

Hake (*Merluccius merluccius*) in divisions 8.c and 9.a, Southern stock (Cantabrian Sea and Atlantic Iberian waters)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, catches in 2022 should be no more than 6947 tonnes.

Stock development over time

The stock size and fishing pressure status relative to candidate reference points is unknown.

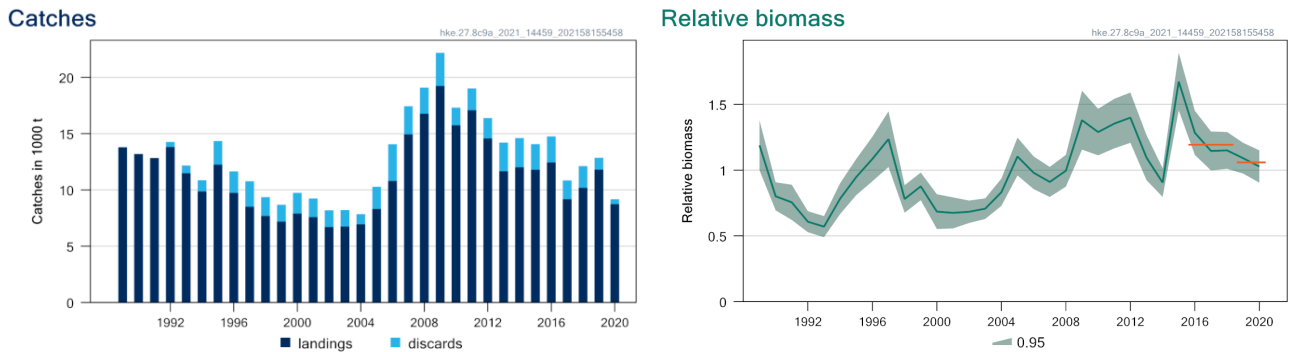


Figure 1 Hake in divisions 8.c and 9.a, Southern stock. Summary of the stock assessment. Biomass is relative to the average of the time-series and the dashed orange lines indicate the average of the relative biomass for 2016 to 2018, and for 2019 to 2020.

Catch scenarios

The ICES framework for category 3 stocks (ICES, 2012) was applied. The mean of the standardized indices (SP-NSGFS-WIBTS-Q4 [G2784] and PT-TR) was 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) and the mean of the three preceding values (Index B), multiplied by the latest ICES advice. The index is estimated to have decreased by less than 20%; thus, the uncertainty cap was not applied. The precautionary buffer was applied in 2020 and its application has, therefore, not been considered again.

The discard rate is 10% of the total catch

Table 1 Hake in divisions 8.c and 9.a, Southern stock. The catch scenarios table.*

Index A (2019, 2020)		1.06
Index B (2016, 2017, 2018)		1.19
Index ratio (A/B)		0.89
Uncertainty cap	Not applied	-
Advised catch for 2021		7825
Discard rate (mean 2018, 2019, 2020)		0.101
Precautionary buffer	Not applied	-
Catch advice **		6947
Projected landings corresponding to advice ***		6246
% change in advice ^		-11.2%

* 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.

** [recent advised catch × index ratio].

*** [recent advised catch × index ratio × (1 – discard rate)].

^ Catch advice for 2022 (6947) relative to catch advice for 2021 (7825 tonnes).

The advice has decreased because the stock size indicator has declined in the last 5 years.

Basis of the advice

Table 2 Hake in divisions 8.c and 9.a, Southern stock. The basis of the advice.

Advice basis	Precautionary approach
Management plan	The EU multiannual plan (MAP; EU, 2019) for stocks in the Western Waters and adjacent waters applies to this stock. The MAP stipulates that when the F_{MSY} ranges are not available, fishing opportunities should be based on the best available scientific advice.

Quality of the assessment

The collection of data from the commercial fishery and research surveys during 2020 was affected by COVID-19 restrictions to a varying degree across member states. For this stock, sampling problems did not affect the data required to perform an updated assessment.

Issues relevant for the advice

This stock was first assessed as a Category 3 in 2020.

Reference points

No reference points are defined for this stock.

Basis of the assessment

Table 3 Hake in divisions 8.c and 9.a, Southern stock. Basis of the assessment and advice.

ICES stock data category	3 (ICES, 2021a).
Assessment type	Relative biomass index trends (ICES, 2021b).
Input data	Commercial catches (international landings, discards); the Spanish North Coast Bottom Trawl Survey index (SP-NSGFS-WIBTS-Q4 [G2784], from 1989 to 2020), and an LPUE index based on a commercial trawl fleet (standardized Portuguese trawl fleet [1989 to 2020]).
Discards and bycatch	Included in the assessment since 1992 and considered negligible before. Data series from the main fleets raised to the effort.
Indicators	None.
Other information	None.
Working group	Working Group for the Bay of Biscay and the Iberian Waters Ecoregion (WGBIE).

History of the advice, catch, and management

Table 4 Hake in divisions 8.c and 9.a, Southern stock. ICES advice and official landings. All weights are in tonnes.

