

Cod (*Gadus morhua*) in divisions 7.e–k (western English Channel and southern Celtic Seas)

ICES advice on fishing opportunities

ICES advises that when the maximum sustainable yield (MSY) approach and precautionary considerations are applied, there should be zero catch in 2026.

ICES notes the existence of a precautionary management plan, developed and adopted by one of the relevant management authorities for this stock.

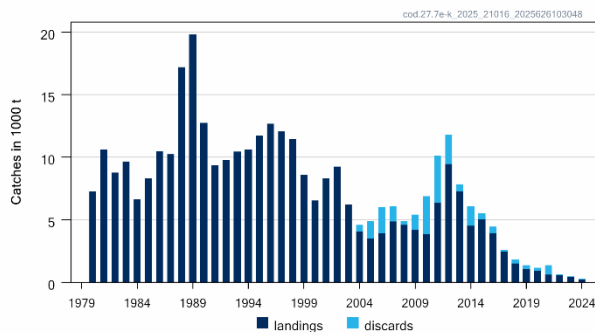
Non-fisheries conservation considerations

Conservation aspects and associated management measures may exist at a national or regional level but were not reviewed by ICES.

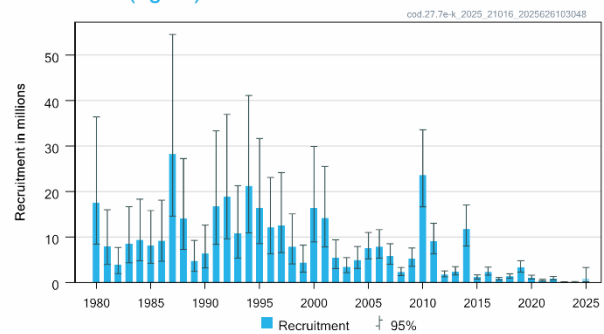
Stock development over time

Fishing pressure on the stock is above F_{MSY} and F_{PA} , and spawning-stock size is below MSY $B_{trigger}$, B_{PA} , and B_{lim} .

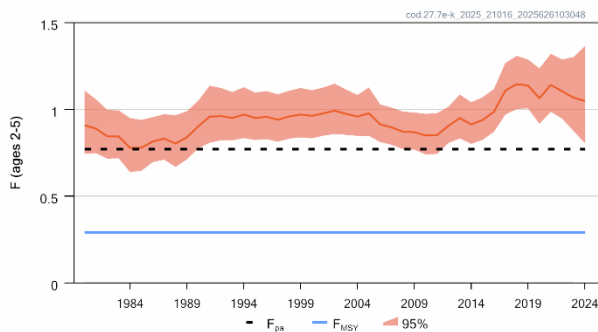
Catches



Recruitment (age 1)



F



SSB

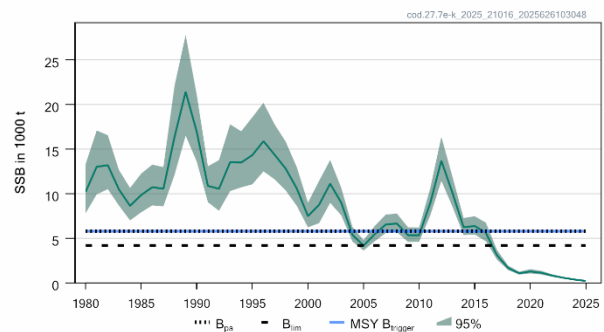


Figure 1

Cod in divisions 7.e–k. Summary of the stock assessment. Discard estimates are available from 2004. The assumed recruitment value for 2025 is shaded in a lighter colour.

Catch scenarios

Table 1 Cod in divisions 7.e-k. Assumptions made for the interim year and in the forecast.

