

TABLE A. 1. Descriptive of equations and references used for the functional groups considered in the Balearic Islands. B: biomass (t km⁻²); P/B: production/biomass (year⁻¹); Q/B: consumption/biomass (year⁻¹). EE: ecotrophic efficiency. P/Q: production/consumption. U/Q: unassimilated consumption (when it is not mentioned, the default value was applied).

FG		Sources and references
1. Dolphins		
Species		<i>Tursiops truncatus</i> (56.6%). <i>Stenella coeruleoalba</i> (43.4%)
B	0.03	Forcada et al., 2004; Gómez de Segura et al., 2006
P/B	0.06	Coll et al., 2006
Q/B	12.31	Innes et al., 1987; Trites et al., 1997
EE	0.29	Estimated by Ecopath
P/Q	0.005	Estimated by Ecopath
Diet		Wurtz and Marrale., 1993; Blanco et al., 2001
Discards		Accidental catches (Report fishing gear 2005)
2. Seabirds		
Species		<i>Larus michahellis</i> (42.4%). <i>Calonectris diomedea</i> (27%). <i>Phalacrocorax aristotelis</i> (19%). <i>Larus audouinii</i> (5.7%). <i>Puffinus mauretanicus</i> (4.4%). <i>P. yelkouan</i> (1.2%). <i>Hydrobates pelagicus</i> (0.3%)
B	0.002	Arcos et al., 2009 (SEO/Bird Life report)
P/B	4.65	Corrales et al., 2015
Q/B	66.47	Empirical equation from Nilsson & Nilsson. 1976
EE	0.001	Estimated by Ecopath
P/Q	0.070	Estimated by Ecopath
Diet		Granadeiro et al., 1998; Pedrocchi et al., 1997; González-Solís et al., 1997; Bosch et al., 1994; Lipej et al., 2016; Arcos & Oro. 2002; Louzao et al., 2015
Discards		Accidental catches (Report fishing gear. 2005; Valeiras and Camiñas. 2003; Report of seabirds catches. 2017)
3. Loggerhead turtle		
Species		<i>Caretta caretta</i> (100%)
B	0.002	Cardona et al., 2005
P/B	0.65	Empirical equation from Gascuel et al., 2008 (all marine groups)
Q/B	2.27	Adapted from Coll et al., 2006
EE	0.61	Estimated by Ecopath
P/Q	0.07	Estimated by Ecopath
Diet		Tomas et al., 2001; Revelles et al., 2007
IUU		Carreras et al., 2015
Discards		Accidental catches (Carreras et al., 2004)
4. Pelagic sharks		
Species		<i>Prionace glauca</i> (85%). <i>Isurus oxyrinchus</i> (14.4%). <i>Alopias vulpinus</i> (0.6%)
B	0.07	ICCAT 2004. Stock assessment of <i>Prionace</i> and <i>Isurus</i> of Atlantic Ocean
P/B	0.27	Estimated by Ecopath
Q/B	2.69	Empirical equation from Pauly et al., 1990
EE	0.96	Estimated by Ecopath
P/Q	0.10	Asumption
Diet		Maya et al., 2006; Loo-Andrade et al., 2016
IUU		Carreras et al., 2015
Landings		From sale sheets; from Sea Around Us data base
5. Large pelagics		
Species		<i>Thunnus thynnus</i> (88.4%). <i>Xiphias gladius</i> (11.6%). <i>Tetrapturus belone</i> (<0.1%)
B	0.20	<i>Xiphias gladius</i> : ICCAT. 2010; <i>Thunnus thynnus</i> : ICCAT. 2017
P/B	0.43	Empirical equation from Pauly et al., 1980 + Fishing mortality
Q/B	2.40	Empirical equation from Pauly et al., 1990
EE	0.99	Estimated by Ecopath
P/Q	0.18	Asumption
Diet		Romeo et al., 2009; Karakulak et al., 2009
IUU		IFOP project - Monitoring and control of the recreational fishing in the Balearic Islands - Effort and captures determination
Landings		From sale sheets; from Sea Around Us data base
Discards		From Sea Around Us data base
6. Medium pelagics		
Species		<i>Seriola dumerilii</i> (33.7%). <i>Auxis rochei</i> (19.8%). <i>Thunnus alalunga</i> (15%). <i>Sarda sarda</i> (11.6%). <i>Naucrates ductor</i> (6.9%). <i>Sphyraena sphyraena</i> (6%). <i>Katsuwonus pelami</i> (3.6%). <i>Lichia amia</i> (2.2%). <i>Brama brama</i> (0.9%). <i>Belone belone</i> (0.3%). <i>Euthynnus alleteratus</i> , <i>Auxis thazard</i> (<0.1%)
B	0.13	Estimated by Ecopath
P/B	0.65	Estimated by Ecopath
Q/B	5.44	Empirical equation from Pauly et al., 1990

EE	0.95	Assumption
P/Q	0.12	Assumption
Diet		Mostarda., 2007; Kaya & Saglam., 2017; Valls et al., 2021; Falautano et al., 2007 Reñones et al., 1998; Campo et al., 2006; Andaloro & Pipitone., 1997 Kalogirou et al., 2012
IUU		IFOP project (es/r/bal 5.1.3) - Monitoring and control of the recreational fishing in the Balearic Islands - Effort and captures determination
Landings		From sale sheets; from Sea Around Us data base
Discards		From Sea Around Us data base; data of national program of basic data collected by an observer (IEO - COB)
7. Dolphinfish		
Species		<i>Coryphaena hippurus</i> (100%)
B	0.05	Estimated by Ecopath
P/B	0.45	Gascuel <i>et al.</i> , 2008 (Fish equation)
Q/B	4.82	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.95	Assumption
P/Q	0.09	Estimated by Ecopath
Diet		Massutí <i>et al.</i> , 1998
IUU		Carreras et al., 2015
Landings		from sale sheets; Carreras <i>et al.</i> , 2015
8. Macrocarnivorous fishes (shelf)		
Species		<i>Epinephelus marginatus</i> (30.8%). <i>Muraena helena</i> (25.1%). <i>Zeus faber</i> (5.1%). <i>Conger conger</i> (13.1%). <i>Mycteroperca rubra</i> (2.9%). <i>Dentex dentex</i> (19.6%). <i>Phycis phycis</i> (2.2%). <i>Epinephelus costae</i> (0.8%). <i>Polyprion americanus</i> (0.2%). <i>Epinephelus caninus</i> (0.1%).
B	0.31	Monitoring report of the Marine Reserves; Bottom-trawl surveys (BALAR 01-03)
P/B	0.45	Gascuel et al., 2008 (Fish equation)
Q/B	4.21	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.99	Estimated by Ecopath
P/Q	0.11	Estimated by Ecopath
Diet		Oceanographic Center of the Balearic Islands (COB) surveys; Morales-Nin <i>et al.</i> , 1997; Linde <i>et al.</i> , 2003; Matic-Soko <i>et al.</i> , 2014; Papaconstantinou & Caragitsou. 1989
IUU		Carreras <i>et al.</i> , 2015
Landings		from sale sheets; from Sea Around Us data base
Discards		data of national program of basic data collected by an observer (IEO - COB)
9. Juvenil hake		
Species		<i>Merluccius merluccius</i> (0-25 cm) (100%)
B	0.03	COB survey
P/B	1.55	Fish stock assessment GSA 5
Q/B	10.54	Estimated by Ecopath
EE	0.72	Estimated by Ecopath
P/Q	0.15	Estimated by Ecopath
Diet		COB surveys
IUU		Carreras <i>et al.</i> , 2015
Landings		From sale sheets; Carreras <i>et al.</i> , 2015
Discards		National Program of Basic Data. collected by an observer (IEO - COB)
10. Adult hake		
Species		<i>Merluccius merluccius</i> (>25 cm) (100%)
k	0.178	Von Bertalanffy growth function obtained by Mellon-Duval et al., 2010.
Wmat/Winf	0.009	
Age (months)	> 18	
B	0.10	Estimated by Ecopath
P/B	1.28	Fish stock assessment GSA 5
Q/B	4.30	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.93	Estimated by Ecopath
P/Q	0.29	Estimated by Ecopath
Diet		COB surveys. Modifying the diet to avoid high rates of cannibalism. This rate was applied to Demersal fishes.
Landings		From sale sheets
11. Anglerfish		
Species		<i>Lophius budegassa</i> (55.8%). <i>L. piscatorius</i> (44.2%)
B	0.03	Bottom-trawl surveys (BALAR 01-03)
P/B	0.80	Empirical equation from Pauly <i>et al.</i> , 1980 + Fishing mortality
Q/B	3.99	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.30	Estimated by Ecopath

