

Greater forkbeard (*Phycis blennoides*) in subareas 1–10, 12, and 14 (the Northeast Atlantic and adjacent waters)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, landings should be no more than 861 tonnes in each of the years 2021 and 2022. ICES cannot quantify the corresponding catches.

Note: This advice sheet is abbreviated due to the Covid-19 disruption. The previous advice issued for 2019 and 2020 is attached as Annex 1.

Stock development over time

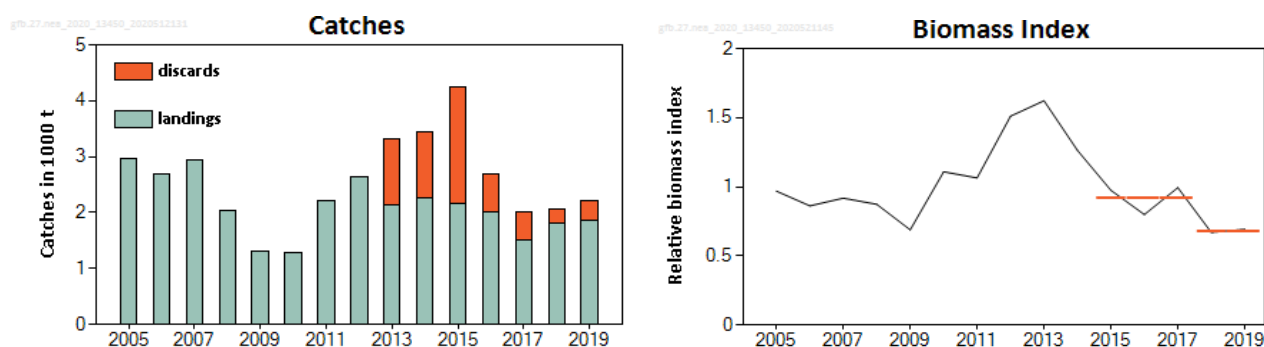





Figure 1 Greater forkbeard in the Northeast Atlantic and adjacent waters. Left: Landings and partial discards (not fully quantified). Right: Average relative biomass indicator from six surveys (IGFS-WIBTS-Q4, EVHOE-WIBTS-Q4F, SpGFS-WIBTS-Q4, SpGFS-WIBTS-Q4, SDS, PT-CTS [UWTV {FU 28–29}]). The dotted horizontal lines indicate the average biomass indicator of the respective year range (last two and preceding three years) used to calculate the advice.

Stock and exploitation status

Table 1 Greater forkbeard in the Northeast Atlantic and adjacent waters. State of the stock and the fishery relative to reference points.

		Fishing pressure				Stock size				
		2017	2018	2019		2017	2018	2019		
Maximum sustainable yield	F_{MSY}	?	?	?	Unknown	$MSY B_{trigger}$?	?	?	Undefined
Precautionary approach	F_{pa}, F_{lim}	?	?	?	Unknown	B_{pa}, B_{lim}	?	?	?	Undefined
Management plan	F_{MGT}	—	—	—	Not applicable	B_{MGT}	—	—	—	Not applicable
Qualitative evaluation	-	?	?	?	Unknown	-				Stable

Catch scenarios

The precautionary buffer was last applied in 2016. As the stock status relative to candidate reference points is unknown, the buffer has been applied this year.

Table 2 Greater forkbeard in the Northeast Atlantic and adjacent waters. The basis for the catch scenario*.

Index A (2018–2019)		0.68
Index B (2015–2017)		0.92
Index ratio (A/B)		0.74
Uncertainty cap	Applied	0.8
Advised landings for 2019–2020 issued in 2018		1346 tonnes
Discard rate		Substantial, but not fully quantified
Precautionary buffer	Applied	0.8
Landings advice**		861 tonnes
% advice change***		–36%

* The figures in the table are rounded. Calculations were done with unrounded inputs and computed values may not match exactly when calculated using the rounded figures in the table.