Variable	Value	Notes
F _{ages 2-5} (2025)	1.07	F = F _{average (2022-2024)}
Spawning-stock biomass (SSB; 2026)	368	Short-term forecast, in tonnes
R _{age 1} (2025-2026)	871	Median recruitment, resampled from the years 2015-2024; in thousands
Total catch (2025)	384	Short-term forecast; in tonnes

Table 2 Cod in divisions 7.e-k. Annual catch scenarios. Weights are in tonnes.

Basis	Total catch (2026)	F _{total} (2026)	Spawning-stock biomass (SSB ; 2027)	% SSB change*	% total allowable catch (TAC) change**	Probability of SSB (2027) < B _{lim} (%)
ICES advice basis						
Maximum sustainable yield (MSY) approach: F = 0	0	0	1506	309	-100	97
Other scenarios						
F _{MSY} × SSB ₂₀₂₆ /MSY B _{trigger}	17	0.0184	1480	303	-97	97
EU MAP***: F _{MSY lower} × SSB ₂₀₂₆ /MSY B _{trigger}	10	0.0108	1490	305	-98	97
EU MAP***: F _{MSY upper} × SSB ₂₀₂₆ /MSY B _{trigger}	24	0.026	1471	300	-96	97
F = F _{MSY}	236	0.29	1158	215	-63	100
F = F _{MSY lower}	146	0.170	1289	251	-77	99
F = F _{MSY upper}	318	0.41	1041	183	-50	100
F = F _{PA}	522	0.77	761	107	-19.0	100
SSB ₂₀₂₇ = SSB ₂₀₂₆	837	1.66	368	0	30	100
F = F ₂₀₂₅	652	1.07	590	60	1.27	100
SSB ₂₀₂₇ = B _{lim} [^]						
SSB ₂₀₂₇ = B _{PA} = MSY B _{trigger} ^{^^}						

* SSB₂₀₂₇ relative to SSB₂₀₂₆.

** Total catch in 2026 relative to 2025 TAC (644 tonnes).

*** EU multiannual plan (MAP) for the Western Waters (EU, 2019).

[^] The B_{lim}, B_{PA}, and MSY B_{trigger} options were left blank because none of them can be achieved in 2027, even with zero catch in 2026.

^{^^}The probability of SSB being below B_{lim} in 2027. This probability relates to the short-term probability of SSB < B_{lim} and is not comparable to the long-term probability of SSB < B_{lim} tested in simulations when estimating fishing mortality reference points.

ICES provides zero-catch advice for this stock in 2026 because the spawning-stock biomass (SSB) is forecast to remain below B_{lim} in 2027 under all catch scenarios.

Basis of the advice

Table 3 Cod in divisions 7.e-k. The basis of the advice.

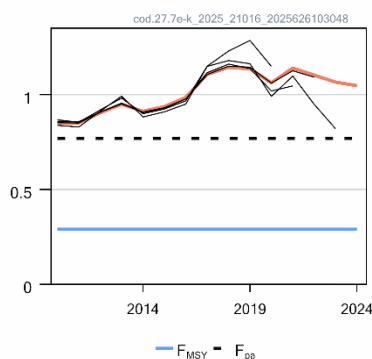
Advice basis	Maximum sustainable yield (MSY) approach
Management plan	ICES is aware of the multiannual management plan (MAP) that has been adopted by the EU for this stock (EU, 2019) and that ICES considers to be precautionary. There is no agreed shared management plan between the EU and the UK for this stock, and ICES provides advice according to ICES MSY approach and precautionary considerations. Catch scenarios consistent with the MAP F _{MSY} ranges are provided.

Quality of the assessment

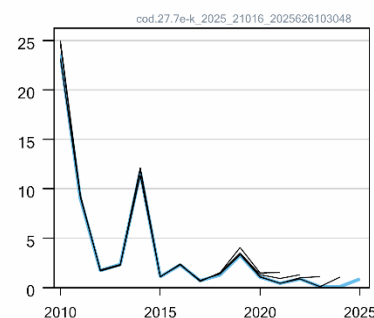
UK catch and sample data were revised for 2021–2023, but the overall impact on the assessment and short-term forecast is considered negligible.