P/Q	0.20	Estimated by Ecopath
Diet		COB surveys
IUU		Carreras <i>et al.</i> , 2015
Landings		from sale sheets; from Sea Around Us data base
Discards		data of national program of basic data collected by an observer (IEO - COB)
12. Shelf demersal fishes		
Species		<i>Diplodus sargus</i> (32.9%). <i>D. vulgaris</i> (30.7%). <i>Chelidonichthys lastoviza</i> (4.2%). <i>Oblada melanura</i> (2.5%). <i>Symphodus rostratus</i> (2.4%). <i>C. cuculus</i> (2.1%). <i>Sciaena umbra</i> (2%). <i>D. puntazzo</i> (2%). <i>Pagellus erythrinus</i> (2%). <i>D. annularis</i> (1.8%). <i>Lepidotrigla cavillone</i> (1.7%). <i>Thalassoma pavo</i> (1.7%). <i>S. tinca</i> (1.5%). <i>Labrus merula</i> (1.4%). <i>Coris julis</i> (1.2%). <i>P. acarne</i> (1.2%). <i>S. ocellatus</i> (1.2%). <i>Sarpa sarpa</i> (1%). <i>Blennius ocellaris</i> (1%). <i>Deltentosteus collonianus</i> (0.9%). <i>L. viridis</i> (0.7%). <i>Synodus saurus</i> (0.6%). <i>Spondylisoma cantharus</i> (0.4%). <i>Symphodus mediterraneus</i> (0.4%). <i>Dactylopterus volitans</i> (0.4%). <i>Symphodus cinereus</i> (0.2%). <i>Deltentosteus quadrimaculatus</i> (0.1%). <i>Cepola macrophthalma</i> (0.1%). <i>Carapus acus</i> (0.1%). <i>Pagellus bogaraveo</i> (0.1%). <i>Chelidonichthys lucerna</i> (0.1%). (<0.1%). <i>Lesuerigobius friesii</i> . <i>Anthias anthias</i> . <i>Gobius niger</i> . <i>Pomatoschistus</i> spp.)
B	1.08	Bottom-trawl surveys (BALAR 01-03); Beam trawl surveys (DRAGONSAL & CANAL0209); Deudero <i>et al.</i> , 2008
P/B	1.70	Adapted of Corrales <i>et al.</i> , 2015
Q/B	6.47	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.99	Estimated by Ecopath
P/Q	0.26	Estimated by Ecopath
Diet		COB surveys; Duka & Shevchenko. 1988; Rosecchi. 1987; Sala & Ballesteros. 1997; Dulcic. 1999; Kallianiotis <i>et al.</i> , 2005; Pallaoro <i>et al.</i> , 2003; Verlaque. 1990; Derbal & Kara. 2007; Dulcic <i>et al.</i> , 2006
IUU		Carreras <i>et al.</i> , 2015
Landings		From sale sheets; from Sea Around Us data base
Discards		From Sea Around Us data base; data of national program of basic data collected by an observer (IEO - COB)
13. Demersal fishes		
Species		<i>Serranus scriba</i> (17.1%). <i>Scorpaena scrofa</i> (15.7%). <i>Serranus hepatus</i> (14%). <i>Sparus aurata</i> (14%). <i>Serranus cabrilla</i> (12.6%). <i>Scorpaena notata</i> (8.4%). <i>Pagrus pagrus</i> (7.9%). <i>Trachinus draco</i> (5.7%). <i>Uranoscopus scaber</i> (1.9%). <i>Scorpaena porcus</i> (1.6%). <i>Trachinus radiatus</i> (0.9%). <i>Scorpaena elongata</i> (0.2%). <i>Scorpaena loppei</i> (<0.1%)
B	0.99	Bottom-trawl surveys (BALAR 01-03); Beam trawl surveys (DRAGONSAL & CANAL0209); Monitoring report of the Marine Reserves
P/B	1.59	Adapted of Corrales <i>et al.</i> , 2015
Q/B	6.93	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.97	Estimated by Ecopath
P/Q	0.23	Estimated by Ecopath
Diet		COB surveys; Papaconstantinou & caragitsou. 1989; Arculeo <i>et al.</i> , 1993; Hadj Taieb <i>et al.</i> , 2013
IUU		Carreras <i>et al.</i> , 2015
Landings		From sale sheets; from Sea Around Us data base
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
14. Deep sea fish		
Species		<i>Micromesistius poutassou</i> (37.7%). <i>Phycis blennoides</i> (16.8%). <i>Helicolenus dactylopterus</i> (9.5%). <i>Coelorinchus coelorinchus</i> (6.4%). <i>Synchiropus phaeton</i> (6.3%). <i>Trigla lyra</i> (5.3%). <i>Centrolophus niger</i> (3.3%). <i>Nezumia aequalis</i> (1.8%). <i>Lepidopus caudatus</i> (1.6%). <i>Peristedion cataphractum</i> (1.3%). <i>Mora moro</i> (1.2%). <i>Hoplostethus mediterraneus</i> (1.1%). <i>Molva dypterygia</i> (0.9%). <i>Lepidion lepidion</i> (0.8%). <i>Hymenocephalus italicus</i> (0.7%). <i>Epigonus telescopus</i> (0.2%). <i>Notacanthus bonaparte</i> (0.2%). <i>Trachyrincus scabrus</i> (0.2%). <i>Bathypterois dubius</i> (0.1%). (<0.1%). <i>Nemichthys scolopaceus</i> . <i>Nettastoma melanurum</i> . <i>Epigonus denticulatus</i> . <i>Alepocephalus rostratus</i>)
B	0.60	Bottom-trawl surveys (BALAR 01-03); Beam trawl surveys (IDEADOS)
P/B	1.51	Adapted of Banaru <i>et al.</i> , 2013
Q/B	6.34	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.95	Estimated by Ecopath
P/Q	0.24	Estimated by Ecopath
Diet		COB surveys
IUU		Carreras <i>et al.</i> , 2015
Landings		From sale sheets; from Sea Around Us data base
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
15. Mulllets		
Species		<i>Mullus surmuletus</i> (61.2%). <i>Mullus barbatus barbatus</i> (38.8%)
B	0.07	Bottom-trawl surveys (BALAR 01-03)
P/B	0.87	Fish stock assessment GSA 5
Q/B	6.30	Empirical equation from Pauly <i>et al.</i> , 1998
EE	0.94	Estimated by Ecopath
P/Q	0.14	Estimated by Ecopath
Diet		COB surveys

IUU		Carreras <i>et al.</i> , 2015
Landings		From sale sheets; Carreras <i>et al.</i> , 2015
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
16. Flatfishes		
Species		<i>Arnoglossus rueppelii</i> (24.1%). <i>Solea</i> spp. (17.1%). <i>Lepidorhombus boscii</i> (16.9%). <i>Bothus podas</i> (12.3%). <i>Citharus linguatula</i> (6.9%). <i>Lepidorhombus whiffiagonis</i> (6.2%). <i>Arnoglossus thori</i> (5.7%). <i>Synapturichthys kleinii</i> (2.9%). <i>Arnoglossus imperialis</i> (2.2%). <i>Pegusa impar</i> (2.1%). <i>Zeuropterus regius</i> (2%). <i>Microchirus variegatus</i> (0.6%). <i>Monochirus hispidus</i> (0.3%). <i>Arnoglossus laterna</i> (0.3%). <i>Symphurus nigrescens</i> (0.2%). <i>Microchirus ocellatus</i> (0.1%). <i>Symphurus ligulatus</i> (0.1%). (<0.1% <i>Bathysolea profundicola</i> . <i>Arnoglossus rueppelii</i>)
B	0.29	Bottom-trawl surveys (BALAR 01-03); Beam trawl surveys (DRAGONSAL & CANAL0209)
P/B	0.98	Empirical equation from Pauly <i>et al.</i> , 1980 + Fishing mortality
Q/B	8.06	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.95	Estimated by Ecopath
P/Q	0.12	Estimated by Ecopath
Diet		Paulo-Martins <i>et al.</i> , 2011; De Juan <i>et al.</i> , 2007; Esposito <i>et al.</i> , 2010; COB surveys; Molinero & Flos. 1991
IUU		Carreras <i>et al.</i> , 2015
Landings		From sale sheets; from Sea Around Us data base
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
17. Mesopelagic fishes		
Species		<i>Ceratoscopelus maderensis</i> (27.8%). <i>Lampanyctus crocodilus</i> (23.2%). <i>Hygophum benoiti</i> (17.4%). <i>Notoscopelus elongatus</i> (9.8%). <i>Bentosema glaciale</i> (8.3%). <i>Mauroliscus muelleri</i> (4.2%). <i>Lobianchia dofleini</i> (2.6%). <i>Myctophum punctatum</i> (1.8%). <i>Stomias boa</i> (1%). <i>Argyropelecus hemigymnus</i> (0.9%). <i>Lampanyctus pusillus</i> (0.6%). <i>Vinciguerria attenuata</i> (0.6%). <i>Chauliodus sloani</i> (0.4%). <i>Cyclothone braueri</i> (0.4%). <i>Diaphus holti</i> (0.3%). <i>Symbolophorus veranyi</i> (0.3%). <i>Hygophum hygomii</i> (0.1%). <i>Lestidiops jayakari jayakari</i> (0.1%). <i>Arctozenus risso</i> (0.1%). (<0.1% <i>Notoscopelus bolini</i> . <i>Electrona risso</i> . <i>Bathophilus nigerrimus</i> . <i>Cyclothone pygmaea</i>)
B	3.16	Estimated by Ecopath
P/B	1.37	Empirical equation from Pauly <i>et al.</i> , 1980 + Fishing mortality
Q/B	8.24	Christensen. 2008
EE	0.95	Assumption
P/Q	0.17	Estimated by Ecopath
U/Q	0.30	Species which feed on zooplankton (Corrales <i>et al.</i> , 2013)
Diet		Bernal <i>et al.</i> , 2015
Discards		data of national program of basic data collected by an observer (IEO - COB)
18. Horse mackerel		
Species		<i>Trachurus mediterraneus</i> (93.6%). <i>Trachurus trachurus</i> (4.8%). <i>Trachurus picturatus</i> (1.6%). <i>Scomber scombrus</i> (0.01%)
B	0.48	Bottom-trawl surveys (BALAR 01-03)
P/B	1.42	Empirical equation from Pauly <i>et al.</i> , 1980 + Fishing mortality
Q/B	8.50	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.79	Estimated by Ecopath
P/Q	0.17	Estimated by Ecopath
Diet		Santic <i>et al.</i> , 2003. 2005
IUU		Carreras <i>et al.</i> , 2015
Landings		from sale sheets; from Sea Around Us data base
Discards		from Sea Around Us data base; data of national program of basic data collected by an observer (IEO - COB)
19. Sardine & anchovy		
Species		<i>Sardina pilchardus</i> (95.3%). <i>Sardinella aurita</i> (3.9%). <i>Engraulis encrasicolus</i> (0.8%) Considering that sardine and anchovy biomasses of Bottom trawl surveys are underestimated. It was applied a multiplied factor from the acoustic surveys in GSA 6. <i>Sardina pilchardus</i> and <i>Sardinella aurita</i> was multiplied by 45 and <i>Engraulis encrasicolus</i> by 10, according to the acoustic data.
B	0.60	
P/B	1.83	Christensen. 2008
Q/B	9.15	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.92	Estimated by Ecopath
P/Q	0.20	Estimated by Ecopath
Diet		Costalago. 2012; Tsikliras <i>et al.</i> , 2005; Madkour. 2012
IUU		Carreras <i>et al.</i> , 2015
Landings		From sale sheets; from Sea Around Us data base
Discards		From Sea Around Us data base; data of national program of basic data collected by an observer (IEO - COB)
20. Benthopelagic feeders		
Species		<i>Spicara smaris</i> (32.7%). <i>Centracanthus cirrus</i> (27.8%). <i>Boops boops</i> (12%). <i>Glossanodon leioglossus</i> (9.6%). <i>Argentina sphyraena</i> (7.9%). <i>Gadiculus argenteus</i> (3.3%). <i>Trisopterus minutus</i> (2.5%). <i>Capros aper</i> (1.9%). <i>Chlorophthalmus agassizi</i> (1.8%). <i>Macroramphosus scolopax</i> (0.3%). <i>Spicara maena</i> (0.1%).
B	2.00	Bottom-trawl surveys (BALAR 01-03)
P/B	1.37	Adapted of Coll <i>et al.</i> , 2006
Q/B	9.01	Empirical equation from Pauly <i>et al.</i> , 1990

