

16 Other deep-water species in the Northeast Atlantic

16.1 The fisheries

The following species are considered in this chapter: common mora (*Mora moro*) and Moridae, rabbit fish (*Chimaera monstrosa*, *Rhinochimaera atlantica* and *Hydrolagus* spp), Alepocephalidae including Baird's smoothhead (*Alepocephalus bairdii*) and Risso's smoothhead (*A. rostratus*), wreckfish (*Polyprion americanus*), blackbelly rosefish (*Helicolenus dactylopterus*), silver scabbardfish (*Lepidopus caudatus*), deep-water cardinal fish (*Epigonus telescopus*) Mediterranean slimehead, also known as silver roughy (*Hoplostethus mediterraneus*), Black gemfish (*Nesiarchus nasutus*) Atlantic thornyhead (*Trachyscorpia cristulata*), greater eelpout (*Lycodes esmarkii*), Norway redfish (*Sebastes viviparus*) and deep-water red crab (*Chaceon affinis*). Deepsea sharks are not considered as these species are in the remit of WGEF. The species considered include all teleost species from annex 1 of Council Regulation (EC) 2016/2336.

Mora, rabbitfish, smoothheads, blackbelly rosefish and deep-water cardinal fish are taken as bycatch in mixed-species demersal trawl fisheries in Subareas 6, 7 and 12 and to a lesser extent, 2, 4 and 5.

In Subarea 14b, Baird's smoothhead, rabbit fish and species of Moridae are caught as bycatch in demersal trawl fisheries for Greenland halibut (*Reinhardtius hippoglossoides*) but are most likely under reported in official reports from the area.

Mora, wreckfish, blackbelly rosefish and silver scabbardfish are caught in targeted and mixed species longline fisheries in Subareas 8, 9 and 10.

Deep-water red crab were formerly caught in directed trap fisheries principally in Subareas 6 and 7. This fishery reduced strongly from 826 tonnes in 2007 to 125 t in 2008 and have remained at a similar level since.

Although in annex 1 of Council Regulation (EC) 2016/2336 black gemfish and eelpouts (not only greater eelpout but all eelpouts were searched in catch statistics) were never landed from fisheries operating in the ICES area from 2006 to 2017.

16.1.1 Landings trends

Landings reported to ICES are presented in Tables 16.1–16.12, based on ICES catch statistics using historical nominal and the official nominal catches from 2006–2020, downloaded from the ICES website in May 2023. Catch data in 2021 and 2022 were not available as they were not included in preliminary catch statistics and were not reported to InterCatch either.

Mora moro and Moridae have been landed in variable quantity over time from subareas 6 to 10. Landings of chimaerids peaked to around 1000 t in the early 2000s and have shown large year-to-year variations since. Landings of smoothheads peaked to level over 10 000 tonnes in the early 2000s and have been around 400 tonnes in recent years. Landings of wreckfish peaked to more than 1000 tonnes in 2007. The main area is Subarea 10, where landings seem to be on a declining trend. Blackbelly rosefish is landed from subareas 6 to 10, in variable yearly quantity averaging to about 1000t per year. Silver scabbardfish is mostly landed from subareas 8, 9 and 10, landing have decline since the late 1990s. More than 1000 t/year of deepwater cardinal fish was landed in the early 2000. Landings almost ceased in recent years.

Mediterranean slimehead was landed in variable amount with greater quantities from Subarea 9 in years 2012–2015. Atlantic thornyhead was landed in small amount, typically less than one

tonne per year from subareas 6, 7 and 8. Norway redfish was mostly landed from Subarea 5, in declining quantity over 2010–2017.

16.1.2 ICES Advice

ICES has not previously given specific advice on the management of any of the stocks considered in this chapter.

16.1.3 Management

No TACs are set for any of these species in EC waters or in the NEAFC Regulatory Area. None of these species were included in Appendix I of Council Regulation (EC) No 2347/2002 meaning that vessels were not required to hold a deep-water fishing permit in order to land them; they are therefore not necessarily affected by EC regulations governing deep-water fishing effort. They are now included in the Council Regulation (EC) 2016/2336 repealing the previous one.

16.2 Stock identity

No information available.

16.3 Data available

16.3.1 Landings and discards

Landings for all these species are presented in Tables 16.1–16.12. In 2015, other deep-water species (OTH_COMB) were included in the data call for deep-water species, accompanied with a list of species for which landings data are required. The annual reporting of these species to WGDEEP has varied in quality and quantity. In some years and countries provided a single value for other species combined. Therefore, species-specific landings data are incomplete and time-series would need to be revised.

In 2016, some data provided to the working group were not suitable. One country reported species which are not deep-water species, such as coastal Rajidae, another reported American plaice (*Hippoglossoides platessoides*) and Spotted wolffish (*Anarhichas minor*).

In Subareas 6 and 12 landings of silver scabbardfish are suspected to be misreported (probably of black scabbardfish, *Aphanopus carbo*) as the occurrence of the species is not supported by scientific evidence. These issues remain unresolved but need to be explored further.

The reported landings of blackbelly rosefish was high in 2016 and 2017 but similar to 2012–2013.

16.3.2 Length compositions

For several species data on length compositions are available from survey data. Length distributions of blackbelly rosefish in the Spanish Porcupine survey is shown in Figure 16.1 while Figure 16.2 presents the length–frequency distributions from the Spanish bottom-trawl survey in the Northern Spanish Shelf (SP-NGFS) in Divisions 9a and 8c. Trends in mean length of blackbelly rosefish in the French EVHOE survey (Bay of Biscay) is shown in Figure 16. 3. The cumulated length distribution of blackbelly rosefish, silver scabbardfish, common mora and wreckfish in Azorean surveys are presented in Figures 16.4, 16.5, 16.6 and 16.7, respectively.

