

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

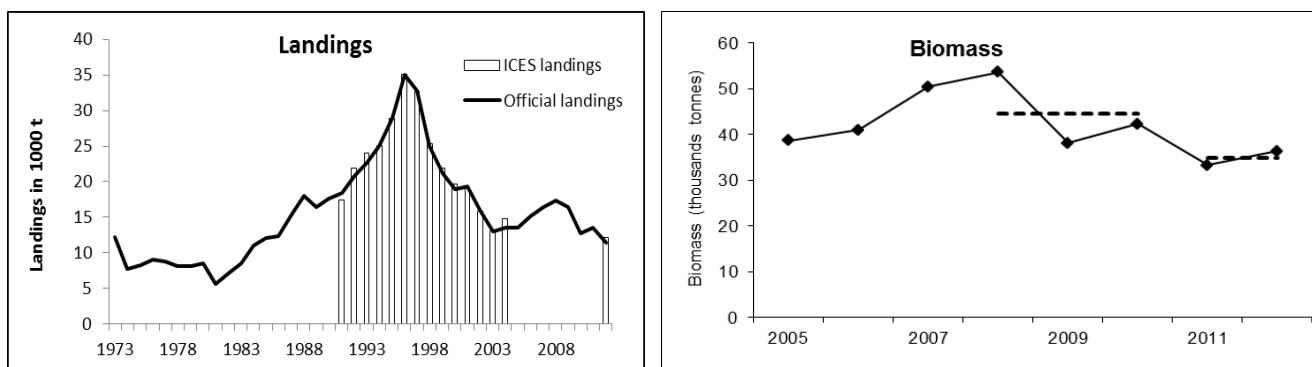
**Advice for 2014**

Based on ICES approach to data-limited stocks, ICES advises that catches should be no more than 10 231 t in 2014. All catches are assumed to be landed.

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

**Stock status**

F (Fishing Mortality)	
	2010–2012
Qualitative evaluation	⊕ Insufficient information
SSB (Spawning-Stock Biomass)	
	2008–2012
Qualitative evaluation	⬇ Decreasing



**Figure 5.4.1.1** Anglerfish (*Lophius piscatorius* and *L. budegassa*). Left: Official and ICES landings (thousand tonnes) in Subareas IV and VI and Division IIIa. Right: Stock biomass (thousand tonnes) from SCO-IV-VI-AMISS-Q2. Dashed horizontal lines for SSB correspond to the average on the respective year range.

Recent dedicated anglerfish surveys, 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, indicate a decline in biomass since 2008. The average biomass over this area in the last two years (2011–2012) is 22% lower than the average biomass of the three previous years (2008–2010).

**Management plans**

No specific management objectives are known to ICES.

**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. Catches of anglerfish on the northern shelf (from Division VIb to Division IIIa) come from the same biological stock. 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, *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 since the early 1990s.

<b>Catch distribution</b>	Total landings in 2012 were 11 493 t (7351 t in Division IIIa and Subarea IV; 4142 t in Subarea VI). Discards from the Scottish, Irish, and Danish fleets were minimal in 2012 (64 t).
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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

The previous concerns about underreporting of landings are no longer considered an issue due to unrestrictive TACs and the substantial reduction in the offshore gillnet fishery. Accurate estimates of growth parameters are needed to facilitate the development of an analytical assessment. A dedicated Scottish and Irish industry/science anglerfish survey has operated from 2005–2012. The survey does not cover the southern and eastern parts of the North Sea and Skagerrak (Divisions IIIa, IVb, and IVc). Fisheries in these areas account for approximately 11% of landings in the North Sea and Skagerrak since 2005, which adds uncertainty to the perception of stock trends. The timing of the Sco-AMISS-IV-VI surveys changed from November to April in 2008; however, the data used to estimate stock trends are all from surveys taking place in April.

The advice is based on biomass values from a survey. 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, but they may not be suitable if the stock size is low and/or the stock overfished.

