

Institut Català de Recerca per a la Governança del Mar (ICATMAR)

# State of Fisheries in Catalonia 2020 (Part 2: Annexes) Part 2: Annexes (ICATMAR, 21-02)



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per a la Governança del Mar

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- Official sources of information on the fisheries sector of the Directorate-General for Fisheries and Maritime Affairs.

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## ANNEX I. TABLE OF SPECIES AND DEBRIS

This table indicates the color and the code used for each item to the graphs corresponding to the specific composition of each fraction. It indicates the color and the code used for each item to the graphs corresponding to the specific composition of each fraction. Species common name (Catalan), common name (English) and FAO code were extracted from Generalitat de Catalunya (<http://agricultura.gencat.cat/ca/detalls/Noticia/Publicada-la-Llista-de-denominacions-comercials-despecies-pesqueres-i-daquicultura-00001>).

Colour	Scientific Name	Code	Common name (Catalan)	Common name (English)	FAO Code
<b>Actinopterygii</b>					
	<i>Arnoglossus laterna</i>	Alat			MSF
	<i>Boops boops</i>	Bboo	Boga	Bogue	BOG
	<i>Capros aper</i>	Cape	Xavo	Boarfish	BOC
	<i>Alosa fallax</i>	Afal	Alosa / saboga		TSD
	<i>Chelidonichthys lucerna</i>	Cluc	Lluerna rossa	Tub gurnard	GUU
	<i>Chelidonichthys lastoviza</i>	Clas			CTZ
	<i>Coelorinchus caelorhincus</i>	Ccae			CQL
	<i>Bothus podas</i>	Bpod	Tacó	Wide-eyed flounder	OUB
	<i>Trachinus draco</i>	Tdra	Aranya blanca	Greater weever	WEG
	<i>Gobius niger</i>	Gnig	Gobi d'alga	Black goby	GBN
	<i>Conger conger</i>	Ccon	Congre	European conger	COE
	<i>Nemichthys scolopaceus</i>	Nsco			ANM
	<i>Xyrichtys novacula</i>	Xnov	Llorito		XYN
	<i>Citharus linguatula</i>	Clin	Palaia	Spotted flounder	CIL
	<i>Dicentrarchus labrax</i>	Dlab	Llobarro	European seabass	BSS
	<i>Diplodus annularis</i>	Dann	Esparrall	Annular seabream	ANN
	<i>Chelidonichthys cuculus</i>	Ccuc			
	<i>Alepocephalus rostratus</i>	Aros			PHO
	<i>Engraulis encrasicolus</i>	Eenc	Seitó	European anchovy	ANE
	<i>Eutrigla gurnardus</i>	Egur	Cap d'ase	Grey gurnad	GUG
	<i>Spicara spp.</i>	Sspp	Xucles/gerrets		PIC

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Colour	Scientific Name	Code	Common name (Catalan)	Common name (English)	FAO Code
	<i>Sphyaena sphyraena</i>	Ssph	Espet	European barracuda	YRS
	<i>Gadiculus argenteus</i>	Garg			GDG
	<i>Gymnammodites cicereus</i>	Gcic			
	<i>Gymnammodites semisesquamatus</i>	Gsem			
	<i>Helicolenus dactylopterus</i>	Hdac	Penegal	Rockfish	BRF
	<i>Trachinotus ovatus</i>	Tova	Palometa blanca		POP
	<i>Hoplostethus mediterraneus</i>	Hmed	Rellotge	Mediterranean slimehead	HPR
	<i>Lithognathus mormyrus</i>	Lmor	Mabre	Striped seabream	SSB
	<i>Lampanyctus crocodilus</i>	Lcro			LYD
	<i>Lepidorhombus boscii</i>	Lbos	Bruixa de quatre taques	Fourspeckled megrim	LDB
	<i>Synodus saurus</i>	Ssau			SDR
	<i>Mugil cephalus</i>	Mcep	Llissa llobarrera	Grey mullet	MUF
	<i>Lepidopus caudatus</i>	Lcau	Sabre	Silver scabbard fish	SFS
	<i>Lepidotrigla dieuzeidei</i>	Ldie			LEP
	<i>Lophius budegassa</i>	Lbud	Rap vermell	Black-bellied angler	ANK
	<i>Lophius piscatorius</i>	Lpis	Rap	Angler	MON
	<i>Macroramphosus scolopax</i>	MSCO	Trompeter	Longspine spinefish	SNS
	<i>Merluccius merluccius</i>	Mmer	Lluç	European hake	HKE
	<i>Micromesistius poutassou</i>	Mpou	Maire	Blue whiting	WHB
	<i>Mullus barbatus</i>	Mbar	Moll de fang	Red mullet	MUT
	<i>Mullus surmuletus</i>	Msur	Moll de roca	Striped red mullet	MUR
	<i>Nezumia aequalis</i>	Naeq			NZA
	<i>Argentina sphyraena</i>	Asph	Peix de plata	Argentine	ARY
	<i>Notoscopelus elongatus</i>	Nelo			
	<i>Pagellus erythrinus</i>	Pery	Pagell	Common pandora	PAC
	<i>Sparus aurata</i>	Saur	Orada	Gilthead seabream	SBG
	<i>Pagellus acarne</i>	Paca	Besuc	Axillary seabream	SBA
	<i>Pagellus bogaraveo</i>	Pbog	Besuc de la piga	Red seabream	SBR

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Colour	Scientific Name	Code	Common name (Catalan)	Common name (English)	FAO Code
	<i>Arnoglossus thori</i>	Atho	Peluda pigallada	Thor's scaldfish	RNH
	<i>Phycis blennoides</i>	Pble	Bròtola de fang	Greater forkbeard	GFB
	<i>Sardina pilchardus</i>	Spil	Sardina	European pilchard	PIL
	<i>Sardinella aurita</i>	Saur	Alatxa	Round sardinella	SAA
	<i>Scomber scombrus</i>	Ssco	Verat	Atlantic mackerel	MAC
	<i>Scomber colias</i>	Scol	Bis	Chub mackerel	VMA
	<i>Molva macrophthalma</i>	Mmac	Escolà	Blue ling	SLI
	<i>Callionymus maculatus</i>	Cmac			
	<i>Chelon labrosus</i>	Clab	Llissa o Llissa vera	Thicklip grey mullet	MLR
	<i>Mola mola</i>	Mmol	Bot	Ocean sunfish	MOX
	<i>Scorpaena elongata</i>	Selo	Escòrpora allargada		EZS
	<i>Scorpaena loppei</i>	Slop			
	<i>Pomatomus saltatrix</i>	Psal	Tallahams	Bluefish	BLU
	<i>Serranus hepatus</i>	Shep	Serrà de bou	Brown comber	SRJ
	<i>Diplodus vulgaris</i>	Dvul	Variada	Common Two-banded seabream	CTB
	<i>Belone belone</i>	Bbel	Agulla	Garfish	GAR
	<i>Spicara flexuosa</i>	Sfle			
	<i>Lepidotrigla cavillone</i>	Lcav	Escatós	Large-scaled gurnard	LDV
	<i>Hymenocephalus italicus</i>	Hita			HYS
	<i>Spicara maena</i>	Smae	Xucla		BPI
	<i>Centrolophus niger</i>	Cnig	Negret / Trotllo negre	Black fish	CEO
	<i>Lepidorhombus whiffiagonis</i>	Lwhi	Serrandell	Megrim	MEG
	<i>Sprattus sprattus</i>	Sspr	Amploia	Sprat	SPR
	<i>Trachurus mediterraneus</i>	Tmed	Sorell blancal	Mediterranean horse mackerel	HMM
	<i>Chauliodus sloani</i>	Cslo			CDN
	<i>Stomias boa</i>	Sboa			SBB
	<i>Synchiropus phaeton</i>	Spha			TWB
	<i>Ceratoscopelus maderensis</i>	Cmad			MCD

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Colour	Scientific Name	Code	Common name (Catalan)	Common name (English)	FAO Code
	<i>Chelidonichthys obscurus</i>	Cobs	Lluerna fosca	Longfin gurnard	GUM
	<i>Uranoscopus scaber</i>	Usca	Rata	Stargazer	UUC
	<i>Trachurus picturatus</i>	Tpic	Sorell fumat	Blue jack mackerel	JAA
	<i>Trachurus trachurus</i>	Ttra	Sorell	Mackerel	HOM
	<i>Trachyrhynchus scabrus</i>	Tsca			
	<i>Trigla lyra</i>	Tlyr	Garneu	Piper gurnard	GUN
	<i>Chelon auratus</i>	Caur	Galta-roig	Goldengrey mullet	MGA
	<i>Cepola macrophthalmalma</i>	Cmac	Veta	Red bandfish	CBC
	<i>Trisopterus capelanus</i>	Tcap	Möllera	Poor cod	
<b>Chondrichthyes</b>					
	<i>Etmopterus spinax</i>	Espi	Negret	Velvet belly	ETX
	<i>Dasyatis pastinaca</i>	Dpas	Escurçana	Common stingray	JDP
	<i>Raja asterias</i>	Rast	Rajada estrellada	Starry ray	JRS
	<i>Raja polystigma</i>	Rpol			JAY
	<i>Raja clavata</i>	Rcla	Clavellada	Thornback ray	RJC
	<i>Raja spp.</i>	Rssp	Rajades nep	Rays nei	SKA
	<i>Galeus melastomus</i>	Gmel	Moixina	Blackmouth catshark	SHO
	<i>Scyliorhinus canicula</i>	Scan	Gat	Smallspotted catshark	SYC
	<i>Chimaera monstrosa</i>	Cmon	Guilla	Rabbit fish	CMO
	<i>Torpedo torpedo</i>	Ttor			TTV
	<i>Torpedo marmorata</i>	Tmar	Vaca tremolosa	Marbled electric ray	TTR
<b>Crustacea</b>					
	<i>Aristeus antennatus</i>	Aant	Gamba rosada	Blue and red shrimp	ARA
	<i>Callinectes sapidus</i>	Csap	Cranc blau		CRB
	<i>Dardanus arrosor</i>	Darr			
	<i>Geryon longipes</i>	Glon	Cranc de la gamba	Mediterranean geryon	GRQ
	<i>Goneplax rhomboides</i>	Grho			
	<i>Liocarcinus depurator</i>	Ldep	Cranc de sopa	Blue-leg swimcrab	IOD

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Colour	Scientific Name	Code	Common name (Catalan)	Common name (English)	FAO Code
	<i>Macropodia longipes</i>	Mlon			
	<i>Macropipus tuberculatus</i>	Mtub			MQL
	<i>Medorippe lanata</i>	Mlan			
	<i>Munida intermedia</i>	Mint			
	<i>Nephrops norvegicus</i>	Nnor	Escamarlà	Norway lobster	NEP
	<i>Pagurus prideaux</i>	Ppri			
	<i>Parapenaeus longirostris</i>	Plon	Gamba blanca	Deep-water pink shrimp	DPS
	<i>Pasiphaea multidentata</i>	Pmul			FAM
	<i>Pasiphaea sivado</i>	Psiv			FAV
	<i>Penaeus kerathurus</i>	Pker			
	<i>Plesionika heterocarpus</i>	Phet	Gamba borda	Arrow shrimp	LKO
	<i>Plesionika edwardsii</i>	Pedw	Gamba panxuda	Stripped soldier shrimp	LKW
	<i>Plesionika martia</i>	Pmar			LKT
	<i>Paromola cuvieri</i>	Pcuv	Cabrot	Paromola	OLV
	<i>Polycheles typhlops</i>	Ptyp			JLB
	<i>Robustosergia robusta</i>	Rrob			
	<i>Solenocera membranacea</i>	Smem	Gambeta de fons		SKM
	<i>Squilla mantis</i>	Sman	Galera	Spottail mantis shrimp	MTS

**Cephalopoda**

	<i>Ancistrocheirus lesueurii</i>	Ales			
	<i>Ancistroteuthis lichtensteinii</i>	Alic			
	<i>Alloteuthis spp.</i>	Aspp	Calamarcets		OUW
	<i>Bathypolipus sponsalis</i>	Bspo			
	<i>Callistoctopus macropus</i>	Cmac	Polpa	White-spotted octopus	OCN
	<i>Loligo vulgaris</i>	Lvul	Calamar	European squid	SQR
	<i>Eledone moschata</i>	Emos	Pop mesquer	Musky octopus	EDT
	<i>Eledone cirrhosa</i>	Ecir	Pop blanc	Horned octopus	EOI



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	<i>Bathypolypus sponsalis</i>	Bspo			YYS
	<i>Pteroctopus tetracirrus</i>	Ptet			OCJ
	<i>Illex coindetii</i>	Icoi	Canana Vera	Broadtail squid	SQM
	<i>Histioteuthis bonnellii</i>	Hbon			HQB
	<i>Histioteuthis reversa</i>	Hrev			HQS
	<i>Octopus salutii</i>	Osal			OQT
	<i>Todarodes sagittatus</i>	Tsag	Canana	European flying squid	SQE
	<i>Scaevurgus unicolor</i>	Suni			UGU
	<i>Sepia orbignyana</i>	Sorb	Sepions		IAR
	<i>Octopus vulgaris</i>	Ovul	Pop roquer	Common octopus	OCC
	<i>Rossia macrosoma</i>	Rmac			ROA
	<i>Abralia veranyi</i>	Aver			BLJ
	<i>Sepia officinalis</i>	Soff	Sípia	Common cuttlefish	CTC
<b>Other Mollusca</b>					
	<i>Galeodea echinophora</i>	Gech			
	<i>Calliostoma granulatum</i>	Cgra			KON
	<i>Aporrhais serresiana</i>	Aser			OHX
	<i>Neopycnodonte cochlear</i>	Ncoc			NPQ
	<i>Acanthocardia echinata</i>	Aech	Escopinya	European prickly cockle	AKJ
	<i>Pecten maximus</i>	Pmax	Vano		SCE
	<i>Bolinus brandaris</i>	Bbra	Cargol de punxes		BOY
	<i>Doris pseudoargus</i>	Dpse			
	<i>Cymbulia peronii</i>	Cper			
	<i>Tethys fimbria</i>	Tfim			
<b>Echinodermata</b>					
	<i>Brissopsis lyrifera</i>	Blyr			
	<i>Ova canalifera</i>	Ocan			
	<i>Gracilechinus acutus</i>	Gacu			

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Colour	Scientific Name	Code	Common name (Catalan)	Common name (English)	FAO Code
	<i>Echinus melo</i>	Emel			UTJ
	<i>Cidaris cidaris</i>	Ccid			
	<i>Parastichopus regalis</i>	Preg	Espardenya	Royal cucumber	JCR
	<i>Holothuria tubulosa</i>	Htub	Cogombre de mar		HFT
	<i>Leptometra phalangium</i>	Lpha			OVQ
	<i>Coscinasterias tenuispina</i>	Cten			
	<i>Luidia ciliaris</i>	Lcil			
	<i>Astropecten aranciacus</i>	Aara			
	<i>Astropecten irregularis</i>	Airr			AVC
<b>Annelida</b>					
	<i>Tubs Polychaeta</i>	TPol			
	<i>Aphrodita aculeata</i>	Aacu			AKW
<b>Cnidaria</b>					
	<i>Alcyonium palmatum</i>	Apal			
	<i>Calliactis parasitica</i>	Cpar			KKK
	<i>Rhizostoma pulmo</i>	Rpul			
	<i>Veretillum cynomorium</i>	Vcyn			
	<i>Pelagia noctiluca</i>	Pnoc			
<b>Tunicata</b>					
	<i>Corella parallelogramma</i>	Cpar			
	<i>Diazona violacea</i>	Dvio			
	<i>Phallusia mammillata</i>	Pmam			
	<i>Ascidia sp. 2</i>	A2			
	<i>Ascidia sp. 1</i>	A1			
<b>Porifera</b>					
	<i>Cliona celata</i>	Ccel			
	<i>Spongosorites spp.</i>	Sspp			
	<i>Suberites spp.</i>	Sspp			

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Colour	Scientific Name	Code	Common name (Catalan)	Common name (English)	FAO Code
<b>Anthropogenic debris</b>					
	Others	Oth	Altres		
	Plastic	Pla	Plàstic		
	Lumber	Lum	Fusta		
	Clinker	Cli	Carbó		
	Wet wipes	Wet	Tovallolletes		
	Textiles	Tex	Tèxtil		
	Fishing gear	Fis	Arts de pesca		
	Glass	Gla	Vidre/Ceràmica		
	Metal	Met	Metall		
	Ropes	Rop	Cordes		
	Unclassified debris	Unc	Residus no classificats		
	Rubber	Rub	Goma/Cautxú		
	Cigarette stubs	Cig	Cigarreta		
<b>Natural debris</b>					
	Other marine algae	Oth	Altres algues marines		
	Terrestrial animals	Ter	Animals terrestres		
	Shells	She	Closques		
	Codium bursa	Cod	Codium bursa		
	Codium tomentosum	Cod	Codium tomentosum		KJT
	Marine plants	Mar	Plantes marines		
	Calcified remains	Cal	Restes calcàries		
	Marine organic debris	Mar	Restes orgàniques marines		
	Rhodophyta	Rho	Rhodophyta		
	Terrestrial plants	Ter	Vegetals terrestres		

## ANNEX II. BIOMASS CATALONIA

Table 1. Mean and standard deviation of the biomass of the species present in the landed fraction of the catch in each fishing ground including all hauls sampled in Catalonia from January to December 2020.

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>250.69</b>	<b>173.63</b>	<b>156.79</b>	<b>42.15</b>	<b>284.15</b>	<b>208.38</b>	<b>166.57</b>	<b>200.73</b>	<b>42.22</b>	<b>34.65</b>
<i>Phycis blennoides</i>					3.08	7.09	79.89	194.73	20.92	21.32
<i>Merluccius merluccius</i>	1.06	1.82	37.05	26.71	32.84	20.44	15.08	10.31	5.45	7.41
<i>Trachurus trachurus</i>			8.06	10.59	82.21	139.33	0.98	3.28	0.11	0.55
<i>Mullus barbatus</i>	19.57	13.80	10.04	4.75	36.04	36.61	0.29	0.89	0.01	0.05
<i>Lophius budegassa</i>	0.25	0.55	8.91	7.19	41.38	30.59	5.02	9.63	3.04	11.84
<i>Trachurus mediterraneus</i>	42.00	31.15	9.27	12.06	0.45	1.84				
<i>Sparus aurata</i>	45.81	86.30	1.07	1.68						
<i>Pagellus erythrinus</i>	36.06	56.23	2.83	2.06	7.12	15.29	0.14	0.52		
<i>Micromesistius poutassou</i>					0.01	0.05	37.39	81.34	4.63	6.00
<i>Trisopterus capelanus</i>	1.76	3.89	10.82	8.74	18.36	19.64	0.02	0.09		
<i>Sphyraena sphyraena</i>	27.27	32.41	2.23	4.99						
<i>Scomber scombrus</i>	7.64	13.33	11.13	6.21	5.84	22.92				
<i>Citharus linguatula</i>	0.93	0.58	15.02	10.99	4.35	4.88	0.07	0.21		
<i>Mugil cephalus</i>	16.99	37.98								
<i>Mullus surmuletus</i>	1.77	0.95	1.90	3.00	9.55	26.01	0.43	1.91	0.02	0.11
<i>Lepidorhombus boscii</i>					3.49	4.38	7.85	7.53	0.45	0.69
<i>Chelidonichthys lucerna</i>	5.11	5.76	4.31	6.36	1.08	1.29				
<i>Boops boops</i>	2.12	4.75	7.20	16.10	0.59	3.14				
<i>Lophius piscatorius</i>					5.77	23.82	1.42	5.15	2.60	9.27
<i>Diplodus annularis</i>	8.36	7.80	1.30	1.88	0.01	0.06				
<i>Trachinus draco</i>	1.15	1.48	3.64	3.24	4.07	6.60				
<i>Conger conger</i>	1.24	1.00	1.23	1.00	0.58	1.25	1.64	1.59	2.84	5.14
<i>Chelon labrosus</i>	6.24	13.95								
<i>Dicentrarchus labrax</i>	5.93	13.26			0.19	1.01				
<i>Helicolenus dactylopterus</i>					0.11	0.27	5.55	9.96	0.42	0.85
<i>Gobius niger</i>	0.32	0.72	3.86	3.91	0.56	1.52				
<i>Sardina pilchardus</i>			4.05	9.05	0.13	0.53				
<i>Centrolophus niger</i>							3.91	12.25	0.25	0.94
<i>Eutrigla gurnardus</i>	0.02	0.05	0.58	1.12	3.26	5.68				
<i>Trigla lyra</i>					0.90	2.36	2.85	4.17		
<i>Solea senegalensis</i>	3.49	2.50	0.25	0.55						
<i>Diplodus vulgaris</i>	3.20	5.97	0.24	0.32						
<i>Serranus hepatus</i>	0.05	0.10	1.04	0.85	2.08	6.69				
<i>Molva macrophthalma</i>					0.02	0.09	1.90	2.60	1.21	4.00
<i>Spicara spp.</i>	0.20	0.46	2.58	4.90	0.32	1.43				
<i>Scorpaena elongata</i>					1.22	2.62	1.58	2.20	0.05	0.23

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Arnoglossus laterna</i>	0.52	0.71	1.82	1.78	0.41	0.87				
<i>Lepidotrigla cavillone</i>	0.05	0.06	0.81	0.64	1.85	3.85				
<i>Pagellus acarne</i>	2.48	3.50	0.18	0.39	0.01	0.04				
<i>Uranoscopus scaber</i>	0.10	0.22	1.26	0.93	1.30	1.97				
<i>Chelon auratus</i>	2.03	4.54			0.56	2.98				
<i>Scomber colias</i>	0.70	1.57	1.73	1.66						
<i>Cepola macrophthalma</i>	0.12	0.17	0.85	1.34	1.42	3.54	0.02	0.06		
<i>Alosa fallax</i>			0.56	1.24	1.56	8.23				
<i>Pomatomus saltatrix</i>	1.86	4.15								
<i>Chelidonichthys obscurus</i>	0.24	0.33	0.08	0.19	1.48	6.54	0.03	0.14		
<i>Spicara flexuosa</i>					1.81	9.11				
<i>Chelidonichthys lastoviza</i>					1.52	7.82				
<i>Argentina sphyraena</i>					1.13	4.21	0.11	0.26		
<i>Trachurus picturatus</i>					1.21	6.26				
<i>Scorpaena notata</i>	0.62	0.81	0.22	0.26	0.33	1.08				
<i>Umbrina canariensis</i>	1.08	2.40								
<i>Chelidonichthys cuculus</i>			0.08	0.19	0.96	2.23	0.01	0.07		
<i>Caranx rhonchus</i>	0.92	2.05								
<i>Blennius ocellaris</i>					0.60	1.31				
<i>Pagellus bogaraveo</i>							0.35	0.91	0.21	0.60
<i>Serranus cabrilla</i>					0.55	1.64				
<i>Spondyliosoma cantharus</i>	0.30	0.68			0.09	0.38				
<i>Zeus faber</i>					0.34	1.05				
<i>Seriola dumerili</i>	0.34	0.75								
<i>Ophidion barbatum</i>			0.24	0.53	0.05	0.19	0.04	0.17		
<i>Engraulis encrasicolus</i>					0.31	1.58				
<i>Lepidotrigla dieuzeidei</i>					0.29	0.86				
<i>Arnoglossus imperialis</i>			0.27	0.60	0.02	0.12				
<i>Scorpaena scrofa</i>					0.28	0.91				
<i>Sciaena umbra</i>	0.20	0.30								
<i>Microchirus variegatus</i>	0.06	0.07	0.03	0.07	0.09	0.22				
<i>Arnoglossus thori</i>	0.05	0.11	0.09	0.19	0.03	0.10				
<i>Monochirus hispidus</i>					0.13	0.67				
<i>Pomadasys incisus</i>	0.12	0.27								
<i>Solea solea</i>	0.12	0.26								
<i>Scophthalmus rhombus</i>	0.10	0.23								
<i>Lithognathus mormyrus</i>	0.10	0.22								
<i>Diplodus sargus</i>	0.06	0.12			0.00	0.03				
<i>Lepidorhombus whiffiagonis</i>					0.06	0.31				
<i>Arnoglossus rueppelii</i>					0.05	0.27				
<i>Symphurus nigrescens</i>					0.02	0.06				
<i>Spicara smaris</i>					0.02	0.09				
<i>Capros aper</i>					0.02	0.08				
<i>Chromis chromis</i>					0.00	0.02				

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Gadiculus argenteus</i>							0.00	0.01		
<b>Chondrichthyes</b>	<b>1.46</b>	<b>2.22</b>	<b>0.13</b>	<b>0.30</b>	<b>11.13</b>	<b>37.86</b>	<b>23.36</b>	<b>45.00</b>	<b>10.19</b>	<b>21.04</b>
<i>Scyliorhinus canicula</i>					8.86	29.29	23.12	44.45	2.85	9.17
<i>Galeus melastomus</i>							0.23	1.08	7.34	16.51
<i>Raja clavata</i>					1.91	10.13				
<i>Raja asterias</i>	1.46	2.22	0.13	0.30						
<i>Raja polystigma</i>					0.35	1.87				
<i>Torpedo marmorata</i>					0.00	0.00				
<b>Crustacea</b>	<b>38.61</b>	<b>28.23</b>	<b>61.48</b>	<b>57.37</b>	<b>19.66</b>	<b>24.82</b>	<b>81.83</b>	<b>59.16</b>	<b>92.92</b>	<b>47.91</b>
<i>Aristeus antennatus</i>							0.35	1.05	74.97	31.92
<i>Parapenaeus longirostris</i>	0.07	0.15	14.20	9.29	13.14	18.39	33.03	35.21	1.10	2.39
<i>Squilla mantis</i>	28.76	29.30	24.96	23.08	3.08	8.45				
<i>Nephrops norvegicus</i>			0.87	0.74	0.35	1.24	46.71	33.01	3.18	4.33
<i>Liocarcinus depurator</i>	0.09	0.11	21.27	38.78	3.01	10.87	0.04	0.19		
<i>Penaeus kerathurus</i>	9.70	14.05	0.09	0.11						
<i>Pasiphaea multidentata</i>							0.03	0.10	5.07	5.71
<i>Paromola cuvieri</i>							0.33	1.57	3.71	13.05
<i>Geryon longipes</i>							0.14	0.64	2.91	5.83
<i>Plesionika martia</i>							0.20	0.54	1.37	1.49
<i>Robustosergia robusta</i>									0.49	1.52
<i>Plesionika heterocarpus</i>					0.01	0.06	0.39	0.84	0.01	0.03
<i>Macropipus tuberculatus</i>					0.05	0.12	0.17	0.57	0.00	0.01
<i>Plesionika edwardsii</i>							0.19	0.89	0.01	0.03
<i>Palinurus mauritanicus</i>							0.15	0.68		
<i>Callinectes sapidus</i>			0.09	0.21						
<i>Polycheles typhlops</i>									0.06	0.13
<i>Solenocera membranacea</i>							0.03	0.14	0.01	0.05
<i>Munida intermedia</i>							0.04	0.14	0.00	0.00
<i>Chlorotocus crassicornis</i>							0.03	0.09		
<i>Plesionika gigliolii</i>							0.02	0.05	0.00	0.00
<i>AcanthePHYra eximia</i>									0.02	0.04
<i>Pasiphaea sivado</i>									0.00	0.01
<i>Munida speciosa</i>							0.00	0.01		
<i>Aristaeomorpha foliacea</i>									0.00	0.01
<i>Plesionika acanthonotus</i>									0.00	0.01
<i>AcanthePHYra pelagica</i>									0.00	0.01
<i>Processa nouveli</i>									0.00	0.00
<i>Aegaeon lacazei</i>									0.00	0.00
<i>Ligur ensiferus</i>									0.00	0.00
<b>Cephalopoda</b>	<b>28.94</b>	<b>15.80</b>	<b>50.09</b>	<b>21.08</b>	<b>58.00</b>	<b>53.55</b>	<b>18.28</b>	<b>19.71</b>	<b>3.86</b>	<b>5.57</b>
<i>Eledone cirrhosa</i>	2.56	5.73	22.21	11.25	20.03	19.45	10.29	15.35	1.65	3.49
<i>Illex coindetii</i>	0.45	1.02	12.99	12.59	28.52	44.82	4.90	7.63	0.31	1.15
<i>Alloteuthis spp.</i>	5.85	5.64	5.96	4.42	0.75	1.54			0.10	0.48
<i>Sepia officinalis</i>	11.61	10.09			0.24	1.28				

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Octopus vulgaris</i>	4.41	9.85	4.65	10.39	2.49	4.99	0.21	1.01		
<i>Loligo vulgaris</i>	3.64	4.01	2.24	1.45	0.36	0.68				
<i>Todarodes sagittatus</i>							1.68	2.22	1.76	3.75
<i>Sepia orbignyana</i>			0.05	0.11	2.21	2.57	0.26	0.62		
<i>Scaevurgus unicolor</i>					2.11	7.68	0.09	0.41		
<i>Sepia elegans</i>			1.05	1.49	0.45	1.07	0.00	0.02		
<i>Eledone moschata</i>	0.43	0.95	0.87	1.95	0.07	0.36				
<i>Rossia macrosoma</i>					0.03	0.08	0.63	2.57	0.03	0.14
<i>Callistoctopus macropus</i>					0.37	1.33				
<i>Sepietta spp.</i>					0.15	0.37	0.12	0.50		
<i>Alloteuthis media</i>					0.22	0.70				
<i>Sepietta oweniana</i>			0.07	0.15			0.03	0.10		
<i>Pteroctopus tetracirrus</i>							0.06	0.29		
<i>Octopus salutii</i>									0.01	0.05
<i>Abralia veranyi</i>							0.00	0.01		
<i>Sepiolidae</i>					0.00	0.00				
<b>Other Mollusca</b>	<b>2.37</b>	<b>1.86</b>	<b>2.58</b>	<b>1.43</b>	<b>0.59</b>	<b>1.62</b>	<b>0.08</b>	<b>0.25</b>		
<i>Bolinus brandaris</i>	2.37	1.86	1.54	1.12	0.02	0.06				
<i>Galeodea rugosa</i>			0.82	1.71	0.23	0.55	0.02	0.04		
<i>Galeodea echinophora</i>			0.22	0.41	0.34	1.57	0.01	0.04		
<i>Buccinum humphreysianum</i>							0.05	0.26		
<i>Acanthocardia echinata</i>			0.00	0.00						
<i>Calliostoma granulatum</i>					0.00	0.00				
<i>Pecten jacobaeus</i>	0.00	0.00								
<b>Echinodermata</b>			<b>0.47</b>	<b>1.06</b>	<b>8.47</b>	<b>17.90</b>				
<i>Parastichopus regalis</i>			0.47	1.06	8.47	17.90				

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

Table 2. Mean and standard deviation of the biomass of the species present in the discarded fraction of the catch in each fishing ground including all hauls sampled in Catalonia from January to December 2020.

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>115.8</b>	<b>142.7</b>	<b>141.5</b>	<b>175.1</b>	<b>116.8</b>	<b>188.5</b>	<b>12.1</b>	<b>14.0</b>	<b>7.3</b>	<b>11.1</b>
<i>Sardinella aurita</i>	56.64	119.40	7.25	16.67						
<i>Engraulis encrasicolus</i>	6.26	9.84	48.60	99.61	6.28	25.12				
<i>Boops boops</i>	4.82	5.57	8.83	15.95	32.86	75.44	0.10	0.48		
<i>Spicara flexuosa</i>	0.80	0.80	15.37	23.56	10.36	23.19	0.10	0.43		
<i>Sardina pilchardus</i>	3.18	4.00	22.45	34.43	0.20	0.61	0.00	0.02		
<i>Trachurus trachurus</i>	0.40	1.05	8.08	16.02	11.22	18.40	0.86	3.73	0.10	0.51
<i>Pagellus acarne</i>	19.53	50.53	0.99	2.62	0.07	0.33				
<i>Merluccius merluccius</i>	0.80	1.85	11.08	12.32	7.89	9.13	0.27	0.46	0.04	0.24
<i>Trachurus mediterraneus</i>	9.89	12.02	3.95	4.71			0.00	0.02		
<i>Spicara maena</i>	0.58	1.52	6.13	9.04	5.22	22.60			0.01	0.06
<i>Macroramphosus scolopax</i>					11.85	70.64	0.01	0.04		
<i>Capros aper</i>	0.01	0.02	0.02	0.05	7.72	34.71	0.52	1.51	0.00	0.01
<i>Arnoglossus laterna</i>	0.83	1.46	2.92	3.17	0.85	2.46	0.01	0.04	0.01	0.02
<i>Mola mola</i>					4.60	25.51				
<i>Diplodus annularis</i>	4.39	5.42	0.09	0.23	0.02	0.14				
<i>Pagellus bogaraveo</i>					3.91	15.91	0.29	1.09	0.09	0.50
<i>Trisopterus capelanus</i>	0.18	0.47	2.10	3.81	1.85	6.43	0.03	0.14		
<i>Lophius budegassa</i>					3.62	11.06	0.38	0.92		
<i>Pagellus erythrinus</i>	2.83	3.61			0.45	1.16	0.01	0.04		
<i>Citharus linguatula</i>	0.47	0.83	1.77	2.51	0.49	0.77	0.00	0.01		
<i>Conger conger</i>					0.25	1.28	1.68	4.83	0.63	1.39
<i>Sparus aurata</i>	1.70	2.72	0.73	1.93						
<i>Gadiculus argenteus</i>					0.05	0.27	2.13	5.81	0.04	0.13
<i>Phycis blennoides</i>					0.48	2.77	1.30	2.27	0.36	0.76
<i>Mullus barbatus</i>	1.30	2.45			0.58	2.01				
<i>Serranus hepatus</i>			0.48	0.97	1.25	3.45	0.01	0.04		
<i>Trachyrhynchus scabrus</i>							0.01	0.05	1.67	3.78
<i>Lampanyctus crocodilus</i>					0.00	0.01	0.24	1.27	1.40	5.02
<i>Coelorinchus caelorhincus</i>							1.09	1.83	0.54	2.25
<i>Argentina sphyraena</i>					1.52	8.65	0.01	0.03		
<i>Lepidorhombus boscii</i>	0.16	0.43			0.25	0.67	0.86	1.28	0.06	0.16
<i>Lepidopus caudatus</i>							0.79	1.89	0.40	0.82
<i>Lepidotrigla cavillone</i>	0.19	0.50	0.03	0.08	0.64	1.76				
<i>Nezumia aequalis</i>							0.00	0.00	0.67	1.47
<i>Stomias boa</i>					0.00	0.02	0.31	0.83	0.25	0.50
<i>Scomber scombrus</i>			0.10	0.27	0.33	2.00				
<i>Blennius ocellaris</i>					0.40	1.25				
<i>Trigla lyra</i>					0.02	0.07	0.31	0.47	0.03	0.13



State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Chauliodus sloani</i>					0.02	0.15	0.07	0.19	0.27	0.63
<i>Hoplostethus mediterraneus</i>							0.04	0.08	0.28	0.72
<i>Trachurus picturatus</i>					0.26	1.04				
<i>Chelidonichthys cuculus</i>					0.26	0.85				
<i>Trachinus draco</i>			0.19	0.50	0.06	0.36				
<i>Micromesistius poutassou</i>					0.21	0.83	0.03	0.09		
<i>Notoscopelus elongatus</i>							0.20	0.37	0.01	0.04
<i>Molva macrophthalma</i>					0.02	0.13	0.17	0.39		
<i>Hymenocephalus italicus</i>							0.01	0.03	0.16	0.31
<i>Lepidotrigla dieuzeidei</i>	0.01	0.03			0.15	0.69				
<i>Pagrus pagrus</i>	0.14	0.37								
<i>Helicolenus dactylopterus</i>					0.01	0.02	0.13	0.29	0.00	0.02
<i>Eutrigla gurnardus</i>			0.13	0.24	0.00	0.02				
<i>Mullus surmuletus</i>	0.12	0.32			0.00	0.02				
<i>Chelidonichthys obscurus</i>	0.08	0.21			0.03	0.19				
<i>Lesueurigobius friesii</i>	0.00	0.01	0.09	0.10	0.02	0.06				
<i>Callionymus maculatus</i>					0.11	0.54				
<i>Umbrina canariensis</i>	0.10	0.26								
<i>Chelidonichthys lucerna</i>	0.10	0.25								
<i>Sprattus sprattus</i>	0.01	0.04	0.08	0.21						
<i>Scorpaena scrofa</i>					0.09	0.41				
<i>Spicara smaris</i>	0.03	0.08			0.06	0.25				
<i>Mora moro</i>									0.08	0.35
<i>Epigonus denticulatus</i>							0.04	0.20	0.03	0.10
<i>Serranus cabrilla</i>					0.06	0.26	0.01	0.06		
<i>Scorpaena elongata</i>					0.04	0.21			0.03	0.16
<i>Alepocephalus rostratus</i>									0.06	0.36
<i>Ceratoscopelus maderensis</i>							0.05	0.22	0.00	0.01
<i>Scorpaena loppei</i>					0.04	0.15				
<i>Phycis phycis</i>					0.03	0.20				
<i>Borostomias antarcticus</i>									0.03	0.18
<i>Lophius piscatorius</i>							0.03	0.14		
<i>Microchirus spp.</i>			0.03	0.07						
<i>Deltentosteus quadrimaculatus</i>	0.02	0.04			0.01	0.03				
<i>Symphurus nigrescens</i>					0.02	0.06	0.00	0.03		
<i>Evermannella balbo</i>							0.01	0.02	0.01	0.05
<i>Cepola macrophthalma</i>	0.02	0.04								
<i>Uranoscopus scaber</i>					0.01	0.09				
<i>Arctozenus risso</i>							0.00	0.00	0.01	0.03
<i>Arnoglossus rueppellii</i>					0.01	0.06	0.00	0.01		
<i>Synchiropus phaeton</i>					0.00	0.02	0.01	0.03	0.00	0.01
<i>Scorpaena notata</i>					0.01	0.07				
<i>Chlorophthalmus agassizi</i>							0.01	0.05		
<i>Notacanthus bonaparte</i>									0.01	0.03

State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Aulopus filamentosus</i>							0.01	0.03		
<i>Ophidion barbatum</i>							0.01	0.03		
<i>Carapus acus</i>					0.00	0.01				
<i>Epigonus constanciae</i>									0.00	0.03
<i>Lesueurigobius suerii</i>	0.00	0.01								
<i>Arnoglossus thori</i>					0.00	0.01	0.00	0.01		
<i>Polymetme corythaeola</i>							0.00	0.01		
Gobiidae	0.00	0.00			0.00	0.00				
<i>Myctophum punctatum</i>							0.00	0.00	0.00	0.00
<i>Melanostigma atlanticum</i>									0.00	0.00
<i>Gaidropsarus biscayensis</i>							0.00	0.00		
<i>Crystallogobius linearis</i>					0.00	0.00				
<i>Ophisurus serpens</i>					0.00	0.00				
<i>Xiphias gladius</i>					0.00	0.00				
<b>Chondrichthyes</b>	<b>0.32</b>	<b>0.46</b>	<b>0.35</b>	<b>0.34</b>	<b>26.06</b>	<b>45.25</b>	<b>39.86</b>	<b>56.53</b>	<b>24.60</b>	<b>52.22</b>
<i>Scyliorhinus canicula</i>					22.53	37.78	36.99	56.20	8.48	16.03
<i>Galeus melastomus</i>							2.71	6.21	14.43	34.30
<i>Raja spp.</i>					2.44	14.73	0.01	0.03		
<i>Etmopterus spinax</i>							0.10	0.19	1.66	5.62
<i>Torpedo marmorata</i>					0.68	2.96				
<i>Raja spp. eggs</i>	0.31	0.46	0.22	0.29	0.13	0.39	0.01	0.03	0.00	0.01
<i>Scyliorhinus canicula eggs</i>	0.01	0.03	0.01	0.01	0.12	0.25	0.02	0.04	0.02	0.04
<i>Raja polystigma</i>					0.16	0.95	0.01	0.04		
<i>Raja asterias eggs</i>			0.13	0.33	0.00	0.00	0.00	0.00		
<i>Chimaera monstrosa</i>							0.01	0.04	0.01	0.04
<i>Raja polystigma eggs</i>					0.00	0.00				
<b>Crustacea</b>	<b>5.32</b>	<b>4.81</b>	<b>11.09</b>	<b>16.85</b>	<b>17.55</b>	<b>88.24</b>	<b>2.04</b>	<b>2.23</b>	<b>1.49</b>	<b>2.04</b>
<i>Plesionika heterocarpus</i>					14.13	85.34	0.43	0.95	0.00	0.01
<i>Squilla mantis</i>	2.20	3.08	4.37	9.15	0.27	1.09				
<i>Liocarcinus depurator</i>	0.57	0.70	3.73	6.51	0.57	2.02	0.00	0.02		
<i>Dardanus arrosor</i>	0.39	0.52	0.48	1.00	1.09	2.78	0.34	0.64	0.03	0.08
<i>Parapenaeus longirostris</i>			0.81	1.03	1.00	2.33	0.39	0.57	0.02	0.05
<i>Medorippe lanata</i>	1.42	1.91	0.73	1.66	0.03	0.10	0.01	0.04	0.00	0.00
<i>Goneplax rhomboides</i>	0.45	0.60	0.34	0.57	0.05	0.19	0.00	0.01	0.00	0.01
<i>Pasiphaea multidentata</i>							0.06	0.18	0.43	1.27
<i>Pagurus excavatus</i>	0.15	0.23	0.14	0.21	0.08	0.24	0.01	0.02		
<i>Solenocera membranacea</i>			0.29	0.50	0.03	0.14	0.03	0.04	0.01	0.02
<i>Plesionika martia</i>					0.00	0.01	0.13	0.27	0.14	0.26
<i>Paromola cuvieri</i>									0.27	0.71
<i>Macropipus tuberculatus</i>					0.14	0.51	0.07	0.14	0.02	0.07
<i>Pasiphaea sivado</i>					0.00	0.00	0.19	0.38	0.02	0.06
<i>Polycheles typhlops</i>									0.21	0.31
<i>Nephrops norvegicus</i>					0.00	0.02	0.17	0.23	0.02	0.04
<i>Macropodia tenuirostris</i>	0.02	0.04	0.12	0.22	0.02	0.07	0.00	0.00	0.00	0.00

State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Geryon longipes</i>					0.02	0.14	0.00	0.01	0.09	0.41
<i>Munida intermedia</i>							0.11	0.39		
<i>Pagurus alatus</i>					0.00	0.00	0.01	0.02	0.08	0.35
<i>Aristeus antennatus</i>					0.00	0.01			0.07	0.19
<i>Amphibalanus amphitrite</i>					0.06	0.39				
<i>Dardanus calidus</i>	0.06	0.10								
<i>Robustosergia robusta</i>									0.05	0.14
<i>Palinurus elephas</i>							0.05	0.27		
<i>Chlorotocus crassicornis</i>			0.03	0.05	0.00	0.01	0.01	0.03		
<i>Callinectes sapidus</i>	0.03	0.08								
<i>Scalpellum scalpellum</i>	0.01	0.02	0.01	0.02	0.01	0.02				
<i>Pagurus prideaux</i>					0.01	0.05	0.02	0.08		
<i>Alpheus glaber</i>	0.00	0.01	0.02	0.04	0.00	0.00			0.00	0.00
<i>Monodaeus couchii</i>							0.00	0.01	0.01	0.04
<i>Pagurus cuanensis</i>	0.02	0.03								
<i>Munida speciosa</i>							0.01	0.06	0.00	0.02
<i>Latreillia elegans</i>					0.02	0.10				
<i>Aegaeon cataphractus</i>	0.00	0.00	0.01	0.03						
<i>Cirripedia 1</i>					0.01	0.05				
<i>Processa canaliculata</i>					0.00	0.00	0.01	0.02	0.00	0.00
<i>Inachus dorsetensis</i>					0.01	0.02	0.00	0.00		
<i>Pilumnus spinifer</i>			0.00	0.01	0.00	0.01				
<i>Plesionika gigliolii</i>							0.00	0.01	0.00	0.00
<i>Aegaeon lacazei</i>					0.00	0.00	0.00	0.00	0.00	0.01
<i>Eusergestes arcticus</i>							0.00	0.01	0.00	0.00
<i>Isopoda</i>			0.00	0.00	0.00	0.01	0.00	0.00		
<i>Acanthephyra pelagica</i>									0.00	0.01
<i>Inachus communissimus</i>	0.00	0.00								
<i>Deosergestes henseni</i>							0.00	0.00	0.00	0.00
<i>Lophogaster typicus</i>					0.00	0.01				
<i>Munida perarmata</i>									0.00	0.00
<i>Plesionika acanthonotus</i>									0.00	0.00
<i>Pisidia longicornis</i>	0.00	0.00								
<i>Processa noveli</i>							0.00	0.00		
<i>Plesionika edwardsii</i>									0.00	0.00
<i>Gennadas elegans</i>									0.00	0.00
<i>Meganocythanes norvegica</i>							0.00	0.00		
<i>Pontophilus spinosus</i>									0.00	0.00
<i>Galathea spp.</i>					0.00	0.00				
<i>Nepinnotheres pinnotheres</i>					0.00	0.00				
<b>Cephalopoda</b>	<b>4.17</b>	<b>5.64</b>	<b>4.18</b>	<b>7.61</b>	<b>2.69</b>	<b>2.83</b>	<b>3.80</b>	<b>7.02</b>	<b>3.30</b>	<b>6.03</b>
<i>Octopus vulgaris</i>	3.49	5.73	1.48	3.92	0.43	1.41				
<i>Illex coindetii</i>			0.60	0.94	1.43	1.69	0.42	0.69	0.24	0.61
<i>Octopus salutii</i>			0.28	0.74	0.30	1.81	1.33	4.36	0.22	0.86

State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Histioteuthis bonnellii</i>							0.18	0.92	1.57	4.76
<i>Callistoctopus macropus</i>			1.35	3.56						
<i>Pteroctopus tetracirrhus</i>							0.87	4.56	0.09	0.50
<i>Histioteuthis reversa</i>							0.01	0.05	0.50	0.96
<i>Todarodes sagittatus</i>									0.48	1.56
<i>Alloteuthis spp.</i>	0.29	0.57			0.10	0.38				
<i>Bathypolypus sponsalis</i>							0.27	0.71	0.08	0.29
<i>Abralia veranyi</i>					0.06	0.25	0.25	0.75	0.04	0.16
<i>Eledone cirrhosa</i>	0.30	0.78			0.01	0.06	0.02	0.10		
<i>Sepietta spp.</i>			0.12	0.18	0.15	0.50	0.05	0.16		
<i>Rossia macrosoma</i>					0.04	0.14	0.26	0.78	0.02	0.08
<i>Sepia orbignyana</i>			0.21	0.56	0.07	0.18	0.00	0.01		
<i>Scaevurgus unicolor</i>					0.05	0.30	0.08	0.40	0.04	0.24
<i>Eledone moschata</i>			0.12	0.31	0.03	0.16				
<i>Loligo vulgaris</i>	0.09	0.24	0.03	0.07						
<i>Sepia elegans</i>					0.02	0.09	0.01	0.03		
<i>Ancistroteuthis lichtensteinii</i>					0.00	0.01	0.01	0.08	0.01	0.05
<i>Sepietta oweniana</i>							0.02	0.14		
<i>Todaropsis eblanae</i>									0.02	0.11
<i>Sepia spp. eggs</i>							0.00	0.02		
<i>Loligo spp. eggs</i>					0.00	0.01				
<b>Other Mollusca</b>	<b>4.74</b>	<b>5.62</b>	<b>3.49</b>	<b>4.87</b>	<b>2.43</b>	<b>7.33</b>	<b>0.21</b>	<b>0.50</b>	<b>0.02</b>	<b>0.04</b>
<i>Neopycnodonte cochlear</i>					1.67	7.22	0.12	0.49	0.00	0.01
<i>Tethys fimbria</i>	1.46	3.73	0.25	0.66	0.03	0.13				
<i>Venus nux</i>	0.08	0.17	1.54	3.32	0.10	0.42				
<i>Aporrhais serresiana</i>	0.98	2.59	0.29	0.76	0.01	0.05				
<i>Calliostoma granulatum</i>	0.30	0.44	0.59	0.45	0.37	1.13			0.00	0.01
<i>Bolinus brandaris</i>	0.82	1.06	0.04	0.12	0.00	0.03				
<i>Galeodea rugosa</i>	0.06	0.16	0.50	1.30	0.05	0.20	0.00	0.01		
<i>Gastropoda eggs</i>	0.19	0.51	0.08	0.12	0.05	0.20	0.00	0.00		
<i>Galeodea echinophora</i>	0.10	0.26	0.08	0.21	0.03	0.14				
<i>Pecten jacobaeus</i>	0.19	0.32								
<i>Acanthocardia echinata</i>	0.12	0.32			0.01	0.08				
<i>Ostrea spp.</i>	0.07	0.19	0.05	0.13	0.00	0.03	0.00	0.02	0.00	0.01
<i>Anadara gibbosa</i>	0.13	0.22								
<i>Semicassis undulata</i>	0.12	0.31								
<i>Euspira fusca</i>			0.03	0.07	0.01	0.06	0.02	0.06		
<i>Aequipecten opercularis</i>	0.04	0.12								
<i>Armina tigrina</i>	0.01	0.03	0.03	0.08						
<i>Nudibranchi sp. 5</i>	0.04	0.10								
<i>Pteria hirundo</i>			0.01	0.03	0.00	0.02	0.01	0.04		
<i>Bivetiella cancellata</i>	0.02	0.06								
<i>Doris pseudoargus</i>					0.00	0.01	0.02	0.11		
<i>Parvicardium exiguum</i>	0.02	0.05								

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Buccinum humphreysianum</i>							0.02	0.08		
<i>Cymbulia spp.</i>							0.01	0.05	0.01	0.03
<i>Scaphander lignarius</i>					0.02	0.10				
<i>Xenophora crispata</i>					0.01	0.09				
<i>Chlamys spp.</i>					0.01	0.07				
<i>Philine spp.</i>					0.01	0.04				
<i>Pleurobranchaea meckeli</i>					0.00	0.01	0.00	0.02		
<i>Anomia ephippium</i>					0.01	0.02	0.00	0.00		
<b>Mollusca</b>					0.01	0.04				
<i>Turritellinella tricarinata</i>			0.00	0.01						
<i>Hiatella arctica</i>					0.00	0.02				
<i>Musculus subpictus</i>					0.00	0.01				
<i>Pterotrachea spp.</i>					0.00	0.01				
<i>Acanthocardia aculeata</i>	0.00	0.00								
<b>Gastropoda 1</b>					0.00	0.01				
<i>Acanthocardia paucicostata</i>					0.00	0.01				
<b>Mollusca 2</b>					0.00	0.00				
<i>Carinaria spp.</i>									0.00	0.00
<b>Porifera</b>	0.12	0.32	2.17	3.11	0.70	1.48	0.02	0.06	0.00	0.02
<i>Suberites spp.</i>	0.11	0.28	1.01	1.60	0.09	0.28	0.00	0.00		
<i>Spongisorites spp.</i>			1.15	3.04						
<i>Cliona celata</i>					0.15	0.61				
<i>Esponja sp. 1</i>					0.08	0.23	0.01	0.02		
<i>Suberites carnosus</i>					0.08	0.43				
<i>Esponja sp. 2</i>					0.07	0.27				
<i>Desmacidon spp.</i>	0.01	0.04			0.03	0.13	0.01	0.06	0.00	0.02
<i>Desmacidon fruticosum</i>					0.05	0.30				
<i>Tethya aurantium</i>					0.05	0.20	0.00	0.01		
<i>Esponja sp. 9</i>					0.03	0.21				
<i>Dysidea avara</i>					0.03	0.18				
<i>Suberites domuncula</i>					0.02	0.07				
<i>Suberites syringella</i>			0.02	0.04						
<i>Spongia lamella</i>					0.01	0.04				
<i>Esponja sp. 7</i>					0.00	0.02				
<i>Esponja sp. 6</i>					0.00	0.02				
<i>Raspailia spp.</i>					0.00	0.01				
<i>Esponja sp. 5</i>					0.00	0.00				
<b>Cnidaria</b>	2.20	2.32	4.68	5.76	6.10	8.85	0.59	1.06	0.11	0.31
<i>Alcyonium palmatum</i>	0.35	0.57	0.40	0.78	3.07	6.71	0.32	0.72	0.04	0.16
<b>Anthozoa 1</b>	0.44	0.59	1.30	1.44	0.00	0.01				
<i>Pteroeides griseum</i>	0.05	0.12	1.30	2.31	0.30	0.97				
<i>Calliactis parasitica</i>	0.03	0.07	0.13	0.34	1.32	4.16	0.13	0.41	0.00	0.01
<i>Pennatula rubra</i>	0.06	0.10	0.55	0.62	0.49	1.58	0.01	0.03		
<i>Nemertesia antennina</i>	0.40	0.76	0.51	0.83	0.17	0.77	0.01	0.03	0.00	0.01

State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Veretillum cynomorium</i>	0.78	2.07	0.29	0.76					0.00	0.01
<i>Pennatula phosphorea</i>	0.01	0.02	0.06	0.10	0.34	0.84	0.01	0.02	0.00	0.00
<i>Rhizostoma pulmo</i>					0.23	1.39				
<i>Nemertesia ramosa</i>	0.07	0.16	0.07	0.14	0.05	0.23	0.01	0.04	0.00	0.01
<i>Lytocarpia myriophyllum</i>	0.01	0.03	0.03	0.05	0.08	0.23	0.05	0.18	0.00	0.02
<i>Hormathia alba</i>			0.00	0.01	0.01	0.04	0.04	0.06	0.01	0.05
<i>Actinia sp. 2</i>	0.00	0.01	0.01	0.03	0.02	0.03	0.01	0.01		
<i>Pelagia noctiluca</i>									0.04	0.23
<i>Hydrozoa 1</i>			0.02	0.04	0.00	0.01	0.00	0.00	0.00	0.01
<i>Leptogorgia sarmentosa</i>			0.01	0.03	0.00	0.00			0.00	0.00
<i>Eunicella verrucosa</i>	0.01	0.01			0.00	0.01	0.00	0.00	0.00	0.00
<i>Actinia sp. 1</i>			0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
<i>Adamsia palliata</i>							0.01	0.03		
<i>Funiculina quadrangularis</i>					0.00	0.01	0.00	0.00		
<i>Caryophyllia spp.</i>					0.00	0.01				
<i>Kophobelemnion stelliferum</i>					0.00	0.01	0.00	0.00	0.00	0.00
<i>Virgularia mirabilis</i>	0.00	0.00								
<i>Hydrozoa 5</i>							0.00	0.00		
<i>Hydrozoa</i>									0.00	0.00
<i>Hydrozoa 2</i>									0.00	0.00
<b>Annelida</b>	<b>0.00</b>	<b>0.01</b>	<b>0.04</b>	<b>0.10</b>	<b>0.42</b>	<b>1.10</b>	<b>0.05</b>	<b>0.12</b>	<b>0.01</b>	<b>0.04</b>
<i>Aphrodita aculeata</i>					0.36	1.09	0.03	0.08	0.00	0.02
<i>Tubs Polychaeta</i>	0.00	0.00	0.00	0.00	0.05	0.14	0.02	0.05	0.01	0.03
<i>Pontobdella muricata</i>			0.04	0.10						
<i>Polychaeta 6</i>			0.00	0.01						
<i>Polychaeta</i>	0.00	0.01			0.00	0.00				
<i>Sabellidae</i>							0.00	0.00		
<i>Eunice s.l.</i>	0.00	0.00					0.00	0.00	0.00	0.00
<i>Serpula vermicularis</i>					0.00	0.00				
<i>Amphinomidae</i>							0.00	0.00		
<b>Sipuncula</b>					<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.04</b>	<b>0.00</b>	<b>0.00</b>
<i>Phascolion strombus</i>							0.01	0.04	0.00	0.00
<i>Sipuncula 1</i>					0.00	0.00				
<b>Echinodermata</b>	<b>4.88</b>	<b>6.82</b>	<b>3.04</b>	<b>3.69</b>	<b>65.00</b>	<b>253.00</b>	<b>0.43</b>	<b>0.80</b>	<b>0.02</b>	<b>0.07</b>
<i>Leptometra phalangium</i>					44.51	230.53	0.02	0.13		
<i>Echinus melo</i>					10.48	40.90			0.00	0.00
<i>Astropecten irregularis</i>	3.58	6.37	2.50	3.83	2.15	5.25	0.07	0.13	0.02	0.06
<i>Gracilechinus acutus</i>					4.82	29.30				
<i>Ova canalifera</i>	0.95	1.61								
<i>Parastichopus regalis</i>					0.71	2.07	0.07	0.29		
<i>Cidaris cidaris</i>					0.57	3.01	0.08	0.42		
<i>Luidia ciliaris</i>			0.42	1.11	0.18	0.97				
<i>Ophiura ophiura</i>	0.00	0.01			0.27	0.85	0.03	0.08	0.00	0.00
<i>Astrospartus mediterraneus</i>					0.28	1.72	0.01	0.03	0.00	0.01

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Holothuria tubulosa</i>			0.10	0.27	0.16	0.71	0.01	0.07		
<i>Coscinasterias tenuispina</i>					0.22	0.87				
<i>Spatangus purpureus</i>	0.21	0.56								
<i>Ocnus planci</i>	0.07	0.14	0.00	0.01	0.11	0.26	0.00	0.03		
<i>Echinaster sepositus</i>	0.02	0.06			0.11	0.35	0.03	0.11		
<i>Marthasterias glacialis</i>					0.12	0.74				
<i>Tethyaster subinermis</i>					0.09	0.54				
<i>Anseropoda placenta</i>					0.07	0.24	0.01	0.06		
<i>Astropecten aranciacus</i>							0.07	0.40		
<i>Mesothuria intestinalis</i>					0.07	0.38				
<i>Holothuria forskali</i>					0.07	0.31				
<i>Leptopentacta elongata</i>	0.01	0.02	0.02	0.04	0.00	0.01				
<i>Psammechinus microtuberculatus</i>	0.02	0.06								
<i>Brissopsis lyrifera</i>							0.02	0.05		
<i>Antedon mediterranea</i>			0.00	0.01	0.01	0.04				
<i>Molpadia musculus</i>					0.00	0.00			0.00	0.02
<i>Brissopsis atlantica</i>							0.00	0.02		
<i>Chaetaster longipes</i>					0.00	0.02				
<i>Amphilepis norvegica</i>					0.00	0.01				
<i>Ophiothrix fragilis</i>					0.00	0.01				
<i>Amphipholis squamata</i>					0.00	0.00				
<b>Tunicata</b>	<b>0.21</b>	<b>0.35</b>	<b>0.54</b>	<b>0.60</b>	<b>1.85</b>	<b>3.28</b>	<b>0.08</b>	<b>0.14</b>	<b>0.00</b>	<b>0.01</b>
<i>Corella parallelogramma</i>			0.14	0.13	0.87	3.12	0.00	0.00		
<i>Phallusia mammillata</i>	0.12	0.33	0.25	0.66	0.06	0.34				
<i>Diazona violacea</i>					0.41	1.20	0.00	0.01		
<i>Ascidia sp. 2</i>	0.07	0.17			0.18	0.60	0.04	0.13		
<i>Ascidia mentula</i>	0.02	0.06	0.04	0.10	0.13	0.33	0.00	0.02	0.00	0.00
<i>Microcosmus vulgaris</i>					0.10	0.56	0.01	0.06		
<i>Pyrosoma atlanticum</i>			0.07	0.11	0.02	0.07	0.01	0.01	0.00	0.00
<i>Ascidia sp. 1</i>			0.05	0.12	0.04	0.24				
<i>Microcosmus spp.</i>					0.03	0.10	0.01	0.04		
<i>Salpa spp.</i>					0.01	0.03	0.01	0.03	0.00	0.01
<i>Molgula appendiculata</i>					0.01	0.05				

### ANNEX III: ABUNDANCE CATALONIA

Table1. Mean and standard deviation of the abundance of the species present in the landed fraction of the catch in each fishing ground including all hauls sampled in Catalonia from January to December 2020.

