

5.3.1

Advice October 2014
Version 2, 9 December 2015

ECOREGION Celtic Sea and West of Scotland + North Sea
STOCK Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa and Subareas IV and VI

Advice for 2015

ICES advises on the basis of the data-limited approach but cannot quantify the resulting catches. The implied landings should be no more than 14 702 t.

ICES advises that the management area should be consistent with the assessment area.

Stock status

Fishing pressure		
		2011–2013
MSY (F_{MSY})	?	Unknown
Precautionary approach (F_{pa} , F_{lim})	?	Unknown
Qualitative evaluation	?	Insufficient information
Stock size		
		2012–2014
MSY ($B_{trigger}$)	?	Unknown
Precautionary approach (B_{pa} , B_{lim})	?	Unknown
Qualitative evaluation	↗	Increasing

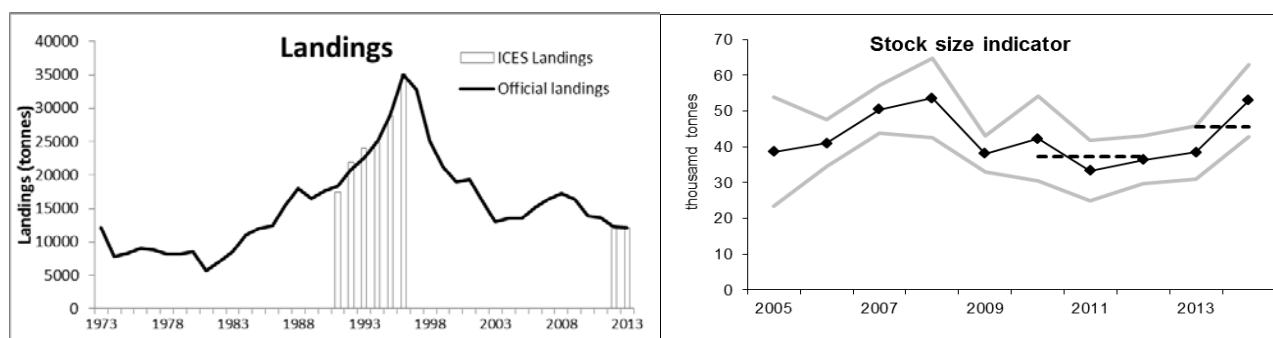


Figure 5.3.1.1 Anglerfish (*Lophius piscatorius* and *L. budegassa*). Left: Official and ICES landings (tonnes)* in Subareas IV and VI and Division IIIa. Right: Stock biomass (thousand tonnes) from SCO-IV-VI-AMISS-Q2. The dashed horizontal lines indicate the average of the respective year range. Grey lines mark the 95% confidence interval.

There is no analytical assessment for this stock. ICES uses as stock size indicator the biomass data from the Scottish and Irish anglerfish and megrim industry/science surveys for the Northern shelf (SCO-IV-VI-AMISS-Q2) in Division IVa and Subarea VI. This indicates that the average biomass has been 22% higher in the last two years (2013–2014) than the average of the three previous years (2010–2012). There is no trend in biomass over the full time-series of survey data.

Management plans

No specific management objectives are known to ICES.

* Version 2: landings unit corrected.

Biology

Anglerfish mature at large size, resulting in a large proportion of the catch consisting of immature fish. This makes the stock susceptible to overfishing and management measures are required to ensure sufficient numbers to survive to spawning size. Spawning appears to occur largely in deep water off the edge of the continental shelf.

The fisheries

Anglerfish are caught in a targeted anglerfish fishery and as a bycatch in other demersal fisheries, including roundfish fisheries in Division VIa, the haddock fishery on Rockall Bank (Division VIb), *Nephrops* fisheries, and fisheries in deeper waters. In the North Sea, anglerfish are caught mainly as a bycatch in demersal fisheries for mixed roundfish and *Nephrops* and, to a lesser extent, in small-meshed *Pandalus* fisheries. A Norwegian large-meshed gillnet fishery targeting fish over 60 cm has developed along the Norwegian coast (Division IVa) since the early 1990s.

Catch distribution	Total catch in 2013 is unknown. Estimated landings were 12 054 t (7322 t in Division IIIa and Subarea IV (59% demersal trawls, 24% gillnets, 9% <i>Nephrops</i> trawl, 8% other gears or not specified); 4729 t in Subarea VI (68% demersal trawls, 8% gillnets, 1% other gears, and 23% not specified)). Discards are known to take place but are only quantified for part of the fisheries (787 t for 82% of the landings covered).
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Effects of the fisheries on the ecosystem

The directed fishery takes place in deep water on the continental shelves in areas where cold-water corals (*Lophelia* spp.) occur, particularly at Rockall. However, demersal trawling is prohibited in several large areas at Rockall, and near the Wyville–Thomson ridge, which affords protection for corals in those areas.

Quality considerations

Underreporting of landings is no longer considered an issue because of the unrestrictive TACs and the substantial reduction in the offshore gillnet fishery. Discard data are available for most of the fleets except the gillnet fishery, which is not adequately sampled.

