ICES Advice on fishing opportunities, catch, and effort
Bay of Biscay and the Iberian Coast, Celtic Seas,
Greater North Sea, and Oceanic Northeast Atlantic ecoregions
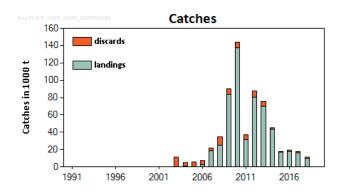*Published 1 October 2019*

Boarfish (*Capros aper*) in subareas 6–8 (Celtic Seas, English Channel, and Bay of Biscay)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, catches should be no more than 19 152 tonnes in each of the years 2020 and 2021.

Stock development over time

The stock biomass was relatively stable until 2009, then increased in 2010–2012 before declining rapidly in 2013 and 2014. Since 2014, the stock biomass has been relatively stable.
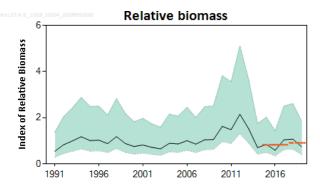

Figure 1   Boarfish in subareas 6–8. Summary of the assessment. The SSB index is scaled to the median of the time-series. Confidence intervals (2.5% and 97.5% quantiles) are included in the biomass plot and the red lines indicate the average values for 2015–2017 and 2018–2019.

Stock and exploitation status

ICES cannot assess the stock and exploitation status relative to maximum sustainable yield (MSY) and precautionary approach (PA) reference points because the reference points are undefined.

Table 1   Boarfish in subareas 6–8. State of the stock and fishery relative to reference points.

		Fishing pressure					Stock size		
		2016	2017	2018			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		-	↗	→	↘ Decreasing

Catch scenarios

The ICES framework for category 3 stocks was applied (ICES, 2012). The Schaefer surplus production model provides an index of the total stock biomass (TSB), which is used as the index of stock development.

The advice is based on the ratio of the mean of the last two index values (Index A; 2018–2019) and the mean of the three preceding values (Index B; 2015–2017), multiplied by the recent advised catch.

As the index is estimated to have changed by less than 20% in the period 2015–2019, the uncertainty cap was not applied in the calculation of the catch advice. The precautionary buffer was previously applied in 2016. However, the stock status relative to reference points is unknown and there is no evidence that the stock is increasingly significantly; therefore, the PA buffer is applied in 2019.

Table 2   Boarfish in subareas 6–8. For stocks in ICES data categories 3–6, only one catch scenario is provided. * Catches are in tonnes.

Index A (2018, 2019)		0.91
Index B (2015, 2016, 2017)		0.83
Index ratio (A/B)		1.10
Uncertainty cap	Not applied	
Advised catch for 2019		21830
Precautionary buffer	Applied	0.8
Catch advice **		19152
% advice change		−12.3%

* The figures in the table are rounded. Calculations were done with unrounded inputs and computed values, so they may not match exactly when calculated using the rounded figures in the table.
** [Advised catch for 2019] × [index ratio] × [precautionary buffer].

Following the application of the precautionary buffer, the catch advice has been reduced compared to last year's advice.

Basis of the advice

Table 3   Boarfish in subareas 6–8. The basis of the advice.

Advice basis	Precautionary approach.
Management plan	A management strategy proposed by the Pelagic AC was evaluated and found to be precautionary (ICES, 2015). ICES provides advice for this stock following the standard procedures, which in this case corresponds to the management strategy from the Pelagic AC.

Quality of the assessment

The Bayesian Schaefer surplus production model is still considered suitable for category 3 advice, because this model provides the best means of combining the available survey series. The acoustic survey has undergone several developments to improve its suitability with updates to methodology in 2012, a change in direction in 2017, and extension of transects at the boundaries to improve the coverage of the stock distribution area. The bottom trawl survey data are considered to be a good index of abundance, given that boarfish aggregate near the bottom at the time of the survey.

Issues relevant for the advice

There is no information to present for this stock.

Reference points

There are no reference points defined for this stock.

Basis of the assessment

Table 4 Boarfish in subareas 6–8. Basis of the assessment and advice.

ICES stock data category	3 (ICES, 2018).
Assessment type	Relative abundance based on a Bayesian Schaefer surplus production model (ICES, 2019).
Input data	Commercial catches (international landings and discards). Combined acoustic surveys – MSHAS & BFAS, Q2 (2011–2015) and WESPAS, Q2 (2016–2019); and six bottom-trawl survey indices – EVHOE, Q4; IGFS, Q4; WCSGFS, Q1 and Q4 (up to 2009); SPPGFS, Q3; SPNGFS, Q3/Q4; and ECSGFS, Q4.
Discards and bycatch	Discards from non-directed fisheries have been included in the assessment since 2003.
Indicators	Distribution, abundance from PELACUS Q1/Q2 surveys, abundance from PELGAS survey, IBTS survey time-series, and commercial catch curve estimates of mortality.
Other information	None.
Working group	Working Group on Widely Distributed Stocks (WGWIDE)

Information from stakeholders

Only a small number of Irish vessels prosecuted this fishery in 2018 and in the first quarter of 2019. The Danish vessels did not participate. The industry reported that low participation is mainly due to the fact that the vessels have other pelagic opportunities available which are far more profitable and much easier to prosecute. Low prices and the uncertainty about Brexit are also reasons. The Irish catch level during 2018 was approximately 60% of the Irish quota.