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>2696.2</b>	<b>1777.2</b>	<b>3106.25</b>	<b>616.94</b>	<b>5253.30</b>	<b>4788.06</b>	<b>1501.22</b>	<b>1032.94</b>	<b>257.58</b>	<b>209.05</b>
<i>Trachurus trachurus</i>			183.61	231.56	2022.27	3401.35	7.00	22.95	0.44	2.16
<i>Mullus barbatus</i>	458.38	404.29	193.62	94.40	695.00	732.58	4.38	14.48	0.09	0.43
<i>Trisopterus capelanus</i>	38.23	84.43	355.56	202.84	622.56	656.50	0.46	2.16		
<i>Phycis blennoides</i>					63.48	176.28	631.81	534.06	179.33	173.39
<i>Citharus linguatula</i>	43.92	37.55	588.78	351.61	127.27	139.77	1.43	3.52		
<i>Merluccius merluccius</i>	12.72	21.44	399.77	303.11	275.73	262.19	57.89	44.87	11.26	14.88
<i>Trachurus mediterraneus</i>	575.57	535.85	140.11	165.56	10.32	48.53				
<i>Pagellus erythrinus</i>	430.50	651.26	30.46	24.40	83.65	170.99	1.49	5.88		
<i>Micromesistius poutassou</i>					0.21	1.13	366.10	649.72	38.57	45.60
<i>Sparus aurata</i>	331.96	641.64	8.00	13.02						
<i>Arnoglossus laterna</i>	65.81	99.63	207.14	215.06	52.45	108.06				
<i>Scomber scombrus</i>	67.14	117.76	125.11	96.20	88.41	379.98				
<i>Lepidorhombus boschii</i>					67.64	92.01	189.32	200.86	7.19	7.26
<i>Sardina pilchardus</i>			227.95	509.72	5.03	21.61				
<i>Diplodus annularis</i>	173.61	152.19	22.68	40.72	0.22	1.15				
<i>Serranus hepatus</i>	2.02	4.51	52.87	47.51	138.74	501.50				
<i>Lepidotrigla cavillone</i>	2.94	4.11	65.54	43.75	119.37	254.22				
<i>Mullus surmuletus</i>	39.20	28.62	24.91	32.75	115.06	349.50	2.72	11.61	0.20	0.96
<i>Chelidonichthys lucerna</i>	117.98	165.60	43.35	59.72	6.13	7.14				
<i>Boops boops</i>	28.27	63.21	127.08	284.16	11.50	60.85				
<i>Trachinus draco</i>	23.21	36.66	70.38	60.29	50.00	77.13				
<i>Lophius budegassa</i>	1.01	2.26	13.25	9.86	100.66	80.59	9.79	15.74	1.82	4.45
<i>Eutrigla gurnardus</i>	1.01	2.26	25.40	47.63	96.90	203.29				
<i>Trigla lyra</i>					34.76	119.11	88.25	154.30		
<i>Argentina sphyraena</i>					104.92	425.49	5.03	12.01		
<i>Cepola macrophthalma</i>	7.73	9.57	41.96	62.20	52.60	142.06	0.69	2.37		
<i>Helicolenus dactylopterus</i>					3.63	9.70	92.80	160.05	3.27	5.84
<i>Spicara spp.</i>	3.03	6.77	51.69	103.38	6.29	28.32				
<i>Chelidonichthys cuculus</i>			1.83	4.10	52.97	149.00	0.54	2.54		
<i>Chelidonichthys obscurus</i>	11.54	15.53	2.74	6.12	29.30	131.82	0.62	2.91		
<i>Scorpaena notata</i>	22.37	29.40	11.14	11.66	6.11	24.46				
<i>Spicara flexuosa</i>					39.17	196.56				
<i>Diplodus vulgaris</i>	36.56	64.78	1.60	2.08						
<i>Sphyraena sphyraena</i>	33.27	38.64	1.81	4.04						
<i>Pagellus acarne</i>	31.88	42.67	1.84	4.11	0.29	1.54				
<i>Conger conger</i>	7.34	5.64	5.70	4.43	3.06	5.66	5.05	5.79	9.29	19.91



## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Molva macrophthalma</i>					0.31	1.67	25.36	38.36	4.59	11.75
<i>Solea senegalensis</i>	25.16	23.57	1.37	3.06						
<i>Lepidotrigla dieuzeidei</i>					26.44	79.97				
<i>Chelidonichthys lastoviza</i>					23.94	123.24				
<i>Arnoglossus imperialis</i>			22.00	49.20	1.90	10.07				
<i>Gobius niger</i>	1.57	3.52	19.01	19.67	2.73	7.81				
<i>Scomber colias</i>	3.19	7.13	18.81	26.48						
<i>Mugil cephalus</i>	20.73	46.35								
<i>Engraulis encrasicolus</i>					19.59	100.77				
<i>Umbrina canariensis</i>	18.17	40.63								
<i>Blennius ocellaris</i>					17.19	36.20				
<i>Arnoglossus thori</i>	6.64	14.86	5.47	12.24	4.27	13.54				
<i>Scorpaena elongata</i>					8.54	12.68	4.72	7.22	0.22	1.08
<i>Uranoscopus scaber</i>	0.83	1.86	5.45	3.83	7.14	10.22				
<i>Serranus cabrilla</i>					13.24	41.05				
<i>Microchirus variegatus</i>	5.07	7.08	2.74	6.12	3.58	9.45				
<i>Capros aper</i>					9.58	50.71				
<i>Trachurus picturatus</i>					8.54	44.37				
<i>Dicentrarchus labrax</i>	8.08	18.06			0.38	2.03				
<i>Pomatomus saltatrix</i>	7.97	17.83								
<i>Ophidion barbatum</i>			4.81	10.76	1.04	4.19	0.90	4.22		
<i>Chelon labrosus</i>	6.38	14.26								
<i>Arnoglossus rueppelii</i>					6.04	28.85				
<i>Spondyllosoma cantharus</i>	4.98	11.14			0.51	1.89				
<i>Caranx rhonchus</i>	4.78	10.70								
<i>Lophius piscatorius</i>					2.19	4.76	1.31	5.09	0.28	1.02
<i>Chelon auratus</i>	3.19	7.13			0.40	2.13				
<i>Sciaena umbra</i>	3.23	4.09								
<i>Scorpaena scrofa</i>					2.72	8.71				
<i>Centrolophus niger</i>							1.91	4.78	0.40	1.34
<i>Monochirus hispidus</i>					2.15	11.40				
<i>Pagellus bogaraveo</i>							1.52	3.85	0.63	1.84
<i>Zeus faber</i>					1.95	5.46				
<i>Diplodus sargus</i>	1.66	3.71			0.26	1.40				
<i>Lithognathus mormyrus</i>	1.75	3.92								
<i>Pomadasys incisus</i>	1.59	3.57								
<i>Seriola dumerili</i>	1.59	3.57								
<i>Solea solea</i>	1.59	3.57								
<i>Symphurus nigrescens</i>					1.29	4.45				
<i>Alosa fallax</i>			0.68	1.53	0.43	2.29				
<i>Scophthalmus rhombus</i>	0.83	1.86								
<i>Spicara smaris</i>					0.74	3.94				
<i>Lepidorhombus whiffiagonis</i>					0.29	1.53				
<i>Chromis chromis</i>					0.19	1.01				

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Gadiculus argenteus</i>							0.16	0.77		
<b>Chondrichthyes</b>	<b>16.14</b>	<b>23.55</b>	<b>1.37</b>	<b>3.06</b>	<b>47.37</b>	<b>151.46</b>	<b>136.63</b>	<b>267.31</b>	<b>35.82</b>	<b>78.26</b>
<i>Scyliorhinus canicula</i>					46.25	149.13	130.16	254.07	12.95	41.78
<i>Galeus melastomus</i>							6.47	29.18	22.88	59.85
<i>Raja asterias</i>	16.14	23.55	1.37	3.06						
<i>Raja clavata</i>					0.54	2.85				
<i>Torpedo marmorata</i>					0.33	1.76				
<i>Raja polystigma</i>					0.25	1.34				
<b>Crustacea</b>	<b>1288.81</b>	<b>810.44</b>	<b>5512.83</b>	<b>5023.46</b>	<b>2222.03</b>	<b>2758.99</b>	<b>5485.89</b>	<b>5008.01</b>	<b>5199.11</b>	<b>2520.94</b>
<i>Parapenaeus longirostris</i>	12.11	27.09	2153.46	1773.43	1794.09	2516.80	3160.02	4033.89	80.85	180.91
<i>Aristeus antennatus</i>							14.43	41.05	3909.95	1791.92
<i>Liocarcinus depurator</i>	7.66	9.43	2435.08	4598.41	288.86	1066.47	2.74	10.58		
<i>Nephrops norvegicus</i>			9.16	7.16	6.92	25.08	2035.42	1550.69	123.28	237.47
<i>Squilla mantis</i>	831.65	768.98	906.97	798.51	120.62	358.69				
<i>Pasiphaea multidentata</i>							4.17	14.06	741.27	767.08
<i>Penaeus kerathurus</i>	437.39	593.15	4.54	6.01						
<i>Plesionika martia</i>							88.78	272.51	249.37	263.07
<i>Plesionika heterocarpus</i>					5.04	26.65	93.80	221.22	1.93	6.41
<i>Geryon longipes</i>							1.17	5.49	38.39	69.92
<i>Macropipus tuberculatus</i>					6.49	15.49	25.61	88.45	0.53	2.16
<i>Plesionika edwardsii</i>							19.60	91.94	1.73	5.82
<i>Robustosergia robusta</i>									19.34	56.42
<i>Chlorotocus crassicornis</i>							14.05	44.51		
<i>Acanthephyra eximia</i>									12.99	32.71
<i>Solenocera membranacea</i>							10.45	42.11	2.40	11.75
<i>Munida intermedia</i>							7.43	23.94	0.17	0.84
<i>Polycheles typhlops</i>									7.20	16.60
<i>Plesionika gigliolii</i>							5.50	21.06	0.34	1.68
<i>Paromola cuvieri</i>							0.24	1.15	3.57	6.07
<i>Callinectes sapidus</i>			3.62	8.09						
<i>Munida speciosa</i>							1.85	7.87		
<i>Acanthephyra pelagica</i>									1.18	5.77
<i>Pasiphaea sivado</i>									1.14	5.56
<i>Aegaeon lacazei</i>									1.03	5.04
<i>Plesionika acanthonotus</i>									1.03	5.04
<i>Processa nouveli</i>									0.69	3.36
<i>Palinurus mauritanicus</i>							0.62	2.91		
<i>Ligur ensiferus</i>									0.41	2.03
<i>Aristaeomorpha foliacea</i>									0.33	1.62
<b>Cephalopoda</b>	<b>354.13</b>	<b>111.10</b>	<b>974.44</b>	<b>749.87</b>	<b>1128.73</b>	<b>1400.30</b>	<b>169.89</b>	<b>250.73</b>	<b>12.56</b>	<b>15.34</b>
<i>Illex coindetii</i>	4.04	9.03	546.23	694.00	826.09	1205.93	100.71	239.16	2.38	6.61
<i>Alloteuthis spp.</i>	154.61	141.58	167.14	125.34	20.54	44.78			0.21	1.01
<i>Eledone cirrhosa</i>	8.08	18.06	88.30	45.41	121.49	131.43	46.95	77.91	5.04	11.84
<i>Sepia elegans</i>			116.88	161.93	39.18	88.64	0.28	1.32		

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Loligo vulgaris</i>	75.94	84.20	49.12	51.77	4.99	12.36				
<i>Sepia orbignyana</i>			0.96	2.15	92.71	137.07	4.24	9.82		
<i>Sepia officinalis</i>	97.31	56.63			0.51	2.68				
<i>Octopus vulgaris</i>	13.29	29.71	2.05	4.59	3.76	6.91	0.42	1.96		
<i>Rossia macrosoma</i>					1.81	5.33	8.92	35.13	0.20	0.96
<i>Todarodes sagittatus</i>							4.02	4.24	4.65	6.55
<i>Sepietta spp.</i>					3.89	9.44	3.18	13.89		
<i>Alloteuthis media</i>					6.79	23.76				
<i>Scaevurgus unicolor</i>					6.08	20.03	0.23	1.07		
<i>Eledone moschata</i>	0.88	1.96	1.84	4.11	0.16	0.85				
<i>Sepietta oweniana</i>			1.93	4.31			0.51	1.62		
<i>Callistoctopus macropus</i>					0.47	1.72				
<i>Sepiolidae</i>					0.25	1.34				
<i>Pteroctopus tetracirrus</i>							0.23	1.07		
<i>Abralia veranyi</i>							0.21	0.98		
<i>Octopus salutii</i>									0.09	0.45
<b>Other Mollusca</b>	<b>246.18</b>	<b>162.89</b>	<b>144.11</b>	<b>77.62</b>	<b>19.70</b>	<b>47.93</b>	<b>3.76</b>	<b>13.58</b>		
<i>Bolinus brandaris</i>	245.35	163.76	98.25	85.73	1.27	3.17				
<i>Galeodea rugosa</i>			36.50	77.52	8.31	20.99	0.59	1.49		
<i>Galeodea echinophora</i>			7.76	14.92	9.58	42.87	0.24	1.13		
<i>Buccinum humphreysianum</i>							2.93	13.75		
<i>Acanthocardia echinata</i>			1.60	2.08						
<i>Pecten jacobaeus</i>	0.83	1.86								
<i>Calliostoma granulatum</i>					0.54	2.84				
<b>Echinodermata</b>			<b>3.62</b>	<b>8.09</b>	<b>68.18</b>	<b>143.95</b>				
<i>Parastichopus regalis</i>			3.62	8.09	68.18	143.95				

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

Table 2. Mean and standard deviation of the abundance of the species present in the discarded fraction of the catch in each fishing ground including all hauls sampled in Catalonia from January to December 2020.

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>5910.78</b>	<b>5749.40</b>	<b>13039.21</b>	<b>18060.67</b>	<b>9024.83</b>	<b>33150.98</b>	<b>745.50</b>	<b>775.54</b>	<b>326.58</b>	<b>491.38</b>
<i>Engraulis encrasicolus</i>	1437.83	2227.37	7616.29	13818.34	473.77	1396.58				
<i>Capros aper</i>	3.79	10.02	8.66	22.92	3289.10	17349.80	35.86	98.32	0.09	0.49
<i>Sardina pilchardus</i>	469.38	607.57	1676.83	2302.57	12.03	42.74	0.18	0.97		
<i>Macroramphosus scolopax</i>					2046.16	12071.56	1.13	5.10		
<i>Sardinella aurita</i>	1500.18	3158.70	177.02	425.51						
<i>Trachurus trachurus</i>	15.77	41.73	749.85	1311.63	541.18	766.58	23.31	95.85	1.77	7.40
<i>Merluccius merluccius</i>	20.84	35.12	612.52	891.10	390.29	724.19	8.89	17.39	0.12	0.69
<i>Boops boops</i>	138.91	151.83	258.07	376.94	628.98	1495.85	0.98	4.44		
<i>Trachurus mediterraneus</i>	595.95	638.45	353.07	477.81			0.21	1.15		
<i>Spicara flexuosa</i>	40.48	46.60	485.37	633.12	332.53	714.56	2.97	12.25		
<i>Pagellus acarne</i>	774.06	2049.92	35.92	95.02	1.41	5.98				
<i>Arnoglossus laterna</i>	146.16	224.37	339.84	337.04	137.43	389.92	0.73	3.99	0.97	3.93
<i>Spicara maena</i>	71.93	190.30	199.42	276.98	130.58	451.41			0.42	2.40
<i>Trisopterus capelanus</i>	7.57	20.03	184.23	310.91	150.70	593.87	1.37	7.49		
<i>Argentina sphyraena</i>					335.74	1929.73	0.76	3.44		
<i>Citharus linguatula</i>	67.41	149.85	197.59	297.01	44.55	72.74	0.35	1.94		
<i>Mullus barbatus</i>	202.70	413.94			34.81	122.23				
<i>Gadiculus argenteus</i>					4.61	24.21	189.45	500.01	3.77	11.58
<i>Pagellus erythrinus</i>	134.66	214.32			13.05	37.97	0.18	0.97		
<i>Diplodus annularis</i>	141.50	174.25	4.14	10.94	0.66	4.02				
<i>Coelorinchus caelorhincus</i>							123.03	239.71	8.16	21.20
<i>Pagellus bogaraveo</i>					116.33	405.25	4.90	18.34	0.58	3.34
<i>Lampanyctus crocodilus</i>					0.44	2.68	7.77	31.23	112.76	356.00
<i>Phycis blennoides</i>					6.23	30.60	94.27	156.91	19.89	35.96
<i>Serranus hepatus</i>			26.37	49.03	92.40	291.60	0.64	2.65		
<i>Lepidorhombus boscii</i>	10.76	28.48			14.96	30.82	80.18	123.13	5.71	15.99
<i>Lepidotrigla cavillone</i>	40.58	107.37	9.49	25.12	46.53	124.59				
<i>Stomias boa</i>					2.20	13.38	34.53	76.11	33.25	76.70
<i>Lesueurigobius friesii</i>	2.90	7.67	48.70	55.45	12.25	49.05				
<i>Lophius budegassa</i>					30.53	72.98	3.71	7.73		
<i>Nezumia aequalis</i>							0.21	1.14	33.39	68.20
<i>Ceratoscopelus maderensis</i>							32.20	122.56	1.30	6.53
<i>Trachyrhynchus scabrus</i>							0.95	3.60	31.59	66.50
<i>Sparus aurata</i>	23.03	40.06	8.27	21.89						
<i>Hymenocephalus italicus</i>							2.33	6.56	24.50	45.77
<i>Mullus surmuletus</i>	26.16	69.21			0.33	1.99				

State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Chelidonichthys cuculus</i>					26.44	90.39				
<i>Lepidopus caudatus</i>							17.80	53.17	6.37	13.32
<i>Trigla lyra</i>					1.30	4.85	20.58	40.22	2.10	6.70
<i>Chauliodus sloani</i>					0.43	2.63	6.35	17.80	16.85	28.88
<i>Callionymus maculatus</i>					23.12	116.85				
<i>Notoscopelus elongatus</i>							21.42	32.31	1.31	3.92
<i>Eutrigla gurnardus</i>			21.95	38.76	0.33	1.98				
<i>Lepidotrigla dieuzeidei</i>	3.74	9.89			14.15	59.44				
<i>Scomber scombrus</i>			7.39	19.54	10.10	61.46				
<i>Hoplostethus mediterraneus</i>							6.16	15.01	7.08	14.96
<i>Blennius ocellaris</i>					12.38	35.97				
<i>Sprattus sprattus</i>	2.36	6.24	8.27	21.89						
<i>Conger conger</i>					0.99	4.18	5.94	12.99	2.57	4.85
<i>Trachinus draco</i>			7.18	19.00	1.91	11.61				
<i>Spicara smaris</i>	2.90	7.67			5.45	22.98				
<i>Deltentosteus quadrimaculatus</i>	3.79	10.02			3.76	15.83				
<i>Chelidonichthys obscurus</i>	5.80	15.34			0.95	5.80				
<i>Helicolenus dactylopterus</i>					1.23	5.65	5.06	13.81	0.16	0.93
Gobiidae	3.79	10.02			1.32	8.04				
<i>Molva macrophthalma</i>					0.72	4.37	3.72	9.58		
<i>Trachurus picturatus</i>					4.43	20.70				
<i>Pagrus pagrus</i>	3.94	10.43								
<i>Serranus cabrilla</i>					3.73	15.72	0.18	0.97		
<i>Lesueurigobius suerii</i>	3.79	10.02								
<i>Arctozenus risso</i>							0.30	1.15	3.43	8.34
<i>Micromesistius poutassou</i>					3.07	10.76	0.59	1.74		
<i>Mora moro</i>									3.64	13.07
<i>Carapus acus</i>					3.47	13.48				
<i>Epigonus denticulatus</i>							1.72	7.60	1.26	3.81
<i>Cepola macrophthalma</i>	2.90	7.67								
<i>Chelidonichthys lucerna</i>	2.90	7.67								
<i>Microchirus spp.</i>			2.75	7.28						
<i>Scorpaena loppei</i>					2.73	11.26				
<i>Arnoglossus rueppelii</i>					2.20	13.38	0.42	2.30		
<i>Scorpaena scrofa</i>					2.50	11.11				
<i>Umbrina canariensis</i>	2.36	6.24								
<i>Symphurus nigrescens</i>					1.82	7.63	0.42	2.30		
<i>Evermannella balbo</i>							0.80	3.36	1.30	4.19
<i>Scorpaena elongata</i>					1.94	10.28			0.08	0.44
<i>Phycis phycis</i>					1.48	9.00				
<i>Scorpaena notata</i>					0.89	5.41				

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Synchiropus phaeton</i>					0.33	1.98	0.49	1.91	0.06	0.37
<i>Notacanthus bonaparte</i>									0.80	2.50
<i>Myctophum punctatum</i>							0.42	2.28	0.30	1.74
<i>Crystallogobius linearis</i>					0.66	4.02				
<i>Chlorophthalmus agassizi</i>							0.46	2.52		
<i>Arnoglossus thori</i>					0.24	1.47	0.18	0.97		
<i>Mola mola</i>					0.41	1.72				
<i>Polymetme corythaeola</i>							0.34	1.87		
<i>Borostomias antarcticus</i>									0.34	1.92
<i>Lophius piscatorius</i>							0.31	1.70		
<i>Ophidion barbatum</i>							0.31	1.70		
<i>Melanostigma atlanticum</i>									0.30	1.74
<i>Aulopus filamentosus</i>							0.23	1.27		
<i>Ophisurus serpens</i>					0.21	1.28				
<i>Alepocephalus rostratus</i>									0.21	1.20
<i>Gaidropsarus biscayensis</i>							0.21	1.14		
<i>Uranoscopus scaber</i>					0.20	1.23				
<i>Xiphias gladius</i>					0.20	1.23				
<i>Epigonus constanciae</i>									0.16	0.93
<b>Chondrichthyes</b>	<b>98.50</b>	<b>130.17</b>	<b>160.03</b>	<b>170.67</b>	<b>286.74</b>	<b>365.41</b>	<b>403.89</b>	<b>552.98</b>	<b>140.98</b>	<b>247.14</b>
<i>Scyliorhinus canicula</i>					157.19	264.84	221.39	294.29	39.50	76.52
<i>Raja spp. eggs</i>	94.72	128.75	90.69	120.17	52.40	169.59	2.28	5.25	1.64	3.86
<i>Galeus melastomus</i>							160.70	466.42	73.14	135.40
<i>Scyliorhinus canicula</i> eggs	3.79	10.02	2.89	7.64	61.24	126.42	11.88	21.21	8.79	14.15
<i>Raja asterias</i> eggs			66.45	175.82	0.25	1.50	0.40	2.19		
<i>Etmopterus spinax</i>							6.01	11.98	17.31	44.76
<i>Raja spp.</i>					9.29	50.73	0.14	0.77		
<i>Torpedo marmorata</i>					4.16	20.47				
<i>Raja polystigma</i> eggs					1.67	10.14				
<i>Raja polystigma</i>					0.56	3.40	0.68	3.74		
<i>Chimaera monstrosa</i>							0.40	2.19	0.59	3.40
<b>Crustacea</b>	<b>708.53</b>	<b>573.18</b>	<b>1996.18</b>	<b>2538.05</b>	<b>7585.50</b>	<b>43118.19</b>	<b>468.10</b>	<b>426.20</b>	<b>291.48</b>	<b>632.21</b>
<i>Plesionika heterocarpus</i>					6977.63	42142.47	99.75	221.01	0.61	1.94
<i>Liocarcinus depurator</i>	103.10	136.56	919.19	1509.19	87.41	309.39	0.31	1.70		
<i>Squilla mantis</i>	188.80	236.44	279.72	458.73	22.93	92.53				
<i>Parapenaeus longirostris</i>			199.40	313.51	232.84	571.17	48.43	66.85	1.82	6.58
<i>Medorippe lanata</i>	159.29	212.01	79.72	150.16	4.82	13.71	1.73	7.71	0.17	0.98
<i>Goneplax rhomboides</i>	98.68	109.92	91.58	167.50	12.59	39.46	3.50	6.53	0.87	2.23
<i>Dardanus arrosor</i>	47.43	50.62	44.54	73.46	66.59	159.26	26.91	55.35	1.76	6.14
<i>Solenocera membranacea</i>			148.08	225.75	22.68	92.26	10.54	15.07	2.07	6.95

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	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Pasiphaea multidentata</i>							11.76	27.71	137.11	522.99
<i>Pasiphaea sivado</i>					0.12	0.75	132.74	246.76	10.70	23.18
<i>Macropodia tenuirostris</i>	22.36	35.90	79.68	121.29	13.33	54.78	0.57	2.20	0.24	1.40
<i>Scalpellum scalpellum</i>	20.29	53.68	66.27	109.74	20.12	77.86				
<i>Plesionika martia</i>					0.33	1.99	45.76	96.72	26.69	44.87
<i>Pagurus excavatus</i>	23.96	29.75	23.16	36.77	13.46	39.28	2.01	4.68		
<i>Chlorotocus crassicornis</i>			27.82	48.75	1.46	8.90	4.49	11.63		
<i>Alpheus glaber</i>	7.08	18.73	24.27	40.51	0.91	3.98			0.06	0.37
<i>Cirripedia 1</i>					30.41	184.95				
<i>Macropipus tuberculatus</i>					18.96	63.99	8.19	16.55	3.20	9.61
<i>Pagurus alatus</i>					0.33	1.99	1.32	4.97	28.17	123.42
<i>Nephrops norvegicus</i>					0.33	1.98	22.49	32.35	4.75	9.61
<i>Polychaetes typhlops</i>									25.72	37.53
<i>Munida intermedia</i>							22.87	70.60		
<i>Robustosergia robusta</i>									21.63	55.17
<i>Latreillia elegans</i>					19.22	116.90				
<i>Pagurus cuanensis</i>	18.94	27.50								
<i>Geryon longipes</i>					15.65	95.19	0.18	0.98	1.96	6.38
<i>Aristeus antennatus</i>					0.33	1.99			11.90	31.02
<i>Aegaeon cataphractus</i>	3.74	9.89	7.18	19.00						
<i>Lophogaster typicus</i>					9.61	58.45				
<i>Inachus dorsetensis</i>					7.20	20.72	0.36	1.95		
<i>Eusergestes arcticus</i>							6.61	19.67	0.54	2.31
<i>Pagurus prideaux</i>					1.48	9.00	4.64	17.29		
<i>Dardanus calidus</i>	6.10	10.21								
<i>Pilumnus spinifer</i>			4.14	10.94	0.95	5.80				
<i>Monodaeus couchii</i>							1.40	3.18	3.18	5.39
<i>Munida speciosa</i>							2.84	13.64	1.13	5.60
<i>Isopoda</i>			1.44	3.82	2.31	9.94	0.21	1.14		
<i>Inachus communissimus</i>	3.79	10.02								
<i>Pisidia longicornis</i>	3.79	10.02								
<i>Processa canaliculata</i>					0.33	1.99	2.89	9.06	0.39	1.54
<i>Aegaeon lacazei</i>					0.29	1.78	0.97	2.98	2.14	4.53
<i>Deosergestes henseni</i>							0.71	3.90	1.87	8.15
<i>Plesionika giglioli</i>							2.50	5.49	0.06	0.37
<i>Callinectes sapidus</i>	1.20	3.16								
<i>Paromola cuvieri</i>									0.97	2.68
<i>Galathea spp.</i>					0.89	5.41				
<i>Processa nouveli</i>							0.83	3.52		
<i>Gennadas elegans</i>									0.61	3.49
<i>Munida perarmata</i>									0.47	2.69
<i>Meganyctiphanes norvegica</i>							0.42	2.28		

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Acantheephyra pelagica</i>									0.28	1.25
<i>Plesionika acanthonotus</i>									0.19	0.79
<i>Palinurus elephas</i>							0.18	0.97		
<i>Pontophilus spinosus</i>									0.13	0.72
<i>Plesionika edwardsii</i>									0.07	0.38
<i>Amphibalanus amphitrite</i>					0.00	0.00				
<i>Nepinnotheres pinnotheres</i>					0.00	0.00				
<b>Cephalopoda</b>	<b>34.59</b>	<b>40.85</b>	<b>136.25</b>	<b>246.01</b>	<b>193.96</b>	<b>208.38</b>	<b>118.31</b>	<b>227.10</b>	<b>32.29</b>	<b>52.19</b>
<i>Illex coindetii</i>			59.58	111.76	129.32	166.59	28.34	39.95	9.16	17.93
<i>Abralia veranyi</i>					14.14	62.14	61.06	168.36	7.59	31.17
<i>Sepia orbignyana</i>			36.93	97.70	4.91	11.63	0.33	1.83		
<i>Sepietta spp.</i>			18.32	26.80	15.75	49.33	4.97	13.16		
<i>Alloteuthis spp.</i>	10.86	18.79			17.94	64.37				
<i>Loligo vulgaris</i>	11.59	30.68	7.39	19.54						
<i>Octopus salutii</i>			7.18	19.00	0.89	5.41	4.08	11.67	0.75	3.42
<i>Octopus vulgaris</i>	6.33	10.69	1.36	3.59	2.55	8.20				
<i>Rossia macrosoma</i>					2.06	7.24	5.39	12.90	0.80	3.54
<i>Eledone cirrhosa</i>	5.80	15.34			0.12	0.75	0.35	1.94		
<i>Histioteuthis reversa</i>							0.30	1.62	5.95	11.39
<i>Eledone moschata</i>			4.14	10.94	0.66	4.02				
<i>Bathypolypus sponsalis</i>							3.46	8.66	1.30	3.99
<i>Pteroctopus tetracirrus</i>							3.49	15.21	1.18	6.80
<i>Sepietta oweniana</i>							4.16	22.81		
<i>Sepia elegans</i>					3.48	15.44	0.35	1.94		
<i>Histioteuthis bonnellii</i>							0.65	2.00	3.08	6.75
<i>Scaevurgus unicirrus</i>					1.68	10.24	1.19	5.98	0.36	2.07
<i>Todarodes sagittatus</i>									1.38	3.71
<i>Callistoctopus macropus</i>			1.36	3.59						
<i>Ancistroteuthis lichtensteinii</i>					0.44	2.68	0.18	0.97	0.52	2.23
<i>Todaropsis eblanae</i>									0.21	1.20
<i>Loligo spp. eggs</i>					0.00	0.00				
<i>Sepia spp. eggs</i>							0.00	0.00		
<b>Other Mollusca</b>	<b>444.04</b>	<b>482.19</b>	<b>356.50</b>	<b>412.24</b>	<b>212.17</b>	<b>371.68</b>	<b>18.40</b>	<b>40.10</b>	<b>5.65</b>	<b>13.30</b>
<i>Calliostoma granulatum</i>	65.90	93.74	113.28	85.67	77.58	235.80			0.59	3.40
<i>Venus nux</i>	11.06	22.31	148.32	320.87	17.92	72.69				
<i>Aprorhais serresiana</i>	121.74	322.10	36.93	97.70	1.20	7.32				
<i>Bolinus brandaris</i>	100.38	116.27	5.50	14.55	0.97	5.89				
<i>Tethys fimbria</i>	80.06	198.19	8.27	21.89	1.38	6.04				
<i>Neopycnodonte cochlear</i>					54.17	179.45	10.97	37.94	0.94	5.38
<i>Galeodea rugosa</i>	2.36	6.24	20.43	49.80	1.70	6.24	0.10	0.55		
<i>Pecten jacobaeus</i>	16.39	20.11								



State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Ostrea spp.</i>	9.44	24.97	2.75	7.28	1.42	8.64	0.48	2.02	0.59	3.40
<i>Musculus subpictus</i>					12.86	46.67				
<i>Hiatella arctica</i>					10.84	65.94				
<i>Pteria hirundo</i>			7.18	19.00	1.11	5.22	1.91	7.42		
<i>Scaphander lignarius</i>					9.61	58.45				
<i>Galeodea echinophora</i>	4.72	12.48	2.75	7.28	1.21	5.90				
<i>Anomia ephippium</i>					7.93	35.84	0.71	3.89		
<i>Euspira fusca</i>			2.75	7.28	2.41	9.12	2.11	5.20		
<i>Armina tigrina</i>	2.90	7.67	2.75	7.28						
<i>Turritellinella tricarinata</i>			5.58	10.64						
<i>Anadara gibbosa</i>	5.26	8.51								
<i>Nudibranchi sp. 5</i>	4.72	12.48								
<i>Acanthocardia echinata</i>	3.79	10.02			0.33	1.99				
<i>Acanthocardia aculeata</i>	3.74	9.89								
<i>Cymbulia spp.</i>							0.00	0.00	3.27	11.57
<i>Aequipecten opercularis</i>	2.90	7.67								
<i>Bivetiella cancellata</i>	2.90	7.67								
<i>Parvicardium exiguum</i>	2.90	7.67								
<i>Semicassis undulata</i>	2.90	7.67								
<i>Philine spp.</i>					2.23	13.58				
<i>Chlamys spp.</i>					1.42	8.64				
<i>Mollusca</i>					1.42	8.64				
<i>Buccinum humphreysianum</i>							1.41	5.58		
<i>Doris pseudoargus</i>					0.82	5.00	0.40	2.19		
<i>Mollusca 2</i>					1.01	5.42				
<i>Gastropoda 1</i>					0.97	5.89				
<i>Xenophora crispa</i>					0.97	5.89				
<i>Pleurobranchaea meckeli</i>					0.12	0.71	0.31	1.70		
<i>Acanthocardia paucicostata</i>					0.33	1.98				
<i>Carinaria spp.</i>									0.25	1.45
<i>Pterotrachea spp.</i>					0.25	1.50				
<i>Gastropoda eggs</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
<b>Porifera</b>	<b>11.59</b>	<b>30.68</b>	<b>41.89</b>	<b>44.77</b>	<b>44.20</b>	<b>90.57</b>	<b>2.74</b>	<b>6.26</b>	<b>0.30</b>	<b>1.73</b>
<i>Suberites spp.</i>	8.70	23.01	30.57	47.76	7.14	23.55	0.33	1.28		
<i>Desmacidon spp.</i>	2.90	7.67			4.24	17.11	1.03	5.61	0.30	1.73
<i>Suberites syringella</i>			7.18	19.00						
<i>Suberites carnosus</i>					6.87	30.96				
<i>Esponja sp. 1</i>					5.80	13.71	1.03	3.35		
<i>Esponja sp. 2</i>					6.65	17.46				
<i>Spongosorites spp.</i>			4.14	10.94						
<i>Tethya aurantium</i>					3.04	12.53	0.36	2.00		
<i>Cliona celata</i>					2.20	11.65				

State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Esponja sp. 7</i>					1.46	7.41				
<i>Suberites domuncula</i>					1.32	5.91				
<i>Desmacidon fruticosum</i>					1.28	6.03				
<i>Esponja sp. 6</i>					1.20	7.32				
<i>Spongia lamella</i>					0.95	5.80				
<i>Esponja sp. 9</i>					0.89	5.41				
<i>Dysidea avara</i>					0.61	2.74				
<i>Raspailia spp.</i>					0.41	2.51				
<i>Esponja sp. 5</i>					0.12	0.75				
<b>Cnidaria</b>	<b>397.45</b>	<b>405.64</b>	<b>1218.94</b>	<b>1384.86</b>	<b>914.52</b>	<b>1237.88</b>	<b>109.60</b>	<b>174.89</b>	<b>31.17</b>	<b>106.51</b>
<i>Anthozoa 1</i>	268.09	362.01	890.09	1057.29	0.59	3.56				
<i>Alcyonium palmatum</i>	38.68	51.91	87.76	139.55	435.47	769.79	46.41	89.33	7.85	25.33
<i>Pennatula phosphorea</i>	8.70	23.01	35.91	60.32	182.02	549.83	2.25	7.06	0.13	0.72
<i>Calliactis parasitica</i>	3.94	10.43	14.77	39.08	116.47	336.22	13.94	45.57	0.55	2.70
<i>Pennatula rubra</i>	8.16	15.00	65.03	76.89	75.89	243.76	0.48	2.64		
<i>Lytocarpia myriophyllum</i>	9.53	15.91	21.99	38.79	35.69	92.40	14.01	52.73	0.90	3.73
<i>Hormathia alba</i>			14.37	38.01	16.40	53.59	21.98	35.55	17.84	78.76
<i>Veretillum cynomorium</i>	44.85	118.65	21.55	57.01					0.56	2.20
<i>Pteroeides griseum</i>	2.36	6.24	39.04	75.87	19.12	56.34				
<i>Actinia sp. 2</i>	3.94	10.43	8.25	21.83	14.92	23.41	2.98	8.93		
<i>Hydrozoa 1</i>			8.83	19.31	1.68	8.70	0.00	0.00	0.47	2.69
<i>Actinia sp. 1</i>			4.33	11.46	1.56	8.09	0.68	3.74	0.63	3.61
<i>Funiculina quadrangularis</i>					6.58	23.75	0.46	2.52		
<i>Nemertesia antennina</i>	0.00	0.00	1.44	3.97	2.90	10.56	1.37	7.50	0.90	5.18
<i>Nemertesia ramosa</i>	2.36	6.37	1.44	3.94	0.45	2.09	1.50	4.65	0.77	3.11
<i>Leptogorgia sarmentosa</i>			4.14	10.94	0.44	2.07			0.00	0.00
<i>Eunicella verrucosa</i>	3.94	10.43			0.23	1.41	0.40	2.19	0.00	0.00
<i>Caryophyllia spp.</i>					3.45	14.46				
<i>Virgularia mirabilis</i>	2.90	7.67								
<i>Adamsia palliata</i>							2.79	15.26		
<i>Kophobelemnion stelliferum</i>					0.33	1.98	0.34	1.87	0.59	3.40
<i>Rhizostoma pulmo</i>					0.33	1.98				
<i>Hydrozoa</i>									0.00	0.00
<i>Hydrozoa 2</i>									0.00	0.00
<i>Hydrozoa 5</i>							0.00	0.00		
<i>Pelagia noctiluca</i>									0.00	0.00
<b>Annelida</b>	<b>6.64</b>	<b>10.79</b>	<b>19.59</b>	<b>34.16</b>	<b>24.40</b>	<b>74.97</b>	<b>6.49</b>	<b>13.99</b>	<b>1.00</b>	<b>3.12</b>
<i>Aphrodita aculeata</i>					9.43	24.52	3.41	10.32	0.66	2.61
<i>Polychaeta 6</i>			12.41	32.83						
<i>Serpula vermicularis</i>					12.04	73.22				
<i>Pontobdella muricata</i>			7.18	19.00						
<i>Tubs Polychaeta</i>	2.90	7.67	0.00	0.00	2.04	8.60	1.71	9.38	0.00	0.00

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	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Eunice s.l.</i>	3.74	9.89					0.35	1.94	0.34	1.92
<i>Polychaeta</i>	0.00	0.00			0.89	5.41				
<i>Amphinomidae</i>							0.62	3.40		
<i>Sabellidae</i>							0.40	2.20		
<b>Sipuncula</b>					<b>1.42</b>	<b>8.64</b>	<b>2.60</b>	<b>8.38</b>	<b>0.30</b>	<b>1.73</b>
<i>Phascolion strombus</i>							2.60	8.38	0.30	1.73
<i>Sipuncula 1</i>					1.42	8.64				
<b>Echinodermata</b>	<b>1403.75</b>	<b>2018.49</b>	<b>1168.94</b>	<b>1459.79</b>	<b>12301.33</b>	<b>51022.85</b>	<b>43.65</b>	<b>69.57</b>	<b>10.17</b>	<b>32.18</b>
<i>Leptometra phalangium</i>					10848.46	49525.93	0.00	0.00		
<i>Astropecten irregularis</i>	1327.93	1985.74	1140.68	1472.94	1053.60	2507.56	24.13	48.69	8.79	31.26
<i>Echinus melo</i>					134.66	650.82			0.08	0.44
<i>Gracilechinus acutus</i>					91.67	557.58				
<i>Ophiura ophiura</i>	7.89	20.86			61.72	197.41	7.76	20.29	0.13	0.72
<i>Ova canalifera</i>	46.29	64.16								
<i>Antedon mediterranea</i>			11.52	19.74	18.75	73.00				
<i>Parastichopus regalis</i>					20.21	88.55	1.02	3.93		
<i>Ocnus planci</i>	6.68	10.89	2.89	7.64	10.94	22.70	0.35	1.94		
<i>Anseropoda placenta</i>					16.89	65.64	2.36	8.47		
<i>Cidaris cidaris</i>					15.00	76.09	3.22	17.62		
<i>Echinaster sepositus</i>	3.94	10.43			6.22	19.35	1.86	6.43		
<i>Leptopentacta elongata</i>	2.36	6.24	8.27	21.89	0.33	1.98				
<i>Luidia ciliaris</i>			4.14	10.94	2.52	12.81				
<i>Mesothuria intestinalis</i>					5.23	30.54				
<i>Psammechinus microtuberculatus</i>	4.72	12.48								
<i>Holothuria tubulosa</i>			1.44	3.82	2.30	8.34	0.34	1.87		
<i>Ophiothrix fragilis</i>					4.02	15.07				
<i>Spatangus purpureus</i>	3.94	10.43								
<i>Coscinasterias tenuispina</i>					2.86	11.49				
<i>Astrospartus mediterraneus</i>					2.08	12.67	0.21	1.14	0.13	0.72
<i>Brissopsis lyrifera</i>							1.47	3.77		
<i>Molpadia musculus</i>					0.33	1.99			1.05	6.02
<i>Holothuria forskali</i>					1.13	4.92				
<i>Chaetaster longipes</i>					0.95	5.80				
<i>Amphilepis norvegica</i>					0.82	5.00				
<i>Astropecten aranciatus</i>							0.46	2.52		
<i>Brissopsis atlantica</i>							0.46	2.52		
<i>Amphipholis squamata</i>					0.23	1.41				
<i>Marthasterias glacialis</i>					0.21	1.29				
<i>Tethyaster subinermis</i>					0.21	1.29				
<b>Tunicata</b>	<b>7.62</b>	<b>12.82</b>	<b>95.30</b>	<b>63.05</b>	<b>592.39</b>	<b>1759.98</b>	<b>7.86</b>	<b>12.16</b>	<b>0.67</b>	<b>2.53</b>
<i>Corella parallelogramma</i>			62.33	57.72	533.68	1756.12	0.35	1.94		
<i>Pyrosoma atlanticum</i>			13.77	22.87	10.99	58.27	1.84	4.45	0.42	2.41

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	Shallow continental shelf		Middle continental shelf		Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<i>Ascidia mentula</i>	2.36	6.24	8.25	21.83	14.88	33.68	0.98	3.81	0.13	0.74
<i>Ascidia sp. 2</i>	2.36	6.24			10.42	29.08	3.12	11.07		
<i>Diazona violacea</i>					12.11	29.99	0.31	1.70		
<i>Ascidia sp. 1</i>			9.49	25.12	1.61	9.82				
<i>Phallusia mammillata</i>	2.90	7.67	1.44	3.82	1.71	8.73				
<i>Microcosmus vulgaris</i>					4.07	20.62	0.40	2.20		
<i>Salpa spp.</i>					0.69	2.91	0.76	2.85	0.13	0.72
<i>Microcosmus spp.</i>					1.40	5.40	0.10	0.55		
<i>Molgula appendiculata</i>					0.82	5.00				

## ANNEX IV: BIOMASS NORTH ZONE

Table 1. Mean and standard deviation of the biomass of the species present in the landed fraction of the catch in each fishing ground including all hauls in the north zone sampled from January to December 2020.

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>287.90</b>	<b>150.67</b>	<b>224.28</b>	<b>249.29</b>	<b>42.67</b>	<b>39.38</b>
<i>Phycis blennoides</i>	4.57	10.04	117.62	255.96	21.31	22.79
<i>Trachurus trachurus</i>	67.91	89.30	1.38	4.20	0.23	0.77
<i>Merluccius merluccius</i>	35.97	18.41	14.39	10.83	4.85	8.36
<i>Lophius budegassa</i>	36.51	28.89	8.26	11.31	5.08	16.84
<i>Micromesistius poutassou</i>	0.02	0.07	44.10	104.34	4.99	7.23
<i>Mullus barbatus</i>	33.09	34.30	0.44	1.15		
<i>Mullus surmuletus</i>	20.76	35.28	0.72	2.51		
<i>Trisopterus capelanus</i>	20.42	26.81	0.03	0.11		
<i>Pagellus erythrinus</i>	15.34	20.31	0.26	0.67		
<i>Lepidorhombus boschii</i>	4.27	5.06	9.81	9.34	0.43	0.30
<i>Lophius piscatorius</i>	12.09	34.44	1.90	6.57		
<i>Helicolenus dactylopterus</i>	0.04	0.14	8.90	12.62	0.14	0.20
<i>Centrolophus niger</i>			6.39	15.70		
<i>Trachinus draco</i>	5.65	8.94				
<i>Conger conger</i>	0.65	1.53	1.65	1.83	3.08	7.02
<i>Eutrigla gurnardus</i>	5.08	7.34				
<i>Trigla lyra</i>	0.57	0.90	4.22	4.94		
<i>Scorpaena elongata</i>	2.53	3.35	1.71	2.62	0.10	0.32
<i>Molva macrophthalma</i>			1.94	2.58	2.29	5.53
<i>Citharus linguatula</i>	3.61	4.46	0.08	0.26		
<i>Chelidonichthys lastoviza</i>	3.34	11.44				
<i>Chelidonichthys obscurus</i>	3.05	9.63	0.05	0.18		
<i>Uranoscopus scaber</i>	1.97	2.02				
<i>Chelidonichthys cuculus</i>	1.93	3.05	0.02	0.09		
<i>Serranus cabrilla</i>	1.20	2.25				
<i>Scomber scombrus</i>	1.12	1.85				
<i>Lepidotrigla cavillone</i>	1.07	0.91				
<i>Blennius ocellaris</i>	1.02	1.78				
<i>Scorpaena notata</i>	0.65	1.53				
<i>Argentina sphyraena</i>	0.40	0.82	0.19	0.31		
<i>Cepola macrophthalma</i>	0.56	1.37	0.02	0.05		
<i>Scorpaena scrofa</i>	0.55	1.26				
<i>Serranus hepatus</i>	0.40	1.06				
<i>Pagellus bogaraveo</i>			0.19	0.67	0.19	0.62
<i>Monochirus hispidus</i>	0.28	0.97				
<i>Chelidonichthys lucerna</i>	0.23	0.81				

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Zeus faber</i>	0.22	0.54				
<i>Spicara flexuosa</i>	0.20	0.45				
<i>Microchirus variegatus</i>	0.20	0.29				
<i>Arnoglossus rueppelii</i>	0.11	0.39				
<i>Arnoglossus laterna</i>	0.10	0.16				
<i>Sardina pilchardus</i>	0.08	0.28				
<i>Arnoglossus thori</i>	0.07	0.14				
<i>Pagellus acarne</i>	0.02	0.06				
<i>Engraulis encrasicolus</i>	0.01	0.04				
<i>Diplodus sargus</i>	0.01	0.04				
<i>Lepidotrigla dieuzeidei</i>	0.01	0.03				
<b>Chondrichthyes</b>	<b>23.61</b>	<b>53.36</b>	<b>13.81</b>	<b>33.39</b>		
<i>Scyliorhinus canicula</i>	19.34	40.75	13.81	33.39		
<i>Raja clavata</i>	4.27	14.80				
<i>Torpedo marmorata</i>	0.00	0.00				
<b>Crustacea</b>	<b>14.25</b>	<b>18.27</b>	<b>89.13</b>	<b>67.56</b>	<b>76.93</b>	<b>36.10</b>
<i>Aristeus antennatus</i>			0.62	1.31	67.48	29.09
<i>Nephrops norvegicus</i>			54.55	37.32	4.26	5.79
<i>Parapenaeus longirostris</i>	14.02	17.60	33.40	40.92	1.68	3.10
<i>Pasiphaea multidentata</i>			0.05	0.13	2.34	3.13
<i>Plesionika martia</i>			0.14	0.50	1.11	1.63
<i>Palinurus mauritanicus</i>			0.26	0.89		
<i>Squilla mantis</i>	0.16	0.46				
<i>Macropipus tuberculatus</i>	0.07	0.16	0.05	0.08		
<i>Munida intermedia</i>			0.05	0.18		
<i>Robustosergia robusta</i>					0.05	0.16
<i>AcanthePHYra eximia</i>					0.01	0.02
<i>Plesionika gigliolii</i>			0.01	0.02		
<i>Pasiphaea sivado</i>					0.01	0.02
<i>Aristaeomorpha foliacea</i>					0.00	0.02
<b>Cephalopoda</b>	<b>42.21</b>	<b>35.58</b>	<b>17.26</b>	<b>18.56</b>	<b>5.27</b>	<b>7.20</b>
<i>Illex coindetii</i>	24.60	36.27	5.46	9.56	0.12	0.41
<i>Eledone cirrhosa</i>	11.15	13.39	8.23	13.20	3.15	4.38
<i>Todarodes sagittatus</i>			1.74	2.65	1.99	4.69
<i>Sepia orbignyana</i>	2.99	2.17	0.43	0.76		
<i>Octopus vulgaris</i>	2.44	4.82	0.38	1.31		
<i>Rossia macrosoma</i>	0.03	0.10	1.00	3.36		
<i>Alloteuthis media</i>	0.28	0.75				
<i>Sepia elegans</i>	0.28	0.54				
<i>Loligo vulgaris</i>	0.21	0.64				
<i>Alloteuthis spp.</i>	0.14	0.48				
<i>Sepietta spp.</i>	0.10	0.34	0.02	0.06		
<i>Abralia veranyi</i>			0.00	0.01		
<b>Other Mollusca</b>	<b>0.13</b>	<b>0.31</b>	<b>0.10</b>	<b>0.33</b>		

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Galeodea rugosa</i>	0.13	0.31	0.01	0.03		
<i>Buccinum humphreysianum</i>			0.10	0.34		
<b>Echinodermata</b>	<b>17.17</b>	<b>23.38</b>				
<i>Parastichopus regalis</i>	17.17	23.38				

Table 2. Mean and standard deviation of the biomass of the species present in the discarded fraction of the catch in each fishing ground including all hauls in the north zone sampled from January to December 2020.

