

Plaice (*Pleuronectes platessa*) in divisions 7.h–k (Celtic Sea South, southwest of Ireland)

ICES advice on fishing opportunities

Please note: Advice for 2020 was updated June 2019 ([ICES, 2019](#))

ICES advises that when the precautionary approach is applied, there should be zero catch in each of the years 2019 and 2020.

Stock development over time

The assessment is indicative of trends only. Spawning-stock biomass (SSB) has decreased significantly since the 1990s and has been below B_{lim} since 2002. Fishing mortality (F) is highly variable and has been above F_{lim} for the entire time-series. Recruitment decreased until 2003 and has been low since then.

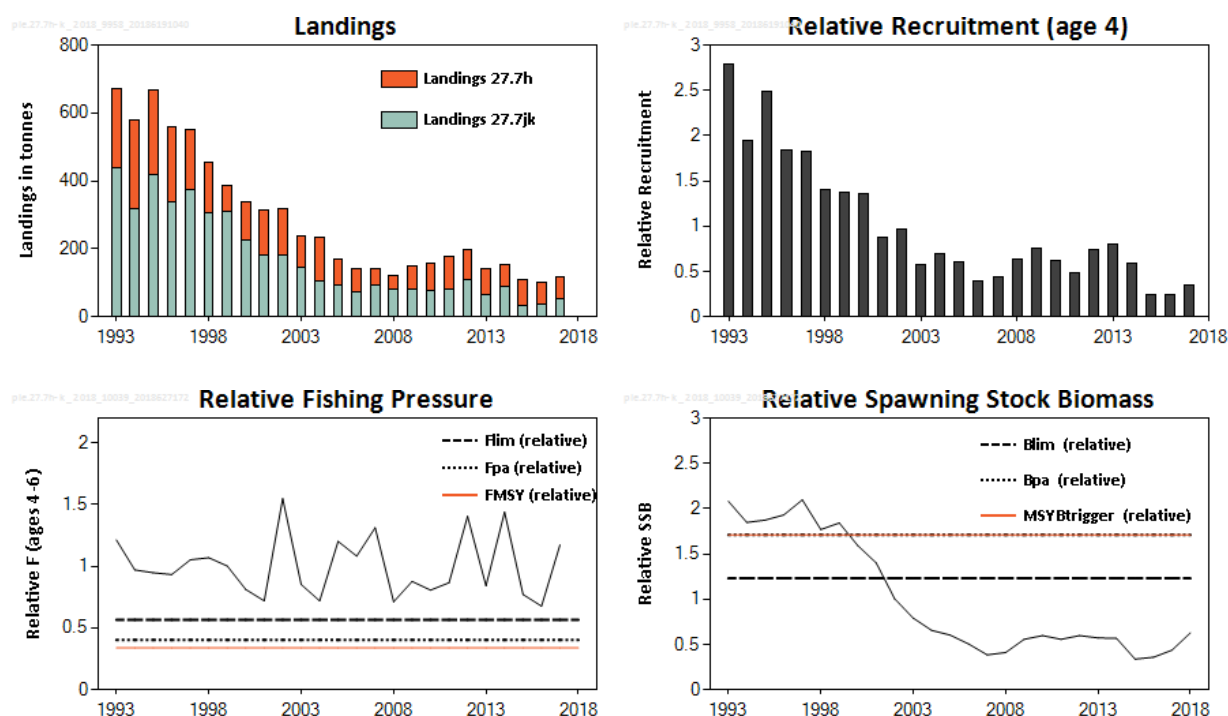


Figure 1 Plaice in divisions 7.h–k. Summary of the stock assessment. The landings are for the full stock area (divisions 7.h–k), but only landings from divisions 7.j and 7.k are used in the assessment. Recruitment, F, and SSB values are relative to the average of the time-series.

Stock and exploitation status

ICES assesses that fishing pressure on the stock is above F_{MSY} proxy, F_{pa} , and F_{lim} , and the spawning-stock size is below $MSYBtrigger$ proxy, B_{pa} , and B_{lim} .

Table 1 Plaice in divisions 7.h–k. State of the stock and fishery relative to reference points.

		Fishing pressure				Stock size			
		2015	2016	2017		2016	2017	2018	
Maximum sustainable yield	F_{MSY} proxy	✗	✗	✗ Above proxy		$MSY B_{trigger}$ proxy	✗	✗	✗ Below proxy
Precautionary approach	F_{pa} F_{lim}	✗	✗	✗ Harvested unsustainably		B_{pa} B_{lim}	✗	✗	✗ Reduced reproductive capacity
Management plan	F_{MGT}	—	—	— Not applicable		B_{MGT}	—	—	— Not applicable

Catch scenarios

An assessment model for the divisions 7.j–k part of the stock is used as the index of stock development in divisions 7.h–k. Given that SSB is estimated to be well below B_{lim} and is likely to remain so in 2019 and 2020, ICES framework for category 3 stocks was not applied (ICES, 2012). Therefore, the advice is for zero catch for 2019 and 2020.