The demersal trawlers have reported encountering small boarfish in their catches, particularly off the southwestern coast of Ireland over the last twelve months.

History of the advice, catch, and management

Table 5 Boarfish in subareas 6–8. ICES advice and catch. All weights are in tonnes.

Year	ICES advice	Predicted catch corresp. to advice	TAC *	Maximum bycatch allowance **	ICES catch
2001	None	-	None	None	120
2002	None	-	None	None	91
2003	None	-	None	None	11387
2004	None	-	None	None	5151
2005	None	-	None	None	5959
2006	None	-	None	None	7137
2007	None	-	None	None	21576
2008	None	-	None	None	34751
2009	None	-	None	None	90370
2010	None	-	None	None	144047
2011	None	-	33000	9800	37096
2012	No increase in catches	82000	82000	9900	87355
2013	MSY approach	82000	82000	9500	75409
2014	MSY approach	133957	133957	7100	45231
2015	DLS approach	53296	53292	4800	17766
2016	Precautionary approach	≤ 42637	42637	6000	19315
2017	Precautionary approach (−36% relative to previous advice)	≤ 27288	27288	5104	17388
2018	Precautionary approach	≤ 21830	20380	5605	11286
2019	Precautionary approach (same advice as for 2018)	≤ 21830	21830	6507	
2020	Precautionary approach	≤ 19152			
2021	Precautionary approach (same advice as for 2020)	≤ 19152			

* EU and international waters of subareas 6, 7, and 8.
** The maximum permitted bycatch (5%) of boarfish allowed; to be subtracted from the EU quotas for western and for North Sea horse mackerel. The 5% applies to boarfish, whiting, and/or mackerel (EU, 2016).

History of the catch and landings

Table 6   Boarfish in subareas 6–8. Catch distribution by fleet in 2018 as estimated by ICES.

Total catch	Landings	Discards
11 286 t	100% pelagic fishery	~100% demersal gears
	9 927 t	1 359 t

Table 7   Boarfish in subareas 6–8. History of commercial catch; ICES estimated values are presented by country. All weights are in tonnes.

Year	Ireland	Denmark	Scotland	Netherlands	England & Wales	Germany	Spain	Total landings	Estimated discards	Total catch
2001	120	0	0	0	0	0	0	120	NA	120
2002	91	0	0	0	0	0	0	91	NA	91
2003	458	0	0	0	0	0	0	458	10929	11387
2004	675	0	0	0	0	0	0	675	4476	5151
2005	165	0	0	0	0	0	0	165	5795	5959
2006	2772	0	0	0	0	0	0	2772	4365	7137
2007	17615	0	772	0	0	0	0	18387	3189	21576
2008	21585	3098	0.45	0	0	0	0	24683	10068	34751
2009	68629	15059	0	0	0	0	0	83688	6682	90370
2010	88457	39805	9241	0	0	0	0	137503	6544	144047
2011	20685	7797	2813	0	0	0	0	31295	5802	37096
2012	55949	19888	4884	0	0	0	0	80720	6634	87355
2013	52250	13182	4380	0	0	0		69812	5598	75409
2014	34622	8758	38	0	0	0		43418	1813	45231
2015	16325	29	0	375	104	4		16837	929	17766
2016	17496	337	0	171	21	7		18031	1284	19315
2017	15485	548	0	182	0	0		16215	1173	17388
2018*	9513	94	0	172	0	0	148	9927	1359	11286

* Provisional.
NA = not available.

Summary of the assessment

Table 8   Boarfish in subareas 6–8. Assessment summary. The SSB index is scaled to the median of the time-series. Low and high refer to 2.5% and 97.5% quantiles, respectively. Weights are in tonnes for landings and discards.

Year	Low	Relative biomass	High	Landings *	Discards *
1991	0.29	0.55	1.37	0	0
1992	0.46	0.83	2.04	0	0
1993	0.55	1.00	2.43	0	0
1994	0.65	1.18	2.88	0	0
1995	0.56	1.01	2.49	0	0
1996	0.57	1.03	2.50	0	0
1997	0.50	0.88	2.12	0	0
1998	0.67	1.18	2.82	0	0
1999	0.50	0.88	2.19	0	0
2000	0.43	0.75	1.82	0	0
2001	0.47	0.82	1.97	120	0
2002	0.41	0.72	1.74	91	0
2003	0.38	0.65	1.59	458	10929
2004	0.52	0.89	2.16	675	4476
2005	0.50	0.87	2.07	164	5795
2006	0.59	1.01	2.45	2772	4365
2007	0.49	0.86	2.01	18387	3189
2008	0.62	1.04	2.47	24683	10068
2009	0.63	1.06	2.51	83688	6682
2010	0.97	1.62	3.82	137503	6544
2011	0.88	1.48	3.56	31294	5802

Year	Low	Relative biomass	High	Landings *	Discards *
2012	1.32	2.15	5.11	80721	6634
2013	0.90	1.52	3.63	69811	5598
2014	0.42	0.71	1.74	43418	1813
2015	0.50	0.84	2.02	16837	929
2016	0.35	0.59	1.43	18031	1284
2017	0.62	1.04	2.50	16215	1173
2018	0.65	1.07	2.61	9927	1359
2019	0.41	0.75	1.85		

* The Schaefer surplus production model was run, assuming zero catches prior to 2001.

Sources and references

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