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>115.26</b>	<b>70.11</b>	<b>17.77</b>	<b>17.32</b>	<b>11.28</b>	<b>16.16</b>
<i>Boops boops</i>	46.40	44.37	0.21	0.73		
<i>Trachurus trachurus</i>	15.34	15.09	2.02	5.52	0.30	0.81
<i>Pagellus bogaraveo</i>	11.31	26.47	0.68	1.56	0.25	0.83
<i>Spicara flexuosa</i>	10.67	10.85	0.06	0.19		
<i>Lophius budegassa</i>	7.03	16.20	0.68	1.20		
<i>Conger conger</i>	0.74	2.08	3.80	6.90	1.06	2.00
<i>Merluccius merluccius</i>	4.79	4.53	0.42	0.54		
<i>Capros aper</i>	3.51	3.66	1.21	2.14	0.00	0.01
<i>Coelorinchus caelorhincus</i>			2.16	2.63	1.32	3.69
<i>Phycis blennoides</i>	1.38	4.63	1.18	1.32	0.22	0.26
<i>Lampanyctus crocodilus</i>			0.02	0.03	2.71	8.33
<i>Trachyrhynchus scabrus</i>					2.28	4.62
<i>Spicara maena</i>	2.19	2.31			0.03	0.10
<i>Serranus hepatus</i>	1.72	1.54	0.02	0.06		
<i>Lepidorhombus boscii</i>	0.26	0.35	1.29	1.47	0.07	0.09
<i>Pagellus erythrinus</i>	1.32	1.55	0.02	0.07		
<i>Nezumia aequalis</i>					1.25	2.06
<i>Mola mola</i>	1.19	4.12				
<i>Lepidopus caudatus</i>			0.84	1.05	0.31	0.51
<i>Gadiculus argenteus</i>	0.01	0.03	0.80	1.29	0.05	0.18
<i>Lepidotrigla cavillone</i>	0.82	1.24				
<i>Trisopterus capelanus</i>	0.70	0.56	0.06	0.21		
<i>Chelidonichthys cuculus</i>	0.75	1.26				
<i>Trachurus picturatus</i>	0.69	1.65				
<i>Trigla lyra</i>	0.03	0.07	0.58	0.60	0.08	0.20
<i>Stomias boa</i>			0.47	1.03	0.20	0.25
<i>Mullus barbatus</i>	0.65	1.17				
<i>Micromesistius poutassou</i>	0.62	1.29	0.03	0.10		
<i>Citharus linguatula</i>	0.64	0.84				

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Hoplostethus mediterraneus</i>			0.05	0.05	0.43	1.01
<i>Chauliodus sloani</i>	0.07	0.24	0.11	0.24	0.20	0.27
<i>Macroramphosus scolopax</i>	0.34	0.60	0.02	0.06		
<i>Notoscopelus elongatus</i>			0.30	0.47	0.02	0.05
<i>Scorpaena scrofa</i>	0.27	0.65				
<i>Blennius ocellaris</i>	0.25	0.52				
<i>Arnoglossus laterna</i>	0.24	0.43			0.01	0.03
<i>Helicolenus dactylopterus</i>			0.23	0.38	0.01	0.04
<i>Molva macrophthalmia</i>	0.06	0.22	0.17	0.38		
<i>Mora moro</i>					0.23	0.55
<i>Hymenocephalus italicus</i>			0.02	0.04	0.18	0.23
<i>Serranus cabrilla</i>	0.18	0.41	0.03	0.09		
<i>Trachinus draco</i>	0.17	0.59				
<i>Argentina sphyraena</i>	0.14	0.18	0.02	0.05		
<i>Pagellus acarne</i>	0.15	0.53				
<i>Scorpaena loppei</i>	0.11	0.24				
<i>Ceratoscopelus maderensis</i>			0.10	0.34	0.00	0.02
<i>Spicara smaris</i>	0.10	0.34				
<i>Chelidonichthys obscurus</i>	0.09	0.31				
<i>Engraulis encrasicolus</i>	0.08	0.21				
<i>Lophius piscatorius</i>			0.06	0.21		
<i>Lepidotrigla dieuzeidei</i>	0.05	0.13				
<i>Uranoscopus scaber</i>	0.04	0.15				
<i>Scorpaena notata</i>	0.03	0.12				
<i>Symphurus nigrescens</i>	0.02	0.05	0.01	0.04		
<i>Epigonus denticulatus</i>			0.01	0.02	0.02	0.08
<i>Deltentosteus quadrimaculatus</i>	0.02	0.05				
<i>Chlorophthalmus agassizi</i>			0.02	0.07		
<i>Synchiropus phaeton</i>	0.01	0.04	0.01	0.02		
<i>Evermannella balbo</i>			0.01	0.03	0.00	0.01
<i>Aulopus filamentosus</i>			0.01	0.05		
<i>Epigonus constanciae</i>					0.01	0.04
<i>Ophidion barbatum</i>			0.01	0.04		
<i>Mullus surmuletus</i>	0.01	0.04				
<i>Sardina pilchardus</i>			0.01	0.04		
<i>Callionymus maculatus</i>	0.01	0.04				
<i>Carapus acus</i>	0.01	0.02				
<i>Arnoglossus thori</i>	0.01	0.02	0.00	0.01		
<i>Eutrigla gurnardus</i>	0.01	0.03				
<i>Trachurus mediterraneus</i>			0.01	0.03		
<i>Arctozenus risso</i>					0.01	0.02
<i>Polymetme corythaeola</i>			0.01	0.02		
<i>Arnoglossus rueppelii</i>			0.00	0.02		
<i>Xiphias gladius</i>	0.00	0.00				



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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<b>Chondrichthyes</b>	<b>40.20</b>	<b>51.02</b>	<b>71.43</b>	<b>76.51</b>	<b>52.02</b>	<b>80.90</b>
<i>Scyliorhinus canicula</i>	32.10	31.75	70.17	74.28	18.25	23.10
<i>Galeus melastomus</i>			0.98	1.13	29.99	51.26
<i>Raja spp.</i>	7.13	24.57	0.01	0.05		
<i>Etmopterus spinax</i>			0.18	0.23	3.74	8.97
<i>Raja polystigma</i>	0.46	1.59	0.02	0.07		
<i>Torpedo marmorata</i>	0.42	1.47				
<i>Scyliorhinus canicula</i> eggs	0.06	0.09	0.04	0.06	0.02	0.03
<i>Raja spp.</i> eggs	0.04	0.13	0.00	0.00		
<i>Chimaera monstrosa</i>			0.02	0.06	0.02	0.06
<i>Raja asterias</i> eggs			0.00	0.00		
<i>Raja polystigma</i> eggs	0.00	0.00				
<b>Crustacea</b>	<b>3.03</b>	<b>3.91</b>	<b>2.85</b>	<b>2.24</b>	<b>2.00</b>	<b>1.84</b>
<i>Dardanus arrosor</i>	1.42	3.75	0.72	0.85	0.03	0.10
<i>Parapenaeus longirostris</i>	1.14	1.90	0.48	0.50	0.02	0.06
<i>Plesionika martia</i>	0.00	0.02	0.21	0.35	0.27	0.37
<i>Plesionika heterocarpus</i>	0.10	0.34	0.38	0.82	0.00	0.01
<i>Pasiphaea multidentata</i>			0.13	0.26	0.33	0.61
<i>Paromola cuvieri</i>					0.42	0.83
<i>Polycheles typhlops</i>					0.36	0.37
<i>Macropipus tuberculatus</i>	0.13	0.27	0.11	0.20	0.06	0.10
<i>Nephrops norvegicus</i>	0.01	0.03	0.20	0.26	0.02	0.03
<i>Munida intermedia</i>			0.23	0.58		
<i>Pagurus alatus</i>	0.00	0.00	0.01	0.03	0.22	0.57
<i>Pasiphaea sivado</i>			0.19	0.41	0.03	0.09
<i>Aristeus antennatus</i>	0.00	0.01			0.17	0.29
<i>Pagurus excavatus</i>	0.10	0.28	0.01	0.02		
<i>Solenocera membranacea</i>			0.05	0.05	0.01	0.04
<i>Pagurus prideaux</i>			0.05	0.12		
<i>Medorippe lanata</i>	0.04	0.12	0.00	0.01		
<i>Munida speciosa</i>			0.03	0.09	0.01	0.03
<i>Liocarcinus depurator</i>	0.02	0.07	0.01	0.02		
<i>Cirripedia 1</i>	0.03	0.09				
<i>Robustosergia robusta</i>					0.03	0.03
<i>Monodaeus couchii</i>			0.01	0.02	0.01	0.02
<i>Macropodia tenuirostris</i>	0.02	0.03	0.00	0.00	0.00	0.00
<i>Processa canaliculata</i>	0.00	0.00	0.01	0.03		
<i>Inachus dorsetensis</i>	0.01	0.02				
<i>Goneplax rhomboides</i>	0.00	0.00	0.01	0.01		
<i>Chlorotocus crassicornis</i>			0.00	0.01		
<i>Plesionika gigliolii</i>			0.00	0.01		
<i>Eusergestes arcticus</i>			0.00	0.01		
<i>Pilumnus spinifer</i>	0.00	0.01				
<i>Aegaeon lacazei</i>			0.00	0.00	0.00	0.00

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Isopoda</i>	0.00	0.01				
<i>Alpheus glaber</i>	0.00	0.00				
<i>Processa nouveli</i>			0.00	0.00		
<i>Galathea spp.</i>	0.00	0.00				
<b>Cephalopoda</b>	<b>4.55</b>	<b>4.15</b>	<b>5.72</b>	<b>6.51</b>	<b>3.29</b>	<b>3.10</b>
<i>Octopus salutii</i>	0.87	3.01	2.93	6.28	0.34	1.14
<i>Illex coindetii</i>	2.30	2.34	0.62	0.53	0.39	0.70
<i>Todarodes sagittatus</i>					1.19	2.40
<i>Octopus vulgaris</i>	1.05	2.11				
<i>Bathypolypus sponsalis</i>			0.62	0.96	0.14	0.41
<i>Rossia macrosoma</i>	0.06	0.21	0.57	1.12	0.03	0.11
<i>Histioteuthis bonnellii</i>			0.42	1.39	0.23	0.44
<i>Histioteuthis reversa</i>			0.02	0.07	0.59	0.64
<i>Pteroctopus tetracirrus</i>			0.08	0.18	0.25	0.83
<i>Scaeurgus unicolor</i>			0.17	0.60	0.12	0.38
<i>Sepietta spp.</i>	0.12	0.40	0.10	0.24		
<i>Abralia veranyi</i>			0.13	0.18	0.01	0.03
<i>Sepia orbignyana</i>	0.09	0.20				
<i>Alloteuthis spp.</i>	0.04	0.12				
<i>Ancistroteuthis lichtensteinii</i>			0.03	0.12		
<i>Sepia elegans</i>	0.02	0.08				
<i>Sepia spp. eggs</i>			0.01	0.03		
<b>Other Mollusca</b>	<b>0.59</b>	<b>0.73</b>	<b>0.41</b>	<b>0.71</b>	<b>0.02</b>	<b>0.05</b>
<i>Neopycnodonte cochlear</i>	0.30	0.61	0.26	0.73		
<i>Calliostoma granulatum</i>	0.11	0.12			0.00	0.01
<i>Tethys fimbria</i>	0.05	0.19				
<i>Doris pseudoargus</i>	0.01	0.02	0.05	0.17		
<i>Buccinum humphreysianum</i>			0.05	0.12		
<i>Acanthocardia echinata</i>	0.04	0.14				
<i>Cymbulia spp.</i>			0.02	0.08	0.01	0.05
<i>Galeodea rugosa</i>	0.04	0.12				
<i>Euspira fusca</i>	0.01	0.04	0.01	0.03		
<i>Gastropoda eggs</i>	0.02	0.04	0.00	0.01		
<i>Pteria hirundo</i>	0.01	0.03	0.01	0.02		
<i>Anomia ephippium</i>	0.01	0.04				
<i>Pleurobranchaea meckeli</i>			0.01	0.03		
<i>Ostrea spp.</i>					0.00	0.02
<i>Acanthocardia paucicostata</i>	0.00	0.01				
<i>Mollusca 2</i>	0.00	0.01				
<b>Porifera</b>	<b>1.53</b>	<b>2.25</b>	<b>0.05</b>	<b>0.08</b>	<b>0.01</b>	<b>0.03</b>
<i>Suberites spp.</i>	0.26	0.41				
<i>Esponja sp. 1</i>	0.21	0.35	0.02	0.03		
<i>Cliona celata</i>	0.22	0.75				
<i>Esponja sp. 2</i>	0.20	0.42				

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Desmacidon fruticosum</i>	0.16	0.49				
<i>Tethya aurantium</i>	0.14	0.32	0.00	0.01		
<i>Desmacidon spp.</i>	0.08	0.21	0.02	0.09	0.01	0.03
<i>Esponja sp. 9</i>	0.10	0.35				
<i>Dysidea avara</i>	0.10	0.29				
<i>Suberites domuncula</i>	0.04	0.12				
<i>Spongia lamella</i>	0.02	0.07				
<i>Raspallia spp.</i>	0.01	0.02				
<b>Cnidaria</b>	<b>11.37</b>	<b>12.12</b>	<b>1.29</b>	<b>1.40</b>	<b>0.25</b>	<b>0.47</b>
<i>Alcyonium palmatum</i>	7.86	9.81	0.70	0.96	0.09	0.25
<i>Calliactis parasitica</i>	2.24	6.26	0.30	0.58	0.00	0.01
<i>Rhizostoma pulmo</i>	0.67	2.32				
<i>Lytocarpia myriophyllum</i>	0.14	0.37	0.11	0.27	0.01	0.03
<i>Pteroeides griseum</i>	0.15	0.23				
<i>Pennatula phosphorea</i>	0.13	0.23	0.01	0.03		
<i>Pennatula rubra</i>	0.11	0.30	0.01	0.05		
<i>Hormathia alba</i>	0.02	0.04	0.07	0.08	0.03	0.08
<i>Pelagia noctiluca</i>					0.11	0.37
<i>Nemertesia ramosa</i>	0.01	0.02	0.03	0.05	0.00	0.01
<i>Nemertesia antennina</i>	0.01	0.02	0.02	0.04	0.01	0.02
<i>Actinia sp. 2</i>	0.02	0.03	0.01	0.02		
<i>Adamsia palliata</i>			0.01	0.04		
<i>Funiculina quadrangularis</i>	0.01	0.02	0.00	0.01		
<i>Caryophyllia spp.</i>	0.01	0.02				
<i>Kophobelemnon stelliferum</i>	0.00	0.01	0.00	0.01	0.00	0.01
<i>Actinia sp. 1</i>	0.00	0.00	0.00	0.01		
<i>Eunicella verrucosa</i>			0.00	0.01		
<i>Leptogorgia sarmentosa</i>	0.00	0.00				
<i>Hydrozoa</i>					0.00	0.00
<b>Annelida</b>	<b>0.21</b>	<b>0.55</b>	<b>0.09</b>	<b>0.16</b>	<b>0.01</b>	<b>0.03</b>
<i>Aphrodita aculeata</i>	0.18	0.55	0.06	0.11	0.01	0.03
<i>Tubs Polychaeta</i>	0.03	0.06	0.03	0.06		
<i>Sabellidae</i>			0.00	0.00		
<i>Amphinomidae</i>			0.00	0.00		
<i>Polychaeta</i>	0.00	0.00				
<b>Sipuncula</b>			<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>
<i>Phascolion strombus</i>			0.00	0.01	0.00	0.00
<b>Echinodermata</b>	<b>64.58</b>	<b>133.34</b>	<b>0.90</b>	<b>1.12</b>		
<i>Echinus melo</i>	24.71	65.65				
<i>Leptometra phalangium</i>	19.36	47.41	0.06	0.20		
<i>Gracilechinus acutus</i>	14.08	48.77				
<i>Cidaris cidaris</i>	1.66	4.96	0.18	0.63		
<i>Parastichopus regalis</i>	1.09	2.26	0.16	0.43		
<i>Astrospartus mediterraneus</i>	0.82	2.86				

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Ophiura ophiura</i>	0.52	1.07	0.07	0.11		
<i>Luidia ciliaris</i>	0.51	1.61				
<i>Astropecten irregularis</i>	0.39	0.71	0.06	0.13		
<i>Coscinasterias tenuispina</i>	0.36	1.24				
<i>Echinaster sepositus</i>	0.22	0.47	0.08	0.15		
<i>Ocnus planci</i>	0.23	0.32				
<i>Anseropoda placenta</i>	0.19	0.36	0.03	0.08		
<i>Mesothuria intestinalis</i>	0.20	0.63				
<i>Holothuria forskali</i>	0.20	0.50				
<i>Astropecten aranciacus</i>			0.17	0.61		
<i>Brissopsis lyrifera</i>			0.04	0.06		
<i>Holothuria tubulosa</i>			0.03	0.10		
<i>Brissopsis atlantica</i>			0.01	0.04		
<i>Chaetaster longipes</i>	0.01	0.03				
<i>Amphilepis norvegica</i>	0.01	0.02				
<i>Ophiothrix fragilis</i>	0.00	0.01				
<i>Leptopentacta elongata</i>	0.00	0.01				
<i>Molpadia musculus</i>	0.00	0.01				
<i>Antedon mediterranea</i>	0.00	0.00				
<b>Tunicata</b>	<b>2.12</b>	<b>1.99</b>	<b>0.16</b>	<b>0.18</b>		
<i>Diazona violacea</i>	0.81	1.68	0.01	0.02		
<i>Ascidia sp. 2</i>	0.47	0.91	0.10	0.19		
<i>Microcosmus vulgaris</i>	0.29	0.94	0.03	0.10		
<i>Ascidia mentula</i>	0.24	0.49	0.01	0.02		
<i>Ascidia sp. 1</i>	0.12	0.40				
<i>Corella parallelogramma</i>	0.10	0.28				
<i>Microcosmus spp.</i>	0.06	0.15				
<i>Molgula appendiculata</i>	0.02	0.09				
<i>Salpa spp.</i>	0.01	0.04	0.01	0.04		
<i>Pyrosoma atlanticum</i>			0.00	0.02		

## ANNEX V: ABUNDANCE NORTH ZONE

Table1. Mean and standard deviation of the abundance of the species present in the landed fraction of the catch in each fishing ground including all hauls in the north zone sampled from January to December 2020.

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>4743.96</b>	<b>3292.53</b>	<b>1713.07</b>	<b>1005.82</b>	<b>276.42</b>	<b>251.37</b>
<i>Trachurus trachurus</i>	1691.25	2318.85	9.40	28.97	0.92	3.05
<i>Phycis blennoides</i>	96.97	248.67	712.00	478.13	199.82	200.84
<i>Mullus barbatus</i>	695.75	777.96	6.88	18.72		
<i>Trisopterus capelanus</i>	605.44	711.96	0.81	2.82		
<i>Micromesistius poutassou</i>	0.48	1.65	352.03	768.38	35.60	42.89
<i>Lepidorhombus boscii</i>	67.65	78.73	251.19	246.91	10.27	7.08
<i>Merluccius merluccius</i>	265.19	173.20	43.54	34.54	6.23	7.73
<i>Mullus surmuletus</i>	250.91	485.77	4.39	15.22		
<i>Pagellus erythrinus</i>	181.31	222.20	2.64	7.60		
<i>Helicolenus dactylopterus</i>	0.95	3.29	146.04	203.50	2.31	3.51
<i>Eutrigla gurnardus</i>	143.47	272.01				
<i>Trigla lyra</i>	15.31	28.09	124.97	187.91		
<i>Chelidonichthys cuculus</i>	110.51	209.74	0.96	3.32		
<i>Citharus linguatula</i>	88.71	102.77	0.81	2.82		
<i>Lophius budegassa</i>	62.74	47.79	14.64	18.53	1.68	5.57
<i>Lepidotrigla cavillone</i>	62.42	58.82				
<i>Chelidonichthys obscurus</i>	61.15	194.14	1.10	3.81		
<i>Trachinus draco</i>	62.14	108.51				
<i>Chelidonichthys lastoviza</i>	52.72	180.28				
<i>Argentina sphyraena</i>	29.88	65.41	8.90	14.41		
<i>Blennius ocellaris</i>	29.17	47.58				
<i>Serranus cabrilla</i>	29.11	56.63				
<i>Molva macrophthalma</i>			17.21	22.71	8.17	15.89
<i>Scorpaena elongata</i>	14.03	14.24	5.13	8.45	0.46	1.52
<i>Conger conger</i>	2.15	4.88	4.50	6.10	10.50	27.70
<i>Cepola macrophthalma</i>	16.28	40.12	0.37	1.28		
<i>Arnoglossus laterna</i>	14.53	19.74				
<i>Scorpaena notata</i>	12.19	35.53				
<i>Arnoglossus rueppelii</i>	12.18	42.19				
<i>Uranoscopus scaber</i>	11.57	9.47				
<i>Serranus hepatus</i>	9.64	21.68				
<i>Arnoglossus thori</i>	9.53	18.37				
<i>Microchirus variegatus</i>	7.99	12.38				
<i>Lophius piscatorius</i>	3.61	6.14	1.91	6.62		
<i>Scomber scombrus</i>	5.21	8.41				
<i>Monochirus hispidus</i>	4.80	16.64				

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Spicara flexuosa</i>	4.37	10.05				
<i>Scorpaena scrofa</i>	4.22	11.28				
<i>Centrolophus niger</i>			2.95	5.95		
<i>Zeus faber</i>	2.86	7.38				
<i>Sardina pilchardus</i>	2.22	7.70				
<i>Pagellus bogaraveo</i>			0.70	2.44	0.47	1.55
<i>Chelidonichthys lucerna</i>	1.05	3.64				
<i>Pagellus acarne</i>	0.65	2.25				
<i>Diplodus sargus</i>	0.59	2.04				
<i>Engraulis encrasicolus</i>	0.59	2.04				
<i>Lepidotrigla dieuzeidei</i>	0.48	1.65				
<b>Chondrichthyes</b>	<b>101.37</b>	<b>210.26</b>	<b>96.51</b>	<b>238.17</b>		
<i>Scyliorhinus canicula</i>	99.42	207.41	96.51	238.17		
<i>Raja clavata</i>	1.20	4.16				
<i>Torpedo marmorata</i>	0.74	2.57				
<b>Crustacea</b>	<b>1885.80</b>	<b>2800.06</b>	<b>5847.65</b>	<b>6138.90</b>	<b>4533.02</b>	<b>2266.16</b>
<i>Parapenaeus longirostris</i>	1872.80	2738.85	3441.43	4974.51	128.99	236.98
<i>Aristeus antennatus</i>			25.53	50.85	3697.57	1691.05
<i>Nephrops norvegicus</i>			2309.59	1837.59	185.40	329.71
<i>Pasiphaea multidentata</i>			7.37	17.81	310.08	439.30
<i>Plesionika martia</i>			45.63	158.06	198.63	279.96
<i>Macropipus tuberculatus</i>	8.59	20.46	7.80	12.21		
<i>Munida intermedia</i>			7.69	26.64		
<i>Acanthephyra eximia</i>					6.94	16.92
<i>Squilla mantis</i>	4.41	10.80				
<i>Pasiphaea sivado</i>					2.37	7.85
<i>Robustosergia robusta</i>					2.37	7.85
<i>Plesionika gigliolii</i>			1.50	5.21		
<i>Palinurus mauritanicus</i>			1.10	3.81		
<i>Aristaeomorpha foliacea</i>					0.69	2.28
<b>Cephalopoda</b>	<b>885.53</b>	<b>1127.96</b>	<b>214.61</b>	<b>314.22</b>	<b>15.97</b>	<b>20.01</b>
<i>Illex coindetii</i>	676.14	1062.28	141.42	308.14	1.70	5.64
<i>Sepia orbignyana</i>	115.42	97.59	7.09	11.87		
<i>Eledone cirrhosa</i>	47.86	48.22	47.83	92.69	9.37	15.64
<i>Sepia elegans</i>	29.32	57.89				
<i>Rossia macrosoma</i>	0.95	3.29	13.72	46.15		
<i>Todarodes sagittatus</i>			3.07	4.08	4.91	8.02
<i>Alloteuthis media</i>	5.95	16.36				
<i>Octopus vulgaris</i>	3.73	6.38	0.74	2.57		
<i>Sepietta spp.</i>	2.41	8.36	0.37	1.28		
<i>Alloteuthis spp.</i>	1.95	6.75				
<i>Loligo vulgaris</i>	1.79	4.34				
<i>Abralia veranyi</i>			0.37	1.28		
<b>Other Mollusca</b>	<b>4.28</b>	<b>10.33</b>	<b>5.57</b>	<b>17.85</b>		

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Buccinum humphreysianum</i>			5.19	17.96		
<i>Galeodea rugosa</i>	4.28	10.33	0.38	1.33		
<b>Echinodermata</b>	<b>139.54</b>	<b>186.92</b>				
<i>Parastichopus regalis</i>	139.54	186.92				

Table 2. Mean and standard deviation of the abundance of the species present in the discarded fraction of the catch in each fishing ground including all hauls in the north zone sampled from January to December 2020.

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>4230.40</b>	<b>2930.22</b>	<b>956.80</b>	<b>762.13</b>	<b>477.74</b>	<b>692.17</b>
<i>Capros aper</i>	801.72	792.66	82.94	137.48	0.24	0.80
<i>Trachurus trachurus</i>	771.77	749.07	54.75	140.86	5.00	11.53
<i>Boops boops</i>	786.52	868.51	1.91	6.62		
<i>Spicara flexuosa</i>	454.30	709.01	2.01	6.95		
<i>Pagellus bogaraveo</i>	336.73	660.00	11.68	26.23	1.65	5.46
<i>Coelorinchus caelorhincus</i>			247.29	350.85	19.90	31.74
<i>Merluccius merluccius</i>	211.10	309.25	15.03	23.21		
<i>Lampanyctus crocodilus</i>			4.57	10.22	190.61	581.91
<i>Lepidorhombus boscii</i>	16.94	19.26	109.18	128.74	4.89	7.26
<i>Phycis blennoides</i>	17.88	50.05	96.82	100.67	13.60	15.00
<i>Serranus hepatus</i>	101.07	98.43	1.52	3.86		
<i>Spicara maena</i>	99.05	160.36			1.18	3.92
<i>Stomias boa</i>			51.29	100.67	42.23	92.93
<i>Macroramphosus scolopax</i>	79.72	104.06	2.70	7.55		
<i>Chelidonichthys cuculus</i>	77.28	135.78				
<i>Gadiculus argenteus</i>	1.91	6.62	64.53	117.29	3.71	12.29
<i>Nezumia aequalis</i>					63.16	99.06
<i>Lepidotrigla cavillone</i>	61.18	87.17				
<i>Ceratoscopelus maderensis</i>			55.49	184.25	3.22	10.66
<i>Lophius budegassa</i>	50.54	94.43	5.45	7.62		
<i>Trigla lyra</i>	3.05	7.50	40.06	56.05	4.23	9.29
<i>Arnoglossus laterna</i>	43.30	67.09			1.68	5.57
<i>Citharus linguatula</i>	43.89	59.40				
<i>Trachyrhynchus scabrus</i>					42.07	72.60
<i>Mullus barbatus</i>	40.89	72.77				
<i>Pagellus erythrinus</i>	38.14	54.89	0.42	1.47		
<i>Trisopterus capelanus</i>	35.22	29.31	3.26	11.29		
<i>Notoscopelus elongatus</i>			32.94	38.53	2.37	5.64
<i>Hymenocephalus italicus</i>			4.77	9.10	29.46	35.58

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Argentina sphyraena</i>	28.98	42.96	1.82	5.09		
<i>Chauliodus sloani</i>	1.26	4.38	7.25	16.82	15.75	20.17
<i>Conger conger</i>	2.90	6.58	13.32	17.02	3.54	5.89
<i>Lepidopus caudatus</i>			15.61	19.56	3.70	6.43
<i>Hoplostethus mediterraneus</i>			6.42	5.09	11.56	17.84
<i>Trachurus picturatus</i>	12.20	33.69				
<i>Serranus cabrilla</i>	10.89	24.70	0.42	1.47		
<i>Deltentosteus quadrimaculatus</i>	10.99	24.87				
<i>Helicolenus dactylopterus</i>			9.88	19.65	0.46	1.52
<i>Mora moro</i>					10.33	19.89
<i>Micromesistius poutassou</i>	8.96	16.14	0.42	1.47		
<i>Carapus acus</i>	9.28	21.38				
<i>Blennius ocellaris</i>	9.26	20.33				
<i>Spicara smaris</i>	8.89	30.80				
<i>Engraulis encrasicolus</i>	8.52	21.99				
<i>Scorpaena loppei</i>	7.98	17.73				
<i>Scorpaena scrofa</i>	7.30	17.68				
<i>Lepidotrigla dieuzeidei</i>	6.22	14.47				
<i>Trachinus draco</i>	5.58	19.33				
<i>Molva macrophthalma</i>	2.10	7.28	2.58	5.79		
<i>Symphurus nigrescens</i>	1.80	4.35	1.00	3.48		
<i>Chelidonichthys obscurus</i>	2.79	9.66				
<i>Scorpaena notata</i>	2.60	9.00				
<i>Pagellus acarne</i>	2.40	8.32				
<i>Evermannella balbo</i>			1.91	4.91	0.46	1.52
<i>Callionymus maculatus</i>	1.91	6.62				
<i>Synchiropus phaeton</i>	0.95	3.29	0.74	2.56		
<i>Epigonus denticulatus</i>			0.50	1.74	1.02	3.39
<i>Arctozenus risso</i>					1.28	2.89
<i>Arnoglossus thori</i>	0.71	2.44	0.42	1.47		
<i>Chlorophthalmus agassizi</i>			1.10	3.81		
<i>Arnoglossus rueppelii</i>			1.00	3.48		
<i>Mullus surmuletus</i>	0.96	3.31				
<i>Eutrigla gurnardus</i>	0.95	3.29				
<i>Polymetme corythaeola</i>			0.81	2.82		
<i>Lophius piscatorius</i>			0.74	2.56		
<i>Ophidion barbatum</i>			0.74	2.56		
<i>Mola mola</i>	0.63	2.19				
<i>Uranoscopus scaber</i>	0.59	2.04				
<i>Xiphias gladius</i>	0.59	2.04				
<i>Aulopus filamentosus</i>			0.55	1.92		
<i>Trachurus mediterraneus</i>			0.50	1.74		
<i>Epigonus constanciae</i>					0.46	1.52
<i>Sardina pilchardus</i>			0.42	1.47		



## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<b>Chondrichthyes</b>	<b>270.63</b>	<b>288.61</b>	<b>479.66</b>	<b>372.21</b>	<b>243.04</b>	<b>376.79</b>
<i>Scyliorhinus canicula</i>	200.13	217.20	412.73	362.98	80.99	107.59
<i>Galeus melastomus</i>			30.48	32.52	115.56	197.45
<i>Scyliorhinus canicula</i> eggs	27.22	44.21	20.37	28.75	10.45	13.81
<i>Etmopterus spinax</i>			11.78	15.18	34.37	65.34
<i>Raja</i> spp.	27.15	83.62	0.34	1.16		
<i>Raja</i> spp. eggs	8.37	28.99	0.42	1.47		
<i>Raja polystigma</i> eggs	4.87	16.88				
<i>Raja polystigma</i>	1.63	5.65	1.63	5.65		
<i>Chimaera monstrosa</i>			0.96	3.31	1.68	5.57
<i>Torpedo marmorata</i>	1.26	4.38				
<i>Raja asterias</i> eggs			0.96	3.31		
<b>Crustacea</b>	<b>593.21</b>	<b>640.43</b>	<b>563.28</b>	<b>415.26</b>	<b>311.16</b>	<b>404.02</b>
<i>Parapenaeus longirostris</i>	286.84	600.29	67.44	63.78	2.50	6.70
<i>Dardanus arrosor</i>	98.23	236.84	54.93	77.06	1.88	5.40
<i>Pasiphaea sivado</i>			110.62	238.06	12.21	30.60
<i>Plesionika martia</i>	0.96	3.31	71.92	123.33	46.87	63.91
<i>Plesionika heterocarpus</i>	30.57	105.90	81.62	162.13	0.69	2.28
<i>Pasiphaea multidentata</i>			25.63	36.69	66.12	134.70
<i>Cirripedia 1</i>	88.88	307.89				
<i>Pagurus alatus</i>	0.96	3.31	1.48	5.11	73.31	203.34
<i>Macropipus tuberculatus</i>	24.76	48.73	13.58	21.70	9.06	13.69
<i>Munida intermedia</i>			46.43	102.17		
<i>Polycheles typhlops</i>					41.64	47.86
<i>Nephrops norvegicus</i>	0.95	3.29	24.45	28.87	4.14	5.25
<i>Aristeus antennatus</i>	0.96	3.31			28.34	47.51
<i>Solenocera membranacea</i>			16.65	18.61	4.12	10.82
<i>Pagurus excavatus</i>	13.46	28.60	2.67	4.46		
<i>Macropodia tenuirostris</i>	10.03	19.93	0.50	1.74	0.69	2.28
<i>Pagurus prideaux</i>			11.07	25.04		
<i>Inachus dorsetensis</i>	10.99	24.87				
<i>Robustosergia robusta</i>					9.94	11.25
<i>Medorippe lanata</i>	8.00	18.00	0.81	2.82		
<i>Munida speciosa</i>			5.93	20.55	2.75	9.13
<i>Eusergestes arcticus</i>			7.98	19.71		
<i>Liocarcinus depurator</i>	6.80	17.21	0.74	2.56		
<i>Processa canaliculata</i>	0.96	3.31	5.59	13.06		
<i>Goneplax rhomboides</i>	0.95	3.29	5.00	7.57		
<i>Monodaeus couchii</i>			1.65	3.04	3.68	5.54
<i>Aegaeon lacazei</i>			1.32	3.07	1.63	3.10
<i>Pilumnus spinifer</i>	2.79	9.66				
<i>Galathea</i> spp.	2.60	9.00				
<i>Isopoda</i>	2.60	9.00				
<i>Chlorotocus crassicornis</i>			2.02	3.90		

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Plesionika gigliolii</i>			1.77	4.47		
<i>Paromola cuvieri</i>					1.59	3.11
<i>Processa nouveli</i>			1.48	5.13		
<i>Alpheus glaber</i>	0.95	3.29				
<b>Cephalopoda</b>	<b>244.90</b>	<b>247.47</b>	<b>107.68</b>	<b>56.93</b>	<b>41.61</b>	<b>32.75</b>
<i>Illex coindetii</i>	203.18	248.04	40.24	37.96	15.00	18.72
<i>Abralia veranyi</i>			25.24	32.79	2.80	6.38
<i>Sepietta spp.</i>	11.75	38.50	8.95	18.71		
<i>Rossia macrosoma</i>	1.91	6.62	10.40	17.89	1.68	5.57
<i>Octopus salutii</i>	2.60	9.00	8.47	16.56	1.65	5.46
<i>Alloteuthis spp.</i>	10.27	24.43				
<i>Bathypolypus sponsalis</i>			7.82	11.56	2.39	5.72
<i>Histioteuthis reversa</i>			0.70	2.44	7.31	10.30
<i>Octopus vulgaris</i>	6.76	12.33				
<i>Sepia orbignyana</i>	5.65	10.61				
<i>Pteroctopus tetracirrhus</i>			1.69	3.85	3.36	11.13
<i>Histioteuthis bonnellii</i>			1.13	2.64	3.07	6.05
<i>Scaergus unicirrhus</i>			2.61	9.03	1.02	3.39
<i>Todarodes sagittatus</i>					3.33	5.36
<i>Sepia elegans</i>	2.79	9.66				
<i>Ancistroteuthis lichtensteinii</i>			0.42	1.47		
<i>Sepia spp. eggs</i>			0.00	0.00		
<b>Other Mollusca</b>	<b>78.82</b>	<b>98.73</b>	<b>32.19</b>	<b>52.55</b>	<b>8.09</b>	<b>17.60</b>
<i>Neopycnodonte cochlear</i>	27.58	55.60	21.94	54.46		
<i>Calliostoma granulatum</i>	18.18	17.87			1.68	5.57
<i>Anomia ephippium</i>	17.40	58.15				
<i>Pteria hirundo</i>	2.40	8.32	2.87	9.93		
<i>Euspira fusca</i>	2.79	9.66	2.33	5.49		
<i>Cymbulia spp.</i>			0.00	0.00	4.73	15.69
<i>Buccinum humphreysianum</i>			3.37	8.07		
<i>Doris pseudoargus</i>	2.40	8.32	0.96	3.31		
<i>Mollusca 2</i>	2.60	9.00				
<i>Tethys fimbria</i>	2.60	9.00				
<i>Ostrea spp.</i>					1.68	5.57
<i>Acanthocardia echinata</i>	0.96	3.31				
<i>Galeodea rugosa</i>	0.96	3.31				
<i>Acanthocardia paucicostata</i>	0.95	3.29				
<i>Pleurobranchaea meckeli</i>			0.74	2.56		
<i>Gastropoda eggs</i>	0.00	0.00	0.00	0.00		
<b>Porifera</b>	<b>91.08</b>	<b>127.03</b>	<b>5.76</b>	<b>8.36</b>	<b>0.85</b>	<b>2.82</b>
<i>Suberites spp.</i>	19.46	36.36				
<i>Esponja sp. 1</i>	15.03	18.54	2.45	4.66		
<i>Esponja sp. 2</i>	15.91	23.72				
<i>Desmacidon spp.</i>	10.59	27.23	2.44	8.47	0.85	2.82

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Tethya aurantium</i>	8.88	19.73	0.87	3.01		
<i>Cliona celata</i>	5.58	19.33				
<i>Desmacidon fruticosum</i>	3.74	9.71				
<i>Suberites domuncula</i>	3.49	9.60				
<i>Spongia lamella</i>	2.79	9.66				
<i>Esponja sp. 9</i>	2.60	9.00				
<i>Dysidea avara</i>	1.80	4.35				
<i>Raspailia spp.</i>	1.21	4.18				
<b>Cnidaria</b>	<b>1365.27</b>	<b>1286.83</b>	<b>230.29</b>	<b>226.07</b>	<b>66.17</b>	<b>173.05</b>
<i>Alcyonium palmatum</i>	1013.34	1083.76	96.43	113.05	13.57	33.83
<i>Calliactis parasitica</i>	183.69	498.05	30.84	66.59	0.23	0.77
<i>Hormathia alba</i>	12.57	30.31	42.67	43.85	45.61	128.31
<i>Lytocarpia myriophyllum</i>	53.84	121.64	32.07	78.48	1.68	5.57
<i>Pennatula phosphorea</i>	37.38	65.11	5.07	10.02		
<i>Actinia sp. 2</i>	12.00	12.68	4.93	12.25		
<i>Pennatula rubra</i>	14.61	27.51	1.15	3.99		
<i>Funiculina quadrangularis</i>	14.19	36.59	1.10	3.82		
<i>Caryophyllia spp.</i>	10.10	22.68				
<i>Pteroeides griseum</i>	8.10	12.24				
<i>Nemertesia antennina</i>	0.95	3.32	3.26	11.37	2.55	8.47
<i>Adamsia palliata</i>			6.64	23.01		
<i>Nemertesia ramosa</i>	0.95	3.32	2.73	6.43	0.85	2.82
<i>Kophobelemnion stelliferum</i>	0.95	3.29	0.81	2.82	1.68	5.57
<i>Actinia sp. 1</i>	0.71	2.44	1.63	5.65		
<i>Eunicella verrucosa</i>			0.96	3.31		
<i>Leptogorgia sarmentosa</i>	0.95	3.29				
<i>Rhizostoma pulmo</i>	0.95	3.29				
<b>Hydrozoa</b>					0.00	0.00
<i>Pelagia noctiluca</i>					0.00	0.00
<b>Annelida</b>	<b>10.18</b>	<b>20.76</b>	<b>14.40</b>	<b>17.76</b>	<b>1.87</b>	<b>4.02</b>
<i>Aphrodita aculeata</i>	3.78	9.28	7.89	14.23	1.87	4.02
<i>Tubs Polychaeta</i>	3.80	13.31	4.07	14.21		
<i>Polychaeta</i>	2.60	9.00				
<i>Amphinomidae</i>			1.48	5.13		
<i>Sabellidae</i>			0.96	3.32		
<b>Sipuncula</b>			<b>2.96</b>	<b>6.64</b>	<b>0.85</b>	<b>2.82</b>
<i>Phascolion strombus</i>			2.96	6.64	0.85	2.82
<b>Echinodermata</b>	<b>32746.33</b>	<b>86341.02</b>	<b>70.08</b>	<b>96.52</b>		
<i>Leptometra phalangium</i>	31550.03	80363.22	0.00	0.00		
<i>Echinus melo</i>	363.72	1088.64				
<i>Gracilechinus acutus</i>	267.95	928.19				
<i>Astropecten irregularis</i>	209.59	361.98	26.21	61.62		
<i>Ophiura ophiura</i>	124.23	264.50	18.01	27.19		
<i>Parastichopus regalis</i>	50.33	146.87	2.44	5.65		

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Cidaris cidaris</i>	43.84	124.65	7.67	26.58		
<i>Anseropoda placenta</i>	45.05	104.13	5.63	12.09		
<i>Ocnus planci</i>	22.54	29.26				
<i>Echinaster sepositus</i>	11.65	22.93	4.44	9.09		
<i>Mesothuria intestinalis</i>	15.28	50.77				
<i>Ophiothrix fragilis</i>	11.74	23.12				
<i>Luidia ciliaris</i>	7.35	20.90				
<i>Astrospartus mediterraneus</i>	6.09	21.10				
<i>Antedon mediterranea</i>	3.76	7.41				
<i>Holothuria forskali</i>	3.31	7.79				
<i>Chaetaster longipes</i>	2.79	9.66				
<i>Coscinasterias tenuispina</i>	2.79	9.66				
<i>Brissopsis lyrifera</i>			2.66	4.73		
<i>Amphilepis norvegica</i>	2.40	8.32				
<i>Astropecten aranciacus</i>			1.10	3.81		
<i>Brissopsis atlantica</i>			1.10	3.81		
<i>Molpadia musculus</i>	0.96	3.31				
<i>Leptopentacta elongata</i>	0.95	3.29				
<i>Holothuria tubulosa</i>			0.81	2.82		
<b>Tunicata</b>	<b>148.65</b>	<b>144.60</b>	<b>13.06</b>	<b>14.87</b>		
<i>Corella parallelogramma</i>	53.78	143.05				
<i>Ascidia sp. 2</i>	23.59	42.48	7.43	15.76		
<i>Ascidia mentula</i>	23.85	43.54	1.48	5.13		
<i>Diazona violacea</i>	24.11	38.99	0.74	2.56		
<i>Microcosmus vulgaris</i>	11.89	33.62	0.96	3.32		
<i>Ascidia sp. 1</i>	4.72	16.34				
<i>Microcosmus spp.</i>	3.35	8.46				
<i>Molgula appendiculata</i>	2.40	8.32				
<i>Salpa spp.</i>	0.95	3.29	0.81	2.82		
<i>Pyrosoma atlanticum</i>			1.63	5.65		

## ANNEX VI: BIOMASS CENTER ZONE

Table 1. Mean and standard deviation of the biomass of the species present in the landed fraction of the catch in each fishing ground including all hauls in the center zone sampled from January to December 2020.

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>327.72</b>	<b>304.77</b>	<b>91.54</b>	<b>67.55</b>	<b>41.80</b>	<b>31.29</b>
<i>Trachurus trachurus</i>	139.07	209.20	0.46	1.38		
<i>Phycis blennoides</i>	2.67	2.83	30.84	24.76	20.57	20.81
<i>Merluccius merluccius</i>	31.32	20.62	15.96	10.30	6.00	6.91
<i>Lophius budegassa</i>	44.10	31.27	0.81	1.52	1.16	2.03
<i>Mullus barbatus</i>	43.41	45.10	0.10	0.28	0.02	0.06
<i>Micromesistius poutassou</i>			28.67	37.24	4.30	4.88
<i>Trisopterus capellanus</i>	16.70	13.18				
<i>Scomber scombrus</i>	13.07	38.45				
<i>Lepidorhombus boscii</i>	4.44	4.54	5.30	3.08	0.47	0.93
<i>Lophius piscatorius</i>	0.46	1.38	0.81	2.42	5.00	12.21
<i>Spicara flexuosa</i>	5.00	15.01				
<i>Conger conger</i>	0.11	0.34	1.63	1.31	2.62	2.63
<i>Serranus hepatus</i>	3.91	11.17				
<i>Trachurus picturatus</i>	3.50	10.33				
<i>Citharus linguatula</i>	3.34	5.33	0.07	0.14		
<i>Trigla lyra</i>	1.87	3.78	1.06	1.07		
<i>Argentina sphyraena</i>	2.76	6.82				
<i>Helicolenus dactylopterus</i>	0.28	0.38	1.19	1.72	0.67	1.09
<i>Molva macrophthalma</i>	0.05	0.14	1.86	2.77	0.23	0.58
<i>Chelidonichthys lucerna</i>	1.99	1.40				
<i>Trachinus draco</i>	1.76	2.29				
<i>Lepidotrigla cavillone</i>	1.74	5.00				
<i>Scorpaena elongata</i>	0.24	0.37	1.40	1.58		
<i>Centrolophus niger</i>			0.68	2.05	0.49	1.24
<i>Uranoscopus scaber</i>	1.09	2.23				
<i>Pagellus bogaraveo</i>			0.55	1.13	0.23	0.60
<i>Cepola macrophthalma</i>	0.63	1.04	0.02	0.07		
<i>Gobius niger</i>	0.64	1.68				
<i>Mullus surmuletus</i>	0.52	0.71	0.04	0.13	0.04	0.15
<i>Lepidotrigla dieuzeidei</i>	0.49	1.01				
<i>Pagellus erythrinus</i>	0.45	0.85				
<i>Blennius ocellaris</i>	0.42	0.63				
<i>Eutrigla gurnardus</i>	0.36	0.59				
<i>Sardina pilchardus</i>	0.28	0.84				
<i>Ophidion barbatum</i>	0.15	0.29	0.09	0.26		
<i>Arnoglossus laterna</i>	0.19	0.41				

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Lepidorhombus whiffiagonis</i>	0.17	0.50				
<i>Zeus faber</i>	0.15	0.44				
<i>Scorpaena scrofa</i>	0.10	0.30				
<i>Scorpaena notata</i>	0.10	0.29				
<i>Chelidonichthys lastoviza</i>	0.07	0.21				
<i>Spicara smaris</i>	0.05	0.15				
<i>Chelidonichthys cuculus</i>	0.02	0.07				
<i>Engraulis encrasicolus</i>	0.02	0.06				
<i>Arnoglossus rueppelii</i>	0.01	0.04				
<i>Symphurus nigrescens</i>	0.01	0.03				
<i>Gadiculus argenteus</i>			0.00	0.01		
<b>Chondrichthyes</b>	<b>1.58</b>	<b>3.18</b>	<b>35.76</b>	<b>54.98</b>	<b>19.60</b>	<b>26.38</b>
<i>Scyliorhinus canicula</i>	0.56	1.69	35.23	54.09	5.48	11.93
<i>Galeus melastomus</i>			0.53	1.59	14.12	21.13
<i>Raja polystigma</i>	1.02	3.07				
<b>Crustacea</b>	<b>11.78</b>	<b>22.80</b>	<b>72.34</b>	<b>47.90</b>	<b>107.69</b>	<b>53.88</b>
<i>Aristeus antennatus</i>					81.89	33.97
<i>Parapenaeus longirostris</i>	11.49	22.66	32.55	28.24	0.56	1.15
<i>Nephrops norvegicus</i>	0.11	0.34	36.50	24.54	2.18	1.84
<i>Paromola cuvieri</i>			0.77	2.30	7.13	17.77
<i>Pasiphaea multidentata</i>					7.60	6.97
<i>Geryon longipes</i>			0.31	0.94	5.60	7.25
<i>Plesionika martia</i>			0.27	0.60	1.61	1.40
<i>Plesionika heterocarpus</i>	0.03	0.10	0.89	1.08	0.02	0.04
<i>Robustosergia robusta</i>					0.90	2.01
<i>Plesionika edwardsii</i>			0.43	1.30	0.02	0.04
<i>Macropipus tuberculatus</i>	0.07	0.10	0.32	0.84	0.01	0.02
<i>Liocarcinus depurator</i>	0.01	0.03	0.10	0.28		
<i>Polycheles typhlops</i>					0.12	0.16
<i>Solenocera membranacea</i>			0.08	0.20	0.02	0.07
<i>Chlorotocus crassicornis</i>			0.06	0.12		
<i>Squilla mantis</i>	0.06	0.15				
<i>Plesionika gigliolii</i>			0.03	0.08	0.00	0.01
<i>Munida intermedia</i>			0.02	0.07	0.00	0.00
<i>Acanthephyra eximia</i>					0.02	0.05
<i>Munida speciosa</i>			0.01	0.01		
<i>Plesionika acanthonotus</i>					0.00	0.01
<i>Acanthephyra pelagica</i>					0.00	0.01
<i>Processa nouveli</i>					0.00	0.01
<i>Aegaeon lacazei</i>					0.00	0.00
<i>Ligur ensiferus</i>					0.00	0.00
<b>Cephalopoda</b>	<b>69.84</b>	<b>79.95</b>	<b>19.61</b>	<b>22.33</b>	<b>2.56</b>	<b>2.84</b>
<i>Illex coindetii</i>	38.62	64.48	4.18	4.13	0.49	1.54
<i>Eledone cirrhosa</i>	19.67	22.40	12.97	18.88	0.26	0.35

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Scaevurgus unicirrhus</i>	4.90	12.20	0.20	0.60		
<i>Todarodes sagittatus</i>			1.61	1.62	1.54	2.79
<i>Octopus vulgaris</i>	2.43	5.06				
<i>Sepia orbignyana</i>	2.17	3.33	0.03	0.09		
<i>Sepia officinalis</i>	0.70	2.11				
<i>Callistoctopus macropus</i>	0.46	1.37				
<i>Sepietta spp.</i>	0.13	0.40	0.25	0.74		
<i>Loligo vulgaris</i>	0.32	0.63				
<i>Alloteuthis spp.</i>	0.11	0.26			0.19	0.65
<i>Rossia macrosoma</i>	0.02	0.05	0.15	0.41	0.06	0.19
<i>Eledone moschata</i>	0.20	0.59				
<i>Pteroctopus tetracirrhus</i>			0.14	0.43		
<i>Sepia elegans</i>	0.11	0.16	0.01	0.02		
<i>Sepietta oweniana</i>			0.07	0.14		
<i>Octopus salutii</i>					0.02	0.06
<i>Sepiolidae</i>	0.00	0.00				
<b>Other Mollusca</b>	<b>0.24</b>	<b>0.52</b>	<b>0.04</b>	<b>0.06</b>		
<i>Galeodea rugosa</i>	0.23	0.52	0.03	0.05		
<i>Galeodea echinophora</i>			0.02	0.05		
<i>Bolinus brandaris</i>	0.01	0.03				
<i>Calliostoma granulatum</i>	0.00	0.00				
<b>Echinodermata</b>	<b>2.13</b>	<b>3.50</b>				
<i>Parastichopus regalis</i>	2.13	3.50				

Table 2. Mean and standard deviation of the biomass of the species present in the discarded fraction of the catch in each fishing ground including all hauls in the center zone sampled from January to December 2020.

