

Plaice (*Pleuronectes platessa*) in divisions 7.f and 7.g (Bristol Channel, Celtic Sea)

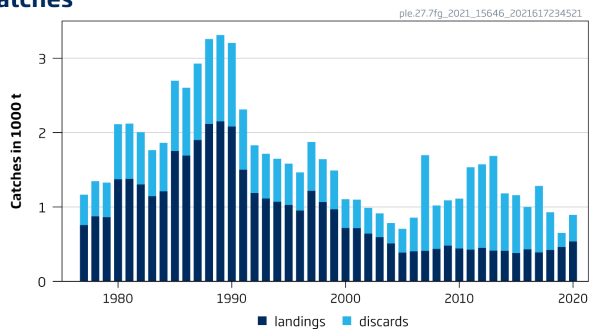
ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, catches in 2022 should be no more than 1735 tonnes.

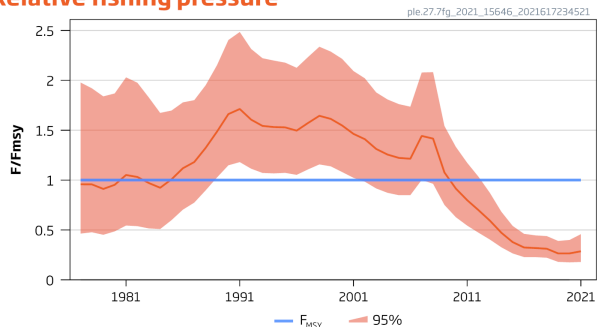
Stock development over time

ICES assesses that fishing pressure on the stock is below F_{MSY} and biomass is above $MSY B_{trigger}$.

Catches



Relative fishing pressure



Relative biomass

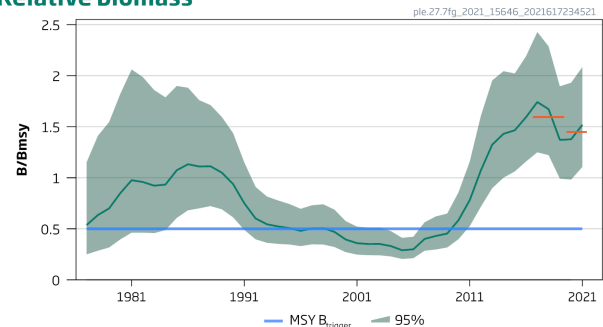


Figure 1 Plaice in divisions 7.f and 7.g. Catches (thousand tonnes). The short orange lines in the relative biomass plot indicate the average values of the respective years (2017 to 2019 and 2020 to 2021).

Catch scenarios

ICES framework for category 3 stocks was applied (ICES, 2012). A biomass index, based on a Surplus Production in Continuous Time (SPiCT) model, was used as an indicator of stock development. The advice is based on the ratio between the average of the two latest index values (index A) and the average of the three preceding values (index B), multiplied by the recent advised catch.

The index indicates a decrease of 9.1% between 2017–2019 and 2020–2021, and therefore the uncertainty cap was not applied. The application of the precautionary buffer was considered this year. However, as the fishing pressure is below and the stock size above possible reference points, no additional precautionary buffer was applied. The mean discard rate in 2016–2020 was 52.4% of the total catch.

Table 2 Plaice in divisions 7.f and 7.g. The basis for the catch scenarios*.

Index A (2020–2021)		1.449
Index B (2017–2019)		1.595
Index ratio (A/B)		0.908
Uncertainty cap	Not applied	-
Recent advised catch (for 2021)		1911 tonnes
Discard rate (2016–2020)		0.524
Precautionary buffer	Not applied	-
Catch advice**		1735 tonnes
Projected landings corresponding to advice ***		826 tonnes
% advice change^		-9.1

* 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].

*** [Advised catch] × [1– discard rate].

^ Advice value for 2022 relative to the advice value for 2021.

Basis of the advice

Table 3 Plaice in divisions 7.f and 7.g. The basis of the advice.

Advice basis	Precautionary approach
Management plan	The EU multiannual plan (MAP) for stocks in Western Waters and adjacent waters (EU, 2019) takes into account bycatch of this species. There is no agreed shared management plan with UK for this stock, and ICES provides advice according to ICES precautionary approach.

Quality of the assessment

Discard estimates for the period of 1977–2003 used in the model are uncertain, as they were assumed using the mean ratio between landings and discards in 2004–2010, when discarding of commercial-sized fish was negligible.

Discard sampling has improved in recent years under the EU Data Collection Framework (DCF); unknown levels of discard mortality are a source of uncertainty in the assessment. Sampling intensity of landings and discards decreased in 2020 because of COVID-19 but was still sufficient to estimate the total catch. The pandemic had no important impact the performance of either survey.