** [advice for 2019–2020] × [uncertainty cap] × [precautionary buffer].

*** Advice value for 2021 and 2022 relative to the advice value for 2019 and 2020.

The advised catch has decreased by more than 20% because of the decreasing biomass index and the application of the precautionary buffer.

Issues relevant for the advice

This stock is classified as Category 4 in the NEAFC categorization of deep-sea species/stocks, which implies that fisheries are primarily restricted to coastal state exclusive economic zones (EEZs). Therefore, management measures are not taken by NEAFC unless complementary to coastal state conservation and management measures (NEAFC, 2016).

History of the advice, catch, and management

Table 3 Greater forkbeard in the Northeast Atlantic and adjacent waters. History of ICES advice, the agreed TAC, and official landings. There are no TACs since 2019. Weights are in tonnes.

Year	ICES advice	Predicted catch corresp. to advice*	TAC EU subareas 1, 2, 3, and 4	TAC EU subareas 5, 6, and 7	TAC EU subareas 8 and 9	TAC EU subareas 10 and 12	Sum of EU TACs	ICES landings Northeast Atlantic
2003	Fisheries accompanied by programmes to collect data, and expand very slowly, unless proven to be sustainable							4336
2004	Biennial							3492
2005	Fisheries accompanied by programmes to collect data							2960
2006	Biennial							2686
2007	Fishery should not be allowed to expand, unless proven to be sustainable		36	2028	267	63	2394	2949
2008	Biennial		36	2028	267	63	2394	2038
2009	Fishery should not be allowed to expand, unless proven to be sustainable		31	2028	267	54	2380	1311
2010	Biennial		31	2028	267	54	2380	1288
2011	Fishery should not be allowed to expand, and a reduction in catches should be considered		31	2028	267	54	2380	2201
2012	No new advice, same as 2011		31	2028	267	54	2380	2641
2013	20% reduction in catches	1000	31	2028	267	54	2380	2143
2014	No new advice, same as 2013	1000	31	2028	267	54	2380	2269
2015	20% increase in landings	< 2628	37	2434	320	650	2856	2174
2016	No new advice, same as 2015	< 2628	37	2434	320	650	2856	2012

Year	ICES advice	Predicted catch corresp. to advice*	TAC EU subareas 1, 2, 3, and 4	TAC EU subareas 5, 6, and 7	TAC EU subareas 8 and 9	TAC EU subareas 10 and 12	Sum of EU TACs	ICES landings Northeast Atlantic
2017	Precautionary approach (36% decrease of the 2016 advice)	≤ 1682	33	2166	285	58	2540	1503
2018	Precautionary approach (same value as advised catches for 2017)	≤ 1682	29	1928	254	52	2260	1801
2019	Precautionary approach	≤ 1346	-	-	-	-	-	1850
2020	Precautionary approach	≤ 1346	-	-	-	-	-	
2021	Precautionary approach	≤ 861						
2022	Precautionary approach	≤ 861						

* Landings advice since 2017.

Table 4 Greater forkbeard in the Northeast Atlantic and adjacent waters. Landings inside and outside the NEAFC Regulatory Area (RA) as estimated by ICES; landings are in tonnes. Note that ICES cannot quantify catches.

Year	Inside the NEAFC RA	Outside the NEAFC RA	Total landings	Proportion of landings inside the NEAFC RA (%)
2014	0	2269	2269	0
2015	0	2175	2175	0
2016	0	2012	2012	0
2017	0	1503	1503	0
2018	0	1801	1801	0
2019	0	1850	1850	0

Summary of the assessment

Table 5 Greater forkbeard in the Northeast Atlantic and adjacent waters. Assessment summary. Relative combined survey biomass index from trawl surveys and catches (landings and partially reported discards). Weights are in tonnes.