### Scientific basis

<b>Assessment type</b>	Survey trends.
<b>Stock data category</b>	Category 3.2.0.
<b>Input data</b>	International landings and dedicated anglerfish surveys in Subarea VI and Division IVa (Scotland/Ireland SCO-IV-VI-AMISS-Q2).
<b>Discards and bycatch</b>	Discards were not included in the assessment and are considered to be low.
<b>Indicators</b>	None.
<b>Other information</b>	The stock was benchmarked in 2013 (WKROUND; ICES, 2013a), but this did not result in a revision of the assessment method.
<b>Working group report</b>	<a href="#">WGCSE</a> (ICES, 2013b).

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**Reference points**

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

**Outlook for 2014**

No analytical assessment can be presented for this stock. Because of uncertainties concerning catch-at-age data for anglerfish as well as limited knowledge about population dynamics, a forecast cannot be presented.

*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 decreased by more than 20% between the periods 2008–2010 (average of the three years) and 2011–2012 (average of the two years). This implies a decrease in catches of at least 20% in relation to the average catches of the last three years, corresponding to catches in 2014 of no more than 10 231 t. All catches are assumed to be landed.

Though the exploitation status is unknown, the effort in the main fisheries has decreased until 2011 (Figure 5.4.1.2) and an increase in 2012 is not anticipated; therefore, no additional precautionary reduction is needed.

**Additional 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.

*Information from the fishing industry*

The fishers' North Sea stock survey (Napier, 2012; Figure 5.4.1.4) shows that fishers' perceive the stock as increasing until approximately 2008 and remaining stable since then. The survey time-series for anglerfish in the North Sea shows a decrease after 2008 (Figure 5.4.1.3). Thus fishers' perceptions are very different from the trends apparent in the surveys. Fishers report that it has become increasingly difficult to fully utilize the North Sea anglerfish quota due to the very restrictive effort regime currently in place.

*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 (48% between 2003 and 2010; around 35% in 2011; Figure 5.4.1.2).

### Changes in fishing technology and fishing patterns

Until the mid-1980s, anglerfish was taken mainly as a 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 a bycatch in other demersal fisheries.

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

### Comparison with previous assessment and advice

The basis for the advice this year is the same as last year, i.e. ICES approach to data-limited stocks. Previous concerns about underreporting of landings are no longer considered an issue, and therefore ICES is able to provide quantified advice this year.

### 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. 2013a. Report of Benchmark Workshop on Roundfish Stocks, 4–8 February, Aberdeen. ICES CM 2013/ACOM:47.

ICES. 2013b. Report of the Working Group on the Celtic Seas Ecoregion (WGCSE), 8–17 May 2013, Copenhagen, Denmark. ICES CM 2013/ACOM:12.

Napier, I. R. 2012. Fishers' North Sea stock survey 2012. NAFC Marine Centre, University of the Highlands and Islands.

STECF. 2012. EU Scientific, Technical and Economic Committee for Fisheries. Evaluation of Fishing Effort Regimes in European Waters (STECF-12-16).