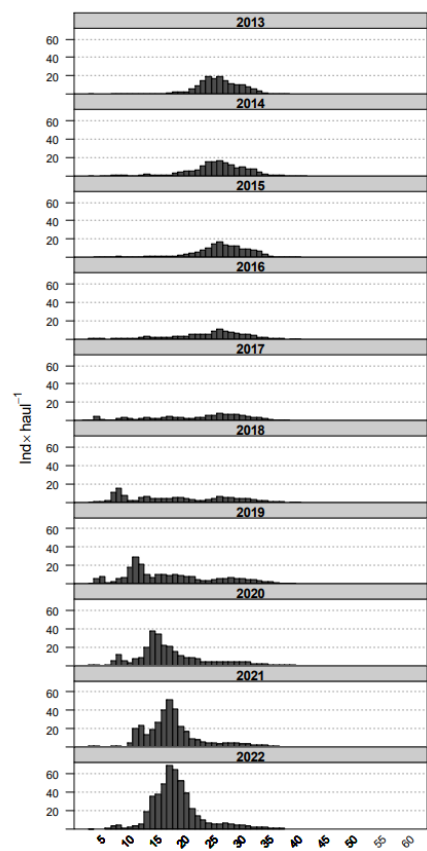


Figure 16.1. Mean stratified length distributions of *Helicolenus dactylopterus* in Porcupine surveys (2013-2022) (from Ruiz-Pico et al., WD 10 to the 2023 WGDEEP).

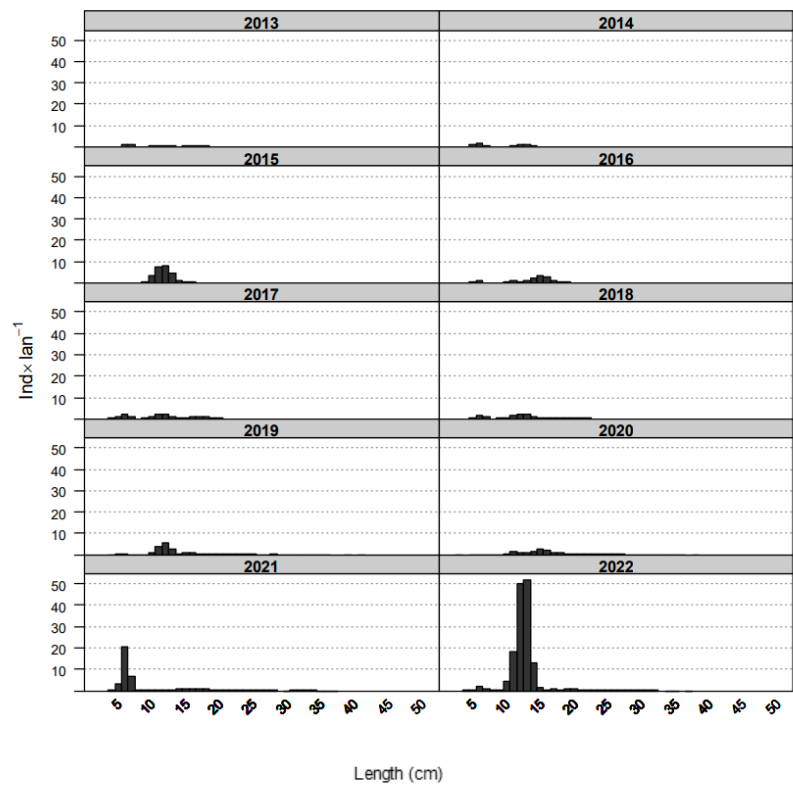


Figure 16.2. Mean stratified length distributions of bluemouth (*H. dactylopterus*) in Northern Spanish Shelf surveys (2013–2022) (from Fernández-Zapico et al., WD 9 to the 2023 WGDEEP).

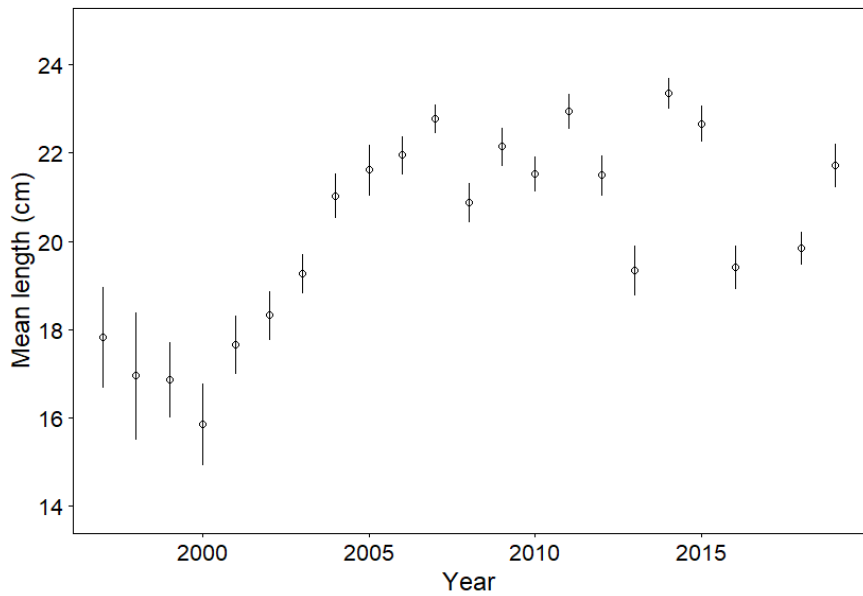


Figure 16.3 Mean length of *Helicolenus dactylopterus* in the French survey in Bay of Biscay and Celtic Sea (EVHOE) from 1997 to 2019 (no survey in 2017).