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>249.07</b>	<b>339.16</b>	<b>14.52</b>	<b>14.06</b>	<b>8.70</b>	<b>9.12</b>
<i>Boops boops</i>	64.06	130.63	0.03	0.09		
<i>Macroramphosus scolopax</i>	44.58	135.73				
<i>Capros aper</i>	24.09	66.51	0.04	0.08		
<i>Spicara flexuosa</i>	22.13	40.53	0.24	0.71		
<i>Trachurus trachurus</i>	19.64	30.36	0.03	0.09		
<i>Spicara maena</i>	16.45	42.03				
<i>Merluccius merluccius</i>	16.00	12.60	0.28	0.43	0.11	0.38
<i>Mola mola</i>	15.94	47.81				
<i>Gadiculus argenteus</i>	0.17	0.50	5.56	9.51	0.06	0.12
<i>Argentina sphyraena</i>	5.59	16.41				

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Trisopterus capelanus</i>	4.38	12.03				
<i>Lophius budegassa</i>	3.93	10.03	0.30	0.68		
<i>Phycis blennoides</i>	0.01	0.03	2.50	3.57	0.74	1.13
<i>Serranus hepatus</i>	2.37	6.43				
<i>Trachyrhynchus scabrus</i>			0.04	0.07	2.26	4.11
<i>Lepidopus caudatus</i>			1.36	3.05	0.77	1.17
<i>Lampanyctus crocodilus</i>	0.01	0.02	0.72	2.17	1.17	1.43
<i>Engraulis encrasicolus</i>	1.73	5.07				
<i>Lepidorhombus boscii</i>	0.61	1.15	0.99	1.32	0.10	0.24
<i>Mullus barbatus</i>	1.37	3.58				
<i>Scomber scombrus</i>	1.25	3.74				
<i>Lepidotrigla cavillone</i>	1.21	3.01				
<i>Blennius ocellaris</i>	1.12	2.14				
<i>Conger conger</i>			0.28	0.83	0.68	0.97
<i>Stomias boa</i>	0.01	0.04	0.34	0.86	0.46	0.77
<i>Coelorinchus caelorhincus</i>			0.57	0.34	0.19	0.39
<i>Chauliodus sloani</i>			0.08	0.20	0.51	0.95
<i>Nezumia aequalis</i>			0.00	0.01	0.59	1.12
<i>Citharus linguatula</i>	0.50	0.81	0.01	0.02		
<i>Lepidotrigla dieuzeidei</i>	0.43	1.28				
<i>Callionymus maculatus</i>	0.39	1.00				
<i>Hoplostethus mediterraneus</i>			0.06	0.13	0.32	0.62
<i>Molva macrophthalma</i>			0.30	0.50		
<i>Sardina pilchardus</i>	0.26	0.50				
<i>Trigla lyra</i>	0.04	0.11	0.21	0.32	0.01	0.04
<i>Hymenocephalus italicus</i>			0.00	0.01	0.25	0.43
<i>Notoscopelus elongatus</i>			0.24	0.36	0.01	0.02
<i>Scorpaena elongata</i>	0.15	0.38			0.07	0.25
<i>Arnoglossus laterna</i>	0.19	0.16	0.02	0.06	0.01	0.03
<i>Epigonus denticulatus</i>			0.12	0.35	0.06	0.13
<i>Alepocephalus rostratus</i>					0.16	0.56
<i>Pagellus bogaraveo</i>	0.16	0.30				
<i>Phycis phycis</i>	0.12	0.37				
<i>Helicolenus dactylopterus</i>	0.02	0.04	0.09	0.20		
<i>Trachurus picturatus</i>	0.10	0.29				
<i>Borostomias antarcticus</i>					0.08	0.29
<i>Micromesistius poutassou</i>			0.06	0.11		
<i>Arnoglossus rueppelii</i>	0.04	0.12				
<i>Lesueurigobius friesii</i>	0.04	0.09				
<i>Arctozenus risso</i>			0.00	0.01	0.03	0.03
<i>Ceratoscopelus maderensis</i>			0.03	0.05	0.00	0.00
<i>Evermannella balbo</i>					0.03	0.07
<i>Notacanthus bonaparte</i>					0.02	0.04



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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Synchiropus phaeton</i>			0.01	0.04	0.00	0.01
<i>Myctophum punctatum</i>			0.00	0.00	0.00	0.01
<i>Melanostigma atlanticum</i>					0.00	0.01
<i>Gaidropsarus biscayensis</i>			0.00	0.00		
<i>Ophisurus serpens</i>	0.00	0.00				
<b>Chondrichthyes</b>	<b>43.93</b>	<b>61.46</b>	<b>30.70</b>	<b>36.25</b>	<b>16.32</b>	<b>25.97</b>
<i>Scyliorhinus canicula</i>	41.55	57.90	23.47	31.36	5.32	9.46
<i>Galeus melastomus</i>			7.11	10.02	10.06	20.02
<i>Torpedo marmorata</i>	2.04	5.35				
<i>Etmopterus spinax</i>			0.07	0.14	0.90	1.63
<i>Scyliorhinus canicula</i> eggs	0.34	0.40	0.02	0.02	0.03	0.05
<i>Raja</i> spp. eggs	0.01	0.01	0.03	0.06	0.01	0.01
<i>Raja asterias</i> eggs	0.00	0.00				
<b>Crustacea</b>	<b>58.47</b>	<b>172.73</b>	<b>2.63</b>	<b>2.93</b>	<b>2.06</b>	<b>2.78</b>
<i>Plesionika heterocarpus</i>	53.56	163.43	0.82	1.37	0.00	0.01
<i>Parapenaeus longirostris</i>	2.01	3.97	0.58	0.78	0.02	0.07
<i>Dardanus arrosor</i>	2.06	3.18	0.12	0.27	0.04	0.10
<i>Pasiphaea multidentata</i>			0.01	0.02	0.82	1.95
<i>Macropipus tuberculatus</i>	0.35	0.92	0.06	0.10		
<i>Pasiphaea sivado</i>	0.00	0.00	0.35	0.48	0.03	0.04
<i>Paromola cuvieri</i>					0.31	0.78
<i>Nephrops norvegicus</i>			0.25	0.24	0.04	0.06
<i>Geryon longipes</i>			0.01	0.02	0.24	0.64
<i>Plesionika martia</i>			0.13	0.25	0.12	0.16
<i>Amphibalanus amphitrite</i>	0.25	0.74				
<i>Polycheles typhlops</i>					0.20	0.31
<i>Palinurus elephas</i>			0.16	0.47		
<i>Robustosergia robusta</i>					0.12	0.22
<i>Solenocera membranacea</i>	0.06	0.17	0.03	0.02	0.00	0.01
<i>Latreillia elegans</i>	0.06	0.18				
<i>Squilla mantis</i>	0.05	0.16				
<i>Pagurus excavatus</i>	0.04	0.10	0.01	0.02		
<i>Aristeus antennatus</i>					0.04	0.04
<i>Pagurus prideaux</i>	0.03	0.10				
<i>Munida intermedia</i>			0.03	0.08		
<i>Chlorotocus crassicornis</i>			0.03	0.04		
<i>Monodaeus couchii</i>			0.00	0.00	0.03	0.06
<i>Medorippe lanata</i>			0.02	0.07	0.00	0.00
<i>Pagurus alatus</i>			0.01	0.03	0.01	0.02
<i>Goneplax rhomboides</i>	0.01	0.02	0.01	0.01	0.01	0.01
<i>Plesionika gigliolii</i>			0.01	0.01	0.00	0.00
<i>Aegaeon lacazei</i>			0.00	0.00	0.00	0.01
<i>Isopoda</i>	0.01	0.02	0.00	0.00		
<i>Eusergestes arcticus</i>			0.00	0.01	0.00	0.00

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Munida speciosa</i>			0.00	0.01	0.00	0.01
<i>Acanthephyra pelagica</i>					0.00	0.01
<i>Processa canaliculata</i>			0.00	0.00	0.00	0.01
<i>Deosergestes henseni</i>			0.00	0.01	0.00	0.01
<i>Lophogaster typicus</i>	0.00	0.01				
<i>Munida perarmata</i>					0.00	0.01
<i>Macropodia tenuirostris</i>			0.00	0.00		
<i>Scalpellum scalpellum</i>	0.00	0.00				
<i>Plesionika acanthonotus</i>					0.00	0.00
<i>Plesionika edwardsii</i>					0.00	0.00
<i>Inachus dorsetensis</i>			0.00	0.00		
<i>Gennadas elegans</i>					0.00	0.00
<i>Meganyctiphanes norvegica</i>			0.00	0.00		
<i>Pontophilus spinosus</i>					0.00	0.00
<i>Processa nouveli</i>			0.00	0.00		
<i>Alpheus glaber</i>					0.00	0.00
<b>Cephalopoda</b>	<b>2.80</b>	<b>1.64</b>	<b>4.33</b>	<b>10.11</b>	<b>5.59</b>	<b>9.06</b>
<i>Histioteuthis bonnellii</i>			0.01	0.03	3.89	7.00
<i>Illex coindetii</i>	1.91	1.52	0.50	1.03	0.26	0.69
<i>Pteroctopus tetracirrhus</i>			2.58	7.75		
<i>Abralia veranyi</i>	0.21	0.43	0.62	1.24	0.08	0.25
<i>Histioteuthis reversa</i>					0.77	1.32
<i>Octopus salutii</i>			0.32	0.78	0.25	0.87
<i>Alloteuthis spp.</i>	0.21	0.62				
<i>Scaevargus unicolor</i>	0.19	0.56	0.02	0.05		
<i>Sepia orbignyana</i>	0.15	0.24	0.01	0.02		
<i>Todarodes sagittatus</i>					0.15	0.34
<i>Bathypolypus sponsalis</i>			0.03	0.10	0.08	0.26
<i>Rossia macrosoma</i>	0.02	0.07	0.07	0.13	0.02	0.07
<i>Eledone cirrhosa</i>	0.04	0.11	0.05	0.16		
<i>Sepietta spp.</i>	0.06	0.17	0.03	0.04		
<i>Sepietta oweniana</i>			0.08	0.23		
<i>Todaropsis eblanae</i>					0.05	0.18
<i>Ancistroteuthis lichtensteinii</i>	0.01	0.02			0.03	0.08
<i>Sepia elegans</i>	0.00	0.01	0.02	0.06		
<i>Loligo spp. eggs</i>	0.01	0.03				
<i>Sepia spp. eggs</i>			0.00	0.01		
<b>Other Mollusca</b>	<b>6.56</b>	<b>13.65</b>	<b>0.12</b>	<b>0.17</b>	<b>0.02</b>	<b>0.03</b>
<i>Neopycnodonte cochlear</i>	5.96	13.51	0.03	0.07	0.01	0.02
<i>Gastropoda eggs</i>	0.18	0.35				
<i>Calliostoma granulatum</i>	0.15	0.23				
<i>Scaphander lignarius</i>	0.06	0.19				
<i>Tethys fimbria</i>	0.05	0.15				

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Euspira fusca</i>	0.00	0.01	0.04	0.09		
<i>Chlamys spp.</i>	0.04	0.12				
<i>Ostrea spp.</i>	0.02	0.06	0.01	0.03		
<i>Galeodea echinophora</i>	0.02	0.05				
<i>Mollusca</i>	0.02	0.07				
<i>Pteria hirundo</i>			0.02	0.07		
<i>Galeodea rugosa</i>	0.01	0.03	0.01	0.03		
<i>Hiatella arctica</i>	0.01	0.04				
<i>Cymbulia spp.</i>					0.01	0.02
<i>Pterotrachea spp.</i>	0.01	0.03				
<i>Pleurobranchaea meckeli</i>	0.01	0.02				
<i>Anomia ephippium</i>	0.01	0.02	0.00	0.00		
<i>Musculus subpictus</i>	0.00	0.01				
<i>Carinaria spp.</i>					0.00	0.00
<i>Mollusca 2</i>	0.00	0.00				
<b>Porifera</b>	<b>0.06</b>	<b>0.16</b>	<b>0.00</b>	<b>0.01</b>		
<i>Suberites carnosus</i>	0.03	0.10				
<i>Suberites domuncula</i>	0.01	0.04				
<i>Suberites spp.</i>	0.01	0.01	0.00	0.01		
<i>Esponja sp. 7</i>	0.01	0.02				
<i>Desmacidon spp.</i>	0.00	0.01				
<i>Esponja sp. 5</i>	0.00	0.00				
<b>Cnidaria</b>	<b>3.51</b>	<b>4.92</b>	<b>0.14</b>	<b>0.17</b>	<b>0.06</b>	<b>0.10</b>
<i>Calliactis parasitica</i>	2.02	3.70	0.02	0.05	0.00	0.02
<i>Alcyonium palmatum</i>	0.88	1.49	0.08	0.09	0.03	0.09
<i>Pennatula phosphorea</i>	0.34	1.04	0.00	0.00	0.00	0.00
<i>Pteroeides griseum</i>	0.09	0.18				
<i>Hormathia alba</i>	0.03	0.07	0.03	0.06	0.01	0.01
<i>Lytocarpia myriophyllum</i>	0.04	0.07	0.00	0.00	0.00	0.00
<i>Actinia sp. 2</i>	0.04	0.03	0.01	0.01		
<i>Pennatula rubra</i>	0.02	0.06				
<i>Hydrozoa 1</i>	0.01	0.03	0.00	0.00	0.00	0.01
<i>Eunicella verrucosa</i>	0.01	0.02			0.00	0.00
<i>Nemertesia ramosa</i>	0.01	0.01	0.00	0.00	0.00	0.01
<i>Veretillum cynomorium</i>					0.01	0.02
<i>Actinia sp. 1</i>	0.01	0.02			0.00	0.01
<i>Nemertesia antennina</i>	0.00	0.01	0.00	0.00	0.00	0.01
<i>Funiculina quadrangularis</i>	0.00	0.01				
<i>Leptogorgia sarmentosa</i>	0.00	0.00			0.00	0.00
<i>Hydrozoa 5</i>			0.00	0.00		
<i>Hydrozoa 2</i>					0.00	0.00
<b>Annelida</b>	<b>1.26</b>	<b>1.83</b>	<b>0.03</b>	<b>0.05</b>	<b>0.02</b>	<b>0.05</b>
<i>Aphrodita aculeata</i>	1.12	1.77	0.01	0.03		
<i>Tubs Polychaeta</i>	0.14	0.23	0.02	0.05	0.02	0.05

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Eunice s.l.</i>			0.00	0.00	0.00	0.00
<b>Sipuncula</b>	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>	<b>0.07</b>		
<i>Phascolion strombus</i>			0.02	0.07		
<i>Sipuncula 1</i>	0.00	0.00				
<b>Echinodermata</b>	<b>156.51</b>	<b>475.75</b>	<b>0.18</b>	<b>0.18</b>	<b>0.06</b>	<b>0.10</b>
<i>Leptometra phalangium</i>	143.93	435.65				
<i>Echinus melo</i>	7.71	23.13			0.00	0.00
<i>Astropecten irregularis</i>	1.49	1.97	0.13	0.17	0.04	0.09
<i>Parastichopus regalis</i>	1.27	2.96				
<i>Marthasterias glacialis</i>	0.47	1.40				
<i>Holothuria tubulosa</i>	0.44	1.30				
<i>Coscinasterias tenuispina</i>	0.37	0.91				
<i>Ophiura ophiura</i>	0.35	1.04	0.01	0.02	0.00	0.00
<i>Tethyaster subinermis</i>	0.34	1.01				
<i>Ocnus planci</i>	0.12	0.29	0.01	0.04		
<i>Anseropoda placenta</i>	0.03	0.10				
<i>Astrospartus mediterraneus</i>			0.02	0.05	0.01	0.02
<i>Molpadia musculus</i>					0.01	0.03
<i>Brissopsis lyrifera</i>			0.01	0.03		
<i>Amphipholis squamata</i>	0.00	0.00				
<b>Tunicata</b>	<b>1.33</b>	<b>1.95</b>	<b>0.05</b>	<b>0.07</b>	<b>0.01</b>	<b>0.02</b>
<i>Diazona violacea</i>	0.44	1.16				
<i>Corella parallelogramma</i>	0.42	0.71	0.00	0.00		
<i>Phallusia mammillata</i>	0.21	0.62				
<i>Ascidia mentula</i>	0.11	0.21	0.01	0.02	0.00	0.00
<i>Ascidia sp. 2</i>	0.07	0.18				
<i>Pyrosoma atlanticum</i>	0.05	0.12	0.01	0.01	0.00	0.01
<i>Microcosmus spp.</i>	0.02	0.06	0.02	0.07		
<i>Salpa spp.</i>	0.01	0.03	0.01	0.03	0.01	0.02

## ANNEX VII: ABUNDANCE CENTER ZONE

Table1. Mean and standard deviation of the abundance of the species present in the landed fraction of the catch in each fishing ground including all hauls in the center zone sampled from January to December 2020.

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>6718.17</b>	<b>7130.96</b>	<b>1225.83</b>	<b>1053.64</b>	<b>240.19</b>	<b>169.69</b>
<i>Trachurus trachurus</i>	3443.45	5004.01	3.87	11.62		
<i>Mullus barbatus</i>	742.23	793.95	1.13	3.38	0.17	0.59
<i>Phycis blennoides</i>	55.34	85.43	527.56	609.13	160.42	149.48
<i>Trisopterus capelanus</i>	659.19	755.44				
<i>Micromesistius poutassou</i>			384.40	496.25	41.31	49.55
<i>Merluccius merluccius</i>	211.59	114.76	76.54	54.50	15.90	19.30
<i>Serranus hepatus</i>	287.38	839.87				
<i>Argentina sphyraena</i>	265.44	693.75				
<i>Lepidorhombus boscii</i>	107.31	126.28	108.88	67.95	4.34	6.51
<i>Scomber scombrus</i>	215.11	634.85				
<i>Lophius budegassa</i>	125.73	79.95	3.48	5.39	1.96	3.35
<i>Trigla lyra</i>	80.91	196.63	40.52	68.65		
<i>Spicara flexuosa</i>	107.91	323.73				
<i>Lepidotrigla cavillone</i>	103.33	298.49				
<i>Citharus linguatula</i>	88.55	138.76	2.23	4.20		
<i>Lepidotrigla dieuzeidei</i>	42.11	88.64				
<i>Molva macrophthalma</i>	0.91	2.74	35.96	50.54	1.29	2.14
<i>Helicolenus dactylopterus</i>	9.28	14.14	23.59	25.82	4.16	7.37
<i>Trachinus draco</i>	27.54	34.61				
<i>Arnoglossus laterna</i>	26.23	59.49				
<i>Trachurus picturatus</i>	24.77	73.16				
<i>Cepola macrophthalma</i>	17.63	32.08	1.10	3.30		
<i>Conger conger</i>	1.56	4.67	5.76	5.70	8.17	8.68
<i>Blennius ocellaris</i>	11.94	20.68				
<i>Sardina pilchardus</i>	11.69	35.06				
<i>Scorpaena elongata</i>	6.52	10.43	4.18	5.55		
<i>Chelidonichthys lucerna</i>	8.97	6.45				
<i>Mullus surmuletus</i>	5.07	7.83	0.54	1.61	0.38	1.31
<i>Ophidion barbatum</i>	3.01	6.57	2.07	6.21		
<i>Uranoscopus scaber</i>	5.08	11.79				
<i>Eutrigla gurnardus</i>	4.76	8.95				
<i>Pagellus bogaraveo</i>			2.58	4.97	0.79	2.12
<i>Pagellus erythrinus</i>	2.68	5.20				
<i>Scorpaena scrofa</i>	2.40	7.20				
<i>Spicara smaris</i>	2.16	6.47				
<i>Gobius niger</i>	2.05	4.74				

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Lophius piscatorius</i>	0.80	2.40	0.53	1.58	0.55	1.35
<i>Arnoglossus rueppelii</i>	1.67	5.02				
<i>Centrolophus niger</i>			0.55	1.65	0.76	1.74
<i>Zeus faber</i>	1.08	3.24				
<i>Chelidonichthys lastoviza</i>	0.88	2.65				
<i>Lepidorhombus whiffiagonis</i>	0.84	2.51				
<i>Chelidonichthys cuculus</i>	0.78	2.33				
<i>Engraulis encrasicolus</i>	0.78	2.33				
<i>Symphurus nigrescens</i>	0.78	2.33				
<i>Scorpaena notata</i>	0.74	2.21				
<i>Gadiculus argenteus</i>			0.38	1.13		
<b>Chondrichthyes</b>	<b>5.61</b>	<b>14.38</b>	<b>188.78</b>	<b>303.18</b>	<b>68.89</b>	<b>99.55</b>
<i>Scyliorhinus canicula</i>	4.87	14.61	173.90	278.17	24.90	54.40
<i>Galeus melastomus</i>			14.88	42.93	43.99	78.80
<i>Raja polystigma</i>	0.74	2.21				
<b>Crustacea</b>	<b>1525.54</b>	<b>2359.38</b>	<b>5015.60</b>	<b>3259.49</b>	<b>5813.96</b>	<b>2673.87</b>
<i>Parapenaeus longirostris</i>	1499.21	2353.69	2794.18	2553.25	36.42	73.65
<i>Aristeus antennatus</i>					4106.00	1927.15
<i>Nephrops norvegicus</i>	0.80	2.41	1679.01	1061.12	65.95	52.22
<i>Pasiphaea multidentata</i>					1139.30	890.78
<i>Plesionika martia</i>			144.88	373.58	296.20	254.83
<i>Plesionika heterocarpus</i>	14.61	43.82	215.74	293.81	3.71	8.33
<i>Geryon longipes</i>			2.69	8.07	73.82	84.22
<i>Macropipus tuberculatus</i>	7.66	11.36	48.76	130.87	1.01	2.89
<i>Plesionika edwardsii</i>			45.08	135.25	3.32	7.59
<i>Robustosergia robusta</i>					35.01	74.34
<i>Chlorotocus crassicornis</i>			32.31	61.00		
<i>Solenocera membranacea</i>			24.04	60.93	4.61	15.98
<i>Acanthephyra eximia</i>					18.57	41.79
<i>Polycheles typhlops</i>					13.85	20.25
<i>Plesionika gigliolii</i>			10.70	30.95	0.66	2.28
<i>Munida intermedia</i>			7.10	21.30	0.33	1.14
<i>Paromola cuvieri</i>			0.56	1.69	6.86	7.10
<i>Liocarcinus depurator</i>	0.91	1.72	6.29	15.21		
<i>Munida speciosa</i>			4.25	11.50		
<i>Squilla mantis</i>	2.36	4.79				
<i>Acanthephyra pelagica</i>					2.26	7.84
<i>Aegaeon lacazei</i>					1.98	6.85
<i>Plesionika acanthonotus</i>					1.98	6.85
<i>Processa nouveli</i>					1.32	4.57
<i>Ligur ensiferus</i>					0.80	2.76
<b>Cephalopoda</b>	<b>1439.71</b>	<b>1987.02</b>	<b>111.76</b>	<b>98.23</b>	<b>9.41</b>	<b>7.91</b>
<i>Illex coindetii</i>	1139.56	1633.79	47.80	53.74	3.00	7.54
<i>Eledone cirrhosa</i>	157.12	186.10	45.80	57.59	1.05	1.47

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Sepia orbignyana</i>	104.58	200.99	0.54	1.61		
<i>Scaevurgus unicolor</i>	12.81	30.63	0.53	1.58		
<i>Sepietta spp.</i>	3.34	10.03	6.83	20.49		
<i>Todarodes sagittatus</i>			5.25	4.38	4.41	5.14
<i>Sepia elegans</i>	7.77	10.79	0.65	1.94		
<i>Rossia macrosoma</i>	2.33	7.00	2.68	4.80	0.38	1.31
<i>Alloteuthis spp.</i>	3.29	7.42			0.40	1.38
<i>Octopus vulgaris</i>	3.13	5.03				
<i>Loligo vulgaris</i>	2.31	3.12				
<i>Sepia officinalis</i>	1.47	4.41				
<i>Sepietta oweniana</i>			1.17	2.23		
<i>Callistoctopus macropus</i>	0.78	2.33				
<i>Sepiolidae</i>	0.74	2.21				
<i>Pteroctopus tetracirrus</i>			0.53	1.58		
<i>Eledone moschata</i>	0.47	1.40				
<i>Octopus salutii</i>					0.18	0.61
<b>Other Mollusca</b>	<b>9.94</b>	<b>22.80</b>	<b>1.40</b>	<b>2.00</b>		
<i>Galeodea rugosa</i>	7.90	18.36	0.85	1.69		
<i>Calliostoma granulatum</i>	1.56	4.67				
<i>Galeodea echinophora</i>			0.55	1.66		
<i>Bolinus brandaris</i>	0.49	1.46				
<b>Echinodermata</b>	<b>14.49</b>	<b>24.85</b>				
<i>Parastichopus regalis</i>	14.49	24.85				

Table 2. Mean and standard deviation of the abundance of the species present in the discarded fraction of the catch in each fishing ground including all hauls in the center zone sampled from January to December 2020.

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>25603.08</b>	<b>64334.79</b>	<b>1067.22</b>	<b>1025.16</b>	<b>413.13</b>	<b>440.30</b>
<i>Capros aper</i>	11297.96	33388.92	3.33	6.78		
<i>Macroramphosus scolopax</i>	7671.75	23179.14				
<i>Boops boops</i>	1354.77	2565.77	0.56	1.69		
<i>Argentina sphyraena</i>	1238.15	3663.13				
<i>Merluccius merluccius</i>	834.96	1210.84	8.03	10.53	0.32	1.10
<i>Trachurus trachurus</i>	783.83	1077.88	1.10	3.30		
<i>Spicara flexuosa</i>	547.03	1074.71	6.60	19.79		
<i>Gadiculus argenteus</i>	15.05	45.15	503.41	805.43	6.44	14.14
<i>Trisopterus capellanus</i>	378.52	1115.10				
<i>Spicara maena</i>	352.74	817.60				

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Engraulis encrasicolus</i>	346.49	1026.14				
<i>Phycis blennoides</i>	0.44	1.32	166.35	246.13	39.46	51.30
<i>Serranus hepatus</i>	203.78	550.56				
<i>Lepidorhombus boscii</i>	34.82	47.46	106.62	145.82	10.41	23.79
<i>Lampanyctus crocodilus</i>	1.67	5.02	18.15	52.76	118.97	155.04
<i>Stomias boa</i>	8.36	25.08	40.36	62.29	47.98	86.32
<i>Callionymus maculatus</i>	85.36	217.54				
<i>Lepidotrigla cavillone</i>	83.33	215.75				
<i>Mullus barbatus</i>	79.12	218.60				
<i>Coelorinchus caelorhincus</i>			59.91	56.96	2.96	4.92
<i>Lepidopus caudatus</i>			34.88	90.18	13.24	19.03
<i>Citharus linguatula</i>	46.19	59.65	1.10	3.30		
<i>Trachyrhynchus scabrus</i>			2.95	5.64	43.79	79.71
<i>Chauliodus sloani</i>			10.28	24.39	29.53	39.51
<i>Scomber scombrus</i>	38.40	115.19				
<i>Hymenocephalus italicus</i>			1.03	3.10	36.89	63.10
<i>Lepidotrigla dieuzeidei</i>	36.51	109.54				
<i>Lesueurigobius friesii</i>	33.70	89.94				
<i>Lophius budegassa</i>	27.44	61.23	4.43	9.79		
<i>Blennius ocellaris</i>	30.45	60.39				
<i>Arnoglossus laterna</i>	26.99	18.04	2.26	6.77	0.99	3.42
<i>Nezumia aequalis</i>			0.65	1.94	29.03	42.23
<i>Ceratoscopelus maderensis</i>			27.69	43.72	0.42	1.46
<i>Notoscopelus elongatus</i>			23.58	31.32	1.23	2.96
<i>Hoplostethus mediterraneus</i>			10.74	25.11	7.85	15.45
<i>Trigla lyra</i>	0.97	2.92	11.71	19.94	1.59	5.50
<i>Sardina pilchardus</i>	11.47	21.63				
<i>Arctozenus risso</i>			0.93	1.80	7.79	11.93
<i>Arnoglossus rueppelii</i>	8.36	25.08				
<i>Molva macrophthalma</i>			8.17	14.29		
<i>Scorpaena elongata</i>	7.37	18.89			0.20	0.69
<i>Helicolenus dactylopterus</i>	4.67	10.01	2.85	4.82		
<i>Epigonus denticulatus</i>			4.68	12.79	2.35	5.06
<i>Phycis phycis</i>	5.63	16.88				
<i>Conger conger</i>			1.10	3.30	3.44	4.83
<i>Pagellus bogaraveo</i>	4.29	8.14				
<i>Evermannella balbo</i>					2.97	6.15
<i>Notacanthus bonaparte</i>					2.09	3.50
<i>Myctophum punctatum</i>			1.29	3.87	0.79	2.75
<i>Micromesistius poutassou</i>			1.27	2.39		
<i>Trachurus picturatus</i>	0.97	2.92				
<i>Borostomias antarcticus</i>					0.88	3.04
<i>Ophisurus serpens</i>	0.80	2.40				



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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Melanostigma atlanticum</i>					0.79	2.75
<i>Mola mola</i>	0.74	2.21				
<i>Synchiropus phaeton</i>			0.56	1.69	0.17	0.59
<i>Gaidropsarus biscayensis</i>			0.65	1.94		
<i>Alepocephalus rostratus</i>					0.55	1.90
<b>Chondrichthyes</b>	<b>506.74</b>	<b>518.22</b>	<b>628.50</b>	<b>877.63</b>	<b>144.36</b>	<b>165.53</b>
<i>Galeus melastomus</i>			458.56	772.51	84.62	102.86
<i>Scyliorhinus canicula</i>	319.76	400.90	149.74	202.34	28.56	56.38
<i>Scyliorhinus canicula</i> eggs	168.45	204.77	10.36	10.96	13.35	16.44
<i>Etmopterus spinax</i>			3.32	6.79	13.54	29.02
<i>Raja</i> spp. eggs	3.44	6.49	6.52	7.07	4.29	4.79
<i>Torpedo marmorata</i>	14.15	38.12				
<i>Raja asterias</i> eggs	0.94	2.81				
<b>Crustacea</b>	<b>27252.32</b>	<b>84467.80</b>	<b>718.86</b>	<b>540.96</b>	<b>475.11</b>	<b>955.29</b>
<i>Plesionika heterocarpus</i>	26475.27	80695.17	203.11	336.76	0.97	2.20
<i>Parapenaeus longirostris</i>	456.22	869.94	62.47	86.49	2.45	8.49
<i>Pasiphaea multidentata</i>			3.15	7.60	297.57	830.65
<i>Pasiphaea sivado</i>	0.47	1.40	267.69	331.73	16.71	21.10
<i>Dardanus arrosor</i>	107.96	139.20	12.02	21.71	2.87	8.40
<i>Plesionika martia</i>			48.36	91.53	26.54	31.85
<i>Latreillia elegans</i>	73.03	219.08				
<i>Solenocera membranacea</i>	36.98	109.92	11.03	11.96	1.62	3.47
<i>Macropipus tuberculatus</i>	39.86	108.45	7.75	12.57		
<i>Robustosergia robusta</i>					47.40	84.49
<i>Nephrops norvegicus</i>			37.94	41.77	8.60	13.45
<i>Lophogaster typicus</i>	36.51	109.54				
<i>Polycheles typhlops</i>					28.83	34.20
<i>Eusergestes arcticus</i>			10.11	26.05	1.41	3.51
<i>Chlorotocus crassicornis</i>			11.29	18.13		
<i>Munida intermedia</i>			10.54	25.35		
<i>Goneplax rhomboides</i>	2.33	7.00	4.34	6.60	2.28	2.92
<i>Pagurus alatus</i>			2.18	6.55	6.01	8.72
<i>Pagurus excavatus</i>	4.59	9.15	2.75	6.21		
<i>Monodaeus couchii</i>			2.20	4.15	4.92	6.15
<i>Deosergestes henseni</i>			2.21	6.61	4.89	12.48
<i>Squilla mantis</i>	6.40	19.20				
<i>Isopoda</i>	5.40	16.19	0.65	1.94		
<i>Geryon longipes</i>			0.55	1.66	5.13	9.28
<i>Pagurus prideaux</i>	5.63	16.88				
<i>Plesionika gigliolii</i>			5.45	7.17	0.17	0.59
<i>Aegaeon lacazei</i>			1.29	3.87	4.08	6.14
<i>Aristeus antennatus</i>					4.98	4.32
<i>Medorippe lanata</i>			4.30	12.91	0.45	1.54
<i>Processa canaliculata</i>			1.68	3.30	1.01	2.29

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	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Scalpellum scalpellum</i>	1.67	5.02				
<i>Gennadas elegans</i>					1.59	5.50
<i>Munida speciosa</i>			1.10	3.30	0.42	1.46
<i>Meganyctiphanes norvegica</i>			1.29	3.87		
<i>Munida perarmata</i>					1.22	4.24
<i>Inachus dorsetensis</i>			1.10	3.31		
<i>Macropodia tenuirostris</i>			1.10	3.31		
<i>Paromola cuvieri</i>					1.07	3.01
<i>AcanthePHYra pelagica</i>					0.74	1.91
<i>Processa nouveli</i>			0.65	1.94		
<i>Palinurus elephas</i>			0.55	1.65		
<i>Plesionika acanthonotus</i>					0.50	1.20
<i>Pontophilus spinosus</i>					0.33	1.14
<i>Plesionika edwardsii</i>					0.18	0.61
<i>Alpheus glaber</i>					0.17	0.59
<i>Amphibalanus amphitrite</i>	0.00	0.00				
<b>Cephalopoda</b>	<b>265.46</b>	<b>118.75</b>	<b>226.78</b>	<b>392.88</b>	<b>46.04</b>	<b>77.33</b>
<i>Abralia veranyi</i>	53.74	108.37	156.46	271.88	17.26	48.71
<i>Illex coindetii</i>	147.84	70.77	35.54	51.46	10.10	20.75
<i>Alloteuthis spp.</i>	36.51	109.54				
<i>Sepietta oweniana</i>			12.91	38.73		
<i>Sepia orbignyana</i>	11.32	16.77	1.03	3.10		
<i>Sepietta spp.</i>	5.40	16.19	3.76	6.27		
<i>Histioteuthis reversa</i>					8.81	14.42
<i>Pteroctopus tetracirrhus</i>			8.61	25.82		
<i>Scaevargus unicolor</i>	6.40	19.20	0.31	0.94		
<i>Histioteuthis bonnellii</i>			0.55	1.66	5.22	8.75
<i>Rossia macrosoma</i>	1.67	5.02	3.20	6.48	0.55	1.90
<i>Ancistroteuthis lichtensteinii</i>	1.67	5.02			1.37	3.38
<i>Octopus salutii</i>			1.64	3.36	0.45	1.54
<i>Bathypolypus sponsalis</i>			0.55	1.66	1.21	3.07
<i>Eledone cirrhosa</i>	0.47	1.40	1.10	3.30		
<i>Sepia elegans</i>	0.44	1.32	1.10	3.30		
<i>Todaropsis eblanae</i>					0.55	1.90
<i>Todarodes sagittatus</i>					0.54	1.26
<i>Loligo spp. eggs</i>	0.00	0.00				
<i>Sepia spp. eggs</i>			0.00	0.00		
<b>Other Mollusca</b>	<b>336.82</b>	<b>416.39</b>	<b>15.20</b>	<b>32.44</b>	<b>7.30</b>	<b>12.23</b>
<i>Neopycnodonte cochlear</i>	169.99	325.73	5.50	16.59	2.45	8.49
<i>Hiatella arctica</i>	41.20	123.59				
<i>Scaphander lignarius</i>	36.51	109.54				
<i>Calliostoma granulatum</i>	34.90	52.95				
<i>Musculus subpictus</i>	25.60	76.79				

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Anomia ephippium</i>	6.40	19.20	2.20	6.60		
<i>Ostrea spp.</i>	5.40	16.19	1.48	3.27		
<i>Chlamys spp.</i>	5.40	16.19				
<i>Mollusca</i>	5.40	16.19				
<i>Euspira fusca</i>	0.97	2.92	3.51	6.35		
<i>Cymbulia spp.</i>					4.19	11.09
<i>Pteria hirundo</i>			2.20	6.60		
<i>Tethys fimbria</i>	1.87	5.61				
<i>Pterotrachea spp.</i>	0.94	2.81				
<i>Galeodea echinophora</i>	0.91	1.72				
<i>Galeodea rugosa</i>	0.44	1.32	0.31	0.94		
<i>Carinaria spp.</i>					0.66	2.28
<i>Mollusca 2</i>	0.47	1.40				
<i>Pleurobranchaea meckeli</i>	0.44	1.32				
<i>Gastropoda eggs</i>	0.00	0.00				
<b>Porifera</b>	<b>6.56</b>	<b>15.02</b>	<b>1.02</b>	<b>2.03</b>		
<i>Suberites spp.</i>	1.85	4.15	1.02	2.03		
<i>Desmacidon spp.</i>	2.34	7.02				
<i>Esponja sp. 7</i>	0.97	2.92				
<i>Esponja sp. 5</i>	0.47	1.40				
<i>Suberites carnosus</i>	0.47	1.40				
<i>Suberites domuncula</i>	0.47	1.40				
<b>Cnidaria</b>	<b>553.71</b>	<b>576.18</b>	<b>40.37</b>	<b>42.29</b>	<b>20.45</b>	<b>27.03</b>
<i>Calliactis parasitica</i>	196.43	309.17	3.14	6.62	1.22	4.24
<i>Alcyonium palmatum</i>	145.79	192.80	18.51	22.98	8.00	24.04
<i>Hormathia alba</i>	45.98	92.15	12.66	27.83	4.55	8.77
<i>Lytocarpia myriophyllum</i>	45.78	110.01	1.75	3.52	0.79	2.76
<i>Pennatula phosphorea</i>	44.96	108.68	0.38	1.13	0.33	1.14
<i>Actinia sp. 2</i>	31.52	32.77	2.84	6.49		
<i>Pteroeides griseum</i>	12.02	22.75				
<i>Hydrozoa 1</i>	6.37	16.04	0.00	0.00	1.22	4.24
<i>Actinia sp. 1</i>	5.02	15.05			1.64	5.70
<i>Funiculina quadrangularis</i>	6.56	16.59				
<i>Nemertesia antennina</i>	6.09	16.73	0.00	0.00	0.00	0.00
<i>Pennatula rubra</i>	5.40	16.19				
<i>Nemertesia ramosa</i>	0.47	1.42	1.10	3.31	1.22	4.24
<i>Veretillum cynomorium</i>					1.45	3.28
<i>Eunicella verrucosa</i>	0.88	2.65			0.00	0.00
<i>Leptogorgia sarmentosa</i>	0.44	1.32			0.00	0.00
<i>Hydrozoa 2</i>					0.00	0.00
<i>Hydrozoa 5</i>			0.00	0.00		
<b>Annelida</b>	<b>32.63</b>	<b>39.21</b>	<b>1.41</b>	<b>3.31</b>	<b>0.88</b>	<b>3.05</b>
<i>Aphrodita aculeata</i>	29.83	37.50	0.31	0.94		
<i>Tubs Polychaeta</i>	2.80	7.06	0.00	0.00	0.00	0.00

State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Continental shelf		Upper slope		Lower slope	
	mean	sd	mean	sd	mean	sd
<i>Eunice s.l.</i>			1.10	3.30	0.88	3.04
<b>Sipuncula</b>	<b>5.40</b>	<b>16.19</b>	<b>4.20</b>	<b>12.61</b>		
<i>Sipuncula 1</i>	5.40	16.19				
<i>Phascolion strombus</i>			4.20	12.61		
<b>Echinodermata</b>	<b>1032.63</b>	<b>1645.76</b>	<b>44.22</b>	<b>48.53</b>	<b>26.60</b>	<b>46.39</b>
<i>Astropecten irregularis</i>	776.87	1341.52	40.73	46.97	23.00	45.74
<i>Leptometra phalangium</i>	99.73	296.80				
<i>Ophiura ophiura</i>	73.03	219.08	0.65	1.94	0.33	1.14
<i>Echinus melo</i>	38.89	109.50			0.20	0.69
<i>Ocnus planci</i>	12.26	22.29	1.10	3.30		
<i>Parastichopus regalis</i>	11.37	19.41				
<i>Coscinasterias tenuispina</i>	7.24	18.92				
<i>Anseropoda placenta</i>	5.63	16.88				
<i>Holothuria tubulosa</i>	5.11	13.86				
<i>Molpadia musculus</i>					2.74	9.50
<i>Brissopsis lyrifera</i>			1.10	3.30		
<i>Astrospartus mediterraneus</i>			0.65	1.94	0.33	1.14
<i>Amphipholis squamata</i>	0.88	2.65				
<i>Marthasterias glacialis</i>	0.80	2.41				
<i>Tethyaster subinermis</i>	0.80	2.41				
<b>Tunicata</b>	<b>339.26</b>	<b>525.78</b>	<b>7.38</b>	<b>8.84</b>	<b>1.76</b>	<b>3.76</b>
<i>Corella parallelogramma</i>	249.92	426.27	1.10	3.30		
<i>Pyrosoma atlanticum</i>	39.24	109.30	3.58	3.85	1.10	3.80
<i>Ascidia mentula</i>	20.96	38.00	1.10	3.30	0.34	1.17
<i>Diazona violacea</i>	13.56	31.62				
<i>Ascidia sp. 2</i>	7.80	18.85				
<i>Phallusia mammillata</i>	5.40	16.19				
<i>Salpa spp.</i>	1.40	4.21	1.29	3.87	0.33	1.14
<i>Microcosmus spp.</i>	0.97	2.92	0.31	0.94		

## ANNEX VIII: BIOMASS SOUTH ZONE

Table 1. Mean and standard deviation of the biomass of the species present in the landed fraction of the catch in each fishing ground including all hauls in the south zone sampled from January to December 2020.

	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>250.69</b>	<b>173.63</b>	<b>156.79</b>	<b>42.15</b>	<b>203.42</b>	<b>99.23</b>
<i>Merluccius merluccius</i>	1.06	1.82	37.05	26.71	28.61	26.65
<i>Mullus barbatus</i>	19.57	13.80	10.04	4.75	30.17	29.80
<i>Lophius budegassa</i>	0.25	0.55	8.91	7.19	47.39	38.84
<i>Trachurus mediterraneus</i>	42.00	31.15	9.27	12.06	2.20	3.54
<i>Sparus aurata</i>	45.81	86.30	1.07	1.68		
<i>Pagellus erythrinus</i>	36.06	56.23	2.83	2.06	0.46	0.59
<i>Sphyaena sphyraena</i>	27.27	32.41	2.23	4.99		
<i>Trisopterus capelanus</i>	1.76	3.89	10.82	8.74	16.65	10.10
<i>Trachurus trachurus</i>			8.06	10.59	18.40	26.10
<i>Citharus linguatula</i>	0.93	0.58	15.02	10.99	7.62	4.80
<i>Scomber scombrus</i>	7.64	13.33	11.13	6.21	4.02	2.28
<i>Mugil cephalus</i>	16.99	37.98				
<i>Boops boops</i>	2.12	4.75	7.20	16.10	2.87	6.41
<i>Chelidonichthys lucerna</i>	5.11	5.76	4.31	6.36	1.40	0.83
<i>Diplodus annularis</i>	8.36	7.80	1.30	1.88	0.05	0.12
<i>Trachinus draco</i>	1.15	1.48	3.64	3.24	4.50	5.38
<i>Alosa fallax</i>			0.56	1.24	7.52	16.82
<i>Dicentrarchus labrax</i>	5.93	13.26			0.92	2.06
<i>Chelon labrosus</i>	6.24	13.95				
<i>Gobius niger</i>	0.32	0.72	3.86	3.91	1.63	2.10
<i>Cepola macrophthalma</i>	0.12	0.17	0.85	1.34	4.63	7.06
<i>Chelon auratus</i>	2.03	4.54			2.72	6.09
<i>Eutrigla gurnardus</i>	0.02	0.05	0.58	1.12	4.15	4.17
<i>Lepidotrigla cavillone</i>	0.05	0.06	0.81	0.64	3.72	5.36
<i>Spicara spp.</i>	0.20	0.46	2.58	4.90	1.53	2.89
<i>Sardina pilchardus</i>			4.05	9.05		
<i>Mullus surmuletus</i>	1.77	0.95	1.90	3.00	0.33	0.56
<i>Arnoglossus laterna</i>	0.52	0.71	1.82	1.78	1.47	1.35
<i>Serranus hepatus</i>	0.05	0.10	1.04	0.85	2.69	2.43
<i>Solea senegalensis</i>	3.49	2.50	0.25	0.55		
<i>Conger conger</i>	1.24	1.00	1.23	1.00	1.22	1.29
<i>Diplodus vulgaris</i>	3.20	5.97	0.24	0.32		
<i>Pagellus acarne</i>	2.48	3.50	0.18	0.39		
<i>Scomber colias</i>	0.70	1.57	1.73	1.66		
<i>Pomatomus saltatrix</i>	1.86	4.15				
<i>Uranoscopus scaber</i>	0.10	0.22	1.26	0.93	0.18	0.41

State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<i>Engraulis encrasicolus</i>					1.44	3.22
<i>Umbrina canariensis</i>	1.08	2.40				
<i>Lophius piscatorius</i>					0.93	2.07
<i>Caranx rhonchus</i>	0.92	2.05				
<i>Zeus faber</i>					0.92	2.05
<i>Chelidonichthys obscurus</i>	0.24	0.33	0.08	0.19	0.56	0.83
<i>Scorpaena notata</i>	0.62	0.81	0.22	0.26	0.04	0.05
<i>Spondylisoma cantharus</i>	0.30	0.68			0.42	0.74
<i>Lepidotrigla dieuzeidei</i>					0.57	1.28
<i>Phycis blennoides</i>					0.53	0.68
<i>Chelidonichthys cuculus</i>			0.08	0.19	0.42	0.58
<i>Arnoglossus imperialis</i>			0.27	0.60	0.11	0.24
<i>Seriola dumerili</i>	0.34	0.75				
<i>Lepidorhombus boscii</i>					0.24	0.55
<i>Ophidion barbatum</i>			0.24	0.53		
<i>Sciaena umbra</i>	0.20	0.30				
<i>Arnoglossus thori</i>	0.05	0.11	0.09	0.19		
<i>Pomadasyus incisus</i>	0.12	0.27				
<i>Solea solea</i>	0.12	0.26				
<i>Scophthalmus rhombus</i>	0.10	0.23				
<i>Lithognathus mormyrus</i>	0.10	0.22				
<i>Microchirus variegatus</i>	0.06	0.07	0.03	0.07		
<i>Capros aper</i>					0.07	0.17
<i>Symphurus nigrescens</i>					0.07	0.12
<i>Diplodus sargus</i>	0.06	0.12				
<i>Serranus cabrilla</i>					0.03	0.07
<i>Chromis chromis</i>					0.02	0.04
<b>Chondrichthyes</b>	<b>1.46</b>	<b>2.22</b>	<b>0.13</b>	<b>0.30</b>		
<i>Raja asterias</i>	1.46	2.22	0.13	0.30		
<b>Crustacea</b>	<b>38.61</b>	<b>28.23</b>	<b>61.48</b>	<b>57.37</b>	<b>44.48</b>	<b>30.91</b>
<i>Squilla mantis</i>	28.76	29.30	24.96	23.08	14.44	14.15
<i>Liocarcinus depurator</i>	0.09	0.11	21.27	38.78	14.52	22.33
<i>Parapenaeus longirostris</i>	0.07	0.15	14.20	9.29	14.00	13.43
<i>Penaeus kerathurus</i>	9.70	14.05	0.09	0.11		
<i>Nephrops norvegicus</i>			0.87	0.74	1.52	2.35
<i>Callinectes sapidus</i>			0.09	0.21		
<b>Cephalopoda</b>	<b>28.94</b>	<b>15.80</b>	<b>50.09</b>	<b>21.08</b>	<b>72.45</b>	<b>18.35</b>
<i>Eledone cirrhosa</i>	2.56	5.73	22.21	11.25	39.87	14.73
<i>Illex coindetii</i>	0.45	1.02	12.99	12.59	20.19	13.66
<i>Alloteuthis spp.</i>	5.85	5.64	5.96	4.42	3.12	2.09
<i>Octopus vulgaris</i>	4.41	9.85	4.65	10.39	2.73	6.10
<i>Sepia officinalis</i>	11.61	10.09				
<i>Loligo vulgaris</i>	3.64	4.01	2.24	1.45	0.75	0.84
<i>Sepia elegans</i>			1.05	1.49	1.41	2.11

	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<i>Scaevurgus unicirrhus</i>					2.01	3.91
<i>Eledone moschata</i>	0.43	0.95	0.87	1.95		
<i>Callistoctopus macropus</i>					1.01	2.25
<i>Sepia orbignyana</i>			0.05	0.11	0.57	0.60
<i>Alloteuthis media</i>					0.46	1.04
<i>Sepietta spp.</i>					0.30	0.42
<i>Sepietta oweniana</i>			0.07	0.15		
<i>Rossia macrosoma</i>					0.03	0.07
<b>Other Mollusca</b>	<b>2.37</b>	<b>1.86</b>	<b>2.58</b>	<b>1.43</b>	<b>2.19</b>	<b>3.09</b>
<i>Bolinus brandaris</i>	2.37	1.86	1.54	1.12	0.09	0.07
<i>Galeodea echinophora</i>			0.22	0.41	1.66	3.09
<i>Galeodea rugosa</i>			0.82	1.71	0.44	0.92
<i>Acanthocardia echinata</i>			0.00	0.00		
<i>Pecten jacobaeus</i>	0.00	0.00				
<b>Echinodermata</b>			<b>0.47</b>	<b>1.06</b>	<b>0.19</b>	<b>0.42</b>
<i>Parastichopus regalis</i>			0.47	1.06	0.19	0.42

Table 2. Mean and standard deviation of the biomass of the species present in the discarded fraction of the catch in each fishing ground including all hauls in the south zone sampled from January to December 2020.

	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>154.10</b>	<b>162.95</b>	<b>188.63</b>	<b>200.77</b>	<b>74.65</b>	<b>82.75</b>
<i>Engraulis encrasicolus</i>	8.35	11.15	64.79	114.92	36.68	54.73
<i>Sardinella aurita</i>	75.52	137.96	9.67	18.91		
<i>Sardina pilchardus</i>	4.24	4.58	29.94	39.91	0.81	1.14
<i>Merluccius merluccius</i>	1.07	2.10	14.77	13.31	12.89	10.11
<i>Pagellus acarne</i>	26.05	57.84	1.32	2.95	0.09	0.20
<i>Spicara flexuosa</i>	1.06	0.79	20.50	27.31	5.61	9.03
<i>Boops boops</i>	6.43	6.06	11.78	18.60	0.78	0.64
<i>Trachurus mediterraneus</i>	13.19	13.19	5.27	5.15		
<i>Trachurus trachurus</i>	0.53	1.18	10.77	18.18	5.09	7.41
<i>Spicara maena</i>	0.77	1.72	8.17	10.18	0.89	1.14
<i>Arnoglossus laterna</i>	1.11	1.67	3.90	3.40	4.55	4.81
<i>Diplodus annularis</i>	5.85	5.71	0.12	0.26	0.14	0.32
<i>Trisopterus capelanus</i>	0.23	0.52	2.80	4.21	2.89	3.30
<i>Citharus linguatula</i>	0.63	0.90	2.36	2.73	0.92	0.91
<i>Pagellus erythrinus</i>	3.77	4.00				
<i>Sparus aurata</i>	2.26	2.86	0.97	2.17		
<i>Mullus barbatus</i>	1.73	2.71				
<i>Lophius budegassa</i>					1.17	2.62

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf	
<i>Capros aper</i>	0.01	0.02	0.02	0.05	1.11	1.60
<i>Serranus hepatus</i>			0.63	1.07	0.25	0.53
<i>Lepidotrigla cavillone</i>	0.25	0.57	0.04	0.09	0.28	0.45
<i>Trachinus draco</i>			0.25	0.56		
<i>Lepidorhombus boscii</i>	0.22	0.48				
<i>Spicara smaris</i>	0.04	0.10			0.17	0.37
<i>Pagrus pagrus</i>	0.18	0.41				
<i>Eutrigla gurnardus</i>			0.17	0.26		
<i>Lesueurigobius friesii</i>	0.00	0.01	0.12	0.10	0.05	0.05
<i>Mullus surmuletus</i>	0.16	0.36				
<i>Scomber scombrus</i>			0.13	0.30		
<i>Umbrina canariensis</i>	0.13	0.29				
<i>Chelidonichthys lucerna</i>	0.13	0.29				
<i>Sprattus sprattus</i>	0.02	0.04	0.11	0.24		
<i>Lepidotrigla dieuzeidei</i>	0.01	0.03			0.11	0.24
<i>Chelidonichthys obscurus</i>	0.10	0.23				
<i>Blennius ocellaris</i>					0.09	0.19
<i>Symphurus nigrescens</i>					0.06	0.13
<i>Microchirus spp.</i>			0.03	0.08		
<i>Deltentosteus quadrimaculatus</i>	0.02	0.05				
<i>Cepola macrophthalma</i>	0.02	0.05				
<i>Carapus acus</i>					0.01	0.02
<i>Lesueurigobius suerii</i>	0.01	0.01				
<i>Gobiidae</i>	0.00	0.00			0.00	0.01
<i>Crystallogobius linearis</i>					0.00	0.00
<b>Chondrichthyes</b>	<b>0.42</b>	<b>0.54</b>	<b>0.47</b>	<b>0.36</b>	<b>4.71</b>	<b>9.64</b>
<i>Scyliorhinus canicula</i>					3.90	8.72
<i>Raja spp. eggs</i>	0.41	0.52	0.30	0.30	0.73	0.73
<i>Raja asterias eggs</i>			0.17	0.38		
<i>Scyliorhinus canicula eggs</i>	0.02	0.03	0.01	0.02	0.09	0.11
<b>Crustacea</b>	<b>7.09</b>	<b>5.35</b>	<b>14.78</b>	<b>19.52</b>	<b>7.15</b>	<b>4.53</b>
<i>Squilla mantis</i>	2.93	3.55	5.82	10.57	1.62	2.45
<i>Liocarcinus depurator</i>	0.76	0.70	4.97	7.44	3.54	4.13
<i>Medorippe lanata</i>	1.89	2.13	0.98	1.90	0.10	0.13
<i>Parapenaeus longirostris</i>			1.08	1.18	0.53	0.30
<i>Dardanus arrosor</i>	0.51	0.55	0.64	1.12	0.41	0.56
<i>Goneplax rhomboides</i>	0.61	0.67	0.45	0.63	0.33	0.36
<i>Pagurus excavatus</i>	0.20	0.24	0.18	0.22	0.21	0.41
<i>Solenocera membranacea</i>			0.39	0.56	0.13	0.27
<i>Macropodia tenuirostris</i>	0.03	0.04	0.16	0.25	0.08	0.15
<i>Geryon longipes</i>					0.14	0.32
<i>Dardanus calidus</i>	0.08	0.10				
<i>Scalpellum scalpellum</i>	0.01	0.03	0.02	0.02	0.04	0.03
<i>Chlorotocus crassicornis</i>			0.04	0.06	0.01	0.02
<i>Callinectes sapidus</i>	0.04	0.09				



## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf	
<i>Alpheus glaber</i>	0.01	0.01	0.03	0.04	0.00	0.01
<i>Pagurus cuanensis</i>	0.02	0.03				
<i>Aegaeon cataphractus</i>	0.00	0.00	0.01	0.03		
<i>Inachus dorsetensis</i>					0.02	0.03
<i>Pilumnus spinifer</i>			0.01	0.01		
<i>Inachus communissimus</i>	0.00	0.01				
<i>Aegaeon lacazei</i>					0.00	0.00
<i>Isopoda</i>			0.00	0.00		
<i>Pisidia longicornis</i>	0.00	0.00				
<i>Nepinnotheres pinnotheres</i>					0.00	0.00
<b>Cephalopoda</b>	<b>5.56</b>	<b>6.29</b>	<b>5.57</b>	<b>8.72</b>	<b>2.53</b>	<b>2.06</b>
<i>Octopus vulgaris</i>	4.66	6.07	1.97	4.41	0.47	1.06
<i>Callistoctopus macropus</i>			1.80	4.02		
<i>Illex coindetii</i>			0.79	1.02	0.93	1.30
<i>Sepietta spp.</i>			0.16	0.19	0.61	0.95
<i>Alloteuthis spp.</i>	0.39	0.63			0.21	0.47
<i>Eledone cirrhosa</i>	0.39	0.88				
<i>Octopus salutii</i>			0.37	0.83		
<i>Eledone moschata</i>			0.16	0.35	0.16	0.37
<i>Sepia orbignyana</i>			0.28	0.63		
<i>Loligo vulgaris</i>	0.12	0.27	0.03	0.08		
<i>Sepia elegans</i>					0.08	0.17
<i>Rossia macrosoma</i>					0.07	0.15
<b>Other Mollusca</b>	<b>6.33</b>	<b>6.42</b>	<b>4.66</b>	<b>5.62</b>	<b>3.19</b>	<b>3.36</b>
<i>Calliostoma granulatum</i>	0.40	0.47	0.79	0.48	1.88	2.44
<i>Venus nux</i>	0.10	0.19	2.06	3.75	0.63	0.85
<i>Tethys fimbria</i>	1.95	4.23	0.33	0.75		
<i>Aporrhais serresiana</i>	1.30	2.91	0.38	0.86	0.06	0.13
<i>Bolinus brandaris</i>	1.09	1.22	0.06	0.13	0.03	0.06
<i>Galeodea rugosa</i>	0.08	0.18	0.66	1.48	0.25	0.41
<i>Galeodea echinophora</i>	0.13	0.30	0.11	0.24	0.14	0.32
<i>Gastropoda eggs</i>	0.26	0.57	0.10	0.12		
<i>Pecten jacobaeus</i>	0.26	0.35				
<i>Anadara gibbosa</i>	0.17	0.23				
<i>Ostrea spp.</i>	0.09	0.21	0.07	0.15		
<i>Acanthocardia echinata</i>	0.16	0.36				
<i>Semicassis undulata</i>	0.15	0.34				
<i>Euspira fusca</i>			0.04	0.08	0.06	0.13
<i>Xenophora crispa</i>					0.09	0.20
<i>Aequipecten opercularis</i>	0.06	0.13				
<i>Armina tigrina</i>	0.02	0.04	0.04	0.09		
<i>Nudibranchi sp. 5</i>	0.05	0.11				
<i>Philine spp.</i>					0.04	0.09
<i>Bivetiella cancellata</i>	0.03	0.07				
<i>Parvicardium exiguum</i>	0.03	0.06				

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	Shallow continental shelf		Middle continental shelf		Continental shelf	
<i>Pteria hirundo</i>			0.01	0.03	0.00	0.00
<i>Gastropoda 1</i>					0.01	0.02
<i>Musculus subpictus</i>					0.01	0.01
<i>Turritellinella tricarinata</i>			0.01	0.01		
<i>Acanthocardia aculeata</i>	0.00	0.01				
<i>Anomia ephippium</i>					0.00	0.00
<b>Porifera</b>	<b>0.16</b>	<b>0.36</b>	<b>2.90</b>	<b>3.59</b>	<b>1.01</b>	<b>1.31</b>
<i>Spongosorites spp.</i>			1.53	3.43		
<i>Suberites spp.</i>	0.14	0.32	1.34	1.78		
<i>Suberites carnosus</i>					0.47	1.00
<i>Cliona celata</i>					0.45	1.01
<i>Esponja sp. 2</i>					0.03	0.06
<i>Esponja sp. 1</i>					0.02	0.05
<i>Esponja sp. 6</i>					0.02	0.05
<i>Suberites syringella</i>			0.02	0.05		
<i>Desmacidon spp.</i>	0.02	0.04				
<i>Esponja sp. 7</i>					0.02	0.03
<b>Cnidaria</b>	<b>2.94</b>	<b>2.48</b>	<b>6.24</b>	<b>6.60</b>	<b>8.17</b>	<b>9.31</b>
<i>Pennatula rubra</i>	0.07	0.11	0.73	0.60	2.85	2.61
<i>Pteroeides griseum</i>	0.06	0.14	1.73	2.49	1.45	2.01
<i>Anthozoa 1</i>	0.58	0.66	1.74	1.55	0.01	0.01
<i>Nemertesia antennina</i>	0.54	0.83	0.68	0.94	1.08	1.69
<i>Alcyonium palmatum</i>	0.47	0.63	0.53	0.88	0.94	0.83
<i>Veretillum cynomorium</i>	1.04	2.33	0.38	0.86		
<i>Pennatula phosphorea</i>	0.01	0.02	0.08	0.10	1.29	1.07
<i>Nemertesia ramosa</i>	0.09	0.18	0.10	0.16	0.27	0.52
<i>Calliactis parasitica</i>	0.04	0.08	0.17	0.38	0.14	0.32
<i>Lytocarpia myriophyllum</i>	0.02	0.03	0.04	0.05	0.12	0.09
<i>Actinia sp. 2</i>	0.00	0.01	0.01	0.03	0.02	0.03
<i>Hydrozoa 1</i>			0.03	0.04		
<i>Leptogorgia sarmentosa</i>			0.02	0.04		
<i>Eunicella verrucosa</i>	0.01	0.02				
<i>Hormathia alba</i>			0.01	0.01		
<i>Actinia sp. 1</i>			0.00	0.01		
<i>Virgularia mirabilis</i>	0.00	0.00				
<b>Annelida</b>	<b>0.01</b>	<b>0.01</b>	<b>0.06</b>	<b>0.12</b>	<b>0.08</b>	<b>0.11</b>
<i>Pontobdella muricata</i>			0.05	0.12		
<i>Aphrodita aculeata</i>					0.04	0.10
<i>Tubs Polychaeta</i>	0.00	0.01	0.00	0.00	0.04	0.09
<i>Polychaeta 6</i>			0.00	0.01		
<i>Polychaeta</i>	0.00	0.01				
<i>Serpula vermicularis</i>					0.00	0.00
<i>Eunice s.l.</i>	0.00	0.00				
<b>Echinodermata</b>	<b>6.50</b>	<b>7.87</b>	<b>4.06</b>	<b>4.22</b>	<b>10.87</b>	<b>9.60</b>
<i>Astropecten irregularis</i>	4.78	7.43	3.33	4.44	10.26	9.66

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	Shallow continental shelf		Middle continental shelf		Continental shelf	
<i>Ova canalifera</i>	1.27	1.76				
<i>Luidia ciliaris</i>			0.56	1.25		
<i>Holothuria tubulosa</i>			0.14	0.31	0.26	0.38
<i>Spatangus purpureus</i>	0.28	0.63				
<i>Echinaster sepositus</i>	0.03	0.06			0.21	0.47
<i>Ocnus planci</i>	0.10	0.15	0.00	0.01		
<i>Leptometra phalangium</i>					0.08	0.13
<i>Antedon mediterranea</i>			0.00	0.01	0.06	0.08
<i>Leptopentacta elongata</i>	0.01	0.02	0.02	0.05		
<i>Psammechinus microtuberculatus</i>	0.03	0.07				
<i>Ophiura ophiura</i>	0.00	0.01				
<b>Tunicata</b>	<b>0.28</b>	<b>0.37</b>	<b>0.72</b>	<b>0.65</b>	<b>4.89</b>	<b>6.87</b>
<i>Corella parallelogramma</i>			0.19	0.14	4.61	7.04
<i>Phallusia mammillata</i>	0.17	0.37	0.33	0.74	0.06	0.13
<i>Ascidia mentula</i>	0.03	0.07	0.05	0.11	0.09	0.21
<i>Pyrosoma atlanticum</i>			0.09	0.12	0.04	0.08
<i>Ascidia sp. 2</i>	0.09	0.19			0.01	0.02
<i>Diazona violacea</i>					0.08	0.19
<i>Ascidia sp. 1</i>			0.06	0.14		

## ANNEX IX: ABUNDANCE SOUTH ZONE

Table1. Mean and standard deviation of the abundance of the species present in the landed fraction of the catch in each fishing ground including all hauls in the south zone sampled from January to December 2020.

