The following supplement accompanies the article

First representation of the trophic structure and functioning of the Portuguese continental shelf ecosystem: insights into the role of sardine

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Table S1 Sources of the parameters used by functional group for the Portuguese continental shelf ecosystem model. Percentages before each species scientific names represent the relative abundance of each species within a group. When no relative abundance is given, such information was not available or the functional group has only one species.

Species / Parameters	B ($t \cdot km^{-2}$)	P/B ($year^{-1}$)	Q/B ($year^{-1}$)	EE	Mean weight/L∞ and L-W	Diet
1. Seabirds [2.7% *Alca torda* (Linnaeus, 1758), 7.9% *Calonectris diomedea borealis (*Cory, 1881), 86.8% *Morus bassanus* (Linnaeus, 1758), 1.6% *Puffinus mauretanicus* (Lowe, 1921), 0.9% *Uria aalge* (Pontoppidan, 1763)]	0.009	0.1	57.64	0		
	From 2010 to 2012, Araújo et al. 2014	Christensen et al. 2009	Nilsson & Nilsson 1976	Estimated by the model	Spring 1971, Wanless et al. 1985, Granadeiro 1991, Genovart et al. 2003, Langston & Teuten 2013	Beja 1990, Käkelä et al. 2010, Paiva et al. 2010
2. Minkle whale [*Balaenoptera acutorostrata* (Lacépède, 1804)]	0.061	0.03	35.113	0.371		
	From 2010 to 2012, Araújo et al. 2014	Christensen et al. 2009	From Markussen et al. 1992 daily food consumption estimates and mean weight in the area	Estimated by model	MarPro database	MarPro database

Species / Parameters	B ($t \cdot km^{-2}$)	P/B ($year^{-1}$)	Q/B ($year^{-1}$)	EE	Mean weight/$L\infty$ and L-W	Diet
3. Common dolphin [*Delphinus delphis* (Linnaeus, 1758)]	0.038	0.08	31.293	0.2		
	From 2010 to 2012, Araújo et al. 2014	Christensen et al. 2009	From Begona Santos et al. 2014 daily food consumption estimates and mean weight in the area	Estimated by model	Fernández 2003	Stomach content analysis from stranded animals
4. Striped dolphin [*Stenella coeruleoalba* (Meyen, 1833)]	0.005	0.080	30.977	0.105		
	From 2010 to 2012, Araújo et al. 2014	Christensen et al. 2009	From Begona Santos et al. 2014 daily food consumption estimates and mean weight in the area	Estimated by model	Fernández 2003	Stomach content analysis from stranded animals
5. Bottlenose dolphin [*Tursiops truncatus* (Montagu, 1821)]	0.006	0.080	32.056	0.868		
	From 2010 to 2012, Araújo et al. 2014	Christensen et al. 2009	From Begona Santos et al. (2014) daily food consumption estimates and mean weight in the area	Estimated by model	Fernández (2003)	Stomach content analysis from stranded animals
6. Harbor porpoise [*Phocoena phocoena* (Linnaeus, 1758)]	0.004	0.080	14.166	0.013		
	From 2010 to 2012, Araújo et al. 2014	Christensen et al. 2009	From Begona Santos et al. (2014) daily food consumption estimates and mean weight in the area	Estimated by model	MarPro Stranding database (2015)	Stomach content analysis from stranded animals
7. Tunas [*Auxis rochei* (Risso, 1810), *Sarda sarda* (Bloch, 1793), *Thunnus thynnus* (Linnaeus, 1758)]	0.200	0.420	4.211	0.096		
	Sanchez & Olaso 2004, Coll et al. 2006 (considering that only a	Pauly 1980, F assumed 0.1	Pauly et al. 1990	Estimated by model	Santos et al. 2002, Relini et al. 2005, Rooker et al. 2007,	Campo et al. 2006, Coll et al. 2006, Logan et al. 2011,