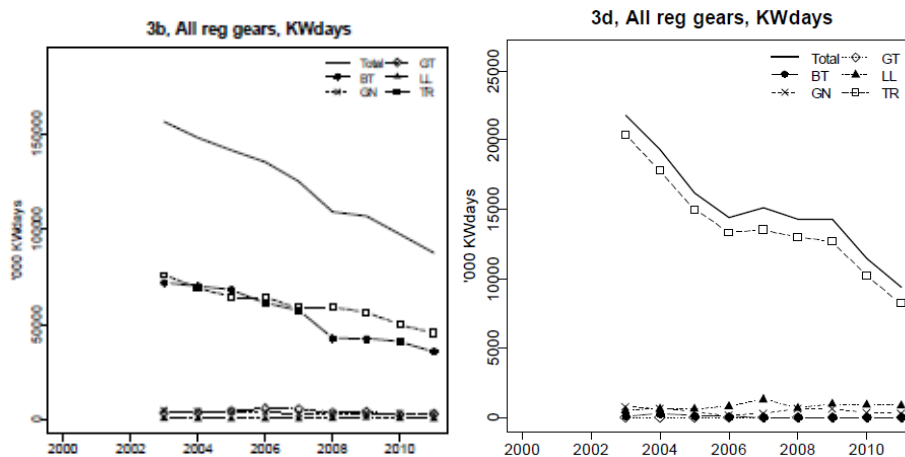
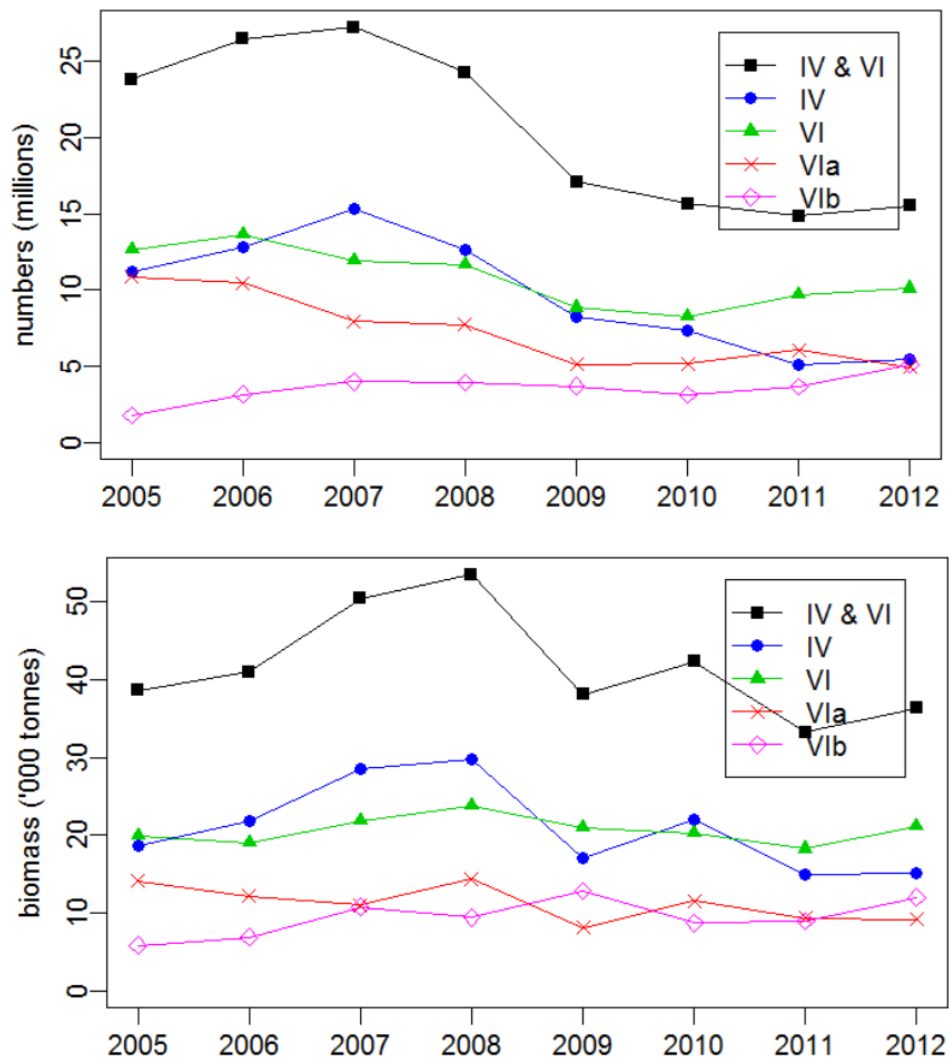