Year	ICES advice	Catch/landings corresponding to advice **	Agreed TAC ***	ICES estimated landings	ICES estimated discards	ICES estimated catch
1987	Precautionary TAC; juvenile protection	15000	25000	16185	-	-
1988	TAC; juvenile protection	15000	25000	16653	-	-
1989	TAC; juvenile protection	15000	20000	13786	-	-
1990	TAC; juvenile protection	15000	20000	13190	-	-
1991	Precautionary TAC	10000	18000	12827	-	-
1992	Precautionary TAC	10300	16000	13798	473	14271
1993	$F = 10\%$ of F_{91}	1000	12000	11489	683	12172
1994	F lowest possible, at least reduced by 80%	2000	11500	9865	994	10859
1995	F lowest possible	-	8500	12239	2102	14341
1996	F lowest possible	-	9000	9730	1910	11640
1997	F lowest possible	-	9000	8499	2270	10769
1998	60% reduction in F	4000	8200	7683	1681	9364

Year	ICES advice	Catch/landings corresponding to advice **	Agreed TAC ***	ICES estimated landings	ICES estimated discards	ICES estimated catch
1999	Reduce F below F_{pa}	9500	9000	7171	1519	8690
2000	20% reduction from 1994–1998 average landings	< 7700	8500	7902	1835	9737
2001	Reduce F below F_{pa} ; no increase in landings	8500	8900	7581	1662	9243
2002	F below F_{pa}	< 8000	8000	6697	1492	8189
2003	Lowest possible catch/rebuilding plan	0	7000	6745	1461	8206
2004	Zero catch	0	5950	6940	913	7854
2005	Zero catch	0	5968	8302	1978	10280
2006	Zero catch	0	6661	10799	3262	14061
2007	Zero catch	0	6128	14934	2504	17438
2008	Zero catch	0	7047	16773	2311	19084
2009	Zero catch	0	8104	19242	2935	22177
2010	Reach B_{pa} in 2011	4900	9300	15736	1580	17316
2011	See scenarios	< 9900	10695	17072	1948	19020
2012	MSY transition	< 14323	12299	14573	1822	16395
2013	MSY transition	< 10552	14144	11661	2549	14209
2014	MSY transition	< 13123*	16266	12011	2602	14614
2015	MSY approach	< 8417*	13826	11786	2292	14077
2016	MSY approach	≤ 6078	10674	12443	2313	14756
2017	MSY approach	≤ 8049	10520	9171	1676	10847
2018	MSY approach	≤ 8561	9258	10183	1942	12125
2019	MSY approach	≤ 8281	9258	11800	1061	12861
2020	Management plan	6615 (range 4694–8991) #	8752	8732	438	9171
2021	Precautionary approach	≤ 7825	8517			
2022	Precautionary approach	≤ 6947				

*This value refers to total catch, including discards.

** From 2016 this refers to total catch, including unwanted catch.

*** Applies to ICES Division 8.c and subareas 9 and 10; EU waters of CECAF 34.1.1.

Catches corresponding to F_{MSY} , EU MAP range in brackets (EU, 2019).

History of catch and landings

Table 5 Hake in divisions 8.c and 9.a, Southern stock. Catch distribution by fleet in 2020 as estimated by ICES.

Catch	Landings			Discards
	31% trawlers	67% other fleets	2% unallocated	
9171 tonnes	8732 tonnes			438 tonnes

Summary of the assessment

Table 6 Hake in divisions 8.c and 9.a, Southern stock. Assessment summary (95% CI). All weights are in tonnes.

Year	Relative biomass	High	Low	Landings	Discards
1989	1.19	1.38	1.00	13786	0
1990	0.80	0.91	0.69	13190	0
1991	0.76	0.89	0.62	12827	0
1992	0.61	0.69	0.53	13798	473
1993	0.57	0.65	0.49	11489	683
1994	0.78	0.90	0.67	9865	994
1995	0.95	1.09	0.81	12239	2102
1996	1.09	1.26	0.92	9730	1910
1997	1.24	1.45	1.02	8499	2270

Year	Relative biomass	High	Low	Landings	Discards
1998	0.78	0.89	0.68	7683	1681
1999	0.88	0.98	0.77	7171	1519
2000	0.69	0.82	0.55	7902	1835
2001	0.68	0.79	0.56	7581	1662
2002	0.68	0.77	0.60	6697	1492
2003	0.71	0.79	0.63	6745	1461
2004	0.83	0.94	0.73	6940	913
2005	1.10	1.25	0.96	8302	1978
2006	0.98	1.10	0.86	10799	3262
2007	0.91	1.03	0.80	14934	2504
2008	1.00	1.12	0.87	16773	2311
2009	1.38	1.60	1.16	19242	2935
2010	1.29	1.47	1.11	15736	1580
2011	1.35	1.54	1.17	17072	1948
2012	1.40	1.59	1.21	14573	1822
2013	1.10	1.27	0.92	11661	2549
2014	0.91	1.02	0.80	12011	2602
2015	1.67	1.89	1.46	11786	2292
2016	1.28	1.45	1.12	12443	2313
2017	1.15	1.29	1.00	9171	1676
2018	1.15	1.29	1.01	10183	1942
2019	1.09	1.21	0.97	11800	1061
2020	1.03	1.15	0.90	8732	438

Sources and references

EU. 2019. Regulation (EU) 2019/472 of the European Parliament and of the Council of 19 March 2019 establishing a multiannual plan for stocks fished in the Western Waters and adjacent waters, and for fisheries exploiting those stocks, amending Regulations (EU) 2016/1139 and (EU) 2018/973, and repealing Council Regulations (EC) No 811/2004, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007 and (EC) No 1300/2008. Official Journal of the European Union, L 83: 1–17. <http://data.europa.eu/eli/reg/2019/472/oj>.

ICES. 2012. ICES Implementation of Advice for Data-limited Stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM:68. 42 pp. <https://doi.org/10.17895/ices.pub.5322>

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[Download the stock assessment data and figures.](#)

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