Species / Parameters	B ($t \cdot km^{-2}$)	P/B ($year^{-1}$)	Q/B ($year^{-1}$)	EE	Mean weight/L_∞ and L-W	Diet
	portion of this tuna migrates through the Portuguese continental shelf ecosystem)				Zaboukas & Megalofonou 2007, Kahraman et al. 2011, ICCAT 2011	Bănaru et al. 2013, Fletcher et al. 2013
8. Rays [*Leucoraja naevus* (Müller & Henle, 1841)*, Raja brachyuran* (Günther, 1880)*, Raja clavata* (Linnaeus, 1758)*, Raja montagui* (Fowler, 1910)]	0.136	0.729	4.826	0.850		
	Estimated by model	ICES 2012, Pauly 1980	Pauly et. 1990	Sanchez & Olaso 2004, Torres et al. 2013	ICES 2012	Farias et al. 2006
9. Hake [*Merluccius merluccius* (Linnaeus, 1758)]	0.389	1.300	6.070	0.934		
	Bottom trawl surveys 2006-2009	ICES 2013	Pauly et. 1990	Estimated by model	Mendes et al. 2004, Mellon-Duval et al. 2010	Cabral & Murta 2002
10. Squids [*Alloteuthis* sp. *Illex coindetii* (Vérany, 1839)*, Loligo vulgaris* (Lamarck, 1798)*, Todaropsis eblanae* (Ball, 1841)]	0.962	2.800	8.000	0.950		
	Estimated by model	Sanchez & Olaso 2004, Torres et al. 2013	Sanchez & Olaso 2004, Torres et al. 2013	Sanchez & Olaso 2004, Torres et al. 2013		Bidder 1950, Rocha et al. 1994, Rasero et al. 1996, Coelho et al. 1997, Sanchez & Olaso 2004, Torres et al. 2013
11. Benthic cephalopods [*Eledone cirrhosa* (Lamarck, 1798)*, Octopus vulgaris* (Cuvier, 1797)*, Sepia officinalis* (Linnaeus, 1758)*, Sepiola sp*.]	1.154	2.300	6.500	0.950		
	Estimated by model	Sanchez & Olaso 2004, Torres et al. 2013	Sanchez & Olaso 2004, Torres et al. 2013	Sanchez & Olaso 2004, Torres et al. 2013		Sanchez & Olaso 2004, Lassalle et al. 2011, Torres et al. 2013
12. Horse mackerel [*Trachurus trachurus* (Linnaeus, 1758)]	2.841	0.512	7.607	0.935		
	Acoustic survey 2008-	Pauly 1980, F	Pauly et al. 1990	Estimated by	Costa 2004,	Cabral & Murta

Species / Parameters	B (t·km^{-2})	P/B (year^{-1})	Q/B (year^{-1})	EE	Mean weight/L∞ and L-W	Diet
	2009	from official landings information for the study area and period (2006-2009)		model	Mendes et al. 2004	2002
13. Blue jack mackerel [*Trachurus picturatus* (Bowdich, 1825)]	0.784	0.536	7.208	0.901		
	Bottom trawl surveys 2006-2009	Pauly 1980, F from official landings information for the study area and period (2006-2009)	Pauly et al. 1990	Estimated by model	Mendes et al. 2004, Vasconcelos et al. 2006	Deudero, 2001, Hirch, 2009, www.fishbase.org
14. Chub mackerel [*Scomber colias* (Gmelin, 1789)]	6.578	0.655	6.816	0.915		
	Acoustic surveys 2007-2009	Pauly 1980, F from official landings information for the study area and period (2006-2009)	Pauly et al. 1990	Estimated by model	Mendes et al. 2004, Velasco et al. 2011	Garrido et al. 2015
15. Mackerel [*Scomber scombrus* (Linnaeus, 1758)]	0.448	0.804	7.137	0.942		
	Bottom trawl surveys 2006-2009	Pauly 1980, F from official landings information for the study area and period (2006-2009)	Pauly et al. 1990	Estimated by model	Mendes et al. 2004, Villamor et al. 2004	Cabral & Murta 2002
16. Demersal piscivorous fish [*Chelidonichthys lucernus* (Linnaeus, 1758), *Conger conger* (Linnaeus, 1758), *Dicentrarchus labrax* (Linnaeus, 1758), *Helicolenus dactylopterus* (Delaroche,	0.531	0.644	3.575	0.950		