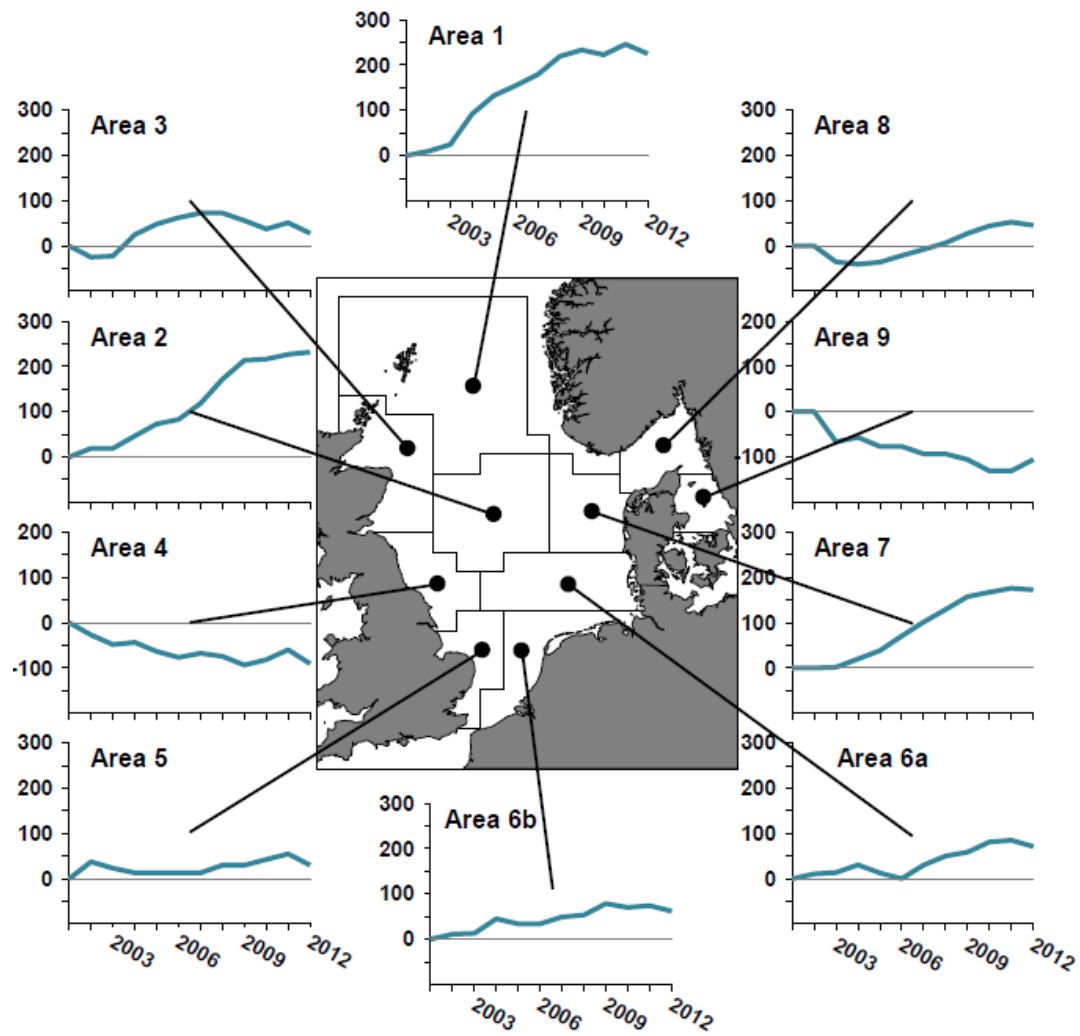
Figure 5.4.1.2

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 (2012).



**Figure 5.4.1.3**

Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa and Subareas IV and VI. Total abundance (millions, upper panel) and stock biomass (thousand tonnes, lower panel) indices from SCO-IV-VI-AMISS-Q2 (black filled squares), with breakdown by area: Subarea IV (blue circles), Subarea VI (green triangles), Division VIa (red stars), and Division VIb (pink diamonds).