Basis of the advice

Table 2 Plaice in divisions 7.h–k. The basis of the advice.

Advice basis	Precautionary approach
Management plan	The EU has proposed a multiannual management plan for the Western Waters, which is not yet finalized (EU, 2018).

Quality of the assessment

The advice is based on an assessment accepted for trends, used as an indicator of stock size. This is because discards are significant, but not fully quantified. They are not included in the assessment.

The lack of fishery-independent data affects the quality of the assessment.

The available landings-at-age data do not cover the Division 7.h component. The assessment is carried out on the landings from divisions 7.j and 7.k only, but is assumed to be representative of Division 7.h as well.

The apparent reduction in SSB since the mid-1990s is mainly driven by a reduction in abundance of young fish in recent years and high fishing mortality. However, it is unclear whether this lack of young fish in the landings is due to increased discarding or poor recruitment.

Issues relevant for the advice

Because plaice is caught in distinct areas, restricting effort in areas where plaice are caught could be an effective tool to reduce catches and rebuild the stock.

Reference points

Table 3 Plaice in divisions 7.h–k. Reference points, relative values, and their technical basis.

Framework	Reference point	Relative value*	Technical basis	Source
MSY approach	MSY $B_{\text{trigger proxy}}$	1.71	B_{pa}	ICES (2017, 2018)
	$F_{\text{MSY proxy}}$	0.34	Median point estimates of Eqsim with a segmented regression stock–recruitment relationship	ICES (2017, 2018)
Precautionary approach	B_{lim}	1.23	Break point in a segmented regression stock–recruitment relationship	ICES (2017, 2018)
	B_{pa}	1.71	$B_{\text{lim}} \times \exp(1.645 \times \sigma)$; $\sigma = 0.20$	ICES (2017, 2018)
	F_{lim}	0.57	F with 50% probability of $\text{SSB} < B_{\text{lim}}$	ICES (2017, 2018)
	F_{pa}	0.40	$F_{\text{lim}} \times \exp(-1.645 \times \sigma)$; $\sigma = 0.20$	ICES (2017, 2018)
Management plan	SSB_{mgt}	Not applicable		
	F_{mgt}	Not applicable		

* All values are relative to the average of the time-series in the stock assessment (see Table 8).

Basis of the assessment

Table 4 Plaice in divisions 7.h–k. Basis of the assessment and advice.

ICES stock data category	3 (ICES, 2016).
Assessment type	Age-based analytical assessment (XSA) indicative of stock trends (ICES, 2018).
Input data	Commercial landings (international landings from divisions 7.j–k, Irish age compositions from landings sampling in Division 7.j); commercial tuning index (IRL-VMS-OTB); maturity and natural mortality data are applied from divisions 7.f–g.
Discards and bycatch	Discarding is known to take place but numbers cannot be reliably quantified owing to limited sampling; therefore they are not included.
Indicators	None.
Other information	Reference points defined 2017 (ICES, 2017).
Working group report	Working Group for the Celtic Seas Ecoregion (WGCSE)

Information from stakeholders

There is no additional available information.

History of the advice, catch, and management

Table 5 Plaice in divisions 7.h–k. ICES advice and official landings. All weights are in tonnes.

Year	ICES advice	Wanted catch corresp. to advice	Agreed TAC	Official landings	ICES landings
1993	-	-	-	672	655
1994	-	-	-	578	577
1995	-	-	-	667	542
1996	-	-	-	560	453
1997	-	-	-	551	645
1998	-	-	-	454	444
1999	-	-	-	385	406
2000	-	-	-	337	299
2001	-	-	1215	313	261
2002	-	-	1080	316	313
2003	Reduce TAC to recent average (1998–2000)	450	582	237	217
2004	Reduce TAC to recent average (2000–2002)	320	466	232	221
2005	Reduce TAC to recent average (2001–2003)	271	466	170	164
2006	Reduce TAC to recent average (2002–2004)	245	396	143	147
2007	Reduce TAC to recent average (2003–2005)	196	337	142	120
2008	Reduce TAC to recent average (2004–2006)	177	303	122	135
2009	Same advice as last year	177	256	148	148
2010	Reduce TAC	-	218	156	155
2011	See scenarios	-	185	179	178
2012	Reduce catches	-	176	199	196
2013	Decrease catches by 36% (20% decrease, followed by 20% PA reduction)	< 100	141	141	182
2014	Decrease landings by 4% (20% increase, followed by 20% PA reduction)	< 135	135	148	169
2015	The same landings advice as for 2014	< 135	135	107	114
2016	Precautionary approach (same advised value as for 2015)	≤ 135	135	100*	99
2017	Precautionary approach (36% reduction in advised landings)	≤ 86	128	116*	115
2018	Precautionary approach	0	128		
2019	Precautionary approach	0			
2020	Precautionary approach	0			

* Preliminary.