	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>2696.23</b>	<b>1777.19</b>	<b>3106.25</b>	<b>616.94</b>	<b>3915.41</b>	<b>1928.67</b>
<i>Mullus barbatus</i>	458.38	404.29	193.62	94.40	614.67	637.01
<i>Trisopterus capellanus</i>	38.23	84.43	355.56	202.84	598.61	406.98
<i>Citharus linguatula</i>	43.92	37.55	588.78	351.61	275.34	151.30
<i>Merluccius merluccius</i>	12.72	21.44	399.77	303.11	405.49	510.42
<i>Trachurus mediterraneus</i>	575.57	535.85	140.11	165.56	49.89	99.41
<i>Trachurus trachurus</i>			183.61	231.56	370.86	473.32
<i>Pagellus erythrinus</i>	430.50	651.26	30.46	24.40	6.99	7.12
<i>Arnoglossus laterna</i>	65.81	99.63	207.14	215.06	178.32	171.42
<i>Sparus aurata</i>	331.96	641.64	8.00	13.02		
<i>Lepidotrigla cavillone</i>	2.94	4.11	65.54	43.75	269.48	387.13
<i>Scomber scombrus</i>	67.14	117.76	125.11	96.20	57.52	21.31
<i>Cepola macrophthalma</i>	7.73	9.57	41.96	62.20	189.56	283.25
<i>Sardina pilchardus</i>			227.95	509.72		
<i>Serranus hepatus</i>	2.02	4.51	52.87	47.51	170.73	157.61
<i>Boops boops</i>	28.27	63.21	127.08	284.16	55.58	124.28
<i>Diplodus annularis</i>	173.61	152.19	22.68	40.72	1.05	2.34
<i>Eutrigla gurnardus</i>	1.01	2.26	25.40	47.63	149.57	158.78
<i>Chelidonichthys lucerna</i>	117.98	165.60	43.35	59.72	12.39	7.42
<i>Lophius budegassa</i>	1.01	2.26	13.25	9.86	141.04	122.10
<i>Trachinus draco</i>	23.21	36.66	70.38	60.29	61.14	48.62
<i>Engraulis encrasicolus</i>					92.09	205.92
<i>Spicara spp.</i>	3.03	6.77	51.69	103.38	30.42	57.10
<i>Mullus surmuletus</i>	39.20	28.62	24.91	32.75	4.04	5.12
<i>Lepidotrigla dieuzeidei</i>					56.58	126.51
<i>Capros aper</i>					46.32	103.57
<i>Diplodus vulgaris</i>	36.56	64.78	1.60	2.08		
<i>Scorpaena notata</i>	22.37	29.40	11.14	11.66	1.90	2.41
<i>Sphyræna sphyraena</i>	33.27	38.64	1.81	4.04		
<i>Pagellus acarne</i>	31.88	42.67	1.84	4.11		
<i>Arnoglossus imperialis</i>			22.00	49.20	9.19	20.56
<i>Gobius niger</i>	1.57	3.52	19.01	19.67	9.80	13.21
<i>Solea senegalensis</i>	25.16	23.57	1.37	3.06		
<i>Chelidonichthys obscurus</i>	11.54	15.53	2.74	6.12	9.12	12.49
<i>Scomber colias</i>	3.19	7.13	18.81	26.48		
<i>Mugil cephalus</i>	20.73	46.35				
<i>Conger conger</i>	7.34	5.64	5.70	4.43	7.53	6.85

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	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<i>Umbrina canariensis</i>	18.17	40.63				
<i>Chelidonichthys cuculus</i>			1.83	4.10	15.26	25.94
<i>Arnoglossus thori</i>	6.64	14.86	5.47	12.24		
<i>Dicentrarchus labrax</i>	8.08	18.06			1.85	4.14
<i>Pomatomus saltatrix</i>	7.97	17.83				
<i>Microchirus variegatus</i>	5.07	7.08	2.74	6.12		
<i>Spondylisoma cantharus</i>	4.98	11.14			2.45	3.30
<i>Uranoscopus scaber</i>	0.83	1.86	5.45	3.83	0.97	2.18
<i>Chelon labrosus</i>	6.38	14.26				
<i>Chelon auratus</i>	3.19	7.13			1.95	4.36
<i>Symphurus nigrescens</i>					4.94	8.27
<i>Ophidion barbatum</i>			4.81	10.76		
<i>Caranx rhonchus</i>	4.78	10.70				
<i>Phycis blennoides</i>					4.46	6.44
<i>Sciaena umbra</i>	3.23	4.09				
<i>Alosa fallax</i>			0.68	1.53	2.09	4.68
<i>Lithognathus mormyrus</i>	1.75	3.92				
<i>Diplodus sargus</i>	1.66	3.71				
<i>Pomadasys incisus</i>	1.59	3.57				
<i>Seriola dumerili</i>	1.59	3.57				
<i>Solea solea</i>	1.59	3.57				
<i>Lepidorhombus boscii</i>					1.53	3.43
<i>Lophius piscatorius</i>					1.41	3.16
<i>Zeus faber</i>					1.41	3.16
<i>Chromis chromis</i>					0.93	2.07
<i>Serranus cabrilla</i>					0.93	2.07
<i>Scophthalmus rhombus</i>	0.83	1.86				
<b>Chondrichthyes</b>	<b>16.14</b>	<b>23.55</b>	<b>1.37</b>	<b>3.06</b>		
<i>Raja asterias</i>	16.14	23.55	1.37	3.06		
<b>Crustacea</b>	<b>1288.81</b>	<b>810.44</b>	<b>5512.83</b>	<b>5023.46</b>	<b>4111.32</b>	<b>3102.29</b>
<i>Parapenaeus longirostris</i>	12.11	27.09	2153.46	1773.43	2115.03	2517.01
<i>Liocarcinus depurator</i>	7.66	9.43	2435.08	4598.41	1394.64	2206.72
<i>Squilla mantis</i>	831.65	768.98	906.97	798.51	569.54	639.15
<i>Penaeus kerathurus</i>	437.39	593.15	4.54	6.01		
<i>Nephrops norvegicus</i>			9.16	7.16	32.12	46.59
<i>Callinectes sapidus</i>			3.62	8.09		
<b>Cephalopoda</b>	<b>354.13</b>	<b>111.10</b>	<b>974.44</b>	<b>749.87</b>	<b>1137.37</b>	<b>687.85</b>
<i>Illex coindetii</i>	4.04	9.03	546.23	694.00	628.52	500.96
<i>Alloteuthis spp.</i>	154.61	141.58	167.14	125.34	89.59	62.81
<i>Eledone cirrhosa</i>	8.08	18.06	88.30	45.41	221.65	71.65
<i>Sepia elegans</i>			116.88	161.93	112.91	167.42
<i>Loligo vulgaris</i>	75.94	84.20	49.12	51.77	16.39	23.96
<i>Sepia officinalis</i>	97.31	56.63				
<i>Sepia orbignyana</i>			0.96	2.15	23.71	35.71

	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<i>Octopus vulgaris</i>	13.29	29.71	2.05	4.59	4.87	10.89
<i>Alloteuthis media</i>					19.92	44.55
<i>Scaevurgus unicolor</i>					8.05	15.41
<i>Sepietta spp.</i>					8.01	10.65
<i>Rossia macrosoma</i>					2.78	6.21
<i>Eledone moschata</i>	0.88	1.96	1.84	4.11		
<i>Sepietta oweniana</i>			1.93	4.31		
<i>Callistoctopus macropus</i>					0.97	2.18
<b>Other Mollusca</b>	<b>246.18</b>	<b>162.89</b>	<b>144.11</b>	<b>77.62</b>	<b>69.34</b>	<b>85.76</b>
<i>Bolinus brandaris</i>	245.35	163.76	98.25	85.73	5.33	4.21
<i>Galeodea rugosa</i>			36.50	77.52	17.72	37.17
<i>Galeodea echinophora</i>			7.76	14.92	46.30	83.87
<i>Acanthocardia echinata</i>			1.60	2.08		
<i>Pecten jacobaeus</i>	0.83	1.86				
<b>Echinodermata</b>			<b>3.62</b>	<b>8.09</b>	<b>3.06</b>	<b>6.85</b>
<i>Parastichopus regalis</i>			3.62	8.09	3.06	6.85

Table 2. Mean and standard deviation of the abundance of the species present in the discarded fraction of the catch in each fishing ground including all hauls in the south zone sampled from January to December 2020.

	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<b>Actinopterygii</b>	<b>7881.04</b>	<b>6451.32</b>	<b>17385.62</b>	<b>20832.52</b>	<b>5319.60</b>	<b>5987.01</b>
<i>Engraulis encrasicolus</i>	1917.10	2519.61	10155.06	15829.32	2404.58	2430.13
<i>Sardina pilchardus</i>	625.84	698.16	2235.77	2654.74	57.11	88.13
<i>Sardinella aurita</i>	2000.24	3649.40	236.03	484.43		
<i>Trachurus trachurus</i>	21.03	47.02	999.80	1469.23	448.94	757.91
<i>Merluccius merluccius</i>	27.79	38.29	816.69	1001.64	622.82	700.05
<i>Arnoglossus laterna</i>	194.87	253.59	453.12	354.50	731.59	755.43
<i>Trachurus mediterraneus</i>	794.60	684.16	470.76	532.55		
<i>Pagellus acarne</i>	1032.09	2350.22	47.89	107.08	3.71	8.29
<i>Spicara flexuosa</i>	53.97	48.09	647.16	727.85	209.97	379.37
<i>Boops boops</i>	185.22	163.40	344.10	435.94	21.43	21.44
<i>Trisopterus capelanus</i>	10.10	22.57	245.64	339.07	247.22	312.76
<i>Citharus linguatula</i>	89.88	167.34	263.45	325.81	110.09	122.50
<i>Spicara maena</i>	95.90	214.45	265.90	309.70	24.51	33.02
<i>Capros aper</i>	5.05	11.29	11.55	25.83	263.94	321.80
<i>Mullus barbatus</i>	270.26	463.93				
<i>Diplodus annularis</i>	188.66	183.33	5.52	12.33	4.19	9.36
<i>Pagellus erythrinus</i>	179.55	243.04				

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	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<i>Lesueurigobius friesii</i>	3.86	8.64	64.94	57.01	21.43	21.44
<i>Lepidotrigla cavillone</i>	54.11	120.99	12.66	28.30	23.23	31.59
<i>Serranus hepatus</i>			35.16	53.29	26.58	49.52
<i>Sparus aurata</i>	30.70	42.96	11.03	24.66		
<i>Lophius budegassa</i>					38.12	85.24
<i>Mullus surmuletus</i>	34.88	78.00				
<i>Eutrigla gurnardus</i>			29.27	41.71		
<i>Lepidotrigla dieuzeidei</i>	4.98	11.14			15.25	34.09
<i>Spicara smaris</i>	3.86	8.64			15.25	34.09
<i>Lepidorhombus boscii</i>	14.35	32.09				
<i>Sprattus sprattus</i>	3.15	7.03	11.03	24.66		
Gobiidae	5.05	11.29			8.37	18.72
<i>Scomber scombrus</i>			9.85	22.02		
<i>Trachinus draco</i>			9.58	21.42		
<i>Chelidonichthys obscurus</i>	7.73	17.28				
<i>Blennius ocellaris</i>					7.62	17.05
<i>Symphurus nigrescens</i>					7.62	17.05
<i>Pagrus pagrus</i>	5.26	11.76				
<i>Deltentosteus quadrimaculatus</i>	5.05	11.29				
<i>Lesueurigobius suerii</i>	5.05	11.29				
<i>Crystallogobius linearis</i>					4.19	9.36
<i>Cepola macrophthalma</i>	3.86	8.64				
<i>Chelidonichthys lucerna</i>	3.86	8.64				
<i>Microchirus spp.</i>			3.67	8.20		
<i>Umbrina canariensis</i>	3.15	7.03				
<i>Carapus acus</i>					1.85	4.14
<b>Chondrichthyes</b>	<b>131.34</b>	<b>149.77</b>	<b>213.37</b>	<b>182.71</b>	<b>385.09</b>	<b>386.47</b>
<i>Raja spp. eggs</i>	126.29	143.59	120.91	128.69	307.98	338.94
<i>Raja asterias eggs</i>			88.60	198.13		
<i>Scyliorhinus canicula eggs</i>	5.05	11.29	3.85	8.61	48.14	50.04
<i>Scyliorhinus canicula</i>					28.97	64.78
<b>Crustacea</b>	<b>944.70</b>	<b>626.91</b>	<b>2661.57</b>	<b>2913.26</b>	<b>1335.66</b>	<b>865.12</b>
<i>Liocarcinus depurator</i>	137.47	140.46	1225.59	1715.99	538.86	637.45
<i>Squilla mantis</i>	251.73	271.14	372.96	521.54	134.55	211.06
<i>Parapenaeus longirostris</i>			265.87	363.73	92.79	28.71
<i>Medorippe lanata</i>	212.38	235.79	106.29	169.54	13.18	17.13
<i>Goneplax rhomboides</i>	131.57	118.76	122.10	188.55	73.79	69.94
<i>Solenocera membranacea</i>			197.44	248.20	82.00	173.99
<i>Scalpellum scalpellum</i>	27.05	60.49	88.36	119.27	124.64	150.54
<i>Macropodia tenuirostris</i>	29.81	37.77	106.24	133.32	62.71	124.31
<i>Dardanus arrosor</i>	63.24	50.87	59.38	79.78	29.00	48.53
<i>Pagurus excavatus</i>	31.95	29.91	30.88	39.63	48.43	81.46
<i>Geryon longipes</i>					99.11	221.61
<i>Chlorotocus crassicornis</i>			37.09	53.51	9.26	20.71

State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<i>Alpheus glaber</i>	9.44	21.10	32.35	43.05	3.71	8.29
<i>Pagurus cuanensis</i>	25.25	29.04				
<i>Inachus dorsetensis</i>					21.77	30.19
<i>Aegaeon cataphractus</i>	4.98	11.14	9.58	21.42		
<i>Dardanus calidus</i>	8.13	10.86				
<i>Pilumnus spinifer</i>			5.52	12.33		
<i>Inachus communissimus</i>	5.05	11.29				
<i>Pisidia longicornis</i>	5.05	11.29				
<i>Isopoda</i>			1.93	4.31		
<i>Aegaeon lacazei</i>					1.85	4.14
<i>Callinectes sapidus</i>	1.59	3.57				
<i>Nepinnotheres pinnotheres</i>					0.00	0.00
<b>Cephalopoda</b>	<b>46.12</b>	<b>44.62</b>	<b>181.67</b>	<b>281.73</b>	<b>255.32</b>	<b>341.24</b>
<i>Illex coindetii</i>			79.45	123.92	132.42	179.74
<i>Sepietta spp.</i>			24.43	28.36	65.30	90.56
<i>Sepia orbignyana</i>			49.24	110.10		
<i>Alloteuthis spp.</i>	14.48	20.13			30.50	68.19
<i>Loligo vulgaris</i>	15.46	34.57	9.85	22.02		
<i>Sepia elegans</i>					15.25	34.09
<i>Octopus vulgaris</i>	8.45	11.38	1.81	4.04	1.53	3.43
<i>Eledone moschata</i>			5.52	12.33	4.19	9.36
<i>Octopus salutii</i>			9.58	21.42		
<i>Eledone cirrhosa</i>	7.73	17.28				
<i>Rossia macrosoma</i>					6.13	13.71
<i>Callistoctopus macropus</i>			1.81	4.04		
<b>Other Mollusca</b>	<b>592.05</b>	<b>547.01</b>	<b>475.33</b>	<b>470.07</b>	<b>611.61</b>	<b>595.03</b>
<i>Calliostoma granulatum</i>	87.87	98.46	151.04	92.54	393.77	504.65
<i>Venus nux</i>	14.74	24.59	197.76	361.85	113.47	143.56
<i>Aporrhais serresiana</i>	162.32	362.97	49.24	110.10	7.62	17.05
<i>Bolinus brandaris</i>	133.84	132.60	7.33	16.40	6.13	13.71
<i>Tethys fimbria</i>	106.74	223.94	11.03	24.66		
<i>Musculus subpictus</i>					38.77	49.18
<i>Galeodea rugosa</i>	3.15	7.03	27.24	56.19	7.98	12.95
<i>Pecten jacobaeus</i>	21.85	20.12				
<i>Ostrea spp.</i>	12.58	28.14	3.67	8.20		
<i>Galeodea echinophora</i>	6.29	14.07	3.67	8.20	6.13	13.71
<i>Philine spp.</i>					14.14	31.63
<i>Pteria hirundo</i>			9.58	21.42	1.85	4.14
<i>Euspira fusca</i>			3.67	8.20	7.62	17.05
<i>Armina tigrina</i>	3.86	8.64	3.67	8.20		
<i>Turritellinella tricarinata</i>			7.44	11.62		
<i>Anadara gibbosa</i>	7.01	8.97				
<i>Nudibranchi sp. 5</i>	6.29	14.07				
<i>Gastropoda 1</i>					6.13	13.71



## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<i>Xenophora crispa</i>					6.13	13.71
<i>Acanthocardia echinata</i>	5.05	11.29				
<i>Acanthocardia aculeata</i>	4.98	11.14				
<i>Aequipecten opercularis</i>	3.86	8.64				
<i>Bivetiella cancellata</i>	3.86	8.64				
<i>Parvicardium exiguum</i>	3.86	8.64				
<i>Semicassis undulata</i>	3.86	8.64				
<i>Anomia ephippium</i>					1.85	4.14
Gastropoda eggs	0.00	0.00	0.00	0.00		
<b>Porifera</b>	<b>15.46</b>	<b>34.57</b>	<b>55.85</b>	<b>50.72</b>	<b>71.66</b>	<b>116.28</b>
<i>Suberites spp.</i>	11.59	25.93	40.76	52.71		
<i>Suberites carnosus</i>					42.75	64.20
<i>Suberites syringella</i>			9.58	21.42		
<i>Esponja sp. 2</i>					7.62	17.05
<i>Esponja sp. 6</i>					7.62	17.05
<i>Esponja sp. 7</i>					7.62	17.05
<i>Spongosorites spp.</i>			5.52	12.33		
<i>Esponja sp. 1</i>					4.19	9.36
<i>Desmacidon spp.</i>	3.86	8.64				
<i>Cliona celata</i>					1.85	4.14
<b>Cnidaria</b>	<b>529.93</b>	<b>429.80</b>	<b>1625.25</b>	<b>1576.98</b>	<b>1911.04</b>	<b>2055.27</b>
<i>Anthozoa 1</i>	357.46	403.38	1186.78	1155.92	3.71	8.29
<i>Pennatula phosphorea</i>	11.59	25.93	47.88	64.19	996.89	903.38
<i>Pennatula rubra</i>	10.88	16.28	86.71	75.75	440.01	407.66
<i>Alcyonium palmatum</i>	51.57	55.75	117.01	154.41	319.44	311.35
<i>Pteroeides griseum</i>	3.15	7.03	52.05	83.11	83.51	117.22
<i>Veretillum cynomorium</i>	59.80	133.71	28.73	64.25		
<i>Lytocarpia myriophyllum</i>	12.71	16.90	29.32	41.72	33.10	38.22
<i>Calliactis parasitica</i>	5.26	11.76	19.70	44.04	12.26	27.41
<i>Actinia sp. 2</i>	5.26	11.76	11.00	24.60	16.00	30.88
<i>Hormathia alba</i>			19.15	42.83		
<i>Hydrozoa 1</i>			11.77	21.80		
<i>Nemertesia antennina</i>	0.00	0.00	1.93	4.64	6.13	14.51
<i>Actinia sp. 1</i>			5.78	12.92		
<i>Leptogorgia sarmentosa</i>			5.52	12.33		
<i>Eunicella verrucosa</i>	5.26	11.76				
<i>Nemertesia ramosa</i>	3.15	7.31	1.93	4.56	0.00	0.00
<i>Virgularia mirabilis</i>	3.86	8.64				
<b>Annelida</b>	<b>8.85</b>	<b>11.39</b>	<b>26.12</b>	<b>37.46</b>	<b>78.09</b>	<b>172.27</b>
<i>Serpula vermicularis</i>					76.24	170.47
<i>Polychaeta 6</i>			16.54	37.00		
<i>Pontobdella muricata</i>			9.58	21.42		
<i>Eunice s.l.</i>	4.98	11.14				
<i>Tubs Polychaeta</i>	3.86	8.64	0.00	0.00	0.00	0.00

State of Fisheries in Catalonia 2020 (Part 2: Annexes)

	Shallow continental shelf		Middle continental shelf		Continental shelf	
	mean	sd	mean	sd	mean	sd
<i>Aphrodita aculeata</i>					1.85	4.14
<i>Polychaeta</i>	0.00	0.00				
<b>Echinodermata</b>	<b>1871.66</b>	<b>2332.65</b>	<b>1558.59</b>	<b>1673.67</b>	<b>5236.99</b>	<b>4743.73</b>
<i>Astropecten irregularis</i>	1770.57	2298.98	1520.90	1692.31	4923.92	4431.41
<i>Leptometra phalangium</i>					182.31	260.52
<i>Antedon mediterranea</i>			15.36	21.10	110.57	148.85
<i>Ova canalifera</i>	61.72	66.92				
<i>Echinaster sepositus</i>	5.26	11.76			14.14	31.63
<i>Leptopentacta elongata</i>	3.15	7.03	11.03	24.66		
<i>Ocnus planci</i>	8.91	11.49	3.85	8.61		
<i>Ophiura ophiura</i>	10.51	23.51				
<i>Holothuria tubulosa</i>			1.93	4.31	6.04	8.83
<i>Psammechinus microtuberculatus</i>	6.29	14.07				
<i>Luidia ciliaris</i>			5.52	12.33		
<i>Spatangus purpureus</i>	5.26	11.76				
<b>Tunicata</b>	<b>10.16</b>	<b>13.65</b>	<b>127.06</b>	<b>54.24</b>	<b>2864.30</b>	<b>3761.39</b>
<i>Corella parallelogramma</i>			83.11	59.52	2846.93	3767.68
<i>Pyrosoma atlanticum</i>			18.36	24.26	4.19	9.36
<i>Ascidia mentula</i>	3.15	7.03	11.00	24.60	7.62	17.05
<i>Ascidia sp. 1</i>			12.66	28.30		
<i>Phallusia mammillata</i>	3.86	8.64	1.93	4.31	1.85	4.14
<i>Ascidia sp. 2</i>	3.15	7.03			1.85	4.14
<i>Diazona violacea</i>					1.85	4.14

ANNEX X. LIST OF REFERENCE SPECIES

Grup	Nom del conjunt de taxa	Codi FAO	Taxon	Comentaris	Expert
Cartilaginosos	Rajades	SKA	<i>Raja</i> spp.	Poden incloure espècies diferents de Rajades com a <i>Raja</i> spp. Possible confusió/mala identificació. (Barria & Colmenero, 2018)	C. Barria
Cartilaginosos	Rajades	JRS	<i>Raja asterias</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Rajades	RJC	<i>Raja clavata</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Rajades	RJN	<i>Raja naevus</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Rajades	JAI	<i>Raja miraletus</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Rajades	JDP	<i>Dasyatis pastinaca</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Rajades	TTV	<i>Torpedo torpedo</i>	No apareix cap captura de TTV a la BBDD	C. Barria
Cartilaginosos	Rajades	TOE	<i>Torpedo</i> spp.	Codi antic per TTV	C. Barria
Cartilaginosos	Rajades	TTO	<i>Torpedo nobiliana</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Rajades	TTR	<i>Torpedo marmorata</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Rajades	MYL	<i>Myliobatis aquila</i>	Venen aletes soltes, que poden passar com a Rajades spp.	C. Barria
Cartilaginosos	Taurons	OXY	<i>Oxynotus centrina</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Taurons	OXN	<i>Oxynotus paradoxus</i>	Codi antic per OXY	C. Barria
Cartilaginosos	Taurons	ETX	<i>Etmopterus spinax</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Taurons	SHO	<i>Galeus melastomus</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Taurons	SYC	<i>Scyliorhinus canicula</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Taurons	DGS	<i>Squalus acanthias</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Taurons	QUB	<i>Squalus blainville</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Taurons	BSH	<i>Prionace glauca</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Taurons	BSK	<i>Cetorhinus maximus</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Taurons	GAG	<i>Galeorhinus galeus</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Taurons	POR	<i>Lamna nasus</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Taurons	SOR	<i>Somniosus rostratus</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Taurons	SBL	<i>Hexanchus griseus</i>	Possible confusió/mala identificació.	C. Barria
Cartilaginosos	Quimeres	CMO	<i>Chimaera monstrosa</i>	Menys de l'1% captura dintre del Grup Cartilaginosos i durant el període 2000-2018. Solament a Roses. Pot ser que ho sigui o no, ja que les quimeres no es mengen	C. Barria
Cartilaginosos	Elasmobranchii	SKX	DIVERSOS CARTILAGINOS	Representa el 4 % de les captures dintre el Grup de Cartilaginosos.	C. Barria
Cartilaginosos	Chondrichthyes	CAR	DIVERSOS CARTILAGINOS	Menys de l'1% captura dintre del Grup Cartilaginosos i durant el període 2000-2018.	C. Barria
Cefalòpodes	<i>Sepia elegans</i>	IAX	<i>Sepia</i> spp.	Possible confusió/mala identificació. Solament apareix 2018 i 2019 i durant aquests dos anys, menys de l'1% de la captura dintre el Subgrup <i>Sepia</i> spp.	F. Fernández
Cefalòpodes	<i>Sepia elegans</i>	EJE	<i>Sepia elegans</i>	Més comuna d'arts menors.	F. Fernández
Cefalòpodes	Sepiidae spp.	IOX	<i>Sepioida</i> spp.	Possible confusió/mala identificació. Apareix el 2018.	F. Fernández
Cefalòpodes	Sepiidae spp.	ITW	<i>Sepietta oweniana</i>	Possible confusió/mala identificació. Desapareix de les captures el 2017. Representa el 89% de captures dintre el període i el Subgrup Sepiidae spp.	F. Fernández
Cefalòpodes	Sepiidae spp.	CTR	<i>Sepioida rondeleti</i>	Possible confusió/mala identificació. Apareix el 2017.	F. Fernández
Cefalòpodes	<i>Alloteuthis</i> spp.	OJW	<i>Alloteuthis</i> spp.	Possible confusió/mala identificació.	F. Fernández
Cefalòpodes	<i>Alloteuthis</i> spp.	OUL	<i>Alloteuthis subulata</i>	Solament apareix "0" de captura el 2018.	F. Fernández
Cefalòpodes	Ommastrephidae spp.	SQE	<i>Todarodes sagittatus</i>	Més típica de fons de gamba	F. Fernández
Cefalòpodes	Ommastrephidae spp.	SQM	<i>Illex coindetii</i>	Possible confusió/mala identificació. Representa el 75% de la captura dintre el Subgrup <i>Ommastrephidae</i> spp. i del període 2000-2018	F. Fernández
Cefalòpodes	Loligo spp.	SQR	<i>Loligo vulgaris</i>	Pot haver <i>L. forbesi</i>	F. Fernández
Cefalòpodes	Eledone spp.	EOI	<i>Eledone cirrhosa</i>	Hi ha un error mínim en la identificació de <i>E. cirrhosa</i> . 98% de la captura dintre el Subgrup <i>Eledone</i> sp.	F. Fernández
Cefalòpodes	Eledone spp.	EDT	<i>Eledone moschata</i>	Mínima possibilitat de confusió/mala identificació.	F. Fernández
Cefalòpodes	<i>Octopus vulgaris</i>	OCC	<i>Octopus vulgaris</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	F. Fernández
Cefalòpodes	<i>Sepia officinalis</i>	CTC	<i>Sepia officinalis</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	F. Fernández
Cefalòpodes	<i>Octopus macropus</i>	OCN	<i>Octopus macropus</i>	Menys de l'1% captura. Té gènere nou: <i>Collistoctopus macropus</i> . Pot pescar-se al Delta.	F. Fernández
Cefalòpodes	DIVERSOS CEFALÒPODS	CEP	DIVERSOS CEFALÒPODS	Menys de l'1% captura dintre el Grup de Cefalòpodes	F. Fernández
Cefalòpodes	Sepiidae, Sepioidae	CTL	Sepiidae, Sepioidae	Menys de l'1% captura dintre el Grup de Cefalòpodes	F. Fernández
Cefalòpodes	Diversos pops Octopodidae	OCT	Diversos pops Octopodidae	Menys de l'1% captura dintre el Grup de Cefalòpodes	F. Fernández
Crustacis	Gambes varies	XKX	<i>Plesionika</i> spp.	Possible confusió/mala identificació. *** Caixes llotja barrejades	J.B. Company
Crustacis	Gambes varies	PDZ	Pandalidae	Possible confusió/mala identificació.	J.B. Company
Crustacis	Gambes varies	LKO	<i>Plesionika heterocarpus</i>	Possible confusió/mala identificació.	J.B. Company
Crustacis	Gambes varies	LKW	<i>Plesionika edwardsii</i>	Possible confusió/mala identificació.	J.B. Company
Crustacis	Gambes varies	SKM	<i>Solenocera membranacea</i>	Possible confusió/mala identificació.	J.B. Company
Crustacis	Munida spp.	UEX	<i>Munida</i> spp.	Possible confusió/mala identificació. Apareix a les captures el 2018.	J.B. Company
Crustacis	Munida spp.	URQ	<i>Munida rugosa</i>	Possible confusió/mala identificació. Apareix a les captures el 2017.	J.B. Company
Crustacis	Munida spp.	LOQ	Xinxes spp. (Galatheididae)	Possible confusió/mala identificació. Representa el 75% de la captura dintre el Subgrup <i>Munida</i> spp. i desapareix de les captures el 2017.	J.B. Company
Crustacis	Brachyura	CRA	Brachyura	Codi antic per GER	J.B. Company
Crustacis	Brachyura	GER	Brachyura	Codi nou, el Grup Brachyura representa menys de l'1% captura dintre el grup de Crustàcics.	J.B. Company
Crustacis	<i>Scyllarus</i> spp.	SCY	<i>Scyllarus arctus</i>	Menys de l'1% captura dintre el grup de Crustàcics.	J.B. Company
Crustacis	<i>Scyllarus</i> spp.	YLL	<i>Scyllarides latus</i>	Menys de l'1% captura dintre el grup de Crustàcics.	J.B. Company

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Grup	Nom del conjunt de taxa	Codi FAO	Taxon	Comentaris	Expert
Crustacis	<i>Aristeus antennatus</i>	ARA	<i>Aristeus antennatus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Parapenaeus longirostris</i>	DPS	<i>Parapenaeus longirostris</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Liocarcinus depurator</i>	IOD	<i>Liocarcinus depurator</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Calappa granulata</i>	KPG	<i>Calappa granulata</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Homarus gammarus</i>	LBE	<i>Homarus gammarus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Squilla mantis</i>	MTS	<i>Squilla mantis</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Nephrops norvegicus</i>	NEP	<i>Nephrops norvegicus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Paromola cuvieri</i>	OLV	<i>Paromola cuvieri</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Palinurus elephas</i>	SLO	<i>Palinurus elephas</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Penaeus kerathurus</i>	TGS	<i>Penaeus kerathurus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	Aristeidae	ARI	Aristeidae	Menys de l'1% captura dintre el grup de Crustàcis.	J.B. Company
Crustacis	<i>Aristaeomorpha foliacea</i>	ARS	<i>Aristaeomorpha foliacea</i>	Menys de l'1% captura dintre el grup de Crustàcis.	J.B. Company
Crustacis	<i>Carcinus aestuarii</i>	CMR	<i>Carcinus aestuarii</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Callinectes sapidus</i>	CRB	<i>Callinectes sapidus</i>	Menys de l'1% captura dintre el grup de Crustàcis.	J.B. Company
Crustacis	Crustacea	CRU	Crustacea	Menys de l'1% captura dintre el grup de Crustàcis.	J.B. Company
Crustacis	<i>Necora puber</i>	LIO	<i>Necora puber</i>	Menys de l'1% captura dintre el grup de Crustàcis.	J.B. Company
Crustacis	<i>Palinurus mauritanicus</i>	PSL	<i>Palinurus mauritanicus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Palaemon serratus</i>	CPR	<i>Palaemon serratus</i>	Menys de l'1% captura dintre el grup de Crustàcis.	J.B. Company
Crustacis	<i>Geryon longipes</i>	GRQ	<i>Geryon longipes</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	J.B. Company
Crustacis	<i>Chaceon notialis</i>	HBN	<i>Chaceon notialis</i>	No està present al Mediterrani	J.B. Company
Crustacis	<i>Maja squinado</i>	SCR	<i>Maja squinado</i>	Menys de l'1% captura dintre el grup de Crustàcis.	J.B. Company
Crustacis	<i>Cancer pagurus</i>	CRE	<i>Cancer pagurus</i>	Menys de l'1% captura. Solament un dia registrat	J.B. Company
Crustacis	<i>Eriphia verrucosa</i>	EIK	<i>Eriphia verrucosa</i>	Menys de l'1% captura. Solament un dia registrat	J.B. Company
Invertebrats	Holothuroidea	WBX	Holothuria spp.	Apareixen captures l'any 2018.	M. Garriga
Invertebrats	Holothuroidea	CUX	Holothuroidea	Desapareixen captures l'any 2017.	M. Garriga
Invertebrats	<i>Paracentrotus lividus</i>	URM	<i>Paracentrotus lividus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	M. Garriga
Invertebrats	<i>Stichopus regalis</i>	JCR	<i>Stichopus regalis</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	M. Garriga
Invertebrats	Invertebrata	INV	Invertebrata	Menys de l'1% de les captures.	M. Garriga
Invertebrats	<i>Microcosmus vulgaris</i>	MVU	<i>Microcosmus vulgaris</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	M. Garriga
Invertebrats	<i>Anemonia sulcata</i>	NOW	<i>Anemonia sulcata</i>	Ortiga de Mar, es pesca però poquet	M. Garriga
Invertebrats	<i>Arbacia lixula</i>	UKB	<i>Arbacia lixula</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	M. Garriga
Mol·luscs varis	<i>Patella</i> spp.	QTV	<i>Patella vulgata</i>	Apareixen captures l'any 2018.	E. Galimany
Mol·luscs varis	<i>Patella</i> spp.	LPZ	<i>Patella</i> spp.	Desapareixen captures l'any 2017.	E. Galimany
Mol·luscs varis	<i>Bolinus brandaris</i>	BOY	<i>Bolinus brandaris</i>	Possible confusió/mala identificació.	E. Galimany
Mol·luscs varis	<i>Bolinus brandaris</i>	MUE	<i>Murex</i> spp.	Segurament serà <i>B. brandaris</i> .	E. Galimany
Mol·luscs varis	<i>Ruditapes</i> spp.	CTG	<i>Ruditapes decussatus</i>	Possible confusió/mala identificació.	E. Galimany
Mol·luscs varis	<i>Ruditapes</i> spp.	CLJ	<i>Ruditapes philippinarum</i>	Desapareixen captures l'any 2017.	E. Galimany
Mol·luscs varis	<i>Glycymeris</i> spp.	GCJ	<i>Glycymeris pilosa</i>	Possible confusió/mala identificació.	E. Galimany
Mol·luscs varis	<i>Glycymeris</i> spp.	GKL	<i>Glycymeris glycymeris</i>	Representa el 63 % de les captures dintre del Subgrup <i>Glycymeris</i> spp. durant el període 2000-2018.	E. Galimany
Mol·luscs varis	<i>Venus</i> spp.	VEV	<i>Venus verrucosa</i>	Possible confusió/mala identificació.	E. Galimany
Mol·luscs varis	<i>Venus</i> spp.	KFA	<i>Circomphalus casinus</i>	Representa el 99% de les captures dintre del Subgrup <i>Venus</i> spp. durant el període 2000-2018.	E. Galimany
Mol·luscs varis	<i>Cerastoderma</i> spp.	KTG	<i>Cerastoderma glaucum</i>	Representa el 90% de les captures dintre el Subgrup <i>Cerastoderma</i> spp. i durant el període 2000-2018. Possible confusió/mala identificació.	E. Galimany
Mol·luscs varis	<i>Cerastoderma</i> spp.	COC	<i>Cerastoderma edule</i>	Possible confusió/mala identificació.	E. Galimany
Mol·luscs varis	Mol·luscs varis	CLV	Veneridae	Menys de l'1% captura dintre el Grup de Mol·luscs varis	E. Galimany
Mol·luscs varis	Mol·luscs varis	CLX	Bivalvia	Menys de l'1% captura dintre el Grup de Mol·luscs varis	E. Galimany
Mol·luscs varis	Mol·luscs varis	MOL	Mollusca	Menys de l'1% captura dintre el Grup de Mol·luscs varis	E. Galimany
Mol·luscs varis	Mol·luscs varis	GAS	Gastropoda	Menys de l'1% captura dintre el Grup de Mol·luscs varis	E. Galimany
Mol·luscs varis	<i>Mytilus edulis</i>	MUS	<i>Mytilus edulis</i>	<i>M. galloprovincialis</i>	E. Galimany
Mol·luscs varis	<i>Naticarius hebraeus</i>	NKH	<i>Naticarius hebraeus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Ostrea edulis</i>	OYF	<i>Ostrea edulis</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Semicassis granulata</i>	FMG	<i>Semicassis granulata</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Phyllonotus trunculus</i>	FNT	<i>Phyllonotus trunculus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Thais haemastoma</i>	HQM	<i>Thais haemastoma</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Cassidaria tyrrhena</i>	KDH	<i>Cassidaria tyrrhena</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Donax trunculus</i>	DXL	<i>Donax trunculus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Callista chione</i>	KLK	<i>Callista chione</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany

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Grup	Nom del conjunt de taxa	Codi FAO	Taxon	Comentaris	Expert
Mol·luscs varis	<i>Acanthocardia tuberculata</i>	KTT	<i>Acanthocardia tuberculata</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Nassarius mutabilis</i>	NSQ	<i>Nassarius mutabilis</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Pecten jacobaeus</i>	SJA	<i>Pecten jacobaeus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Chamelea gallina</i>	SVE	<i>Chamelea gallina</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Acanthocardia echinata</i>	AKJ	<i>Acanthocardia echinata</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Ensis siliqua</i>	EQI	<i>Ensis siliqua</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Mactra corallina</i>	MOX	<i>Mactra corallina</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Crassostrea gigas</i>	OYG	<i>Crassostrea gigas</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Littorina littorea</i>	PEE	<i>Littorina littorea</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Arca noae</i>	RKQ	<i>Arca noae</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Mol·luscs varis	<i>Atrina fragilis</i>	TQF	<i>Atrina fragilis</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	E. Galimany
Peixos	<i>Anguilla</i> spp.	ELE	<i>Anguilla anguilla</i>	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Anguilla</i> spp.	ELX	<i>Anguilla</i> spp.	Possible confusió/mala identificació. Apareixen captures l'any 2008. Representa la mitat de les captures dintre del Subgrup <i>Anguilla</i> spp.	A. Lombarte
Peixos	<i>Conger conger</i>	COE	<i>Conger conger</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Muraena helena</i>	MMH	<i>Muraena helena</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Atherina</i> spp.	ATB	<i>Atherina boyeri</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Aulopus filamentosus</i>	ULF	<i>Aulopus filamentosus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Belone belone</i>	GAR	<i>Belone belone</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Cheilopogon heterurus</i>	ECE	<i>Cheilopogon heterurus</i>	No surt a la BBDD actual	A. Lombarte
Peixos	<i>Sardina pilchardus</i>	PIL	<i>Sardina pilchardus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Sardinella aurita</i>	SAA	<i>Sardinella aurita</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Sprattus sprattus</i>	SPR	<i>Sprattus sprattus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Alosa</i> spp.	TSD	<i>Alosa fallax</i>	Podrien haver dues espècies	A. Lombarte
Peixos	<i>Engraulis encrasicolus</i>	ANE	<i>Engraulis encrasicolus</i>	Pot incloure altres <i>Engraulis</i> l'any 2018 (aprox. 7% captura).	A. Lombarte
Peixos	<i>Engraulis encrasicolus</i>	ENR	<i>Engraulis</i> spp.	Solament registrat el 2017 i 2018, la majoria de captura a Arenys.	A. Lombarte
Peixos	<i>Cyprinus carpio</i>	FCP	<i>Cyprinus carpio</i>	Aigua dolça	A. Lombarte
Peixos	<i>Trisopterus</i> spp.	BIB	<i>Trisopterus luscus</i>	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Trisopterus</i> spp.	POD	<i>Trisopterus minutus</i>	És <i>Trisopterus capelanus</i> i és més abundant que el <i>T. luscus</i> , representa un 93% de les captures de <i>Trisopterus</i> spp.	A. Lombarte
Peixos	<i>Phycis</i> spp.	FOR	<i>Phycis phycis</i>	Agrupem per possible confusió/mala identificació. Més abundant en Palangre i arts menors. Tenir en conte art de pesca.	A. Lombarte
Peixos	<i>Phycis</i> spp.	FOX	<i>Phycis</i> spp.	Agrupem per possible confusió/mala identificació. No sabem si és <i>P. phycis</i> o <i>P. blennoides</i> . 2% captura total entre <i>Phycis</i> .	A. Lombarte
Peixos	<i>Phycis</i> spp.	GFB	<i>Phycis blennoides</i>	Agrupem per possible confusió/mala identificació. Més comú arrossegament. Representa el 89 % sobre la captura total dels 3 <i>Phycis</i> durant tot el període per tots els arts junts.	A. Lombarte
Peixos	<i>Molva macrophthalma</i>	BLI	<i>Molva dypterygia</i>	És <i>M. macrophthalma</i>	A. Lombarte
Peixos	<i>Micromesistius poutassou</i>	WHB	<i>Micromesistius poutassou</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Merluccius merluccius</i>	HKE	<i>Merluccius merluccius</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Mora moro</i>	RIB	<i>Mora moro</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	Gobiidae	DEQ	<i>Deltentosteus quadrimaculatus</i>	Menys de l'1% captura dintre del Subgrup Gobiidae.	A. Lombarte
Peixos	Gobiidae	GBN	<i>Gobius niger</i>	Del subgrup, la més abundant, representa el 72% de la captura dintre del Subgrup Gobiidae.	A. Lombarte
Peixos	Gobiidae	GOB	<i>Gobius</i> spp.	Menys de l'1% captura dintre del Subgrup Gobiidae.	A. Lombarte
Peixos	Gobiidae	GON	<i>Gobius paganellus</i>	Menys de l'1% captura dintre del Subgrup Gobiidae.	A. Lombarte
Peixos	Gobiidae	GPA	Gobiidae	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Pseudaphya ferreri</i>	EDE	<i>Pseudaphya ferreri</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Aphia minuta</i>	FIM	<i>Aphia minuta</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Crystallgobius linearis</i>	YTN	<i>Crystallgobius linearis</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Lophius</i> spp.	ANK	<i>Lophius budegassa</i>	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Lophius</i> spp.	MNZ	<i>Lophius</i> spp.	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Lophius</i> spp.	MON	<i>Lophius piscatorius</i>	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Mugilidae</i> spp.	LZS	<i>Liza saliens</i>	Codi antic era LCZ, però no apareix registre. És <i>Chelon salien</i> . Menys de l'1% captura dintre del Subgrup <i>Mugilidae</i> spp.	A. Lombarte
Peixos	<i>Mugilidae</i> spp.	MGA	<i>Liza aurata</i>	Possible confusió/mala identificació.	A. Lombarte

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Grup	Nom del conjunt de taxa	Codi FAO	Taxon	Comentaris	Expert
Peixos	<i>Mugilidae</i> spp.	MGC	<i>Liza ramada</i>	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Mugilidae</i> spp.	MLR	<i>Chelon labrosus</i>	Solament registrat el 2018 i 2019.	A. Lombarte
Peixos	<i>Mugilidae</i> spp.	MUF	<i>Mugil cephalus</i>	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Mugilidae</i> spp.	MUL	Mugilidae	Possible confusió/mala identificació. Representa el 42% de la captura dintre del Subgrup Mugilidae spp. Durant el període 2000-2017.	A. Lombarte
Peixos	<i>Trachurus</i> spp.	HMM	<i>Trachurus mediterraneus</i>	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Trachurus</i> spp.	HMY	<i>Caranx rhonchus</i>	Sorella. Possible confusió/mala identificació. Apareix l'any 2008.	A. Lombarte
Peixos	<i>Trachurus</i> spp.	HOM	<i>Trachurus trachurus</i>	Possible confusió/mala identificació. Representa el 50% de les captures del Subgrup <i>Trachurus</i> spp.	A. Lombarte
Peixos	<i>Trachurus</i> spp.	JAA	<i>Trachurus picturatus</i>	Possible confusió/mala identificació. Surt més a la zona centre.	A. Lombarte
Peixos	<i>Trachurus</i> spp.	JAX	<i>Trachurus</i> spp.	Possible confusió/mala identificació. Apareix l'any 2008.	A. Lombarte
Peixos	<i>Spicara</i> spp.	BPI	<i>Spicara maena</i>	Possible confusió/mala identificació. Apareix l'any 2018.	A. Lombarte
Peixos	<i>Spicara</i> spp.	PIC	<i>Spicara</i> spp.	Possible confusió/mala identificació. Desapareix el 2017.	A. Lombarte
Peixos	<i>Spicara</i> spp.	SPC	<i>Spicara smaris</i>	Possible confusió/mala identificació. Representa el 94 % de les captures durant el període 2000-20018	A. Lombarte
Peixos	<i>Symphodus</i> spp.	YFX	<i>Symphodus</i> spp.	Possible confusió/mala identificació. Codi nou per "Labridae". Apareix 2018	A. Lombarte
Peixos	<i>Symphodus</i> spp.	WRA	Labridae	Possible confusió/mala identificació. Codi antic per YFX. Desapareix 2017	A. Lombarte
Peixos	<i>Symphodus</i> spp.	WRX	<i>Labrus</i> spp.	Possible confusió/mala identificació. Apareix 2018	A. Lombarte
Peixos	<i>Mullus</i> spp.	MUR	<i>Mullus surmuletus</i>	Possible confusió/mala identificació	A. Lombarte
Peixos	<i>Mullus</i> spp.	MUT	<i>Mullus barbatus</i>	Possible confusió/mala identificació	A. Lombarte
Peixos	<i>Mullus</i> spp.	MUX	<i>Mullus</i> spp.	Possible confusió/mala identificació. Representa el 13% de les captures dintre del Subgrup <i>Mullus</i> spp.	A. Lombarte
Peixos	<i>Umbrina</i> spp.	COB	<i>Umbrina cirrosa</i>	O bé <i>U. canariensi</i> . Possible confusió/mala identificació. Subgrup representat la majoria a la zona sud.	A. Lombarte
Peixos	<i>Umbrina</i> spp.	UMO	<i>Umbrina ronchus</i>	Possible confusió/mala identificació. Més abundant. Subgrup representat la majoria a la zona sud i U. ronchus La Ràpita i mitat Arts Menors	A. Lombarte
Peixos	<i>Serranus</i> spp.	BAS	<i>Serranus</i> spp.	Possible confusió/mala identificació. Codi antic per WSA.	A. Lombarte
Peixos	<i>Serranus</i> spp.	CBR	<i>Serranus cabrilla</i>	Possible confusió/mala identificació. Representa el 63 % de les captures dintre del Subgrup <i>Serranus</i> spp.	A. Lombarte
Peixos	<i>Serranus</i> spp.	SRJ	<i>Serranus hepatus</i>	Possible confusió/mala identificació. Solament surt al sud.	A. Lombarte
Peixos	<i>Serranus</i> spp.	SRK	<i>Serranus scriba</i>	Possible confusió/mala identificació. Menys de l'1% captura.	A. Lombarte
Peixos	<i>Serranus</i> spp.	WSA	<i>Serranus atricauda</i>	Possible confusió/mala identificació. Codi nou per BAS.	A. Lombarte
Peixos	<i>Epinephelus marginatus</i>	GPD	<i>Epinephelus marginatus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Diplodus annularis</i>	ANN	<i>Diplodus annularis</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Boops boops</i>	BOG	<i>Boops boops</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Spondyliosoma cantharus</i>	BRB	<i>Spondyliosoma cantharus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Diplodus vulgaris</i>	CTB	<i>Diplodus vulgaris</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Dentex dentex</i>	DEC	<i>Dentex dentex</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Pagellus erythrinus</i>	PAC	<i>Pagellus erythrinus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Pagrus auriga</i>	REA	<i>Pagrus auriga</i>	Molt rar	A. Lombarte
Peixos	<i>Pagrus pagrus</i>	RPG	<i>Pagrus pagrus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Pagellus acarne</i>	SBA	<i>Pagellus acarne</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Sparus aurata</i>	SBG	<i>Sparus aurata</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Pagellus bogaraveo</i>	SBR	<i>Pagellus bogaraveo</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Oblada melanura</i>	SBS	<i>Oblada melanura</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	Sparidae	SBX	Sparidae	Menys de l'1% captura dintre el Grup de Peixos.	A. Lombarte
Peixos	<i>Diplodus cervinus</i>	SBZ	<i>Diplodus cervinus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Diplodus puntazzo</i>	SHR	<i>Diplodus puntazzo</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Sarpa salpa</i>	SLM	<i>Sarpa salpa</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Lithognathus mormyrus</i>	SSB	<i>Lithognathus mormyrus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Diplodus sargus</i>	SWA	<i>Diplodus sargus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Otolithoides biauritus</i>	OTB	<i>Otolithoides biauritus</i>	No està present al Mediterrani	A. Lombarte
Peixos	<i>Polyprion americanus</i>	WRF	<i>Polyprion americanus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Pomatomus saltatrix</i>	BLU	<i>Pomatomus saltatrix</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Sciaena umbra</i>	CBM	<i>Sciaena umbra</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Xyrichtys novacula</i>	XYN	<i>Xyrichtys novacula</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Cepola macrophthalma</i>	CBC	<i>Cepola macrophthalma</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte

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Grup	Nom del conjunt de taxa	Codi FAO	Taxon	Comentaris	Expert
Peixos	<i>Coryphaena hippurus</i>	DOL	<i>Coryphaena hippurus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Pomadasys incisus</i>	BGR	<i>Pomadasys incisus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Coris julis</i>	COU	<i>Coris julis</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Dicentrarchus labrax</i>	BSS	<i>Dicentrarchus labrax</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Lichia amia</i>	LEE	<i>Lichia amia</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Naucrates ductor</i>	NAU	<i>Naucrates ductor</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Trachinotus ovatus</i>	POP	<i>Trachinotus ovatus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Caranx crysos</i>	RUB	<i>Caranx crysos</i>	No registrat fins el 2018	A. Lombarte
Peixos	<i>Brama brama</i>	POA	<i>Brama brama</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Seriola dumerili</i>	AMB	<i>Seriola dumerili</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Sphyraena sphyraena</i>	YRS	<i>Sphyraena sphyraena</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	Osteichthyes	DIA	Osteichthyes	2.16 % de tots els peixos i tots els anys	A. Lombarte
Peixos	Osteichthyes	FIN	Osteichthyes	Apareixen captures l'any 2015	A. Lombarte
Peixos	Osteichthyes	MZZ	Osteichthyes	Apareixen captures l'any 2015	A. Lombarte
Peixos	<i>Lepidorhombus</i> spp.	LDB	<i>Lepidorhombus boscii</i>	Possible confusió/mala identificació. La majoria de captures dintre el subgrup fins 2008.	A. Lombarte
Peixos	<i>Lepidorhombus</i> spp.	LEZ	<i>Lepidorhombus</i> spp.	Possible confusió/mala identificació. A partir de l'any 2008, sembla que "agafe" les captures de L. boscii.	A. Lombarte
Peixos	<i>Lepidorhombus</i> spp.	MEG	<i>Lepidorhombus whiffiagonis</i>	Possible confusió/mala identificació	A. Lombarte
Peixos	Soleidae	KSY	<i>Synapturichthys kleinii</i>	Codi nou per SOX. Poc comú. Possible confusió/mala identificació	A. Lombarte
Peixos	Soleidae	SOX	Soleidae	Codi antic per KSY. Possible confusió/mala identificació.	A. Lombarte
Peixos	Soleidae	OAL	<i>Solea senegalensis</i>	Possible confusió/mala identificació.	A. Lombarte
Peixos	Soleidae	OAM	<i>Solea impar</i>	Possible confusió/mala identificació. Menys de l'1% captura.	A. Lombarte
Peixos	Soleidae	SOL	<i>Solea solea</i>	Representa el 85.6 % de les captures dintre del Subgrup Soleidae. Possible confusió/mala identificació.	A. Lombarte
Peixos	Soleidae	SOO	<i>Solea</i> spp.	Possible confusió/mala identificació.	A. Lombarte
Peixos	Soleidae	SOS	<i>Solea lascaris</i>	És <i>Pegusa lascaris</i> . Possible confusió/mala identificació. Menys de l'1% captura.	A. Lombarte
Peixos	Soleidae	YNU	<i>Synaptura lusitanica</i>	Poc comú. Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Microchirus</i> spp.	MIA	<i>Microchirus azevia</i>	Possible confusió/mala identificació. Llenguados grans. Apareixen captures l'any 2018	A. Lombarte
Peixos	<i>Microchirus</i> spp.	MKG	<i>Microchirus variegatus</i>	Possible confusió/mala identificació. Llenguados grans. Juntament amb el <i>M. hispidus</i> . NO apareix cap captura.	A. Lombarte
Peixos	<i>Microchirus</i> spp.	MRK	<i>Microchirus ocellatus</i>	Possible confusió/mala identificació. Llenguados grans. Apareixen captures l'any 2018.	A. Lombarte
Peixos	<i>Microchirus</i> spp.	THS	<i>Microchirus</i> spp.	Possible confusió/mala identificació. Llenguados grans. Desapareixen captures l'any 2017. La única urant el període 2008-2017.	A. Lombarte
Peixos	Pleuronectiformes	FLX	Pleuronectiformes	Peixos plans. Menys de l'1% de la captura dintre del Grup Peixos.	A. Lombarte
Peixos	<i>Bothus podas</i>	OUB	<i>Bothus podas</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Arnoglossus</i> spp.	RNH	<i>Arnoglossus thori</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Citharus linguatula</i>	CIL	<i>Citharus linguatula</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Scophthalmus rhombus</i>	BLL	<i>Scophthalmus rhombus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Scophthalmus maximus</i>	TUR	<i>Psetta maxima</i>	<i>Scophthalmus maximus</i>	A. Lombarte
Peixos	<i>Dicologlossa cuneata</i>	CET	<i>Dicologlossa cuneata</i>	Molt rar. Menys de l'1% de la captura. Anys 2017 i 2018.	A. Lombarte
Peixos	<i>Argentinidae</i> spp.	ARY	<i>Argentina sphyraena</i>	Es pot confondre en <i>Glossanodon leioglossus</i>	A. Lombarte
Peixos	<i>Istiophoridae</i> spp.	BIL	Istiophoridae	Codi antic per MSP	A. Lombarte
Peixos	<i>Istiophoridae</i> spp.	MSP	<i>Tetrapturus belone</i>	Codi nou per BIL. Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Auxis</i> spp.	FRZ	<i>Auxis thazard</i> , <i>A. rochei</i>	Codi no per BLT. Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Auxis</i> spp.	BLT	<i>Auxis rochei</i>	Codi antic per FRZ.	A. Lombarte
Peixos	<i>Acanthocybium solandri</i>	WAH	<i>Acanthocybium solandri</i>	No surt a la BBDD actual.	A. Lombarte
Peixos	<i>Thunnus alalunga</i>	ALB	<i>Thunnus alalunga</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Thunnus thynnus</i>	BFT	<i>Thunnus thynnus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Sarda sarda</i>	BON	<i>Sarda sarda</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Trichiurus lepturus</i>	LHT	<i>Trichiurus lepturus</i>	No està present al Mediterrani	A. Lombarte
Peixos	<i>Lepidopus caudatus</i>	SFS	<i>Lepidopus caudatus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Xiphias gladius</i>	SWO	<i>Xiphias gladius</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Euthynnus alletteratus</i>	LTA	<i>Euthynnus alletteratus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Scomber scombrus</i>	MAC	<i>Scomber scombrus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Scomber colias</i>	MAS	<i>Scomber japonicus</i>	<i>Scomber colias</i>	A. Lombarte
Peixos	<i>Katsuwonus pelamis</i>	SKJ	<i>Katsuwonus pelamis</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte

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Grup	Nom del conjunt de taxa	Codi FAO	Taxon	Comentaris	Expert
Peixos	<i>Scorpaena</i> spp.	EZS	<i>Scorpaena elongata</i>	Possible confusió/mala identificació. Apareix a les captures el 2018.	A. Lombarte
Peixos	<i>Scorpaena</i> spp.	MZS	<i>Scorpaena maderensis</i>	Possible confusió/mala identificació. Apareix a les captures el 2018.	A. Lombarte
Peixos	<i>Scorpaena</i> spp.	RSE	<i>Scorpaena scrofa</i>	Possible confusió/mala identificació. Casi la meitat de les captures dintre el Subgrup <i>Scorpaena</i> spp durant el període 2000-2018.	A. Lombarte
Peixos	<i>Scorpaena</i> spp.	SCO	Scorpaenidae	Possible confusió/mala identificació. Desapareixen les captures el 2017.	A. Lombarte
Peixos	<i>Scorpaena</i> spp.	SCS	<i>Scorpaena</i> spp.	Possible confusió/mala identificació. Desapareixen les captures el 2017.	A. Lombarte
Peixos	<i>Scorpaena</i> spp.	SNQ	<i>Scorpaena notata</i>	Possible confusió/mala identificació. Desapareixen les captures el 2013.	A. Lombarte
Peixos	<i>Triglidae</i> spp.	GUG	<i>Eutrigla gurnardus</i>	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Triglidae</i> spp.	GUI	<i>Chelidonichthys</i> spp.	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Triglidae</i> spp.	GUN	<i>Trigla lyra</i>	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Triglidae</i> spp.	GUU	<i>Chelidonichthys lucerna</i>	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Triglidae</i> spp.	GUX	Triglidae	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Triglidae</i> spp.	GUY	<i>Trigla</i> spp.	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Triglidae</i> spp.	LDV	<i>Lepidotrigla cavillone</i>	<i>L. diezeudei</i> . Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Dactylopterus volitans</i>	DYL	<i>Dactylopterus volitans</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Helicolenus dactylopterus</i>	BRF	<i>Helicolenus dactylopterus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Scorpaena porcus</i>	BBS	<i>Scorpaena porcus</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Silurus glanis</i>	SOM	<i>Silurus glanis</i>	És d'aigua dolça i solament surt el 2019.	A. Lombarte
Peixos	<i>Centrolophus niger</i>	CEO	<i>Centrolophus niger</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Stromateus fiatola</i>	BLB	<i>Stromateus fiatola</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Macroramphosus scolopax</i>	SNS	<i>Macroramphosus scolopax</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Balistes carolinensis</i>	TRG	<i>Balistes carolinensis</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Mola mola</i>	MOX	<i>Mola mola</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Trachinus</i> spp.	TZA	<i>Trachinus araneus</i>	Possible confusió/mala identificació. Apareix a les captures l'any 2018.	A. Lombarte
Peixos	<i>Trachinus</i> spp.	TZR	<i>Trachinus radiatus</i>	Possible confusió/mala identificació. Apareix a les captures l'any 2018.	A. Lombarte
Peixos	<i>Trachinus</i> spp.	WEG	<i>Trachinus draco</i>	Possible confusió/mala identificació. Representa el 84% de les captures dintre del Subgrup <i>Trachinus</i> spp.	A. Lombarte
Peixos	<i>Trachinus</i> spp.	WEX	<i>Trachinus</i> spp.	Possible confusió/mala identificació.	A. Lombarte
Peixos	<i>Gymnammodytes</i> spp.	ZGC	<i>Gymnammodytes cicerelus</i>	Més <i>Gymnammodytes semisquamatus</i> .	A. Lombarte
Peixos	<i>Ammodytes</i> spp.	SAN	<i>Ammodytes</i> spp.	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Uranoscopus scaber</i>	UUC	<i>Uranoscopus scaber</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Capros aper</i>	BOC	<i>Capros aper</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte
Peixos	<i>Zeus faber</i>	JOD	<i>Zeus faber</i>	Ben identificat/Valor comercial alt/Difícil de confondre/No possible agrupació	A. Lombarte



## ANNEX XI. MAIN TAXA BY GROUP AND FISHING GEAR FOR THE PERIOD 2000-2019 AND PORT OF VILANOVA I LA GELTRÚ

### Vilanova OTB 2000 (k=4)

n°1			n°2		
taxa	kg	%	taxa	kg	%
1 Merluccius merluccius	64958	18.62	1 Micromesistius poutassou	212017	40.43
2 Trachurus spp.	43720	12.53	2 Merluccius merluccius	56876	10.85
3 Octopus vulgaris	36876	10.57	3 Parapenaeus longirostris	40989	7.82
4 Pagellus acarne	28369	8.13	4 Osteichthyes	34607	6.60
5 Mullus spp.	24964	7.15	5 Eledone spp.	33202	6.33

n°3			n°4		
taxa	kg	%	taxa	kg	%
1 Merluccius merluccius	27472	22.3	1 Merluccius merluccius	64958	18.62
2 Eledone spp.	19761	16.1	2 Trachurus spp.	43720	12.53
3 Citharus linguatula	17089	13.9	3 Octopus vulgaris	36876	10.57
4 Brachyura	15410	12.5	4 Pagellus acarne	28369	8.13
5 Osteichthyes	12189	9.9	5 Mullus spp.	24964	7.15

### Vilanova OTB 2001 (k=4)

n°1			n°2		
taxa	kg	%	taxa	kg	%
1 Octopus vulgaris	71362	16.17	1 Micromesistius poutassou	101777	38.90
2 Mullus spp.	65915	14.94	2 Merluccius merluccius	29580	11.31
3 Pagellus acarne	61900	14.03	3 Aristeus antennatus	27776	10.62
4 Merluccius merluccius	39009	8.84	4 Phycis spp.	21568	8.24
5 Trachurus spp.	34725	7.87	5 Nephrops norvegicus	21300	8.14

n°3			n°4		
taxa	kg	%	taxa	kg	%
1 Merluccius merluccius	61280	22.26	1 Eledone spp.	26275	22.51
2 Micromesistius poutassou	57575	20.92	2 Citharus linguatula	21552	18.46
3 Trachurus spp.	30751	11.17	3 Merluccius merluccius	21246	18.20
4 Scomber scombrus	19653	7.14	4 Osteichthyes	9134	7.82
5 Eledone spp.	18414	6.69	5 Liocarcinus depurator	7796	6.68

### Vilanova OTB 2002 (k=4)

n°1			n°2		
taxa	kg	%	taxa	kg	%
1 Mullus spp.	64140	14.79	1 Aristeus antennatus	37412	52.10
2 Merluccius merluccius	62864	14.50	2 Phycis spp.	9342	13.01
3 Octopus vulgaris	43525	10.04	3 Micromesistius poutassou	7553	10.52
4 Pagellus acarne	40779	9.41	4 Merluccius merluccius	5975	8.32
5 Trachurus spp.	32719	7.55	5 Osteichthyes	3534	4.92

n°3			n°4		
taxa	kg	%	taxa	kg	%
1 Micromesistius poutassou	106822	35.56	1 Eledone spp.	29203	29.79
2 Merluccius merluccius	33460	11.14	2 Merluccius merluccius	15109	15.41
3 Eledone spp.	30535	10.17	3 Citharus linguatula	14091	14.37
4 Phycis spp.	18720	6.23	4 Osteichthyes	9201	9.39
5 Osteichthyes	17833	5.94	5 Cepola macrophthalma	5458	5.57

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### Vilanova OTB 2003 (k=4)

n°1			n°2		
taxa	kg	%	taxa	kg	%
1 Merluccius merluccius	76947	18.93	1 Phycis spp.	10460	28.77
2 Mullus spp.	52081	12.81	2 Micromesistius poutassou	6592	18.13
3 Pagellus acarne	34153	8.40	3 Merluccius merluccius	6257	17.21
4 Trachurus spp.	30804	7.58	4 Lophius spp.	3671	10.10
5 Eledone spp.	30197	7.43	5 Osteichthyes	3628	9.98

n°3			n°4		
taxa	kg	%	taxa	kg	%
1 Micromesistius poutassou	59049	35.52	1 Eledone spp.	24416	26.74
2 Merluccius merluccius	37533	22.58	2 Merluccius merluccius	14730	16.13
3 Eledone spp.	13687	8.23	3 Citharus linguatula	13403	14.68
4 Phycis spp.	11521	6.93	4 Osteichthyes	10530	11.53
5 Osteichthyes	11450	6.89	5 Cepola macrophthalma	5143	5.63

### Vilanova OTB 2004 (k=4)

n°1			n°2		
taxa	kg	%	taxa	kg	%
1 Micromesistius poutassou	80543	30.69	1 Eledone spp.	55684	30.00
2 Merluccius merluccius	35856	13.66	2 Merluccius merluccius	35450	19.10
3 Eledone spp.	28050	10.69	3 Citharus linguatula	17358	9.35
4 Nephrops norvegicus	19512	7.43	4 Osteichthyes	13447	7.25
5 Osteichthyes	16342	6.23	5 Lophius spp.	8822	4.75

n°3			n°4		
taxa	kg	%	taxa	kg	%
1 Mullus spp.	53122	15.6	1 Aristeus antennatus	20104	53.39
2 Merluccius merluccius	38892	11.4	2 Phycis spp.	5373	14.27
3 Trachurus spp.	37253	10.9	3 Merluccius merluccius	3837	10.19
4 Pagellus acarne	34590	10.1	4 Micromesistius poutassou	2556	6.79
5 Eledone spp.	29998	8.8	5 Osteichthyes	1847	4.90

### Vilanova OTB 2005 (k=4)

n°1			n°2		
taxa	kg	%	taxa	kg	%
1 Mullus spp.	31003	16.84	1 Micromesistius poutassou	110885	30.58
2 Pagellus acarne	24420	13.27	2 Merluccius merluccius	65351	18.02
3 Octopus vulgaris	23277	12.65	3 Eledone spp.	37068	10.22
4 Trachurus spp.	22795	12.38	4 Osteichthyes	26208	7.23
5 Eledone spp.	12824	6.97	5 Nephrops norvegicus	21342	5.89

n°3			n°4		
taxa	kg	%	taxa	kg	%
1 Merluccius merluccius	67279	20.09	1 Aristeus antennatus	11437	42.26
2 Eledone spp.	59156	17.66	2 Phycis spp.	4973	18.38
3 Trachurus spp.	50918	15.20	3 Merluccius merluccius	3048	11.26
4 Scomber scombrus	23983	7.16	4 Osteichthyes	2285	8.44
5 Osteichthyes	19317	5.77	5 Micromesistius poutassou	2276	8.41

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### Vilanova OTB 2006 (k=4)

n°1			n°2				
taxa	kg	%	taxa	kg	%		
1	Mullus spp.	60193	18.98	1	Aristeus antennatus	12868	69.27
2	Trachurus spp.	58978	18.60	2	Phycis spp.	1653	8.90
3	Pagellus acarne	37625	11.87	3	Merluccius merluccius	1048	5.64
4	Merluccius merluccius	27044	8.53	4	Lophius spp.	953	5.13
5	Octopus vulgaris	20853	6.58	5	Conger conger	599	3.22

n°3			n°4				
taxa	kg	%	taxa	kg	%		
1	Merluccius merluccius	57416	22.37	1	Micromesistius poutassou	220121	46.80
2	Eledone spp.	41706	16.25	2	Merluccius merluccius	61750	13.13
3	Trachurus spp.	32017	12.48	3	Eledone spp.	27923	5.94
4	Scomber scombrus	25750	10.03	4	Nephrops norvegicus	24814	5.28
5	Trisopterus spp.	19285	7.51	5	Phycis spp.	22767	4.84

### Vilanova OTB 2007 (k=4)

n°1			n°2				
taxa	kg	%	taxa	kg	%		
1	Mullus spp.	60193	18.98	1	Micromesistius poutassou	238514	51.49
2	Trachurus spp.	58978	18.60	2	Merluccius merluccius	35905	7.75
3	Pagellus acarne	37625	11.87	3	Nephrops norvegicus	28529	6.16
4	Merluccius merluccius	27044	8.53	4	Phycis spp.	24864	5.37
5	Octopus vulgaris	20853	6.58	5	Trachurus spp.	23799	5.14

n°3			n°4				
taxa	kg	%	taxa	kg	%		
1	Trachurus spp.	81008	31.68	1	Aristeus antennatus	28417	39.88
2	Merluccius merluccius	29529	11.55	2	Micromesistius poutassou	12689	17.81
3	Eledone spp.	26332	10.30	3	Phycis spp.	7458	10.47
4	Scomber scombrus	26053	10.19	4	Merluccius merluccius	6919	9.71
5	Osteichthyes	13517	5.29	5	Lophius spp.	3009	4.22

### Vilanova OTB 2008 (k=4)

n°1			n°2				
taxa	kg	%	taxa	kg	%		
1	Aristeus antennatus	55989	53.89	1	Pagellus acarne	38734	20.53
2	Micromesistius poutassou	17580	16.92	2	Mullus spp.	32839	17.40
3	Phycis spp.	9379	9.03	3	Trachurus spp.	32746	17.36
4	Merluccius merluccius	5751	5.54	4	Pagellus erythrinus	14344	7.60
5	Lophius spp.	4160	4.00	5	Octopus vulgaris	14245	7.55

n°3			n°4				
taxa	kg	%	taxa	kg	%		
1	Micromesistius poutassou	107315	36.65	1	Trachurus spp.	110152	28.73
2	Merluccius merluccius	32745	11.18	2	Merluccius merluccius	90539	23.61
3	Osteichthyes	29759	10.16	3	Osteichthyes	33338	8.69
4	Nephrops norvegicus	24687	8.43	4	Scomber scombrus	27767	7.24
5	Trachurus spp.	20975	7.16	5	Eledone spp.	26133	6.82

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

### Vilanova OTB 2009 (k=4)

n°1			n°2				
	taxa	kg	%		taxa	kg	%
1	Aristeus antennatus	43087	46.48	1	Trachurus spp.	110914	24.26
2	Phycis spp.	12051	13.00	2	Merluccius merluccius	70104	15.33
3	Merluccius merluccius	9810	10.58	3	Eledone spp.	49537	10.84
4	Micromesistius poutassou	6875	7.42	4	Micromesistius poutassou	33979	7.43
5	Gambes varies	6264	6.76	5	Sardina pilchardus	33213	7.27

n°3			n°4				
	taxa	kg	%		taxa	kg	%
1	Mullus spp.	40269	19.25	1	Micromesistius poutassou	44480	22.66
2	Trachurus spp.	39993	19.12	2	Merluccius merluccius	36559	18.63
3	Pagellus acarne	28524	13.63	3	Nephrops norvegicus	35372	18.02
4	Sepia officinalis	15771	7.54	4	Eledone spp.	17133	8.73
5	Merluccius merluccius	13019	6.22	5	Phycis spp.	13620	6.94

### Vilanova OTB 2010 (k=4)

n°1			n°2				
	taxa	kg	%		taxa	kg	%
1	Micromesistius poutassou	44566	21.38	1	Trachurus spp.	71959	26.25
2	Nephrops norvegicus	34767	16.68	2	Merluccius merluccius	41328	15.08
3	Merluccius merluccius	24925	11.96	3	Eledone spp.	35684	13.02
4	Eledone spp.	19124	9.18	4	Lophius spp.	20399	7.44
5	Lophius spp.	16069	7.71	5	Ommastrephidae spp.	19304	7.04

n°3			n°4				
	taxa	kg	%		taxa	kg	%
1	Aristeus antennatus	45299	54.38	1	Mullus spp.	33179	22.14
2	Phycis spp.	8929	10.72	2	Trachurus spp.	29650	19.78
3	Merluccius merluccius	6868	8.25	3	Pagellus acarne	23614	15.75
4	Nephrops norvegicus	4672	5.61	4	Pagellus erythrinus	10337	6.90
5	Micromesistius poutassou	4301	5.16	5	Loligo spp.	9215	6.15

### Vilanova OTB 2011 (k=4)

n°1			n°2				
	taxa	kg	%		taxa	kg	%
1	Merluccius merluccius	31170	21.05	1	Aristeus antennatus	57891	54.03
2	Ommastrephidae spp.	27948	18.88	2	Merluccius merluccius	10996	10.26
3	Eledone spp.	20263	13.69	3	Phycis spp.	10886	10.16
4	Trachurus spp.	12160	8.21	4	Nephrops norvegicus	5777	5.39
5	Scomber scombrus	10571	7.14	5	Micromesistius poutassou	4992	4.66

n°3			n°4				
	taxa	kg	%		taxa	kg	%
1	Micromesistius poutassou	61407	23.40	1	Mullus spp.	46498	17.83
2	Merluccius merluccius	37976	14.47	2	Trachurus spp.	42493	16.30
3	Ommastrephidae spp.	30542	11.64	3	Pagellus acarne	29685	11.38
4	Nephrops norvegicus	26413	10.07	4	Pagellus erythrinus	21319	8.18
5	Eledone spp.	19970	7.61	5	Loligo spp.	19362	7.43

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### Vilanova OTB 2012 (k=4)

n°1			n°2				
1	taxa	kg	%	1	taxa	kg	%
	Aristeus antennatus	57933	61.00		Merluccius merluccius	57887	15.98
	Phycis spp.	10361	10.91		Eledone spp.	55753	15.39
	Merluccius merluccius	6195	6.52		Trachurus spp.	40146	11.08
	Gambes varies	4956	5.22		Octopus vulgaris	21686	5.99
	Lophius spp.	3160	3.33		Trisopterus spp.	21463	5.93

n°3			n°4				
1	taxa	kg	%	1	taxa	kg	%
	Nephrops norvegicus	29998	25.77		Mullus spp.	32822	29.24
	Merluccius merluccius	19051	16.37		Pagellus acarne	20853	18.57
	Phycis spp.	12824	11.02		Octopus vulgaris	12799	11.40
	Eledone spp.	12456	10.70		Loligo spp.	10292	9.17
	Lophius spp.	10803	9.28		Pagellus erythrinus	9971	8.88

### Vilanova OTB 2013 (k=4)

n°1			n°2				
1	taxa	kg	%	1	taxa	kg	%
	Aristeus antennatus	52322	58.25		Nephrops norvegicus	27658	15.8
	Phycis spp.	11410	12.70		Micromesistius poutassou	26980	15.4
	Merluccius merluccius	6194	6.90		Merluccius merluccius	26614	15.2
	Lophius spp.	3794	4.22		Eledone spp.	23235	13.2
	Gambes varies	3789	4.22		Lophius spp.	16133	9.2

n°3			n°4				
1	taxa	kg	%	1	taxa	kg	%
	Eledone spp.	44960	22.29		Mullus spp.	38853	21.84
	Merluccius merluccius	25009	12.40		Pagellus acarne	23521	13.22
	Lophius spp.	22384	11.10		Trachurus spp.	22163	12.46
	Trachurus spp.	19208	9.52		Pagellus erythrinus	17875	10.05
	Octopus vulgaris	12468	6.18		Loligo spp.	15928	8.96

### Vilanova OTB 2014 (k=4)

n°1			n°2				
1	taxa	kg	%	1	taxa	kg	%
	Aristeus antennatus	37262	52.99		Trachurus spp.	29036	13.15
	Phycis spp.	9643	13.71		Eledone spp.	25255	11.44
	Merluccius merluccius	7017	9.98		Lophius spp.	24929	11.29
	Lophius spp.	3702	5.26		Merluccius merluccius	21151	9.58
	Gambes varies	3196	4.54		Ommastrephidae spp.	20188	9.15

n°3			n°4				
1	taxa	kg	%	1	taxa	kg	%
	Merluccius merluccius	22408	19.84		Mullus spp.	39109	25.23
	Nephrops norvegicus	20377	18.04		Pagellus acarne	31963	20.62
	Micromesistius poutassou	15205	13.46		Trachurus spp.	18810	12.13
	Phycis spp.	10787	9.55		Pagellus erythrinus	14371	9.27
	Lophius spp.	10628	9.41		Octopus vulgaris	9505	6.13

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### Vilanova OTB 2015 (k=4)

n°1			n°2				
taxa	kg	%	taxa	kg	%		
1	Aristeus antennatus	53949	60.80	1	Eledone spp.	13411	12.9
2	Phycis spp.	10442	11.77	2	Phycis spp.	13240	12.7
3	Gambes varies	5987	6.75	3	Merluccius merluccius	12991	12.5
4	Merluccius merluccius	4434	5.00	4	Nephrops norvegicus	12718	12.2
5	Lophius spp.	3715	4.19	5	Lophius spp.	10710	10.3

n°3			n°4				
taxa	kg	%	taxa	kg	%		
1	Eledone spp.	20827	15.47	1	Mullus spp.	39613	24.29
2	Merluccius merluccius	15596	11.58	2	Pagellus acarne	32499	19.93
3	Trachurus spp.	13415	9.96	3	Trachurus spp.	20279	12.43
4	Mullus spp.	13178	9.79	4	Pagellus erythrinus	16900	10.36
5	Lophius spp.	9718	7.22	5	Octopus vulgaris	12144	7.45

### Vilanova OTB 2016 (k=4)

n°1			n°2				
taxa	kg	%	taxa	kg	%		
1	Mullus spp.	17011	11.98	1	Mullus spp.	59506	35.77
2	Eledone spp.	15142	10.66	2	Pagellus acarne	22717	13.65
3	Trachurus spp.	14518	10.22	3	Trachurus spp.	15070	9.06
4	Merluccius merluccius	13663	9.62	4	Pagellus erythrinus	13703	8.24
5	Lophius spp.	12660	8.92	5	Octopus vulgaris	11437	6.87

n°3			n°4				
taxa	kg	%	taxa	kg	%		
1	Parapenaeus longirostris	15003	12.40	1	Aristeus antennatus	42307	61.85
2	Eledone spp.	13712	11.34	2	Phycis spp.	9495	13.88
3	Merluccius merluccius	13567	11.22	3	Gambes varies	3584	5.24
4	Phycis spp.	13156	10.88	4	Merluccius merluccius	3570	5.22
5	Micromesistius poutassou	11190	9.25	5	Lophius spp.	2402	3.51

### Vilanova OTB 2017 (k=4)

n°1			n°2				
taxa	kg	%	taxa	kg	%		
1	Aristeus antennatus	45997	64.34	1	Phycis spp.	14485	11.78
2	Phycis spp.	9717	13.59	2	Merluccius merluccius	13225	10.76
3	Gambes varies	4210	5.89	3	Eledone spp.	13200	10.74
4	Merluccius merluccius	4141	5.79	4	Nephrops norvegicus	12197	9.92
5	Lophius spp.	2357	3.30	5	Parapenaeus longirostris	12184	9.91

n°3			n°4				
taxa	kg	%	taxa	kg	%		
1	Mullus spp.	55585	32.98	1	Mullus spp.	14224	14.04
2	Pagellus acarne	27197	16.13	2	Trachurus spp.	12324	12.16
3	Trachurus spp.	20267	12.02	3	Eledone spp.	11224	11.08
4	Pagellus erythrinus	14564	8.64	4	Lophius spp.	10354	10.22
5	Octopus vulgaris	7518	4.46	5	Merluccius merluccius	10055	9.92

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### Vilanova OTB 2018 (k=4)

n <sup>o</sup> 1			n <sup>o</sup> 2				
1	taxa	kg	%	1	taxa	kg	%
	Mullus spp.	22710	16.12		Mullus spp.	34112	28.81
2	Merluccius merluccius	20477	14.54	2	Pagellus acarne	20277	17.13
3	Trachurus spp.	16441	11.67	3	Trachurus spp.	13524	11.42
4	Eledone spp.	12602	8.95	4	Pagellus erythrinus	11442	9.67
5	Lophius spp.	9750	6.92	5	Octopus vulgaris	5820	4.92

n <sup>o</sup> 3			n <sup>o</sup> 4				
1	taxa	kg	%	1	taxa	kg	%
	Aristeus antennatus	53525	68.62		Merluccius merluccius	19175	11.60
2	Phycis spp.	8620	11.05	2	Eledone spp.	18555	11.23
3	Merluccius merluccius	4645	5.96	3	Phycis spp.	18327	11.09
4	Gambes varies	2638	3.38	4	Parapenaeus longirostris	16092	9.74
5	Lophius spp.	2002	2.57	5	Ommastrephidae spp.	15417	9.33

### Vilanova OTB 2019 (k=4)

n <sup>o</sup> 1			n <sup>o</sup> 2				
1	taxa	kg	%	1	taxa	kg	%
	Aristeus antennatus	42916	55.26		Trachurus spp.	22734	14.85
2	Phycis spp.	11948	15.39	2	Mullus spp.	14882	9.72
3	Merluccius merluccius	6459	8.32	3	Lophius spp.	13902	9.08
4	Gambes varies	4599	5.92	4	Merluccius merluccius	13387	8.74
5	Taurons	2476	3.19	5	Octopus vulgaris	12671	8.27

n <sup>o</sup> 3			n <sup>o</sup> 4				
1	taxa	kg	%	1	taxa	kg	%
	Mullus spp.	47101	30.6		Phycis spp.	18223	15.2
2	Pagellus acarne	26233	17.0	2	Eledone spp.	14324	12.0
3	Trachurus spp.	22413	14.5	3	Merluccius merluccius	13419	11.2
4	Pagellus erythrinus	17493	11.3	4	Nephrops norvegicus	12822	10.7
5	Octopus vulgaris	5856	3.8	5	Parapenaeus longirostris	12769	10.7

**Vilanova AMPF 2000 (k=7)**

n°1			n°2			n°3			n°4		
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Bolinus brandaris	94420	83.31	1 Chamelea gallina	17372.8	87.1194	1 Octopus vulgaris	18380	25.2	1 Octopus vulgaris	117076.4	1.00e+02
2 Sepia officinalis	6862	6.05	2 Acanthocardia tuberculata	2489.8	12.4856	2 Sepia officinalis	12091	16.5	2 Sarda sarda	2.5	2.14e-03
3 Octopus vulgaris	6214	5.48	3 Osteichthyes	23.1	0.1156	3 Sarda sarda	11135	15.2	3 Chamelea gallina	2.1	1.79e-03
4 Soleidae	3630	3.20	4 Bolinus brandaris	22.0	0.1103	4 Lithognathus normyrus	7712	10.6	4 Mullus spp.	1.0	8.54e-04
5 Scophthalmus rhombus	1668	1.47	5 Octopus vulgaris	19.5	0.0978	5 Soleidae	7566	10.4	5 Acanthocardia tuberculata	0.0	0.00e+00

n°5			n°6			n°7		
taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Merluccius merluccius	29294	85.909	1 Donax trunculus	20018	70.74	1 Nassarius mutabilis	59236	74.18
2 Osteichthyes	3232	9.479	2 Octopus vulgaris	3944	13.94	2 Sepia officinalis	7716	9.66
3 Conger conger	1413	4.145	3 Sepia officinalis	1586	5.60	3 Chamelea gallina	6389	8.00
4 Sarda sarda	86	0.252	4 Nassarius mutabilis	1515	5.36	4 Octopus vulgaris	3242	4.06
5 Mullus spp.	47	0.138	5 Chamelea gallina	728	2.57	5 Bolinus brandaris	1548	1.94



Vilanova AMPF 2001 (k=7)

n°1			n°2			n°3			n°4		
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Octopus vulgaris	71870	100	1 Nassarius mutabilis	172063	84.54	1 Octopus vulgaris	16785	16.62	1 Merluccius merluccius	41060	84.69
2 Acanthocardia tuberculata	0	0	2 Sepia officinalis	10950	5.38	2 Sepia officinalis	10537	10.44	2 Osteichthyes	2218	4.58
3 Bolinus brandaris	0	0	3 Octopus vulgaris	6795	3.34	3 Lithognathus mormyrus	10135	10.04	3 Conger conger	1615	3.33
4 Chamelea gallina	0	0	4 NULL	5618	2.76	4 Sarda sarda	8336	8.26	4 Trachurus spp.	1496	3.09
5 Conger conger	0	0	5 Chamelea gallina	3559	1.75	5 Chamelea gallina	7099	7.03	5 Pagellus acarne	1435	2.96

n°5

n°6

n°7

taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Bolinus brandaris	40973	73.72	1 Donax trunculus	6725	100	1 Bolinus brandaris	27128	69.12
2 Sepia officinalis	4022	7.24	2 Acanthocardia tuberculata	0	0	2 NULL	8235	20.98
3 Octopus vulgaris	3888	7.00	3 Bolinus brandaris	0	0	3 Octopus vulgaris	1257	3.20
4 Soleidae	3469	6.24	4 Chamelea gallina	0	0	4 Sepia officinalis	1202	3.06
5 Rajades	1192	2.15	5 Conger conger	0	0	5 Soleidae	741	1.89



Vilanova AMPF 2003 (k=7)

n°1		n°2		n°3		n°4	
taxa	kg	%	taxa	kg	%	taxa	kg
1 Octopus vulgaris	20929.2	98.4971	1 Sarda sarda	16243	18.45	1 Nassarius mutabilis	10815
2 Dicentrarchus labrax	102.5	0.4822	2 Seriola dumerilii	14275	16.21	2 Sepia officinalis	10780
3 Conger conger	80.0	0.3765	3 Lithognathus mormyrus	9283	10.54	3 Donax trunculus	7289
4 Soleidae	30.1	0.1414	4 Soleidae	7396	8.40	4 Octopus vulgaris	6404
5 Sparus aurata	13.3	0.0628	5 Sepia officinalis	6143	6.98	5 NULL	5587
n°5		n°6		n°7			
taxa	kg	%	taxa	kg	%	kg	%
1 Merluccius merluccius	18788	35.59	1 Donax trunculus	12348.50	99.84032	1 Chamelea gallina	9034.1
2 Osteichthyes	8100	15.34	2 Conger conger	12.50	0.10107	2 Octopus vulgaris	1566.3
3 Pagellus acarne	5864	11.11	3 Dicentrarchus labrax	5.10	0.04123	3 Sepia officinalis	1177.1
4 Xiphias gladius	4621	8.75	4 Chamelea gallina	1.65	0.01334	4 Lithognathus mormyrus	272.7
5 Conger conger	4328	8.20	5 Bolinus brandaris	0.50	0.00404	5 Conger conger	72.3

Vilanova AMPF 2004 (k=7)

n°1		n°2		n°3		n°4		
taxa	kg	%	taxa	kg	%	taxa	%	
1 Bolinus brandaris	33613	53.03	1 Donax trunculus	13954.6	99.1048	1 Octopus vulgaris	5529	11.76
2 Penaeus kerathurus	5740	9.06	2 Dicentrarchus labrax	47.6	0.3384	2 Seriola dumerili	5043	10.72
3 Sepia officinalis	5697	8.99	3 Chamelea gallina	21.4	0.1516	3 Nassarius mutabilis	4656	9.90
4 Soleidae	4025	6.35	4 Lithognathus mormyrus	16.8	0.1190	4 Osteichthyes	3673	7.81
5 Octopus vulgaris	3508	5.54	5 Bolinus brandaris	11.0	0.0781	5 Diplodus sargus	3306	7.03
n°5		n°6		n°7				
taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Merluccius merluccius	41422	69.15	1 Octopus vulgaris	28106	86.878	1 Sepia officinalis	7579	50.39
2 Scomber scombrus	3962	6.61	2 Donax trunculus	2983	9.220	2 Donax trunculus	4534	30.14
3 Osteichthyes	3181	5.31	3 Conger conger	282	0.872	3 Octopus vulgaris	1584	10.53
4 Xiphias gladius	2597	4.34	4 Chamelea gallina	183	0.567	4 Lithognathus mormyrus	638	4.24
5 Pagellus acarne	1984	3.31	5 Sepia officinalis	146	0.450	5 Bolinus brandaris	279	1.86

Vilanova AMPF 2005 (k=7)

n°1			n°2			n°3			n°4					
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
Soleidae	8884	25.61	Octopus vulgaris	35041.3	97.170	Bolinus brandaris	29189	51.11	Donax trunculus	6853.60	99.1472			
Sepia officinalis	5678	16.37	Conger conger	376.8	1.045	Sepia officinalis	6981	12.22	Dicentrarchus labrax	31.90	0.4615			
Lithognathus mormyrus	3535	10.19	Lithognathus mormyrus	124.8	0.346	Octopus vulgaris	4390	7.69	Scophthalmus rhombus	10.30	0.1490			
Octopus vulgaris	2811	8.10	Diplodus sargus	107.0	0.297	Penaeus kerathurus	3158	5.53	Octopus vulgaris	5.55	0.0803			
Penaeus kerathurus	2264	6.52	Scorpaena spp.	95.2	0.264	Pecten jacobaeus	2884	5.05	Diplodus sargus	5.35	0.0774			

n°5

n°6

n°7

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
Sepia officinalis	15379	42.27	Xiphias gladius	10460	17.67	Merluccius merluccius	38766	77.00						
Octopus vulgaris	10847	29.81	Mullus spp.	7054	11.92	Pagellus acarne	2311	4.59						
Donax trunculus	5198	14.29	NULL	6841	11.56	Osteichthyes	2175	4.32						
Lithognathus mormyrus	2542	6.99	Osteichthyes	6651	11.23	Phycis spp.	1622	3.22						
Conger conger	418	1.15	Octopus vulgaris	4789	8.09	Conger conger	1541	3.06						

Vilanova AMPF 2006 (k=7)

n°1			n°2			n°3			n°4		
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Octopus vulgaris	33986	91.145	1 Donax trunculus	6698.6	95.853	1 Bolinus brandaris	22685	42.20	1 Soleidae	12722	21.84
2 Donax trunculus	1516	4.064	2 Octopus vulgaris	90.3	1.292	2 Sepia officinalis	7730	14.38	2 Sepia officinalis	7790	13.37
3 Sepia officinalis	771	2.067	3 Dicentrarchus labrax	41.2	0.590	3 Octopus vulgaris	6946	12.92	3 Mullus spp.	4209	7.22
4 Conger conger	575	1.543	4 Sepia officinalis	34.9	0.499	4 Soleidae	5729	10.66	4 Lithognathus mormyrus	4197	7.20
5 Scorpaena spp.	117	0.315	5 Lithognathus mormyrus	33.4	0.479	5 Citharus linguatula	2346	4.36	5 Osteichthyes	2674	4.59
n°5			n°6			n°7					
taxa	kg	%	taxa	kg	%	taxa	kg	%			
1 NULL	9416	60.327	1 Sepia officinalis	18392	56.29	1 Merluccius merluccius	69795	86.523			
2 Octopus vulgaris	4487	28.746	2 Octopus vulgaris	4815	14.74	2 Xiphias gladius	5950	7.377			
3 Sepia officinalis	850	5.444	3 Lithognathus mormyrus	4270	13.07	3 Conger conger	1834	2.273			
4 Donax trunculus	453	2.899	4 Donax trunculus	1666	5.10	4 Osteichthyes	1130	1.401			
5 Conger conger	142	0.908	5 Trachurus spp.	889	2.72	5 Trachurus spp.	754	0.935			

Vilanova AMPF 2007 (k=7)

n°1			n°2			n°3			n°4		
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Donax trunculus	5390	26.61	1 Sepia officinalis	9393	31.02	1 Osteichthyes	6041	12.03	1 Octopus vulgaris	16360	83.74
2 NULL	5094	25.15	2 Soleidae	9068	29.95	2 Micromesistius poutassou	5446	10.85	2 Nassarius mutabilis	992	5.08
3 Octopus vulgaris	4415	21.80	3 Lithognathus mormyrus	2414	7.97	3 Trachurus spp.	3499	6.97	3 Diplodus sargus	521	2.67
4 Sardina pilchardus	2508	12.38	4 Octopus vulgaris	1669	5.51	4 Pagellus acarne	3336	6.64	4 NULL	500	2.56
5 Sepia officinalis	1913	9.45	5 Rajades	1034	3.41	5 Conger conger	3263	6.50	5 Conger conger	376	1.92
n°5			n°6			n°7					
taxa	kg	%	taxa	kg	%	taxa	kg	%			
1 Bolinus brandaris	20530	47.30	1 Sepia officinalis	20999	58.01	1 Merluccius merluccius	64590	73.48			
2 Sepia officinalis	5774	13.30	2 Lithognathus mormyrus	4208	11.63	2 Xiphias gladius	6673	7.59			
3 Octopus vulgaris	4013	9.25	3 Octopus vulgaris	3774	10.42	3 Osteichthyes	4067	4.63			
4 Citharus linguatula	2989	6.89	4 Trachurus spp.	1460	4.03	4 Conger conger	2472	2.81			
5 Penaeus kerathurus	2885	6.65	5 Penaeus kerathurus	1076	2.97	5 Trachurus spp.	2122	2.41			

Vilanova AMPF 2008 (k=7)

n°1		n°2		n°3		n°4	
taxa	kg	%	taxa	kg	%	taxa	%
1 Merluccius merluccius	32425	66.03	1 Sepia officinalis	13726	26.95	1 Bolinus brandaris	9889
2 Scomber scombrus	4963	10.11	2 Soleidae	11510	22.60	2 Sepia officinalis	5222
3 Conger conger	2808	5.72	3 Lithognathus mormyrus	5824	11.43	3 Octopus vulgaris	2652
4 Trachurus spp.	2055	4.18	4 Octopus vulgaris	3814	7.49	4 Penaeus kerathurus	2435
5 Phycis spp.	1263	2.57	5 Rajades	2036	4.00	5 Soleidae	2024
n°5		n°6		n°7		n°8	
taxa	kg	%	taxa	kg	%	taxa	%
1 Xiphias gladius	13557	20.50	1 Citharus linguatula	4457	30.77	1 Sepia officinalis	22406
2 Osteichthyes	6526	9.87	2 Bolinus brandaris	3783	26.12	2 Octopus vulgaris	3114
3 Pagellus acarne	5171	7.82	3 Trachinus spp.	1544	10.66	3 Lithognathus mormyrus	222
4 Lithognathus mormyrus	5165	7.81	4 Uranoscopus scaber	1505	10.39	4 Diplodus sargus	152
5 Seriola dumerilii	4025	6.08	5 Osteichthyes	1089	7.52	5 Conger conger	124



Vilanova AMPF 2009 (k=7)

n°1			n°2			n°3			n°4		
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Sepia officinalis	15615	32.48	1 Merluccius merluccius	34465	72.71	1 Octopus vulgaris	33946.8	98.4095	1 Bolinus brandaris	11015	31.70
2 Soleidae	7884	16.40	2 Conger conger	4338	9.15	2 Diplodus sargus	183.5	0.5321	2 Sepia officinalis	6585	18.95
3 Octopus vulgaris	3519	7.32	3 Taurons	2636	5.56	3 Conger conger	150.9	0.4374	3 Citharus linguatula	4619	13.29
4 Lithognathus mormyrus	3176	6.61	4 Pagellus bogaraveo	1668	3.52	4 Dicentrarchus labrax	91.8	0.2663	4 Octopus vulgaris	3408	9.81
5 Rajades	1721	3.58	5 Phycis spp.	1481	3.12	5 Scorpaena spp.	32.8	0.0951	5 Soleidae	1813	5.22

n°5			n°6			n°7		
taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Merluccius merluccius	10806	14.65	1 Donax trunculus	9632	49.529	1 Sepia officinalis	21847	57.47
2 Scomber scombrus	7185	9.74	2 Octopus vulgaris	6540	33.630	2 Octopus vulgaris	9295	24.45
3 Mullus spp.	6223	8.44	3 Sepia officinalis	2965	15.246	3 Nassarius mutabilis	3477	9.15
4 Pagellus erythrinus	4829	6.55	4 Conger conger	127	0.654	4 Lithognathus mormyrus	1654	4.35
5 Sarda sarda	4213	5.71	5 Nassarius mutabilis	103	0.531	5 Trachurus spp.	597	1.57

Vilanova AMPF 2010 (k=7)

n°1		n°2		n°3		n°4	
taxa	kg	%	taxa	kg	%	taxa	%
1 Octopus vulgaris	41192.7	98.968	1 Merluccius merluccius	27598	79.522	1 Osteichthyes	13.43
2 Lithognathus mormyrus	106.4	0.256	2 Taurons	3225	9.293	2 Mullus spp.	8.71
3 Conger conger	81.2	0.195	3 Conger conger	1295	3.731	3 Pagellus erythrinus	8.29
4 Seriola dumerilii	73.2	0.176	4 Trachurus spp.	1274	3.672	4 Merluccius merluccius	6.59
5 Sepia officinalis	55.3	0.133	5 Citharus linguatula	269	0.776	5 Soleidae	5.76
n°5		n°6		n°7			
taxa	kg	%	taxa	kg	%	taxa	%
1 Donax trunculus	11208	45.016	1 Sepia officinalis	27600	52.55	1 Nassarius mutabilis	57.564
2 Octopus vulgaris	6713	26.961	2 Octopus vulgaris	7497	14.27	2 Sepia officinalis	24.891
3 Sepia officinalis	6165	24.760	3 Lithognathus mormyrus	4355	8.29	3 Octopus vulgaris	15.511
4 Nassarius mutabilis	469	1.885	4 Soleidae	4191	7.98	4 Trachurus spp.	0.615
5 Lithognathus mormyrus	135	0.541	5 Pagellus erythrinus	1068	2.03	5 Lithognathus mormyrus	0.398

## Vilanova AMPF 2011 (k=7)

n°1		n°2		n°3		n°4	
taxa	%	kg	taxa	%	kg	taxa	%
1 Nassarius mutabilis	60.244	19219	1 Sepia officinalis	30.27	24629	1 Merluccius merluccius	69.95
2 Sepia officinalis	21.935	6998	2 Lithognathus mormyrus	10.69	8695	2 Auxis spp.	5.96
3 Octopus vulgaris	14.726	4698	3 Soleidae	10.14	8252	3 Xiphias gladius	4.95
4 Lithognathus mormyrus	1.172	374	4 Octopus vulgaris	10.14	8250	4 Taurons	4.59
5 Diplodus sargus	0.734	234	5 Bolinus brandaris	7.98	6496	5 Trachurus spp.	2.78
n°5		n°6		n°7			
taxa	%	kg	taxa	%	kg	taxa	%
1 Octopus vulgaris	87.824	20390.0	1 Ammodytes spp.	18.87	9657	1 Sparus aurata	90.2466
2 Diplodus sargus	4.797	1113.8	2 Mullus spp.	16.25	8312	2 Diplodus sargus	9.4148
3 Sparus aurata	3.725	864.8	3 Diplodus sargus	8.34	4266	3 Mugilidae spp.	0.1058
4 Conger conger	2.663	618.3	4 Sarda sarda	8.24	4216	4 Sarda sarda	0.0817
5 Sepia officinalis	0.283	65.8	5 Seriola dumerilii	6.77	3465	5 Octopus vulgaris	0.0720

Vilanova AMPF 2012 (k=7)											
n°1			n°2			n°3			n°4		
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Octopus vulgaris	5037	12.41	1 Sparus aurata	15910	76.43	1 Bolinus brandaris	6971	27.07	1 Sepia officinalis	32854	41.65
2 Diplodus sargus	4943	12.18	2 Diplodus sargus	2870	13.79	2 Sepia officinalis	4380	17.01	2 Octopus vulgaris	7436	9.43
3 Sarda sarda	4761	11.73	3 Octopus vulgaris	990	4.76	3 Citharus linguatula	4320	16.78	3 Soleidae	6438	8.16
4 Brama brama	3759	9.26	4 Dicentrarchus labrax	281	1.35	4 Octopus vulgaris	2252	8.75	4 Lithognathus mormyrus	5809	7.36
5 Pagellus erythrinus	3296	8.12	5 Pagellus erythrinus	234	1.13	5 Eleidone spp.	1752	6.80	5 Mugilidae spp.	3990	5.06
n°5			n°6			n°7					
taxa	kg	%	taxa	kg	%	taxa	kg	%			
1 Octopus vulgaris	23051.8	98.7796	1 Merluccius merluccius	17526	71.61	1 Mullus spp.	9902	72.68			
2 Conger conger	188.8	0.8088	2 Taurons	2075	8.48	2 Scorpaena spp.	1490	10.94			
3 Trachurus spp.	27.2	0.1168	3 Conger conger	1848	7.55	3 Pagellus acarne	459	3.37			
4 Scorpaena spp.	25.6	0.1095	4 Trachurus spp.	571	2.33	4 Octopus vulgaris	382	2.80			
5 Diplodus sargus	18.9	0.0812	5 Citharus linguatula	472	1.93	5 Osteichthyes	254	1.87			

Vilanova AMPF 2013 (k=7)

n°1			n°2			n°3			n°4		
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Octopus vulgaris	25966.0	97.878	1 Sepia officinalis	29969	31.33	1 Merluccius merluccius	27586	70.94	1 Mullus spp.	10981	67.63
2 Conger conger	261.9	0.987	2 Soleidae	10307	10.78	2 Taurons	1921	4.94	2 Scorpaena spp.	1340	8.25
3 Sparus aurata	86.9	0.328	3 Mugilidae spp.	9720	10.16	3 Pagellus erythrinus	1860	4.78	3 Sepia officinalis	826	5.08
4 Sepia officinalis	81.7	0.308	4 Lithognathus mormyrus	8817	9.22	4 Trachurus spp.	1430	3.68	4 Pagellus acarne	455	2.80
5 Scorpaena spp.	42.9	0.162	5 Octopus vulgaris	8088	8.46	5 Citharus linguatula	1009	2.60	5 Osteichthyes	380	2.34

n°5			n°6			n°7		
taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Bolinus brandaris	4262	19.67	1 Donax trunculus	7745	45.86	1 Sarda sarda	7072	24.4
2 Sepia officinalis	3967	18.31	2 Octopus vulgaris	6800	40.26	2 Seriola dumerili	4180	14.4
3 Octopus vulgaris	2717	12.54	3 Sepia officinalis	1274	7.54	3 Diplodus sargus	3767	13.0
4 Citharus linguatula	2616	12.07	4 Lithognathus mormyrus	574	3.40	4 Pagellus erythrinus	3149	10.8
5 Eledone spp.	1724	7.96	5 Sparus aurata	331	1.96	5 Sparus aurata	2439	8.4

Vilanova AMPF 2014 (k=7)

n°1			n°2			n°3			n°4		
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Mugilidae spp.	5406	17.98	1 Merluccius merluccius	26135	64.12	1 Bolinus brandaris	3705	22.31	1 Sparus aurata	7288	21.36
2 Soleidae	4313	14.35	2 Pagellus erythrinus	2353	5.77	2 Sepia officinalis	3039	18.29	2 Diplodus sargus	4768	13.98
3 Sepia officinalis	4131	13.74	3 Trachurus spp.	1942	4.76	3 Citharus linguatula	2854	17.18	3 Sarda sarda	3317	9.72
4 Lophius spp.	3543	11.78	4 Taurons	1734	4.26	4 Octopus vulgaris	1516	9.13	4 Seriola dumerili	2695	7.90
5 Rajades	1270	4.22	5 Citharus linguatula	1186	2.91	5 Penaeus kerathurus	1361	8.20	5 Pagellus erythrinus	2420	7.09

n°5			n°6			n°7		
taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Octopus vulgaris	36393	90.319	1 Sepia officinalis	24232	54.66	1 Mullus spp.	7068	68.83
2 Donax trunculus	1372	3.405	2 Octopus vulgaris	6600	14.89	2 Scorpaena spp.	794	7.74
3 Diplodus sargus	793	1.967	3 Lithognathus mormyrus	3112	7.02	3 Pagellus acarne	623	6.07
4 Lithognathus mormyrus	389	0.966	4 Soleidae	2766	6.24	4 Octopus vulgaris	539	5.25
5 Sepia officinalis	362	0.899	5 Diplodus sargus	1035	2.34	5 Pagellus erythrinus	398	3.88

Vilanova AMPF 2015 (k=7)

n°1			n°2			n°3			n°4		
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Octopus vulgaris	33454	90.24	1 Merluccius merluccius	17987	55.98	1 Citharus linguatula	3096	21.77	1 Sarda sarda	10206	18.26
2 Sepia officinalis	1442	3.89	2 Taurons	2726	8.49	2 Sepia officinalis	2742	19.28	2 Sparus aurata	9948	17.80
3 Diplodus sargus	496	1.34	3 Pagellus erythrinus	2190	6.81	3 Bolinus brandaris	2418	17.00	3 Seriola dumerili	5284	9.45
4 Sparus aurata	480	1.29	4 Conger conger	1629	5.07	4 Penaeus kerathurus	1578	11.10	4 Pagellus erythrinus	3943	7.06
5 Conger conger	383	1.03	5 Trachurus spp.	1383	4.30	5 Octopus vulgaris	1093	7.68	5 Diplodus sargus	3857	6.90

n°5			n°6			n°7		
taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Sepia officinalis	21627	37.18	1 Lophius spp.	2822	63.52	1 Mullus spp.	10620	65.82
2 Soleidae	6874	11.82	2 Rajades	668	15.04	2 Sepia officinalis	1322	8.19
3 Mugilidae spp.	4602	7.91	3 Scorpaena spp.	478	10.75	3 Scorpaena spp.	1038	6.43
4 Lithognathus mormyrus	3850	6.62	4 Scopthalmus rhombus	114	2.57	4 Pagellus acarne	668	4.14
5 Pagellus erythrinus	2612	4.49	5 Phycis spp.	109	2.46	5 Octopus vulgaris	653	4.05