**Figure 5.4.1.4** Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Subarea IV. Results of the North Sea Commission fishers' survey perceptions of abundance by area, 2012 (Napier, 2012).

**Table 5.4.1.1**

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 Subarea VI	Agreed TAC <sup>1)</sup>	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 <sup>3)</sup>	-	-	-	8.6	22.6	24.0
1994	No long-term gain in increased F <sup>3)</sup>	-	-	-	8.6	25.0	25.1
1995	A precautionary TAC not exceeding recent catch levels <sup>3)</sup>	-	-	-	8.6	28.9	28.9
1996	A precautionary TAC not exceeding recent catch levels <sup>3)</sup>	-	-	-	8.6	35.0	35.1
1997	Reduction in fishing effort <sup>3)</sup>	-	-	-	8.6	32.8	32.7
1998	Reduction in fishing effort <sup>3)</sup>	-	-	-	30.7	25.1	25.3
1999	Reduce fishing effort, effective implementation of the TAC <sup>3)</sup>	-	-	-	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 <sub>pa</sub>	< 6.7 <sup>2)</sup>	-	-	10.2	13.0	13.0
2004	Reduce F below F <sub>pa</sub>	< 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 <sup>4)</sup>	12.7	n.a.
2011	Decrease effort	-	-	-	15.1 <sup>5)</sup>	13.6	n.a.
2012	Reduce catch	-	-	-	14.344 <sup>5)</sup>	11.4 <sup>6)</sup>	12.1 <sup>6)</sup>
2013	Decrease catches by 20%	-	-	-	13.627		
2014	Decrease catches by 20%	10.231	-	-			

Weights in thousand tonnes.

<sup>1)</sup> TAC for Subarea IV and Division IIa (EC) plus TAC for Division Vb(EC) and Subareas VI, XII, and XIV. Except TAC before 1998, which covered for Division Vb(EC) and Subareas VI, XII, and XIV.

<sup>2)</sup> Advice for Division IIIa, Subarea IV, and Division VIa.

<sup>3)</sup> For Subarea VI.

<sup>4)</sup> An additional quota of 1500 t was also available for EU vessels fishing in the Norwegian zone of Subarea IV in 2011.

<sup>5)</sup> An additional quota of 1500 t was also available for EU vessels fishing in the Norwegian zone of Subarea IV in 2012.

<sup>6)</sup> Preliminary.

n.a. = not available.

**Table 5.4.1.2**

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

	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	32728
1998	626	16860	2088	78	4506	900	19023	5406	25058	25293
1999	660	13344	1517	24	4284	1401	14867	5685	21230	21854
2000	602	12338	1617	31	3311	1074	13986	4385	18973	19682
2001	621	12861	1832	21	2660	1309	14714	3969	19304	19157
2002	667	11048	1244	21	2280	718	12313	2998	15978	15834
2003	478	8523	847	20	2493	643	9390	3136	13004	13017
2004	519	8987	851	15	2453	671	9853	3124	13496	14729
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	6979	619	12	3187	1423	7610	4610	12697	
2011	432	7760	773	9	2724	1878	8542	4602	13576	
2012*	466	6176	705	4	2682	1356	6885	4038	11389	12095

\*Preliminary.



