21.00	2496.20	3.49	0.17	0.03	-1223.15	0.71
Firewood							
Bird Feeder	18.00	2497.25	4.55	0.10	0.02	-1227.78	0.73
Brush Pile	18.00	2497.36	4.66	0.10	0.02	-1227.83	0.74
Forest	18.00	2497.82	5.12	0.08	0.01	-1228.06	0.76
Agricultural +	18.00	2497.96	5.25	0.07	0.01	-1228.13	0.77
Water Source							
Brush Pile +	21.00	2498.06	5.35	0.07	0.01	-1224.08	0.78
Open							
Forest + Open	21.00	2498.09	5.39	0.07	0.01	-1224.10	0.79
Forest +	21.00	2498.12	5.42	0.07	0.01	-1224.11	0.81
Compost							
Shelter Site +	21.00	2498.76	6.06	0.05	0.01	-1224.43	0.83
Open							
Fence + Bird	21.00	2498.78	6.07	0.05	0.01	-1224.44	0.84
Feeder							
Fence + Water	21.00	2498.87	6.17	0.05	0.01	-1224.49	0.85
Source							
Fence + Brush	21.00	2498.91	6.21	0.04	0.01	-1224.51	0.86
Pile							
Open +	18.00	2499.18	6.47	0.04	0.01	-1228.74	0.87
Agricultural							
Firewood +	21.00	2499.27	6.57	0.04	0.01	-1224.69	0.88
Shelter Site							

Yard Feature Effects on Mammalian Predators

Compost +	18.00	2499.33	6.63	0.04	0.01	-1228.82	0.89
HUD							
Brush Pile +	21.00	2499.37	6.66	0.04	0.01	-1224.73	0.89
Compost							
Fence + Forest	21.00	2499.57	6.86	0.03	0.01	-1224.83	0.90
Poultry Presence	18.00	2499.83	7.13	0.03	0.01	-1229.07	0.91
Open + Bird	21.00	2500.02	7.32	0.03	0.00	-1225.06	0.91
Feeder							
Fence +	21.00	2500.22	7.51	0.02	0.00	-1225.16	0.92
Agricultural							
Shelter Site +	21.00	2500.35	7.65	0.02	0.00	-1225.23	0.92
Bird Feeder							
Brush Pile +	21.00	2500.36	7.66	0.02	0.00	-1225.23	0.93
Shelter Site							
Fence + HUD	21.00	2500.40	7.69	0.02	0.00	-1225.25	0.93
HUD + HUD	21.00	2500.47	7.77	0.02	0.00	-1225.29	0.93
Compost + Bird	21.00	2500.66	7.95	0.02	0.00	-1225.38	0.94
Feeder							
Firewood + Bird	21.00	2500.82	8.12	0.02	0.00	-1225.46	0.94
Feeder							
Firewood + Open	21.00	2500.82	8.12	0.02	0.00	-1225.46	0.94
Forest + Shelter	21.00	2500.89	8.19	0.02	0.00	-1225.50	0.95
Site							
Shelter Site +	21.00	2501.15	8.44	0.01	0.00	-1225.62	0.95
Shelter Site							

Yard Feature Effects on Mammalian Predators

Brush Pile +	21.00	2501.20	8.50	0.01	0.00	-1225.65	0.95
Firewood							
Forest + Water	21.00	2501.21	8.50	0.01	0.00	-1225.65	0.96
Source							
HUD + Water	21.00	2501.24	8.53	0.01	0.00	-1225.67	0.96
Source							
Firewood +	21.00	2501.36	8.66	0.01	0.00	-1225.73	0.96
Compost							
Shelter Site +	21.00	2501.51	8.81	0.01	0.00	-1225.81	0.97
Water Source							
Firewood +	21.00	2501.65	8.95	0.01	0.00	-1225.88	0.97
Forest							
HUD +	21.00	2501.82	9.11	0.01	0.00	-1225.96	0.97
Agricultural							
Brush Pile +	21.00	2501.85	9.14	0.01	0.00	-1225.98	0.97
Water Source							
Forest + HUD	21.00	2502.21	9.51	0.01	0.00	-1226.16	0.98
Forest +	21.00	2502.29	9.58	0.01	0.00	-1226.19	0.98
Agricultural							
Compost + Open	21.00	2502.50	9.80	0.01	0.00	-1226.30	0.98
Poultry Presence	21.00	2502.72	10.01	0.01	0.00	-1226.41	0.98
+ Shelter Site							
Brush Pile +	21.00	2502.78	10.08	0.01	0.00	-1226.44	0.98
Agricultural							

