

Flounder (*Platichthys flesus*) in subdivisions 24 and 25 (west of Bornholm and southwestern central Baltic)

ICES stock advice

ICES has not been requested to provide advice on fishing opportunities for this stock for 2020, 2021, or 2022.

Stock development over time

The stock size indicator from surveys (biomass index) peaked in 2016, and has been decreasing since then.

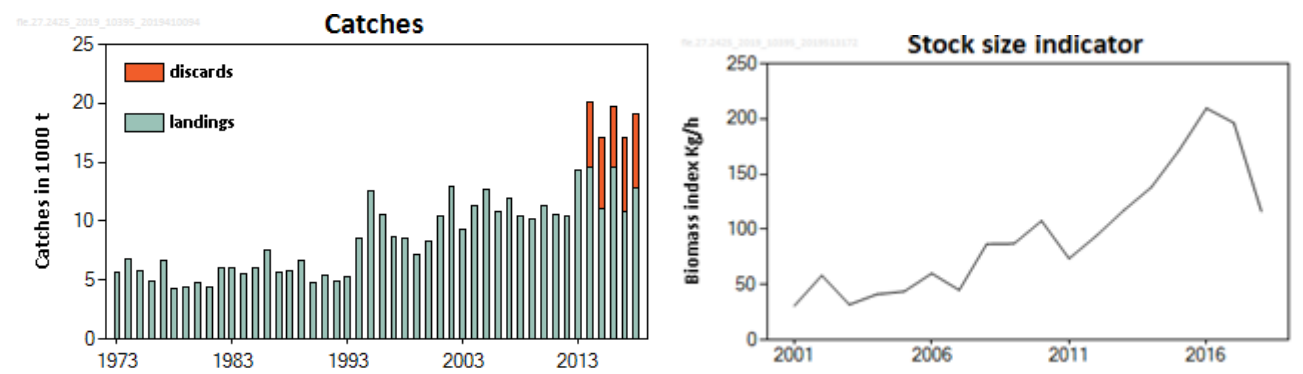


Figure 1 Flounder in subdivisions 24 and 25. Summary of the stock assessment. Left panel: Catches (ICES estimates) in subdivisions 24–25. Discard data have only been included since 2014. Right panel: Combined biomass index (kg h⁻¹) of flounder equal to or larger than 20 cm, from the Baltic International Trawl Survey (BITS–Q1 and Q4).

Stock and exploitation status

ICES assesses that fishing pressure on the stock is below F_{MSY} proxy; no reference points for stock size have been defined for this stock.

Table 1 Flounder in subdivisions 24 and 25. State of the stock and fishery relative to reference points. The status evaluation is based on reference point proxies (ICES, 2019).

		Fishing pressure			Stock size				
		2016	2017	2018	2016	2017	2018		
Maximum sustainable yield	F _{MSY} proxy	✓	✓	✓ Below	MSY	?	?	?	Undefined
Precautionary approach	F _{pa} , F _{lim}	✓	✓	✓ Below possible reference points	B _{pa} , B _{lim}	?	?	?	Undefined
Management plan	F _{MGT}	–	–	– Not applicable	B _{MGT}	–	–	–	Not applicable
Qualitative evaluation	–	–	–	–	–	↗	↘	↘	Decreasing

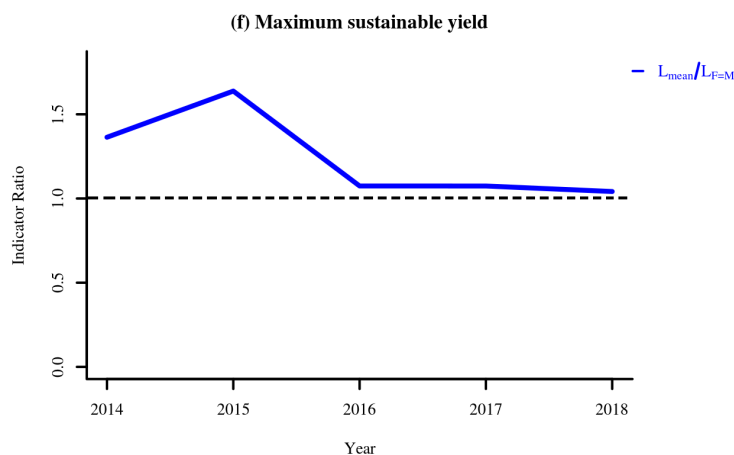


Figure 2 Flounder in subdivisions 24 and 25. Index ratio $L_{\text{mean}}/L_{F=M}$ from the length-based indicator method (LBI; ICES, 2018a, 2019) used for the evaluation of the exploitation status. The exploitation status is below the F_{MSY} proxy when the index ratio value is higher than 1.

Catch scenarios

ICES has been requested to provide information on stock status but has not been requested to provide advice on fishing opportunities for this stock.

Basis of the advice

ICES has not been requested to provide advice on fishing opportunities for this stock.

Table 2 Flounder in subdivisions 24 and 25. The basis of the advice.

