

California Current seascape influences juvenile salmon foraging ecology at multiple scales

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Table S1. List of forage taxa scaled abundances from mid-water trawl surveys, which were summed to create the annual FORAGE covariate.

Year	YOY Pacific sanddab	YOY speckled sanddab	YOY sculpin	YOY anchovy	YOY smelt	YOY sardine	YOY rockfish	Krill	Market squid	YOY other flatfish
2000	-0.53	-0.67	-0.80	-0.26	-0.47	-0.26	-0.36	-0.23	-0.47	0.02
2001	-0.37	0.05	-0.85	-0.25	-0.47	-0.26	-0.25	0.73	0.65	-0.34
2002	-0.16	0.40	0.39	-0.26	-0.47	-0.26	-0.29	-1.41	-0.07	-0.21
2003	-0.52	-0.70	-0.84	-0.26	2.29	-0.26	-0.45	-0.73	-0.65	-0.44
2004	-0.49	-0.66	-0.69	-0.26	0.50	-0.26	-0.36	-1.24	-0.56	-0.18
2006	-0.61	-0.73	-1.31	-0.26	-0.12	-0.26	-0.49	-0.98	-0.74	-0.48
2007	-0.60	-0.70	-0.47	-0.26	-0.44	-0.26	-0.48	0.16	-0.71	-0.45
2008	-0.61	-0.64	-0.03	-0.26	-0.47	-0.26	-0.47	1.79	-0.68	-0.41
2009	-0.60	-0.63	0.32	-0.26	-0.47	-0.22	-0.41	0.03	-0.66	-0.39
2010	-0.51	-0.06	-0.13	-0.25	-0.47	-0.25	-0.43	-0.37	-0.61	-0.07
2011	-0.32	0.03	1.18	-0.26	2.47	-0.26	-0.28	-0.41	-0.56	0.86
2012	-0.17	-0.42	-0.63	-0.26	-0.47	-0.26	-0.46	0.65	1.02	-0.48
2013	1.37	0.62	2.29	-0.26	-0.47	-0.26	2.46	1.31	0.35	-0.42
2014	1.38	1.14	0.09	-0.26	-0.47	-0.26	-0.16	1.46	2.84	-0.40
2015	2.73	2.96	1.48	3.61	-0.47	3.61	2.45	-0.75	0.86	3.40

Table S2. Correlation matrix of annual model covariates.

Variable	STDATE	PDO	MEI	PCUI	NPGO	FORAGE
STDATE	1					
PDO	0.14	1				
MEI	0.34	0.60	1			
PCUI	-0.54	-0.52	-0.40	1		
NPGO	0.34	-0.72*	-0.30	-0.06	1	
FORAGE	-0.39	0.47	0.09	0.36	-0.83*	1

* indicates correlation greater than |0.7|

Table S3. Summary of annual patterns of event-scale variables, which includes the entire dataset (n = 1588).

Year	Fullness index	DEP km	TURB [m/s] ³	UP m ³ /s/100 km coastline	SST °C	THERM m	CHL mg m ⁻³
2000	0.10	45.57	39123	2616.92	13.51	9.97	7.57
2001	-0.07	40.01	94206	1983.19	13.27	16.19	14.82
2002	-0.10	25.03	116921	2129.66	12.34	11.96	2.68
2003	0.20	46.24	820472	1575.05	10.97	26.05	4.00
2004	-0.21	62.82	314278	1689.27	13.32	13.16	5.84
2010	-0.07	74.16	32768	2166.94	12.11	2.72	3.82
2011	0.39	72.30	368444	1991.08	12.62	6.37	4.96
2012	-0.15	127.06	297760	2069.42	10.38	17.36	3.38
2013	-0.05	57.31	43970	2447.65	11.13	10.18	0.74
2014	0.13	56.05	62076	2142.98	12.08	6.49	2.53
2015	0.05	53.28	43394	1865.00	11.53	3.27	5.61

