

Diel shift of king penguin swim speeds in relation to light intensity changes

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Table S1 Comparison of AIC values between each pair of the models with and without day/night as a fixed effect.

bird ID	model 1		model 2		model 3		model 4	
	pool	day/night	pool	day/night	pool	day/night	pool	day/night
K1	-1213 >	-1409	6484 >	6424	8041 >	8038	2556 <	2630
K2	-149.92 >	-541	5389 >	4918	6432 >	6264		
K3	-1024 >	-1453	6225 >	5504	6809 >	6685	3286 <	3293
K4	-479 >	-1031	8382 >	7413	8674 <	8740	5159 <	5183
K5	-1127 >	-1757	9743 >	8836	10724 >	10432	1905 >	1862
K6	-2275 >	-4844	17941 >	16223	21503 >	20988	12136 <	12924
K8	-798 >	-944	3717 >	3477	4313 >	4257		
K9	-109 >	-3677	21847 >	15664	21211 >	19423	11675 <	11762

Table S2 Estimates obtained by mixed model analyses.

bird ID	model 1		model 2		model 3			model 4		
	b	day	b	day	a	b	day	a	b	day
K1	1.4	0.3	-0.45	0.21	26.0	0.59	0.04	0.92	1.01	
K2	1.3	0.4	-0.59	0.23	33.1	0.53	-0.14			
K3	1.4	0.2	-0.44	0.28	26.4	0.64	-0.10	0.94	1.01	
K4	1.4	0.3	-0.51	0.24	28.3	0.60		0.96	1.00	
K5	1.5	0.2	-0.28	0.22	34.8	0.63	-0.13	0.92	1.01	0.00
K6	1.5	0.3	-0.38	0.19	24.5	0.62	-0.08	0.96	1.00	
K8	1.6	0.1	-0.32	0.14	25.6	0.62	-0.14			
K9	1.4	0.5	-0.53	0.43	23.3	0.71	-0.19	0.94	1.01	

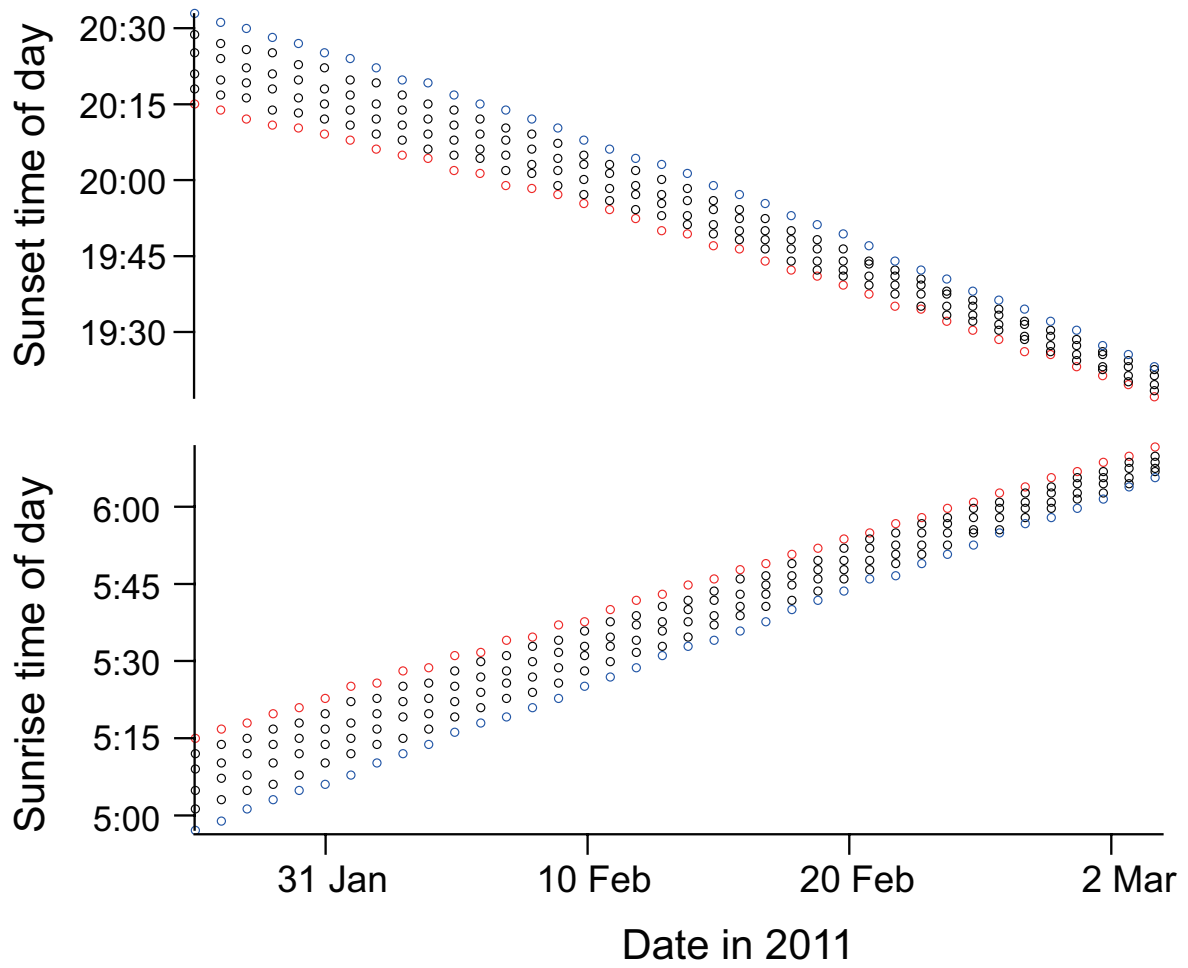


Fig. S1 Ranges of sunrise and sunset times of day at the breeding island (red markers) and 5° to the south (blue markers) during the deployment period (26 January – 4 March in 2011). Black markers indicate those times at each 1° to the south of the island.