**Table 5.4.1.3** 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)**.

VIa	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012*
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	1 910	2 308	2 467	2 382	2 648	2 899	2 058	1 634	1 814	1 132	943	739	1 212	1 191	1 392	1 314	1 763	1 746	1 555	1 160	1 021	1 166
Germany	1	2	60	67	77	35	72	137	50	39	11	3	27	39	39	1	-	54	79	79	59	
Ireland	250	403	428	303	720	717	625	749	617	515	475	304	322	219	356	392	470	295	328	510	488	325
Netherlands	-	-	-	-	-	-	27	1	-	-	-	-	-	-	-	-	-	-	-	-	0	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	
UK(E W&NI)	270	351	223	370	320	201	156	119	60	44	40	32	31	30	20	24	42	5	12	393		
UK(Scot.)	2 613	2 385	2 346	2 133	2 533	2 515	2 322	1 773	1 688	1 496	1 119	1 100	705	862	1 127	974	1 071	1 096	864	1 040		
UK (total)																			876	1 021	1 016	1 190
Total	5 061	5 479	5 553	5 273	6 354	6 408	5 330	4 506	4 284	3 311	2 660	2 280	2 493	2 453	3 019	2 785	3 352	3 373	3 029	3 187	2 724	2 682
Unallocated	296	2 638	3 816	2 766	5 112	11 148	7 506	5 234	3 799	3 114	2 068	1 882	985	1 938								72
ICES landings	5 357	8 117	9 369	8 039	11 466	17 556	12 836	9 740	8 083	6 425	4 728	4 162	3 478	4 391								2 754

\*Preliminary.

**Table 5.4.1.4** 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*		
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		
Germany	-	-	103	73	83	78	177	132	144	119	67	35	64	66	77	72	222	0	132	87	90			
Ireland	272	417	96	135	133	90	139	130	75	81	134	51	26	13	35	53	70	76	91	107	108	-		
Norway	18	10	17	24	14	11	4	6	5	11	5	3	6	5	4	6	7	5	9	12	7	0		
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			
UK(E W&NI)	99	173	76	50	105	144	247	188	111	272	197	133	133	54	93	46	146	5	48	15				
UK(Scot)	201	224	182	281	199	68	156	189	344	374	367	317	160	294	355	478	475	1096	1141	1171				
UK (total)																					1189	1192	1129	895
Total	923	1089	681	777	830	602	899	900	1401	1074	1309	718	643	671	958	916	1260	1629.6	2119	1423	1878	1356		
Unallocated									-9	17	-178	-47	145	121									32	
ICES landings	923	1 089	681	777	830	602	899	900	1392	1091	1131	671	788	792									1388	

\*Preliminary.

**Table 5.4.1.5** 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*
Belgium	3	2	9	6	5	0	5	2	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
Estonia	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
France	1910	2308	2496	2382	2648	2899	2059	1635	1814	1180	1135	782	1403	1366	1685	1538	2090	2073	2192	1183	1536	1622
Germany	1	2	163	140	160	113	249	269	194	158	78	38	91	105	116	73	222	54	211	166	149	0
Ireland	522	820	524	438	853	807	764	879	692	596	609	355	348	232	391	445	540	370.6	419	617	596	325
Netherlands																						
Norway	18	10	17	24	14	11	31	7	5	11	5	3	6	5	4	6	7	5	9	12	7	0
Portugal	6	14	8	6	4	4	1	3	430	23	20	9	4	19	64	1	1	2	0	1	1	1
Russia	0	0	0	0	0	0	0	0	0	0	1	0	0	2	4	1	1	35	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	
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		
UK(Scot)	2814	2609	2528	2414	2732	2583	2478	1962	2032	1870	1486	1417	865	1156	1482	1452	1546	2192	2005	2211		
UK (total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2065	2213	2145	2085
Total	5984	6568	6234	6050	7184	7010	6229	5406	5685	4385	3969	2998	3136	3124	3977	3701	4612	5002.6	5148	4610	4602	4038
Unallocated	296	2638	3816	2766	5112	11148	7506	5234	3790	3131	1890	1835	1130	2059								104
ICES landings	6280	9206	10050	8816	12296	18158	13735	10640	9475	7516	5859	4833	4266	5183								4142

\*Preliminary.