History of the catch and landings

Table 6 Plaice in divisions 7.h–k. Catch distribution by fleet in 2017 as estimated by ICES.

Table 5: Harvest in divisions 7.h–k in each distribution by fleet in 2017, as estimated by ICES.				
Catch	Landings			Discards
Unknown	Otter trawl 75%	Beam trawl 17%	Other gears 8%	Discards in Division 7.h are unknown. Discards in divisions 7.j–k are in the order of 30% of the catch for otter trawls (average 2007–2017).
	115 tonnes			

Table 7 Plaice in divisions 7.h–k. History of commercial landings. All weights are in tonnes.

Year	Divisions 7.j–k					Division 7.h					7.j–k	7.h	Divisions 7.h–k	
	BEL	FRA	IRL	UK	OTH	BEL	FRA	IRL	UK	OTH	Total	Total	Official	ICES est.
1993	0	8	383	46	0	0	56	0	179	0	437	235	672	655
1994	0	6	251	60	0	0	42	20	199	0	317	261	578	577
1995	0	12	317	90	0	0	48	4	196	0	419	248	667	542
1996	0	3	295	38	0	0	45	10	117	52	336	224	560	453
1997	0	6	337	32	0	0	63	7	106	0	375	176	551	645
1998	0	8	282	16	0	0	41	4	90	13	306	148	454	444
1999	42	0	296	15	0	3	0	3	67	1	311	74	385	406
2000	4	16	195	9	5	0	38	5	67	2	225	112	337	299
2001	0	16	157	6	3	27	34	3	67	0	182	131	313	261
2002	14	21	155	5	2	55	24	0	54	0	183	133	316	313
2003	4	7	125	9	6	16	25	2	47	0	147	90	237	217
2004	0	5	87	6	6	67	27	4	30	0	104	128	232	221
2005	0	4	88	2	0	32	16	2	26	0	94	76	170	164
2006	1	6	63	1	1	22	31	2	17	0	71	72	143	147
2007	2	9	72	2	11	7	21	0	18	2	94	48	142	120
2008	3	5	72	1	1	25	7	0	11	0	79	43	122	135
2009	4	7	71	2	0	1	37	0	30	0	80	68	148	148
2010	5	11	66	1	0	0	44	0	34	0	78	78	156	155
2011	6	11	67	2	0	4	47	6	42	0	80	99	179	178
2012	7	17	93	0	0	2	45	6	36	0	110	89	199	196
2013	0	14	51	0	0	0	35	1	40	0	65	76	141	182
2014	0	11	78	0	0	4	41	4	15	0	89	64	153	169
2015	0	10	24	0	0	5	50	2	17	0	34	74	108	114
2016*	0	7	30	0	0	7	39	2	15	0	37	63	100	99
2017*	0	12	39	1	0	11	41	3	9	0	52	64	116	115

* Preliminary.

Summary of the assessment

Table 8 Plaice in divisions 7.h–k. Assessment summary. Weights are in tonnes.

Year	Relative recruitment (age 4)	Relative SSB	Landings Division 7.h*	Landings divisions 7.j–k	Relative F (ages 4–6)
1993	2.8	2.1	235	437	1.21
1994	1.94	1.84	261	317	0.97
1995	2.5	1.87	248	419	0.95
1996	1.84	1.92	224	336	0.93
1997	1.82	2.1	176	375	1.05
1998	1.40	1.76	148	306	1.07
1999	1.38	1.83	74	311	1.00
2000	1.35	1.59	112	225	0.81
2001	0.88	1.39	131	182	0.72
2002	0.96	1.00	133	183	1.55
2003	0.57	0.79	90	147	0.85
2004	0.69	0.65	128	104	0.72
2005	0.61	0.60	76	94	1.20
2006	0.39	0.50	72	71	1.08
2007	0.44	0.38	48	94	1.31
2008	0.64	0.41	43	79	0.71
2009	0.75	0.55	68	80	0.88
2010	0.61	0.60	78	78	0.81
2011	0.48	0.55	99	80	0.87
2012	0.74	0.60	89	110	1.40
2013	0.80	0.57	76	65	0.84
2014	0.59	0.56	64	89	1.44
2015	0.25	0.34	74	34	0.77
2016	0.24	0.36	63	37	0.68
2017	0.35	0.44	64	52	1.17
2018		0.63			

*Landings in Division 7.h are not used in the assessment.

Sources and references

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