

Supplementary material

1 Appendix 1. Individual values of movement parameters during the pre-breeding period in nine
 2 adult female snowy owls marked with satellite transmitters on Bylot Island, NU, Canada in 2007
 3 and tracked for up to 3 years.

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5 Table A1. Duration and total distance traveled during directional (D) and prospecting (P) pre-
 6 breeding movements of nine adult female snowy owls marked with satellite transmitters on Bylot
 7 Island, NU, Canada in 2007 and tracked for up to 3 years.

ID	Duration (days)						Total distance traveled (km)					
	2008		2009		2010		2008		2009		2010	
	D	P	D	P	D	P	D	P	D	P	D	P
F1	8	25	- ^a	4	32	0	160	506	681	32	903	0
F2	5	10	- ^b	- ^b	- ^b	- ^b	397	1838	- ^b	- ^b	- ^b	- ^b
F3	6	15	- ^a	35	9	14	369	752	1010	402	291	128
F4	3	46	5	64	2	37	83	1007	78	1414	46	903
F5	2	36	3	108	10	24	370	1015	101	4093	426	465
F6	3	5	9	41	5	48	160	299	703	810	147	1013
F7	3	50	- ^b	- ^b	- ^b	- ^b	639	1361	- ^b	- ^b	- ^b	- ^b
F8	8	35	29	69	29	19	1473	2476	1038	1850	1837	197
F9	44	44	16	49	16	43	1666	3854	2028	3315	1995	1043

8 ^aBird did not settle (was not recorded in searching state) during winter

9 ^bTransmission stopped before the breeding season

10 Table A2. Linear distance between furthest apart searching areas during pre-breeding movements
 11 (number in parenthesis represent the number of searching areas detected) and breeding dispersal
 12 distance between consecutive years of nine adult female snowy owls marked with satellite
 13 transmitters on Bylot Island, NU, Canada in 2007 and tracked for up to 3 years.

ID	Linear distance between furthest apart search areas (km)			Breeding dispersal distance (km)		
	2008	2009	2010	2007-2008	2008-2009	2009-2010
F1	220 (3)	na ^a (1)	743 (2)	861	528	375
F2	1240 (4)	- ^b	- ^b	471	- ^b	- ^b
F3	980 (3)	na ^a (1)	360 (2)	262	18	1225
F4	335 (8)	1025 (6)	565 (3)	235	1272	1069
F5	562 (6)	1091 (9)	459 (4)	975	202	665
F6	363 (3)	530 (2)	228 (3)	985	87	909
F7	690 (4)	- ^b	- ^b	539	- ^b	- ^b
F8	995 (7)	1044 (6)	na ^a (1)	1041	175	993
F9	2224 (5)	2433 (2)	464 (2)	1228	332	2224

14 ^aOnly one search area was detected.

15 ^bTransmission stopped before the breeding season