## Vilanova AMPF 2016 (k=7)

n°1			n°2			n°3			n°4		
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Sepia officinalis	15885	57.56	1 Merluccius merluccius	12508	54.22	1 Sparus aurata	9657	21.16	1 Pagellus erythrinus	6617	15.00
2 Octopus vulgaris	3819	13.84	2 Taurons	3156	13.68	2 Mugilidae spp.	5093	11.16	2 Sepia officinalis	5574	12.64
3 Lithognathus mormyrus	1715	6.21	3 Conger conger	1759	7.62	3 Seriola dumerilii	4628	10.14	3 Lophius spp.	4722	10.70
4 Soleidae	1515	5.49	4 Pagellus erythrinus	1166	5.05	4 Pomatomus saltatrix	3902	8.55	4 Lithognathus mormyrus	4644	10.53
5 Pagellus erythrinus	910	3.30	5 Phycis spp.	1051	4.56	5 Diplodus sargus	3651	8.00	5 Soleidae	4162	9.44

n°5			n°6			n°7		
taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Octopus vulgaris	35265	90.518	1 Sepia officinalis	3568	23.6	1 Mullus spp.	5710	71.43
2 Donax trunculus	1051	2.698	2 Bolinus brandaris	2827	18.7	2 Scorpaena spp.	643	8.05
3 Diplodus sargus	665	1.707	3 Octopus vulgaris	2535	16.7	3 Sepia officinalis	264	3.30
4 Conger conger	256	0.656	4 Squilla mantis	2195	14.5	4 Sparus aurata	213	2.66
5 Osteichthyes	241	0.619	5 Eleidone spp.	1568	10.4	5 Pagellus erythrinus	173	2.16



Vilanova AMPF 2017 (k=7)

n°1			n°2			n°3			n°4		
taxa	kg	%	taxa	kg	%	taxa	kg	%	taxa	kg	%
1 Octopus vulgaris	3694	38.88	1 Bolinus brandaris	2324	20.0	1 Octopus vulgaris	22439	90.195	1 Merluccius merluccius	15304	39.48
2 Sepia officinalis	3160	33.26	2 Eledone spp.	2150	18.5	2 Donax trunculus	1583	6.362	2 Pagellus erythrinus	6930	17.88
3 Lithognathus mormyrus	1011	10.64	3 Octopus vulgaris	2081	17.9	3 Scorpaena spp.	234	0.939	3 Taurons	4271	11.02
4 Diplodus sargus	584	6.15	4 Sepia officinalis	2058	17.8	4 Conger conger	210	0.844	4 Mugilidae spp.	1255	3.24
5 Pagellus erythrinus	303	3.19	5 Squilla mantis	1587	13.7	5 Diplodus sargus	115	0.463	5 Citharus linguatula	1107	2.86
n°5			n°6			n°7					
taxa	kg	%	taxa	kg	%	taxa	kg	%			
1 Sepia officinalis	10173	30.18	1 Sparus aurata	15734	21.37	1 Mullus spp.	8982	67.93			
2 Soleidae	4866	14.44	2 Seriola dumerili	12232	16.61	2 Pagellus acarne	1434	10.85			
3 Lophius spp.	3875	11.50	3 Sarda sarda	8296	11.27	3 Pagellus erythrinus	832	6.29			
4 Lithognathus mormyrus	3297	9.78	4 Mugilidae spp.	5889	8.00	4 Scorpaena spp.	613	4.63			
5 Penaeus kerathurus	2112	6.26	5 Trachurus spp.	4847	6.58	5 Sepia officinalis	165	1.25			

Vilanova AMPF 2018 (k=7)

n°1		n°2		n°3		n°4	
taxa	%	kg	taxa	kg	taxa	kg	%
1 Lophius spp.	56.36	6451	1 Octopus vulgaris	26231.2	1 Sparus aurata	14169	21.64
2 Rajades	8.21	940	2 Conger conger	447.4	2 Seriola dumerilli	8390	12.82
3 Pagellus erythrinus	6.33	724	3 Diplodus sargus	398.9	3 Mugilidae spp.	7715	11.78
4 Scopthalmus rhombus	5.62	644	4 Sparus aurata	308.8	4 Sarda sarda	6923	10.57
5 Mullus spp.	3.90	446	5 Pagellus erythrinus	48.5	5 Lithognathus mormyrus	5823	8.89
n°5		n°6		n°7			
taxa	%	kg	taxa	kg	taxa	kg	%
1 Pagellus erythrinus	24.09	11804	1 Soleidae	7023	1 Octopus vulgaris	3326.7	63.755
2 Merluccius merluccius	21.62	10595	2 Sepia officinalis	4321	2 Donax trunculus	1789.5	34.295
3 Mullus spp.	18.17	8903	3 Mugilidae spp.	3870	3 Sparus aurata	47.2	0.905
4 Pagellus acarne	6.37	3120	4 Lithognathus mormyrus	3274	4 Conger conger	21.5	0.412
5 Trachurus spp.	5.40	2645	5 Penaeus kerathurus	3184	5 Diplodus sargus	11.6	0.222

Vilanova AMPF 2019 (k=7)

n°1		n°2		n°3		n°4	
taxa	kg	%	taxa	kg	%	taxa	%
1 Octopus vulgaris	23281.7	96.051	1 Sparus aurata	17367	21.87	1 Sepia officinalis	26.26
2 Diplodus sargus	310.6	1.282	2 Lithognathus mormyrus	15145	19.07	2 Soleidae	14.44
3 Conger conger	230.7	0.952	3 Mugilidae spp.	8553	10.77	3 Lithognathus mormyrus	13.26
4 Sparus aurata	211.7	0.873	4 Seriola dumerilii	7855	9.89	4 Penaeus kerathurus	10.34
5 Scorpaena spp.	68.7	0.283	5 Sarda sarda	5217	6.57	5 Mugilidae spp.	6.03

n°5		n°6		n°7			
taxa	kg	%	taxa	kg	%		
1 Sepia officinalis	6068	48.96	1 Merluccius merluccius	16877	62.46	1 Mullus spp.	54.56
2 Octopus vulgaris	2570	20.73	2 Pagellus erythrinus	2685	9.94	2 Pagellus erythrinus	10.41
3 Lithognathus mormyrus	1073	8.65	3 Taurons	1656	6.13	3 Scorpaena spp.	8.90
4 Diplodus sargus	771	6.22	4 Mullus spp.	828	3.06	4 Pagellus acarne	5.77
5 Trachurus spp.	490	3.96	5 Sepia officinalis	785	2.91	5 Sparus aurata	3.22





State of Fisheries in Catalonia 2020 (Part 2: Annexes)

year	2016	2017	2018	2019	2020	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Taxa/mesier	OTB2	OTB2	OTB2	OTB2	OTB3	OTB3	OTB3	OTB3	OTB3	OTB3	OTB3	OTB3	OTB3	OTB3	OTB3	OTB3	OTB3	OTB3
<i>Acanthocardia tuberculata</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Alloteuthis</i> spp.	99	169	285	246	0	0	0	0	0	0	0	0	0	10	12	100	0	6
<i>Ammodytes</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Argentinidae</i> spp.	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
<i>Aristeus antennatus</i>	261	1	426	374	0	2057	14429	9083	13008	9563	6574	2433	1747	1240	589	1016	318	91
<i>Arnoglossus</i> spp.	1767	1141	2535	2738	0	0	0	0	0	0	0	0	0	5	23	130	7	30
<i>Axius</i> spp.	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Balirus brandonis</i>	106	124	102	2	16	51	24	32	7	19	0	7	4	0	0	108	0	0
<i>Boops boops</i>	5486	1963	3893	3528	213	6586	1896	1744	1328	1219	1434	2871	1155	145	391	528	12	14
<i>Brachyura</i>	0	0	0	0	15410	122	0	0	0	0	0	0	0	0	0	0	0	0
<i>Brama brama</i>	0	0	0	4	6	20	0	11	4	0	20	9	9	0	6	17	4	0
<i>Calappa granulata</i>	6	10	2	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Callista chione</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Cepala macrophthalma</i>	286	73	196	139	6721	3596	467	84	387	1487	358	419	40	3	78	165	0	39
<i>Chamelea gallina</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Citharus linguatula</i>	4739	4184	5143	4572	17089	3676	1190	239	912	1792	1017	845	428	55	361	877	86	303
<i>Conger conger</i>	155	78	497	253	179	738	3631	3490	4446	4989	5077	4249	3790	1908	1598	1543	983	1615
<i>Coryphaena hippurus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
<i>Demex demex</i>	88	110	113	90	63	80	91	4	15	22	10	26	50	0	1	0	0	2
<i>Dicentrarchus labrax</i>	49	16	22	19	26	330	92	77	293	333	286	397	184	124	71	37	33	47
<i>Diplodus annularis</i>	473	613	828	702	96	212	223	30	121	406	50	411	9	0	15	5	5	11
<i>Diplodus cervinus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Diplodus puntazzo</i>	6	8	52	48	0	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Diplodus sargus</i>	90	78	143	137	0	45	18	8	24	51	7	84	26	5	6	27	0	0
<i>Diplodus vulgaris</i>	255	96	288	272	4	62	88	17	57	40	24	79	100	0	10	66	0	7
<i>Diversos paps Octopodidae</i>	0	0	0	0	5441	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Donusa trunculus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Eledone</i> spp.	15142	11224	12602	11539	19761	18414	30535	13687	28050	37068	27923	23448	14264	17133	19124	19970	12456	23235
<i>Engraulis encrasicolus</i>	137	0	386	52	93	7607	283	137	465	1442	55	285	27	0	25	1090	0	148
<i>Epinephelus marginatus</i>	11	16	3	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Euthynnus alletteratus</i>	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Gambes varies</i>	385	301	95	1888	0	0	0	0	0	0	0	4732	5527	4386	4878	5808	3211	4875
<i>Geryon longipes</i>	6	0	2	2	0	0	0	0	0	0	0	0	0	0	2	0	4	6
<i>Gobiidae</i>	9	7	0	8	1300	21	0	10	15	23	6	17	0	0	0	3	0	0
<i>Helicolenus dactylopterus</i>	251	1	290	2564	10	228	1510	887	2428	1098	1993	1714	1172	897	1064	689	569	905
<i>Homonurus homonurus</i>	8	6	6	22	14	8	3	3	1	10	1	0	0	0	1	3	0	3
<i>Lepidotus caudatus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1539	1058	1376	286
<i>Lepidotus rhombus</i> spp.	172	120	118	791	118	754	4649	1708	5119	9313	9946	7436	4800	4657	4986	5742	3741	3849
<i>Lichia amia</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0
<i>Liocarcinus depurator</i>	461	254	909	1066	0	2433	6054	6164	9002	11334	9909	5987	6065	9323	8109	3621	3694	3079
<i>Lithognathus momyrus</i>	7	0	0	2	11	6	4	1	40	28	24	8	0	0	0	3	0	0
<i>Littorina littorea</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Loligo</i> spp.	1040	431	1484	639	1991	2375	2662	317	1855	1603	545	610	535	3	73	279	18	73
<i>Lophis</i> spp.	12660	10354	9750	13902	9044	8250	15690	10478	15112	19179	22002	23265	16938	11240	16069	17917	10803	16133
<i>Macra carolinia</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Merluccius merluccius</i>	13663	10055	20477	13387	27472	61250	33460	37533	35267	63581	61750	36547	32245	36559	24925	37976	13951	26644
<i>Micromesistius pouasou</i>	787	47	131	1480	77	57600	107000	59000	80500	111000	21000	239000	107000	44500	44600	61400	0	27000
<i>Microsternus</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Moluscus varis</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Molva macrophthalma</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	5	6	4
<i>Mora moro</i>	3	0	0	16	0	0	0	0	0	0	0	0	0	103	134	56	65	38
<i>Mugilidae</i> spp.	9	30	60	19	0	8	0	0	0	55	0	2	0	0	0	0	0	0
<i>Mullus</i> spp.	17011	14224	22710	14882	2879	4032	4936	1004	2308	2431	1793	3446	2243	174	314	1092	64	402
<i>Munida</i> spp.	2	0	10	205	0	0	0	0	0	0	0	0	0	77	237	400	152	32
<i>Nassarius mutabilis</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Necturus nebulosus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Nephrops norvegicus</i>	466	13	11	719	6	1155	16707	11129	19512	21342	24914	28529	24687	35372	34767	26413	29988	27658
NULL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0
<i>Oblada melanura</i>	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Octopus vulgaris</i>	10000	6910	6980	12700	1750	4290	2810	238	621	1680	893	1360	1260	33	155	1100	42	445
<i>Ommastrephidae</i> spp.	10426	2784	8315	5721	0	0	0	0	0	0	0	64	0	6232	15481	30542	3382	10221
<i>Osteichthyes</i>	6658	5571	1282	65	12189	13028	17833	11450	16342	26208	20137	29759	7738	9033	9936	5258	7867	
<i>Pagellus acarne</i>	1301	650	2614	2128	798	7712	3520	403	908	1432	3922	1854	752	29	103	755	99	74
<i>Pagellus bogaraveo</i>	0	2	2	7	0	0	0	0	0	0	0	810	209	319	492	123	104	38
<i>Pagellus erythrinus</i>	5304	3402	5418	4781	65	498	899	85	292	343	157	734	631	7	41	474	0	26
<i>Pagrus pagrus</i>	124	54	65	86	50	92	329	8	19	66	56	338	159	0	11	22	10	18
<i>Pollinus elephas</i>	21	14	14	31	19	37	68	24	31	27	26	37	40	13	21	22	9	19
<i>Parapenaeus longirostris</i>	1073	361	240	1854	252	165	0	0	0	0	0	51	154	162	1334	1376	898	1401
<i>Paramola cuvieri</i>	2	1	0	13	0	0	0	0	0	0	0	0	0	2	9	18	12	0
<i>Pecten jacobaeus</i>	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0
<i>Penaeus kerathurus</i>	27	27	118	57	1	5	8	2	19	3	19	55	10	3	0	1	4	0
<i>Phycis</i> spp.	1185	212	368	3341	134	1998	18720	11521	13823	15734	22767	24864	17383	13620	15700	15346	12842	13522
<i>Phyllonotus trunculus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Polyprion americanus</i>	0	0	0	0	5	8	112	15	34	34	56	26	15	16	28	24	5	0
<i>Pomatomus saltatrix</i>	6	0	0	5	0	0	0	0	0	0	0	10	9	0	0	0	0	8
<i>Rajadas</i>	158	200	317	238	308	287	169	24	105	131	77	110	48	7	16	61	4	7
<i>Sarda sarda</i>	5	0	11	14	0	4	50	6	45	46	14	17	17	0	0	7	0	0
<i>Sardina pilchardus</i>	293	37	1880	142	88	5067	394	100	108	102	69	250	263	21	26	16	0	3
<i>Sardinella aurita</i>	4	3	0	0	0	0	0	0	0	0	0	0	174	0	66	0	4	0
<i>Sarpa salpa</i>	5	0	28	97	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sciaenidae</i> spp.	1	11	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0
<i>Scorpaenidae</i> spp.	520	772	309	1668	0	47	6	0	8	0	0	9	8	0	0	52	3	0
<i>Scorpaenidae&lt;/</i>																		

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

Year	2014		2015		2016		2017		2018		2019		2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		2030			
	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3	Tons/m <sup>3</sup>	OTB3		
<i>Acanthocardia tuberculata</i>	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		
<i>Alloteuthis</i> spp.	0	1	0	0	2	9	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	2	0	
<i>Ammodytes</i> spp.	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	
<i>Argentinidae</i> spp.	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	
<i>Aristeus antennatus</i>	127	125	46	185	112	50	0	27776	37412	32515	20104	11437	12868	28417	55989	43087	45299	57891																		
<i>Arnoglossus</i> spp.	1	0	7	15	111	7	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	
<i>Auis</i> spp.	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	
<i>Balinus brandaris</i>	4	2	4	0	0	0	10	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	
<i>Boops boops</i>	95	643	290	675	301	152	2406	2096	0	31	0	0	0	24	24	12	84	0																		
<i>Brachyura</i>	0	0	0	0	0	0	17155	3389	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	
<i>Brama brama</i>	8	0	0	0	3	18	39	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	
<i>Calappa granulata</i>	0	0	0	0	9	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	
<i>Callista chione</i>	0	0	5	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	
<i>Cepala macrophthalmia</i>	0	0	0	0	22	0	1461	97	6	9	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	
<i>Chamelea gallina</i>	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	
<i>Citharus linguatula</i>	75	341	292	391	833	149	2461	163	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	
<i>Conger conger</i>	1138	1497	1279	1027	2235	1352	4058	3281	1501	1302	958	755	599	2243	2820	3104	2320	2353																		
<i>Coryphæna hippurus</i>	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	
<i>Deirus dentex</i>	0	1	0	5	4	2	33	9	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	
<i>Dicentrarchus labrax</i>	22	14	23	17	5	10	81	9	0	6	40	9	80	114	65	68	103																			
<i>Diplodus annularis</i>	0	0	0	16	16	0	111	4	0	46	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	
<i>Diplodus cervinus</i>	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	
<i>Diplodus puntazzo</i>	0	0	0	9	45	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	
<i>Diplodus sargus</i>	1	6	9	21	0	0	12	0	0	2	0	0	0	2	0	8	15	151																		
<i>Diplodus vulgaris</i>	2	12	2	81	12	0	71	9	0	7	0	0	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Diversas pops Octopodidae</i>	0	0	0	0	0	0	364	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	
<i>Donax trunculus</i>	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	
<i>Eledone</i> spp.	8706	13411	13712	13200	18555	14324	33202	13482	148	391	57	6	14	40	162	198	306	972																		
<i>Engraulis encrasicolus</i>	0	0	0	5	15	0	913	29	0	6	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	
<i>Epinephelus marginatus</i>	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	
<i>Euthynnus alletteratus</i>	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	
<i>Gambusia holbrooki</i>	2346	4454	5708	5851	6266	4913	0	0	0	0	0	0	0	2704	3096	6264	3197	4260																		
<i>Geryon longipes</i>	6	0	0	9	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	
<i>Gobidae</i>	0	0	0	0	0	0	52	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	
<i>Helicolenus dactylopterus</i>	654	1158	734	1061	6697	4985	964	1263	147	146	44	5	98	139	240	121	193																			
<i>Hemiramphus intermedius</i>	0	0	0	1	5	1	10	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	
<i>Lepidorhombus spp.</i>	337	103	47	31	8	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	
<i>Lepidorhombus spp.</i>	2792	4384	4427	4498	4656	4582	4062	3670	37	57	8	41	0	71	88	80	225																			
<i>Lichia amia</i>	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	
<i>Liocarcinus depurator</i>	1850	1371	1202	1527	3785	2678	0	9405	512	1689	251	795	239	2429	474	1783	548	175																		
<i>Lithognathus mormyrus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Littorina littorea</i>	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
<i>Loligo</i> spp.	16	16	15	25	34	17	3257	119	3	40	10	0	0	137	5	316	12	14																		
<i>Lophius</i> spp.	10615	10710	9142	9965	12951	7533	25119	13052	3102	3671	1701	1352	953	3009	4160	4236	3176	4126																		
<i>Macrura corallina</i>	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	
<i>Merluccius merluccius</i>	22408	12991	13566	13225	19175	13419	56876	29580	5975	6257	3837	3048	1048	6919	5751	9810	6868	10996																		
<i>Micromesistius poutassou</i>	15200	7730	11200	8350	11300	11400	21200	10200	7550	6590	2560	2280	324	12700	17600	6880	4300	4990																		
<i>Microstomus</i> spp.	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
<i>Molva macrophthalmia</i>	2	2	1	0	8	10	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	
<i>Mora moro</i>	108	251	109	146	107	475	0	0	0	0	0	0	0	0	0	79	134	46																		
<i>Mugilidae</i> spp.	0	0																																		

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

year	2012	2013	2014	2015	2016	2017	2018	2019	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
	Taxa/meter	OTB4	OTB4	OTB4	OTB4	OTB4	OTB4	OTB4	Bolinus	Bolinus	Bolinus	Bolinus	Bolinus	Bolinus	Bolinus	Bolinus	Bolinus	Bolinus
<i>Acanthocardia tuberculata</i>	0	0	0	0	0	0	0	0	0	0	0	11	26	0	0	0	0	0
<i>Alteuthis</i> spp.	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Armadilytes</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Argentineidae</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Aristeus antennatus</i>	57933	52322	37262	53949	42307	45997	53525	42916	0	0	0	0	0	0	0	0	0	0
<i>Arnoglossus</i> spp.	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57
<i>Auxis</i> spp.	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Balanus brandans</i>	0	0	0	0	0	0	0	0	133000	41000	36100	37400	33600	29200	22700	20500	9890	11000
<i>Boops boops</i>	0	0	0	0	0	0	19	8	0	0	0	0	0	0	0	0	0	0
<i>Brachyura</i>	0	0	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0
<i>Brama brama</i>	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Callappa granulata</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Callista chione</i>	0	0	0	0	0	0	0	0	0	274	249	719	197	118	8	0	0	17
<i>Cepola macrophthalma</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Chamelea gallina</i>	0	0	0	0	0	0	0	4	9	2	4	0	0	0	1	0	0	0
<i>Citharus linguatula</i>	0	18	0	0	0	0	2	0	863	1846	1096	1907	2251	1264	2346	2989	896	4619
<i>Conger conger</i>	2440	2322	2256	2436	2299	1851	1753	2177	43	18	6	138	29	28	85	30	38	31
<i>Coryphaena hippurus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Detlex dentex</i>	0	0	0	0	0	0	0	0	8	0	0	5	4	0	0	0	1	0
<i>Dicentrarchus labrax</i>	103	76	40	117	26	42	12	11	35	17	139	341	115	154	57	64	48	76
<i>Diplodus annularis</i>	0	5	0	0	0	0	0	0	16	0	3	0	0	1	0	0	0	0
<i>Diplodus cervinus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Diplodus puntazzo</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Diplodus sargus</i>	165	67	32	51	54	110	0	0	63	34	41	16	10	2	8	3	6	2
<i>Diplodus vulgaris</i>	0	15	0	0	0	0	0	0	0	0	2	0	0	0	1	4	1	3
<i>Diversos pops Octopodidae</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Donax trunculus</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Eledone</i> spp.	348	406	240	146	592	177	552	369	6	7	307	196	948	696	982	466	544	1369
<i>Engraulis encrasicolus</i>	0	0	0	0	0	0	0	0	0	0	0	1	2	2	4	0	0	1
<i>Epimetheus marginatus</i>	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Euthynnus alletteratus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Gambus varius</i>	4956	3789	3196	5985	3584	4211	2638	4599	0	0	0	0	0	0	0	0	0	0
<i>Genyon langipes</i>	697	411	928	349	659	672	740	1122	0	0	0	0	0	0	0	0	0	0
<i>Gobidae</i>	0	0	0	3	0	0	0	0	0	0	0	0	23	0	0	0	0	1
<i>Helicolenus dactylopterus</i>	210	95	83	100	69	70	123	183	0	0	0	0	0	2	0	0	0	0
<i>Hemiramphus gommara</i>	0	0	0	1	0	0	0	0	31	17	37	14	11	2	10	1	2	1
<i>Lepidopus caudatus</i>	26	11	55	24	5	32	0	0	0	0	0	0	0	0	0	0	0	0
<i>Lepidorhombus</i> spp.	137	115	37	120	70	55	69	84	0	0	0	0	0	0	0	0	0	0
<i>Lichia amia</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Liocarcinus depurator</i>	1037	138	16	157	0	1	187	50	0	0	17	187	387	268	320	63	13	237
<i>Lithognathus momyrus</i>	0	0	0	0	0	0	0	0	55	250	94	83	195	10	165	6	170	21
<i>Littorina littorea</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Loligo</i> spp.	19	331	0	1	3	0	1	1	3	3	0	4	12	8	11	3	7	1
<i>Lophius</i> spp.	3160	3765	3702	3715	2402	2351	2000	2317	281	166	185	290	587	386	583	210	346	1171
<i>Macrura corallina</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Merluccius merluccius</i>	6195	6192	7017	4434	3570	4141	4645	6459	42	12	22	36	36	92	53	6	17	184
<i>Micromesistius poutassou</i>	2100	2030	2140	2680	2320	1040	1370	1350	0	0	0	0	0	0	0	0	0	0
<i>Microstomus</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Mol lusius varis</i>	0	0	0	0	0	0	0	0	63	0	0	0	0	0	0	0	0	0
<i>Molva macrophthalma</i>	22	6	13	15	5	7	7	7	0	0	0	0	0	0	0	0	0	0
<i>Mora moro</i>	40	54	273	126	309	216	205	327	0	0	0	0	0	0	0	0	0	0
<i>Mugilidae</i> spp.	0	0	0	0	0	0	0	5	23	5	0	3	11	0	17	18	25	0
<i>Mullus</i> spp.	5	584	0	5	20	0	3	2	1	16	45	81	32	27	58	18	57	27
<i>Munida</i> spp.	4	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
<i>Nassarius mutabilis</i>	0	0	0	0	0	0	0	0	12	3	6	0	0	0	74	0	0	0
<i>Naticonus hebraeus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Nephrops norvegicus</i>	1968	1972	1211	1174	567	876	1209	1237	0	0	0	0	0	0	0	0	0	0
<i>NULL</i>	0	0	0	0	0	0	0	0	0	20	4908	2880	1009	303	231	17	11	312
<i>Olada melanura</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Octopus vulgaris</i>	3	99	34	8	7	4	0	2	10100	3890	2860	4030	3510	4390	6950	4010	2650	3410
<i>Ommastrephidae</i> spp.	853	802	728	1275	952	652	1230	1077	0	0	0	0	0	0	0	0	0	0
<i>Osteichthyes</i>	459	308	259	229	131	333	24	16	642	514	1053	1574	1103	824	843	794	298	773
<i>Pagellus acarne</i>	7	132	22	15	21	17	3	20	78	10	18	15	12	40	58	3	18	0
<i>Pagellus bogaraveo</i>	2062	1073	1437	885	372	372	534	177	0	0	0	0	0	0	0	0	1	0
<i>Pagellus erythrinus</i>	2	27	11	0	0	8	0	0	100	13	0	8	15	0	23	0	35	5
<i>Pagrus pagrus</i>	0	0	0	0	0	0	0	0	61	19	27	9	7	0	2	0	4	13
<i>Pallinurus elephas</i>	2	8	2	3	4	5	0	3	4	5	3	4	4	5	3	0	2	2
<i>Parapanopeus longirostris</i>	10	21	32	81	46	43	34	280	0	0	0	0	0	0	0	0	0	0
<i>Pinnomus cuvieri</i>	17	19	186	189	132	135	190	370	0	0	0	0	0	0	0	0	0	0
<i>Pecten jacobaeus</i>	0	0	0	0	0	0	0	0	24	61	289	997	1060	2884	547	276	0	18
<i>Penaeus kerathurus</i>	0	2	0	0	0	0	0	0	447	328	1235	1973	5740	3158	1857	2885	2435	1483
<i>Phycis</i> spp.	10361	11410	9643	10442	9495	9717	8620	11948	43	17	23	11	6	0	9	3	1	0
<i>Phyllonotus trunculus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Polypion americanus</i>	10	6	6	12	2	5	9	3	0	0	0	0	0	0	0	0	0	0
<i>Pomatomus saltatrix</i>	0	0	0	0	28	0	0	0	0	0	0	0	0	2	8	0	1	0
<i>Rajades</i>	0	2	0	4	1	0	2	0	910	1193	1448	1867	1740	2279	1368	1140	844	799
<i>Sarda sarda</i>	0	0	0	0	0	0	0	0	13	22	5	13	0	6	11	0	7	1
<i>Sardina pilchardus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	12	0	4
<i>Sardinella aurita</i>	0	130	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
<i>Sarpa salpa</i>	0	5	0	0	0	0	0	0	2	12	0	0	0	0	0	0	0	0
<i>Sciaenops ocellatus</i>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Scorpaenidae</i>	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
<i>Scorpaenidae</i>	0	4	0	0	0	3	0	0	0	2	12	7	6	3	2	4	0	0
<i>Scophthalmus maximus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
<i>Scophthalmus rhombus</i>	0	0	0	0	0	0	0	0	2153	1110	903	1526	1268	848	1294	444	118	312
<i>Scorpaena</i> spp.	2	6	7	6	19	10	13	41	84	30	67	134	48	8	71	2	11	29
<i>Sepia elegans</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sepia officinalis</i>	0	16	13	1	1	0	5											



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year	2010	2012	2013	2014	2016	2017	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Taxa/metier	Bolnus	Bolnus	Bolnus	Bolnus	Bolnus	Uluc	Uluc	Uluc	Uluc	Uluc	Uluc	Uluc	Uluc	Uluc	Uluc	Uluc	Uluc
<i>Acanthocardia tuberculata</i>	0	0	0	0	56	166	0	0	45	0	0	0	0	0	0	0	0	0
<i>Allotheutis</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ammodytes spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Argentinidae spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Aristeus antennatus</i>	0	0	0	0	0	0	0	0	7	0	0	0	0	15	0	0	0	0
<i>Arnoglossus</i> spp.	3	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Axius</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	401	475	2657
<i>Bolinus brandanis</i>	8300	6970	4260	3710	2830	2320	51	9	38	8	88	12	6	9	0	0	0	12
<i>Boops boops</i>	0	0	0	0	0	0	16	7	9	0	9	0	19	0	0	0	0	0
<i>Brachyura</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Biarna birana</i>	0	0	0	0	0	0	68	236	35	297	111	46	494	811	112	385	103	136
<i>Calappa granulata</i>	0	3	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
<i>Callista chione</i>	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Cepola macrophthalma</i>	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
<i>Chamelea gallina</i>	0	0	0	0	0	0	0	0	221	0	0	0	0	0	0	0	0	0
<i>Citharus linguatula</i>	2778	4320	2616	2854	474	296	148	451	1113	415	399	135	116	462	399	157	269	694
<i>Conger conger</i>	26	12	6	9	1	4	3356	1615	1474	4328	1662	1541	1834	2472	2808	4329	1295	922
<i>Coryphaena hippurus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96	109	41
<i>Dentex dentex</i>	0	2	0	0	0	0	33	86	59	162	105	24	0	89	21	17	5	10
<i>Dicentrarchus labrax</i>	27	6	12	8	0	0	228	17	24	98	22	25	59	105	40	13	13	1
<i>Diplodus annularis</i>	11	0	0	0	0	0	101	201	411	621	359	76	23	9	55	0	53	98
<i>Diplodus cervinus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
<i>Diplodus puntazzo</i>	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	3	0
<i>Diplodus sargus</i>	0	1	0	0	3	1	97	16	73	64	29	15	2	7	23	0	13	0
<i>Diplodus vulgaris</i>	0	0	0	0	0	0	0	14	32	32	12	21	0	27	26	0	3	15
Diversos pops Octopodidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Donax trunculus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Eledone</i> spp.	557	1752	1724	1095	1569	2150	0	0	0	0	0	1	6	0	0	0	0	4
<i>Engraulis encrasi colus</i>	0	0	0	0	0	0	0	0	0	6	9	12	0	0	0	0	6	24
<i>Epinephelus marginatus</i>	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	6	7
<i>Euthynnus alletteratus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	190	41
<i>Gambes varies</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
<i>Geryon longipes</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0
Gobiidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Helicolenus dactylopterus</i>	2	0	0	0	0	0	579	509	414	253	462	348	446	606	752	615	475	232
<i>Hemiramphus intermedius</i>	0	1	0	0	0	2	16	28	16	52	51	37	10	13	10	1	2	20
<i>Lepidopoda caudatus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	169	69	60
<i>Lepidopoda caudatus</i>	0	0	3	0	0	0	0	0	2	0	0	1	3	0	0	0	0	0
<i>Lichia amia</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
<i>Liocarcinus depurator</i>	41	78	30	0	37	219	0	0	0	0	0	0	0	4	0	0	0	0
<i>Lithognathus mionectes</i>	15	31	0	0	2	0	7	18	4	274	4	0	0	0	7	33	30	128
<i>Littorina littorea</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Loligo</i> spp.	0	5	0	1	2	1	1	2	0	1	4	2	0	0	0	0	1	0
<i>Lophius</i> spp.	949	661	1106	742	90	47	152	282	353	227	176	160	109	309	329	115	186	379
<i>Macrura corallina</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Merluccius merluccius</i>	65	80	182	107	5	0	31881	41060	32917	18788	41422	38766	69795	64590	32425	34465	27598	31196
<i>Micromesistius pouassou</i>	0	0	0	0	0	0	6	3	0	3	31	66	8	6	21	14	36	41
<i>Microshirus</i> spp.	3	11	0	0	0	0	0	0	0	0	0	0	0	0	0	144	11	79
<i>Mullus varis</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Molva macrophthalma</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
<i>Mora moro</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	39	2
<i>Mugilidae</i> spp.	0	13	0	0	0	0	5	5	50	134	0	0	0	30	43	23	0	24
<i>Mullus</i> spp.	92	25	73	23	0	8	41	170	35	109	78	146	115	478	157	44	166	210
<i>Munida</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Nassarius mutabilis</i>	0	0	0	0	1	10	0	0	0	0	0	0	0	0	0	0	0	0
<i>Necturus hebraeus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Nephtys norvegicus</i>	0	0	0	0	0	0	0	0	0	1	0	0	0	3	1	2	4	0
NULL	11	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
<i>Oblada melanura</i>	0	0	0	0	0	0	0	0	0	20	5	0	0	0	2	0	0	0
<i>Octopus vulgaris</i>	2700	2250	2720	1520	2530	2080	108	240	210	148	150	42	14	44	18	65	11	96
Ommastrephidae spp.	0	0	0	0	10	4	0	0	0	0	0	0	0	0	0	308	405	223
<i>Osteichthys</i>	844	663	504	353	85	47	3377	2218	1748	8100	3181	2175	1130	4067	1107	587	124	111
<i>Pagellus acarne</i>	8	2	0	2	0	0	604	1435	1107	5864	1984	2311	593	1034	465	96	88	264
<i>Pagellus bogaraveo</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	28	32	1668	222	114
<i>Pagellus erythrinus</i>	12	16	2	8	0	0	589	887	1662	1769	1101	1373	374	926	1111	42	60	765
<i>Pagrus pagrus</i>	0	0	2	0	0	0	117	14	39	105	27	44	11	11	6	29	15	13
<i>Palinurus elephas</i>	0	0	1	0	1	0	71	108	82	175	91	35	24	68	48	11	11	19
<i>Parapanopeus longirostris</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Paromola cuvieri</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pecten jacobaeus</i>	271	41	0	2	64	56	0	0	0	0	0	21	0	0	0	0	0	0
<i>Penaeus kerathurus</i>	1080	1483	1701	1361	1293	726	0	0	1	0	1	0	0	26	0	0	0	1
<i>Phycis</i> spp.	0	4	0	0	0	0	2202	2033	1639	1784	1207	1622	827	883	1263	1481	567	337
<i>Phyllonotus trunculus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Polypion americanus</i>	0	0	0	0	0	0	112	204	564	107	77	144	67	96	54	150	305	186
<i>Pomatomus saltatrix</i>	0	0	0	0	0	0	141	0	13	234	9	37	0	0	0	9	20	0
<i>Rajades</i>	547	394	316	229	52	36	32	76	41	177	136	168	26	35	36	23	8	41
<i>Sarda sarda</i>	0	1	0	0	0	0	0	86	86	644	317	550	14	102	360	71	47	119
<i>Sardina pilchardus</i>	0	0	0	0	0	0	0	0	3	4	4	0	0	0	0	0	0	0
<i>Sardinella aurata</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sarpa salpa</i>	0	0	5	0	0	0	3	0	11	7	0	0	0	0	0	0	0	0
<i>Sciaenidae</i> spp.	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	5	16	42
<i>Scomber colias</i>	0	0	0	0	0	0	12	5	38	14	127	317	37	8	129	8	229	351
<i>Scomber scombrus</i>	0	0	0	0	0	0	655	2086	2700	3299	3962	1209	428	587	4963	10	134	177
<i>Scophthalmus maximus</i>	16	17	8	7	12	9	0	0	0	0	0	0	0	0	0	0	0	1
<i>Scophthalmus rhombus</i>	184	159	153	80	83	58	1	0	19	40	10	7	0	9	3	7	4	19
<i>Scorpaena</i> spp.	8	18	15	0	0	15	23	64	98	147	130	60	37	97	92	45	58	37
<i>Sepia elegans</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sepia officinalis</i>	5239	4380	3967	3039	3568	2058	2	4	11	68	1							





# State of Fisheries in Catalonia 2020 (Part 2: Annexes)

year	2008	2009	2010	2011	2012	2013	2014	2015	2017	2018	2019	2000	2001	2002	2004	2005	2006	2007
Taxa/metier	Pop	Pop	Pop	Pop	Pop	Pop	Pop	Pop	Pop	Pop	Pop	Sèpia	Sèpia	Sèpia	Sèpia	Sèpia	Sèpia	Sèpia
<i>Acanthocharalia tuberculata</i>	0	0	0	0	0	0	0	0	0	0	0	0	1847	36	0	0	0	0
<i>Alloteuthis</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Annemodites</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Argentinidae</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Aristeus antennatus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Arnaglossus</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Axius</i> spp.	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
<i>Bolinus brandonis</i>	1	3	4	0	9	25	64	63	0	2	0	2080	1290	455	279	118	442	1030
<i>Boops boops</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Brachyura</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Brama brama</i>	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
<i>Colapso granulata</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Callista chione</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Cepola macropthalma</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Chamelea gallina</i>	0	0	0	0	0	0	0	0	0	0	0	33	7099	227	11	11	0	0
<i>Citharus linguatula</i>	0	0	0	5	0	2	0	69	31	0	0	13	93	69	0	42	0	43
<i>Conger conger</i>	131	151	81	618	186	262	308	383	210	447	231	406	2796	301	126	418	276	259
<i>Coryphaena hippurus</i>	0	0	0	0	0	0	23	0	0	6	0	0	0	0	0	0	0	0
<i>Dentex dentex</i>	11	4	0	13	2	1	21	12	3	4	5	93	292	43	0	9	13	142
<i>Dicentrarchus labrax</i>	46	92	46	114	9	4	63	60	5	16	8	496	4751	265	111	203	430	680
<i>Diplodus annularis</i>	44	0	0	0	0	0	0	0	0	0	0	386	854	49	0	10	3	111
<i>Diplodus cervinus</i>	0	3	2	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0
<i>Diplodus puntazzo</i>	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
<i>Diplodus sargus</i>	39	184	27	1114	19	42	793	496	115	399	311	635	2071	212	58	337	303	1202
<i>Diplodus vulgaris</i>	4	0	0	4	0	4	30	11	9	22	4	20	33	1	0	6	8	69
Diversos pops Octopodidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Donax trunculus</i>	2412	0	0	14	1	0	1372	517	1583	1	0	2855	30	4534	5198	1666	4	29
<i>Eledone</i> spp.	4	0	0	10	0	0	0	18	0	0	0	3	2	9	0	9	4	4
<i>Engraulis encrasicolus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4
<i>Epinephelus marginatus</i>	0	1	2	2	0	5	9	7	1	10	9	0	0	0	0	0	0	0
<i>Euthynnus alletteratus</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Gambusia variegata</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Gobion longipes</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gobidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Helicolenus dactylopterus</i>	0	0	0	0	0	0	0	0	0	0	0	12	3	0	0	0	0	9
<i>Homarus gammarus</i>	27	0	0	5	0	0	6	30	3	4	87	138	112	0	3	1	35	0
<i>Lepidopus caudatus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Lepidorhombus</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Lichia amia</i>	0	4	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
<i>Liocaramus depurator</i>	0	0	0	0	0	0	0	4	0	0	0	0	0	2	0	0	0	0
<i>Lithognathus mionectes</i>	760	0	106	37	0	0	389	185	0	16	42	7902	10149	2220	639	2542	4269	6622
<i>Littorina littorea</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Loligo</i> spp.	1	0	1	0	0	0	4	11	0	0	0	6	5	4	2	5	2	88
<i>Lophius</i> spp.	7	0	0	3	0	2	0	0	57	0	0	659	792	479	7	13	20	495
<i>Macrura corallina</i>	0	0	0	0	0	0	0	0	0	0	0	267	20	0	0	0	0	0
<i>Merluccius merluccius</i>	0	0	0	2	2	0	0	0	2	0	1	236	590	394	0	0	0	642
<i>Micromesistius poulassou</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5
<i>Microstomus</i> spp.	0	0	0	0	0	0	0	2	0	0	3	0	0	0	0	0	0	0
<i>Molluscs varis</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Mora moro</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Mugilidae</i> spp.	22	0	0	4	0	0	9	11	0	10	3	631	4271	303	0	20	5	885
<i>Mullus</i> spp.	25	0	0	0	0	0	2	3	13	1	0	4576	2962	10	2	23	1	443
<i>Munida</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Nassarius mutabilis</i>	10	29	2	1	0	151	6	2	3	0	0	16	21	6	12	15	692	372
<i>Naticonus hebraeus</i>	0	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0
<i>Nephrops norvegicus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NULL	6	0	5	24	45	16	33	13	0	0	0	3430	8	21	97	4	7	0
<i>Oblada melanura</i>	0	0	0	2	0	0	21	3	0	1	0	13	24	0	0	0	0	21
<i>Octopus vulgaris</i>	41200	33900	41200	20400	23100	26000	36400	33500	22400	26200	23300	9430	16800	843	1580	10800	4820	5440
Onimastichidae spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Osteichthys</i>	193	0	0	8	0	4	12	53	48	9	3	2365	3026	416	11	166	231	1325
<i>Pagellus acarne</i>	10	5	0	0	0	0	10	10	0	24	10	1203	1676	58	0	1	768	0
<i>Pagellus bogaraveo</i>	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
<i>Pagellus erythrinus</i>	46	0	2	4	2	0	31	58	6	49	36	282	696	53	0	0	6	376
<i>Pagrus pagrus</i>	20	0	0	150	0	17	16	0	10	47	9	796	1600	63	0	8	0	220
<i>Palinurus elephas</i>	1	0	0	0	0	0	0	0	0	1	5	36	154	91	0	0	0	29
<i>Parapenaeus longirostris</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Paramola cuvieri</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pecten jacobaeus</i>	0	0	0	0	0	0	0	0	0	0	0	0	4	25	0	0	0	0
<i>Pennaeus kerathurus</i>	1	0	2	0	0	0	1	0	0	0	0	428	342	348	0	110	0	1177
<i>Phycis</i> spp.	4	0	0	58	6	0	0	16	110	29	45	110	293	104	1	0	0	37
<i>Phyllonotus trunculus</i>	0	0	0	0	0	0	0	119	59	27	12	0	0	0	0	0	0	0
<i>Polyprion americanus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pomatotus saltatrix</i>	93	2	4	99	0	0	178	24	3	16	7	647	730	15	3	19	10	80
<i>Rajades</i>	0	2	1	21	0	0	5	5	5	6	4	628	1519	1261	4	27	3	1068
<i>Sarda sarda</i>	7	3	0	0	0	2	0	0	0	0	0	11343	8340	18	0	20	6	32
<i>Sardina pilchardus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sardinella aurata</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sarpa salpa</i>	0	0	0	0	0	0	5	0	0	0	0	550	556	26	4	9	2	96
<i>Sciaenops umbra</i>	0	14	2	7	0	0	2	4	6	9	1	0	0	0	0	0	0	0
<i>Scomber colias</i>	0	0	0	3	0	0	0	0	0	0	0	65	2	0	0	0	0	0
<i>Scomber scombrus</i>	0	0	0	0	0	0	0	0	0	0	0	3	9	3	0	3	9	8
<i>Scophthalmus maximus</i>	0	0	0	0	0	0	1	4	7	3	0	0	0	0	0	0	0	0
<i>Scophthalmus rhombus</i>	7	3	2	0	0	0	10	0	0	0	0	1027	1653	928	8	49	36	691
<i>Scorpaena</i> spp.	66	33	11	27	26	43	85	123	234	12	69	1396	1334	274	1	45	25	423
<i>Sepia elegans</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sepia officinalis</i>	2217	6	55	66	0	82	362	1442	1	10	16	14205	10537	13873	7579	15379	18392	30424
Sepiidae, Sepolidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sepiolidae spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sentella dumerilii</i>	333	7	73	3	0													

# State of Fisheries in Catalonia 2020 (Part 2: Annexes)

year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2018	2019	2000	2001	2002	2003	2004	2005	2006
	Taxa/meter	Sèpia	Sèpia	Sèpia	Sèpia	Sèpia	Sèpia	Sèpia	Sèpia	Sèpia	Sèpia	Tallarina	Tallarina	Tallarina	Tallarina	Tallarina	Tallarina	Tallarina
<i>Acanthocardia tuberculata</i>	0	0	0	93	0	0	0	0	0	0	0	15	0	23	13	0	0	0
<i>Aloteuthis</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Annemolytes</i> spp.	0	0	0	91	0	0	0	0	0	0	0	0	0	0	0	0	0	73
Argentinidae spp.	0	0	0	237	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Aristeus antennatus</i>	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Arroglossus</i> spp.	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Auxis</i> spp.	0	43	0	1	43	10	0	16	0	0	14	0	0	0	0	0	0	0
<i>Bolinus brandanis</i>	257	310	348	6490	207	649	276	276	51	80	2	283	0	1	11	0	0	28
<i>Boops boops</i>	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
<i>Brachyura</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Brama brama</i>	0	0	0	0	9	1507	0	0	0	0	0	0	0	0	0	0	0	0
<i>Calappa granulata</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Callista chione</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Cepala macrophthalma</i>	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
<i>Chamelea gallina</i>	0	1	0	0	0	0	0	0	4	0	0	734	0	0	2	21	4	2
<i>Citharus linguatula</i>	204	147	33	3756	154	195	94	82	10	68	19	0	0	0	0	0	0	0
<i>Conger conger</i>	182	472	331	259	232	732	135	91	128	82	212	20	0	0	13	5	2	8
<i>Coryphaena hippurus</i>	0	9	0	5	11	27	0	4	0	0	8	0	0	0	0	0	0	0
<i>Dentex dentex</i>	199	160	41	87	229	243	78	232	136	45	143	0	0	0	0	0	0	0
<i>Dicentrarchus labrax</i>	424	1111	239	313	454	604	176	215	83	52	310	3	0	0	5	48	32	41
<i>Diplodus annularis</i>	123	62	37	41	21	30	20	14	5	14	57	0	0	0	0	0	0	0
<i>Diplodus cervinus</i>	0	3	1	4	13	10	2	22	8	0	27	0	0	0	0	0	0	0
<i>Diplodus puntazzo</i>	3	0	3	15	7	1	2	19	4	0	20	0	0	0	0	0	0	0
<i>Diplodus sargus</i>	594	502	283	1086	2153	1845	1011	570	222	1199	0	0	0	0	0	0	0	0
<i>Diplodus vulgaris</i>	119	87	47	57	128	205	24	132	36	19	127	0	0	0	0	0	0	0
Diversos pòps Octapodidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Donax trunculus</i>	7	3	0	0	91	4	184	39	0	0	0	20260	6725	10807	12349	13955	8235	8575
<i>Eledone</i> spp.	47	22	7	1329	13	4	2	0	0	192	0	0	0	0	0	0	0	0
<i>Engraulis encrasicolus</i>	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Epinephelus marginatus</i>	0	18	9	24	47	50	14	46	7	3	17	0	0	0	0	0	0	0
<i>Eurymylus aletteratus</i>	0	0	0	167	118	12	0	6	0	0	0	0	0	0	0	0	0	0
<i>Gambusia variegata</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Geryon longipes</i>	0	0	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0
Gobidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Helicolenus dactylopterus</i>	4	0	0	1	23	25	0	0	0	0	0	0	0	0	0	0	0	0
<i>Hemiramphus gommarius</i>	77	57	36	22	40	203	9	106	2	2	12	0	0	0	0	0	0	0
<i>Lepidopus caudatus</i>	0	0	0	0	33	3	0	0	0	0	0	0	0	0	0	0	0	0
<i>Lepidorhombus</i> spp.	0	0	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Lichia amia</i>	0	52	35	72	540	538	52	137	21	0	133	0	0	0	0	0	0	0
<i>Liocarcinus depurator</i>	0	0	0	22	0	0	0	0	0	5	13	0	0	0	0	0	0	0
<i>Lithognathus mormyrus</i>	6046	4831	4355	8692	5809	8817	3109	3850	1715	1746	5592	182	0	0	0	0	0	333
<i>Littorina littorea</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Loligo</i> spp.	62	116	70	95	192	167	107	178	42	9	78	0	0	0	0	0	0	0
<i>Lophius</i> spp.	530	575	487	1902	1634	2866	285	2208	153	13	182	0	0	0	0	0	0	0
<i>Macrura caroliniana</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	23	51	87	0	0
<i>Merluccius merluccius</i>	1561	1318	70	692	825	2392	39	218	39	2	65	0	0	0	0	0	0	0
<i>Micromesistius pouassou</i>	8	0	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0
<i>Microstomus</i> spp.	0	1435	287	636	213	563	253	384	83	4	1527	0	0	0	0	0	0	0
<i>Molichius vares</i>	0	0	0	0	0	0	0	0	0	0	0	61	0	0	0	0	0	0
<i>Mullus macrocephalus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Mura maro</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mugilidae spp.	914	1184	944	1296	3990	9720	18	4602	93	16	2084	0	0	0	0	0	0	0
<i>Mullus</i> spp.	1322	782	329	187	421	646	396	1221	248	164	2009	0	0	0	0	0	0	0
<i>Munida</i> spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Nassona mutabilis</i>	391	3530	14	4	45	326	731	702	689	422	0	1580	0	0	0	0	0	88
<i>Naticarius hebraeus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0
<i>Nephrops norvegicus</i>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
NULL	11	171	57	29	40	67	2	0	0	0	0	0	0	0	0	0	0	1
<i>Oleada melanura</i>	1	3	8	4	21	11	3	591	2	0	16	0	0	0	0	0	0	0
<i>Octopus vulgaris</i>	6930	12800	7500	8250	7440	8090	6600	2440	3820	1850	3110	3970	0	0	0	0	0	6
Omastrophidae spp.	0	0	0	33	41	21	4	3	0	0	3	0	0	0	0	0	0	0
<i>Osteichthys</i>	1641	1622	479	2898	633	1374	320	972	531	73	164	5	0	0	0	0	0	25
<i>Pagellus acarne</i>	1193	565	537	462	275	391	106	354	190	31	503	0	0	0	0	0	0	0
<i>Pagellus bogaraveo</i>	0	4	1	0	0	108	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pagellus erythrinus</i>	1107	1306	1068	1550	3412	3060	801	2612	910	141	2125	0	0	0	0	0	0	0
<i>Pagrus pagrus</i>	229	383	134	126	108	256	12	53	7	1	20	0	0	0	0	0	0	0
<i>Palaemonetes elephas</i>	76	32	11	17	118	198	5	95	3	0	4	0	0	0	0	0	0	0
<i>Parapenaeus longirostris</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Paromola cuvieri</i>	0	0	0	0	2	4	5	0	0	3	0	0	0	0	0	0	0	0
<i>Pecten jacobaeus</i>	0	0	0	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Penaeus kerathurus</i>	250	645	1004	1430	798	1097	633	1082	0	234	3525	0	0	0	0	0	0	0
<i>Phycis</i> spp.	157	57	8	26	94	189	20	53	3	4	0	0	0	0	0	0	0	0
<i>Phyllonotus trunculus</i>	0	0	0	0	0	0	0	0	4	33	0	0	0	0	0	0	0	0
<i>Polyprion americanus</i>	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pomatotus saltatrix</i>	175	130	53	95	135	358	62	225	25	27	102	0	0	0	0	0	0	0
Rajidae	2038	1736	840	1388	966	1615	767	1567	328	42	646	0	0	0	0	0	0	0
<i>Sarda sarda</i>	209	291	57	364	405	531	81	310	35	48	83	0	0	0	0	0	0	0
<i>Sardinia pilchardus</i>	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sardinella aurata</i>	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sarpa salpa</i>	223	69	62	106	266	331	20	153	120	0	305	16	0	0	0	0	0	0
<i>Sciaenops ocellatus</i>	0	301	137	267	975	721	35	426	54	56	569	0	0	0	0	0	0	0
<i>Scomber colias</i>	11	10	69	58	25	89	3	39	0	0	2	0	0	0	0	0	0	0
<i>Scomber scombrus</i>	107	39	0	4	15	21	0	0	2	0	0	0	0	0	0	0	0	0
<i>Scophthalmus maximus</i>	0	166	88	130	81	131	41	110	25	4	90	0	0	0	0	0	0	0
<i>Scophthalmus rhombus</i>	627	920	619	1711	1215	1420	440	586	255	48	469	12	0	0	0	8	10	12
<i>Scorpaena</i> spp.	862	840	287	578	734	1298	97	1142	279	79	436	0	0	0	0	0	0	1
<i>Sepia elegans</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sepia officinalis</i>	36131	37462	27670	24629	32854	29969	2											

## State of Fisheries in Catalonia 2020 (Part 2: Annexes)

year	2007	2009	2010	2011	2013
	Tallarina	Tallarina	Tallarina	Tallarina	Tallarina
Taxa/meter					
<i>Acanthocardia tuberculata</i>	0	0	0	0	0
<i>Aliteuthis</i> spp.	0	0	0	0	0
<i>Ammodytes</i> spp.	0	0	0	0	0
<i>Argentinidae</i> spp.	0	0	0	0	0
<i>Aristeus antennatus</i>	0	0	0	0	0
<i>Arnoglossus</i> spp.	0	0	0	0	0
<i>Auxis</i> spp.	0	0	0	0	0
<i>Balanus brandonis</i>	32	0	0	4	0
<i>Boops boops</i>	0	0	0	0	0
<i>Brachyura</i>	0	0	0	0	0
<i>Brama brama</i>	0	0	0	0	0
<i>Callinectes granulata</i>	0	0	0	0	0
<i>Callista chione</i>	0	0	0	0	0
<i>Cepola macrophthalma</i>	0	0	0	0	0
<i>Chamelea gallina</i>	0	373	46	1	0
<i>Citharus linguatula</i>	0	0	0	0	0
<i>Conger conger</i>	315	127	80	60	52
<i>Coryphaena hippurus</i>	0	0	0	0	0
<i>Dentex dentex</i>	1	0	0	0	0
<i>Dicentrarchus labrax</i>	80	37	37	41	15
<i>Diplodus annularis</i>	0	0	2	15	0
<i>Diplodus cervinus</i>	0	0	0	0	0
<i>Diplodus puntazzo</i>	0	0	0	0	0
<i>Diplodus sargus</i>	80	1	27	20	31
<i>Diplodus vulgaris</i>	0	0	0	0	2
Diversos pops Octopodidae	0	0	0	0	0
<i>Donax trunculus</i>	5504	9678	11208	12784	7755
<i>Eledone</i> spp.	0	0	0	0	0
<i>Engraulis encrasicolus</i>	0	0	0	0	0
<i>Epinephelus marginatus</i>	0	0	2	0	2
<i>Euthynnus alletteratus</i>	0	0	0	0	0
<i>Gambes varies</i>	0	0	0	0	0
<i>Geryon longipes</i>	0	0	0	0	0
Gobidae	0	0	0	0	0
<i>Helicolenus dactylopterus</i>	0	0	0	0	0
<i>Hemarus gammarus</i>	1	0	0	0	0
<i>Lepidopus caudatus</i>	0	0	0	0	0
<i>Lepidorhombus</i> spp.	0	0	0	0	0
<i>Lichia amia</i>	0	0	0	0	0
<i>Liocarcinus depurator</i>	0	0	0	0	0
<i>Lithognathus momyrus</i>	173	26	135	377	574
<i>Littorina littorea</i>	0	0	0	307	0
<i>Loligo</i> spp.	11	0	1	0	0
<i>Lophius</i> spp.	1	0	0	0	0
<i>Macra carallina</i>	0	0	0	0	0
<i>Merluccius merluccius</i>	27	0	0	0	0
<i>Micromesistius pouassou</i>	0	0	0	0	0
<i>Micrasinus</i> spp.	0	0	0	0	0
<i>Mullus lusca varis</i>	0	0	0	0	0
<i>Molva macrophthalma</i>	0	0	0	0	0
<i>Mora moro</i>	0	0	0	0	0
Mugilidae spp.	20	0	0	0	1
<i>Mullus</i> spp.	18	0	0	2	0
<i>Munida</i> spp.	0	0	0	0	0
<i>Nassarius mutabilis</i>	79	103	469	3460	160
<i>Naticarius hebraeus</i>	0	0	0	0	0
<i>Nephrops norvegicus</i>	0	0	0	0	0
NULL	5094	0	0	0	0
<i>Ophiodon melanura</i>	0	0	0	0	0
<i>Octopus vulgaris</i>	4410	6540	6710	5200	6800
Ommastrephidae spp.	0	0	0	0	0
Osteichthyes	83	0	0	13	2
<i>Pagellus acarne</i>	13	0	2	0	0
<i>Pagellus bogaraveo</i>	0	0	0	0	0
<i>Pagellus erythrinus</i>	20	0	0	6	1
<i>Pagrus pagrus</i>	1	0	10	1	3
<i>Palaenurus elephas</i>	4	0	0	0	0
<i>Parapenaeus longirostris</i>	0	0	0	0	0
<i>Panopaea cuvieri</i>	0	0	0	0	0
<i>Pecten jacobaeus</i>	0	0	0	0	0
<i>Penaeus kerathurus</i>	0	0	0	0	0
<i>Phycis</i> spp.	21	0	0	0	1
<i>Phyllonotus trunculus</i>	0	0	0	0	0
<i>Polyprion americanus</i>	0	0	0	0	0
<i>Pomatotus saltatrix</i>	0	2	0	11	8
Rajades	7	0	6	0	0
<i>Sarda sarda</i>	0	0	0	0	0
<i>Sardina pilchardus</i>	2508	6	0	0	0
<i>Sardinella aurita</i>	0	0	0	0	0
<i>Sarpa salpa</i>	3	0	0	8	0
<i>Sciaena umbra</i>	1	0	2	2	2
<i>Scomber colias</i>	0	0	0	0	0
<i>Scomber scombrus</i>	3	0	0	0	0
<i>Scophthalmus maximus</i>	0	9	0	3	7
<i>Scophthalmus rhombus</i>	18	0	0	0	0
<i>Scorpaena</i> spp.	143	8	4	24	39
<i>Sepia elegans</i>	0	0	0	0	0
<i>Sepia officinalis</i>	1931	2965	6165	2963	1274
Sepiidae, Sepiolidae	0	0	0	0	0
Sepiolidae spp.	0	0	0	0	0
<i>Seriola dumerili</i>	3	1	9	0	0
<i>Serranus</i> spp.	2	0	0	0	0
Soleidae	1	1	0	0	1
<i>Sparus aurata</i>	25	0	19	288	344
<i>Sphyaena sphyraena</i>	0	0	0	0	0
<i>Spicara</i> spp.	0	0	0	0	0
<i>Spondylisoma cantharus</i>	0	0	0	0	0
<i>Squilla mantis</i>	0	0	0	0	0
<i>Stichopus regalis</i>	0	0	0	0	0
Taurons	0	0	0	0	0
<i>Thunnus alalunga</i>	0	0	0	0	0
<i>Thunnus thynnus</i>	0	0	0	0	0
<i>Trachinotus ovatus</i>	0	0	0	0	0
<i>Trachinus</i> spp.	9	0	0	0	0
<i>Trachurus</i> spp.	120	3	15	58	22
Triglidae spp.	5	0	0	0	0
<i>Trisopterus</i> spp.	0	0	0	0	0
<i>Umbra</i> spp.	0	0	0	0	0
<i>Uranoscopus scaber</i>	13	0	0	0	0
<i>Xiphias gladius</i>	0	0	0	0	0
<i>Xyrichtys novacula</i>	0	0	0	0	0
<i>Zeus faber</i>	0	0	0	0	0

## ANNEX XIII. FISHING EFFORT AND LANDINGS GEOGRAPHIC DISTRIBUTION OF CATALAN PURSE SEINE FLEET

Institut Català de Recerca per la Governança del Mar (ICATMAR)

**Fishing Effort and Landings Geographic  
Distribution of Catalan Purse Seine Fleet**

**(ICATMAR, 2020-12)**



Edited by: Joan Sala-Coromina



Institut Català de Recerca  
per a la Governança del Mar

 Generalitat de Catalunya  
Departament d'Agricultura,  
Ramaderia, Pesca i Alimentació

 **CSIC**  
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

 Institut  
de Ciències  
del Mar

This report presents the analysis methodology and first results of the fishing effort and landings geographic distribution of the Catalan purse seine fleet using VMS (Vessel Monitoring System). The report has been conducted by the Catalan Research Institute for Sea Governance (ICATMAR), a cooperative organ between the Directorate-General of Fisheries and Maritime Affairs (DGPAM) from the Agriculture, Livestock, Fishing, and Food Department (DARP) of the Government of Catalonia and the Marine Science Institute (ICM) from the Spanish National Research Council (CSIC).