Year	Relative biomass index	Landings	Discards (partial)
2005	0.97	2960	
2006	0.86	2686	
2007	0.92	2949	
2008	0.87	2038	
2009	0.69	1311	
2010	1.11	1288	
2011	1.06	2201	
2012	1.51	2641	
2013	1.62	2143	1185
2014	1.26	2269	1166
2015	0.97	2174	2068
2016	0.80	2012	677
2017	0.99	1503	513
2018	0.67	1801	263
2019	0.69	1850	366

Sources and references

ICES. 2020. Working Group on the Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP).

ICES Scientific Reports. 2:38. <http://doi.org/10.17895/ices.pub.6015>

NEAFC. 2016. The NEAFC approach to conservation and management of deep-sea species and categorization of deep-sea species/stocks. Adopted at the 35th Annual Meeting, November 2016. <https://www.neafc.org/basictexts>.

Recommended citation: ICES. 2020. Greater forkbeard (*Phycis blennoides*) in subareas 1–10, 12, and 14 (the Northeast Atlantic and adjacent waters). In Report of the ICES Advisory Committee, 2020. ICES Advice 2020, bsf.27.nea. <https://doi.org/10.17895/ices.advice.5821>.

Greater forkbeard (*Phycis blennoides*) in subareas 1–10, 12, and 14 (the Northeast Atlantic and adjacent waters)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, landings should be no more than 1346 tonnes in each of the years 2019 and 2020. ICES cannot quantify the corresponding catches.

Stock development over time

The biomass index indicates a decrease in the abundance from 2013 to 2016.

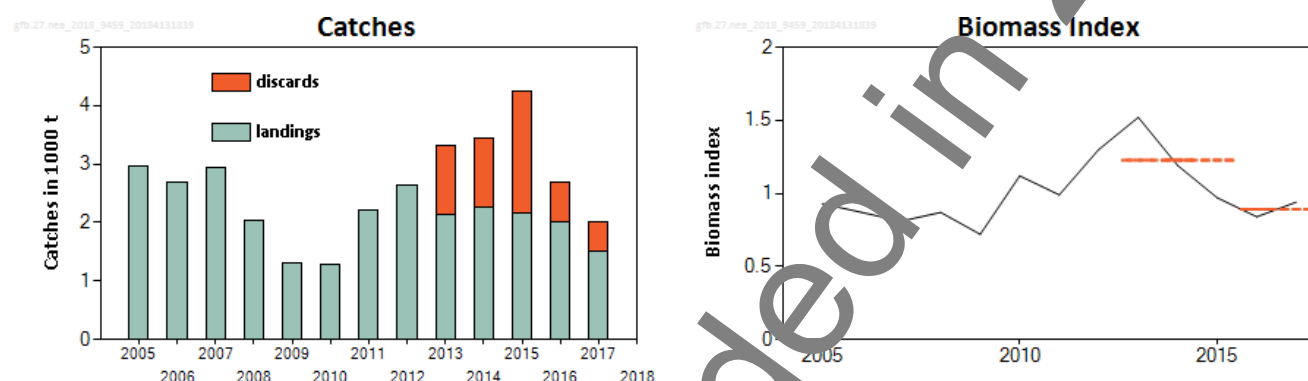


Figure 1 Greater forkbeard in the Northeast Atlantic and adjacent waters. Left: Landings and partial discards. Right: Average standardized biomass indicator from six surveys (LJFS-WIBTS-Q4, EVHOE-WIBTS-Q4F, SpGFS-WIBTS-Q4, SpGFS-WIBTS-Q4, SDS, PT-CTS (UWTV (FU 28–29))). The dotted horizontal lines indicate the average biomass indicator of the respective year range (last two and preceding three years) used to calculate the advice.

Stock and exploitation status

ICES cannot assess the stock and exploitation status relative to MSY and PA reference points because the reference points are undefined.

Table 1 Greater forkbeard in the Northeast Atlantic and adjacent waters. State of the stock and fishery relative to reference points.