There is a tendency for the assessment to overestimate SSB and recruitment. The final year F has high uncertainty. However, this does not impact the advice; under the current low recruitment assumption, the stock status is forecast to remain well below B_{lim} .

F (ages 2-5)



Rec (age 1; Millions)



SSB (1000 t)

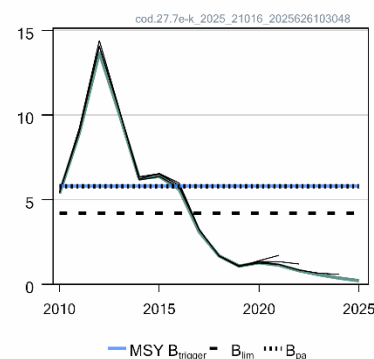


Figure 2 Cod in divisions 7.e-k. Historical assessment results (final-year spawning-stock biomass [SSB] estimate and recruitment assumption included).

Issues relevant for the advice

The assumed recruitment in 2025 contributes 90% to the SSB in 2026, indicating that the forecasted stock size is uncertain and highly dependent on the size of incoming year classes. However, the zero-catch advice is not affected by this uncertainty.

Recent estimates of discard proportions are highly variable because of changing fishery behaviour and limited discard sampling; therefore, no split in forecast discards and landings is provided.

The assessment and the advice are for divisions 7.e-k, including the rectangles 33E2 and 33E3, as cod in these rectangles are considered to be part of the cod 27.7.e-k (southern Celtic Seas and western English Channel). Landings data used in the cod 27.7.e-k assessment explicitly exclude those reported from rectangles 33E2 and 33E3 (Table 8). Data from these two rectangles are incorporated into the advice for cod 27.7.e-k. In 2024, cod landings in 33E2 and 33E3 represented 25% of the landings from Division 7.a and constituted 0.8% of the landings from the cod 27.7.e-k stock. The spatial limitation of the advice should be considered when setting total allowable catches (TACs) for the two management areas that span the cod.27.7.a and 27.7.e-k stocks.

Mixed-fisheries considerations

Cod in divisions 7.e-k is caught as part of a mixed fishery, and almost all fisheries operating with demersal gears catch cod (ICES, 2025a).

Reference points

Table 4 Cod in divisions 7.e–k. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
Maximum sustainable yield (MSY) approach	MSY $B_{trigger}$	5800	B_{PA} ; in tonnes	ICES (2020)
	F_{MSY}	0.29	Segmented regression with B_{lim} (EqSim)	ICES (2020)
Precautionary approach	B_{lim}	4200	B_{loss} , lowest observed spawning-stock biomass (SSB) from which there has been some recovery (2005), rounded value; in tonnes	ICES (2020)
	B_{PA}	5800	$B_{lim} \times 1.4$; in tonnes	ICES (2020)
	F_{PA}	0.77	F_{POS} ; the F that leads to $SSB \geq B_{lim}$ with 95% probability	ICES (2020)
Management plan (MAP)*	MAP B_{lim}	4200	B_{lim} ; in tonnes	EU (2019), ICES (2020)
	MAP F_{MSY}	0.29	F_{MSY}	EU (2019), ICES (2020)
	MAP MSY $B_{trigger}$	5800	MSY $B_{trigger}$; in tonnes	EU (2019), ICES (2020)
	MAP range F_{lower}	0.17	Consistent with ranges resulting in no more than 5% reduction in long-term yield compared with MSY	EU (2019), ICES (2020)
	MAP range F_{upper}	0.41	Consistent with ranges resulting in no more than 5% reduction in long-term yield compared with MSY	EU (2019), ICES (2020)

* EU multiannual plan (MAP) for the Western Waters (EU, 2019).

Basis of the assessment

Table 5 Cod in divisions 7.e–k. Basis of the assessment and advice.