The SCO-AMISS-IV-VI survey does not cover Divisions IIIa, IVb, and IVc that collectively account for approximately 11% of landings in the North Sea and Skagerrak. The timing of the surveys changed in 2008 from November to April, except for the 2013 survey which took place in November as the research vessel was unavailable in April.

The advice is based on a biomass index from one survey, used as an indicator of stock size. The methods applied to derive quantitative advice for data-limited stocks are expected to evolve as they are further developed and validated. The harvest control rules are expected to stabilize stock size in the short term (3–5 years), but they may not be suitable if the stock size is low and/or overfished.

Scientific basis

Stock data category	3.2.0 (ICES, 2014a).
Assessment type	Survey trends.
Input data	International landings and dedicated anglerfish surveys in Subarea VI and Division IVa (Scotland/Ireland SCO-IV-VI-AMISS-Q2).
Discards and bycatch	Discards are known to take place but are only quantified for part of the fisheries (discards are 7% in weight for 82% of the landings covered).
Indicators	None.
Other information	Last benchmarked in 2013 (WKROUND; ICES, 2013), which did not result in a revision of the assessment method.
Working group	Working Group for the Celtic Seas Ecoregion (WGCSE).

ECOREGION Celtic Sea and West of Scotland and North Sea
STOCK Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa and Subareas IV and VI

Reference points

No reference points have been defined for this stock. Because of identified problems with growth estimates and uncertainties in ageing, previous reference points are not considered to be valid.

Outlook for 2015

No reliable forecast can be presented for this stock, because the assessment is only indicative of trends.

ICES approach to data-limited stocks

For data-limited stocks for which biomass estimates are available, ICES uses as harvest control rule an index-adjusted *status quo* catch. The advice is based on a comparison of the two most recent biomass values with the three preceding values, combined with recent catch or landings data. Knowledge about the exploitation status also influences the advised catch.

For this stock the biomass is estimated to have increased by more than 20% in the period 2010–2012 (average of the three years) to 2013–2014 (average of the two years). This implies an increase of catches of at most of 20% in relation to the last two years' average landings (2012–2013), corresponding to landings of no more than 14 702 t. For this stock, this year, ICES uses a two-year average (2012–2013) based on the availability of landings estimates.

Considering that the effort in the main fisheries has decreased significantly over the last decade (Figure 5.3.1.2), no additional precautionary reduction is needed

Discards estimates are 7% of the catch in weight, for a coverage of 82% of the stock landings. Discards for the gillnet fisheries (which constitute 18% of the stock landings) cannot be estimated. Therefore total stock catches cannot be calculated.

Additional considerations*Advice considerations*

The distribution of anglerfish in the North Sea, Kattegat, and Skagerrak is associated with the distribution to the west of Scotland (Divisions VIa and VIb). It is likely that catches from these areas come from the same biological stock. Genetic studies have found no evidence of separate stocks and particle-tracking studies have indicated interchange of larvae between areas. From a biological perspective, the management and assessment units should be appropriately aligned and they should encompass the full spatial structure of the stock. ICES recommends that the management unit should match the assessment unit.

Management considerations

The survey indicates that recruitment in 2014 is above average compared with the time-series (Figure 5.3.1.3).

Regulations and their effects

The current EU-agreed TAC for Subarea IV and the EC waters of Division IIa as well as the EU–Norway-agreed TAC for the Norwegian North Sea EEZ do not include Division IIIa: no internationally agreed management rules for anglerfish appear to exist in Division IIIa.

Underreporting of total landings is known to have been a significant problem in the past. Less restrictive quotas have reduced the incentive to misreport and the introduction of the registration of “buyers and sellers” legislation in Scotland and Ireland in 2006 has made it more difficult to make unreported landings. In addition, offshore gillnet fisheries carried out by “flag-vessels” targeting anglerfish (previously considered to be responsible for a significant amount of ghost fishing and subsequent discarding) are now considered to be much reduced. This is expected to have led to improved data on total catches of anglerfish.

International effort trends for the main gears in ICES Subarea IV and Division VIa, as collated and presented by the STECF effort group, show effort reductions in TR1 (larger-meshed trawls, the main gear catching anglerfish) in both areas, particularly in Division VIa (Figure 5.3.1.2).

Changes in fishing technology and fishing patterns

Until the mid-1980s, anglerfish was taken mainly as bycatch in bottom-trawl groundfish fisheries. Restrictive TACs for other species in Division VIa led to increased fishing pressure on anglerfish in that area, where they are now caught in a targeted anglerfish fishery and as bycatch in other demersal fisheries.

The fishery has expanded into deeper waters since the mid-nineties, areas that are believed to have been a refuge for adult anglerfish. This fishery thus increases the vulnerability of the stock to overexploitation. Immature fish are subjected to exploitation for a number of years prior to first maturity.