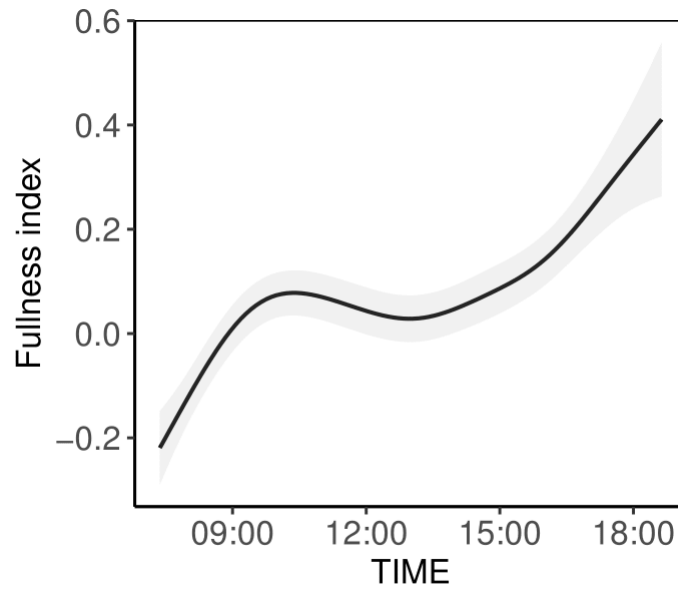


Figure S1: Juvenile salmon fullness index across the range of sampling times (TIME). Model prediction from a mixed-effects GAM with the response variable fullness index, predictor variable TIME, and individual tow as a random effect. The solid black line represents the mean and gray areas represent standard error. This relationship is included in the full models as an offset.