Advice basis	Precautionary approach
Management plan	The EU Multiannual Plan for the Baltic Sea (MAP; EU, 2016) takes bycatch of this species into account.

Quality of the assessment

The length based indicator method (ICES, 2018b), based on catch and survey data, was used to assess the stock status in terms of fishing pressure. The discard ratio in both subdivisions varies between countries, gear types, and quarters. Discarding practices are controlled by factors such as market price and cod catches. The length sampling from the fishery is considered adequate to provide a reliable length based indicator of flounder exploitation.

There are two flounder species in this area. According to survey data from years 2014 and 2015, the share of *Platichthys flesus* and the newly described species (*Platichthys solemdali*; Momigliano *et al.*, 2018) was estimated to be approximately 84% *P. flesus* and 16% *P. solemdali* in subdivision 24–25 (Ojaveer *et al.*, 2017). It is not possible at this stage to separate the proportion of this species in either stock assessment or fisheries. If the populations of these species (measured together in this advice) develop differently, this would undermine the accuracy of this advice.

Issues relevant for the advice

Catches are mainly taken as bycatch. This stock is currently not regulated by a TAC.

Reference points

Table 3 Flounder in subdivisions 24 and 25. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{trigger_proxy}$	Not defined		
	F_{MSY_proxy}	25.4 cm	Length-based indicator (LBI); expected mean length of catch (above the length at first catch) when $F = M$.	ICES (2019)
Precautionary approach	B_{lim}	Not defined		
	B_{pa}	Not defined		
	F_{lim}	Not defined		
	F_{pa}	Not defined		
Management plan	SSB_{mgt}	Not defined		
	F_{mgt}	Not defined		

Basis of the assessment

Table 4 Flounder in subdivisions 24 and 25. Available data and approaches for the assessment are described below; ICES has not, however, been requested to provide advice on fishing opportunities for this stock in 2019.

ICES stock data category	3 (ICES, 2018b).
Assessment type	Survey trends based assessment (ICES, 2019).
Input data	Commercial catches and survey data from the Baltic International Trawl Survey (BITS – Q1 and Q4).
Discards and bycatch	Discard numbers are used in the advice.
Indicators	A length-based indicator method (LBI; ICES, 2018a) using catch data from commercial sampling and the biological parameters of the BITS to assess the stock status.
Other information	This stock was benchmarked in 2014 (WKBALFLAT; ICES, 2014).
Working group	Baltic Fisheries Assessment Working Group (WGBFAS)

Information from stakeholders

There is no available information.

History of the advice, catch, and management

Table 5 Flounder in subdivisions (SDs) 24 and 25. ICES advice, landings, and catch estimates. All weights are in tonnes.

Year	ICES advice*	Predicted landings corresponding to advice *	Agreed TAC	Landings (ICES estimates) SDs 22–32	Landings (ICES estimates) SDs 24–25	Catches (ICES estimates) SDs 24–25
2000	No advice	-	-	14 500	8288	
2001	No advice	-	-	17 600	10 464	
2002	No advice	-	-	19 400	12 982	
2003	No advice	-	-	15 200	9360	
2004	No advice	-	-	18 200	11 370	
2005	No advice	-	-	20 100	12 696	
2006	No advice	-	-	17 200	10 852	
2007	No advice	-	-	19 300	11 891	
2008	No advice	-	-	16 800	10 411	
2009	No advice	-	-	15 100	10 227	
2010	No advice	-	-	16 200	11 348	
2011	No advice	-	-	15 200	10 610	
2012	No advice	-	-	15 800	10 430	
2013	Catches should be reduced by 5%	< 15 100	-	21 100	14 318	
2014	Landings should be reduced by 15%	< 13 500	-	20 600	14 612	20 154

Year	ICES advice*	Predicted landings corresponding to advice *	Agreed TAC	Landings (ICES estimates) SDs 22–32	Landings (ICES estimates) SDs 24–25	Catches (ICES estimates) SDs 24–25
2015	Landings should not increase more than 20%	< 17 182	-	16 800	11 090	17 055
2016	Precautionary approach (≤ 20% increase)	≤ 28 908	-	20 200	14 637	19 780
2017	Precautionary approach (≤ 20% increase)	≤ 34 690**	-	16 070	10 855	17 055
2018	Precautionary approach (≤ 20% increase relative to advised catch for 2017)	≤ 41 628**	-	17 199	12 788	19 107
2019	Precautionary approach (≤ 20% increase relative to advised catch for 2017)	≤ 41 628**	-			
2020	No catch advice requested	-	-			
2021	No catch advice requested	-	-			
2022	No catch advice requested	-	-			

* Advice prior to 2015 was for flounder in subdivisions 22–32.

** Catch advice.

History of the catch and landings

Table 6 Flounder in subdivisions 24 and 25. Catch distribution by fleet in 2018 as estimated by ICES.

Catch (2018)	Landings		Discards
	Active gears 73%	Passive gears 27%	
19 107 tonnes	12 788 tonnes		6318 tonnes

Table 7 Flounder in subdivisions (SDs) 24 and 25. History of commercial landings; the official values are presented by area for each country participating in the fishery. All weights are in tonnes.