ICES stock data category	1 (ICES, 2023)
Assessment type	Age-based stochastic analytical assessment: SAM (Nielsen and Berg, 2014; ICES, 2025b)
Input data	Commercial catches, ages, and length frequencies from sampling by métier; one combined VAST-modelled survey index (combined IGFS-WIBTS-Q4 [G7212] and EVHOE-WIBTS-Q4 [G9527]); one commercial index (FR-OTDEF Q2+3+4 trawlers in divisions 7.e–k); fixed maturity ogive derived from UK-WCGFS survey Q1 data; age-dependent natural mortalities (time invariant; Lorenzen, 1996). Catch weights are from commercial sampling; stock weights use Q1 catch data. Both are averaged over the last three years.
Discards and bycatch	Included in the assessment. Observer-based estimates from 2004; discards and bycatch prior to that (between 1980 and 2003) are model estimated.
Indicators	None
Other information	Benchmarked at WKCELTIC 2020 (ICES, 2020)
Working group	Working Group for the Celtic Seas Ecoregion (WGCSE)

History of the advice, catch, and management

Table 6 Cod in divisions 7.e–k. ICES advice, the agreed total allowable catch (TAC) and ICES estimates of landings and discards. Weights in tonnes.

Year	ICES advice	Landings corresponding to advice	Catch corresponding to advice	Agreed TAC*	ICES landings ^{^^^}	ICES discards
1987	Reduce F	< 6400**			10390	
1988	No increase in F; TAC	7000**			17196	
1989	No increase in F; TAC	8600**			19804	
1990	No increase in F; TAC	9200**			12878	
1991	TAC; SSB mean	4500**			9336	
1992	Appropriate to reduce F	-			9747	
1993	20% reduction in F	6500**		17500	10416	

Year	ICES advice	Landings corresponding to advice	Catch corresponding to advice	Agreed TAC*	ICES landings ^{^^}	ICES discards
1994	20% reduction in F	5600**		17000	10620	
1995	20% reduction in F	4700***		17000	11710	
1996	20% reduction in F	4700***		20000	12681	
1997	20% reduction in F	7400***		20000	12028	
1998	10% reduction in F	8800 [^]		20000	11418	
1999	Reduce F below F_{pa}	9200 [^]		19000	8580	
2000	Reduce F below F_{pa}	< 7600 ^{^^}		16000	6539	
2001	40% reduction in F	< 4300 ^{^^}		10500	8316	
2002	45% reduction in F	< 5300 ^{^^}		8700	9239	
2003	60% reduction in F	< 3800 ^{^^}		n/a	6425	
2004	90% reduction in F or management plan	< 700		n/a	4027	543
2005	17% reduction in F	< 5200		6200	3478	1426
2006	No increase in effort (should have been “reduce effort”)	Cannot be estimated		5580	3902	2118
2007	Zero catch	0		4743	4842	1248
2008	Zero catch	0		4316	4577	306
2009	50% reduction in F	< 2600		4023	4187	1229
2010	Substantial catch reduction	-		4023	3831	3040
2011	Catch and effort reduction	-		5379	6376	3749
2012	Maximum sustainable yield (MSY) framework	< 10000		10059	9443	2341
2013	MSY framework	< 10200		10200	7273	562
2014	MSY approach	< 6848		6848	4512	1569
2015	MSY approach	< 4024		5072	5028	483
2016	MSY approach	≤ 3569		4565	3924	525
2017	MSY approach	≤ 1447		2830	2471	134
2018	MSY approach	≤ 3076	≤ 3428	3076	1496	316
2019	MSY approach		0	1610	1051	300
2020	MSY approach		0	805	922	231
2021	MSY approach and precautionary considerations		0	805	629	733
2022	MSY approach and precautionary considerations		0	644	574	86
2023	MSY approach and precautionary considerations		0	644	445	13
2024	MSY approach and precautionary considerations		0	644	249	23
2025	MSY approach and precautionary considerations		0	644		
2026	MSY approach and precautionary considerations		0			

* TAC covers subareas 7 (except Division 7.a) and 8. From 2009 onwards, the TAC covers divisions 7.b–c and 7.e–k, subareas 8–10, and EU waters of Fishery Committee for the Eastern Central Atlantic (CECAF) Division 34.1.1 (with a separate TAC established for Division 7.d).