		Fishing pressure				Stock size				
		2015	2016	2017		2015	2016	2017		
Maximum sustainable yield	F_{MSY}	?	?	?	Unknown	$MSY B_{trigger}$?	?	?	Undefined
Precautionary approach	F_{pa}/F_{lim}	?	?	?	Unknown	B_{pa}/B_{lim}	?	?	?	Undefined
Management plan	F_{MGT}	—	—	—	Not applicable	B_{MGT}	—	—	—	Not applicable
Qualitative evaluation	-	?	?	?	Unknown	-				Increasing

Catch scenarios

ICES framework for category 3 stocks (ICES, 2012) was applied. An index from six surveys [IGFS-WIBTS-Q4, EVHOE-WIBTS-Q4, SpPGFS-WIBTS-Q4, SpGFS-WIBTS-Q4, SDS, PT-CTS (UWTV (FU 28–29))] was used to provide an overall indicator of stock biomass. The advice is based on a comparison of the two latest values (index A) with the three preceding values (index B), multiplied with the recent advised landings. The biomass index has decreased 27% and thus the uncertainty cap was applied. The stock status relative to candidate reference points is unknown. The precautionary buffer was applied in 2016 and therefore was not applied again. Discarding is known to take place, but ICES cannot quantify the corresponding catch.

Table 2 Greater forkbeard in the Northeast Atlantic and adjacent waters. The basis for the catch scenario*.

Index A (2016–2017)		0.86
Index B (2013–2015)		1.22
Index ratio (A/B)		0.70
Uncertainty cap	Applied	0.8
Advised landings for 2017–2018 issued in 2016		1682 t
Discard rate		Substantial, but cannot be quantified
Precautionary buffer	Not applied	-
Landings advice**		1346 t
% Advice change***		-20%

* The figures in the table are rounded. Calculations were done with unrounded inputs and computed values may not match exactly when calculated using the rounded figures in the table.

** [advice for 2017–2018] × [uncertainty cap].

*** Advice value for 2019 relative to advice value for 2018.

The advised landings are lower than those advised for 2018 as a result of a decline in the stock size indicator.

Basis of the advice

Table 3 Greater forkbeard in the Northeast Atlantic and adjacent waters. The basis of the advice.

Advice basis	Precautionary approach.
Management plan	ICES is not aware of any management plan for greater forkbeard in this area.

Quality of the assessment

Six surveys are used to produce the stock size indicator. In some years one of these surveys is missing (for example SDS in 2016 and EVHOE-WIBTS-Q4F in 2017); however, the stock size indicator is still considered to be valid in these years. The surveys cover most of the distribution of the stock, except the northern subareas 1, 2, 3, and 4.

Several shelf fisheries have a bycatch of juveniles which is currently poorly estimated. Discard reporting does not cover the entire distributional area of the stock; data are missing, especially in subareas 1–3. In 2016 and 2017 more than 25% of the catches were discarded for those fleets that have reported. Discards from other fleets are not quantified. Therefore, ICES cannot quantify catches.

Issues relevant for the advice

The landings of greater forkbeard are mainly bycatch in the demersal trawl and longline fisheries targeting species such as hake, megrim, monkfish, ling, and deep-water fish. However, greater forkbeard is locally important for certain fleets fishing in subareas 6 and 7 with base ports mainly in northwestern Spain and in France.

Reference points

No reference points are defined for this stock.

Basis of the assessment

Table 4 Greater forkbeard in the Northeast Atlantic and adjacent waters. The basis of the assessment.

ICES stock data category	3 (ICES, 2016).
Assessment type	Survey trends-based assessment (ICES, 2018).
Input data	Six surveys (IGFS-WIBTS-Q4, EVHOE-WIBTS-Q4, SpPGFS-WIBTS-Q4, SpGFS-WIBTS-Q4, JCS, PT-CTS (UWTV (FU 28-29))).
Discards and bycatch	Discarding is substantial, but only partially quantified.
Indicators	None.
Other information	Last benchmarked in 2010 (ICES, 2010).
Working group	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP)

Information from stakeholders

There is no available information.