EE	0.94	Estimated by Ecopath
P/Q	0.15	Estimated by Ecopath
U/Q	0.3	Species which feed on zooplankton (Corrales <i>et al.</i> , 2013)
Diet		COB surveys; Moreno & Castro. 1995; Karachle & Stergiou. 2014
IUU		Carreras <i>et al.</i> , 2015
Landings		from sale sheets; from Sea Around Us data base
Discards		data of national program of basic data collected by an observer (IEO - COB)
21. Demersal sharks (shelf)		
Species		<i>Scyliorhinus canicula</i> (95.8%). <i>Squalus acanthias</i> (2.3%). <i>Squalus blainvillei</i> (1.7%). <i>Scyliorhinus stellaris</i> (0.1%). <i>Mustelus mustelus</i> (0.1%).
B	0.09	Bottom-trawl surveys (BALAR 01-03)
P/B	0.75	Gascuel <i>et al.</i> , 2008 (Fish equation)
Q/B	6.18	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.43	Estimated by Ecopath
P/Q	0.12	Estimated by Ecopath
Diet		COB surveys; Vall <i>et al.</i> , 2011
IUU		Carreras <i>et al.</i> , 2015
Landings		from sale sheets; from Sea Around Us data base
Discards		data of national program of basic data collected by an observer (IEO - COB)
22. Demersal sharks (slope)		
Species		<i>Galeus melastomus</i> (94.8%). <i>Etmopterus spinax</i> (3.7%). <i>Dalatias licha</i> (1.5%). <i>Chimaera monstrosa</i> (<0.1%)
B	0.07	Bottom-trawl surveys (BALAR 01-03)
P/B	0.65	Gascuel <i>et al.</i> , 2008 (Fish equation)
Q/B	5.94	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.98	Estimated by Ecopath
P/Q	0.11	Estimated by Ecopath
Diet		COB surveys; Vall <i>et al.</i> , 2011
IUU		Carreras <i>et al.</i> , 2015
Landings		from sale sheets; from Sea Around Us data base
Discards		data of national program of basic data collected by an observer (IEO - COB)
23. Rays and skates		
Species		<i>Raja clavata</i> (49.1%). <i>Myliobatis aquila</i> (13.1%). <i>Raja radula</i> (11%). <i>Leucoraja naevus</i> (6%). <i>Raja miraletus</i> (5.6%). <i>Dipturus oxyrinchus</i> (5.2%). <i>Dasyatis pastinaca</i> (3.4%). <i>Raja polystigma</i> (3.1%). <i>Aetomylaeus bovinus</i> (2.1%). <i>Raja rondeleti</i> (0.5%). <i>Raja brachyura</i> (0.5%). <i>Torpedo marmorata</i> (0.3%).
B	0.07	Bottom-trawl surveys (BALAR 01-03)
P/B	0.95	Empirical equation from Pauly <i>et al.</i> , 1980 + Fishing mortality
Q/B	4.17	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.78	Estimated by Ecopath
P/Q	0.23	Estimated by Ecopath
Diet		COB surveys; Vall <i>et al.</i> , 2011. 2017
IUU		Carreras <i>et al.</i> , 2015
Landings		from sale sheets; from Sea Around Us data base
Discards		data of national program of basic data collected by an observer (IEO - COB)
24. Octopus		
Species		<i>Octopus vulgaris</i> (74.1%). <i>Eledone cirrhosa</i> (10.8%). <i>Eledone moschata</i> (8.1%). <i>Pteroctopus tetracirrhus</i> (3%). <i>Scaevurgus unicolor</i> (2.5%). <i>Octopus salutii</i> (0.9%). <i>Bathypolypus sponsalis</i> (0.5%)
B	0.41	Bottom-trawl surveys (BALAR 01-03)
P/B	1.24	Brey. 2001
Q/B	5.27	Adapted of Corrales <i>et al.</i> , 2015
EE	0.82	Estimated by Ecopath
P/Q	0.24	Estimated by Ecopath
Diet		Quetglas <i>et al.</i> , 1998. 2001. 2005; Valls <i>et al.</i> , 2017
IUU		Carreras <i>et al.</i> , 2015
Landings		from sale sheets; from Sea Around Us data base
Discards		data of national program of basic data collected by an observer (IEO - COB)
25. Cuttlefishes		
Species		<i>Sepia officinalis</i> (46.6%). <i>Sepia elegans</i> (20.8%). <i>Sepietta oweniana</i> (16.7%). <i>Sepia orbignyana</i> (9.3%). <i>Rondeletiola minor</i> (2.9%). <i>Neorossia caroli</i> (0.8%). <i>Sepietta neglecta</i> (0.2%). <i>Heteroteuthis dispar</i> (0.1%). <i>Sepiolidae</i> (<0.1%)
B	0.21	Bottom-trawl surveys (BALAR 01-03); Beam trawl surveys (IDEADOS)
P/B	1.48	Brey. 2001
Q/B	6.38	Adapted of Coll <i>et al.</i> , 2006
EE	0.99	Estimated by Ecopath
P/Q	0.23	Estimated by Ecopath
Diet		Valls <i>et al.</i> , 2017; Alves <i>et al.</i> , 2006

