

Supplementary Information

Accounting for linefish dependency in management of the South African small pelagic fishery

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Supplementary Table S1a: Results of the Granger causality tests for pairwise comparisons showing the *F*-statistic and *p*-value for lags of 1–5 years of the effects of species-specific small pelagic biomass (total, WoCA or EoCA, for anchovy *Engraulis encrasicolus*, sardine *Sardinops sagax* and round herring *Etrumeus whiteheadi*) on species-specific linefish CPUE (W or SW for snoek *Thyrsites atun* and yellowtail *Seriola lalandi*; SW or SE for geelbek *Atractoscion aequidens*; SW, S or SE for silver kob *Argyrosomus inodorus*). Regions, from west to east: W = Hondeklip Bay–Cape Point; SW = Cape Point–Cape Infanta; WoCA = west of Cape Agulhas; EoCA = east of Cape Agulhas; S = Cape Infanta–Tsitsikamma; SE = Tsitsikamma–Port Alfred

Small pelagic species	Small pelagic region	Linefish species	Linefish region	Lag	<i>F</i> -statistic	<i>p</i> -value
Anchovy	Total	Geelbek	SW	1	0.370	0.548
		Geelbek	SW	2	3.751	0.039
		Geelbek	SW	3	3.576	0.032
		Geelbek	SW	4	2.641	0.070
		Geelbek	SW	5	2.027	0.137
		Silver kob	SW	1	8.345	0.008
		Silver kob	SW	2	5.350	0.012
		Silver kob	SW	3	5.973	0.004
		Silver kob	SW	4	4.742	0.009
		Silver kob	SW	5	3.695	0.024
		Yellowtail	SW	1	0.011	0.919
		Yellowtail	SW	2	0.047	0.955
		Yellowtail	SW	3	0.153	0.927
		Yellowtail	SW	4	0.569	0.689
		Yellowtail	SW	5	0.540	0.743
		Snoek	SW	1	2.097	0.160
		Snoek	SW	2	1.029	0.373
		Snoek	SW	3	0.620	0.610
		Snoek	SW	4	0.849	0.514
		Snoek	SW	5	0.747	0.602
Anchovy	WoCA	Geelbek	SE	1	0.025	0.877
		Geelbek	SE	2	5.644	0.010
		Geelbek	SE	3	2.545	0.085
		Geelbek	SE	4	1.947	0.149
		Geelbek	SE	5	1.896	0.159
		Geelbek	SW	1	2.579	0.120

		Geelbek	SW	2	2.567	0.099
		Geelbek	SW	3	3.775	0.027
		Geelbek	SW	4	2.217	0.110
		Geelbek	SW	5	1.863	0.165
		Silver kob	S	1	1.422	0.244
		Silver kob	S	2	0.902	0.420
		Silver kob	S	3	2.623	0.079
		Silver kob	S	4	1.775	0.180
		Silver kob	S	5	1.178	0.368
		Silver kob	SE	1	1.103	0.303
		Silver kob	SE	2	2.424	0.111
		Silver kob	SE	3	1.907	0.161
		Silver kob	SE	4	1.270	0.320
		Silver kob	SE	5	1.021	0.442
		Silver kob	SW	1	5.211	0.031
		Silver kob	SW	2	3.069	0.066
		Silver kob	SW	3	4.569	0.014
		Silver kob	SW	4	3.300	0.036
		Silver kob	SW	5	2.566	0.075
		Yellowtail	SW	1	0.235	0.632
		Yellowtail	SW	2	0.486	0.621
		Yellowtail	SW	3	0.377	0.771
		Yellowtail	SW	4	0.691	0.609
		Yellowtail	SW	5	0.498	0.773
		Yellowtail	W	1	1.334	0.259
		Yellowtail	W	2	2.072	0.149
		Yellowtail	W	3	3.344	0.040
		Yellowtail	W	4	2.529	0.079
		Yellowtail	W	5	1.610	0.221
		Snoek	SW	1	1.803	0.191
		Snoek	SW	2	1.083	0.355
		Snoek	SW	3	0.867	0.474
		Snoek	SW	4	1.414	0.272
		Snoek	SW	5	1.863	0.165
		Snoek	W	1	0.011	0.916
		Snoek	W	2	0.003	0.997
		Snoek	W	3	0.154	0.926
		Snoek	W	4	0.271	0.893
		Snoek	W	5	0.280	0.917
Anchovy	EoCA	Geelbek	SE	1	9.079	0.006
		Geelbek	SE	2	4.041	0.031
		Geelbek	SE	3	2.855	0.063
		Geelbek	SE	4	2.478	0.083
		Geelbek	SE	5	1.798	0.178