**Table 5.4.1.6** 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 and estimated by 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*
Belgium	2	9	3	3	2	8	4	1	5	12	-	8	1	-	-	-	-	-	-			
Denmark	1 245	1265	946	1 157	732	1 239	1 155	1 024	1 128	1 087	1 289	1 308	1 523	1 538	1 379	1 311	961	1 071	1 134	1	841	821
Faroes	1	-	10	18	20	-	15	10	6	-	2	+	3	11	22	2	+	-	4		0	0
France	124	151	69	28	18	7	7	3	18	8	9	8	8	8	4	7	13	13	48	6	12	14
Germany	71	68	100	84	613	292	601	873	454	182	95	95	65	20	84	173	186	344	216	124	46	
Ireland																					0	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	1 224	1 318	657	821	672	954	1 219	1 182	1 212	928	769	999	880	1 005	831	860	859	735	494	480
Sweden	14	7	7	7	2	1	2	8	8	78	44	56	8	6	5	5	20	67	-	4	9	7
UK(E W&NI)	129	143	160	169	176	439	2 174	668	781	218	183	98	104	83	34	99	303	13	320	371		
UK (Scotland)	7 039	7 887	9 712	11 683	15 658	22 344	18 783	13 319	9 710	9 559	10 024	8 539	6 033	6 284	6 003	7 722	8 304	8 658	7 510	5730		
UK (total)																			7 830	6101	6353	4849
Total	9 235	10 209	12 309	14 505	17 891	25 176	23 425	16 860	13 344	12 338	12 861	11 048	8 523	8 987	8 424	10 338	10 632	11 038	10 096	6 979	7 760	6 176

\* Preliminary.

**Table 5.4.1.7** 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 and estimated by 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*
Belgium	357	538	558	713	579	287	336	371	270	449	579	435	180	260	207	138	179	181	134	124	111	129
Denmark	345	421	347	350	295	225	334	432	368	260	251	255	191	274	237	276	173	237	248	194	286	301
Faroes	-	-	2	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	0	
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	
Ireland													1	-	-	-	-	-	-	-		
Netherlands	285	356	467	510	335	159	237	223	141	141	123	62	42	25	31	33	61	58	36	46	53	59
Norway	17	4	3	11	15	29	6	13	17	9	15	10	12	22	16	14	24	15	21	10	11	14
Sweden				3	2	1	3	3	4	3	2	9	2	1	4	4	6	9	-	5	7	7
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		
UK (Scotland)	845	733	469	564	472	475	574	424	344	318	378	210	241	138	88	98	172	142	103	125		
UK (total)																			193	213	284	195
Total	2 522	3 053	3 144	3 445	2 627	1 847	2 172	2 088	1 517	1 617	1 832	1 244	847	851	688	685	749	769	653	619	773	705

\* Preliminary.

**Table 5.4.1.8** 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 and estimated by 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*
Belgium	13	12	34	37	26	28	17	17	11	15	15	16	9	5	4	3	3	4	6	7	6	2
Denmark	2	+	-	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	0	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
Norway	-	-	-	-	+	-	-	-	+	-	+	-	-	-	-	-	-	-	1	-		
Sweden																						
UK(E&W&NI)	6	17	18	136	361	256	131	36	3	1	-	-	10	3	-	-	-	-	1	1		
UK (Scotland)	-	-	-	17	-	3	1	+	+	+	-	-	-	7	-	-	-	-	-	-		
UK (Total)																			+	1	1	+
Total	26	39	66	210	402	304	160	78	24	31	21	21	20	15	5	3	4	5	8	12	9	4

\* Preliminary.