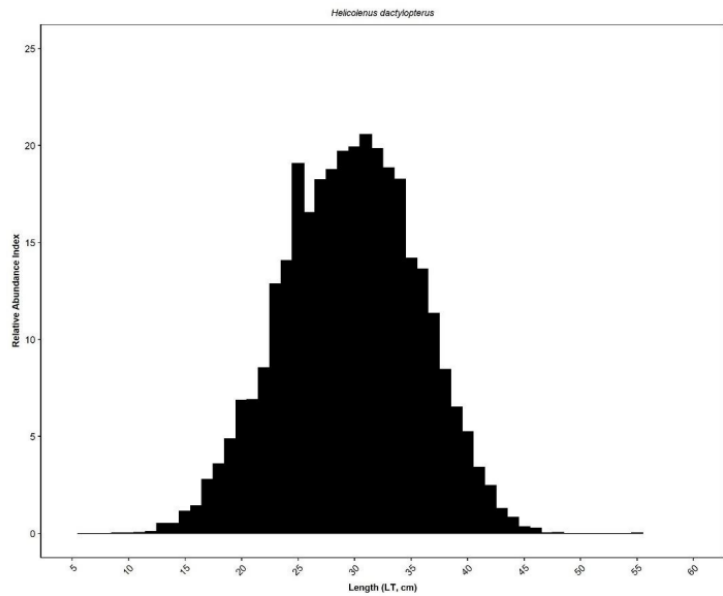


Figure 16.4. Mean length of *Helicolenus dactylopterus* in Azores bottom longline survey 1995–2021 (from Medeiros et al., WD 10 to the 2022 WGDEEP).

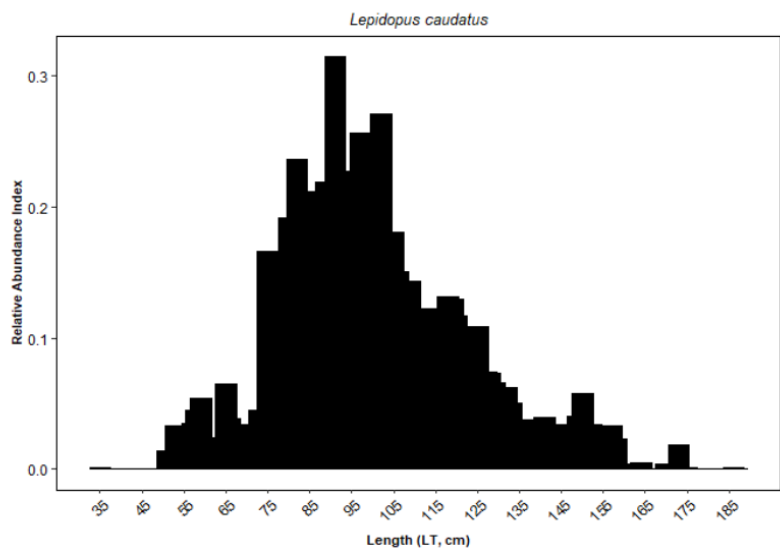


Figure 16.5. Mean length of *Lepidopus caudatus* in Azores bottom longline survey 1995–2021 (from Medeiros et al., WD 10 to the 2022 WGDEEP).

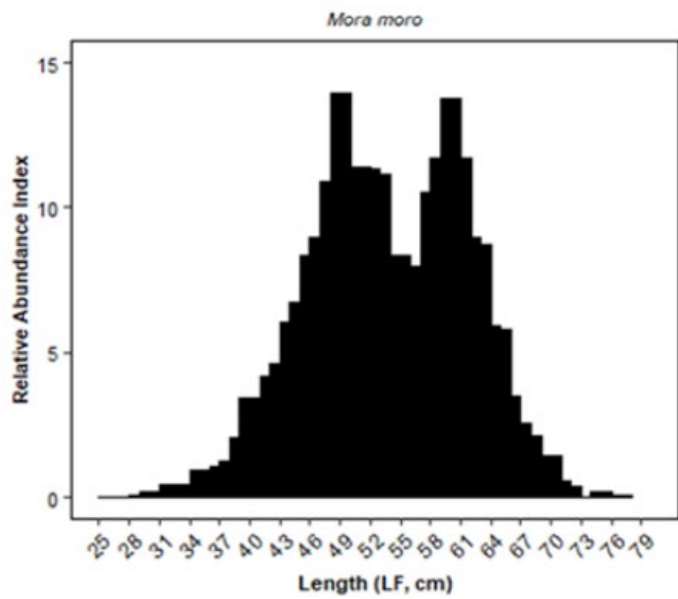


Figure 16.6. Mean length of *Mora moro* in Azores bottom longline survey 1995–2021 (from Medeiros et al., WD 10 to the 2022 WGDEEP).

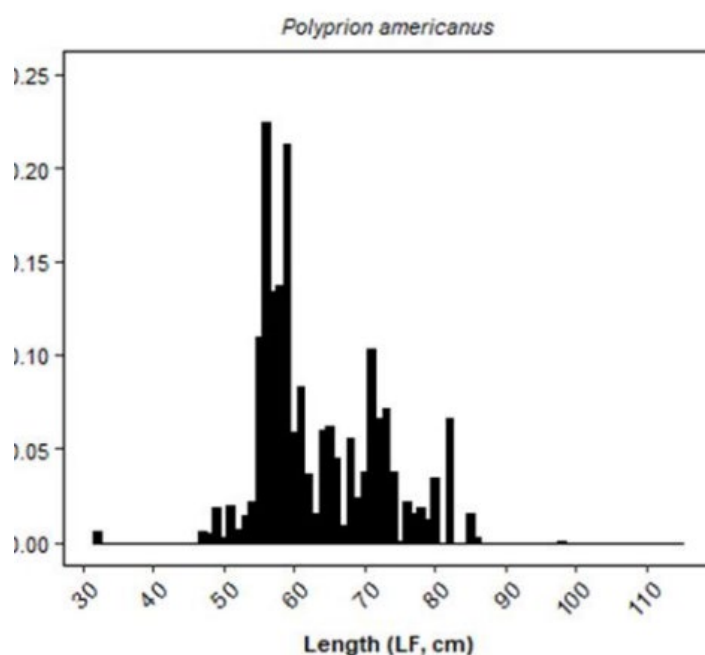


Figure 16.7. Mean length of *Polyprion americanus* in Azores bottom longline survey 1995–2021 (from Medeiros et al., WD 10 to the 2022 WGDEEP).