		Geelbek	SW	1	0.046	0.833
		Geelbek	SW	2	4.768	0.019
		Geelbek	SW	3	4.448	0.015
		Geelbek	SW	4	3.567	0.027
		Geelbek	SW	5	2.497	0.081
		Silver kob	S	1	0.336	0.567
		Silver kob	S	2	0.252	0.779
		Silver kob	S	3	0.360	0.782
		Silver kob	S	4	0.636	0.644
		Silver kob	S	5	0.511	0.763
		Silver kob	SE	1	5.434	0.028
		Silver kob	SE	2	4.689	0.020
		Silver kob	SE	3	2.900	0.060
		Silver kob	SE	4	2.014	0.138
		Silver kob	SE	5	1.486	0.256
		Silver kob	SW	1	4.823	0.037
		Silver kob	SW	2	5.252	0.013
		Silver kob	SW	3	4.613	0.013
		Silver kob	SW	4	4.402	0.013
		Silver kob	SW	5	3.593	0.027
		Yellowtail	SW	1	0.033	0.857
		Yellowtail	SW	2	0.252	0.779
		Yellowtail	SW	3	0.175	0.912
		Yellowtail	SW	4	1.203	0.346
		Yellowtail	SW	5	1.099	0.404
		Yellowtail	W	1	10.709	0.003
		Yellowtail	W	2	9.953	0.001
		Yellowtail	W	3	6.438	0.003
		Yellowtail	W	4	6.211	0.003
		Yellowtail	W	5	4.872	0.009
		Snoek	SW	1	1.090	0.306
		Snoek	SW	2	0.543	0.588
		Snoek	SW	3	0.283	0.837
		Snoek	SW	4	0.221	0.923
		Snoek	SW	5	0.468	0.794
		Snoek	W	1	0.825	0.372
		Snoek	W	2	0.758	0.480
		Snoek	W	3	1.917	0.159
		Snoek	W	4	0.698	0.604
		Snoek	W	5	0.365	0.864
Sardine	Total	Geelbek	SW	1	20.089	0.000
		Geelbek	SW	2	7.941	0.002
		Geelbek	SW	3	4.925	0.010

		Geelbek	SW	4	3.506	0.029
		Geelbek	SW	5	4.094	0.017
		Silver kob	SW	1	1.520	0.229
		Silver kob	SW	2	1.704	0.204
		Silver kob	SW	3	3.336	0.040
		Silver kob	SW	4	2.135	0.121
		Silver kob	SW	5	2.512	0.080
		Yellowtail	SW	1	0.000	0.988
		Yellowtail	SW	2	2.363	0.117
		Yellowtail	SW	3	1.405	0.271
		Yellowtail	SW	4	1.036	0.418
		Yellowtail	SW	5	1.907	0.157
		Snoek	SW	1	1.569	0.221
		Snoek	SW	2	1.334	0.283
		Snoek	SW	3	1.642	0.211
		Snoek	SW	4	1.084	0.395
		Snoek	SW	5	2.118	0.123
Sardine	WoCA	Geelbek	SE	1	0.017	0.897
		Geelbek	SE	2	0.479	0.625
		Geelbek	SE	3	0.289	0.833
		Geelbek	SE	4	0.275	0.890
		Geelbek	SE	5	0.409	0.834
		Geelbek	SW	1	0.480	0.494
		Geelbek	SW	2	0.901	0.420
		Geelbek	SW	3	0.881	0.467
		Geelbek	SW	4	0.692	0.608
		Geelbek	SW	5	1.060	0.423
		Silver kob	S	1	1.400	0.248
		Silver kob	S	2	0.592	0.561
		Silver kob	S	3	0.559	0.648
		Silver kob	S	4	0.958	0.455
		Silver kob	S	5	0.625	0.683
		Silver kob	SE	1	0.978	0.332
		Silver kob	SE	2	0.993	0.386
		Silver kob	SE	3	1.936	0.156
		Silver kob	SE	4	1.468	0.255
		Silver kob	SE	5	1.747	0.189
		Silver kob	SW	1	4.386	0.046
		Silver kob	SW	2	2.873	0.077
		Silver kob	SW	3	1.709	0.197
		Silver kob	SW	4	1.010	0.430
		Silver kob	SW	5	1.108	0.399
		Yellowtail	SW	1	0.107	0.746
		Yellowtail	SW	2	1.208	0.317