Yard Feature Effects on Mammalian Predators

Forest + Bird	21.00	2502.83	10.13	0.01	0.00	-1226.47	0.99
Feeder							
Shelter Site +	21.00	2502.85	10.14	0.01	0.00	-1226.48	0.99
Agricultural							
Brush Pile +	21.00	2502.87	10.17	0.01	0.00	-1226.49	0.99
HUD							
Poultry Presence	21.00	2502.95	10.24	0.01	0.00	-1226.53	0.99
+ Open							
Shelter Site +	21.00	2503.07	10.36	0.01	0.00	-1226.59	0.99
HUD							
Agricultural +	21.00	2503.10	10.40	0.01	0.00	-1226.60	0.99
Agricultural							
Brush Pile +	21.00	2503.36	10.65	0.00	0.00	-1226.73	0.99
Bird Feeder							
Poultry Presence	21.00	2503.40	10.70	0.00	0.00	-1226.75	0.99
+ Compost							
Poultry Presence	21.00	2503.41	10.71	0.00	0.00	-1226.76	0.99
+ Firewood							
Water Source +	21.00	2503.48	10.77	0.00	0.00	-1226.79	0.99
Bird Feeder							
Brush Pile +	21.00	2503.83	11.13	0.00	0.00	-1226.97	1.00
Forest							
Firewood +	21.00	2504.21	11.51	0.00	0.00	-1227.16	1.00
Water Source							

Yard Feature Effects on Mammalian Predators

HUD + Bird Feeder	21.00	2504.83	12.12	0.00	0.00	-1227.47	1.00
Agricultural + Bird Feeder	21.00	2504.93	12.22	0.00	0.00	-1227.52	1.00
Compost + Compost	21.00	2505.04	12.33	0.00	0.00	-1227.57	1.00
Firewood + Agricultural	21.00	2505.30	12.59	0.00	0.00	-1227.70	1.00
Firewood + HUD	21.00	2505.40	12.70	0.00	0.00	-1227.75	1.00
Poultry Presence + Bird Feeder	21.00	2505.45	12.74	0.00	0.00	-1227.78	1.00
Open + Water Source	21.00	2505.47	12.77	0.00	0.00	-1227.79	1.00
Compost + Water Source	21.00	2505.50	12.80	0.00	0.00	-1227.80	1.00
Poultry Presence + Brush Pile	21.00	2505.56	12.85	0.00	0.00	-1227.83	1.00
Poultry Presence + Forest	21.00	2506.02	13.31	0.00	0.00	-1228.06	1.00
Poultry Presence + Water Source	21.00	2506.15	13.45	0.00	0.00	-1228.13	1.00
Compost + Agricultural	21.00	2506.80	14.10	0.00	0.00	-1228.45	1.00

Yard Feature Effects on Mammalian Predators

Poultry Presence	21.00	2507.38	14.67	0.00	0.00	-1228.74	1.00
+ Agricultural							
Poultry Presence	21.00	2507.53	14.83	0.00	0.00	-1228.82	1.00
+ HUD							
Open + Open	21.00	2507.60	14.90	0.00	0.00	-1228.85	1.00
Year + Shelter	21.00	2512.89	20.19	0.00	0.00	-1231.50	1.00
Site							
Forest + HUD +	27.00	2516.63	23.92	0.00	0.00	-1224.50	1.00
Open +							
Agricultural							
Year +	21.00	2522.32	29.61	0.00	0.00	-1236.21	1.00
Firewood							
Year + Compost	21.00	2545.28	52.58	0.00	0.00	-1247.69	1.00
Year	18.00	2553.72	61.01	0.00	0.00	-1256.01	1.00
Year + Brush	21.00	2562.79	70.08	0.00	0.00	-1256.45	1.00
Pile							
Global	45.00	2566.05	73.35	0.00	0.00	-1215.77	1.00
Year + Forest	21.00	2576.84	84.13	0.00	0.00	-1263.47	1.00
Year + Open	21.00	2582.44	89.73	0.00	0.00	-1266.27	1.00
Year + Water	21.00	2590.45	97.75	0.00	0.00	-1270.28	1.00
Source							
Year +	21.00	2593.30	100.59	0.00	0.00	-1271.70	1.00
Agricultural							
Year + HUD	21.00	2596.15	103.44	0.00	0.00	-1273.12	1.00

Yard Feature Effects on Mammalian Predators

Year + Bird	21.00	2600.02	107.31	0.00	0.00	-1275.06	1.00
Feeder							