History of the advice, catch, and management

Table 5 Greater forkbeard in the Northeast Atlantic and adjacent waters. History of ICES advice, the agreed TAC, and official landings. Weights are in tonnes.

Year	ICES advice	Predicted catch corresp. to advice	TAC EU subareas 1, 2, 3, and 4	TAC EU subareas 5, 6, and 7	TAC EU subareas 8 and 9	TAC EU subareas 10 and 12	Sum of EU TACs	ICES landings Northeast Atlantic
2003	Fisheries accompanied by programmes to collect data, and expand very slowly unless proven to be sustainable							4336
2004	Biennial							3492
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2006	Biennial							2686
2007	Fishery should not be allowed to expand, unless proven to be sustainable		36	2028	267	63	2394	2950
2008	Biennial		36	2028	267	63	2394	2039
2009	Fishery should not be allowed to expand, unless proven to be sustainable		31	2028	267	54	2380	1311
2010	Biennial		31	2028	267	54	2380	1289
2011	Fishery should not be allowed to expand, and a reduction in catches should be considered		31	2028	267	54	2380	2200
2012	No new advice, same as 2011		31	2028	267	54	2380	2642
2013	20% reduction in catches	1000	31	2028	267	54	2380	2143
2014	No new advice, same as 2013	1000	31	2028	267	54	2380	2269
2015	20% increase in landings	< 2628	37	2434	320	650	2856	2175
2016	No new advice, same as 2015	< 2628	37	2434	320	650	2856	2012
2017	Precautionary approach (36% decrease of the 2016 advice)	≤ 1582*	33	2166	285	58	2540	1503
2018	Precautionary approach (same value as advised catches for 2017)	≤ 1582*	29	1928	254	52	2260	
2019	Precautionary approach	≤ 1346*						
2020	Precautionary approach	≤ 1346*						

* Landings advice.

History of catch and landings

Table 6 Greater forkbeard in the Northeast Atlantic and adjacent waters. Catch distribution by fleet in 2017 as estimated by ICES.

Total catch (2017)	Landings			Discards
At least 2016 t	55% trawl	44% static gears	1% other gears	513 t (partial)
	1503 t			

Table 7 Greater forkbeard in the Northeast Atlantic and adjacent waters. History of official landings (in tonnes) presented by each country participating in the fishery.

Year	France	Ireland	Norway	Spain	UK (EWNl)	UK (Scot)	Germany	Russia	Faroe Islands	Portugal	Iceland	Sweden	Denmark	total	Partial discards	Total catch
1988	273	0	0	1658	65	0	0	0	0	58	0.0	0	0	2054		2054
1989	362	14	0	1584	13	0	0	0	0	84	0.0	0	0	2057		2057
1990	498	0	231	1590	11	1	0	0	0	100	0.0	0	0	2431		2431
1991	523	1	370	1061	13	5	0	0	0	136	0.0	0	0	2109		2109
1992	685	4	440	907	0	3	0	0	0	182	0.0	0	0	2221		2221
1993	594	0	104	1211	0	3	0	0	0	230	0.0	0	0	2142		2142
1994	469	111	0	1322	0	8	0	0	0	272	0.0	0	0	2182		2182
1995	499	163	0	1052	808	16	0	0	0	142	0.0	0	0	2680		2680
1996	555	154	10	1857	1434	61	0	0	0	90	0.0	0	0	4161		4161
1997	527	131	5	402	1460	186	0	0	0	60	0.0	0	0	2771		2771
1998	366	530	166	1186	1364	108	0	0	0	76	0.0	0	0	3796		3796
1999	332	686	211	1185	934	540	1	0	0	82	0.0	0	0	3971		3971
2000	718	743	406	1988	731	832	8	2	0	182	0.0	0	0	5609		5610
2001	735	663	634	1785	539	661	12	11	0	166	0.0	0	0	5206		5206
2002	692	481	1311	1541	426	572	11	0	0	114	0.0	0	0	5148		5148
2003	512	319	933	1558	245	675	3	1	0	90	0.0	0	0	4336		4336
2004	499	183	418	1622	290	402	0	4	0	74	0.0	0	0	3492		3492
2005	665	237	299	1366	179	165	3	5	0	44	0.0	0	0	2960		2960
2006	689	68	368	1374	151	0	0	5	6	25	0.0	0	0	2686		2686
2007	623	56	499	1423	117	182	0	9	9	31	1.3	0	0	2949		2950
2008	763	43	550	376	31	198	0	42	4	31	0.5	0	0	2038		2039
2009	317	7	453	268	31	190	0	15	3	25	2.0	0	0	1311		1311
2010	403	8	573	71	15	177	0	3	12	26	1.0	0	0	1288		1289
2011	422	6	576	620	27	212	0	0	310	25	2.4	0	0	2201		2200
2012	434	9	526	1307	1	194	0	7	145	12	6.6	0	0	2641		2642
2013	489	16	552	817	6	247	0	0	0	16	0.4	0	0	2143	1185	3328
2014	515	25	480	1085	9	138	0	0	0	15	1.7	0	0	2269	1166	3435
2015	495	37	497	994	26	106	0	0	0	17	1.7	0	0	2174	2068	4243
2016	450	13	554	867	13	92	0	0	0	17	2.8	0	3	2012	677	2689
2017	460	6	353	558	1	98	0	0	0	9	0.0	0	5	1503	513	2016