Data and methods

The biomass index from bottom trawl surveys is used to evaluate the stock. The survey has in recent years (after 2008) taken place in April, except in 2013, when it took place in November. Therefore the current advice, which makes use of the 2014 April survey, has two more data points, compared to last year's advice.

The two species are landed together, but *L. piscatorius* is the more dominant species in the stock area.

Comparison of the basis of previous assessment and advice

The basis for the assessment has not changed from last year. This year the more recent information from the survey (i.e. from 2014) is used to provide advice.

The basis for the advice this year is the same as last year: the ICES approach to data-limited stocks.

Assessment and management area

Two TACs are set: i) EC waters of Division IIa and Subarea IV, and ii) Division Vb (EC) and Subareas VI, XII, and XIV. The management area should be the same as the assessment area.

Sources

- ICES. 2013. Report of the Benchmark Workshop on Roundfish Stocks, 4–8 February, Aberdeen, Scotland, UK. ICES CM 2013/ACOM:47.
- ICES. 2014a. Advice basis. *In* Report of the ICES Advisory Committee, 2014. ICES Advice 2014, Book 1, Section 1.2.
- ICES. 2014b. Report of the Working Group for the Celtic Seas Ecoregion (WGCSE), 13–22 May 2014, Copenhagen, Denmark. ICES CM 2014/ACOM:12.
- STECF. 2013. EU Scientific, Technical and Economic Committee for Fisheries. Evaluation of Fishing Effort Regimes in European Waters (STECF-13-12).

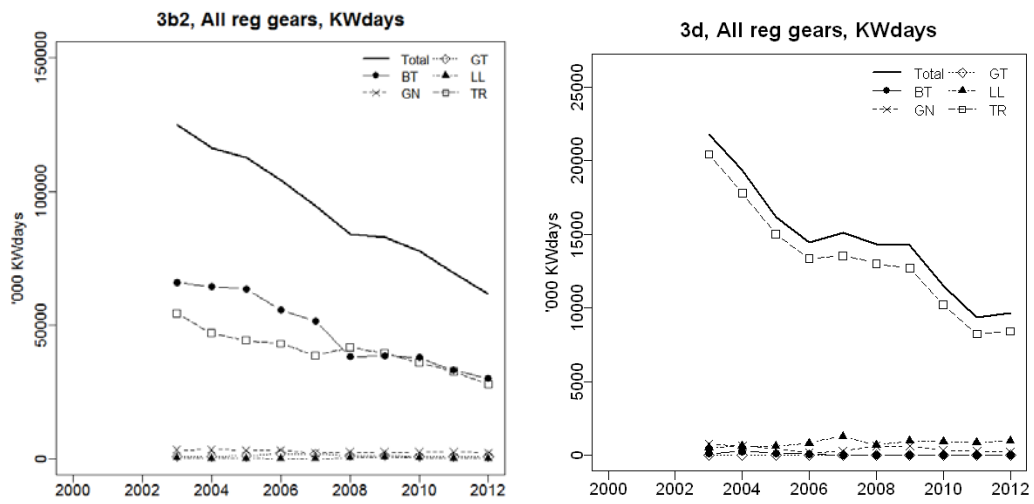


Figure 5.3.1.2 Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa and Subareas IV and VI. Trends in nominal international fishing effort in Skagerrak, North Sea, and Eastern Channel (left) and West of Scotland (right), collated by STECF (2013).