		Yellowtail	SW	3	1.009	0.409
		Yellowtail	SW	4	0.769	0.560
		Yellowtail	SW	5	0.639	0.674
		Yellowtail	W	1	0.004	0.952
		Yellowtail	W	2	1.704	0.204
		Yellowtail	W	3	0.494	0.690
		Yellowtail	W	4	0.259	0.900
		Yellowtail	W	5	1.117	0.395
		Snoek	SW	1	1.591	0.218
		Snoek	SW	2	0.817	0.454
		Snoek	SW	3	0.442	0.725
		Snoek	SW	4	0.330	0.854
		Snoek	SW	5	0.427	0.822
		Snoek	W	1	7.506	0.011
		Snoek	W	2	3.496	0.047
		Snoek	W	3	1.794	0.181
		Snoek	W	4	1.247	0.329
		Snoek	W	5	0.998	0.454
Sardine	EoCA	Geelbek	SE	1	0.042	0.839
		Geelbek	SE	2	1.189	0.322
		Geelbek	SE	3	0.629	0.605
		Geelbek	SE	4	0.445	0.775
		Geelbek	SE	5	1.259	0.335
		Geelbek	SW	1	20.348	0.000
		Geelbek	SW	2	8.988	0.001
		Geelbek	SW	3	7.151	0.002
		Geelbek	SW	4	4.246	0.015
		Geelbek	SW	5	3.193	0.039
		Silver kob	S	1	0.253	0.619
		Silver kob	S	2	0.334	0.720
		Silver kob	S	3	0.845	0.485
		Silver kob	S	4	0.576	0.684
		Silver kob	S	5	0.617	0.689
		Silver kob	SE	1	0.003	0.954
		Silver kob	SE	2	0.781	0.470
		Silver kob	SE	3	1.417	0.267
		Silver kob	SE	4	1.163	0.362
		Silver kob	SE	5	1.377	0.291
		Silver kob	SW	1	0.034	0.854
		Silver kob	SW	2	0.511	0.606
		Silver kob	SW	3	1.212	0.331
		Silver kob	SW	4	0.962	0.454
		Silver kob	SW	5	1.442	0.270
		Yellowtail	SW	1	0.032	0.860

		Yellowtail	SW	2	1.413	0.264
		Yellowtail	SW	3	2.206	0.119
		Yellowtail	SW	4	1.449	0.261
		Yellowtail	SW	5	2.872	0.055
		Yellowtail	W	1	0.707	0.408
		Yellowtail	W	2	0.190	0.828
		Yellowtail	W	3	0.083	0.968
		Yellowtail	W	4	1.109	0.384
		Yellowtail	W	5	1.296	0.320
		Snoek	SW	1	0.552	0.464
		Snoek	SW	2	0.552	0.583
		Snoek	SW	3	1.578	0.226
		Snoek	SW	4	1.064	0.404
		Snoek	SW	5	1.211	0.354
		Snoek	W	1	0.062	0.805
		Snoek	W	2	3.511	0.047
		Snoek	W	3	4.821	0.011
		Snoek	W	4	2.553	0.077
		Snoek	W	5	2.009	0.140
Redeye	Total	Geelbek	SW	1	0.410	0.527
		Geelbek	SW	2	0.851	0.440
		Geelbek	SW	3	0.960	0.431
		Geelbek	SW	4	0.902	0.485
		Geelbek	SW	5	1.135	0.387
		Silver kob	SW	1	0.680	0.417
		Silver kob	SW	2	1.907	0.171
		Silver kob	SW	3	0.968	0.427
		Silver kob	SW	4	1.215	0.341
		Silver kob	SW	5	1.189	0.363
		Yellowtail	SW	1	0.000	0.984
		Yellowtail	SW	2	0.045	0.956
		Yellowtail	SW	3	1.973	0.150
		Yellowtail	SW	4	1.582	0.224
		Yellowtail	SW	5	1.181	0.367
		Snoek	SW	1	0.073	0.789
		Snoek	SW	2	0.052	0.949
		Snoek	SW	3	0.620	0.610
		Snoek	SW	4	0.710	0.596
		Snoek	SW	5	0.554	0.733
Redeye	WoCA	Geelbek	SE	1	0.873	0.359
		Geelbek	SE	2	0.434	0.653
		Geelbek	SE	3	0.370	0.775
		Geelbek	SE	4	1.532	0.237
		Geelbek	SE	5	0.870	0.525