16.3.3 Age compositions

No new information.

16.3.4 Weight-at-age

No new information.

16.3.5 Maturity and natural mortality

No new information.

16.3.6 Catch, effort and research vessel data

For blackbelly rosefish standardized indices from the Spanish Porcupine Bank Survey (abundance and biomass), the French EVHOE survey in the Celtic Sea and Bay of Biscay (biomass), the Spanish bottom-trawl survey (SP-NGFS) in Divisions 9.a and 8.c and the Portuguese longline survey in the Azores Islands (abundance) and are given in Figures 16.7–16.11.

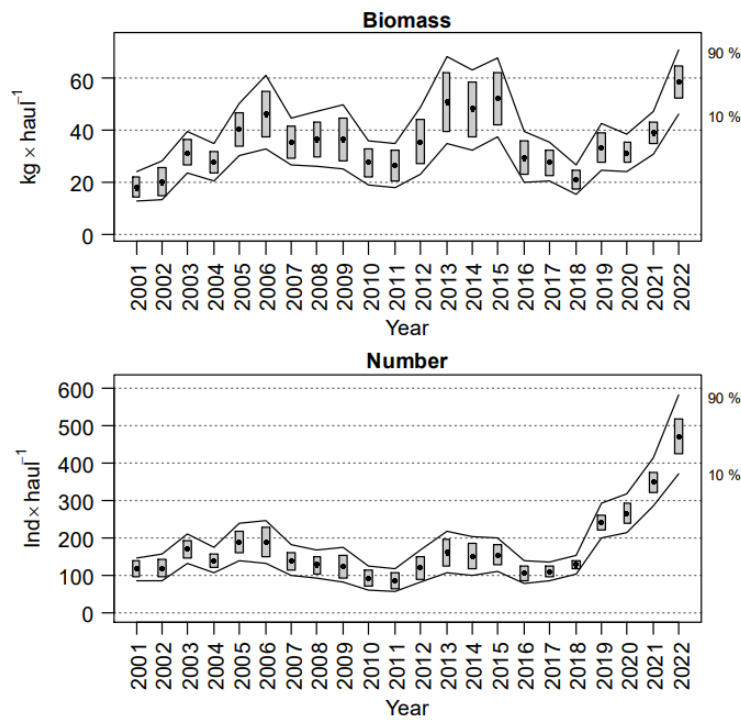


Figure 16.7. Trends of *Helicolenus dactylopterus* biomass and abundance indices during Porcupine Survey time-series (2001–2022). Boxes mark parametric standard error of the stratified abundance index. Lines mark bootstrap confidence intervals ($\alpha = 0.80$, bootstrap iterations = 1000) (from Ruiz-Pico et al., WD 10 to the 2023 WGDEEP).