Species / Parameters	B (t·km^{-2})	P/B (year^{-1})	Q/B (year^{-1})	EE	Mean weight/L∞ and L-W	Diet
1809), *Lophius budegassa* (Spinola, 1807), *Lophius piscatorius* (Spinola, 1807)]						
	Estimated by model	Pauly 1980 and considering the models from neighbour areas (Lassalle et al. 2011, Sanchez & Olaso 2004, Torres et al. 2013)	Pauly et al. 1990	Sanchez & Olaso 2004, Torres et al. 2013	Gonçalves et al. 1997, Landa et al. 2001, Mendes et al. 2004, García-Rodríguez et al. 2005, Olim & Borges 2006, Cicek et al. 2008, Correia et al. 2009, Sequeira et al. 2009, ICES 2013, www.fishbase.org	Sanchez & Olaso 2004, Preciado et al. 2006, Xavier et al. 2010, Neves et al. 2012, Castro et al. 2013, Spitz et al. 2013, Torres et al. 2013
17. Demersal invertivorous fish [*Callanthias ruber, Callionymus lyra, Cepola macrophthalma, Chelidonichthys cuculus, Lepidotrigla cavillone, Mullus barbatus, Mullus surmuletus, Serranus hepatus, Synchiropus phaeton, Trigla lyra,* Ammodytidae, Gobiidae]	5.773	1.221	6.677	0.950		
	Estimated by model	Pauly 1980, F assumed 0.5	Pauly et al. 1990	Sanchez & Olaso 2004, Torres et al. 2013	Reñones et al. 1995, Borges et al. 2003, Mendes et al. 2004, Olim & Borges 2006, Dulčić et al. 2007, www.fishbase.org	Terrats et al. 2000, Mackinson & Daskalov 2007, Castro 2008, Hirch 2009, Lopez-Lopez et al. 2011, Castro et al. 2013, Torres 2013, www.fishbase.org
18. Benthopelagic piscivorous fish [*Belone belone* (Linnaeus, 1760), *Lepidopus caudatus* (Euphrasen, 1788), *Phycis blennoides* (Brünnich, 1768), *Phycis phycis* (Linnaeus, 1766), *Zeus faber* (Linnaeus, 1758)]	0.336	0.833	4.098	0.950		
	Estimated by model	Pauly 1980,	Pauly et. 1990	Sanchez &	Demestre et al.	Demestre et al.

Species / Parameters	B (t·km^{-2})	P/B (year^{-1})	Q/B (year^{-1})	EE	Mean weight/L∞ and L-W	Diet
		Sanchez & Olaso 2004, Torres et al. 2013 and Official landings information for the study area and period (2006-2009)		Olaso 2004, Torres et al. 2013	1993, Casas & Piñeiro 2000, Borges et al. 2003, Mendes et al. 2004, Vieira et al. 2014, www.fishbase.org	1993, Morato et al. 1999, Silva 1999, Morte et al. 2002, Klimpel et al. 2006, Sever et al. 2009, Torres 2013
19. Benthopelagic invertivorous fish [*Anthias anthias* (Linnaeus, 1758), *Argentina sphyraena* (Linnaeus, 1758), *Capros aper* (Linnaeus, 1758), *Gadiculus argenteus* (Guichenot, 1850), *Macroramphosus* spp. *Micromesistius poutassou* (Risso, 1827), *Trisopterus luscus* (Linnaeus, 1758)]	6.622	0.954	7.096	0.950		
	Estimated by model	Pauly 1980, F assumed 0.3	Pauly et al. 1990	Sanchez & Olaso 2004, Torres et al. 2013	Merayo & Villegas 1994, Borges 2000, Borges et al. 2003, Mendes et al. 2004, Hüssy et al. 2012, www.fishbase.org	Cabral & Murta 2002, Oliveira 2002, Lopes et al. 2006, Hirch 2009, Sever et al. 2013, www.fishbase.org
20. Flatfish [*Arnoglossus laterna* (Walbaum, 1792), *Citharus linguatula* (Linnaeus, 1758), *Dicologlossa cuneata* (Moreau, 1881), *Lepidorhombus boscii* (Risso, 1810), *Lepidorhombus whiffiagonis* (Walbaum, 1792), *Microchirus azevia* (Capello, 1867), *Microchirus variegatus* (Donovan, 1808), *Pegusa lascaris* (Risso, 1810), *Platichthys flesus* (Linnaeus, 1758), *Scophthalmus maximus* (Linnaeus, 1758), *Scophthalmus rhombus* (Linnaeus, 1758), *Solea senegalensis* (Kaup, 1858), *Solea solea* (Linnaeus, 1758)]	0.908	0.940	5.687	0.950		
	Estimated by model	Pauly 1980, F assumed 0.3	Pauly et al. 1990	Sanchez & Olaso 2004,	Santos 1995, Andrade 1998,	Cabral 2000, Cabral et al. 2002,