		Geelbek	SW	1	4.078	0.054
		Geelbek	SW	2	2.187	0.135
		Geelbek	SW	3	1.402	0.271
		Geelbek	SW	4	0.939	0.465
		Geelbek	SW	5	1.141	0.385
		Silver kob	S	1	0.005	0.945
		Silver kob	S	2	0.542	0.589
		Silver kob	S	3	1.160	0.349
		Silver kob	S	4	1.745	0.187
		Silver kob	S	5	0.973	0.467
		Silver kob	SE	1	0.646	0.429
		Silver kob	SE	2	1.178	0.326
		Silver kob	SE	3	0.606	0.619
		Silver kob	SE	4	0.395	0.809
		Silver kob	SE	5	0.289	0.911
		Silver kob	SW	1	0.111	0.742
		Silver kob	SW	2	0.049	0.952
		Silver kob	SW	3	0.049	0.985
		Silver kob	SW	4	0.997	0.436
		Silver kob	SW	5	0.866	0.528
		Yellowtail	SW	1	0.315	0.579
		Yellowtail	SW	2	1.237	0.309
		Yellowtail	SW	3	3.057	0.052
		Yellowtail	SW	4	2.053	0.132
		Yellowtail	SW	5	5.704	0.004
		Yellowtail	W	1	0.287	0.596
		Yellowtail	W	2	1.402	0.266
		Yellowtail	W	3	1.995	0.147
		Yellowtail	W	4	1.817	0.172
		Yellowtail	W	5	2.250	0.107
		Snoek	SW	1	0.787	0.383
		Snoek	SW	2	1.097	0.351
		Snoek	SW	3	3.397	0.038
		Snoek	SW	4	3.847	0.021
		Snoek	SW	5	2.954	0.050
		Snoek	W	1	0.547	0.466
		Snoek	W	2	1.113	0.346
		Snoek	W	3	1.028	0.401
		Snoek	W	4	0.950	0.459
		Snoek	W	5	1.179	0.368
Redeye	EoCA	Geelbek	SE	1	0.042	0.840
		Geelbek	SE	2	0.071	0.932
		Geelbek	SE	3	0.322	0.810
		Geelbek	SE	4	0.266	0.896

		Geelbek	SE	5	0.340	0.880
		Geelbek	SW	1	0.011	0.917
		Geelbek	SW	2	0.933	0.408
		Geelbek	SW	3	0.680	0.575
		Geelbek	SW	4	0.974	0.447
		Geelbek	SW	5	1.076	0.415
		Silver kob	S	1	2.405	0.133
		Silver kob	S	2	1.473	0.250
		Silver kob	S	3	1.090	0.376
		Silver kob	S	4	1.435	0.265
		Silver kob	S	5	1.004	0.451
		Silver kob	SE	1	0.133	0.718
		Silver kob	SE	2	0.066	0.936
		Silver kob	SE	3	1.442	0.260
		Silver kob	SE	4	1.508	0.244
		Silver kob	SE	5	1.455	0.266
		Silver kob	SW	1	1.075	0.309
		Silver kob	SW	2	2.526	0.102
		Silver kob	SW	3	1.319	0.296
		Silver kob	SW	4	0.841	0.518
		Silver kob	SW	5	1.053	0.426
		Yellowtail	SW	1	0.044	0.835
		Yellowtail	SW	2	0.376	0.691
		Yellowtail	SW	3	0.637	0.600
		Yellowtail	SW	4	0.663	0.626
		Yellowtail	SW	5	1.168	0.373
		Yellowtail	W	1	4.876	0.036
		Yellowtail	W	2	3.165	0.061
		Yellowtail	W	3	1.278	0.309
		Yellowtail	W	4	0.996	0.436
		Yellowtail	W	5	0.887	0.516
		Snoek	SW	1	0.421	0.522
		Snoek	SW	2	0.175	0.840
		Snoek	SW	3	0.196	0.898
		Snoek	SW	4	0.207	0.931
		Snoek	SW	5	0.234	0.941
		Snoek	W	1	0.955	0.338
		Snoek	W	2	0.628	0.543
		Snoek	W	3	0.529	0.668
		Snoek	W	4	0.378	0.821
		Snoek	W	5	0.213	0.951

