

Appendix S1. Data used for correlation analysis between eddy kinetic energy (EKE) of the basin-study area, percentage of occurrence (% Oc.) of oceanic prey species, and fledging success of black-legged kittiwakes breeding at St. Paul (STP) and St. George (STG) islands.

Year	Island	EKE ^a	# Diet ^b samples	% Oc. Squid	% Oc. Amphipod	% Oc. Euphasiid	% Oc. ^c Myctophid	# Nests ^d	Fledging Success
1993	STG	59.0	11	9.1	0.0	0.0	27.3	33	0.61
1994	STG	38.7	5	20.0	20.0	00.0	80.0	14	0.29
1995	STG	132.0	0	NS	NS	NS	NS	0	0.0
1996	STG	73.8	0	NS	NS	NS	NS	7	0.43
1997	STG	47.6	9	22.2	0.0	11.1	55.6	73	0.76
1998	STG	53.3	39	23.1	5.1	33.3	33.3	46	0.72
1999	STG	44.0	13	0.0	7.7	15.4	7.7	3	0.00
2000	STG	67.8	9	0.0	0.0	22.2	77.8	77	0.82
2001	STG	42.0	7	0.0	0.0	0.0	0.0	17	0.35
2002	STG	39.3	0	ND	ND	ND	ND	88	0.88
2003	STG	200.3	0	ND	ND	ND	ND	52	0.81
2004	STG	91.7	0	ND	ND	ND	ND	57	0.54
2005	STG	76.9	0	ND	ND	ND	ND	11	0.55
2006	STG	38.9	0	ND	ND	ND	ND	91	0.60
2007	STG	46.2	0	ND	ND	ND	ND	7	0.14
2008	STG	47.3	41	2.4	22	17.1	73.2	104	0.26
2009	STG	73.7	26	7.7	23.1	30.8	76.9	14	0.5
2010	STG	93.6	51	15.7	41.2	49.0	52.9	115	0.36
1993	STP	59.0	8	0.0	0.0	0.0	50.0	ND	ND
1994	STP	38.7	0	ND	ND	ND	ND	ND	ND
1995	STP	132.0	0	ND	ND	ND	ND	ND	ND
1996	STP	73.8	0	NS	NS	NS	NS	119	0.56
1997	STP	47.6	30	6.7	0.0	0.0	53.3	135	0.65
1998	STP	53.3	30	6.7	0.0	6.7	16.7	200	0.67
1999	STP	44.0	0	ND	ND	ND	ND	41	0.29
2000	STP	67.8	5	0.0	0.0	0.0	60	217	0.82
2001	STP	42.0	0	NS	NS	NS	NS	105	0.60
2002	STP	39.3	0	NS	NS	NS	NS	260	0.87
2003	STP	200.3	22	0.0	0.0	0.0	0.0	216	0.77
2004	STP	91.7	0.0	NS	NS	NS	NS	292	0.63
2005	STP	76.9	0.0	NS	NS	NS	NS	59	0.41
2006	STP	38.9	9	0	0	0	33.3	147	0.54
2007	STP	46.2	0	NS	NS	NS	NS	3	0.00
2008	STP	47.3	32	6.3	15.6	9.4	25	229	0.39
2009	STP	73.7	29	0	10.3	3.4	3.4	29	0.34

2010	STP	93.6	35	0	20	20	71.4	225	0.54
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ND = no data suitable for analysis (e.g. diet samples collected during incubation)

NS= no samples were collected in that year.

^a EKE was calculated in July each year within a polygon constructed based on all tracking data collected between 2008 and 2010.

^a These samples were collected during the chick-rearing period.

^c Only years with samples containing >4 % occurrence of myctophids were used for relationships with EKE. We assumed diets without myctophids indicated no use of basin habitats given that this prey is only obtained in the basin (Paredes et al. 2012, Fig. 7).

^d Number of nests with chicks.