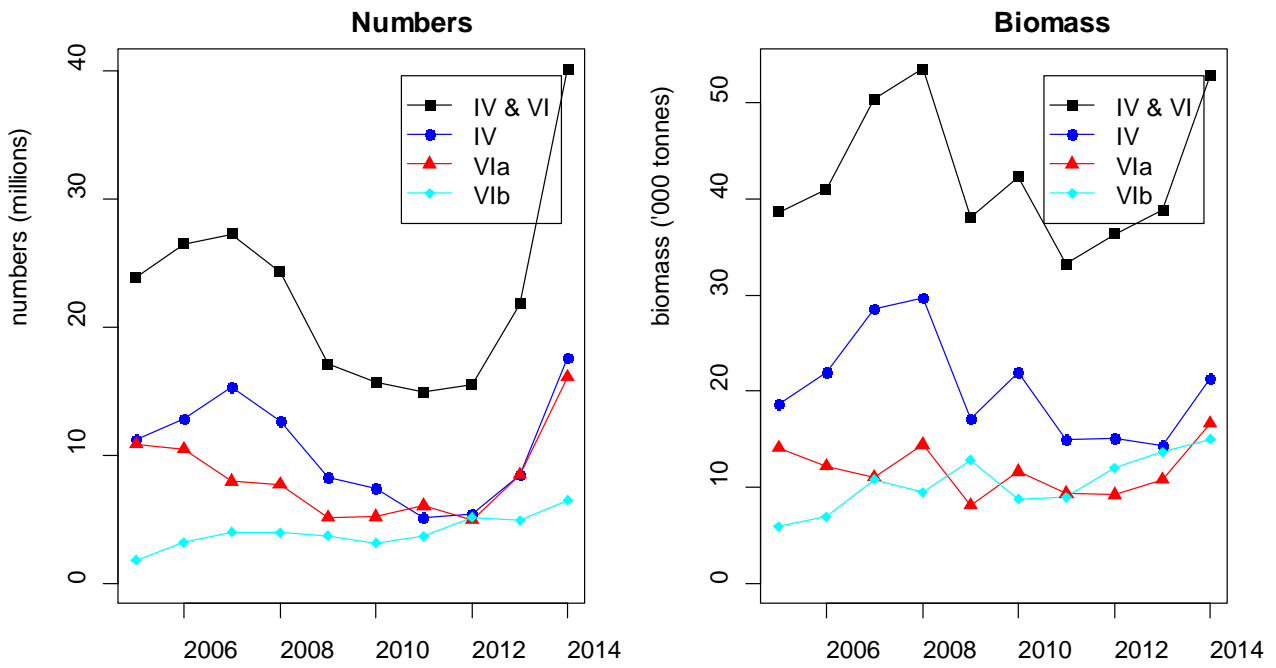


Figure 5.3.1.3 Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa and Subareas IV and VI. Total abundance (millions, left panel) and stock biomass (thousand tonnes, right panel) indices from the SCO-IV-VI-AMISS-Q2 survey (black filled squares), with breakdown by area: Subarea IV (blue circles), Division VIa (red triangles), and Division VIb (turquoise diamonds).

Table 5.3.1.1

Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa and Subareas IV and VI. ICES advice, management, and landings.

Year	ICES advice	Predicted catch corresp. to advice	Predicted catch corresp. to advice for Division IIIa and Subarea IV	Predicted catch corresp. to advice for Subarea VI	Agreed TAC*	Official landings	ICES landings
1990	Not assessed	-	-	-	8.6	17.6	16.6
1991	Not assessed	-	-	-	8.6	18.4	17.4
1992	Not assessed	-	-	-	8.6	20.8	21.9
1993	No long-term gain in increased F**	-	-	-	8.6	22.6	24.0
1994	No long-term gain in increased F**	-	-	-	8.6	25.0	25.1
1995	A precautionary TAC not exceeding recent catch levels**	-	-	-	8.6	28.9	28.9
1996	A precautionary TAC not exceeding recent catch levels**	-	-	-	8.6	35.0	35.1
1997	Reduction in fishing effort**	-	-	-	8.6	32.8	32.7
1998	Reduction in fishing effort**	-	-	-	30.7	25.1	25.3
1999	Reduce fishing effort, effective implementation of the TAC**	-	-	-	30.7	21.2	21.9
2000	40% reduction in catches	-	< 9.7	< 7.4	25.7	19.0	19.7
2001	2/3 of the catches in 1973–1990	-	5.7	4.3	20.5	19.3	19.2
2002	2/3 of the catches in 1973–1990	-	5.7	4.3	15.3	16.0	15.8
2003	Reduce F below F _{pa}	< 6.7 ^{a)}	-	-	10.2	13.0	13.0
2004	Reduce F below F _{pa}	< 8.8	-	-	10.2	13.5	14.7
2005	No effort increase	-	-	-	15.0	13.6	n.a.
2006	No effort increase	-	-	-	15.0	15.2	n.a.
2007	No effort increase	-	-	-	16.5	16.4	n.a.
2008	No effort increase	-	-	-	16.5	17.3	n.a.
2009	Same advice as last year	-	-	-	16.9	16.4	n.a.
2010	No effort increase	-	-	-	16.9 ^{b)}	12.7	n.a.
2011	Decrease effort	-	-	-	15.1 ^{c)}	13.6	n.a.
2012	Reduce catch	-	-	-	14.344 ^{c)}	12.3.	12.5
2013	Decrease catches by 20%	-	-	-	13.627	12.2 ^{d)}	12.1 ^{d)}
2014	Decrease catches by 20%	10.231	-	-	12.265		
2015	Increase landings by 20%	14.702					

Weights in thousand tonnes.

* TAC for Subarea IV and Division IIa (EC) plus TAC for Division Vb (EC) and Subareas VI, XII, and XIV. TAC before 1998 covered only Division Vb (EC) and Subareas VI, XII, and XIV.

** For Subarea VI.

^{a)} Advice for Division IIIa, Subarea IV, and Division VIa.

^{b)} An additional quota of 1500 t was also available for EU vessels fishing in the Norwegian zone of Subarea IV in 2011.

^{c)} An additional quota of 1500 t was also available for EU vessels fishing in the Norwegian zone of Subarea IV in 2012.

^{d)} Preliminary. n.a. = not available.

Table 5.3.1.2

Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa and Subareas IV and VI. Officially reported landings by ICES area and ICES WG estimates.

