

5.3.50 Plaice (*Pleuronectes platessa*) in Division 7.a (Irish Sea)

ICES stock advice

ICES advises that when the precautionary approach is applied, catches in 2017 should be no more than 1493 tonnes. If this stock is not under the EU landing obligation in 2017 and discard rates do not change from the average of the last three years (2013–2015), this implies landings of no more than 436 tonnes.

Stock development over time

This is a trend-based assessment. The spawning-stock biomass (SSB) has been stable since 2003. However, there is an increase in 2015. The recent fishing pressure (F) is low and has been declining since 1993. Recruitment has been fairly stable over time, with 2015 being the lowest in the time-series.

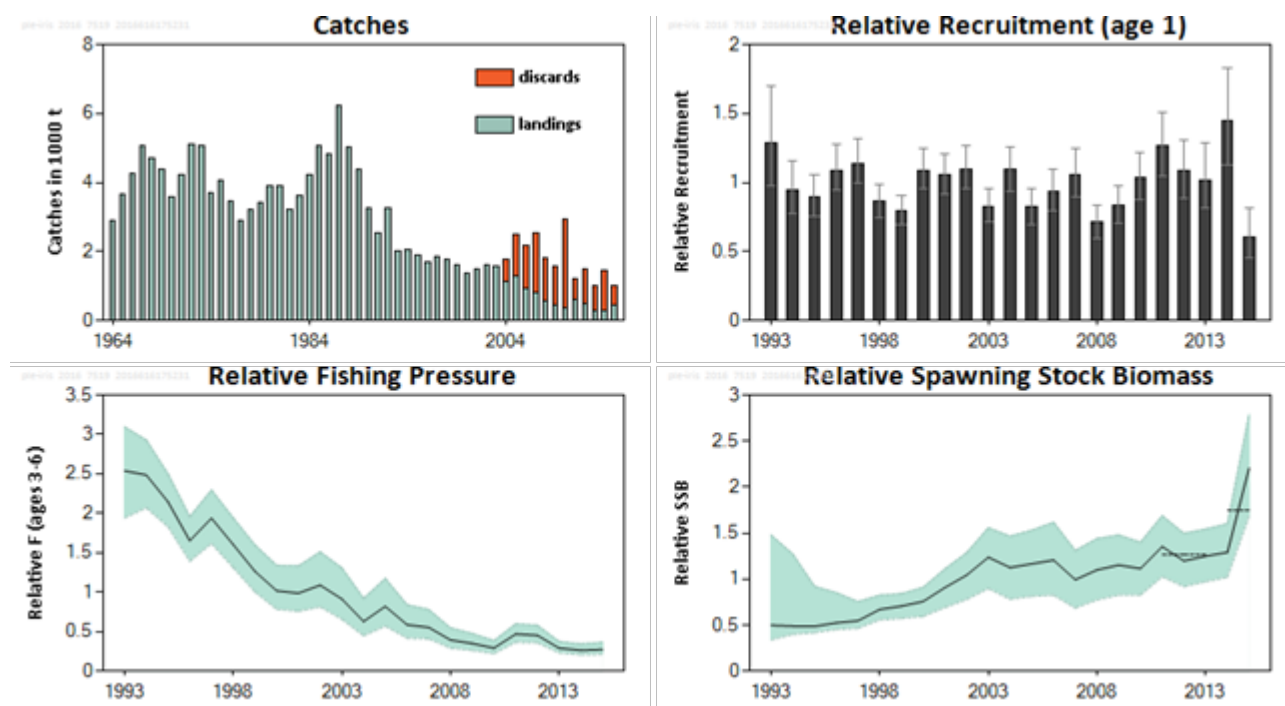


Figure 5.3.50.1 Plaice in Division 7.a. Upper left: Official landings and estimated discards. Discard estimates are not available before 2004. Recruitment, F, and SSB values are relative to the average of the time-series.

Stock and exploitation status

Table 5.3.50.1 Plaice in Division 7.a. State of the stock and fishery relative to reference points.

