

Relationship between long-term environmental fluctuations and diving effort of female Australian fur seals

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Supplement

Table S1. Summary environmental variables and foraging effort used to assess the influence of inter-annual and intra-trip environmental fluctuations on the foraging effort of female Australian fur seals *Arctocephalus pusillus doriferus* from Kanowna Island, Australia. ‘Trip duration’ and ‘Proportion of time diving’ are means \pm SD. ID: Individual seal identifier, n trips: number of foraging trips in record, SST_{win}: Mean sea-surface temperature within Bass Strait during winter, Chl-*a*_{win}: Mean chlorophyll *a* concentration within Bass Strait during winter, windU_{win}: Mean zonal wind within Bass Strait during winter, SST_{sum}: Mean sea-surface temperature within Bass Strait during summer, Chl-*a*_{sum}: Mean chlorophyll *a* concentration within Bass Strait during summer, windU_{sum}: Mean zonal wind within Bass Strait during summer, SST_{spr1}: Mean sea-surface temperature within Bass Strait during previous spring, Chl-*a*_{spr1}: Mean chlorophyll *a* concentration within Bass Strait during previous spring, windU_{spr1}: Mean zonal wind within Bass Strait during previous spring, SST_{spr2}: Mean sea-surface temperature within Bass Strait during spring with 2 year lag, Chl-*a*_{spr2}: Mean chlorophyll *a* concentration within Bass Strait spring with 2 year lag, windU_{spr2}: Mean zonal wind within Bass Strait during spring with 2 year lag, SOI: Southern oscillation index, Chl-*a*_i: Bonney upwelling index

ID	Year	Month deployed	n trips	trip duration (h)	proportion of time diving	SST _{win}	Chl- <i>a</i> _{win}	windU _{win}	SST _{sum}	Chl- <i>a</i> _{sum}	windU _{sum}	SST _{spr1}	Chl- <i>a</i> _{spr1}	windU _{spr1}	SST _{spr2}	Chl- <i>a</i> _i
1	2002	Jun	14	79.08 \pm 51.92	0.4 \pm 0.09	13.61	0.5	6.29	16.65	0.3	1.68	13.72	0.48	2.63	13.79	0.0135
2	2002	Jun	9	124.32 \pm 57.06	0.47 \pm 0.06	13.61	0.5	6.29	16.65	0.3	1.68	13.72	0.48	2.63	13.79	0.0135
3	2003	Jun	41	19.8 \pm 8.53	0.47 \pm 0.07	13.77	0.58	4.65	17.14	0.34	1.71	13.3	0.46	4.95	13.72	0.0122
4	2003	Jun	38	34.48 \pm 24.19	0.51 \pm 0.08	13.77	0.58	4.65	17.14	0.34	1.71	13.3	0.46	4.95	13.72	0.0122
5	2003	Jun	9	141.56 \pm 33	0.4 \pm 0.05	13.77	0.58	4.65	17.14	0.34	1.71	13.3	0.46	4.95	13.72	0.0122
6	2003	Aug	2	67.47 \pm 6.27	0.38 \pm 0.08	13.77	0.58	4.65	17.14	0.34	1.71	13.3	0.46	4.95	13.72	0.0122