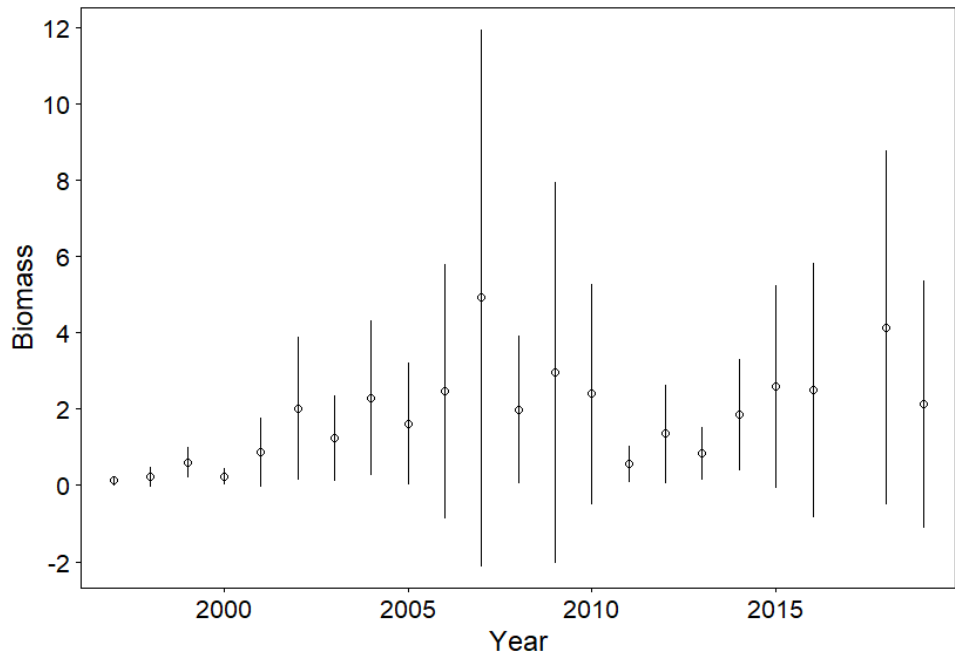
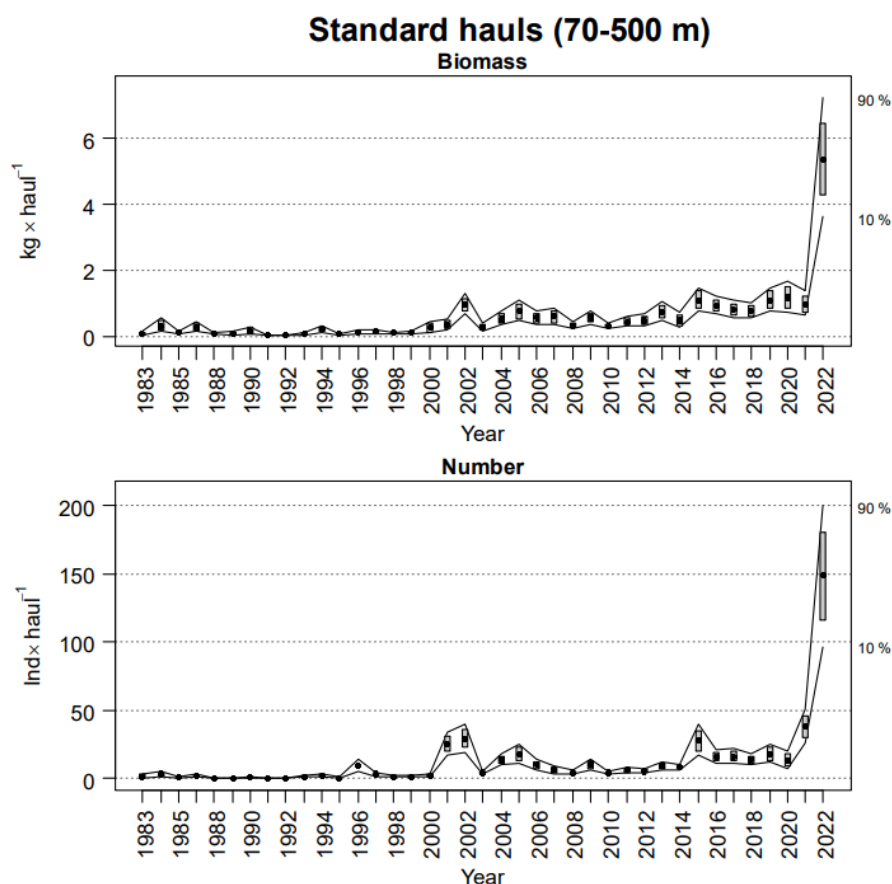
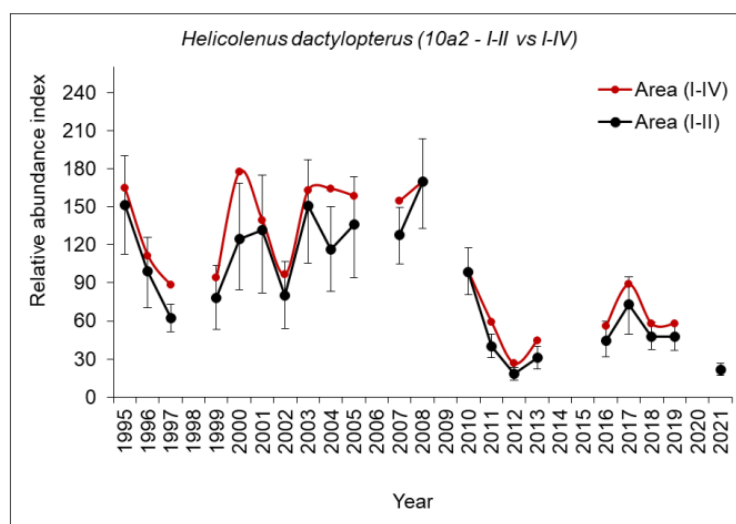


Figure 15.8. Survey biomass index from the French survey (EVHOE) for *Helicolenus dactylopterus*.Figure 16.9. Evolution of *Helicolenus dactylopterus* mean stratified biomass and abundance in Northern Spanish Shelf surveys time-series (1983–2022). Boxes mark parametric standard error of the stratified biomass index. Lines mark bootstrap confidence intervals ($\alpha = 0.80$, bootstrap iterations = 1000) (from Fernández-Zapico et al., WD 9 to the 2023 WGDEEP).Figure 16.10. Annual bottom longline survey abundance index for *Helicolenus dactylopterus* in Azorean bottom longline surveys (from Medeiros et al., WD 10 to the 2022 WGDEEP).

Abundance indices for silver scabbardfish, common mora and wreckfish from the Portuguese longline survey in the Azores Islands are given in Figures 16.11 to 16.13.

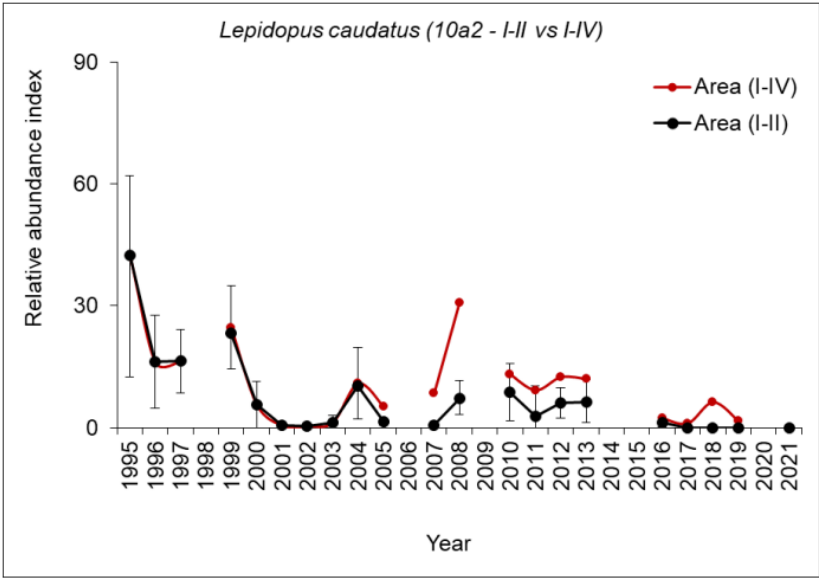


Figure 16.11 Annual bottom longline survey abundance index for *Lepidopus caudatus* in Azorean bottom longline surveys.