IUU		Carreras et al., 2015
Landings		From sale sheets; from Sea Around Us data base
Discards		National Program of Basic Data collected by an observer (IEO - COB)
26. Squids		
Species		<i>Loligo vulgaris</i> (64.8%). <i>Illex coindetii</i> (11.5%). <i>Loligo forbesii</i> (10.4%). <i>Todarodes sagittatus</i> (7.5%). <i>Alloteuthis media</i> (3%). <i>Todaropsis eblanae</i> (0.9%). <i>Histioteuthis reversa</i> (0.6%). <i>Ctenopteryx sicula</i> (0.5%). <i>Histioteuthis bonellii</i> (0.5%). <i>Ancistroteuthis lichtensteinii</i> (0.2%). <i>Abralia veranyi</i> (0.1%).
B	0.34	Bottom-trawl surveys (BALAR 01-03)
P/B	1.31	Adapted of Coll et al., 2006
Q/B	6.29	Adapted of Torres et al., 2013
EE	0.94	Estimated by Ecopath
P/Q	0.21	Estimated by Ecopath
Diet		Quetglas et al., 1999. 2010; Valls et al., 2015. 2017
IUU		Cabanellas-Reboredo et al., 2017
Landings		from sale sheets; Carreras et al., 2015
Discards		data of national program of basic data collected by an observer (IEO - COB)
27. Bivalves and gastropods		
Species		<i>Aequipecten opercularis</i> (22.4%). <i>Trunculariopsis trunculus</i> (10.3%). <i>Turritella turbona</i> (7.4%). <i>Laevicardium crassum</i> (6.6%). <i>Pleurobranchus testudinarius</i> (5.5%). <i>Trophonopsis muricata</i> (4%). <i>Aporrhais pespelicani</i> (3.7%). <i>Turritella</i> spp. (2%). <i>Cerithium aluacstrum</i> (1.9%). <i>Opisthobranchia</i> (1.6%). <i>Doris pseudoargus</i> (1.5%). <i>Gibbula magus</i> (1.5%). <i>Umbraculum umbraculum</i> (1.2%). <i>Centrocardita aculeata</i> (1.2%). <i>Venus casina</i> (1.1%). <i>Aplysia fasciata</i> (1.1%). <i>Clausinella fasciata</i> (1.1%). <i>Neopycnodonte cochlear</i> (1.1%). <i>Fusinus pulchelus</i> (1.1%). <i>Aporrhais serresianus</i> (1.1%). <i>Scaphander lignarius</i> (1%). (<1%. <i>Abra longicallus</i> . <i>Acanthocardia aculeata</i> . <i>Acanthocardia tuberculata</i> . <i>Acanthochinton</i> spp. <i>Acanthochitona crinita</i> . <i>Akera bullata</i> . <i>Anadara diluvii</i> . <i>Anadara polii</i> . <i>Anadara</i> spp. <i>Anomia ephippium</i> . <i>Aplysia</i> spp. <i>Arca</i> spp. <i>Barbatia barbata</i> . <i>Berthella</i> spp. <i>Berthellina edwardsii</i> . <i>Bolinus brandaris</i> . <i>Bolma rugosa</i> . <i>Calliostoma</i> spp. <i>Callista chione</i> . <i>Calyptridae</i> . <i>Capulus ungaricus</i> . <i>Cardites antiquatus</i> . <i>Chamelea gallina</i> . <i>Charonia lampas</i> . <i>Chlamys</i> spp. <i>Chromodoris</i> spp. <i>Comarmondia gracilis</i> . <i>Corbula gibba</i> . <i>Crassopleura maravignae</i> . <i>Cuspidaria cuspidata</i> . <i>Cuspidaria rostrata</i> . <i>Dendrodoris limbata</i> . <i>Dentalium</i> spp. <i>Dermomurex scalaroides</i> . <i>Diaphana minuta</i> . <i>Diodora</i> spp. <i>Discodorididae</i> . <i>Donax variegatus</i> . <i>Doriidae</i> . <i>Doriopsisilla aerolata</i> . <i>Dosinia lupinus</i> . <i>Erato voluto</i> . <i>Fissurella nubecula</i> . <i>Fissurellidae</i> . <i>Fusinus</i> spp. <i>Gari costulata</i> . <i>Gastropoda</i> . <i>Gastropterion rubrum</i> . <i>Gibberula</i> spp. <i>Gibbula</i> spp. <i>Gouldia minima</i> . <i>Hypselodoris</i> spp. <i>Jujubinus exasperatus</i> . <i>Laevicardium</i> spp. <i>Lima</i> spp. <i>Limaria</i> spp. <i>Mimachlamys varia</i> . <i>Mitrella</i> spp. <i>Modiolus modiolus</i> . <i>Monoplex corrugatus</i> . <i>Muricidae</i> . <i>Muricopsis</i> spp. <i>Musculus discors</i> . <i>Myrtea spinifera</i> . <i>Naticarius</i> spp. <i>Naticidae</i> . <i>Nudibranchia</i> . <i>Ocenebrina edwardsii</i> . <i>Ostreidae</i> . <i>Palliolium</i> spp. <i>Pandora pinna</i> . <i>Parvicardium</i> spp. <i>Payraudeautia intricata</i> . <i>Pecten</i> spp. <i>Pectinidae</i> . <i>Phalium undulatum</i> . <i>Platydoris argo</i> . <i>Pleurobranchia meckeli</i> . <i>Pleurobranchus membranaceus</i> . <i>Pseudamussium clavatum</i> . <i>Pseudosimnia adriatica</i> . <i>Pseudosimnia carnea</i> . <i>Pteria hirundo</i> . <i>Ranella olearium</i> . <i>Raphitoma</i> spp. <i>Spisula subtruncata</i> . <i>Tellinidae</i> . <i>Tethys fimbria</i> . <i>Thordisa filix</i> . <i>Thracia phaseolina</i> . <i>Timoclea ovata</i> . <i>Tritonia hombergii</i> . <i>Trivia</i> spp. <i>Turritella communis</i> . <i>Velutinidae</i> . <i>Venus casina</i> . <i>Vermetus</i> spp. <i>Vexillum ebenus</i> . <i>Volvarina mitrella</i> . <i>Xenophora crispa</i>)
B	3.4	Bottom-trawl surveys (BALAR 01-03); Deudero et al., 2015
P/B	1.04	Adapted of Corrales et al., 2015
Q/B	4.26	Adapted of Corrales et al., 2015
EE	0.99	Estimated by Ecopath
P/Q	0.24	Estimated by Ecopath
Diet		Dupuy. 2000; Direction in bivalve feeding. 2009; Aguilar-Rosas. 1990; Malaquias. 2004
Landings		From sale sheets; from Sea Around Us data base
Discards		National Program of Basic Data collected by an observer (IEO - COB)
28. Red shrimp		
Species		<i>Aristeus antennatus</i> (100%)
B	0.04	Fish stock assessment GSA 5
P/B	1.23	Fish stock assessment GSA 5
Q/B	9.44	Empirical equation from Pauly et al., 1990
EE	0.98	Estimated by Ecopath
P/Q	0.13	Estimated by Ecopath
Diet		Cartes et al., 2008
IUU		Carreras et al., 2015
Landings		From sale sheets; Carreras et al., 2015
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
29. White shrimp		
Species		<i>Parapenaeus longirostris</i> (100%)
B	0.02	Fish stock assessment GSA 5
P/B	2.15	Fish stock assessment GSA 5
Q/B	10.03	Empirical equation from Pauly et al., 1990
EE	0.62	Estimated by Ecopath

P/Q	0.21	Estimated by Ecopath
Diet		COB surveys
Landings		From sale sheets
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
30. Norway lobster		
Species		<i>Nephrops norvegicus</i> (100%)
B	0.04	Fish stock assessment GSA 5
P/B	0.59	Fish stock assessment GSA 5
Q/B	6.37	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.86	Estimated by Ecopath
P/Q	0.09	Estimated by Ecopath
Diet		Cristo. 2000
IUU		Carreras <i>et al.</i> , 2015
Landings		From sale sheets; Carreras <i>et al.</i> , 2015
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
31. Lobsters		
Species		<i>Palinurus elephas</i> (99.9%). (<1%. <i>Palinurus mauritanicus</i> . <i>Scyllarides latus</i>)
B	0.08	Mallol & Goñi. 2004 (PESCALA Report)
P/B	1.07	Adapted of Banaru <i>et al.</i> , 2013
Q/B	4.51	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.97	Estimated by Ecopath
P/Q	0.24	Estimated by Ecopath
Diet		Goñi <i>et al.</i> , 2001
IUU		Carreras <i>et al.</i> , 2015
Landings		From sale sheets; from Sea Around Us data base
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
32. Other shrimps		
Species		<i>Plesionika heterocarpus</i> (25.7%). <i>Plesionika martia</i> (16.2%). <i>Processa</i> spp. (5.9%). <i>Pasiphaea multidentata</i> (5.5%). <i>Natantia</i> (4.5%). <i>Plesionika antigai</i> (4.2%). <i>Processa canaliculata</i> (3.9%). <i>Pandalina brevirostris</i> (3.7%). <i>Plesionika acanthonotus</i> (3.2%). <i>Plesionika giglioli</i> (2.9%). <i>Philocheras ehinulatus</i> (2.4%). <i>Philocheras sculptus</i> (2.2%). <i>Pasiphaea sivado</i> (2%). <i>Eusergestes arcticus</i> (1.3%). <i>Aegaeon cataphractus</i> (1.1%). <i>Palaemon</i> spp. (1.1%). <i>Alpheus glaber</i> (1%). (<1%. <i>Ascidonia flavomaculata</i> . <i>Pontophilus spinosus</i> . <i>Chlorotocus crassicornis</i> . <i>Sergia robusta</i> . <i>Pandalina profunda</i> . <i>Caridea</i> . <i>Solenocera membranacea</i> . <i>Pontophilus norvegicus</i> . <i>Alpheidae</i> . <i>Eusergestes arcticus</i> . <i>Aegaeon lacazei</i> . <i>Plesionika edwardsii</i> . <i>Athanas nitescens</i> . <i>Aristaeomorpha foliacea</i> . <i>Alpheus macrocheles</i> . <i>Pandalidae</i> . <i>Acentephyra pelagica</i> . <i>Plesionika narval</i> . <i>Sergestes arachnopus</i> . <i>Eualus occultus</i> . <i>Pandalina</i> spp. <i>Plesionika</i> spp. <i>Alpheus dentipes</i> . <i>Balssia gastii</i> . <i>Periclimenes</i> spp.)
B	3.32	The biomass of other shrimps is underestimated in beam trawl surveys. The maximum biomass of survey for this FG was multiplied by 10, based on Reiss <i>et al.</i> , 2006.
P/B	2.86	Brey, 2001
Q/B	12.48	Empirical equation from Pauly <i>et al.</i> , 1990
EE	0.99	Estimated by Ecopath
P/Q	0.23	Estimated by Ecopath
Diet		Cartes. 1993. 1995; Fanelli & Cartes. 2004. 2008
Landings		From sale sheets
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
33. Crabs (Reptantia)		
Species		<i>Pagurus prideauxi</i> (55.7%). <i>Dardanus arrosor</i> (7.5%). <i>Inachus thoracicus</i> (6.8%). <i>Inachus dorsettensis</i> (5.3%). <i>Pisa armata</i> (2.6%). <i>Dardanus</i> spp. (2.4%). <i>Eurynome aspera</i> (2.1%). <i>Ebalia tuberosa</i> (1.8%). <i>Paguristes eremita</i> (1.8%). <i>Pagurus forbesii</i> (1.5%). <i>Parthenopoides massena</i> (1.4%). <i>Paguridae</i> (1%). <i>Inachus communissimus</i> (1%). (<1%. <i>Achaeus cranchi</i> . <i>Anapagurus</i> spp. <i>Atelecyclus rotundatus</i> . <i>Bathynectes longipes</i> . <i>Calappa granulata</i> . <i>Calcinus tubularis</i> . <i>Calocaris macandreae</i> . <i>Cestopagurus timidus</i> . <i>Dardanus calidus</i> . <i>Diogenes pugilator</i> . <i>Dromia personata</i> . <i>Ebalia</i> spp. <i>Ethusa mascaronae</i> . <i>Eurynome spinosa</i> . <i>Galathea</i> spp. <i>Geryon longipes</i> . <i>Goneplax rhomboides</i> . <i>Heterocrypta maltzami</i> . <i>Ilia nucleus</i> . <i>Latreillia elegans</i> . <i>Liocarcinus</i> spp. <i>Lissa chiragra</i> . <i>Macropipus tuberculatus</i> . <i>Macropodia</i> spp. <i>Maja</i> spp. <i>Medorippe lanata</i> . <i>Monodaeus couchi</i> . <i>Munida</i> spp. <i>Pagurus</i> spp. <i>Palicus caroni</i> . <i>Paromola cuvieri</i> . <i>Pilumnus</i> spp. <i>Pisa</i> spp. <i>Pisidia longicornis</i> . <i>Polychaetes typhlops</i> . <i>Rissoides desmaresti</i> . <i>Scyllarus arctus</i> . <i>Scyllarus pygmaeus</i> . <i>Typton spongicola</i> . <i>Xantho pilipes</i>)
B	2.42	Bottom-trawl surveys (BALAR 01-03); Beam trawl surveys (DRAGONSAL. CANAL0209 & IDEADOS)
P/B	2.71	Brey. 2001
Q/B	8.98	Adapted of Torres <i>et al.</i> , 2013
EE	0.88	Estimated by Ecopath
P/Q	0.30	Estimated by Ecopath
Diet		Abelló & Cartes. 1987; Abelló. 1989; Cartes. 1993; Cartes & Abelló. 1992
Landings		From sale sheets
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)