Species / Parameters	B (t·km^{-2})	P/B (year^{-1})	Q/B (year^{-1})	EE	Mean weight/L∞ and L-W	Diet
				Torres et al. 2013	Landa & Piñeiro 2000, Mendes et al. 2004, Teixeira et al. 2009, Teixeira & Cabral 2010, Teixeira et al. 2010, Félix et al. 2011, ICES 2013, www.fishbase.org	Amezcua et al. 2003, Šantić et al. 2009, Teixeira et al. 2009, Teixeira et al. 2010, Vinagre et al. 2011, Torres 2013, Torres et al. 2013
21. Sparids [0.01% *Diplodus annularis* (Linnaeus, 1758), 0.05% *Diplodus Bellottii* (Steindachner, 1882), 0.01% *Diplodus sargus* (Linnaeus, 1758), 26.4% *Diplodus vulgaris* (Geoffroy Saint-Hilaire, 1817), 55.9% *Pagellus acarne* (Risso, 1827), 0.73% *Pagellus bogaraveo* (Brünnich, 1768), 3% *Pagellus Erythrinus* (Linnaeus, 1758), 0.2% *Pagrus auriga* (Valenciennes, 1843), 1.1% *Pagrus pagrus* (Linnaeus, 1758), 12.5% *Spondyliosoma cantharus* (Linnaeus, 1758)]	0.599	0.725	5.425	0.858		
	Bottom trawl surveys 2006-2009	Pauly 1980, F from official landings information for the study area and period (2006-2009)	Pauly et al. 1990	Estimated by model	Gonçalves et al. 1997, Pajuelo & Lorenzo 2000, Erzini et al. 2001, Santos et al. 2002, Borges et al. 2003, Gonçalves et al. 2003, Mendes et al. 2004, Pajuelo et al. 2006, Matić-Skoko et al. 2007, Coelho et al. 2010, Lorance 2011, www.fishbase.org	Chakroun-Marzouk & Kartas 1987, Gonçalves & Erzini 1998, Pita et al. 2002, Torres 2013
22. Anchovy [*Engraulis encrasicolus* (Linnaeus, 1758)]	0.305	1.170	12.220	0.919		

