

Table S1. Within- and among- winter repeatability of distance from the Isle of May at which colour-ringed adult shags, ringed as chicks on the Isle of May and known to have bred there as adults, were resighted during winters 2009-2010, 2010-2011 and 2011-2012.

Winter	Age/Sex	R_{all}	R_{chicks}	p	V_i	V_t	No. individuals	No. resightings	No. sites	Distance range (km)
2009-2010	2-3	0.59	0.59	0.001	11075	18915	9	27	5	380
	4-5	0.79	0.74	0.001	10245	13778	54	222	17	408
	6-7	0.89	0.92	0.001	18088	19737	27	106	10	518
	8-9	0.86	0.85	0.001	15553	18403	23	96	7	291
	10+	0.69	0.67	0.001	12371	18523	19	77	6	291
2010-2011	2-3	0.69	0.81	0.001	14676	18093	43	167	11	376
	4-5	0.79	0.75	0.001	9968	13279	19	87	10	310
	6-7	0.81	0.88	0.001	12656	14375	3	9	4	291
	8-9	0.46	0.44	0.001	5268	11877	47	143	10	464
	10+	0.73	0.73	0.001	6979	9584	67	234	12	416
2011-2012	2-3	0.81	0.80	0.001	13295	16524	80	304	18	410
	4-5	0.79	0.68	0.001	9441	13888	42	189	16	427
	6-7	1.00	0.88	0.001	12656	14375	3	21	1	410
	8-9	0.89	0.89	0.001	14183	15906	38	211	15	434
	10+	0.86	0.85	0.001	11605	13666	73	284	11	408
Among winters	2-3	0.39	0.45	0.001	6719	14852	54	110	15	395
	4-5	0.56	0.47	0.001	6809	14528	22	45	10	330
	6-7	0.76	0.80	0.001	11252	14042	63	147	19	427
	8-9	0.53	0.53	0.001	6657	12562	69	152	16	464
	10+	0.41	0.40	0.001	6533	16432	82	192	12	464

Repeatabilities were estimated across the whole of each winter period (1st September- 31st March) for each year for individuals ringed as chicks and therefore of exact known age (R_{chicks}). V_i and V_t are the within-individual and total variances of resighting distance from the Isle of May respectively, and p values are the probability of the estimated R_{chick} values occurring by chance. The numbers of individuals, resightings and sites are the totals included in each analysis, with “sites” defined for descriptive purposes as the number of known roosts separated by ≥ 1 km. Distance range is the maximum coastline distance covered. Ages are years since hatching at the beginning of the winter of individuals included in the analysis. Repeatabilities calculated across all resighted individuals including those ringed as adults and hence of estimated age are also shown for comparative purposes (R_{all} , see also Table 4).