Supplementary Table S1b: Results of the Granger causality tests for pairwise comparisons showing the F -statistic and p -value for lags of 1 to 5 years of the effects of species-specific linefish catch-per-unit-effort (CPUE, W or SW for snoek *Thyrsites atun* and yellowtail *Seriola lalandi*; SW or SE for geelbek *Atractoscion aequidens*; SW, S or SE for silver kob *Argyrosomus inodorus*) on species-specific small pelagic biomass (total, WoCA or EoCA) for anchovy *Engraulis encrasicolus*, sardine *Sardinops sagax* and west coast redeye round herring *Etrumeus whiteheadi*. Regions, from west to east: W = Hondeklip Bay–Cape Point; SW = Cape Point–Cape Infanta; WoCA = west of Cape Agulhas; EoCA = east of Cape Agulhas; S = Cape Infanta–Tsitsikamma; SE = Tsitsikamma–Port Alfred

Linefish species	Linefish region	Small pelagic species	Small pelagic region	Lag	F -statistic	p -value
Geelbek	SE	Anchovy	WoCA	1	11.128	0.003
			WoCA	2	3.898	0.035
			WoCA	3	2.274	0.111
			WoCA	4	1.377	0.284
			WoCA	5	1.868	0.164
	EoCA	1	1.221	0.279		
		2	0.694	0.510		
		3	0.742	0.540		
		4	0.678	0.616		
		5	0.875	0.523		
		SW	WoCA	1	1.140	0.295
				2	0.340	0.715
				3	0.475	0.703
				4	0.147	0.962
				5	0.109	0.988
EoCA	1		0.413	0.526		
	2		0.214	0.809		
	3		0.038	0.990		
	4		0.473	0.755		
	5		0.548	0.738		
Total	1	1.667	0.208			
	2	0.889	0.425			
	3	0.198	0.897			
	4	0.435	0.781			
	5	0.967	0.470			
Silver kob	S	Anchovy	WoCA	1	1.438	0.241
			WoCA	2	1.847	0.180
			WoCA	3	1.124	0.363
			WoCA	4	0.727	0.586
			WoCA	5	0.891	0.513
	EoCA	1	0.226	0.638		
		2	0.123	0.884		
		3	0.430	0.734		
		4	0.283	0.885		
		5	0.445	0.810		

Silver kob	SE	Anchovy	WoCA	1	0.042	0.839
		Anchovy	WoCA	2	0.046	0.955
		Anchovy	WoCA	3	0.373	0.773
		Anchovy	WoCA	4	0.647	0.636
		Anchovy	WoCA	5	2.925	0.052
		Anchovy	EoCA	1	2.461	0.129
		Anchovy	EoCA	2	1.207	0.317
		Anchovy	EoCA	3	0.731	0.546
		Anchovy	EoCA	4	0.806	0.538
		Anchovy	EoCA	5	0.738	0.607
Silver kob	SW	Anchovy	WoCA	1	2.070	0.162
		Anchovy	WoCA	2	0.231	0.796
		Anchovy	WoCA	3	0.181	0.908
		Anchovy	WoCA	4	0.264	0.897
		Anchovy	WoCA	5	0.534	0.747
		Anchovy	EoCA	1	0.820	0.373
		Anchovy	EoCA	2	0.720	0.498
		Anchovy	EoCA	3	0.711	0.557
		Anchovy	EoCA	4	0.555	0.699
		Anchovy	EoCA	5	0.817	0.557
		Anchovy	Total	1	1.126	0.298
		Anchovy	Total	2	0.147	0.864
		Anchovy	Total	3	0.500	0.687
		Anchovy	Total	4	0.348	0.842
		Anchovy	Total	5	0.780	0.580
Yellowtail	SW	Anchovy	WoCA	1	0.810	0.376
		Anchovy	WoCA	2	0.728	0.493
		Anchovy	WoCA	3	1.326	0.294
		Anchovy	WoCA	4	1.306	0.307
		Anchovy	WoCA	5	1.276	0.328
		Anchovy	EoCA	1	0.372	0.547
		Anchovy	EoCA	2	3.292	0.055
		Anchovy	EoCA	3	2.585	0.082
		Anchovy	EoCA	4	1.877	0.161
		Anchovy	EoCA	5	1.400	0.283
		Anchovy	Total	1	0.005	0.945
		Anchovy	Total	2	1.673	0.210
		Anchovy	Total	3	1.553	0.232
		Anchovy	Total	4	0.994	0.438
		Anchovy	Total	5	0.687	0.641
Yellowtail	W	Anchovy	WoCA	1	0.103	0.751
		Anchovy	WoCA	2	0.240	0.789
		Anchovy	WoCA	3	0.281	0.839
		Anchovy	WoCA	4	0.260	0.900