Species / Parameters	B ($t \cdot km^{-2}$)	P/B ($year^{-1}$)	Q/B ($year^{-1}$)	EE	Mean weight/L_∞ and L-W	Diet
	Acoustic surveys 2006-2009	Pauly 1980, F from official landings information for the study area and period (2006-2009)	Pauly et al. 1990	Estimated by model	Basilone et al. 2004, www.fishbase.org	Sanchez & Olaso 2004, Lassalle et al. 2011, Castro et al. 2013, Torres et al. 2013
23. Sardine [*Sardina pilchardus* (Walbaum, 1792)]	14.760	0.891	9.677	0.956		
	Acoustic surveys 2006-2009	Pauly 1980, F from official landings information for the study area and period (2006-2009)	Pauly et al. 1990	Estimated by model	Mendes et al. 2004, Silva et al. 2008	Garrido et al. 2008
24. Bogue [*Boops boops* (Linnaeus, 1758)]	0.794	1.246	6.201	0.950		
	Estimated by model	Pauly 1980, F from Monteiro et al. 2006	Pauly et al. 1990	Sanchez & Olaso 2004, Torres et al. 2013	Mendes et al. 2004, Monteiro et al. 2006	Derbal & Kara 2008, Bănaru et al. 2013, Dobroslavić et al. 2013
25. Henslow's crab [*Polybius henslowii* (Leach, 1820)]	0.526	2.100	10.640	0.950		
	Estimated by model	Coll et al. 2006, Torres et al. 2013	Cammen 1980	Sanchez & Olaso 2004, Torres et al. 2013	Acoustic and bottom trawl surveys 2006-2009	Signa et al. 2008, Torres et al. 2013
26. Shrimps [Crustacea natantia]	3.619 Estimated by model	4.200 Sanchez & Olaso 2004, Torres et al. 2013	11.670 Sanchez & Olaso 2004, Torres et al. 2013	0.950 Sanchez & Olaso 2004, Torres et al. 2013		Sanchez & Olaso 2004, Torres et al. 2013
27. Macrozoobenthos [Starfishes, Annelids, Sea urchins, Sea cucumbers, Bivalves, Crustaceans, Sea anemone, other benthic invertebrates]	14.540	3.555	9.727	0.842		
	López-Jamar et al.	Sanchez & Olaso	Sanchez & Olaso	Estimated by		Sanchez & Olaso

Species / Parameters	B ($t \cdot km^{-2}$)	P/B ($year^{-1}$)	Q/B ($year^{-1}$)	EE	Mean weight/$L\infty$ and L-W	Diet
	1992, Martins et al. 2013	2004, Torres et al. 2013	2004, Torres et al. 2013	model		2004, Torres et al. 2013
28. Suprabenthic invertebrates [Euphausiids, Mysids, Isopods, Amphipods]	3.599	16.000	42.000	0.950		
	Sanchez & Olaso 2004, Torres et al. 2013	Sanchez & Olaso 2004, Torres et al. 2013	Sanchez & Olaso 2004, Torres et al. 2013	Sanchez & Olaso 2004, Torres et al. 2013		Sanchez & Olaso 2004, Torres et al. 2013
29. Macrozooplankton [Zooplankton lenght > 3 mm, width > 1 mm]	5.253	17.000	44.000	0.781		
	Spring and Autumn surveys 2006-2009, Conversion factors were used to estimate wet weight of those samples (Cushing et al. 1958, Wiebe et al. 1975, Wiebe 1988, Alcaraz et al. 2003). The conversion to t/m^2 from t/m^3 was made based on information about vertical distribution of zooplankton in the western Portuguese continental shelf (L. Sobrinho-Gonçalves unpubl. Data, Sobrinho-Gonçalves et al. 2013)	Sanchez & Olaso 2004, Torres et al. 2013	Sanchez & Olaso 2004, Torres et al. 2013	Estimated by model		Sanchez & Olaso 2004, Torres et al. 2013
30. Meso e Microzooplankton [Zooplankton lenght ≤ 3 mm, width ≤1 mm]	25.29	30.100	152.500	0.635		
	Mesozooplankton: Spring and Autumn surveys 2006-2009,	Sanchez & Olaso 2004, Torres et al. 2013	Sanchez & Olaso 2004, Torres et al. 2013	Estimated by model		Sanchez & Olaso 2004, Torres et al. 2013