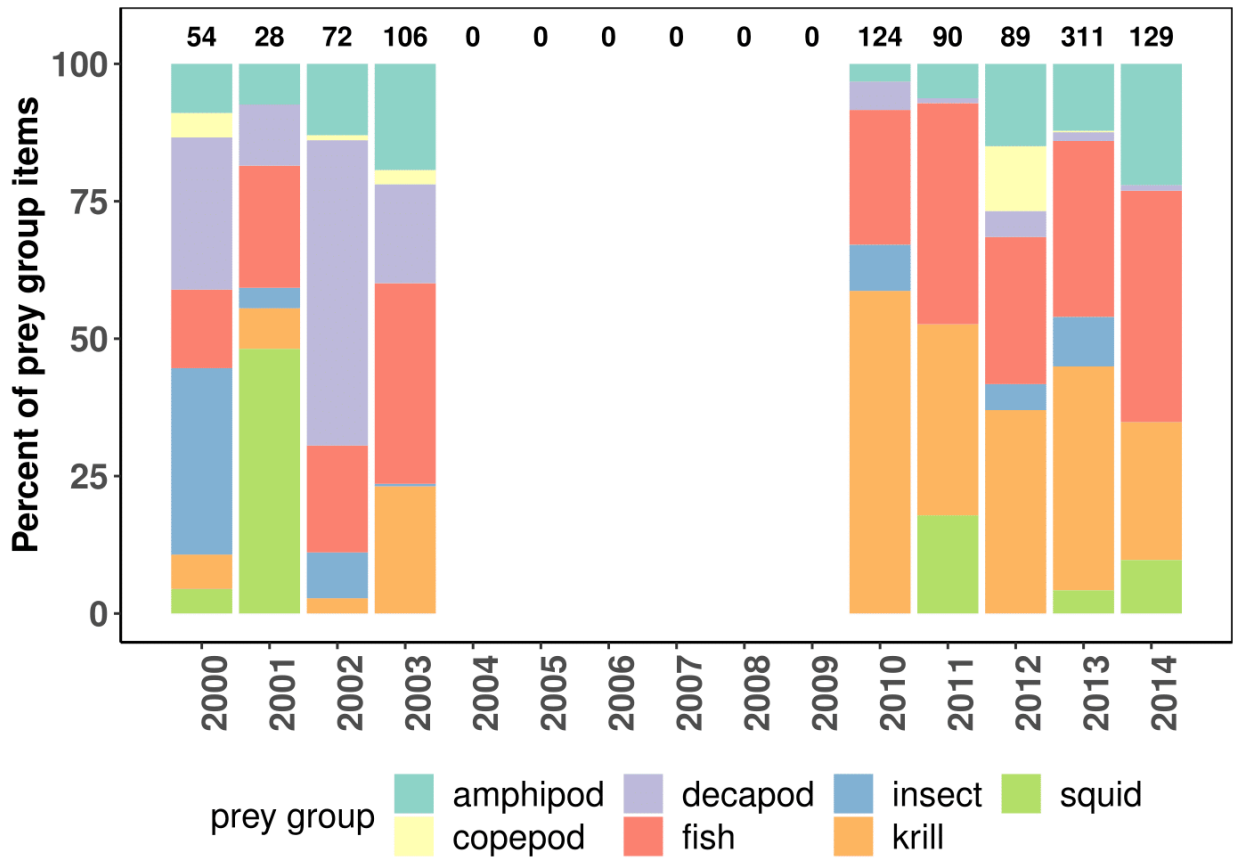


Figure S2: Summary of salmon diet composition (percent occurrence of different prey groups out of all prey group items sampled) across years. Sample sizes for each year are noted above each bar.

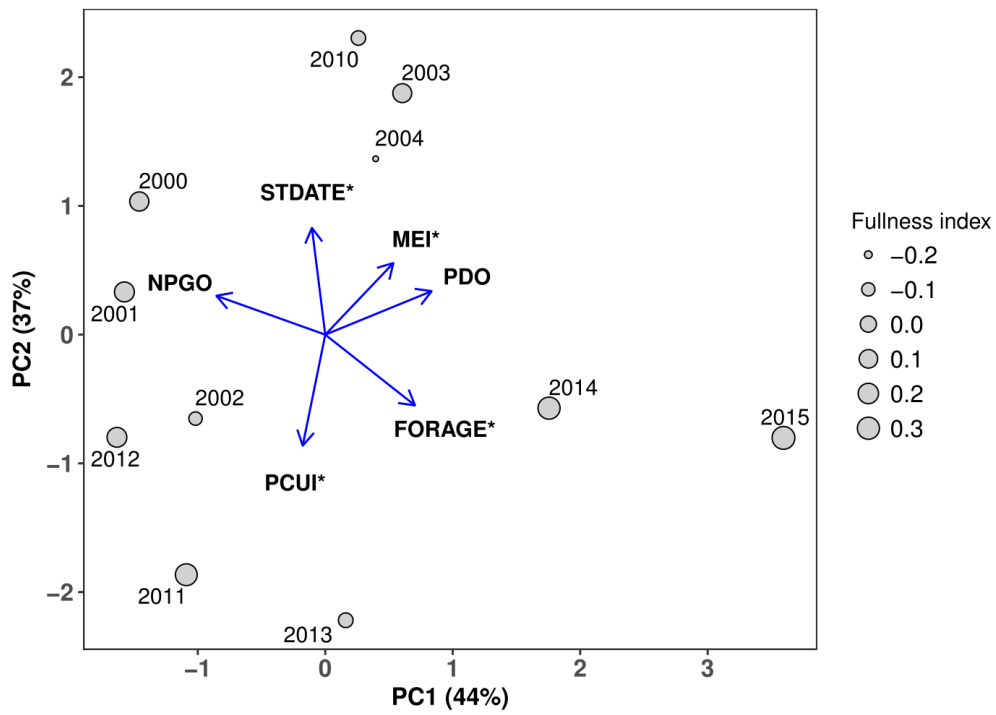


Figure S3: Principal components analysis of sampling years by annual seascape covariates. Points are scaled by mean fullness indices. Asterisks note variables included in the final model.