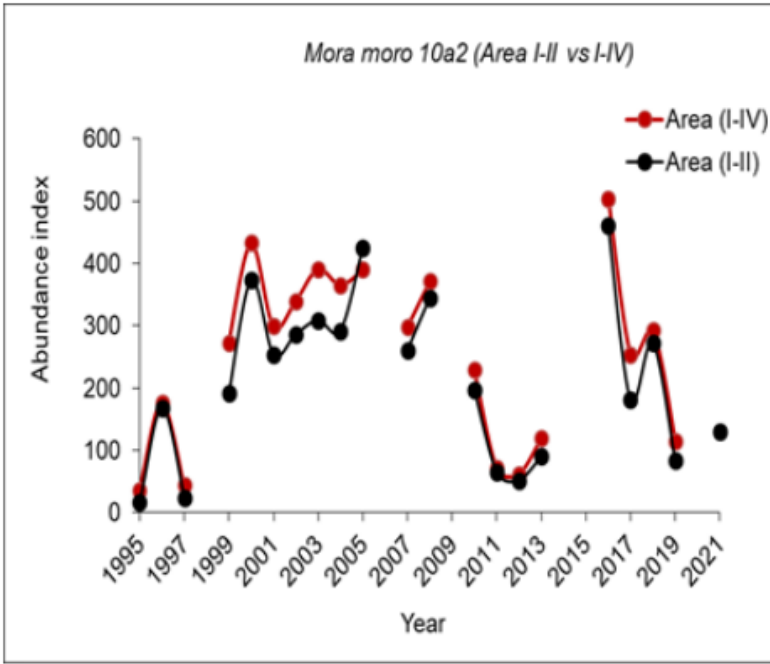


Figure 16.12. Annual bottom longline survey nominal cpue for *Mora moro* in Azorean bottom longline surveys (from Medeiros et al., WD 10 to the 2022 WGDEEP).

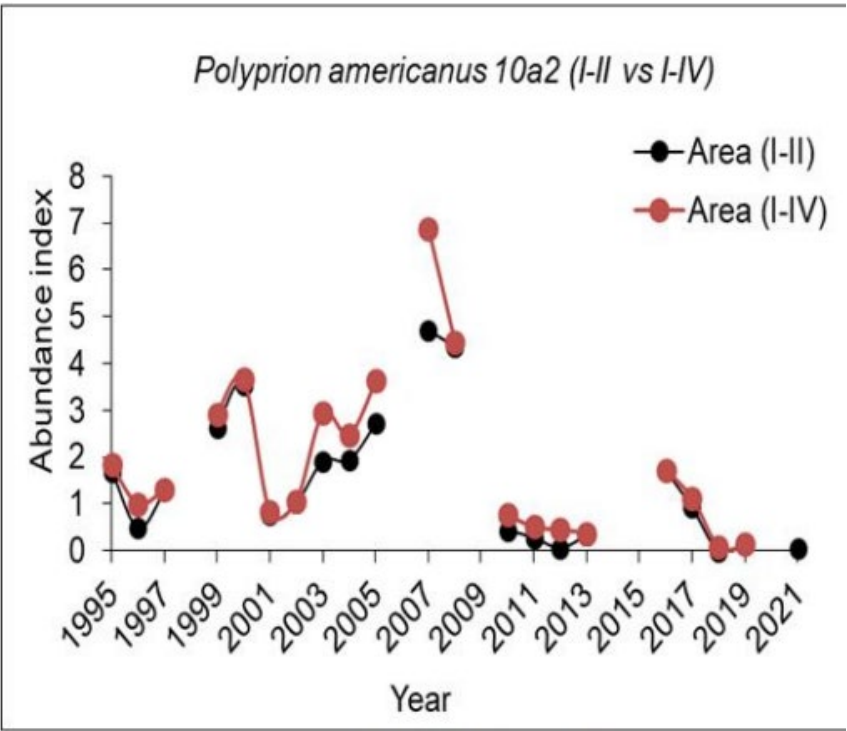


Figure 16.13. Annual bottom longline survey nominal cpue for *Polyprion americanus* in Azorean bottom longline surveys (from Medeiros et al., WD 10 to the 2022 WGDEEP).

16.3.7 Data analysis

No new analyses were carried out in 2023. Updated surveys series from several species are included in different working documents presented to the 2022 WGDEEP (WD 10) and to the 2023 WGDEEP (WD 9 and WD 10).

16.3.8 Comments on the assessment

16.3.9 Management considerations

Currently no advice is required for these stocks.

Table 16.1. Official landings of *Mora moro* and *Moridae* (t).

Year	2	5b	6 and 7	8 and 9	10	12	14b
1988							
1989							
1990					2		
1991		5	1		4		
1992			25				
1993			10				
1994			10				

Year	2	5b	6 and 7	8 and 9	10	12	14b
1995				83			
1996				52			
1997				88			
1998			41				
1999		1	20				
2000	8	3	159	25		1	
2001	1	100	194	25		87	
2002	1	19	159	10	100	13	
2003		8	327	12	125	15	7
2004		1	71	15	87	4	
2005		1	63	50	69		
2006	0	4	135	45	92*	0	
2007	0	5	100	15	86*	0	0
2008	0	10	72	14	53*	0	0
2009	0	10	80	9	68*	0	0
2010	0.04	14	84	4	55*	0	0
2011	0.02	6	87	3	57*	0	0
2012	0.04	5	71	2	31*	0	0
2013	0.06	1	103	7	52*	0	0
2014	0	1	65	20	62*	0	0
2015	0.43	2	77	54	92*	0	0
2016	0	1	54	56	191*	0	0
2017	0	3	30	62	169*	0	0
2018	0	5	59	28	165*	0	0
2019	0.13	15	59	19	124*	0	0.35
2020	0	5	78	15	60*	0	0

* Only data from Azore

Table 16.2 Official landings of rabbitfish (*Chimaera monstrosa* and *Hydrolagus* spp) (t).