34. Echinodermata		
Species		<i>Spatangus purpureus</i> (80.3%). <i>Parastichopus regalis</i> (4.7%). <i>Echinastes sepositus</i> (1.7%). <i>Echinus melo</i> (1.7%). <i>Astropecten aranciatus</i> (1.5%). <i>Ophiura ophiura</i> (1.3%). (<1%. <i>Amphiura</i> spp. <i>Anseropoda placenta</i> . <i>Antedon mediterranea</i> . Asteroidea. <i>Astropecten</i> spp. <i>Centrostephanus longispinus</i> . <i>Chaetaster longipes</i> . <i>Cidaridae</i> . <i>Cidaris cidaris</i> . <i>Echinocyamus pusillus</i> . Echinoidea. <i>Gracilechinus acutus</i> . <i>Hacelia attenuata</i> . <i>Holothuria</i> spp. <i>Leptometra</i> spp. <i>Leptopentacta tergestina</i> . <i>Luidia</i> spp. <i>Marthasterias glacialis</i> . <i>Molpadia musculus</i> . <i>Ocnus planci</i> . <i>Ophiacantha setosa</i> . <i>Ophiocomina nigra</i> . <i>Ophioderma longicauda</i> . <i>Ophiomyxa pentagona</i> . <i>Ophiopsila</i> spp. <i>Ophiotrix fragilis</i> . <i>Ophiura</i> spp. Ophiuroidea. <i>Peltaster placenta</i> . <i>Psammechinus microtuberculatus</i> . <i>Sphaerechinus granularis</i> . <i>Stylocidaris affinis</i> . <i>Tethyaster subinermis</i> . <i>Trachythyrone elongata</i>)
Biomass	2.62	Bottom-trawl surveys (BALAR 01-03); Beam trawl surveys (DRAGONSAL. CANAL0209 & IDEADOS); Cardona <i>et al.</i> , 2007
P/B	0.86	Brey. 2001
Q/B	2.61	Adapted of Banaru <i>et al.</i> , 2013
EE	0.48	Estimated by Ecopath
P/Q	0.33	Estimated by Ecopath
Diet		La Touche. 1976; Baaeta & Ramón. 2013; De Juan <i>et al.</i> , 2007; Cano-Mercadé. 2011; Gianguzza <i>et al.</i> , 2016; Fernandez & Caltagirone. 1998; Barberá <i>et al.</i> , 2011
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
35. Other benthic invertebrates		
Species		Porifera (39.7%). <i>Polycarpa mamillaris</i> (9.9%). <i>Ascidia mentula</i> (4.8%). <i>Botryllus schlosseri</i> (4.1%). <i>Myriapora truncata</i> (4%). <i>Polyclinella azemai</i> (3.1%). Bryozoa (2.6%). <i>Molgula appendiculata</i> (2.5%). <i>Microcosmus vulgaris</i> (2%). <i>Polycarpa</i> spp. (2%). <i>Adamsia cariniopados</i> (1.8%). <i>Aplidium elegans</i> (1.5%). <i>Phallusia mammillata</i> (1.5%). <i>Calliactis parasitica</i> (1.4%). <i>Spongites mammosum</i> (1.2%). <i>Alcyonium palmatum</i> (1.1%). Styelidae (1.1%). (<1%. <i>Aaptos aaptos</i> . <i>Acanthella acuata</i> . <i>Acryptolaria conferta</i> . <i>Adeonella calveti</i> . <i>Adocia</i> spp. <i>Aetea truncata</i> . <i>Aglaophenia acacia</i> . <i>Alcyonium</i> spp. <i>Amathia</i> spp. <i>Amphiblestrum lyrulatum</i> . <i>Antalis agilis</i> . <i>Antho involvens</i> . Antozoo. <i>Aplidium</i> spp. <i>Aplysina aerophoba</i> . <i>Ascidia</i> spp. <i>Ascidacea</i> . <i>Ascidella</i> spp. <i>Axinella</i> spp. <i>Beania cylindrica</i> . Brachiopoda. <i>Bubaris vermiculata</i> . <i>Callogorgia verticillata</i> . Calyptotheca. <i>Calyx nicaeensis</i> . <i>Celleporina tubulosa</i> . <i>Cerianthus</i> spp. <i>Chlidonia pyriformis</i> . <i>Chondrosia reniformis</i> . <i>Chorizopora brongniartii</i> . <i>Ciona</i> spp. <i>Clathria coralloides</i> . <i>Cliona celata</i> . Cnidaria. <i>Coronellina fagei</i> . <i>Crambe crambe</i> . <i>Craniella cranium</i> . <i>Cribellopora trichotoma</i> . <i>Crisia</i> spp. <i>Cystodytes dellechiaiei</i> . <i>Dendrodoa grossularia</i> . <i>Dentiporella</i> spp. <i>Diazona violacea</i> . <i>Dyctionella</i> spp. <i>Didemniidae</i> . <i>Didemnum</i> spp. <i>Diplastrella bistellata</i> . <i>Discotectonica discus</i> . <i>Disydea</i> spp. <i>Epizoanthus</i> spp. <i>Erylus euastrum</i> . <i>Eudistoma</i> spp. <i>Eunicella</i> spp. <i>Fenestrulina</i> spp. <i>Funiculina quadrangularis</i> . <i>Gorgoniidae</i> . <i>Halecium halecium</i> . <i>Halichondria</i> spp. <i>Haliclona</i> spp. <i>Halocynthia papillosa</i> . <i>Hemimya columella</i> . <i>Hincksinoflustra octodon</i> . <i>Hippospongia communis</i> . <i>Hormathia alba</i> . <i>Hornera</i> spp. Hydrozoa. <i>Hymedesmia</i> spp. <i>Ircinia</i> spp. <i>Lepas anatifera</i> . <i>Lichenopora</i> spp. <i>Lytocarpia myriophyllum</i> . <i>Microcosmus</i> spp. <i>Microporella appendiculata</i> . <i>Mimosella verticillata</i> . <i>Molgula</i> spp. <i>Morchellium argus</i> . <i>Mühlfeldtia truncata</i> . <i>Mycale</i> spp. <i>Myriapora</i> spp. <i>Myxilla</i> spp. <i>Nemertesia</i> spp. <i>Nolella dilatata</i> . <i>Oscarella</i> spp. <i>Paralcyonium spinulosum</i> . <i>Paramuricea</i> spp. <i>Parazoanthus</i> spp. <i>Pennatula</i> spp. <i>Pentapora</i> spp. <i>Petrosia ficiformis</i> . <i>Phorbas tenacior</i> . <i>Pleurobranchia pileus</i> . <i>Plocamionida ambigua</i> . <i>Polycarpa</i> spp. <i>Polycitor</i> spp. <i>Polyclinidae</i> . <i>Polymastia</i> spp. <i>Polysyncraton lacazei</i> . <i>Porella cervicornis</i> . <i>Prosuberites epyphitum</i> . <i>Pseudodistoma</i> spp. <i>Pseudosuberites hyalinus</i> . <i>Pteroides spinosum</i> . <i>Puellina innominata</i> . <i>Pyura</i> spp. <i>Pyuridae</i> . <i>Raspaciona aculeata</i> . <i>Reniera</i> spp. <i>Reteporella</i> spp. <i>Rhizaxinella pyrifera</i> . <i>Rhychozoon neapolitanum</i> . <i>Sarcotragus muscarum</i> . <i>Scalarispongia scalaris</i> . <i>Scalpellum scalpellum</i> . <i>Schizobrachiella sanguinea</i> . <i>Schizomavella cuspidata</i> . <i>Schizoporella</i> spp. <i>Scrupocellaria</i> spp. <i>Sertella</i> spp. <i>Sertularella</i> spp. <i>Sertularia distans</i> . <i>Siphonochalina balearica</i> . <i>Smittina</i> spp. <i>Smittoidea marmorea</i> . <i>Spongia</i> spp. <i>Spongosorites</i> spp. <i>Styela canopus</i> . <i>Suberites</i> spp. <i>Sycon</i> spp. <i>Synoicum blochmanni</i> . <i>Syntheicum evansi</i> . <i>Tethya aurantium</i> . <i>Thenea muricata</i> . <i>Tubulipora</i> spp. <i>Turbicellepora avicularis</i> . <i>Tylodesma inornata</i> . <i>Virgularia mirabilis</i>)
B	2.44	Bottom-trawl surveys (BALAR 01-03)
P/B	3.48	Adapted of Costa Brava
Q/B	12.64	Adapted of Costa Brava
EE	0.47	Estimated by Ecopath
P/Q	0.28	Estimated by Ecopath
Diet		Armstrong. 2001; Baragné. 1988; Coma. 1994; Hernández-Zanuy. 2007; Kötter. 2002
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
36. Annelids		
Species		Polychaeta (37.5%). <i>Laetmonice hystrix</i> (26.3%). <i>Hyalinoecia tubicola</i> (12.9%). <i>Ditrupea arietina</i> (7.8%). <i>Filograna implexa</i> (4.2%). <i>Lanice conchilega</i> (2.2%). <i>Aphrodita aculeata</i> (2.2%). (<1%. <i>Acholoe astericola</i> . <i>Aphroditidae</i> . <i>Chloeia venusta</i> . <i>Flabelligera diplochaitos</i> . <i>Halla parthenopeia</i> . <i>Hesione pantherina</i> . <i>Hyrtio collectrix</i> . <i>Pontobdella muricata</i> . <i>Priapulidae</i> . <i>Protula</i> spp. <i>Sabella spallanzanii</i> . <i>Sabellidae</i> . <i>Salmacina</i> spp. <i>Serpula vermicularis</i> . <i>Serpulidae</i> . <i>Sigalion squamatum</i> . <i>Sigalionidae</i> . <i>Sipunculidae</i> . <i>Sipunculus nudus</i> . <i>Vermetidae</i>)
B	1.54	Beam trawl surveys (DRAGONSAL 0209 & IDEADOS).
		Considering the maximum biomass because in bottom-trawl surveys the annelids biomass is underestimated
P/B	2.82	Adapted of Corrales <i>et al.</i> , 2015

