

8.3.7 Flounder (*Platichthys flesus*) in subdivisions 22 and 23 (Belt Seas and the Sound)

ICES stock advice

ICES advises that when the precautionary approach is applied, catches in 2017 should be no more than 3650 tonnes. If discard rates do not change from the 2015 rate, this implies landings of no more than 2847 tonnes.

Stock development over time

The stock size indicator from surveys (biomass index) has increased strongly since 2009.

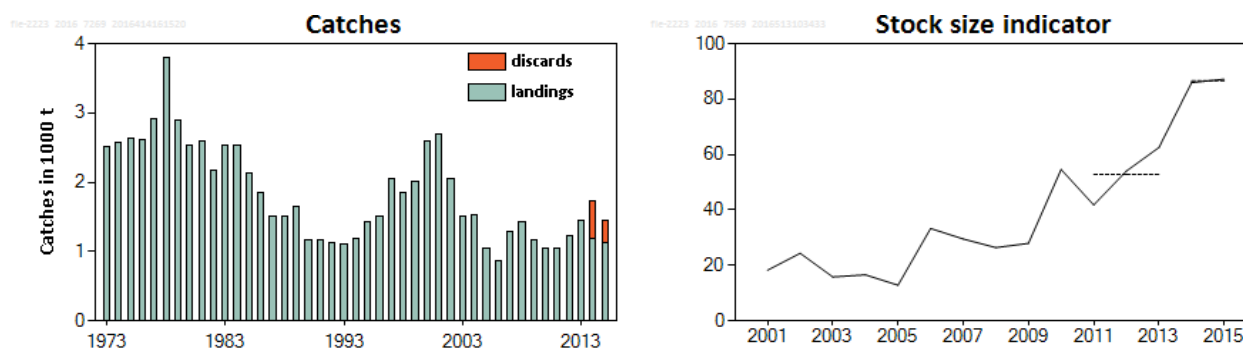


Figure 8.3.7.1 Flounder in subdivisions 22 and 23. Left: ICES landings and ICES estimates of discards in thousand tonnes. Discard data have only been included since 2014. Right: Combined biomass index from the 1st and 4th quarters (kg hour^{-1} ; geometric mean of the weighted average per depth stratum area) of fish equal to or larger than 20 cm, from the Baltic International Trawl Survey (BITS–Q1+Q4). Dashed lines denote the average cpue of the respective year range.

Stock and exploitation status

Table 8.3.7.1 Flounder in subdivisions 22 and 23. 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}	?	?	?	Unknown	$MSY B_{trigger}$?	?	?
Precautionary approach	F_{pa}, F_{lim}	?	?	?	Unknown	B_{pa}, B_{lim}	?	?	?
Management plan	F_{MGT}	-	-	-	Not applicable	SSB_{MGT}	-	-	-
Qualitative evaluation	-	→	→	→	Stable	-	↗	↗	→

Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). The Baltic International Trawl Survey (BITS–Q1+Q4) is used as the 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 to calculate the catch advice. The stock status relative to candidate reference points is unknown. The stock size indicator has increased more than threefold in the last decade and the exploitation on the stock is considered to be stable (Figure 8.3.7.2); therefore, no additional precautionary buffer was applied. Discarding is known to take place and the discard rate has been estimated for 2015.

Table 8.3.7.2 Flounder in subdivisions 22 and 23. For stocks in ICES data categories 3–6, one catch option is provided.

Index A (2014, 2015)		86.5
Index B (2011, 2012, 2013)		52.1
Index ratio (A/B)		1.66
Uncertainty cap	Applied	1.2
Recent advised catch for 2016		3042 t
Discard rate (2015)		0.22
Precautionary buffer	Not applied	-
Catch advice*		3650 t
Landings corresponding to the catch advice		2847 t

* (Recent advised catch) x cap.

Basis of the advice

Table 8.3.7.3 Flounder in subdivisions 22 and 23. The basis of the advice.

Advice basis	Precautionary approach
Management plan	There is no management plan for flounder in this area. There is a proposed EU management plan for the Baltic Sea where bycatch of this species is considered. The plan has not been formally implemented.

Quality of the assessment

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. Discard estimates for 2015 were used in this year's advice because sampling coverage increased compared to the previous years.

A mistake in the stock size indicator used in 2014 and 2015 was detected and corrected this year. This, however, has no implication on the advice provided in those years.

Issues relevant for the advice

Catches are mainly taken as bycatch, and this stock is currently not regulated by a TAC.