** For the division 7.f–g stock component.

*** For the division 7.f–h stock component.

[^] For the division 7.e–h stock component.

^{^^} For the division 7.e–k stock component.

^{^^^} Landings include those taken or reported in rectangles 33E2 and 33E3 since 2004.

History of the catch and landings

Table 7 Cod in divisions 7.e–k. Catch distribution by fleet in 2024, as estimated by ICES.

Catch	Landings				Discards			
	Otter trawls	Seine nets	Beam trawls	Other gears	Otter trawls	Seine nets	Beam trawls	Other gears
272 tonnes	63.5%	17.7%	10.4%	8.4%	4.5%	9.1%	81.8%	4.5%
	249 tonnes				23 tonnes			

Table 8 Cod in divisions 7.e-k. History of official landings by country and ICES total estimates of landings and discards. Weight in tonnes.

Year	Belgium	France	Ireland	UK	Others	Total official landings	ICES Landings	ICES Discard estimates	Landings from rectangles 33E2 and 33E3*
1971	807	4382	233	298	138	5858	5782	n/a	
1972	395	3893	275	328	424	5315	4737	n/a	
1973	525	2927	315	196	402	4365	4015	n/a	
1974	197	3023	206	153	324	3903	2898	n/a	
1975	395	3896	259	178	728	5456	3993	n/a	
1976	238	4130	216	139	1195	5918	4818	n/a	
1977	114	3045	183	197	335	3874	3059	n/a	
1978	101	4005	150	182	286	4724	3647	n/a	
1979	119	4437	266	218	0	5040	4650	n/a	
1980	184	6232	708	404	8	7536	7243	n/a	
1981	317	8876	777	681	22	10673	10597	n/a	
1982	214	6637	672	859	18	8400	8766	n/a	
1983	265	5678	887	521	104	7455	9641	n/a	
1984	244	5801	891	688	357	7981	6631	n/a	
1985	476	6330	880	981	217	8884	8317	n/a	
1986	383	9018	890	1038	3	11332	10475	n/a	
1987	226	8609	881	1069	0	10785	10228	n/a	
1988	554	13473	1593	1319	0	16939	17191	n/a	
1989	910	27342	1244	1247	13	30756	19809	n/a	
1990	642	16366	1440	1515	25	19988	12749	n/a	
1991	319	8807	1601	1135	0	11862	9336	n/a	
1992	205	7229	1071	1241	0	9746	9747	n/a	
1993	391	8802	825	964	0	10982	10425	n/a	
1994	397	7925	1472	940	2	10736	10620	n/a	
1995	399	8525	1470	1059	51	11504	11709	n/a	
1996	552	8831	1917	1189	81	12570	12681	n/a	
1997	527	8504	1577	1211	59	11878	12035	n/a	
1998	531	7400	1759	1052	131	10873	11431	n/a	
1999	338	0	1803	961	71	3173	8594	n/a	
2000	212	4439	1529	769	48	6997	6535	n/a	
2001	359	5458	1176	909	52	7954	8309	n/a	
2002	520	4813	824	623	25	6805	9235	n/a	
2003	137	5012	611	355	1	6116	6221	n/a	
2004	153	2310	557	289	1	3310	4027	543	108
2005	187	1706	791	318	1	3003	3478	1426	54
2006	102	2029	936	409	3	3479	3902	2118	103
2007	108	2720	871	435	2	4136	4842	1248	527
2008	66	2201	744	322	0	3332	4577	306	558
2009	49	2104	717	304	4	3178	4187	1229	193
2010	52	1885	974	323	3	3238	3831	3040	143
2011	123	3741	966	473	6	5310	6376	3749	147
2012	290	5287	1593	745	5	7920	9443	2341	85
2013	202	4216	1520	601	1	6540	7273	562	76
2014	141	2166	1284	530	0	4121	4512	1569	24
2015	121	2680	1216	462	4	4482	5028	483	39
2016	97	2166	879	404	1	3546	3924	525	40
2017	82	1457	675	219	0	2433	2471	134	19
2018	49	538	766 ^c	152	0	1505 ^c	1496	316	20
2019	44	412	0 ^c	92	27	575 ^c	1050	300	37
2020	18	425	483	44	52	1022	922	231	71
2021	11	289	300	46	42	687	629	733	52
2022	8	222	312	55	29	626	574	86	30
2023**	8	155	209	51	14	438	445	13	19
2024**	6	75	135	28	7	252	249	23	5