**Table 5.4.1.9** 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*	
Belgium	372	559	595	753	607	323	357	389	286	476	594	459	190	265	211	141	182	184.6	140	131	117	131	
Denmark	1592	1686	1293	1507	1027	1464	1489	1456	1496	1347	1540	1563	1714	1812	1616	1587	1134	1308	1382	195	1127	1122	
Estonia																							
Faroes	1	0	12	18	20	0	15	10	6	0	2	10	3	11	22	2	0	0	4	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	
Germany	75	70	113	99	623	301	619	892	463	196	104	112	76	31	93	187	198	366	233	145	63	0	
Ireland	0	0	0	0	0	0	0	0	0	0	0	0	1	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	65	
Norway	604	639	1227	1329	672	850	678	967	1236	1191	1227	938	781	1021	896	1019	855	875	881	745	505	494	
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	
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	0	
UK (Scotland)	7884	8620	10181	12264	16130	22822	19358	13743	10054	9877	10402	8749	6274	6429	6091	7820	8476	8800	7613	5855	0	0	
UK (Total)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8024	6315	6638	5044	
Total	11783	13301	15519	18160	20920	27327	25757	19026	14885	13986	14714	12313	9390	9853	9117	11026	11385	5	10757	7609	8542	6884	
Unallocated	-1,217	-1,573	-2,441	-2,730	-5,126	-11,087	-7,540	-4,999	-3,166	-2,422	-2,037	-1,979	-	-826									330
ICES landings	10,566	11,728	13,078	15,430	15,794	16,240	18,217	14,027	11,719	11,564	12,677	10,334	8,273	9,027									7214

\* Preliminary.

**Table 5.4.1.10** 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*	
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	308	
France	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Germany	-	-	1	-	-	1	1	1	2	1	-	1	-	1	1	2	1	1	1	1	1	2	0
Netherlands							-	-	-	-	-		3	4	4	3	1	3	-	5	0	0	
Norway	64	170	154	263	440	309	186	177	260	197	200	242	189	130	100	137	132	144	134	158	153	115	
Sweden	23	62	89	68	36	25	39	33	36	27	46	55	71	73	79	54	44	51	...	43	26	43	
<b>Total</b>	<b>595</b>	<b>938</b>	<b>843</b>	<b>811</b>	<b>823</b>	<b>702</b>	<b>776</b>	<b>626</b>	<b>660</b>	<b>602</b>	<b>621</b>	<b>667</b>	<b>478</b>	<b>519</b>	<b>458</b>	<b>423</b>	<b>433</b>	<b>486</b>	<b>479</b>	<b>477</b>	<b>432</b>	<b>466</b>	
Unallocated																						9	
ICES landings																							475

\*Preliminary.





**Table 5.4.1.11** Anglerfish (*Lophius piscatorius* and *L. budegassa*) in Division IIIa and in Subareas IV and VI. Abundance (millions of individuals – age 1 and older) and biomass (thousands of tonnes – age 1 and older) estimates from the 2005–2012 anglerfish surveys (SCO-IV-VI-AMISS-Q2) by ICES subareas and divisions.

ICES Subarea / Division	Abundance (millions)							
	2005	2006	2007	2008	2009	2010	2011	2012
Subarea IV (partial)	11.168	12.844	15.304	12.613	8.279	7.366	5.150	5.432
Division VIa	10.866	10.459	7.956	7.718	5.144	5.161	6.057	4.961
Division VIb	1.800	3.174	4.000	3.952	3.688	3.131	3.669	5.135
Subarea VI	12.666	13.633	11.956	11.670	8.832	8.292	9.725	10.096
<b>Total stock</b>	<b>23.833</b>	<b>26.477</b>	<b>27.261</b>	<b>24.283</b>	<b>17.111</b>	<b>15.658</b>	<b>14.875</b>	<b>15.528</b>

ICES Subarea / Division	Biomass (thousand tonnes)							
	2005	2006	2007	2008	2009	2010	2011	2012
Subarea IV (partial)	18.642	21.921	28.534	29.721	17.058	21.944	14.949	15.106
Division VIa	14.096	12.175	11.072	14.383	8.150	11.590	9.330	9.213
Division VIb	5.879	6.889	10.786	9.442	12.852	8.745	8.974	12.005
Subarea VI	19.975	19.064	21.858	23.825	21.002	20.334	18.305	21.218
<b>Total stock</b>	<b>38.617</b>	<b>40.985</b>	<b>50.392</b>	<b>53.546</b>	<b>38.060</b>	<b>42.279</b>	<b>33.254</b>	<b>36.325</b>