		Anchovy	WoCA	5	0.363	0.865
		Anchovy	EoCA	1	0.619	0.439
		Anchovy	EoCA	2	0.987	0.388
		Anchovy	EoCA	3	0.167	0.917
		Anchovy	EoCA	4	0.439	0.779
		Anchovy	EoCA	5	0.928	0.492
Snoek	SW	Anchovy	WoCA	1	0.002	0.963
		Anchovy	WoCA	2	0.526	0.598
		Anchovy	WoCA	3	0.212	0.887
		Anchovy	WoCA	4	0.343	0.845
		Anchovy	WoCA	5	0.244	0.936
		Anchovy	EoCA	1	3.101	0.090
		Anchovy	EoCA	2	4.589	0.021
		Anchovy	EoCA	3	5.178	0.008
		Anchovy	EoCA	4	3.931	0.019
		Anchovy	Total	1	2.835	0.104
		Anchovy	Total	2	2.894	0.076
		Anchovy	Total	3	3.082	0.051
		Anchovy	Total	4	2.756	0.062
		Anchovy	Total	5	3.316	0.035
		Anchovy	EoCA	5	3.155	0.041
Snoek	W	Anchovy	WoCA	1	0.786	0.383
		Anchovy	WoCA	2	3.112	0.064
		Anchovy	WoCA	3	2.819	0.065
		Anchovy	WoCA	4	2.635	0.070
		Anchovy	WoCA	5	2.363	0.094
		Anchovy	EoCA	1	1.151	0.293
		Anchovy	EoCA	2	0.782	0.469
		Anchovy	EoCA	3	1.232	0.324
		Anchovy	EoCA	4	1.538	0.236
		Anchovy	EoCA	5	1.198	0.360
Geelbek	SE	Sardine	WoCA	1	1.468	0.237
		Sardine	WoCA	2	0.775	0.472
		Sardine	WoCA	3	1.462	0.255
		Sardine	WoCA	4	2.087	0.127
		Sardine	WoCA	5	1.225	0.348
		Sardine	EoCA	1	0.008	0.930
		Sardine	EoCA	2	0.080	0.923
		Sardine	EoCA	3	0.327	0.806
		Sardine	EoCA	4	0.670	0.622
		Sardine	EoCA	5	0.790	0.574
Geelbek	SW	Sardine	WoCA	1	0.574	0.455
		Sardine	WoCA	2	0.425	0.659
		Sardine	WoCA	3	1.137	0.358

		Sardine	WoCA	4	1.387	0.280
		Sardine	WoCA	5	1.337	0.305
		Sardine	EoCA	1	8.419	0.007
		Sardine	EoCA	2	3.043	0.067
		Sardine	EoCA	3	2.929	0.059
		Sardine	EoCA	4	2.030	0.136
		Sardine	EoCA	5	1.419	0.277
		Sardine	Total	1	2.068	0.162
		Sardine	Total	2	0.597	0.559
		Sardine	Total	3	0.830	0.493
		Sardine	Total	4	1.835	0.169
		Sardine	Total	5	2.629	0.071
Silver kob	S	Sardine	WoCA	1	2.211	0.149
		Sardine	WoCA	2	2.193	0.134
		Sardine	WoCA	3	1.917	0.159
		Sardine	WoCA	4	1.431	0.267
		Sardine	WoCA	5	1.327	0.309
		Sardine	EoCA	1	2.368	0.136
		Sardine	EoCA	2	3.830	0.037
		Sardine	EoCA	3	2.338	0.104
		Sardine	EoCA	4	1.578	0.225
		Sardine	EoCA	5	1.008	0.449
Silver kob	SE	Sardine	WoCA	1	0.266	0.610
		Sardine	WoCA	2	0.117	0.890
		Sardine	WoCA	3	0.379	0.769
		Sardine	WoCA	4	0.386	0.816
		Sardine	WoCA	5	0.393	0.845
		Sardine	EoCA	1	3.340	0.079
		Sardine	EoCA	2	1.758	0.195
		Sardine	EoCA	3	1.594	0.222
		Sardine	EoCA	4	1.682	0.200
		Sardine	EoCA	5	1.400	0.284
Silver kob	SW	Sardine	WoCA	1	0.751	0.394
		Sardine	WoCA	2	1.168	0.329
		Sardine	WoCA	3	2.051	0.139
		Sardine	WoCA	4	1.728	0.190
		Sardine	WoCA	5	1.260	0.334
		Sardine	EoCA	1	0.799	0.380
		Sardine	EoCA	2	1.041	0.369
		Sardine	EoCA	3	0.771	0.523
		Sardine	EoCA	4	0.584	0.679
		Sardine	EoCA	5	0.685	0.643
		Sardine	Total	1	0.563	0.460
		Sardine	Total	2	0.209	0.813

