Ecography

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Ponchon, A., Choquet, R., Tornos, J., McCoy, K. D., Tveraa, T. and Boulinier, T. 2018. Survival estimates strongly depend on capture–recapture designs in a disturbed environment inducing dispersal. – Ecography doi: 10.1111/ecog.03334

Supplementary material

Appendix 1

Model selection for the analysis of the field-based CR data. The models applied on each of the three datasets were either a trap-dependent model (TD) or a multistate model with an unobservable state (unobs). *s* is the annual apparent survival probability, *T* is a transition probability, *p* is the detection probability, *i* is a constant, *t* is time-dependence and *a* is a trap-dependent effect. Selected models for each dataset are in italic and bold.

* indicates models with unidentifiable parameters.

Design	Model	Structure	Number of parameters	Deviance	QAIC	QAICc
Single-site	TD	s(t)p(a)	12	466.6827	490.6827	491.2311
		s(t)p(a+t)	19	461.1932	499.1932	500.5455
		s(i)p(a)	***4***	***491.8***	***499.8***	***499.869***
		s(i)p(a+t)	12	479.3545	503.3545	503.9028
		s(t)p(a.t)	25	456.1494	506.1494	508.4875
		s(i)p(a.t)	19	473.9778	511.9778	513.3301
		s(t)p(i)	11	496.1635	518.1635	518.6267
		s(i)p(i)	3	519.2024	525.2024	525.2439
		s(t)p(+t)	20	488.5696	528.5696	530.0669
	unobs	s(t)t(i)p(i)	12	468.4239	492.4239	493.4144
		s(t)t(t)p(i)	20	459.9818	499.9818	502.7179
		s(i)t(i)p(i)	***4***	***493.521***	***501.521***	***501.645***
		s(t)t(i)p(t)	19	464.3082	502.3082	504.7758
		*s(t)t(t)p(t)	26	457.0446	509.0446	513.709
		s(i)t(t)p(t)	20	470.5018	510.5018	513.238
		s(i)p(i)p(t)	12	488.4553	512.4553	513.4458
		s(i)t(t)p(i)	12	536.5693	560.5693	561.5598
Multisite without buffer areas	TD	s(t)p(a)	12	4160.175	1509.777	1509.838
		s(i)p(a+t)	12	4171.909	1513.968	1514.029
		s(i)p(a)	***4***	***4217.13***	***1514.12***	***1514.12***
		*s(i)p(a.t)	20	4137.277	1517.599	1517.764
		s(t)p(a+t)	19	4144.884	1518.316	1518.465
		*s(t)p(a.t)	25	4121.479	1521.957	1522.212
		s(t)p(i)	11	4464.31	1616.397	1616.448
		s(i)p(i)	3	4511.037	1617.085	1617.09
	unobs	s(t)t(i)p(i)	12	4167.017	1512.22	1512.327
		s(i)t(t)p(i)	12	4179.69	1516.747	1516.853

		s(i)t(i)p(i)	***4***	***4224.68***	***1516.81***	***1516.83***
		s(t)t(t)p(i)	20	4141.377	1519.063	1519.352
		s(i)t(t)p(t)	20	4153.814	1523.505	1523.793
		s(i)t(i)p(t)	12	4204.529	1525.618	1525.724
		s(t)t(t)p(t)	27	4125.799	1527.5	1528.02
		*s(t)t(i)p(t)	19	4450.032	1627.297	1627.558
Multisite with buffer areas	TD	***s(i)p(a+t)***	***12***	***4356.15***	***2022.23***	***2022.29***
		*s(t)p(a+t)	19	4333.46	2025.826	2025.96
		s(t)p(a)	12	4368.059	2027.697	2027.752
		s(i)p(a.t)	19	4340.104	2028.874	2029.007
		s(t)p(a.t)	25	4319.327	2031.343	2031.572
		s(i)p(a)	4	4414.834	2033.153	2033.16
		s(t)p(i)	11	4567.372	2117.125	2117.171
		s(i)p(i)	3	4609.601	2120.496	2120.5
	unobs	s(t)t(i)p(i)	12	4392.446	2038.883	2038.981
		s(t)t(t)p(i)	20	4362.642	2041.212	2041.474
		*s(t)t(t)p(t)	27	4338.133	2043.969	2044.442
		s(i)t(i)p(i)	***4***	***4438.7***	***2044.1***	***2044.11***
		s(i)t(t)p(t)	20	4369.026	2044.14	2044.403
		s(i)t(i)p(t)	12	4408.47	2046.234	2046.331
		*s(t)t(i)p(t)	19	4536.729	2119.068	2119.306
		s(i)t(t)p(i)	12	4790.836	2221.631	2221.728