	IIIa	IVa	IVb	IVc	VIa	VIb	IV	VI	Total	ICES
1973	140	2085	575	41	9221	127	2701	9348	12189	
1974	202	2737	1171	39	3217	435	3947	3652	7801	
1975	291	2887	1864	59	3122	76	4810	3198	8299	
1976	641	3624	1252	49	3383	72	4925	3455	9021	
1977	643	3264	1278	54	3457	78	4596	3535	8774	
1978	509	3111	1260	72	3117	103	4443	3220	8172	
1979	687	2972	1578	112	2745	29	4662	2774	8123	
1980	652	3450	1374	175	2634	200	4999	2834	8485	
1981	549	2472	752	132	1387	331	3356	1718	5623	
1982	529	2214	654	99	3154	454	2967	3608	7104	
1983	506	2465	1540	181	3417	433	4186	3850	8542	
1984	568	3874	1803	188	3935	707	5865	4642	11075	
1985	578	4569	1798	77	4043	1013	6444	5056	12078	
1986	524	5594	1762	47	3090	1326	7403	4416	12343	
1987	589	7705	1768	66	3955	1294	9539	5249	15377	
1988	347	7737	2061	95	6003	1730	9893	7733	17973	
1989	334	7868	2121	86	5729	313	10075	6042	16451	
1990	570	8387	2177	34	5615	822	10598	6437	17605	
1991	595	9235	2522	26	5061	923	11783	5984	18362	17441
1992	938	10209	3053	39	5479	1089	13301	6568	20807	21872
1993	843	12309	3144	66	5553	681	15519	6234	22596	23971
1994	811	14505	3445	210	5273	777	18160	6050	25021	25057
1995	823	17891	2627	402	6354	830	20920	7184	28927	28913
1996	702	25176	1847	304	6408	602	27327	7010	35039	35100
1997	776	23425	2172	160	5330	899	25757	6229	32762	
1998	626	16860	2088	78	4506	900	19026	5406	25058	
1999	660	13344	1517	24	4284	1401	14885	5685	21230	
2000	602	12338	1617	31	3311	1074	13986	4385	18973	
2001	621	12861	1832	21	2660	1309	14714	3969	19304	
2002	667	11048	1244	21	2280	718	12313	2998	15978	
2003	478	8523	847	20	2493	643	9390	3136	13004	
2004	519	8987	851	15	2453	671	9853	3124	13496	
2005	458	8424	688	5	3019	958	9117	3977	13552	
2006	423	10338	685	3	2785	916	11026	3701	15150	
2007	433	10632	749	4	3352	1260	11385	4612	16430	
2008	486	11038	769	5	3373	1630	11812	5003	17300	
2009	479	10096	653	8	3029	2119	10757	5148	16384	
2010	477	8121	619	12	3187	1423	8752	4610	13839	
2011	432	7760	773	9	2724	1878	8542	4602	13576	
2012	465	6467	721	3	2835	1831	7191	4666	12322	12449
2013*	440	6397	692	4	2528	2124	7093	4652	12185	12054
Min	140	2085	575	3	1387	29	2701	1718	5623	
Max	938	25176	3445	402	9221	2119	27327	9348	35039	
Average	554	8665	1531	77	3924	852	10273	4776	15604	

*Preliminary.

Table 5.3.1.3 Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa, and in Subareas IV and VI. Nominal landings (t) by country as officially reported to ICES and estimated by ICES of anglerfish in Division VIa (west of Scotland).

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*
Belgium	3	2	9	6	5	-	5	2	-	-	+	+	-	+	-	-	-	-	-	-	-	-	-
Denmark	1	3	4	5	10	4	1	2	1	+	+	-	+	+	-	-	-	-	-	-	-	-	-
Estonia																							-
Faroe Is.	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	2	1	2	4	1	-	+
France	1910	2308	2467	2382	2648	2899	2058	1634	1814	1132	943	739	1212	1191	1392	1314	1763	1746	1555	1160	1021	1166	1099
Germany	1	2	60	67	77	35	72	137	50	39	11	3	27	39	39	1	-	54	79	79	59	63	48
Ireland	250	403	428	303	720	717	625	749	617	515	475	304	322	219	356	392	470	295	328	510	488	346	336
Netherlands	-	-	-	-	-	-	27	1	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
Norway	6	14	8	6	4	4	1	3	1	3	2	1	+	+	1	1	1	2	-	1	1	-	1
Russia																							-
Spain	7	11	8	1	37	33	63	86	53	82	70	101	196	110	82	76	3	174	189	-	138	69	-
UK(E,W&NI)	270	351	223	370	320	201	156	119	60	44	40	32	31	30	20	24	42	5	12	393		12	6
UK(Scot.)	2613	2385	2346	2133	2533	2515	2322	1773	1688	1496	1119	1100	705	862	1127	974	1071	1096	864	1040		1179	1038
UK (total)																			876	1021	1016	1191	1044
Total	5061	5479	5553	5273	6354	6408	5330	4506	4284	3311	2660	2280	2493	2453	3019	2785	3352	3373	3029	3187	2724	2835	2528
Unallocated	296	2638	3816	2766	5112	11148	7506	5234	3799	3114	2068	1882	985	1938								216	101
As used by WG	5357	8117	9369	8039	11466	17556	12836	9740	8083	6425	4728	4162	3478	4391								3051	2629

*Preliminary.