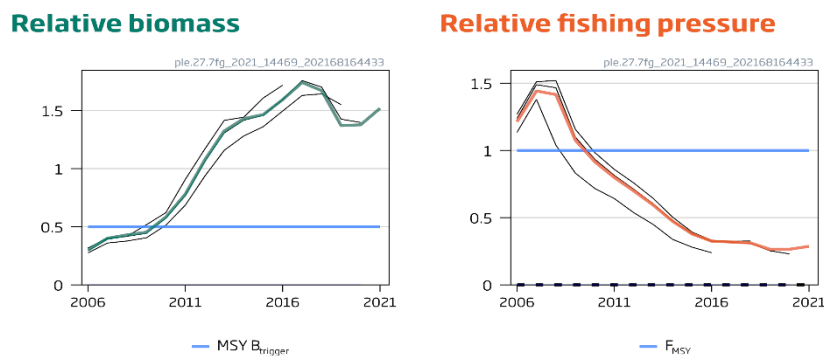


Figure 2 Plaice in divisions 7.f and 7.g. Historical relative estimates.

Issues relevant for the advice

Sole and plaice are caught in mixed fisheries, which generates high discards of plaice owing to a mismatch in the selectivity properties of the gear and the plaice minimum landing size. In addition, the relatively low market value of plaice may contribute to the high and variable discard rates. Catchpole *et al.* (2015) estimate discard survival of plaice at around 40%.

There is no quantitative mixed-fishery analysis that includes plaice in this area. Plaice in divisions 7.f and 7.g is primarily a bycatch of the targeted sole fishery, so changes in effort in this fishery will impact fishing mortality on plaice.

Reference points

Table 4 Plaice in divisions 7.f and 7.g. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY B _{trigger proxy}	$\frac{B}{B_{MSY}} = 0.5^*$	MSYB _{trigger} : $0.25 \times K$. Relative value. B _{MSY} is estimated directly from the assessment surplus production model and changes when the assessment is updated.	ICES (2019)
	F _{MSY proxy}	$\frac{F}{F_{MSY}} = 1^*$	Relative value. F _{MSY} is estimated directly from the assessment surplus production model and changes when the assessment is updated.	ICES (2019)
Precautionary approach	B _{lim}	Not defined		
	B _{pa}	Not defined		
	F _{lim}	Not relevant		
	F _{pa}	Not relevant		
Management plan	SSB _{MGT}	Not applicable		
	F _{MGT}	Not applicable		

* No reference points are defined for this stock in terms of absolute values. The SPiCT-estimated values of the ratios F/F_{MSY} and B/B_{MSY} are used to estimate stock status relative to the proxy MSY reference points.

Basis of the assessment

Table 5 Plaice in divisions 7.f and 7.g. The basis of the assessment.

ICES stock data category	3 (ICES, 2021a)
Assessment type	SPiCT (Surplus Production model in Continuous Time), considered indicative of trends only (ICES, 2021b)
Input data	Commercial landings and discards, two survey indices (UK [E&W]-BTS-Q3 [B6596], IGFS-WIBTS-Q4 [G7212]), LPUE from UK beam and otter trawlers.
Discards and bycatch	Discard numbers used in the model for the period of 1977–2003 were assumed using the mean ratio between landings and discards in 2004–2010, when discarding of commercial-sized fish was negligible.
Indicators	None
Other information	Benchmarked in 2011 (ICES, 2011) and moved to category 3 in 2012 (ICES, 2012).
Working group	Working Group for the Celtic Seas Ecoregion (WGCSE)

History of the advice, catch, and management

Table 6 Plaice in divisions 7.f and 7.g. History of ICES advice, the agreed TAC, and the official and ICES estimates of landings and discards. Weights are in tonnes.

Year	ICES advice	Catch corresponding to advice	Landings corresponding to advice	Agreed TAC	Official landings	ICES landings	ICES discards *
1987	TAC not to be restrictive on other species	-	-	2000	1912	1901	1027
1988	TAC not to be restrictive on other species	-	-	2500	2194	2116	1143
1989	TAC not to be restrictive on other species	-	-	2500	2583	2151	1162
1990	F likely to be F (88)	-	~ 1900	1900	2219	2082	1124
1991	F likely to be F (89)	-	~ 1700	1900	1827	1501	811
1992	No long-term gains in increasing F	-	-	1500	1362	1188	642
1993	No long-term gains in increasing F	-	-	1400	1303	1114	602
1994	No long-term gains in increasing F	-	-	1400	982	1070	578
1995	No increase in F	-	1290	1400	956	1028	555
1996	20% reduction in F	-	930	1100	978	952	514
1997	20% reduction in F	-	1100	1100	1259	1217	657
1998	20% reduction in F	-	1000	1100	1149	1067	576
1999	35% reduction in F	-	670	905	656	968	523
2000	30% reduction in F	-	700	800	721	718	388
2001	40% reduction in F	-	600	760	684	714	386
2002	At least 35% reduction in F	-	680	680	618	642	347
2003	At least 40% reduction in F	-	660	660	564	594	321

