Supplementary Material

Where there's smoke, there's cats: long-unburnt habitat is crucial to mitigating the impacts of cats on the Ngarlgumirdi, greater bilby (*Macrotis lagotis*)

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Figure S1.   Typical post fire successional stages of observed within acacia shrublands and eucalypt woodlands on the Dampier Peninsula, <3 years fire stages dominated by annual grasses.

Table S1. Model summary from generalised linear mixed-effects models testing the influence of fire attributes on the presence of greater bilbies and feral cats at the 1000-m scale on the Dampier peninsula in north-west Australia.

Variable	Bilby			Feral cat		
	Estimate	*P*	s.e.	Estimate	*P*	s.e.
Intercept	-4.15	0.00	0.94	-1.20	0.00	0.22
Fire Frequency	-0.72	0.07	0.40	0.55	0.01	0.20
Recent rainfall	0.03	0.92	0.30	0.19	0.30	0.18
Acacia shrublands	0.76	0.48	1.07	-0.07	0.89	0.54
Intercept	-5.04	0.02	2.23	-1.17	0.00	0.23
Pyrodiversity	0.03	0.95	0.48	-0.10	0.60	0.18
Recent rainfall	-0.03	0.93	0.34	0.21	0.25	0.18
Acacia shrublands	0.73	0.59	1.37	-0.20	0.72	0.56
Intercept	-4.83	0.04	2.34	-1.16	0.00	0.22
Proportion recently burnt	-0.07	0.88	0.46	0.21	0.20	0.17
Recent rainfall	-0.02	0.94	0.34	0.23	0.20	0.18
Acacia shrublands	0.73	0.58	1.31	-0.14	0.80	0.55
Intercept	-4.09	0.00	0.84	-1.21	0.00	0.22
Proportion long unburnt	0.87	0.02	0.37	-0.57	0.00	0.20
Recent rainfall	0.07	0.81	0.29	0.20	0.26	0.18
Acacia shrublands	0.59	0.57	1.03	0.00	0.99	0.55

Table S2. Model summary from generalised linear mixed-effects models testing the influence of fire attributes on the presence of greater bilbies and feral cats at the 3000-m scale on the Dampier peninsula in north-west Australia.

Variable	Bilby			Feral cat		
	Estimate	*P*	s.e.	Estimate	*P*	s.e.
Intercept	-3.89	0.00	0.77	-1.24	0.00	0.22
Fire Frequency	-0.81	0.02	0.35	0.41	0.04	0.20
Recent rainfall	0.06	0.84	0.28	0.17	0.34	0.18
Acacia shrublands	0.70	0.48	0.99	-0.12	0.84	0.59
Intercept	-4.15	0.00	1.02	-1.21	0.00	0.22
Pyrodiversity	-0.48	0.30	0.46	-0.08	0.66	0.19
Recent rainfall	-0.06	0.84	0.30	0.20	0.27	0.18
Acacia shrublands	1.05	0.35	1.13	-0.27	0.65	0.59
Intercept	-4.10	0.00	1.09	-1.21	0.00	0.22
Proportion recently burnt	-0.17	0.66	0.38	0.29	0.08	0.17
Recent rainfall	-0.04	0.89	0.30	0.22	0.22	0.18
Acacia shrublands	0.83	0.45	1.11	-0.16	0.78	0.58
Intercept	-3.85	0.00	0.73	-1.27	0.00	0.22
Proportion long unburnt	0.85	0.01	0.34	-0.63	0.00	0.21
Recent rainfall	0.06	0.82	0.27	0.18	0.34	0.18
Acacia shrublands	0.57	0.56	0.98	0.02	0.97	0.58

Table S3. Model summary from generalised linear mixed-effects models testing the influence of fire attributes on the presence of greater bilbies and feral cats at the 5000-m scale on the Dampier peninsula in north-west Australia.

	Bilby			Feral cat		
Variable	**Estimate**	***P***	**s.e.**	**Estimate**	***P***	**s.e.**
Intercept	-3.92	0.00	0.78	-1.23	0.00	0.22
Fire Frequency	-0.80	0.02	0.34	0.40	0.05	0.20
Recent rainfall	0.09	0.75	0.29	0.17	0.34	0.18
Acacia shrublands	0.72	0.48	1.00	-0.15	0.80	0.58
Intercept	-4.22	0.00	1.15	-1.23	0.00	0.22
Pyrodiversity	-0.19	0.67	0.45	-0.20	0.31	0.20
Recent rainfall	-0.05	0.86	0.30	0.18	0.31	0.18
Acacia shrublands	1.04	0.38	1.19	-0.13	0.83	0.61
Intercept	-4.11	0.00	1.13	-1.23	0.00	0.22
Proportion recently burnt	-0.14	0.71	0.38	0.38	0.02	0.17
Recent rainfall	-0.04	0.89	0.30	0.22	0.21	0.18
Acacia shrublands	0.84	0.45	1.12	-0.12	0.84	0.58
Intercept	-3.85	0.00	0.73	-1.30	0.00	0.23
Proportion long unburnt	0.88	0.01	0.34	-0.70	0.00	0.22
Recent rainfall	0.09	0.74	0.28	0.18	0.34	0.18
Acacia shrublands	0.54	0.58	0.98	0.10	0.86	0.59

Table S4. Model summary from generalised linear mixed-effects models testing the influence of fire attributes on the presence of greater bilbies and feral cats at the 10000-m scale on the Dampier peninsula in north-west Australia.

Variable	Bilby			Feral cat		
	Estimate	**P**	**s.e.**	**Estimate**	**P**	**s.e.**
Intercept	-4.16	0.00	1.00	-1.16	0.00	0.22
Fire Frequency	-0.65	0.09	0.39	0.19	0.33	0.19
Recent rainfall	0.10	0.75	0.31	0.20	0.26	0.18
Acacia shrublands	0.04	0.97	1.11	-0.42	0.41	0.52
Intercept	-4.47	0.00	1.33	-1.15	0.00	0.22
Pyrodiversity	-0.49	0.30	0.47	0.02	0.93	0.20
Recent rainfall	-0.08	0.79	0.31	0.24	0.19	0.18
Acacia shrublands	0.84	0.50	1.26	-0.54	0.34	0.56
Intercept	-4.61	0.11	2.89	-1.18	0.00	0.21
Proportion recently burnt	0.00	1.00	0.63	0.33	0.05	0.17
Recent rainfall	-0.07	0.85	0.33	0.24	0.17	0.18
Acacia shrublands	0.26	0.83	1.22	-0.28	0.59	0.51
Intercept	-3.79	0.00	0.72	-1.26	0.00	0.22
Proportion long unburnt	0.97	0.01	0.35	-0.64	0.00	0.22
Recent rainfall	0.17	0.56	0.28	0.18	0.32	0.18
Acacia shrublands	-0.28	0.77	0.96	0.04	0.94	0.53