* Landings in the southern part of Division 7.a (rectangles 33E2 and 33E3) are included in the assessment and are considered to be part of the stock.

** Preliminary official landings.

^c Incomplete/missing as a result of part of the data being unavailable under data confidentiality clauses.

Summary of the assessment

Table 9 Cod in divisions 7.e-k. Assessment summary. All weights are in tonnes, recruitment in thousands. “Low” and “high” refer to 95% confidence intervals.

Year	Recruitment			Spawning-stock biomass (SSB)			F ages 2-5			Landings	Discards
	Low	Value	High	Low	Value	High	Low	Value	High		
1980	8406	17497	36420	7811	10197	13314	0.745	0.908	1.108	7243	n/a
1981	3939	7932	15975	9925	13027	17098	0.747	0.889	1.058	10597	n/a
1982	1920	3840	7682	10513	13199	16572	0.716	0.844	0.996	8766	n/a
1983	4304	8464	16644	8674	10486	12676	0.718	0.844	0.994	9641	n/a
1984	4763	9336	18303	7009	8640	10650	0.638	0.778	0.949	6631	n/a
1985	4177	8126	15808	7918	9852	12257	0.646	0.779	0.939	8317	n/a
1986	4650	9168	18073	8691	10739	13270	0.696	0.815	0.955	10475	n/a
1987	14559	28187	54572	8581	10558	12992	0.71	0.831	0.972	10228	n/a
1988	7245	14061	27289	12113	16366	22111	0.668	0.803	0.966	17191	n/a
1989	2409	4720	9250	16516	21434	27817	0.712	0.839	0.989	19809	n/a
1990	3182	6335	12615	13608	16948	21110	0.775	0.902	1.05	12749	n/a
1991	8395	16733	33350	9053	10881	13079	0.808	0.958	1.136	9336	n/a
1992	9592	18830	36965	8087	10555	13775	0.822	0.961	1.123	9747	n/a
1993	5365	10697	21327	10296	13533	17789	0.821	0.95	1.1	10425	n/a
1994	10901	21176	41136	10717	13501	17007	0.834	0.97	1.127	10620	n/a
1995	8536	16447	31692	11060	14339	18591	0.823	0.95	1.097	11709	n/a
1996	6274	12033	23079	12509	15896	20201	0.828	0.957	1.105	12681	n/a
1997	6547	12578	24164	11622	14380	17792	0.813	0.94	1.087	12035	n/a
1998	4076	7839	15077	10366	12813	15837	0.831	0.959	1.107	11431	n/a
1999	2246	4292	8202	8628	10579	12970	0.838	0.97	1.123	8594	n/a
2000	8910	16325	29910	6227	7483	8992	0.833	0.962	1.11	6535	n/a
2001	7799	14106	25515	6698	8753	11438	0.848	0.977	1.126	8309	n/a
2002	3034	5329	9358	8979	11128	13792	0.858	0.992	1.148	9235	n/a
2003	2138	3409	5437	7572	8981	10652	0.853	0.974	1.114	6221	n/a
2004	3053	4906	7885	4637	5396	6278	0.847	0.958	1.083	4027	543
2005	5194	7550	10976	3626	4176	4809	0.847	0.977	1.126	3478	1426
2006	5292	7829	11583	4658	5449	6373	0.811	0.913	1.028	3902	2118
2007	3984	5820	8502	5589	6548	7671	0.796	0.896	1.01	4842	1248
2008	1520	2234	3282	5694	6653	7774	0.77	0.871	0.987	4577	306
2009	3535	5169	7557	4588	5348	6235	0.768	0.868	0.982	4187	1229
2010	16588	23612	33609	4612	5355	6217	0.74	0.849	0.974	3831	3040
2011	6243	9013	13012	7552	8953	10614	0.743	0.852	0.978	6376	3749
2012	1186	1726	2513	11450	13701	16394	0.806	0.905	1.015	9443	2341
2013	1607	2358	3460	8543	10080	11893	0.832	0.95	1.085	7273	562
2014	8009	11680	17034	5354	6242	7278	0.801	0.913	1.041	4512	1569
2015	753	1109	1633	5437	6377	7479	0.824	0.938	1.069	5028	483
2016	1568	2297	3366	4658	5611	6760	0.87	0.986	1.117	3924	525
2017	473	706	1052	2607	3102	3692	0.969	1.108	1.267	2471	134
2018	865	1279	1891	1441	1673	1943	1.002	1.145	1.308	1496	316
2019	2252	3271	4752	927	1077	1251	1.005	1.137	1.287	1050	300