Q/B	10.29	Adapted of Coll et al., 2006
EE	0.62	Estimated by Ecopath
P/Q	0.27	Estimated by Ecopath
Diet		Fauchald & Jumars. 1979
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
37. Suprabenthos		
Species		<i>Lophogaster typicus</i> (70.3%). <i>Natanolona borealis</i> (7.7%). <i>Boreomysis arctica</i> (7.1%). <i>Siriella</i> spp. (4.3%). Amphipoda (3%). Isopoda (2%). <i>Aega</i> spp. (1.5%). <i>Paranthura</i> spp. (1%). (<1%. <i>Epimeria parasitica</i> . <i>Eucopia hanseni</i> . <i>Gammaridae</i> . <i>Maera schmidtii</i> . <i>Mysidopsis</i> spp. <i>Scina crassicornis</i> . <i>Sphaeromatidae</i> . <i>Streetsia challengerii</i> . <i>Sysenus infelix</i> . <i>Trischizostoma nicaeense</i>)
B	1.42	Estimated by Ecopath
P/B	13.96	Estimated by Ecopath
Q/B	46.53	Adapted of Coll., 2006
EE	0.95	Assumption
P/Q	0.30	Adapted of Torres et al., 2013
Diet		Fanelli et al., 2009
38. Gelatinous plankton		
Species		<i>Pelagia noctiluca</i> (76.5%). <i>Cymbulia peronii</i> (10.8%). <i>Pyrosoma atlanticum</i> (5.2%). <i>Aurelia aurita</i> (2.5%). <i>Periphylla periphylla</i> (1.9%). <i>Aequorea forskali</i> (1.1%). <i>Salpa</i> spp. (1%). (<1%. <i>Doliolum</i> spp. <i>Salpa maxima</i>)
B	0.39	Beam trawl surveys (DRAGONSAL 0209 & IDEADOS)
P/B	14.13	Adapted of Corrales et al., 2015
Q/B	51.42	Adapted of Corrales et al., 2015
EE	0.57	Estimated by Ecopath
P/Q	0.28	Estimated by Ecopath
Diet		Graham & Kroutil. 2001; Orek. 2000
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
39. Macrozooplankton		
Species		<i>Nematoscelis megalops</i> (39.1%). <i>Meganyctiphanes norvegica</i> (38%). <i>Phronima sedentaria</i> (10.4%). <i>Chelophyes appendiculata</i> (9.8%). <i>Stylocheiron maximum</i> (2.1%). <i>Phyllosoma</i> : larva of <i>Scyllarus pigmaeus</i> (0.5%).
B	1.57	Estimated by Ecopath
P/B	20.78	Adapted of Corrales et al., 2015
Q/B	51.88	Adapted of Corrales et al., 2015
EE	0.95	Assumption
P/Q	0.40	Estimated by Ecopath
Diet		Baamstedt & Karlson. 1998
40. Micro and mesozooplankton		
Species		Copepods. Cladocerans. Euphausiids. Mysids. Amphipods. Ostracods. Fish and invertebrate eggs and larvae.
B	4.99	Fernandez de Puelles. 2003a. 2007
P/B	43.42	Adapted of Corrales et al., 2015
Q/B	125.80	Adapted of Corrales et al., 2015
EE	0.56	Estimated by Ecopath
P/Q	0.35	Estimated by Ecopath
Diet		Calbet et al., 2002
41. Benthic primary producers		
Species		<i>Peyssonnelia inamoena</i> (26.5%). <i>P. rubra</i> (20.6%). <i>Lithothamnion valens</i> (8.9%). Corallinaceae (6%). <i>P. harveyana</i> (5.6%). <i>P. rosa-marina</i> (4.3%). <i>Spongites fruticulosus</i> (4.2%). <i>L. corallioides</i> (4.2%). <i>Osmundaria volubilis</i> (3.8%). <i>Phymatolithon calcareum</i> (3%). <i>Phyllophora crispa</i> (2.1%). <i>Arthrocladia villosa</i> (1.5%). <i>Polysiphonia subulifera</i> (1.2%). (<1%. <i>Acrothamnion preissii</i> . <i>Aeodes</i> spp. <i>Aglaozonia chilosa</i> . Algae. <i>Alsidium corallium</i> . <i>Anadyomena stellata</i> . <i>Asperococcus bullosus</i> . <i>Balliella cladoderma</i> . <i>Bonnemaisonia clavata</i> . <i>Botryocladia</i> spp. <i>Brogniartella byssoides</i> . <i>Calliblepharis jubata</i> . <i>Callophilis laciniata</i> . <i>Carpomitra costata</i> . <i>Caulerpa</i> spp. <i>Ceramiales</i> . <i>Ceramium rubrum</i> . <i>Chlorophyceae</i> . <i>Chondracanthus acicularis</i> . <i>Choristocarpus tenellus</i> . <i>Chrysomenia ventricosa</i> . <i>Chylocladia verticillata</i> . <i>Cladophora pellucida</i> . <i>Codium</i> spp. <i>Cryptonemia</i> spp. <i>Cryptopleura ramosa</i> . <i>Cutleria</i> spp. <i>Cyanophyta</i> . <i>Cymodocea nodosa</i> . <i>Cystoseira</i> spp. <i>Dasya</i> spp. <i>Delesseriaceae</i> . <i>Dictyopteris</i> spp. <i>Dictyoya</i> spp. <i>Diogenes simplex</i> . <i>Ectocarpaceae</i> . <i>Erythroglussum</i> spp. <i>Eupogodon</i> spp. <i>Flabellia petiolata</i> . <i>Gelidium latifolium</i> . <i>Gloiocladia</i> spp. <i>Gracilaria</i> spp. <i>Griffithsia</i> spp. <i>Halicystis parvula</i> . <i>Halimeda tuna</i> . <i>Halophythis incurva</i> . <i>Halopteris</i> spp. <i>Halymenia</i> spp. <i>Kallymenia</i> spp. <i>Laminaria rodriguezii</i> . <i>Laurencia obtusa</i> . <i>Leptofauchea coralligena</i> . <i>Lithophyllum</i> spp. <i>Lomentaria</i> spp. <i>Lophocladia lallemandii</i> . <i>Meredithia microphylla</i> . <i>Mesophyllum lichenoides</i> . <i>Metapeyssonnelia</i> spp. <i>Microdictyon tenuius</i> . <i>Myriogramme tristomatica</i> . <i>Nemastoma dumontioides</i> . <i>Neurocaulon foliosum</i> . <i>Nitophyllum flabellatum</i> . <i>Osmundea pelagosae</i> . <i>Palmophyllum crassum</i> . <i>Peyssonnelia</i> spp. <i>Phaeophyceae</i> . <i>Phyllophora heredia</i> . <i>Plocamium cartilagineum</i> . <i>Polysiphonia</i> spp. <i>Porphyra leucosticta</i> . <i>Pterothamnion plumula plumula</i> . <i>Punctaria latifolia</i> . <i>Rhodophyta</i> . <i>Rhodymenia</i> spp. <i>Rhodophyceae</i> . <i>Rodriguezella</i> spp. <i>Rytiphlaea tinctoria</i> . <i>Sargassum</i> spp. <i>Sebdenia</i> spp. <i>Spermatocchnus paradoxus</i> . <i>Sphaerococcus</i> spp. <i>Sphondylothamnion multifidum</i> . <i>Sporocchnus pedunculatus</i> . <i>Spyridia filamentosa</i> . <i>Stictyosiphon adriaticus</i> .