Data included in the present report came from:

- Knowledge transfer and main commercial species biological – fishing monitoring in the Catalan coast project (PESCAT, European Maritime and Fishing Funds (EMFF), Catalan Government; REF. ARP029/18/00003 / 152CAT00009).
- Project “Actions of the General Fisheries and Maritime Affairs Directorate (DGPAM) in the field of data collection and community co-financing in accordance with Article 77 of the European Maritime and Fisheries Fund (EMFF) 2014-2020 (ICATMAR MONITORING REPORT 2018 AND 2019, European Maritime and Fisheries Fund (EMFF), Generalitat de Catalunya, Ref. 311CAT00002)”
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## Fishing effort and landings distribution of Catalan purse seine fleet

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### 1. Introduction

The incorporation of the spatial dimension to fisheries management can be one of the important elements in combining a fishing effort reduction or the protection of certain parts of species populations with the continuity of fishing activity. Incorporating spatial fleet knowledge and biological information of exploited stocks to fisheries management plans should allow taking decisions as respectful as possible either for the resource or the fishing sector.

The state of small pelagic fish populations makes necessary addressing its management with the maximum available knowledge. In a spatial dimension, the analysis of the purse seine fleet presents some challenges compared to the trawling activity, traditionally more studied in the Catalan coast, that derive from the lower connection to benthic habitat of the objective species. Based on field observations, this report aims to establish the basis for purse seine spatial data treatment and make a first spatial characterization to provide a useful framework to be taken into account on fisheries management.

### 2. Methodology

The fishing effort and landings distribution analysis needs a geopositioning of fleet activity and a treatment of these data. In our case, derived of the lack of higher resolution fleet positioning data, VMS data are used, provided by the Spanish Fisheries Ministry. Vessel positioning *per se* does not inform on its activity, therefore, on board information on the vessel operations is needed in order to link them with positioning systems signals.

#### 2.1. On board sampling

With the aim of gathering information on purse seine fishing operations, on board observations were done. Sampled fishing trips were registered with a GPS device with a ping frequency of approximately one minute. At the same time observers registered all fishing operations occurring on board on a logbook. With the information obtained and available bibliography (Bez et al., 2011; Katara & Silva, 2017) three main vessel operations were defined:

- **Navigation – school search:** once vessels arrive to legal fishing depths (in general 30m at the Spanish coast) start looking for fish schools with sensors, mainly acoustic sounders, sonars and in some cases fish size selectors. During all night, navigation at high speeds corresponds to the fish searching activity.
- **Fish accumulation:** once the vessel detects a potentially fishable school speed is reduced and fish accumulation operation starts. In most cases the small boat equipped with light lamps is released with the aim of aggregating fish under it. Then, with the help of main boat sensors, school behaviour, size, fish species and its size are evaluated in order to decide whether a fishing operation worth it. The time spent in this activity is extremely variable as it depends on the type of school found and its

behaviour but also on the skipper fishing strategy. In some cases the light boat can be released at some point and, waiting fish to accumulate while skipper may go exploring other zones with the main boat. Figure 1A and Figure 1B are examples of this behaviour.

- **Fishing operation:** once skipper perceive the school is ready to be correctly fished, the net is set around it from the main boat and immediately is closed laterally and on its lower side so the fish cannot escape. Then, the net is pulled to the boat to get the fish near it. Finally fish is collected and stored on board. All fishing operation takes places in an hour. Figure 1 C and Figure 1D are examples of fishing phases. In Figure 1D a clear circular track can be observed corresponding to net settlement followed by speed zero positions corresponding to net and fish collection operations.

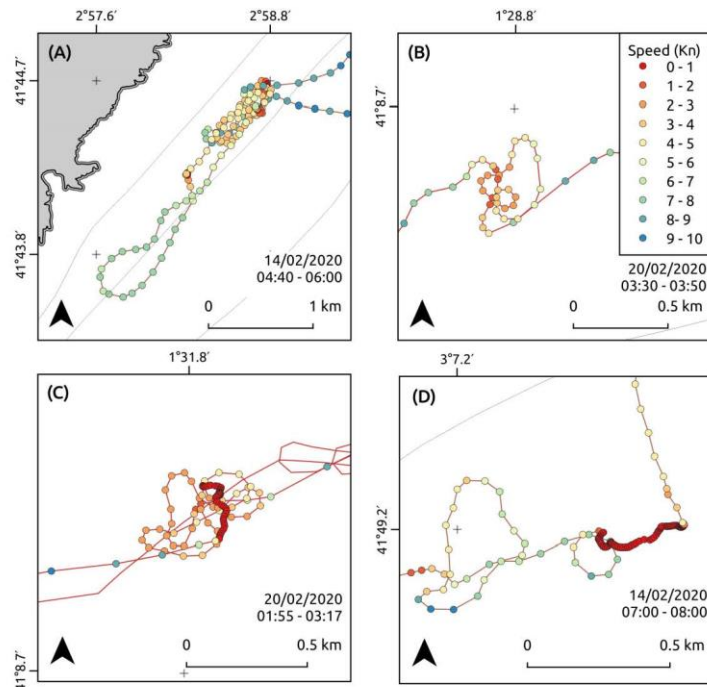


Figure 1. Purse seine fleet operations examples. On board sampling tracks are shown to illustrate *Fish accumulation* (A and B) and *Fishing operation* (C and D) signal in positioning systems.

Besides positioning data, each VMS point has a speed and course associated. We use speed information to discriminate against different vessel operations similarly as in Quattrocchi & Maynou (2018). The speed signal registered on board by observers has three frequency peaks: 0 kn, 2.5-6.5 kn and 12 kn (Figure 2). There is no exact correspondence between the

### Fishing effort and landings distribution of Catalan purse seine fleet

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three speed modes and the three vessel activities. Whereas *navigation – school search* is only done at higher speeds (12 Kn peak), *fish accumulation* and *fishing operation* can include either 0 kn or 2.5-6.5 Kn speed modes.

#### **2.2. VMS data treatment**

Purse seine fleet operates during the night and at depths deeper than 25m. Therefore, the first step is deleting data that does not accomplish these conditions. Posteriorly, points must be classified between fishing and non-fishing so a fishing time and landings can be associated afterwards.

VMS speed signal from the purse seine Catalan fleet shows a trimodal distribution (Figure 3A) with the same structure as the one registered on board by observers (Figure 2) and coherent with other studies (Katara & Silva, 2017). AIS data from a fleet subset has also been analysed, showing the same structure as VMS and on board data (Figure 3B). The correspondent speed histogram structure of on board, AIS and VMS data makes highly probable that the vessel operations observed on board are representative of the whole Catalan purse seine fleet behaviour.

In this study, fishing effort on the small pelagic fish is defined as the sum of all the vessel operations described. That is, all speeds from 0 to 15 kn are included in its computation. Although higher speed operations are not necessarily in contact with the fishing resource, vessels are actively looking for fish schools with sensors and therefore applying an indirect effort on the exploited resource. Moreover, *navigation – school search* is the most frequent vessel operation with important costs for vessel's economy, therefore, these operations must be taken into account, especially when calculation Catch Per Unit Effort (CPUE) values.

Fishing effort and landings distribution of Catalan purse seine fleet

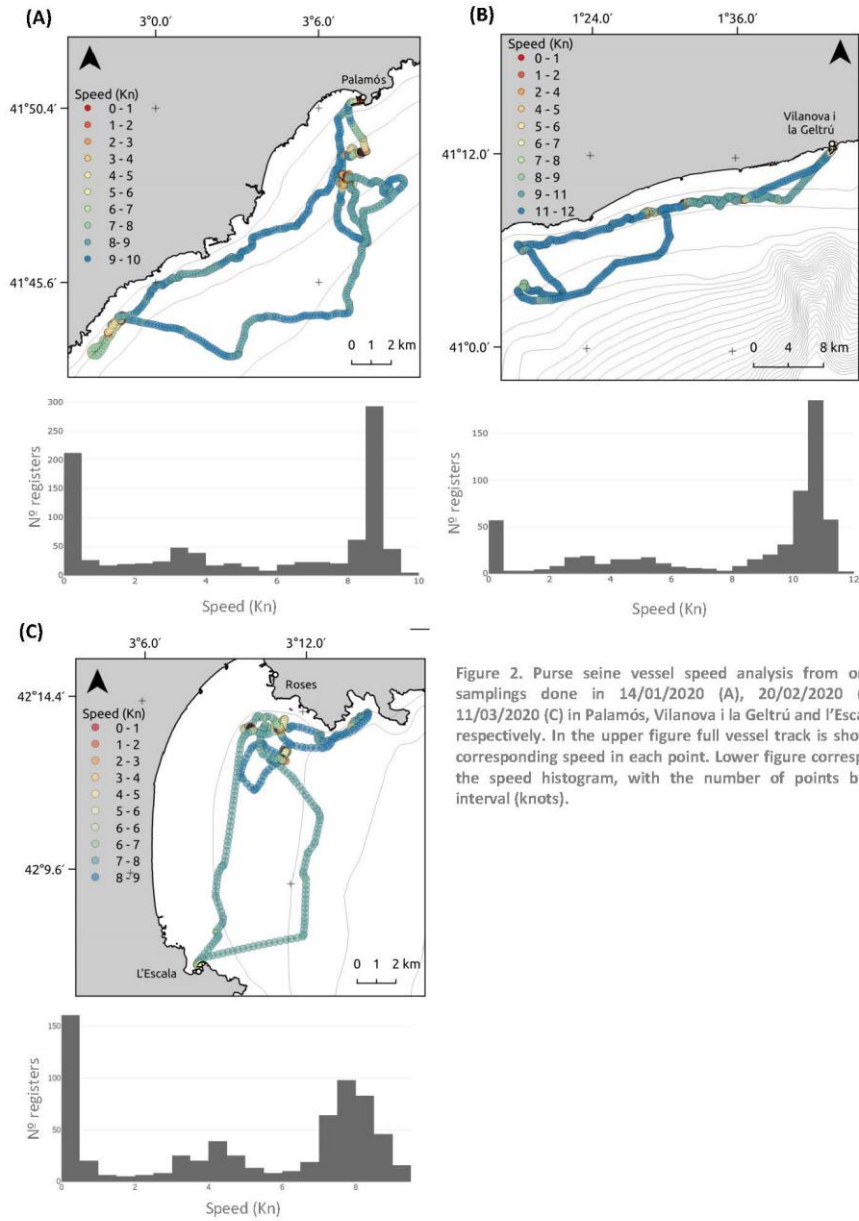


Figure 2. Purse seine vessel speed analysis from on board samplings done in 14/01/2020 (A), 20/02/2020 (B) and 11/03/2020 (C) in Palamós, Vilanova i la Geltrú and l'Escalà ports respectively. In the upper figure full vessel track is shown with corresponding speed in each point. Lower figure corresponds to the speed histogram, with the number of points by speed interval (knots).

## Fishing effort and landings distribution of Catalan purse seine fleet

On geopositioning fishing landings, positions with speeds between 0 and 6.5 Kn were used. *Fishing and school accumulation* operations are extremely difficult to disentangle on a speed basis. On purse seine *fishing operation* the same operational structure is repeated each time. It is differentiable from *fish accumulation* with high frequency positioning data such as GPS devices used on field sampling. It can be observed that the main vessel has a circle trajectory corresponding to net settlement followed by a 0 Kn period corresponding to net and fish collection (Figure 1C and Figure 1D). VMS time frequency does not allow distinguishing between these two operations, therefore, landings were assigned to positions where vessels have a direct interaction with the exploited resource not necessarily catching it. That is, this approximation gives an estimate of the fleet resource interaction more than resource catch. In summary, points between 0 and 6.5 Kn are classified as fishing and points with speeds >6.5 Kn as non-fishing.

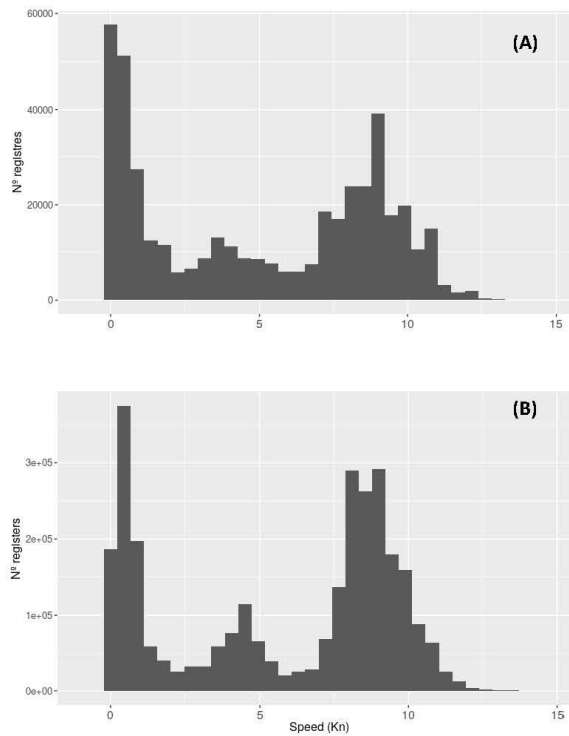


Figure 3. VMS (A) and AIS (B) speed histogram comparison. Port points are excluded in both datasets. VMS data correspond to all Catalan purse seine fleet from 2015 to 2019 (443.119 points). AIS data correspond to 21 randomly selected vessel from the Catalan purse seine fleet (35% of the overall fleet) for 2018 (3.149.901 points).

### Fishing effort and landings distribution of Catalan purse seine fleet

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Total fishing time by fishing trip (day and vessel) is calculated and assigned homogeneously to all points in it. Posteriorly this dataset is crossed with landings data. Each specie Kg and € landings are also homogeneously distributed but only on the points classified as fishing (0 – 6.5 Kn). Finally these variables can be spatially aggregated by 1km<sup>2</sup> grid in order to visualize them or carry on with statistical analysis.

VMS data filtering, fishing effort calculation and crossing with landings data is a highly demanding computational process. Aiming at enhancing data accessibility and utilization the data treatment process has been semi-automated and integrated in the project (Fisheries Advisory Service, SAP-ICATMAR) PostgreSQL - PostGIS database environment.

### 3. Study framework

The main pelagic commercial species landed by the Catalan purse seine fleet are sardine (*Sardine pilchardus*) and anchovy (*Engraulis encrasicolus*) which represent the highest landings proportion for this fleet (84-90.4% between 2015 and 2019). Besides these two species *Sardinella aurita*, Atlantic mackerel (*Scomber scombrus*), *Scomber colias* and horse mackerel (*Trachurus spp*: *T. trachurus*, *T. mediterraneus*, *T. picturatus*) are also fished.

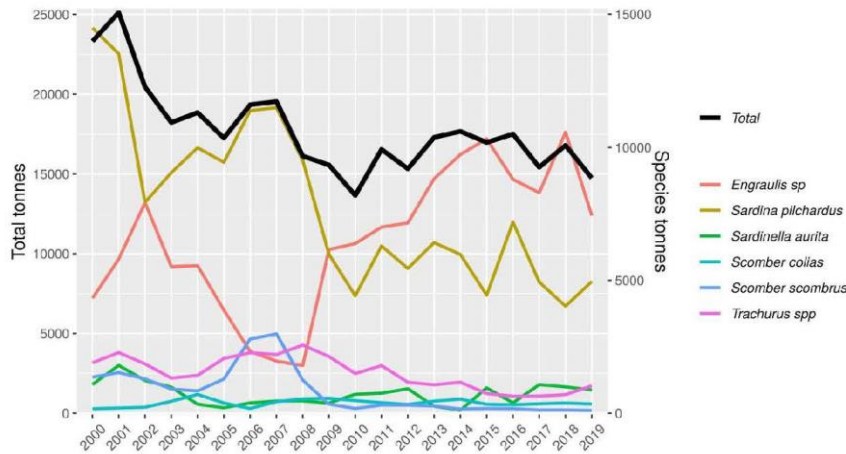


Figure 4. Historical landings series from Catalan auctions of the five main pelagic species caught by purse seine fleet. Auction identification issues have been detected and consequently some FAO codes had to be grouped: *Engraulis encrasicolus* (ANE + ENR), *Sardina pilchardus* (PIL), *Sardinella aurita* (SAA), *Scomber colias* (MAS), *Scomber scombrus* (MAC), *Trachurus spp* (HMM + HMY + HOM + JAA + JAX).

Sardine and anchovy have been historically the main species caught with an opposite tendency between them. Other species importance has varied along the last 10 years but always under the two main ones (Figure 4).

A seasonal variability is also observed on landings data (Figure 5). Sardine and anchovy landings seasonality is similar to the fishing effort one, with peaks during spring and summer respectively. Contrarily, *Sardinella aurita* presents higher landings during winter autumn – winter months. *Scomber sombrus* and *Scomber colias* have its maximum in summer and horse mackerel (*Trachurus spp*) do not present a clear seasonality probably caused by the diversity of species contained in this category. In order to correctly interpret purse seine fleet seasonality is important to take into account that temporal fishing closures are done during winter months. In last years closures have been typically occurring for a month between January and December. In the case of southern Catalonia closures have been longer reaching mid-February.



Fishing effort and landings distribution of Catalan purse seine fleet

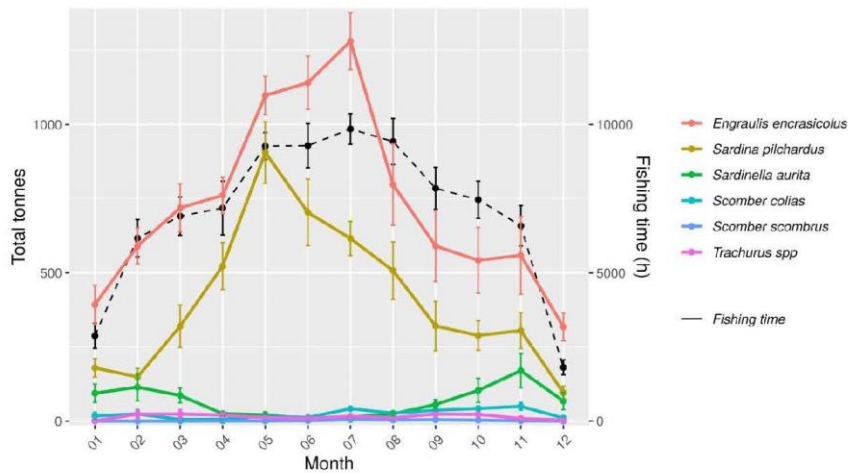


Figure 5. Monthly mean pelagic species landings of the five main pelagic species caught by purse seine fleet for years 2015-2019, both included. Auction identification issues have been detected and consequently some FAO codes had to be grouped: *Engraulis encrasicolus* (ANE + ENR), *Sardina pilchardus* (PIL), *Sardinella aurita* (SAA), *Scomber colias* (MAS), *Scomber scombrus* (MAC), *Trachurus spp* (HMM + HMY + HOM + JAA + JAX).

The present study is framed in the last five years with available data, 2015 – 2019, both included. We integrated five year data aiming at including enough time interval to have a representative fleet analysis. Factors studied are the spatial, bathymetric and seasonal fishing effort and landings distribution and concentration, globally and by species.

Variables have been accumulated by km<sup>2</sup> (60.337 in total) and by depth polygons along the Catalan coast (296 polygons representing 25 m depth range each between 25 to 1100 m depth) separately. Fishing effort and landings are analysed globally and by species. Variables have been calculated on a monthly iteration for the five years studied using python code (psycopg2) and a PostgreSQL-PostGIS database.

Small pelagic fish landings have an interannual fluctuation derived from the interaction between fishing activity and natural commercial species population cycles. In consequence landings absolute values variate in the studied period (Figure 4). Moreover, it has been proved that VMS low ping frequency causes a loss of fishing operations registration but not a significant spatial pattern change (Katara & Silva, 2017). Taking this into account we worked with yearly landings and effort proportions by km<sup>2</sup>, that is, the variable percentage that each km<sup>2</sup> contains with respect to its annual value (see Lee et al., 2010). This methodology allows the standardization of interannual variations and the comparison of fishing patterns between years even if variables are not compared in absolute values.

### Fishing effort and landings distribution of Catalan purse seine fleet

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Variables are visualized and studied using maps and its spatial distribution is calculated by depth range and season. Concentration curves are also calculated with fishing effort, total landings and by species. This is a frequently used methodology when studying fishing spatial distribution (Jennings & Lee, 2012; Quattrocchi & Maynou, 2018), it allows the quantification of its extension and concentration. It consists on the representation of the accumulated variable (effort or landings) by each  $\text{km}^2$  in a descendent order. The more concave the curve is the more spatially concentrated the variable is. With the aim of comparing curves extensions containing the 50% (Km50) and 100% (KmMax) of the variables were used. The zones with higher variable concentrations will also be represented using maps. R studio has been used for data treatment and plot design and QGIS for map design.

## 4. Results

### 4.1. Global landings and fishing effort

Purse seine fishing effort is distributed along all Catalan Coast, especially from the Roses Gulf and l'Ametlla de Mar (Figure 6A). Activity is distributed between 25 and 200m depth even if 81% of it is concentrated between 25 and 100m depth (Figure 8B).

Purse seine fishing is not allowed at shallower depths than 35m (Orden ARM/2529/2011) and therefore is highly possible that the real depth range of the fishing activity starts at this limit. On the data treatment process, points shallower than 25m have been excluded to avoid navigation corresponding to port entrances and exits. To determine whether the fleet has shallower than 35m activity a more detailed analysis should be done.

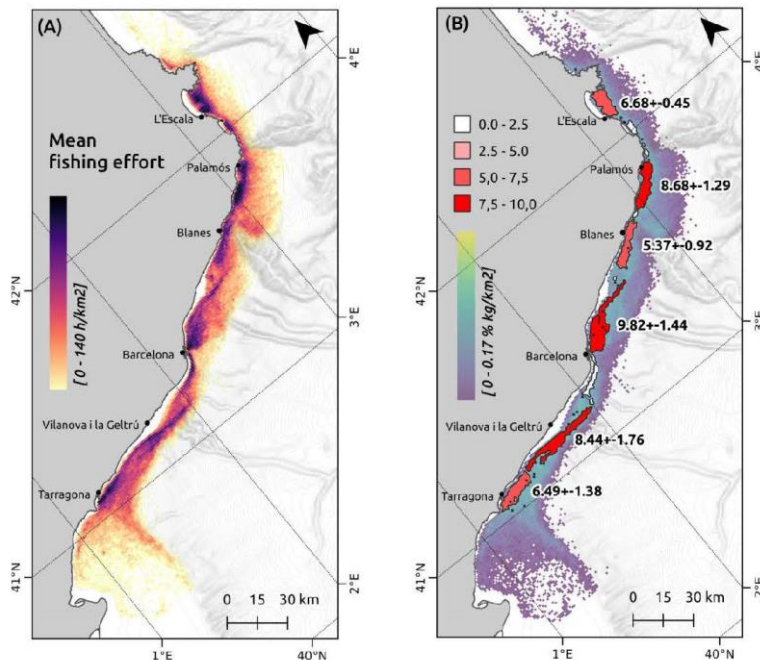


Figure 6. (A) Fishing effort mean for study years (2015-2019) by km<sup>2</sup>. (B) Fishing effort proportion annual mean for the five study years by km<sup>2</sup>. Areas shown were defined on the highest concentration zones of the annual proportional fishing effort mean fulfilling the condition that they account for the 50% of the total effort together. Therefore defined areas correspond to the 802 km<sup>2</sup> (Km50) with highest fishing effort concentration. Mean proportional fishing effort of each area is indicated with its confidence interval (95%) for the five study years. Only areas with values higher than 5% are labelled.

Fishing effort is distributed in a total of 6422 km<sup>2</sup> (Figure 8A). Its concentration is not homogeneous in the space, it has high concentration zones. Accumulation curves show that 50% of effort is concentrated in only 802 km<sup>2</sup> (Km50, Figure 8A). Areas that correspond to

## Fishing effort and landings distribution of Catalan purse seine fleet

these zones are represented in Figure 6B and are located in the Roses Gulf, Palamós-Tossa coast, Lloret de Mar – Sant Pol de Mar coast, northern Barcelona, Vilanova i la Geltrú and Tarragona coasts.

Landings distribution has an obvious spatial correspondence with fishing effort even it presents some differences. Defined areas are similar but its relative importance in fish landings changes. It is remarkable the importance of landings in Vilanova i la Geltrú coast in comparison of the fishing effort in this area (Figure 6 and Figure 7).

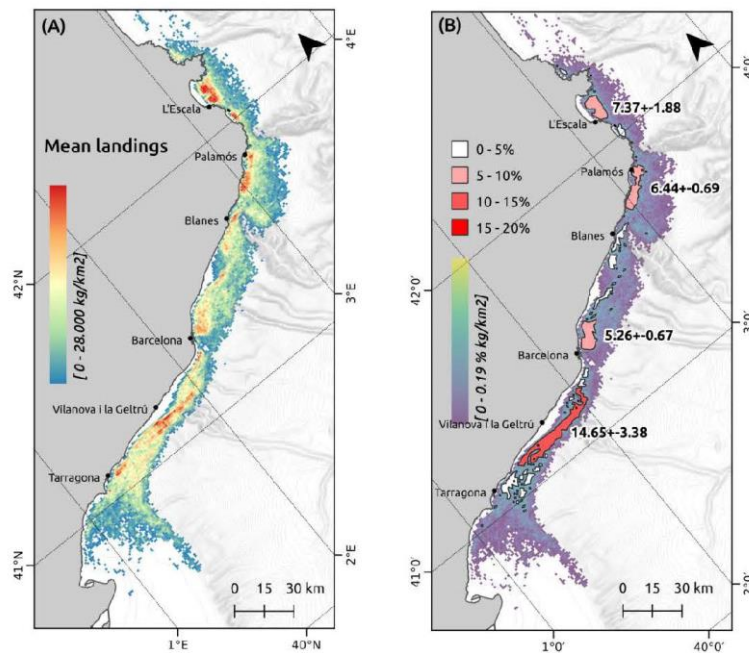


Figure 7. (A) Landings mean for study years (2015-2019) by  $\text{km}^2$ . (B) Landings proportion annual mean for the five study years by  $\text{km}^2$ . Areas shown were defined on the highest concentration zones of the annual proportional landings mean fulfilling the condition that they account for the 50% of the total landings together. Therefore defined areas correspond to the  $761 \text{ km}^2$  (Km50) with highest landings concentration. Mean proportional landings of each area are indicated with its confidence interval (95%) for the five study years. Only areas with values higher than 5% are labelled.

Bathymetric landings distribution is also parallel to the effort (Figure 8B), concentrated mainly between 25 and 100m depth. Fishing activity in interaction with the fish resources (*fish accumulation* and *fishing operation*) is distributed along  $5125 \text{ km}^2$  as the concentration curve indicates (Figure 8A). Similarly to the fishing effort, landings are not homogeneously distributed, there are certain zones with high concentrations: Roses Gulf, Palamós-Tossa, Barcelona and Vilanova i la Geltrú coasts (Figure 7B). These zones represent an extension of  $761 \text{ km}^2$  and contain 50% of small pelagic fish catches (corresponding to Km50 in Figure 8A).

Fishing effort and landings distribution of Catalan purse seine fleet

It is important to highlight the stability of the concentration areas either for effort or landings (see confidence intervals in Figure 6B and Figure 7B). There is an interannual variation of small pelagic fish landings (Figure 4) but according to the obtained results its relative importance is maintained over time.

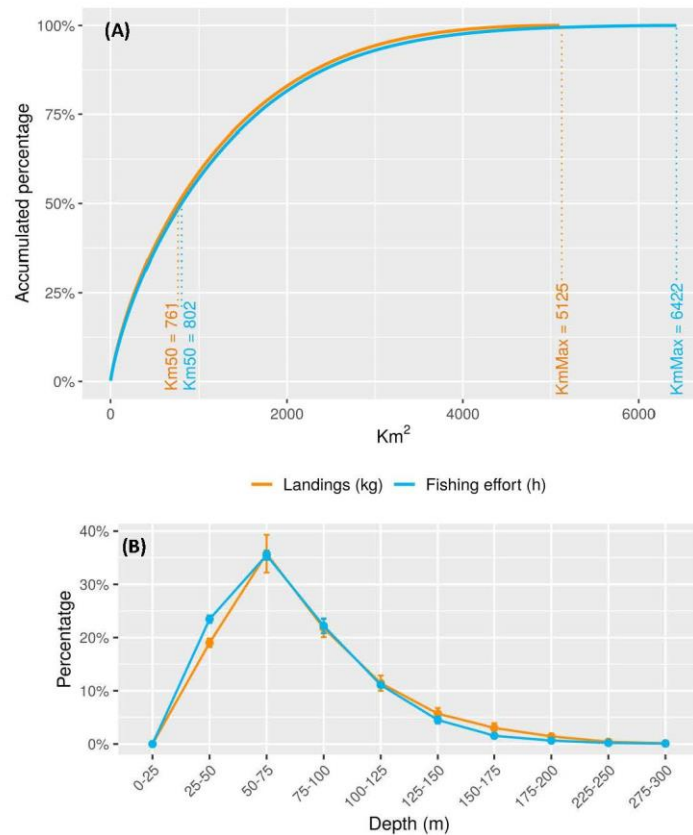


Figure 8. (A) Mean fishing effort and landings concentration curves for the Catalan purse seine fleet for years 2015-2019. Proportional variables by km<sup>2</sup> accumulation are represented starting on highest values. Km50 and KmMax are labelled which correspond to the extensions containing 50% and 100% of the variable respectively. (B) Proportional fishing effort and landing annual mean by depth ranges. Standard error for the five study years is shown.

It is important to take into account that, derived from the methodology used, fishing effort represents vessels navigation from 25m depth and therefore not a direct interaction with the resource. In this sense high effort concentrations zones in front of Barcelona and Tarragona ports can be associated to vessels entrance and exit from port. The rest of the defined zones do not have as close relationship with ports and therefore is probable that represent a closer interaction of the fleet with fish resources. This is supported by its correspondence with landings concentration areas defined in Figure 7B.

### Fishing effort and landings distribution of Catalan purse seine fleet

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Effort is more extensively distributed than landings (6422 km<sup>2</sup> and 5125 km<sup>2</sup> respectively) indicating that there are zones only with *navigation – school search* operations. These are zones with reduced fishing effort probably corresponding to exploring activities of the fleet in zones where normally there is not fishing activity. That is, in general fishing effort is applied in zones where there's fishing operations (*school accumulation* and *fishing operation*) too.

In the overall vessel's activity the *navigation – school search* operations represent a high percentage as can be deduced from the VMS and AIS histograms (Figure 3). It is interesting comparing this with trawling fleet operations where the main activity involves trawling operations.

The bathymetric distribution of the purse seine fleet activity has also seasonal changes. Summer and spring is where most fishing effort and landings are concentrated (approximately 30% in both cases, Figure 9). In spring most activity is concentrated at 50-75m depth whereas in summer concentrates from 50 to 100m depth. Activity is reduced in autumn even if it follows the summer distribution. In winter activity concentrates to spring depths again. It is important to consider fishing closures occurring in winter when interpreting seasonal analysis.

Fishing effort and landings distribution of Catalan purse seine fleet

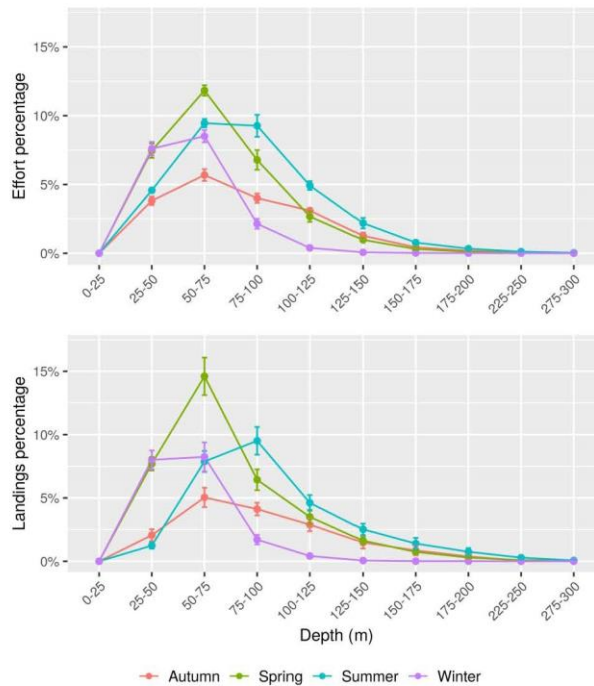


Figure 9. Bathymetric fishing effort and landings seasonality. Proportional variables seasonal means and its standard errors are shown by depth ranges for the five study years (2015-2019).

#### 4.2. Landings distribution by species

Sardine and anchovy landings are distributed along all Catalan coast with a clear parallelism with fishing effort and global landings data (Figure 10). Contrarily, secondary species landings distribution is disaggregated, what makes difficult to observe a clear pattern for them (Figure 11).

Accumulation curves show results in the same direction. Sardine and anchovy are the species with highest extensions (4033 and 4931 km<sup>2</sup> respectively) followed by *S.colias*, *Trachurus spp*, *S.aurita* i *S.scombrus* (¡Error! No se encuentra el origen de la referencia.). Either secondary species KmMax or Km50 are half of the two main species (Figure 12) confirming its lower spatial extensions.

Bathymetric landings distribution varies between species (Figure 13). *Trachurs spp* and *Sardinella aurita* have the shallower landings with its peak between 25 and 50 m depth followed by sardine, *S.scomber* and *S.colias* with the highest values between 50 and 75 m. Anchovy has the widest bathymetric distribution with its peak between 50 and 100 m depth.

Fishing effort and landings distribution of Catalan purse seine fleet

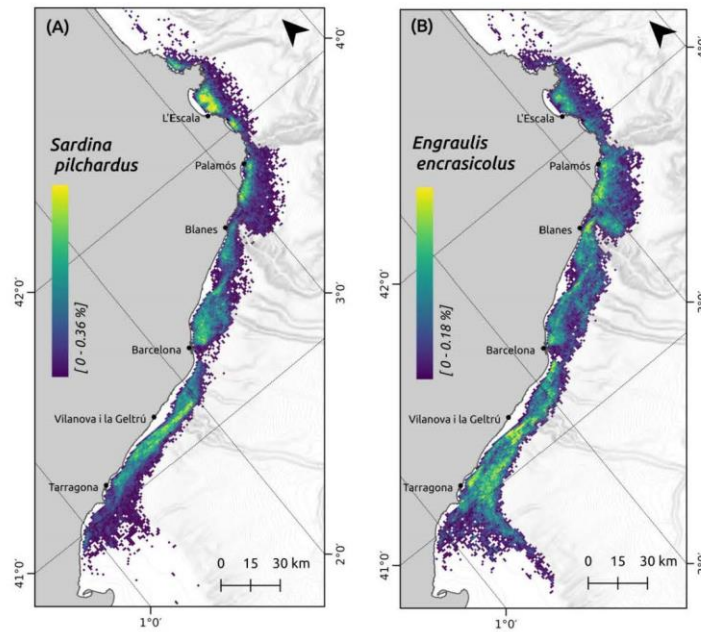


Figure 10. Proportional landings distribution annual mean by km<sup>2</sup> (2015-2019) for the two main pelagic species caught: sardine and anchovy.

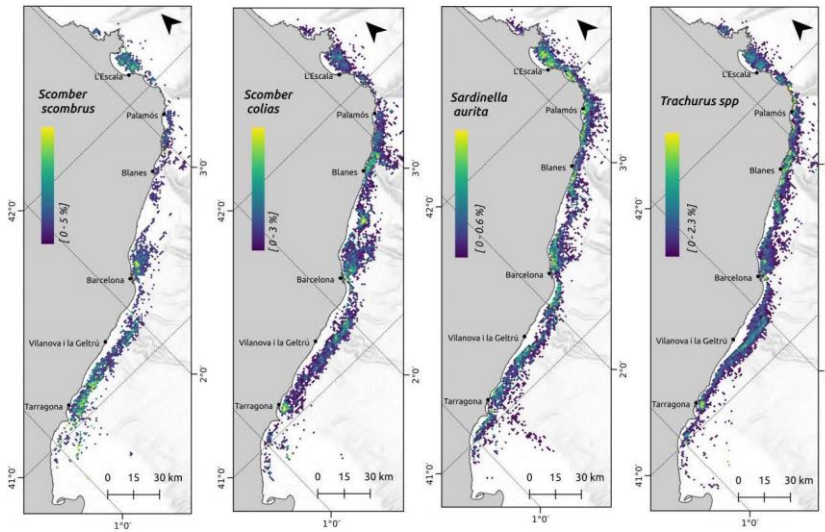


Figure 11. Proportional landings distribution annual mean by km<sup>2</sup> (2015-2019) for the four secondary pelagic species caught.



Fishing effort and landings distribution of Catalan purse seine fleet

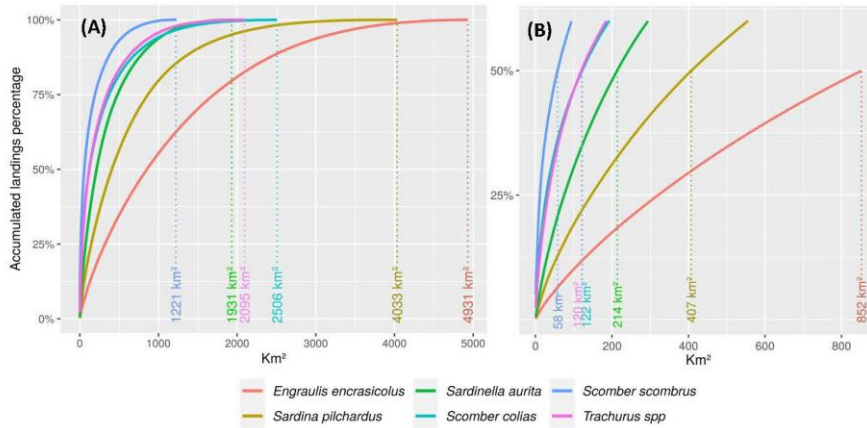


Figure 12. Concentration curves by species. Proportional landings by km<sup>2</sup> accumulation are shown in a descendent order. (A) Complete curves are shown and extensions where 100% of landings are reached (KmMax) are indicated. (B) Initial curves are shown and extensions where 50% of landings are reached (Km50) are indicated.

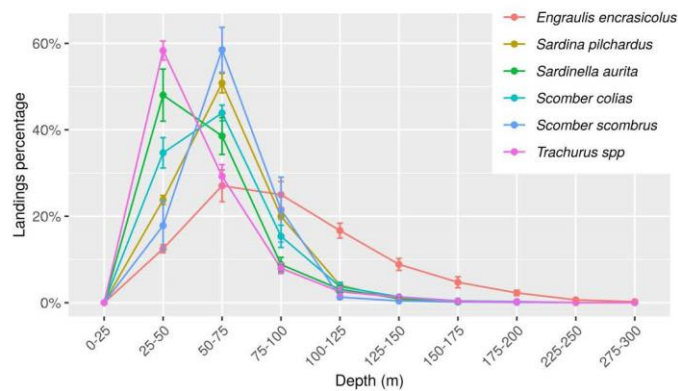


Figure 13. Annual proportional landings mean (2015-2019) by depth range and species. Standard errors are shown.

Landings by species have also a seasonal variability (Figure 14). *Trachurus spp* is the only one without a clear seasonal pattern probably caused by the aggregation of different species contained in this category. Sardine and anchovy show a similar pattern with highest landings in spring and summer respectively. Moreover, there is a bathymetric displacement along the year with landings at higher depths during summer season. *S.colias* landings peak is appears summer – autumn showing a seasonal displacement as well with deeper landings in summer season. *S. scombrus* is the species with the most extreme seasonality with 55% of landings concentrated during summer months. Finally, *Sardinella aurita* shows a reverse seasonal

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pattern with the highest values during autumn – winter. Nevertheless the seasonal bathymetric displacement to deeper zones in summer is maintained for this species.

It is important taking into account that sardine and anchovy landings have a big influence on global small pelagic landings, even in a seasonal or spatial level. These two species are the main objective of fishers and have much higher landings than the other four secondary groups.

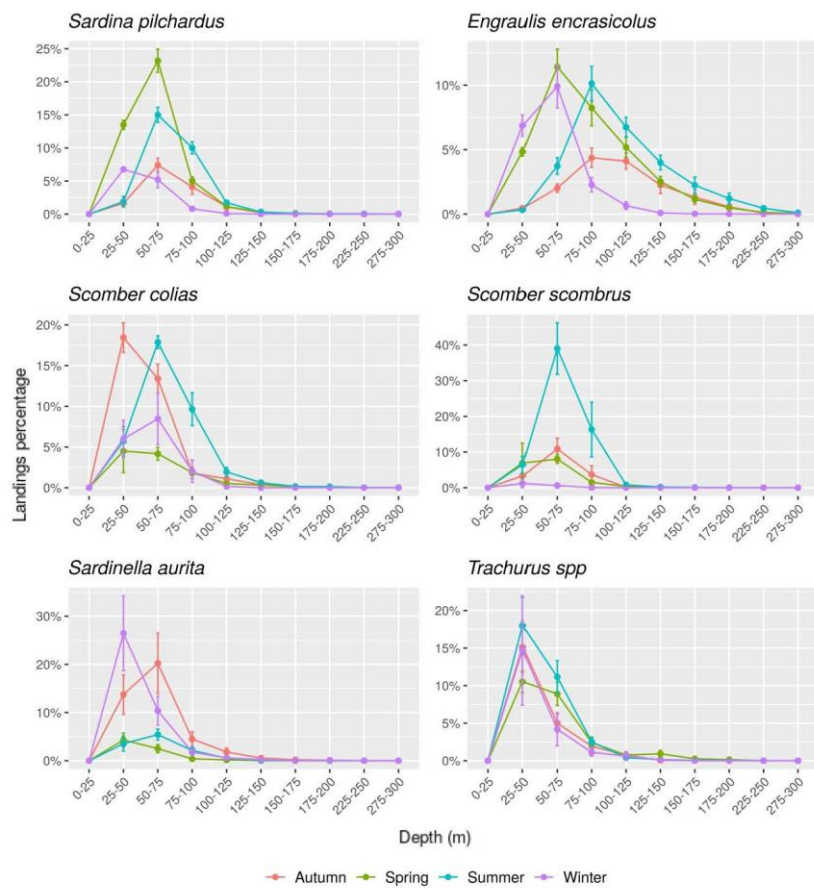


Figure 14. Bathymetric landings distribution seasonality by species. Annual proportional landings mean (2015-2019) by depth range and species. Standard errors are shown.

The analysed landings spatial distribution is not showing the caught species natural distribution, visualization is derived from the fishing fleet activity. However, it is probable that as sardine and anchovy are the main objective species of fishers, the fleet activity

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reflects a close approximation to natural distribution of these species. In contrast, for the four secondary species, observed pattern is probably further from the natural one. The seasonality of *Sardinella aurita* could be a clear example of that. It is probable that this species presents higher landings on winter months as a consequence of a lack of sardine or anchovy and not derived from a higher abundance of the species.

It has to be considered that the smaller data amount for secondary species reduces results robustness compared to the two main objective species. This effect can be noticed in Figure 13 and Figure 14 where most standard errors for secondary species are higher than those for main species. This is the reason why we analysed only main fishing areas for sardine and anchovy and not for the six studied species (Figure 15).

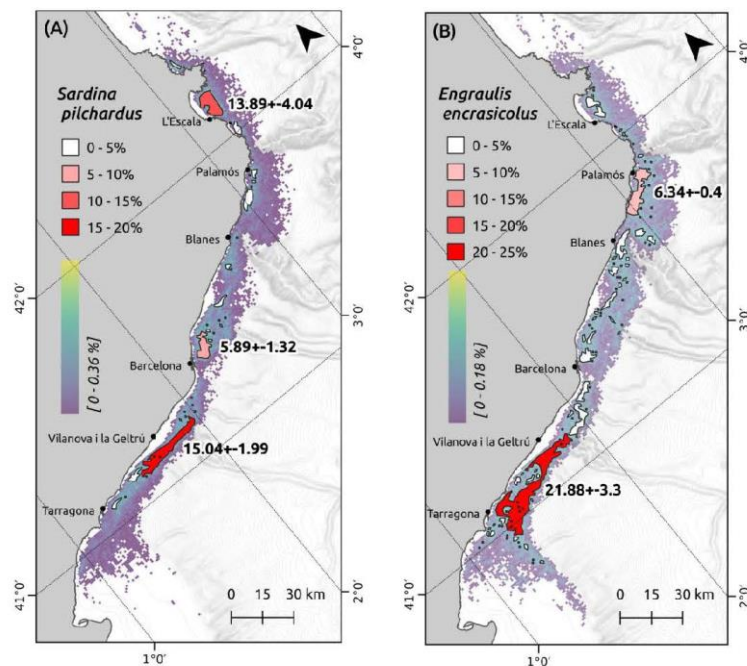


Figure 15. Main sardine and anchovy fishing grounds. Landings proportion annual mean for the five study years by km<sup>2</sup>. Areas shown were defined on the highest concentration zones of the annual proportional landings mean fulfilling the condition that they account for the 50% of the total landings together. Therefore defined areas correspond to the 291 km<sup>2</sup> and 521 km<sup>2</sup> (Km50) for sardine and anchovy respectively, with highest landings concentration. Mean proportional landings of each area are indicated with its confidence interval (95%) for the five study years. Only areas with values higher than 5% are labelled.

### Fishing effort and landings distribution of Catalan purse seine fleet

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In the case of sardine three main fishing grounds are defined (Figure 15A): Roses Gulf, Barcelona – Montgat (50-80m depth) and Calafell-Garraf (30-90m depth). These three zones contain the 35% of species landings approximately.

Anchovy has two main catching zones (Figure 15B): Palamós – Tossa (30-100m depth) and Sitges – Cap de Salou (50-200m depth), especially in front of Vilanova i la Geltrú port. Both fishing grounds concentrate 28% of landings. Anchovy landings have a wider distribution than sardine, therefore more and bigger fishing grounds are defined compared to sardine.

It is important to highlight that defined fishing grounds have an interannual stability. Even if total sardine and anchovy landings have a variability, the relative importance of these fishing grounds remain stable. These areas also include seasonal variability as we defined them using global annual data. Comparing the two main species fishing grounds (Figure 15) with important areas in the global landings (Figure 7B) it can be observed that there is a spatial overlap in some of them but not for all. That is, Roses Gulf and Barcelona coast may be important fishing grounds only for sardine whereas Palamós-Tossa ground only for anchovy. In contrast, Vilanova i la Geltrú fishing ground is important for both species.

### 5. Conclusions

In this report a methodology for purse seine VMS treatment is presented. This allows generating information in order to understand this fishery spatially. Moreover, the beginning of on board samplings for this fleet is a key step to spatially understand this fishery but also its biologic impacts and socioeconomic traits.

The present methodology aims at being an initial step in the purse seine spatial analysis and therefore it is subject to modifications in order to improve its robustness. Some examples of more complex methodologies can be found in Bertrand (2008) or in Lucchetti (2018). VMS raw data have a low ping frequency and therefore methods derived from these data are approximate. Next step is incorporating ping interpolation methods such as the one described in Russo et al. (2011). Moreover, a higher ping frequency positioning system would notably increase estimates reliability (Katara & Silva, 2017).

Presented results give important information that could play a role on the Catalan small pelagic fishery management design. The capacity of analysing fishing effort and landings geographic distribution opens the possibility to spatially manage this fishery. One of the most important result found is the interannual stability of certain fishing grounds, this would enable a fishing mortality reduction via spatial closures. Sardine and anchovy fishing grounds distribution indicate that not all areas are suitable for the management of both species, only Vilanova i la Geltrú fishing ground is shared by both species. For instance, Roses Gulf would be a more suitable site for a sardine mortality reduction (16.9% of total Catalan landings are contained in this fishing ground) than for anchovy (4.8% of the total Catalan landings).

Small pelagic fish spatial management must be considered taking into account other alternatives such as fish mortality reduction via fishing quotas. Compared to trawling fleet, purse seine operational characteristics might make difficult its spatial management. First, it is a strongly mobile fleet and therefore, spatial closures may cause effort redistribution that attenuates overall fishing mortality reduction. Second, fishing art used has no interaction with benthic habitat so a spatial closure would not accomplish with habitat restoration objective as for trawling fleet no-take areas.

Data presented in this report come from landings and not from species distribution derived from a scientific sampling. In this sense, presented results are useful to plan and evaluate certain management measures on fleet behaviour and landings distribution. However, they should be combined with scientific monitoring biological data in weight/length and sexual maturation in order to take into account biological fish populations states too.

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