Table 8 Greater forkbeard in the Northeast Atlantic and adjacent waters. Landings inside and outside the NEAFC Regulatory Area (RA) as estimated by ICES; landings in tonnes. Note that ICES cannot quantify catches.

Year	Inside the NEAFC RA (t)	Outside the NEAFC RA (t)	Landings (t)
2014	0	2269	2269
2015	0	2175	2175
2016	0	2012	2012
2017	0	1503	1503

Summary of the assessment

Table 9 Greater forkbeard in the Northeast Atlantic and adjacent waters. Assessment summary. Standardized indices of biomass from trawl surveys and mean combined stock size indicator.

Year	IGFS-WIBTS-Q4	SpPGFS-WIBTS-Q4	EVHOE-WIBTS-Q4	SpGFS-WIBTS-Q4	SDS	FACTS (UWTV (FU 28-29))	Mean stock size indicator
2005	1.69	1.55	0.92	0.34	0.90	0.43	0.92
2006	1.45	1.17	0.73	0.48	0.86	0.26	0.82
2007	0.68	0.88	1.59	0.65	0.62	0.97	0.90
2008	0.85	0.57	0.92	0.82	1.02	0.94	0.85
2009	0.18	0.61	0.63	0.93	0.47	1.18	0.67
2010	1.20	0.51	0.70	1.15		1.36	1.06
2011	0.42	0.56	1.27	1.9	0.94	1.03	1.03
2012	2.15	1.23	1.62	1.86	0.72		1.42
2013	2.44	1.77	1.19	1.83	1.18	0.88	1.55
2014	0.99	1.92	0.93	1.89		1.12	1.17
2015	0.55	1.15	0.86	0.90	1.04	1.22	0.95
2016	0.30	0.67	0.65	0.89		1.39	0.78
2017	0.11	0.42		0.39	2.55	1.23	0.94

Sources and references

ICES. 2010. Report of the Benchmark Workshop on Deep-water Species (WKDEEP), 17–24 February 2010, Copenhagen, Denmark. ICES CM 2010/ACOM:38. 247 pp.

ICES. 2012. ICES Implementation of Advice for Data-limited Stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM 68. 42 pp.

ICES. 2016. Advice basis. In Report of the ICES Advisory Committee, 2016. ICES Advice 2016, Book 1, Section 1.2.

ICES. 2018. Report of the Working Group on the Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP), 11–18 April 2018, ICES HQ, Copenhagen, Denmark. ICES CM 2018/ACOM:14. 624 pp.