		<i>Stilophora rhizoides</i> . <i>Tricleocarpa oblongata</i> . <i>Ulva</i> spp. <i>Umbraulva dangeardii</i> . <i>Valonia</i> spp. <i>Womersleyella setacea</i> . <i>Wrangelia penicillata</i> . <i>Zanardinia typus</i> . <i>Zonaria tournefortii</i>)
B	35.09	Bottom-trawl surveys (BALAR 01-03) and beam trawl surveys (DRAGONSAL CANAL0209)
P/B	1.12	Adapted of Corrales et al., 2015
EE	0.14	Estimated by Ecopath
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
42. Seagrass		
Species		<i>Posidonia oceanica</i> (100%)
B	19.82	MAGRAMA - Atlas of the sea meadows
P/B	2.00	MAGRAMA - Atlas of the sea meadows; Conversion factors from Pérez & Romero, 2008
EE	0.002	Estimated by Ecopath
Discards		Data of National Program of Basic Data collected by an observer (IEO - COB)
43. Phytoplankton		
Species		Diatoms. Dinoflagellates
B	5.47	From Chlorophyll a via satellite (MODIS-A) (http://emis.jrc.ec.europa.eu/# .); Conversion factors from Vila et al., PBQB protocol
P/B	168.3	From Primary Production via satellite (SEAWIFS) (http://emis.jrc.ec.europa.eu/# .); Conversion factors from Daalsgard & Pauly, 1997
EE	0.54	Estimated by Ecopath
44. Discards		
		83.2% of bottom trawl. 15.1% of artisanal. 0.8% of purse seine. 0.9% of surface longline
B	0.84	Data collected through the national program of basic data by an observer (IEO - COB)
EE	0.14	Estimated by Ecopath
45. Detritus		
		Associated heterotrophic bacteria.
B	43.14	Estimated from primary production with the empirical equation of Pauly et al., 1993a
EE	0.3 6	Estimated by Ecopath

TABLE A.2. Diet composition matrix. Grey cells represent values of cannibalism. Cells with 0 values represent values lower than 0.001.

Prey\Predator	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6	0.01	0.03	0	0.17	0.02	0	0.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7	0	0	0	0.02	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	0.36	0	0	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9	0	0	0	0	0	0.00	0	0	0.01	0.01	0.06	0	0	0.00	0	0.00	0	0.00	0	0	0	0	0.01	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0.13	0	0	0.01	0	0	0	0.00	0	0.14	0.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12	0	0.11	0	0	0.02	0.03	0.02	0.23	0	0	0.00	0.00	0.07	0	0	0.01	0	0.00	0	0	0.01	0	0.06	0	0.22	0.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0.02	0.01	0.01	0.07	0.01	0.01	0.00	0.16	0.01	0.12	0.20	0.01	0.04	0.00	0.01	0.06	0	0.01	0	0.00	0.10	0	0.03	0.22	0	0.03	0	0	0	0	0.04	0	0	0.00	0	0	0	0	0	0	0	0
14	0.11	0	0	0.00	0.01	0.00	0.03	0.03	0.04	0.17	0.17	0.00	0.01	0.04	0	0.01	0	0.02	0	0	0.04	0.03	0.05	0.00	0.14	0.04	0	0	0	0.02	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0.00	0	0.01	0	0	0.05	0	0.00	0	0	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0.00	0	0	0.01	0	0	0.00	0.01	0.01	0.11	0.00	0.01	0.00	0	0.01	0	0.00	0	0	0.04	0.00	0.01	0.02	0.04	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0.03	0.01	0	0	0.23	0.13	0.00	0.00	0.19	0.03	0	0	0.00	0.26	0	0.01	0.03	0.01	0	0.08	0.02	0.32	0	0.00	0.01	0.10	0	0.11	0.03	0.12	0	0	0	0	0	0	0	0	0	0	0	0
18	0.01	0.02	0	0.01	0.09	0.02	0.08	0.01	0.03	0.21	0.05	0	0.03	0	0	0	0	0.00	0	0	0.03	0	0.02	0	0	0.03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0.02	0.02	0	0.15	0.11	0.28	0.13	0.01	0.35	0.13	0	0	0.01	0	0	0	0	0.04	0	0	0	0	0.01	0	0.19	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0.06	0.06	0	0	0.00	0.15	0.03	0.03	0.20	0.13	0.14	0	0.07	0.03	0	0.04	0	0.19	0	0	0.12	0.00	0.16	0.07	0	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22	0	0	0	0	0	0	0	0	0	0	0.03	0	0	0	0	0	0	0	0	0	0	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0.02	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
24	0.01	0.00	0.01	0.00	0.03	0.00	0.01	0.22	0	0	0.03	0.00	0.01	0	0	0	0	0	0	0	0.01	0.00	0.03	0.00	0.01	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.08	0.00	0	0.00	0.00	0.01	0.01	0.01	0.00	0	0.00	0	0	0.01	0.04	0.00	0.01	0	0.02	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	
26	0.05	0.03	0.00	0.35	0.06	0.04	0.02	0.02	0.03	0.05	0.11	0	0.00	0.01	0	0.01	0	0.01	0	0	0.08	0.09	0.02	0.01	0	0	0	0.02	0.03	0.00	0	0	0	0	0	0	0	0	0	0	0	
27	0	0	0.00	0	0	0	0	0.00	0	0	0	0.25	0.03	0.02	0.03	0.04	0	0	0	0.00	0.00	0	0.05	0.08	0.08	0.00	0.04	0.04	0.05	0.04	0.50	0.00	0.00	0.01	0	0	0	0	0	0		
28	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0.00	0.00	0.00	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0.00	0	0.01	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	0	0	0	0	0.02	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0.00	0.00	0	0	0.00	0.00	0	0.03	0.09	0.01	0.00	0.07	0.18	0.12	0.28	0.18	0	0.01	0	0.11	0.06	0.15	0.10	0.07	0.11	0.12	0	0.17	0.10	0.10	0	0.04	0.10	0	0	0	0	0	0	0		
33	0	0	0.00	0	0	0	0.00	0.14	0.00	0.00	0.00	0.10	0.26	0.09	0.08	0.07	0	0.01	0	0.00	0.18	0.01	0.31	0.37	0.13	0.01	0	0.04	0.05	0.13	0.18	0.01	0.04	0.00	0	0	0	0	0	0	0	
34	0	0	0.00	0	0	0	0	0.00	0	0	0	0.08	0.02	0.02	0.04	0.00	0	0	0	0.00	0.00	0	0.00	0.00	0	0	0	0.01	0.19	0.01	0.14	0.00	0.00	0.00	0	0	0	0	0	0	0	
35	0	0	0.00	0	0	0	0	0.00	0	0	0	0.18	0.04	0.03	0	0	0	0	0	0.00	0.01	0.05	0.00	0.04	0.01	0.00	0.08	0.01	0	0.07	0.09	0.01	0.03	0.00	0	0	0	0	0	0	0	
36	0	0	0.00	0	0	0	0	0.00	0	0	0	0.03	0.01	0.01	0.12	0.20	0	0.01	0	0.01	0.17	0.00	0.04	0.05	0.00	0.04	0	0.16	0.23	0.05	0.01	0.01	0.01	0.00	0	0	0	0	0	0	0	
37	0	0	0.00	0	0	0	0	0.00	0.02	0.00	0	0.17	0.16	0.15	0.30	0.32	0	0.09	0	0.11	0.08	0.06	0.09	0.03	0.00	0.04	0	0.27	0.30	0.09	0.00	0.12	0.34	0.00	0	0	0	0	0	0	0	
38	0	0	0.14	0	0	0.00	0.00	0	0.01	0	0.00	0.00	0.00	0.02	0	0	0.04	0	0	0.00	0.00	0.02	0	0	0	0.00	0	0.02	0	0.10	0	0.04	0.00	0	0	0	0	0	0	0	0	0
39	0	0.00	0.00	0	0	0.17	0.02	0	0.01	0	0	0.01	0.06	0.19	0.14	0.05	0.22	0.04	0.00	0.21	0.04	0.19	0.01	0	0.05	0.05	0	0.08	0	0.14	0	0.37	0	0	0	0	0	0	0.1	0	0	
40	0	0	0	0	0	0.00	0	0	0	0	0	0.02	0.00	0.00	0	0	0.64	0.55	0.90	0.46	0	0	0	0	0	0	0.10	0.04	0.03	0.00	0	0.19	0.10	0	0.20	0	0.10	0.6	0.50	0	0	
41	0	0	0.00	0	0	0	0	0.00	0	0	0	0.08	0.00	0	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0	0	0	0.31	0	0	0	0.05	0	0	0.00	0	0	0	0	0	0	0	0
42	0	0	0.00	0																																						