Table 5.3.1.4 Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa, and in Subareas IV and VI. Nominal landings (t) by country as officially reported to ICES and estimated by ICES of anglerfish in Division VIb (Rockall).

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*		
Belgium																							-	-	
Denmark																								-	-
Estonia	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
Faroe Is.	-	2	-	-	-	15	4	2	2	-	1	-	-	-	-	-	-	1	4	8	+	5	-	-	
France	-	-	29	-	-	-	1	1	-	48	192	43	191	175	293	224	327	327	637	23	515	456	663		
Germany	-	-	103	73	83	78	177	132	144	119	67	35	64	66	77	72	222	0	132	87	90	79	88		
Ireland	272	417	96	135	133	90	139	130	75	81	134	51	26	13	35	53	70	76	91	107	108	235	237		
Norway	18	10	17	24	14	11	4	6	5	11	5	3	6	5	4	6	7	5	9	12	7	5	9		
Portugal	-	-	-	-	-	-	-	+	429	20	18	8	4	19	63	-	-	-	-	-	-	-	-	-	
Russia	-	-	-	-	-	-	-	-	-	-	1	-	-	2	4	1	1	35	-	-	-	-	-	-	
Spain	333	263	178	214	296	196	171	252	291	149	327	128	59	43	34	36	12	85	57		29	36	-		
UK(E,W&NI)	99	173	76	50	105	144	247	188	111	272	197	133	133	54	93	46	146	5	48	15		120	395		
UK(Scot)	201	224	182	281	199	68	156	189	344	374	367	317	160	294	355	478	475	1096	1141	1171		895	732		
UK (total)																				1189	1192	1129	1015	1127	
Total	923	1089	681	777	830	602	899	900	1401	1074	1309	718	643	671	958	916	1260	1629.6	2119	1423	1878	1831	2124		
Unallocated									-9	17	-178	-47	145	121									-119	-24	
As used by WG	923	1089	681	777	830	602	899	900	1392	1091	1131	671	788	792									1712	2100	

*Preliminary.

Table 5.3.1.5 Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa, and in Subareas IV and VI. Nominal landings (t) as officially reported to ICES and estimated by ICES of anglerfish in Subarea VI.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*
Belgium	3	2	9	6	5	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Denmark	1	3	4	5	10	4	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Estonia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Faroe Is.	0	2	0	0	0	15	4	2	2	0	1	0	0	2	2	3	2	2	6	12	1	5	0
France	1910	2308	2496	2382	2648	2899	2059	1635	1814	1180	1135	782	1403	1366	1685	1538	2090	2073	2192	1183	1536	1622	1762
Germany	1	2	163	140	160	113	249	269	194	158	78	38	91	105	116	73	222	54	211	166	149	142	136
Ireland	522	820	524	438	853	807	764	879	692	596	609	355	348	232	391	445	540	370.6	419	617	596	581	573
Netherlands																							
Norway	18	10	17	24	14	11	31	7	5	11	5	3	6	5	4	6	7	5	9	12	7	5	9
Portugal	6	14	8	6	4	4	1	3	430	23	20	9	4	19	64	1	1	2	0	1	1	0	1
Russia	0	0	0	0	0	0	0	0	0	0	1	0	0	2	4	1	1	35	0	0	0	0	0
Spain	340	274	186	215	333	229	234	338	344	231	397	229	255	153	116	112	15	259	246	0	167	105	0
Sweden																							
UK(E,W&NI)	369	524	299	420	425	345	403	307	171	316	237	165	164	84	113	70	188	10	60	408	0	132	401
UK(Scot)	2814	2609	2528	2414	2732	2583	2478	1962	2032	1870	1486	1417	865	1156	1482	1452	1546	2192	2005	2211	0	2074	1770
UK (total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2065	2213	2145	2206	2171
Total	5984	6568	6234	6050	7184	7010	6229	5406	5685	4385	3969	2998	3136	3124	3977	3701	4612	5002.6	5148	4610	4602	4666	4652
Unallocated	296	2638	3816	2766	5112	11148	7506	5234	3790	3131	1890	1835	1130	2059								98	76
As used by WG	6280	9206	10050	8816	12296	18158	13735	10640	9475	7516	5859	4833	4266	5183								4764	4728

*Preliminary.