Year	Recruitment			Spawning-stock biomass (SSB)			F ages 2–5			Landings	Discards
	Low	Value	High	Low	Value	High	Low	Value	High		
2020	726	1066	1565	1054	1274	1539	0.916	1.064	1.236	922	231
2021	293	436	649	941	1126	1348	0.986	1.141	1.32	629	733
2022	583	871	1300	682	803	945	0.946	1.104	1.287	574	86
2023	64	102	163	475	562	665	0.875	1.067	1.301	445	13
2024	47	101	215	289	366	464	0.805	1.048	1.364	249	23
2025	101*	871*	3271*	131**	212**	326					

*Median resampled recruitment (2015–2024) as estimated by a stochastic projection

** Version 2. SSB values for 2025 re-arranged

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. 17 pp. <http://data.europa.eu/eli/reg/2019/472/oj>
- ICES. 2020. Benchmark Workshop on Celtic Sea Stocks (WKCELTIC). ICES Scientific Reports, 2:97. 166 pp. <http://doi.org/10.17895/ices.pub.5983>
- ICES. 2023. Advice on fishing opportunities (2023). General ICES Advice guidelines. Report. <https://doi.org/10.1111/j.1095-8649.1996.tb00060.x>
- ICES. 2025a. Working Group on Mixed Fisheries Advice (WGMIXFISH-ADVICE; outputs from 2024 meeting). ICES Scientific Reports. Report. <https://doi.org/10.17895/ices.pub.28182638.v1>
- ICES. 2025b. Working Group for the Celtic Seas Ecoregion (WGCSE). Draft Report. ICES Scientific Reports. 7:52. <https://doi.org/10.17895/ices.pub.29401877>
- Lorenzen, K. 1996. The relationship between body weight and natural mortality in juvenile and adult fish: a comparison of natural ecosystems and aquaculture. Journal of Fish Biology, 49: 627–642. <https://doi.org/10.1111/j.1095-8649.1996.tb00060.x>
- Nielsen, A., and C. W. Berg. 2014. Estimation of time-varying selectivity in stock assessments using state–space models. *Fisheries Research* 158: 96–101. <https://doi.org/10.1016/j.fishres.2014.01.014>

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

Recommended citation: ICES. 2025. Cod (*Gadus morhua*) in divisions 7.e–k (eastern English Channel and southern Celtic Seas). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, cod.27.7e–k. <https://doi.org/10.17895/ices.advice.27202578>