Year	ICES advice	Catch corresponding to advice	Landings corresponding to advice	Agreed TAC	Official landings	ICES landings	ICES discards *
2004	F < 0.10 or recovery plan	-	< 210	560	489	510	274
2005	70% reduction in F or recovery plan	-	< 250	476	399	386	321
2006	50% reduction in F or recovery plan	-	< 400	476	414	404	453
2007	50% reduction in F or recovery plan	-	< 380	417	417	410	1288
2008	60% reduction in F	-	< 240	491	375	437	583
2009	75% reduction in F	-	< 170	422	n/a	481	608
2010	50% reduction in F	-	< 330	451	442	442	670
2011	See scenarios	-	-	410	420	427	1107
2012	Reduce catches	-	-	369	450	442	1123
2013	Decrease landings by 19% (1.5% increase followed by 20% PA reduction)	-	< 360	369	412	414	1274
2014	Increase catches by 20%	< 1608	< 519	461	411	410	772
2015	Catches should be no more than recent catches (last three years)	< 1500	< 420	461	381	381	778
2016	Precautionary approach (same catch value as advised for 2015)	≤ 1500	≤ 420**	420	430	431	571
2017	Precautionary approach (same catch value as advised for 2016)	≤ 1500	≤ 405	405	388	390	895
2018	Precautionary approach	≤ 1800	≤ 511	511	421	422	508
2019	Precautionary approach	≤ 2160		1662	460***	463	189
2020	Precautionary approach	≤ 2295		2003	536***	535	357
2021	Precautionary approach	≤ 1911		1911			
2022	Precautionary approach	≤ 1735					

* Discard estimates are available from 2004; discard values prior to 2004 are assumed, based on limited sampling information.

** Wanted catch.

*** Preliminary.

n/a = French landings not available.

History of the catch and landings

Table 7 Plaice in divisions 7.f and 7.g. Catch distribution by fleet in 2020 as estimated by ICES.

Catch	Landings					Discards				
	Otter trawl	Beam trawl	Gillnet	Seine	Other	Otter trawl	Beam trawl	Gillnet	Seine	Other
893 tonnes	27.1%	69.2%	0.5%	3.1%	0.1%	49.0%	9.6%	0.2 %	1.1%	0.03%
	536 tonnes					357 tonnes				

Table 8 Plaice in divisions 7.f and 7.g. History of official landings by country, ICES estimated landings, and discards. Weights are in tonnes.

Year	Belgium	UK	France	Ireland	Spain	Netherlands	Total reported	Discards	ICES landings	ICES catch
1977	214	150	365	28			757	n/a	757	n/a
1978	196	152	527	0			875	n/a	875	n/a
1979	171	176	467	49			863	n/a	863	n/a
1980	372	234	706	61			1373	n/a	1373	n/a
1981	365	251	697	64			1377	n/a	1377	n/a
1982	341	196	568	198			1303	n/a	1303	n/a
1983	314	279	532	48			1173	n/a	1146	n/a
1984	283	366	558	72			1279	n/a	1210	n/a
1985	357	466	493	91			1407	n/a	1752	n/a
1986	665	539	878	302		9	2384	n/a	1691	n/a
1987	581	496	708	127			1912	n/a	1901	n/a
1988	617	630	721	226			2194	n/a	2116	n/a
1989	843	471	1089	180			2583	n/a	2151	n/a
1990	794	498	767	160			2219	n/a	2082	n/a
1991	836	392	444	155			1827	n/a	1501	n/a
1992	371	307	504	180			1362	n/a	1188	n/a
1993	542	299	373	89			1303	n/a	1114	n/a
1994	350	252	298	82			982	n/a	1070	n/a
1995	346	286	254	70			956	n/a	1028	n/a
1996	410	239	246	83			978	n/a	952	n/a
1997	594	258	329	78			1259	n/a	1217	n/a
1998	540	176	298	135			1149	n/a	1067	n/a
1999	371	170	N/A	115			N/A	n/a	968	n/a
2000	224	134	287	76			721	n/a	718	n/a
2001	241	136	262	45			684	n/a	714	n/a
2002	248	105	186	79			618	n/a	642	n/a
2003	221	127	165	51			564	n/a	594	n/a
2004	212	87	145	45			489	274	510	784
2005	168	55	132	44			399	321	386	707
2006	172	88	106	48			414	453	404	857
2007	194	61	104	58			417	1288	410	1698
2008	188	63	70	64			385	583	437	1020
2009	216	56	148	61			482	608	481	1071
2010	188	54	136	63			442	670	442	1103
2011	210	45	98	67			420	1107	427	1528
2012	203	44	126	76			442	1123	450	1565
2013	186	40	106	80			412	1274	414	1686
2014	181	24	155	50			411	772	410	1183
2015	185	25	111	59			381	778	381	1159
2016	244	27	108	64			431	571	430	1002
2017	180	38	108	63			390	895	388	1284
2018	204	40	127	51			422	508	422	930
2019*	263	45	84	68	1	< 1	460	189	463	652
2020*	332	47	47	110	< 1	< 1	535	357	536	893