Table 5.3.1.6 Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa, and in Subareas IV and VI. Nominal landings (t) by country as officially reported to ICES of anglerfish in Division IVa.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*
Belgium	2	9	3	3	2	8	4	1	5	12	-	8	1	-	-	-	-	-	-	-	-	-	+
Denmark	1245	1265	946	1157	732	1239	1155	1024	1128	1087	1289	1308	1523	1538	1379	1311	961	1071	1134	1143	841	821	854
Faroes	1	-	10	18	20	-	15	10	6	-	2	+	3	11	22	2	+	-	4		0	-	-
France	124	151	69	28	18	7	7	3	18	8	9	8	8	8	4	7	13	13	48	6	12	14	15
Germany	71	68	100	84	613	292	601	873	454	182	95	95	65	20	84	173	186	344	216	124	46	265	274
Ireland																					0	-	-
Netherlands	23	44	78	38	13	25	12	-	15	12	3	8	9	38	13	14	14	12	5	8	5	5	+
Norway	587	635	1224	1318	657	821	672	954	1219	1182	1212	928	769	999	880	1005	831	860	859	735	494	485	545
Sweden	14	7	7	7	2	1	2	8	8	78	44	56	8	6	5	5	20	67	-	4	9	7	5
UK(E, W&NI)	129	143	160	169	176	439	2174	668	781	218	183	98	104	83	34	99	303	13	320	371		248	550
UK (Scotland)	7039	7887	9712	11683	15658	22344	18783	13319	9710	9559	10024	8539	6033	6284	6003	7722	8304	8658	7510	5730		4622	4154
UK (total)																			7830	6101	6353	4870	4704
Total	9235	10209	12309	14505	17891	25176	23425	16860	13344	12338	12861	11048	8523	8987	8424	10338	10632	11038	10096	8121	7760	6467	6397

* Preliminary.

Table 5.3.1.7

Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa, and in Subareas IV and VI. Nominal landings (t) by country as officially reported to ICES of anglerfish in Division IVb.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*
Belgium	357	538	558	713	579	287	336	371	270	449	579	435	180	260	207	138	179	181	134	124	111	131	134
Denmark	345	421	347	350	295	225	334	432	368	260	251	255	191	274	237	276	173	237	248	194	286	301	192
Faroese	-	-	2	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-
France	-	1	-	2	-	-	-	-	-	-	-	-	-	+	-	-	-	-	9	6	4	-	+
Germany	4	2	13	15	10	9	18	19	9	14	9	17	11	11	9	14	12	22	17	21	17	10	10
Ireland													1	-	-	-	-	-	-	-	-	-	-
Netherlands	285	356	467	510	335	159	237	223	141	141	123	62	42	25	31	33	61	58	36	46	53	61	41
Norway	17	4	3	11	15	29	6	13	17	9	15	10	12	22	16	14	24	15	21	10	11	11	26
Sweden				3	2	1	3	3	4	3	2	9	2	1	4	4	6	9	-	5	7	7	4
UK(E, W&NI)	669	998	1,285	1,277	919	662	664	603	364	423	475	236	167	120	96	108	122	105	85	88		85	70
UK (Scotland)	845	733	469	564	472	475	574	424	344	318	378	210	241	138	88	98	172	142	103	125		115	72
UK (total)																			193	213	284	200	142
Total	2522	3053	3144	3445	2627	1847	2172	2088	1517	1617	1832	1244	847	851	688	685	749	769	653	619	773	721	692

* Preliminary.

Table 5.3.1.8 Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa, and in Subareas IV and VI. Nominal landings (t) by country as officially reported to ICES of anglerfish in Division IVc.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*
Belgium	13	12	34	37	26	28	17	17	11	15	15	16	9	5	4	3	3	4	6	7	6	2	2
Denmark	2	+	-	+	+	+	+	+	+	+	+	+	+	+	+	-	-		-	-	0	-	+
Faroes																						-	-
France	-	-	-	-	-	-	-	10	-	+	-	+	-	-	-	-	-	+	-	1	1	-	+
Germany	-	-	-	-	-	-	-	-	-	+	-	+	+	-	-	-	-	-	-	-		-	+
Ireland																						-	-
Netherlands	5	10	14	20	15	17	11	15	10	15	6	5	1	-	1	-	1	1	-	2	1	1	1
Norway	-	-	-	-	+	-	-	-	+	-	+	-	-	-	-	-	-	-	-	1	-	-	-
Sweden																						-	-
UK(E&W&N I)	6	17	18	136	361	256	131	36	3	1	-	-	10	3	-	-	-	-	1	1			1
UK (Scotland)	-	-	-	17	-	3	1	+	+	+	-	-	-	7	-	-	-	-	-	-			-
UK (Total)																		+	1	1	1	+	1
Total	26	39	66	210	402	304	160	78	24	31	21	21	20	15	5	3	4	5	8	11	8	3	4

* Preliminary.