Year	1 and 2	3 and 4	5a	5b	6 and 7	8	9	12	14	TOTAL
1991			499							499
1992		122	106							228
1993		8	3							11
1994		167	60		2					229
1995			106	1						107
1996		14	32							46
1997		38	16					32		86
1998		56	32		2			42		132
1999		47	9	3	237	2		114		412
2000	6	34	6	54	404	2		48		554
2001	7	23	1	96	797	7		79		1010
2002	15	24		64	570	6		98	1	778
2003	57	25	1	61	469	2		80	4	699
2004	22	40		100	444	6		128	5	745
2005	77	171		63	571	14		249	1	1146
2006	29	17	1	62	325	10			5	449
2007	64	2	1	78	391	3				539
2008	81	12	1	49	370	3				516
2009	89	6	2	6	47			70		220
2010	197	21	7	5	31			25		286
2011	150	7	4	2	88					251
2012	104	17	4	29	475	2		434		1065
2013	103	40	2	30	160	1		56		392
2014		4		32	131	4		77		178
2015	79	14		25	30			1		149
2016	78	49		40	225	15	31	4		364
2017	69	32	0	103	144	<1	0	0	1	350
2018	131	21	0	60	146	<1	0	0	0	360

Year	1 and 2	3 and 4	5a	5b	6 and 7	8	9	12	14	TOTAL
2019	220	24	0	70	145	<1	0	0	<1	461
2020	133	37	0	25	42	<1	0	0	0	238
2021	0	0	0	0	0	0	0	0	0	0
2022	114	75	0	46	200	2	0	0	0	437

Table 16.3. Official landings of Baird's smoothhead (t).

Year	5a	5b	6 and 7	12	14	TOTAL
1991			31			31
1992	10		17			27
1993	3			2		5
1994	1					1
1995	1					1
1996				230		230
1997				3692		3692
1999				4643		4643
1999				6549		6549
2000			978	4146	12	5136
2001			5305	3132		8897
2002			260	12 538	661	13 459
2003			393	6883	632	7908
2004		6	2657	4368	245	7276
2005		1	5978	6928		12 412
2006			4966	3512		8150
2007			2565	1781		4140
2008			896	744		1611
2009			295	508		803
2010			511	317		828
2011			187	252		252
2012			335	472		472
2013			342	351		693

Year	5a	5b	6 and 7	12	14	TOTAL
2014			235 0+	228		463
2015			127 3+	91		218
2016			131	258		389
2017	14	0	156	326	<1	496
2018	5	0	77*	323*	1	406*
2019	5	0	72	246	0	322
2020	6	0	46	193	0	245
2021	0	0	0	0	0	0
2022	0	0	0	0	0	0
* Only data from Spain						

Table 16.4. Official landings of wreckfish (*Polyprion americanus*) (t).

Year	6 and 7	8 and 9	10	TOTAL
1980			38	38
1981			40	40
1982			50	50
1983			99	99
1984			131	131
1985			133	133
1986			151	151
1987			216	216
1988	7	198	191	396
1989		284	235	519
1990	2	163	224	389
1991	10	194	170	374
1992	15	270	240	525
1993		350	315	665
1994		410	434	844
1995		394	244	638
1996	83	294	243	620

1997		222	177	399
1998	12	238	140	390
1999	14	144	133	291
2000	14	123	263	400
2001	17	167	232	416
2002	9	156	283	448
2003	2	243	270	515
2004	2	141	189	332
2005		195	279	474
2006		331	497	828
2007	2	553	662	1217
2008	3	317	513	833
2009	8	13	382	403
2010	3	5	238	246
2011		150	266	416
2012		256	226	482
2013			209	209
2014		95	121	216
2015			116	116
2016	4	19	101	124
2017	9	114	131	254
2018	6	70	89*	166*
2019	4	66	78*	149*
2020	5	101	79	185
2021	0	0	0	0
2022	0	0	0	0
* Only data from Azores				

Table 16.5. Official landings of blackbelly rosefish (*Helicolenus dactylopterus*) (t)

Year	3 and 4	5b	6	7	8 and 9	10
1980						18

Year	3 and 4	5b	6	7	8 and 9	10
1981						22
1982						42
1983						93
1984						101
1985						169
1986						212
1987						331
1988						439
1989			79	48	2	481
1990	4		69	31	5	480
1991	5		99	29	12	483
1992	3		112	47	11	575
1993	1		87	65	8	650
1994	2		62	55	4	708
1995	2		62	9		589
1996	2		77	10		483
1997	1		78	10	1	410
1998			53	92	3	381
1999	8	64	194	160	29	340
2000		16	213	119	33	441
2001			177	102	34	301
2002			81	115	18	280
2003			184	213	124	338
2004	2	3	142	291	135	282
2005			103	204	206	190
2006	0	1	195	839	328	209
2007	0	1	387	1968	519	277
2008	0	1	138	1175	527	287
2009	2	1	150	1321	651	317

Year	3 and 4	5b	6	7	8 and 9	10
2010	1	0	201	1681	1861	216
2011	1	3	178	2303	1821	239
2012	0	1	161	954	1402	192
2013	7	3	130	517	1326	236
2014	1	6	152	480	809	224
2015	0	1	112	496	665	258
2016	0	1	116	487	592	327
2017	0	3	135	647	595	344
2018	4	2	170	583	489	295
2019	9	2	219	543	434	192
2020	7	2	200	500	478	130