Year	Denmark			Estonia			Finland			Germany			Latvia			Lithuania			Poland			Sweden			Total				
	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SDs 24-25				
1973			386								3144													1580			502	5612	
1974			2578								2139														1635			470	6822
1975			1678								1876														1871			400	5825
1976			482								2459														1549			400	4890
1977			389								3808														2071			416	6684
1978			415								2573														996			346	4330
1979			405								2512														1230			315	4462
1980			286								2776														1613			62	4737
1981			548								2596														1151			51	4346
1982			257								3203														2484			55	5999
1983			450								3573														1828			180	6031
1984			306								2720														2471			45	5542
1985			649								3257														2063			40	6009
1986			1558								2848														3030			51	7487
1987			1007								2107														2530			43	5687
1988			990								2986														1728			58	5762
1989			1062								3618														1896			56	6632
1990			1389								1632														1617			120	4758
1991			1497								1814														2008			55	5374
1992			975								1972														1877			129	4953
1993			635								1230														3276			90	5231
1994			1016								4262														3177			38	8493
1995			2110			8					2825														7437			214	12 594
1996			2306					1			1322														6069			819	10 517
1997			2452			15		1			1982														3877			370	8697
1998			2393			10		2			1729			2											4215			236	8587
1999			1206			8					1825														4015			111	7165
2000	825	923	1748				14	4	18	1809	171	1979							605	3765	4370	49	123	172					8288

Year	Denmark			Estonia			Finland			Germany			Latvia			Lithuania			Poland			Sweden			Total
	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SD 24	SD 25	SDs 24-25	SDs 24-25
2001	1026	1976	3002				9	68	77	1468	299	1766							531	4962	5493	30	95	125	10 464
2002	995	1877	2872				5	34	39	1910	154	2064							1288	6577	7865	30	111	141	12 982
2003	750	1052	1802				2	7	8	1165	389	1553							758	5087	5845	45	106	152	9360
2004	1114	1753	2866							1307	275	1582	1	6	7				1177	5633	6810	19	86	105	11 370
2005	853	1445	2298				1	2	3	881	43	924	2		2				2194	7192	9386	26	58	84	12 696
2006	513	1518	2031				2	3	5	973	7	979		11	11				1782	5959	7741	23	61	84	10 852
2007	620	623	1243				2	8	10	1455	215	1670	8	7	15		11	11	3016	5840	8856	27	59	86	11 891
2008	422	313	736							1601	238	1840		74	74		4	4	2094	5569	7663	29	66	95	10 410
2009	325	199	524				41		41	1175	29	1204		155	155		31	31	2378	5802	8180	27	65	92	10 227
2010	333	368	701		16	16	13	2	16	953	31	983		31	31		19	19	1833	7665	9498	21	64	85	11 348
2011	310	226	536		20	20	3	2	5	1529	147	1676		39	39		15	15	1567	6666	8233	26	60	86	10 610
2012	290	250	540		19	19	20	17	36	904	151	1055		8	8		24	24	1331	7325	8657	23	67	90	10 430
2013	572	1889	2460		10	10	1	9	10	771	332	1103	4	76	80		54	54	2104	8118	10 222	35	344	379	14 318
2014	349	1324	1673		83	83		0	0	751	212	963	3	288	291		74	74	1537	9821	11 358	22	146	168	14 610
2015	169	1614	1783		39	39	1	4	4	635	181	815	2	6	8		7	7	1122	7247	8370	24	40	64	11 090
2016	135	84	219	0	0	0	2	0	2	630	246	876	0	81	81	0	9	9	2238	11 157	13 395	16	41	56	14 637
2017	97	112	209	0	0	0	1	0	1	619	423	1042	0	2	2	0	2	2	2143	7383	9525	5	68	73	10 855
2018	133	623	756	0	0	0	0	0	0	650	243	893	0	119	119	0	61	61	1740	9123	10 863	6	90	96	12 788

Summary of the assessment

Table 8 Flounder in subdivisions 24 and 25. Assessment summary. Total landings and discards (tonnes, t) and stock size indicator (kg h⁻¹). The stock size indicator is a combined biomass index of flounder equal to or larger than 20 cm, from the Baltic International Trawl Survey (BITS – Q1 and Q4). The individual indices are weighted averages per depth stratum area and the two indices are combined using the geometric mean. Weights are in tonnes.

Year	Stock size indicator (kg h ⁻¹)	Landings (t)	Discards (t)
2001	30.88	10 464	
2002	58.43	12 982	
2003	31.94	9360	
2004	41.31	11 370	
2005	43.87	12 696	
2006	60.20	10 852	
2007	45.02	11 891	
2008	86.72	10 411	
2009	87.14	10 227	
2010	107.70	11 348	
2011	73.64	10 610	
2012	94.31	10 430	
2013	117.37	14 318	
2014	138.20	14 612	5542
2015	171.31	11 090	5965
2016	209.52	14 622	5143
2017	196.40	10 855	6201
2018	116.24	12 788	6318

Sources and references

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