TABLE A. 3. Confidence intervals (CI) and index values of the balanced model.

Parameter	Category	Index value	CI (%)
Biomass	Estimated by Ecopath	0.0	±80
	From other model	0.0	±80
	Guestimate	0.0	±80
	Approximate or indirect method	0.4	±50
	Sampling/locally, low precision	0.6	±40
	Sampling/locally, high precision	0.8	±10
P/B and Q/B	Estimated by Ecopath	0.0	±80
	Guestimate	0.1	±70
	From other model	0.2	±60
	Empirical relationship	0.5	±50
	Similar species, similar system, low precision	0.6	±40
	Similar species, same system, low precision	0.7	±30
	Same species, similar system, low precision	0.8	±20
	Same species, same system, high precision	1.0	±10
Diet	From other model	0.1	±70
	General knowledge of related groups/species	0.1	±80
	General knowledge for same groups/species	0.2	±60
	Qualitative diet composition study	0.5	±50
	Quantitative (but limited) diet composition study	0.6	±40
	Quantitative (detailed) diet composition study	0.7	±30
Catch	From other model	0.1	±90
	National statistics	0.5	±50
	Intermediate (local study and national statistics)	0.6	±40
	Local study, low precision/incomplete data	0.7	±30
	Local study, high precision/complete data	0.9	±10

TABLE A. 4. Output estimates of the Balearic Island model. R/A: respiration/assimilation ratio; R/B: respiration/biomass ratio (year⁻¹); P/R: production/respiration ratio; P/Q: production/consumption; FD: flow to detritus (t/km²/year); NE: net efficiency.

FG	R/A	R/B	P/R	P/Q	FD	NE
1 Dolphins	0.99	9.79	0.01	0.01	0.07	0.01
2 Sea birds	0.91	48.52	0.10	0.07	0.03	0.09
3 Loggerhead turtle	0.92	1.66	0.09	0.07	0.00	0.08
4 Pelagic sharks	0.88	1.88	0.14	0.10	0.04	0.13
5 Large pelagics	0.77	1.49	0.29	0.18	0.10	0.23
6 Medium pelagics	0.85	3.70	0.18	0.12	0.15	0.15
7 Dolphinfish	0.88	3.41	0.13	0.09	0.05	0.12
8 Macrocarnivorous fishes (shelf)	0.87	2.91	0.16	0.11	0.26	0.13
9 Juvenile Hake	0.77	6.06	0.29	0.18	0.07	0.23
10 Adult Hake	0.51	1.75	0.96	0.39	0.05	0.49
11 Anglerfish	0.75	2.40	0.33	0.20	0.04	0.25
12 Shelf Demersal fishes	0.67	3.48	0.49	0.26	1.42	0.33
13 Demersal fishes	0.71	3.96	0.40	0.23	1.43	0.29
14 Deep-sea fishes	0.70	3.57	0.42	0.24	0.81	0.30
15 Mulletts	0.83	4.17	0.21	0.14	0.09	0.17
16 Flatfishes	0.85	5.47	0.18	0.12	0.48	0.15
17 Mesopelagic fishes	0.76	4.40	0.31	0.17	7.97	0.24
18 Horse mackerel	0.79	5.38	0.26	0.17	0.96	0.21
19 Sardine & anchovy	0.71	4.58	0.40	0.20	1.73	0.29
20 Benthopelagic feeders	0.78	4.93	0.28	0.15	5.56	0.22
21 Demersal sharks (shelf)	0.85	4.19	0.18	0.12	0.15	0.15
22 Demersal sharks (slope)	0.86	4.10	0.16	0.11	0.08	0.14
23 Rays & skates	0.72	2.39	0.40	0.23	0.08	0.28
24 Octopus	0.73	3.35	0.37	0.23	0.37	0.27
25 Cuttlefishes	0.71	3.63	0.41	0.23	0.27	0.29
26 Squids	0.65	2.46	0.53	0.21	0.88	0.35
27 Bivalves & gastropods	0.59	1.51	0.69	0.24	5.96	0.41
28 Red shrimp	0.84	6.33	0.19	0.13	0.08	0.16
29 White shrimp	0.73	5.87	0.37	0.21	0.05	0.27
30 Norway lobster	0.88	4.51	0.13	0.09	0.03	0.12
31 Lobsters	0.70	2.54	0.42	0.24	0.08	0.30
32 Other shrimps	0.71	7.13	0.40	0.23	8.33	0.29
33 Crabs (Reptantia)	0.62	4.47	0.60	0.30	5.10	0.38
34 Echinodermata	0.53	0.96	0.90	0.33	3.23	0.47
35 Other benthic invertebrates	0.54	4.10	0.85	0.28	16.79	0.46
36 Annelids	0.54	3.35	0.84	0.27	7.95	0.46
37 Suprabenthos	0.57	18.61	0.75	0.30	20.79	0.43
38 Gelatinous plankton	0.66	27.00	0.52	0.27	6.39	0.34
39 Macrozooplankton	0.50	20.72	1.00	0.40	17.92	0.50
40 Micro & mesozooplankton	0.57	57.22	0.76	0.35	221.57	0.43
41 Benthic primary producers	-	-	-	-	33.77	-
42 Seagrass	-	-	-	-	39.56	-
43 Phytoplankton	-	-	-	-	422.56	-
44 Discards	-	-	-	-	0.73	-
45 Detritus	-	-	-	-	-	-

Figure A. 1. Multi-stanza representation of European hake (*Merluccius merluccius*), with population split into juvenile and adult individuals, with an age of transition of 18 months according to the National Programme of collection, management and use of data in the fisheries sector (Mellon-Duval et al., 2010).

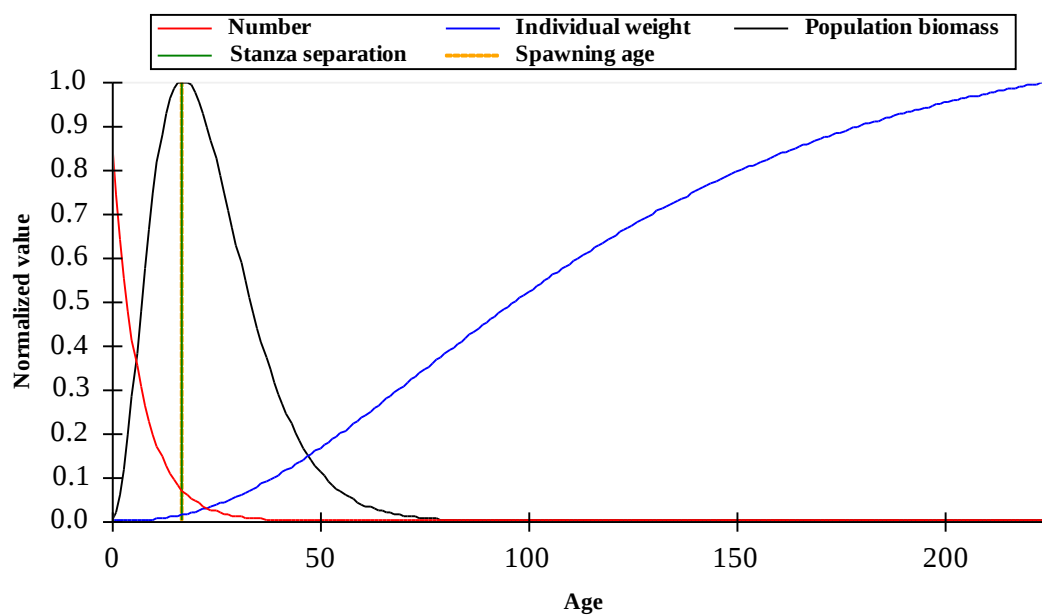


FIGURE A. 2 Pre-balance diagnostics of Biomass, Production/Biomass, Consumption/Biomass, Production/Consumption.

Pre-balance diagnostics