Table 16.6. Official landings of silver scabbardfish (*Lepidopus caudatus*) (t)

	6 and 7	8 and 9	10	12	TOTAL
1980			13		13
1981			6		6
1982			10		10
1983			43		43
1984			38		38
1985			28		28
1986			65		65
1987			30		30
1988		2666	70		2736
1989		1385	91	102	1578
1990		584	120	20	724
1991		808	166	18	992
1992		1374	2160		3534
1993	2	2397	1724	19	4142
1994		1054	374		1428
1995		5672	788		6460

	6 and 7	8 and 9	10	12	TOTAL
1996		1237	826		2063
1997		1725	1115		2840
1998		966	1187		2153
1999	18	3069	86		3173
2000	17	16	27		60
2001	6	706	14		726
2002	1	1832	10		1843
2003		1681	25		1706
2004		836	29		865
2005	57	527	31		615
2006	377	624	35	3	1039
2007	88	649	55	1	793
2008	40	845	63	0	948
2009	44	898	64	25	1031
2010	32	829	68	43	972
2011		927	148	82	1157
2012	655	36	271	244	1206
2013	200		361	123	648
2014	253		713	88	1056
2015			429	41	470
2016	188	134	87	33	442
2017	62	146	112	29	349
2018	1	42	81*	13	137
2019		48	66*		114
2020		94	91*		185
*Only data from Azores					

Table 16.7. Official landings of deep-water cardinal fish (*Epigonus telescopus*) (t)

Year	5b	6	7	8 and 9	10	12
1990					3	

Year	5b	6	7	8 and 9	10	12
1991					11	
1992						
1993		15	15			
1994	4	35	182			
1995	3	20	71			
1996	8	13	32			
1997	8	27	22			
1998		86	29			
1999	8	54	224	3		
2000	2	121	181	5	3	
2001	7	109	284	4		
2002		97	888	8	14	
2003	2	47	1031	5	16	1
2004	1	30	843	10	21	2
2005		50	637	8	4	
2006	0	27	66	26	10	0.1
2007	0	10	17	31	7	0
2008	0	5	12	11	7	0
2009	0	10	13	34	7	0
2010	0	7	11	30	5	0
2011	0	4	45	3	5	0
2012	0	16	4	4	4	0
2013	0.1	10	2	2	4	0
2014	0	5	1	1	4	0
2015	0	5	1	1	4	0
2016	0	13	11	1	11	0
2017	0.3	12	0.4	3	8	0
2018	0.3	32	0.3	1	5	0
2019	1	0	0	3	143	0

Year	5b	6	7	8 and 9	10	12
2020	2	19	1	3	5	0

Table 16.8. Official estimates of landings of deep-water red crab (*Chaceon affinis*) (t)

Year	4and5	6	7	8 and 9	12	Total
1995		6	4			12
1996	20	1288	77	2	17	1413
1997	58	139	48	11	4	437
1998	35	313	34	188	2	384
1999	642	289	46		3	980
2000	38	580	108			726
2001	13	335	20			368
2002	29	972	21		6	1028
2003	26	960	123		92	1201
2004	21	546	115		13	695
2005	94	626	184		15	1230
2006	16	185	19	310		530
2007	11	732	104	85	24	957
2008	2	124	1			127
2009	0	110	75	10	115	309
2010	2	247	79	46	71	445
2011		246	148	37	43	475
2012	10	67	45	10	21	153
2013	3	91	34	18	32	178
2014	1	112	29	3	48	194
2015		151	40	26	74	291
2016		103	55	41	23	222
2017	9	102	48	21		180
2018						
2019						
2020						

Table 16.10. Official landings (t) of Mediterranean slimehead, also known as silver roughy (*Hoplostethus mediterraneus*) (t)

Year	27.7	27.8	27.9
2006	0	0	0.7
2007	0	0	0
2008	0	0	0.01
2009	0	0	0.01
2010	0	0	14
2011	0	0	3.38
2012	0	0	27.26
2013	0	0.82	34.93
2014	0	3.85	36.11
2015	0	6.9	14.98
2016	0	2.68	1.62
2017	0.25	2.33	1.06
2018	0.585	3.845	0.25
2019	0.701	1.277	0.29
2020	1.067	1.783	22.73

Table 16.11. Official landings of Atlantic thornyhead (*Trachyscorpia cristulata*) (t)

Year	27.4	27.6	27.7	27.8
2006	0	0	0.01	26
2007	0.01	4.6	13.73	1.41
2008	0	2.8	4.2	0.62
2009	0	1.6	4.61	0.6
2010	0	0	0	0
2011	0	0.38	2.59	0.4
2012	0	0.06	4.43	0.36
2013	0.01	0.07	2.05	0.48
2014	0	0	0.92	0.72
2015	0	0	0.75	0.58

2016	0	0.45	0.14	0.29
2017	0	0.02	0.26	0.04
2018	0	0.025	0.585	0.035
2019	0	0.485	0.542	0.397
2020	0	0.019	1.607	1.453

Table 16.12. Official landings of Norway redfish (*Sebastes viviparus*) (t)

Year	27.2	27.5	27.6	27.12	27.14
2006	13	0	0	0	0
2007	7.3	0	0	0	0
2008	0	0	0	0	0
2009	0	0	0	0	0
2010	0	2600.7	0	0	0
2011	0	1415	0	0	10
2012	0	532	0	1	1
2013	0	532	0	0	0
2014	1	546	0	0	4
2015	0	468	0	0	0
2016	0	0	0.3	0	0
2017	0	170	0	0	0
2018	0.5	117	0	0	0
2019	0.6	142	0	0	0
2020	0	118	0	0	0