Table 5.3.1.9 Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa, and in Subareas IV and VI. Nominal landings (t) as officially reported to ICES and estimated by ICES of anglerfish in Subarea IV.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*
Belgium	372	559	595	753	607	323	357	389	286	476	594	459	190	265	211	141	182	184.6	140	131	117	133	137
Denmark	1592	1686	1293	1507	1027	1464	1489	1456	1496	1347	1540	1563	1714	1812	1616	1587	1134	1308	1382	1337	1127	1122	1046
Estonia																							
Faroes	1	0	12	18	20	0	15	10	6	0	2	10	3	11	22	2	0	0	4	0	0	0	0
France	124	152	69	30	18	7	7	13	18	8	9	8	8	8	4	7	13	13	57	13	17	14	15
Germany	75	70	113	99	623	301	619	892	463	196	104	112	76	31	93	187	198	366	233	145	63	275	284
Ireland	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Netherlands	313	410	559	568	363	201	260	238	166	168	132	75	52	63	45	47	76	71	41	56	59	67	42
Norway	604	639	1227	1329	672	850	678	967	1236	1191	1227	938	781	1021	896	1019	855	875	881	745	505	496	572
Portugal																							
Russia																							
Spain																							
Sweden	14	7	7	10	4	2	5	11	12	81	46	65	10	7	9	9	26	76	0	9	16	14	9
UK(E&W&NI)	804	1158	1463	1582	1456	1357	2969	1307	1148	642	658	334	281	206	130	207	425	118	406	460	0	333	621
UK (Scotland)	7884	8620	10181	12264	16130	22822	19358	13743	10054	9877	10402	8749	6274	6429	6091	7820	8476	8800	7613	5855	0	4737	4226
UK (Total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8024	6315	6638	5070	4847
Total	11783	13301	15519	18160	20920	27327	25757	19026	14885	13986	14714	12313	9390	9853	9117	11026	11385	11812	10757	8751	8542	7191	6951
Unallocated	-1217	-1573	-2441	-2730	-5126	-11087	-7540	-4999	-3166	-2422	-2037	-1979	-1117	-826								20	-79
WG estimate	10566	11728	13078	15430	15794	16240	18217	14027	11719	11564	12677	10334	8273	9027								7211	6872

* Preliminary.

Table 5.3.1.10 Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa, and in Subareas IV and VI. Nominal landings (t) by country as officially reported to ICES and estimated by ICES of anglerfish in Division IIIa (Skagerrak, Kattegat).

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*	
Belgium	15	48	34	21	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Denmark	493	658	565	459	312	367	550	415	362	377	375	369	215	311	274	227	255	287	344	270	251	307	298	
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Germany	-	-	1	-	-	1	1	1	2	1	-	1	-	1	1	2	1	1	1	1	2	-	1	
Netherlands													3	4	4	3	1	3	-	5	0	-	+	
Norway	64	170	154	263	440	309	186	177	260	197	200	242	189	130	100	137	132	144	134	158	153	115	108	
Sweden	23	62	89	68	36	25	39	33	36	27	46	55	71	73	79	54	44	51	-	43	26	43	33	
Total	595	938	843	811	823	702	776	626	660	602	621	667	478	519	458	423	433	486	479	477	432	465	440	
Unallocated																						9	10	
WG estimate																						474	450	

*Preliminary.

Table 5.3.1.11

Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa, and in Subareas IV and VI. Landings and discards (t) in 2013 by region and gear group as estimated by ICES.

Fleet	IIIa		IV		VIa		VIb		Total	
	Landings	Discards	Landings	Discards	Landings	Discards	Landings	Discards	Landings	Discards
Demersal trawl	32	1.3	3533	26	2378	74	819	306	6763	407
FDF demersal trawl	28	0.4	737	4					765	5
<i>Nephrops</i> trawl	229	3.2	437	16	41	42			708	61
Gillnets	152	n.a.	1624	n.a.	49	n.a.	347	n.a.	2173	n.a.
Other/Not specified	9	0.3	541	5	161	8	933	302	1645	315
Total	450	5.2	6873	51	2630	123	2100	608	12054	787

Table 5.3.1.12 Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa and in Subareas IV and VI. Numbers (millions of individuals) and biomass (thousands of tonnes) estimates from the 2005–2014 anglerfish surveys (SCO-IV-VI-AMISS-Q2) by ICES subarea and division.

Abundance (millions)										
ICES Subarea / Division	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Subarea IV (partial)	11.168	12.844	15.304	12.613	8.279	7.366	5.15	5.432	8.470	17.553
Division VIa	10.866	10.459	7.956	7.718	5.144	5.161	6.057	4.961	8.461	16.096
Division VIb	1.8	3.174	4	3.952	3.688	3.131	3.669	5.135	4.885	6.488
Subarea VI	12.666	13.633	11.956	11.67	8.832	8.292	9.725	10.096	13.346	22.584
Total survey area	23.833	26.477	27.261	24.283	17.111	15.658	14.875	15.528	21.816	40.136

Biomass (thousand tonnes)										
ICES Subarea / Division	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Subarea IV (partial)	18.642	21.921	28.534	29.721	17.058	21.944	14.949	15.106	14.369	21.284
Division VIa	14.096	12.175	11.072	14.383	8.15	11.59	9.33	9.213	10.801	16.633
Division VIb	5.879	6.889	10.786	9.442	12.852	8.745	8.974	12.005	13.626	14.967
Subarea VI	19.975	19.064	21.858	23.825	21.002	20.334	18.305	21.218	24.427	31.600
Total survey area	38.617	40.985	50.392	53.546	38.06	42.279	33.254	36.325	38.796	52.884