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Appendix A

Summary of model selection statistics for linear models investigating the timing of dispersal for lions in Hwange National Park. Our explanatory variables consisted of (1) ‘new_males’ – a class variable for incoming male present or absent at the time of each dispersal event; (2) ‘N.S’ – the number of sub-adults over 18 months in the natal pride at the time of each dispersal event; (3) ‘sex’ – sex of dispersers; (4) ‘P.B.’ – pride biomass; (5) ‘ASWCB’ – the age of individual sub-adults when new cubs were born. Models were ranked according to Akaike weights (w_i) based on the Akaike information criterion for small sample size (AICc). Models in bold indicate the two top models which were averaged correcting for model weights. In all models group identity was entered as a blocking factor. Included are the log likelihood, the AICc differences (Δ_i) and the number of parameters (K)

Response variable	Rank	Model	log likelihood	AICc	Δ_i	w_i	K
Age at dispersal (months)	1	new males + sex + P.B.	-197.97	409.37	0.00	0.40	6
	2	new males + sex	-199.89	410.78	1.41	0.20	5
	3	new males + sex + ASWCB	-199.09	411.60	2.23	0.13	6
	4	new males * sex	-199.89	413.20	3.82	0.06	6
	5	new males + N.S. + sex	-199.89	413.21	3.84	0.06	6
	6	sex + ASWCB	-201.26	413.51	4.14	0.05	5
	7	new males + N.S. + sex + ASWCB	-199.06	414.05	4.68	0.04	7
	8	N.S. + sex + ASWCB	-200.71	414.83	5.46	0.03	6
	9	sex + P.B. + ASWCB	-201.12	415.66	6.29	0.02	6
	10	sex	-203.96	416.57	7.20	0.01	4
	11	P.B. + sex	-203.37	417.73	8.36	0.01	5
	12	N.S. + sex	-203.48	417.95	8.58	0.01	5
	13	new males	-206.08	420.82	11.44	0.00	4
	14	new males + P.B.	-205.19	421.37	12.00	0.00	5
	15	new males + N.S.	-205.59	422.18	12.81	0.00	5
	16	new males + ASWCB	-205.66	422.33	12.96	0.00	5
	17	new males + N.S. + ASWCB	-204.92	423.27	13.90	0.00	6
	18	new males + P.B. + ASWCB	-205.11	423.65	14.28	0.00	6

19	N.S. + ASWCB	-206.41	423.82	14.45	0.00	5
20	ASWCB	-208.59	425.84	16.46	0.00	4
21	N.S.	-208.76	426.18	16.81	0.00	4
22	P.B. + ASWCB	-208.58	428.17	18.79	0.00	5
23	P.B.	-210.66	429.98	20.61	0.00	4
24	NULL	-223.46	451.10	41.73	0.00	2