		Fishing pressure				Stock size			
		2013	2014	2015		2013	2014	2015	
Maximum sustainable yield	F_{MSY} proxy	✓	✓	✓	Below proxy	$MSY_{B_{trigger}}$ proxy	✓	✓	✓
Precautionary approach	F_{pa} , F_{lim}	✓	✓	✓	Below possible candidates ref. points	B_{pa} , B_{lim}	✓	✓	✓
Management plan	F_{MGT}	-	-	-	Not applicable	SSB_{MGT}	-	-	-
Qualitative evaluation	-	↘	↘	↔	Stable	-	↗	↗	↗

Note: The state of the stock evaluation is based on reference point proxies (ICES, 2016a) and relative change for fishing pressure and stock size.

Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). The relative SSB as estimated by the Aarts and Poos (2009) model was used as an index of stock development.

The advice is based on a comparison of the two latest index values (index A) with the three preceding values (index B), multiplied by the recent advised catch.

The index is estimated to have increased by more than 20% and thus the uncertainty cap was applied. The fishing mortality is below the F_{MSY} proxy reference point; therefore, no additional precautionary buffer was applied.

The discarding rate (2013–2015 average) is 70% of the total catch in weight.

Table 5.3.50.2 Plaice in Division 7.a. For stocks in ICES data category 3, one catch option is provided.

Index A (2014,2015)		1.75
Index B (2011, 2012, 2013)		1.27
Index ratio (A/B)		1.38
Uncertainty cap	Applied	1.2
Recent advised catch for 2016		1244 t
Discard rate (2013–2015 average)		0.7
Precautionary buffer	Not applied	-
Catch advice*		1493 t
Wanted catch** corresponding to the catch advice		436 t

* [Recent advised catch] × [uncertainty cap].

** The “wanted catch” is used to describe fish that would be landed in the absence of the EU landing obligation.

Basis of the advice

Table 5.3.50.3 Plaice in Division 7.a. The basis of the advice.

Advice basis	Precautionary approach.
Management plan	There is no management plan for plaice in this area.

Quality of the assessment

The assessment model is indicative of the long-term trend in stock development because the assessment method is not considered to provide estimates of absolute stock size. There is high uncertainty in the annual SSB estimates, making it more difficult to detect interannual variations of SSB. The discard data are variable and have been uncertain in the past, which contributes to the overall uncertainty in the assessment. However, discard estimates in recent years have improved. The proportions of fish at older ages that are discarded show an increasing trend; this has not been accounted for in the assessment.

Issues relevant for the advice

The majority of the catch is discarded and recent gear selectivity measures have had little effect for plaice.

Reference points

Table 5.3.50.4 Plaice in Division 7.a. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{\text{trigger proxy}}^*$	3 700 t	$0.5 \times B_{\text{MSY}}$ (estimated by SPiCT from model parameters, using data from 1988–2014)	ICES (2016a)
	$F_{\text{MSY proxy}}^*$	0.50	F_{MSY} (estimated by SPiCT from model parameters, using data from 1988–2014)	ICES (2016a)
Precautionary approach	B_{lim}	Not defined		
	B_{pa}	Not defined		
	F_{lim}	Not defined		
	F_{pa}	Not defined		
Management plan	SSB_{MGT}	Not applicable		
	F_{MGT}	Not applicable		

*The current assessment is indicative of trends only and therefore results cannot be compared directly to the F_{MSY} proxy reference point estimates.

Basis of the assessment

Table 5.3.50.5 Plaice in Division 7.a. The basis of the assessment.

ICES stock data category	3 (ICES, 2016b).
Assessment type	Age based assessment model (Aarts and Poos, 2009) accepted for trends (ICES, 2016c).
Input data	International landings, estimated discards, ages and length frequencies from catch sampling; three survey indices (UK (E&W)-BTS-Q3, NIGFS-WIBTS-Q1, and NIGFS-WIBTS-Q4); fixed maturity ogive; constant natural mortality.
Discards and bycatch	Included in the assessment, data series from the majority of the fleet (covering 94% of the landings). Discards estimates are only available from 2004. Discards for earlier years are estimated by the assessment model.
Indicators	SPiCT model (ICES, 2016d).
Other information	Latest benchmark was in 2011 (ICES, 2011); next benchmark is planned for 2017.
Working group	Working Group for the Celtic Seas Ecoregion (WGCSE).

Information from stakeholders

There is no available information.

History of the advice, catch, and management

Table 5.3.50.6 Plaice in Division 7.a. History of ICES advice, the agreed TAC, and ICES estimates of landings and discards. Weights are in thousand tonnes.