		Sardine	Total	3	1.424	0.265
		Sardine	Total	4	1.277	0.318
		Sardine	Total	5	2.055	0.133
Yellowtail	SW	Sardine	WoCA	1	0.007	0.932
		Sardine	WoCA	2	1.280	0.297
		Sardine	WoCA	3	2.515	0.088
		Sardine	WoCA	4	1.675	0.202
		Sardine	WoCA	5	1.617	0.220
		Sardine	EoCA	1	4.592	0.042
		Sardine	EoCA	2	2.382	0.115
		Sardine	EoCA	3	1.485	0.249
		Sardine	EoCA	4	0.913	0.479
		Sardine	EoCA	5	0.689	0.640
		Sardine	Total	1	2.375	0.135
		Sardine	Total	2	1.336	0.283
		Sardine	Total	3	1.391	0.274
		Sardine	Total	4	0.977	0.446
		Sardine	Total	5	0.891	0.513
Yellowtail	W	Sardine	WoCA	1	6.720	0.015
		Sardine	WoCA	2	3.962	0.033
		Sardine	WoCA	3	2.177	0.122
		Sardine	WoCA	4	2.332	0.097
		Sardine	WoCA	5	1.487	0.256
		Sardine	EoCA	1	1.983	0.171
		Sardine	EoCA	2	2.989	0.070
		Sardine	EoCA	3	1.605	0.220
		Sardine	EoCA	4	2.021	0.137
		Sardine	EoCA	5	3.955	0.019
Snoek	SW	Sardine	WoCA	1	0.370	0.548
		Sardine	WoCA	2	1.538	0.236
		Sardine	WoCA	3	1.094	0.374
		Sardine	WoCA	4	0.692	0.608
		Sardine	WoCA	5	0.731	0.612
		Sardine	EoCA	1	13.464	0.001
		Sardine	EoCA	2	9.405	0.001
		Sardine	EoCA	3	6.461	0.003
		Sardine	EoCA	4	4.481	0.012
		Sardine	EoCA	5	3.855	0.021
		Sardine	Total	1	9.449	0.005
		Sardine	Total	2	4.632	0.020
		Sardine	Total	3	2.650	0.077
		Sardine	Total	4	2.000	0.140
		Sardine	Total	5	1.432	0.273
Snoek	W	Sardine	WoCA	1	0.029	0.865

		Sardine	WoCA	2	0.318	0.731
		Sardine	WoCA	3	0.379	0.769
		Sardine	WoCA	4	0.137	0.966
		Sardine	WoCA	5	0.275	0.919
		Sardine	EoCA	1	2.560	0.122
		Sardine	EoCA	2	2.121	0.143
		Sardine	EoCA	3	2.046	0.140
		Sardine	EoCA	4	0.999	0.435
		Sardine	EoCA	5	2.044	0.134
Geelbek	SE	Redeye	WoCA	1	0.362	0.553
		Redeye	WoCA	2	0.270	0.765
		Redeye	WoCA	3	0.226	0.877
		Redeye	WoCA	4	0.948	0.461
		Redeye	WoCA	5	0.756	0.596
		Redeye	EoCA	1	0.036	0.850
		Redeye	EoCA	2	0.725	0.495
		Redeye	EoCA	3	2.210	0.119
		Redeye	EoCA	4	2.234	0.108
		Redeye	EoCA	5	3.765	0.023
Geelbek	SW	Redeye	WoCA	1	1.285	0.267
		Redeye	WoCA	2	0.876	0.430
		Redeye	WoCA	3	0.772	0.523
		Redeye	WoCA	4	0.484	0.747
		Redeye	WoCA	5	0.364	0.865
		Redeye	EoCA	1	0.633	0.434
		Redeye	EoCA	2	1.629	0.218
		Redeye	EoCA	3	2.285	0.110
		Redeye	EoCA	4	1.689	0.199
		Redeye	EoCA	5	1.750	0.188
		Redeye	Total	1	0.124	0.728
		Redeye	Total	2	0.303	0.742
		Redeye	Total	3	0.163	0.920
		Redeye	Total	4	0.116	0.975
		Redeye	Total	5	0.088	0.993
Silver kob	S	Redeye	WoCA	1	0.038	0.846
		Redeye	WoCA	2	0.084	0.920
		Redeye	WoCA	3	0.056	0.982
		Redeye	WoCA	4	0.691	0.608
		Redeye	WoCA	5	1.023	0.441
		Redeye	EoCA	1	1.242	0.275
		Redeye	EoCA	2	0.437	0.651
		Redeye	EoCA	3	0.352	0.788
		Redeye	EoCA	4	0.802	0.540
		Redeye	EoCA	5	2.040	0.135