7	2003	Aug	2	54.88 ± 17.02	0.41 ± 0.02	13.77	0.58	4.65	17.14	0.34	1.71	13.3	0.46	4.95	13.72	0.0122
8	2003	Aug	4	26.1 ± 13.18	0.37 ± 0.06	13.77	0.58	4.65	17.14	0.34	1.71	13.3	0.46	4.95	13.72	0.0122
9	2004	Jul	1	114.51	0.31	13.16	0.52	5.24	16.92	0.34	2.5	13.05	0.55	4.01	13.3	0.0127
10	2004	Jul	5	47.62 ± 65.12	0.2 ± 0.16	13.16	0.52	5.24	16.92	0.34	2.5	13.05	0.55	4.01	13.3	0.0127
11	2004	Jul	5	59.2 ± 80.41	0.16 ± 0.18	13.16	0.52	5.24	16.92	0.34	2.5	13.05	0.55	4.01	13.3	0.0127
12	2005	Jun	9	30.5 ± 28.49	0.35 ± 0.13	13.9	0.45	4.2	16.97	0.29	1.76	13.58	0.44	3.72	13.05	0.0078
13	2005	Jun	21	29.58 ± 20.08	0.36 ± 0.14	13.9	0.45	4.2	16.97	0.29	1.76	13.58	0.44	3.72	13.05	0.0078
14	2005	Jun	16	55.63 ± 50.95	0.28 ± 0.1	13.9	0.45	4.2	16.97	0.29	1.76	13.58	0.44	3.72	13.05	0.0078
15	2005	Jun	11	67.74 ± 59.81	0.27 ± 0.18	13.9	0.45	4.2	16.97	0.29	1.76	13.58	0.44	3.72	13.05	0.0078
16	2005	Jun	29	55.97 ± 58.99	0.32 ± 0.14	13.9	0.45	4.2	16.97	0.29	1.76	13.58	0.44	3.72	13.05	0.0078
17	2006	Jun	1	84.98	0.24	13.03	0.51	3.15	17.28	0.34	2.7	14.09	0.51	1.59	13.58	0.0104
18	2006	Jun	8	99.37 ± 28.1	0.37 ± 0.05	13.03	0.51	3.15	17.28	0.34	2.7	14.09	0.51	1.59	13.58	0.0104
19	2006	Jun	1	95.25	0.4	13.03	0.51	3.15	17.28	0.34	2.7	14.09	0.51	1.59	13.58	0.0104
20	2006	Jun	5	158.37 ± 31.87	0.32 ± 0.04	13.03	0.51	3.15	17.28	0.34	2.7	14.09	0.51	1.59	13.58	0.0104
21	2006	Jun	1	45.66	0.37	13.03	0.51	3.15	17.28	0.34	2.7	14.09	0.51	1.59	13.58	0.0104
22	2007	Apr	26	27.39 ± 19.97	0.43 ± 0.13	13.56	0.55	2.71	16.77	0.35	-0.08	13.28	0.46	3.78	14.09	0.0125
23	2007	Apr	3	39.54 ± 23.69	0.32 ± 0.11	13.56	0.55	2.71	16.77	0.35	-0.08	13.28	0.46	3.78	14.09	0.0125
24	2007	Apr	8	106.04 ± 19.98	0.44 ± 0.06	13.56	0.55	2.71	16.77	0.35	-0.08	13.28	0.46	3.78	14.09	0.0125
25	2007	Apr	17	46.59 ± 45.59	0.41 ± 0.12	13.56	0.55	2.71	16.77	0.35	-0.08	13.28	0.46	3.78	14.09	0.0125
26	2007	May	15	66.91 ± 32.67	0.4 ± 0.08	13.56	0.55	2.71	16.77	0.35	-0.08	13.28	0.46	3.78	14.09	0.0125
27	2007	Jul	1	89.04	0.43	13.56	0.55	2.71	16.77	0.35	-0.08	13.28	0.46	3.78	14.09	0.0125
28	2007	Jul	2	54.41 ± 51.83	0.59 ± 0.11	13.56	0.55	2.71	16.77	0.35	-0.08	13.28	0.46	3.78	14.09	0.0125
29	2008	May	2	80.65 ± 34.97	0.45 ± 0.07	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102
30	2008	May	4	27.61 ± 32.58	0.39 ± 0.09	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102
31	2008	May	12	30.06 ± 37.95	0.47 ± 0.13	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102
32	2008	May	1	59.76	0.4	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102
33	2008	May	1	91.2	0.33	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102
34	2008	May	3	44.24 ± 27.73	0.46 ± 0.04	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102
35	2008	May	3	94.26 ± 81.69	0.27 ± 0.22	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102
36	2008	Jun	19	32.86 ± 28.08	0.47 ± 0.09	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102
37	2008	Jun	9	84.49 ± 42.24	0.47 ± 0.06	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102
38	2008	Jul	5	13.13 ± 1.79	0.7 ± 0.06	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102
39	2008	Jul	3	34.04 ± 56.07	0.17 ± 0.14	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102

40	2008	Jul	1	98.37	0.37	13.77	0.52	3.66	17.98	0.41	0.42	13.63	0.48	2.51	13.28	0.0102
41	2009	May	5	26.28 ± 22.7	0.38 ± 0.2	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
42	2009	May	3	70.93 ± 71.29	0.42 ± 0.09	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
43	2009	May	4	31.54 ± 28.4	0.48 ± 0.14	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
44	2009	May	7	39.61 ± 25.2	0.43 ± 0.05	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
45	2009	May	6	117.49 ± 91.78	0.35 ± 0.08	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
46	2009	May	7	98.71 ± 57.39	0.35 ± 0.16	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
47	2009	May	1	82.45	0.32	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
48	2009	Jun	1	89.75	0.47	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
49	2009	Jun	2	42.33 ± 48.2	0.19 ± 0.23	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
50	2009	Jun	1	180.17	0.33	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
51	2009	Jun	2	51.55 ± 71.7	0.2 ± 0.22	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
52	2009	Jun	2	65.93 ± 92.91	0.23 ± 0.25	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
53	2009	Jun	1	230.02	0.36	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
54	2009	Jun	17	26.72 ± 19.75	0.43 ± 0.1	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
55	2009	Jun	6	30.43 ± 22.98	0.49 ± 0.14	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
56	2009	Jun	6	26.31 ± 43.89	0.32 ± 0.22	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
57	2009	Jun	5	90.38 ± 71.61	0.36 ± 0.22	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
58	2009	Jul	24	101.77 ± 92.98	0.41 ± 0.19	13.78	0.54	4.03	16.64	0.32	1.71	13.32	0.5	3.45	13.63	0.0030
		Mean	8.05	64.9	0.41	13.54	0.53	3.87	17.03	0.34	1.37	13.43	0.49	3.26	13.37	0.01
		SD	9.10	58.3	0.13	0.36	0.03	1.06	0.48	0.03	1.04	0.35	0.04	1.12	0.44	0.003