Species / Parameters	B ($t \cdot km^{-2}$)	P/B ($year^{-1}$)	Q/B ($year^{-1}$)	EE	Mean weight/L∞ and L-W	Diet
	Microzooplankton: L. Sobrinho-Gonçalves unpubl. data, 2010-2011 Conversion factors were used to estimate wet weight of those samples (Cushing et al. 1958, Wiebe et al. 1975, Wiebe 1988, Alcaraz et al. 2003). The conversion to t/m^2 from t/m^3 was made based on information about vertical distribution of zooplankton in the western Portuguese continental shelf (L. Sobrinho-Gonçalves unpubl. Data, Sobrinho-Gonçalves et al. 2013)					
31. Phytoplankton	18.720 chlorophyll-a satellite data from the Globcolour project (algorithm by Morel & Brethon 1989; www.globcolour.info) Conversion factors (Jorgensen et al. 1991, Dalsgaard & Pauly 1997)	350.800 Vertically Generalized Production Model (VGPM) (Behrenfeld & Falkowski 1997)		0.432 Estimated by model		
32. Discards	1.003 Borges et al. 2001, Batista et al. 2009, Prista et al. 2012, Feijó			0.933 Estimated by model		

Species / Parameters	B (t·km^{-2})	P/B (year^{-1})	Q/B (year^{-1})	EE	Mean weight/L∞ and L-W	Diet
	2013, Fernandes et al. 2015					
33. Detritus	45.230 Pauly et al. 1993			0.068 Estimated by model		

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Table S2. Diet composition matrix adjusted for the Portuguese continental shelf food web of the Ecopath model.

Preys	Predators														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Seabirds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Minkle whale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Common dolphin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Striped dolphin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Bottlenose dolphin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Harbor porpoise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Tunas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Rays	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Hake	0.1	0	0.042	0.1	0.084	0.152	0	0.012	0.02	0.01	0	0	0	0	0
10 Squids	0.01	0	0.047	0.139	0.003	0.003	0.01	0.093	0.01	0.05	0	0.005	0.01	0.02	0.01
11 Benthic cephalopods	0	0	0.008	0.037	0.011	0.001	0	0.021	0	0.004	0.03	0	0	0.03	0
12 Horse mackerel	0.014	0.2552	0.13	0.03	0.009	0.021	0.01	0.03	0.02	0	0	0	0	0	0
13 Blue jack mackerel	0	0.0888	0.025	0.005	0	0	0.01	0	0.01	0	0	0	0	0	0
14 Chub mackerel	0.126	0.108	0.233	0.104	0.007	0.023	0.09	0.002	0.059	0.163	0.083	0	0	0	0
15 Mackerel	0.25	0.002	0.047	0.038	0.004	0	0	0	0.001	0	0	0	0	0	0
16 Demersal piscivorous fish	0	0	0	0	0.673	0.073	0	0	0	0	0	0	0	0	0
17 Demersal invertivorous fish	0.122	0	0.002	0.013	0.004	0.106	0	0.227	0	0.116	0.212	0	0.01	0.01	0
18 Benthopelagic piscivorous fish	0	0	0.001	0	0	0	0	0	0.03	0	0	0	0	0	0
19 Benthopelagic invertivorous fish	0.078	0.021	0.057	0.202	0.013	0.051	0	0.172	0.51	0.183	0.015	0	0	0.02	0.1
20 Flatfish	0	0	0.003	0	0.015	0.026	0	0.025	0	0.031	0.035	0	0	0	0
21 Sparids	0	0.062	0	0	0	0	0	0	0	0.005	0.01	0	0	0	0
22 Anchovy	0.019	0.04	0.007	0.064	0	0	0.01	0	0.025	0.01	0	0	0	0	0.01
23 Sardine	0.253	0.357	0.372	0.226	0.002	0.012	0.37	0.095	0.255	0.261	0.275	0.03	0.02	0.03	0.03
24 Bogue	0	0	0.026	0.002	0.002	0.001	0	0	0.03	0.015	0.09	0	0	0	0
25 Henslow's crab	0	0	0	0	0	0	0	0.074	0	0.002	0.015	0	0	0	0
26 Shrimps	0	0	0	0	0	0	0	0.056	0.005	0.022	0.026	0	0	0	0
27 Macrozoobenthos	0	0	0	0	0	0	0	0.124	0	0.025	0.065	0.1	0.1	0.02	0
28 Suprabenthic invertebrates	0	0	0	0	0	0	0	0.014	0.005	0.034	0.066	0.44	0.32	0.097	0.16
29 Macrozooplankton	0	0	0	0	0	0	0	0.055	0.02	0.069	0.078	0.385	0.24	0.325	0.141
30 Meso and Microzooplankton	0	0	0	0	0	0	0	0	0	0	0	0.04	0.3	0.446	0.549
31 Phytoplankton	0	0	0	0	0	0	0	0	0	0	0	0	0	0.002	0
32 Discards	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Detritus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 Import	0.018	0.066	0	0.04	0.173	0.531	0.5	0	0	0	0	0	0	0	0