Silver kob	SE	Redeye	WoCA	1	0.229	0.636
		Redeye	WoCA	2	0.561	0.578
		Redeye	WoCA	3	0.404	0.751
		Redeye	WoCA	4	0.286	0.883
		Redeye	WoCA	5	0.453	0.804
		Redeye	EoCA	1	6.178	0.020
		Redeye	EoCA	2	3.340	0.053
		Redeye	EoCA	3	1.631	0.214
		Redeye	EoCA	4	1.377	0.283
		Redeye	EoCA	5	1.051	0.427
Silver kob	SW	Redeye	WoCA	1	0.792	0.382
		Redeye	WoCA	2	0.607	0.554
		Redeye	WoCA	3	0.413	0.746
		Redeye	WoCA	4	0.836	0.521
		Redeye	WoCA	5	0.718	0.621
		Redeye	EoCA	1	1.425	0.243
		Redeye	EoCA	2	3.463	0.048
		Redeye	EoCA	3	3.056	0.052
		Redeye	EoCA	4	1.992	0.142
		Redeye	EoCA	5	2.332	0.097
		Redeye	Total	1	3.036	0.093
		Redeye	Total	2	2.980	0.071
		Redeye	Total	3	1.690	0.201
		Redeye	Total	4	2.897	0.054
		Redeye	Total	5	3.770	0.023
Yellowtail	SW	Redeye	WoCA	1	0.776	0.386
		Redeye	WoCA	2	0.650	0.532
		Redeye	WoCA	3	0.468	0.708
		Redeye	WoCA	4	0.304	0.871
		Redeye	WoCA	5	0.531	0.750
		Redeye	EoCA	1	2.209	0.149
		Redeye	EoCA	2	1.236	0.309
		Redeye	EoCA	3	0.855	0.480
		Redeye	EoCA	4	1.312	0.305
		Redeye	EoCA	5	1.141	0.385
		Redeye	Total	1	1.046	0.316
		Redeye	Total	2	1.225	0.312
		Redeye	Total	3	0.812	0.502
		Redeye	Total	4	1.076	0.399
		Redeye	Total	5	0.742	0.605
Yellowtail	W	Redeye	WoCA	1	0.992	0.328
		Redeye	WoCA	2	0.830	0.449
		Redeye	WoCA	3	0.874	0.471
		Redeye	WoCA	4	0.393	0.811

		Redeye	WoCA	5	0.427	0.822
		Redeye	EoCA	1	0.226	0.638
		Redeye	EoCA	2	1.745	0.197
		Redeye	EoCA	3	0.474	0.704
		Redeye	EoCA	4	0.386	0.816
		Redeye	EoCA	5	0.427	0.822
Snoek	SW	Redeye	WoCA	1	7.350	0.012
		Redeye	WoCA	2	6.222	0.007
		Redeye	WoCA	3	3.470	0.035
		Redeye	WoCA	4	2.213	0.111
		Redeye	WoCA	5	1.981	0.144
		Redeye	EoCA	1	3.093	0.090
		Redeye	EoCA	2	2.440	0.109
		Redeye	EoCA	3	1.220	0.328
		Redeye	EoCA	4	1.259	0.324
		Redeye	EoCA	5	0.816	0.558
		Redeye	Total	1	0.102	0.752
		Redeye	Total	2	0.069	0.933
		Redeye	Total	3	0.373	0.774
		Redeye	Total	4	0.375	0.823
		Redeye	Total	5	0.256	0.930
Snoek	W	Redeye	WoCA	1	0.013	0.911
		Redeye	WoCA	2	0.162	0.852
		Redeye	WoCA	3	0.249	0.861
		Redeye	WoCA	4	0.970	0.449
		Redeye	WoCA	5	0.443	0.812
		Redeye	EoCA	1	3.657	0.067
		Redeye	EoCA	2	3.985	0.033
		Redeye	EoCA	3	4.084	0.021
		Redeye	EoCA	4	2.839	0.057
		Redeye	EoCA	5	2.658	0.068