Year	ICES advice	Predicted catch corresp. to advice	Predicted landings corresp. to advice	Agreed TAC	Official landings	ICES landings	ICES discards
1987	F high; no long-term gains in increasing F	-	5.0	5.0	5.6	6.2	-
1988	No increase in F	-	4.8	5.0	4.4	5.0	-
1989	80% of F(87); TAC	-	5.8	5.8	4.2	4.4	-
1990	Halt decline in SSB; TAC	-	5.1	5.1	4.0	3.3	-
1991	Rebuild SSB to SSB(90); TAC	-	3.3	4.5	2.8	2.6	-
1992	70% of F(90)	-	3.0	3.8	3.2	3.3	-
1993	F = 0.55 ~ 2800 t	-	2.8	2.8	2.0	2.0	-
1994	Long-term gains in decreasing F	-	< 3.7	3.1	2.1	2.1	-
1995	Long-term gains in decreasing F	-	2.4*	2.8	2.0	1.9	-
1996	No long-term gain in increasing F	-	2.5	2.45	1.9	1.7	-
1997	No advice	-	-	2.1	2.0	1.9	-
1998	No increase in F	-	2.4	2.4	1.8	1.8	-
1999	Keep F below F_{pa}	-	2.4	2.4	1.6	1.6	-
2000	Keep F below F_{pa}	-	< 2.3	2.4	1.4	1.4	-
2001	Keep F below F_{pa}	-	< 2.4	2.0	1.5	1.5	-
2002	Keep F below F_{pa}	-	< 2.8	2.4	1.5	1.6	-
2003	No increase in F	-	1.9	1.675	1.6	1.6	-
2004	$F < F_{pa}$	-	1.6	1.34	1.1	1.1	0.63
2005	$F < F_{pa}$	-	2.97	1.608	1.3	1.3	1.21
2006	$F < F_{pa}$	-	5.9	1.608	0.9	0.9	1.25
2007	$F < F_{pa}$	-	6.5	1.849	0.8	0.8	1.74
2008	$F < F_{pa}$	-	5.2	1.849	0.5	0.6	1.27
2009	No long-term gains in increasing F above $F_{0.1}$	-	1.43	1.43	0.48	0.46	1.13
2010	No long-term gains in increasing F above $F_{0.1}$	-	1.63	1.63	0.38	0.38	2.56
2011	Effort should be consistent with no increase in catches	-	-	1.627	0.59	0.59	0.60
2012	Catches should not increase	-	-	1.627	0.50	0.50	0.98
2013	Landings should be no more than 2% more than recent landings (last 3 years)	-	< 0.490	1.627	0.30	0.31	0.72
2014	Catches should be no more than 1% more than recent catches (last 3 years)	< 1.827	< 0.497	1.22	0.28	0.28	1.196
2015	Catches should be no more than recent catches (last 3 years)	< 1.244	< 0.394	1.098	0.44	0.44	0.565
2016	Precautionary approach (same advised catch value as given for 2015)	≤ 1.244	$\leq 0.343^{**}$	1.098			
2017	Precautionary approach (same advised catch value as given for 2015)	≤ 1.493	$\leq 0.436^{**}$				

* Catch at *status quo* F.

** Wanted catch.

History of catch and landings

Table 5.3.50.7 Plaice in Division 7.a. Catch distribution by fleet in 2015 as estimated by ICES.

Catch (2015)	Landings			Discards		
1 005 t	Beam trawl	Otter trawl	Other gear types	Beam trawl	Otter trawl	Other gear types
	39%	51%	10%	34%	62%	3%
	439 t			565 t		

Table 5.3.50.8 Plaice in Division 7.a. History of commercial catch and landings; both the official and ICES estimated values are presented for each country participating in the fishery.