Table S2. (Continued)

Preys	Predators														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1 Seabirds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Minkle whale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Common dolphin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 Striped dolphin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Bottlenose dolphin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Harbor porpoise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Tunas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 Rays	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Hake	0.016	0	0.017	0	0.001	0	0	0	0	0	0	0	0	0	0
10 Squids	0.008	0	0.019	0.002	0.081	0.051	0	0	0	0.03	0	0	0	0	0
11 Benthic cephalopods	0.04	0.002	0.02	0	0.042	0.022	0	0	0	0	0	0	0	0	0
12 Horse mackerel	0.033	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Blue jack mackerel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 Chub mackerel	0.076	0	0.032	0	0	0	0	0	0	0	0	0	0	0	0
15 Mackerel	0.012	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Demersal piscivorous fish	0.02	0	0.019	0	0	0	0	0	0	0	0	0	0	0	0
17 Demersal invertivorous fish	0.166	0.01	0.086	0.029	0.215	0.05	0	0	0	0	0	0	0	0	0
18 Benthopelagic piscivorous fish	0.078	0	0.004	0	0	0	0	0	0	0	0	0	0	0	0
19 Benthopelagic invertivorous fish	0.249	0	0.241	0.01	0.021	0	0	0	0	0	0	0	0	0	0
20 Flatfish	0.026	0	0.016	0	0.01	0.033	0	0	0	0	0	0	0	0	0
21 Sparids	0	0	0.001	0	0	0	0	0	0	0	0	0	0	0	0
22 Anchovy	0.004	0	0.011	0	0	0	0	0	0	0	0	0	0	0	0
23 Sardine	0.035	0	0.142	0.014	0.009	0	0	0	0	0	0	0	0	0	0
24 Bogue	0	0	0.014	0	0	0	0	0	0	0	0	0	0	0	0
25 Henslow's crab	0.01	0.015	0	0.001	0.003	0	0	0	0	0.038	0	0	0	0	0
26 Shrimps	0.115	0.115	0.211	0.079	0.139	0.022	0	0	0.4	0	0.005	0.017	0	0	0
27 Macrozoobenthos	0.037	0.368	0.085	0.069	0.366	0.588	0	0	0.15	0.41	0.28	0.02	0	0	0
28 Suprabenthic invertebrates	0.009	0.197	0.082	0.37	0.063	0.062	0.007	0	0.15	0.01	0.12	0.044	0	0	0
29 Macrozooplankton	0.066	0.174	0	0.265	0.05	0.152	0.021	0	0.25	0.255	0.05	0.091	0.04	0	0
30 Meso and Microzooplankton	0	0.094	0	0.161	0	0.02	0.97	0.833	0.05	0.163	0.09	0.021	0.2	0.7	0
31 Phytoplankton	0	0.01	0	0	0	0	0.002	0.167	0	0	0.03	0.079	0.08	0.3	0.95
32 Discards	0	0	0	0	0	0	0	0	0	0.01	0.004	0.005	0	0	0
33 Detritus	0	0.015	0	0	0	0	0	0	0	0.084	0.421	0.723	0.68	0	0.05
34 Import	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0