* Preliminary.

n/a = not available.

Summary of the assessment

Table 9 Plaice in divisions 7.f and 7.g. SPiCT assessment summary. High and low refer to 95% confidence intervals for B/B_{MSY} and F/F_{MSY} . Weights are in tonnes.

Year	B/B_{MSY}	High	Low	Landings	Discards	F/F_{MSY}	High	Low
1977	0.54	1.15	0.25	757		0.96	1.98	0.46
1978	0.63	1.41	0.29	875		0.96	1.92	0.48
1979	0.70	1.55	0.32	863		0.91	1.84	0.45
1980	0.85	1.82	0.40	1373		0.95	1.87	0.49
1981	0.98	2.06	0.46	1377		1.05	2.03	0.54
1982	0.96	1.99	0.46	1303		1.03	1.98	0.54
1983	0.92	1.86	0.46	1146		0.97	1.83	0.52
1984	0.93	1.79	0.49	1210		0.92	1.67	0.51
1985	1.07	1.90	0.61	1752		1.01	1.70	0.60
1986	1.13	1.88	0.68	1691		1.12	1.78	0.70
1987	1.11	1.76	0.70	1901		1.18	1.80	0.77
1988	1.11	1.71	0.72	2116		1.32	1.95	0.90
1989	1.05	1.60	0.69	2151		1.49	2.15	1.03
1990	0.94	1.44	0.61	2082		1.66	2.40	1.15
1991	0.75	1.15	0.49	1501		1.71	2.48	1.18
1992	0.60	0.91	0.40	1188		1.61	2.31	1.11
1993	0.54	0.82	0.36	1114		1.54	2.22	1.07
1994	0.52	0.78	0.35	1070		1.53	2.20	1.07
1995	0.51	0.74	0.35	1028		1.53	2.18	1.07
1996	0.48	0.70	0.33	952		1.50	2.13	1.05
1997	0.50	0.73	0.35	1217		1.57	2.23	1.11
1998	0.51	0.74	0.35	1067		1.64	2.34	1.16
1999	0.47	0.69	0.32	968		1.61	2.29	1.14
2000	0.40	0.58	0.27	718		1.55	2.22	1.08
2001	0.36	0.52	0.25	714		1.46	2.09	1.02
2002	0.35	0.51	0.24	642		1.41	2.02	0.98
2003	0.35	0.51	0.24	594		1.31	1.88	0.92
2004	0.33	0.48	0.23	510	274	1.26	1.81	0.87
2005	0.29	0.41	0.20	386	321	1.22	1.76	0.85
2006	0.30	0.42	0.21	404	453	1.21	1.74	0.85
2007	0.40	0.56	0.28	410	1288	1.44	2.08	1.00
2008	0.43	0.62	0.30	437	583	1.42	2.08	0.96
2009	0.45	0.65	0.32	481	608	1.08	1.54	0.75
2010	0.58	0.86	0.40	442	670	0.92	1.33	0.63
2011	0.78	1.16	0.53	427	1107	0.80	1.17	0.54
2012	1.08	1.61	0.72	450	1123	0.70	1.03	0.47
2013	1.32	1.95	0.90	414	1274	0.59	0.87	0.40
2014	1.43	2.04	1.00	411	772	0.47	0.68	0.33
2015	1.47	2.02	1.06	381	778	0.38	0.54	0.26
2016	1.59	2.19	1.16	431	571	0.32	0.46	0.23
2017	1.74	2.43	1.25	390	895	0.32	0.45	0.23
2018	1.67	2.29	1.22	422	508	0.31	0.44	0.22
2019	1.37	1.90	0.99	463	189	0.26	0.39	0.18
2020	1.38	1.93	0.98	535	357	0.26	0.40	0.18
2021	1.52	2.09	1.11			0.29	0.46	0.18

Sources and references

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

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