Year	Belgium	France	Ireland	Netherlands	UK (Eng.&Wales)**	UK (Isle of Man)	UK (Scotland)	Total official landings	Discards***	Unallocated	ICES estimates of catches
1994	332	13	547	-	1 082	14	63	2051	-	15	2066
1995	327	10	557	-	1 050	20	60	2024	-	-150	1874
1996	344	11	538	69	878	16	18	1874	-	-167	1707
1997	459	8	543	110	798	11	25	1954	-	-83	1871
1998	327	8	730	27	679	14	18	1803	-	-38	1765
1999	275	5	541	30	687	5	23	1566	-	34	1600
2000	325	14	420	47	610	6	21	1443	-	-72	1371
2001	482	9	378	-	607	1	11	1488	-	-15	1473
2002	636	8	370	-	569	1	7	1591	-	32	1623
2003	628	7	490	-	409	1	9	1544	-	15	1559
2004	431	2	328	-	369	0	4	1134	628	9	1771
2005	566	9	272	-	422	0	1	1270	1210	11	2491
2006	343	2	179	-	413	0	0	937	1254	-3	2188
2007	194	2	194	-	412	0	0	802	1743	3	2548
2008	157	2	102	-	300	1	1	562	1270	1	1834
2009	197	0.4	73	-	185	...	2	457	1131	0	1588
2010	138	0.2	89	-	148	0.5	3	379	2560	-1	2938
2011	332	0.28	118	-	145	0.25	0	594	604	1	1200
2012	236	0.08	106	-	154	0.11	0	496	981	7	1484
2013	144	0.29	67	-	91	0.05	0	303	718	0	1020
2014	100	0.03	123	-	59	0.08	0	282	1196	0	1478
2015*	115	0.01	244	-	80	0	0	439	565	1	1005

* Provisional.

** Northern Ireland included with England and Wales.

*** Discard data used in the assessment model.

Summary of the assessment

Table 5.3.50.9 Plaice in Division 7.a. Assessment summary. Recruitment, SSB, and fishing pressure are relative to the average of the time-series. Landings and discards are in tonnes.

Year	Relative recruitment (age 1)	High	Low	Relative SSB	High	Low	Landings (tonnes)	Discards (tonnes)	Relative fishing mortality (ages 3–6)	High	Low
1993	1.288	1.695	0.97	0.497	1.477	0.338	1996		2.539	3.095	1.941
1994	0.945	1.155	0.775	0.488	1.272	0.398	2066		2.485	2.929	2.068
1995	0.893	1.059	0.749	0.485	0.92	0.417	1874		2.144	2.5	1.828
1996	1.089	1.274	0.94	0.524	0.852	0.452	1707		1.653	1.957	1.391
1997	1.139	1.313	0.992	0.546	0.755	0.464	1871		1.937	2.296	1.616
1998	0.865	0.987	0.748	0.67	0.824	0.555	1765		1.603	1.942	1.312
1999	0.796	0.907	0.695	0.705	0.841	0.573	1600		1.264	1.598	1.003
2000	1.083	1.248	0.951	0.757	0.91	0.594	1371		1.018	1.34	0.783
2001	1.057	1.204	0.915	0.907	1.11	0.69	1473		0.986	1.333	0.758
2002	1.1	1.265	0.953	1.043	1.286	0.778	1623		1.089	1.51	0.813
2003	0.826	0.952	0.714	1.236	1.557	0.896	1559		0.913	1.308	0.657
2004	1.095	1.255	0.936	1.124	1.465	0.78	1143	628.443	0.628	0.921	0.448
2005	0.82	0.956	0.696	1.164	1.53	0.812	1281	1210.45	0.819	1.174	0.569
2006	0.939	1.1	0.791	1.205	1.617	0.825	934	1254.013	0.587	0.84	0.417
2007	1.06	1.247	0.893	0.992	1.31	0.685	805	1743.96	0.553	0.78	0.409
2008	0.709	0.835	0.597	1.099	1.439	0.773	563	1267.584	0.393	0.547	0.29
2009	0.839	0.978	0.708	1.151	1.478	0.826	457	1132.329	0.35	0.476	0.262
2010	1.04	1.217	0.877	1.113	1.399	0.825	378	2560.814	0.291	0.386	0.221
2011	1.265	1.51	1.047	1.352	1.688	1.025	595	603.209	0.469	0.598	0.365
2012	1.082	1.311	0.881	1.196	1.497	0.917	503	981.486	0.453	0.581	0.358
2013	1.019	1.285	0.813	1.249	1.542	0.971	303	715.716	0.29	0.374	0.23
2014	1.444	1.826	1.123	1.29	1.601	1.019	282	1179.988	0.263	0.344	0.206
2015	0.607	0.813	0.452	2.206	2.784	1.682	439	565	0.273	0.365	0.211

Sources and references

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