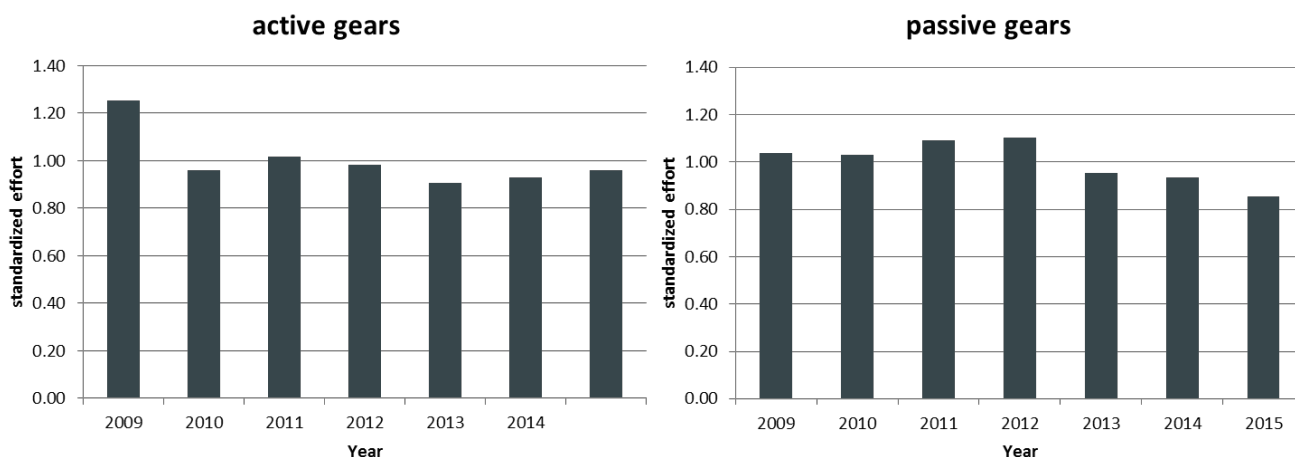


Figure 8.3.7.2 Flounder in subdivisions 22 and 23. Standardized effort for active and passive fleets in subdivisions 22 and 23 (the Belt Seas and the Sound). Standard catches (effort per strata and country divided by average effort per country) were weighted by the mean of cod landings by country.

Reference points

No reference points are defined for this stock.

Basis of the assessment

Table 8.3.7.4 Flounder in subdivisions 22 and 23. The basis of the assessment.

ICES stock data category	3 (ICES, 2016a)
Assessment type	Survey trends (ICES, 2016b)
Input data	Commercial landings and survey data from Baltic bottom trawl survey (BITS-Q1 and Q4).
Discards and bycatch	Flounder in the Belt Seas and the Sound is mostly a bycatch species in cod fisheries and mixed flatfish fisheries. Discard numbers are included in the advice.
Indicators	Fishing effort
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 8.3.7.5 Flounder in subdivisions 22 and 23. History of ICES advice, the agreed TAC, and official landings. Weights in thousand tonnes.

Year	ICES advice	Predicted landings corresp. to advice*	Agreed TAC	Landings (SDs 22–32, ICES estimates)	Landings (SDs 22–23, ICES estimates)	Catch (ICES estimates)
2000	No advice	-	-	15.0	2.60	
2001	No advice	-	-	18.1	2.54	
2002	No advice	-	-	19.4	1.85	
2003	No advice	-	-	15.1	1.34	
2004	No advice	-	-	17.4	1.30	
2005	No advice	-	-	19.6	1.04	
2006	No advice	-	-	16.6	0.87	
2007	No advice	-	-	19.3	1.25	
2008	No advice	-	-	16.9	1.43	
2009	No advice	-	-	15.7	1.18	
2010	No advice	-	-	16.6	1.05	
2011	No advice	-	-	15.3	1.04	
2012	No advice	-	-	15.9	1.22	
2013	Catches should be reduced by 5%	< 15.1	-	21.1	1.45	
2014	Landings should be reduced by 15%	< 13.5	-	20.6	1.19	1.73
2015	No more than 20% landings increase	≤ 1.745	-	16.9	1.13	1.44
2016	Precautionary approach (≤ 20% increase)	≤ 3.042 **	-			
2017	Precautionary approach (≤ 20% increase)	≤ 3.650 **	-			

*Before 2015 the advice was for subdivisions 22–32.

** Advice corresponds to total catch and not landings only.

History of catch and landings

Table 8.3.7.6 Flounder in subdivisions 22 and 23. Catch distribution by fleet in 2015 as estimated by ICES.

Total catch (2015)	Landings		Discards
1443 t	trawls 57%	others 43%	314 t
	1130 t		

Table 8.3.7.7 Flounder in subdivisions 22 and 23. History of official landings by area and country. Weights in tonnes.

Year	Denmark		Germany Dem. Rep.	Germany FRG	Sweden		Total by subdivision		Total subdivisions 22–23
	Subdiv. 22	Subdiv. 23	Subdiv. 22	Subdiv. 22	Subdiv. 22	Subdiv. 23	Subdiv. 22	Subdiv. 23	
1973	1983		181	349			2513		2513
1974	2097		165	304			2566		2566
1975	1992		163	469			2624		2624
1976	2038		174	392			2604		2604
1977	1974		555	393			2922		2922
1978	2965		348	477			3790		3790
1979	2451		189	259			2899		2899
1980	2185		138	212			2535		2535
1981	1964		271	351			2586		2586
1982	1563	104	263	248			2074	104	2178
1983	1714	115	280	418			2412	115	2527
1984	1733	85	349	371			2453	85	2538
1985	1561	130	236	199			1996	130	2126
1986	1525	65	127	125			1777	65	1842
1987	1208	122	71	114			1393	122	1515
1988	1162	125	92	133			1387	125	1512
1989	1321	83	126	122			1569	83	1652
1990	941		52	183			1176		1176
1991	925			246			1171		1171
1992	713	185		227			940	185	1125
1993	649	194		235		26	884	220	1104
1994	882	181		44		84	926	265	1191
1995	859	231		286		58	1145	289	1434
1996	1041	227		189	2	58	1232	285	1517
1997	1356			655		42	2011	42	2053
1998	1372			411		61	1783	61	1844
1999	1473			510		37	1983	37	2020
2000	1896			660		41	2556	41	2597
2001	2030			458		52	2488	52	2540
2002	1490			317		42	1807	42	1849
2003	1063			241		33	1304	33	1337
2004	952			315		31	1267	31	1298
2005	725	184		94		38	819	222	1041
2006	620	182		34		30	654	212	866
2007	585	233		406		26	991	259	1250
2008	554	199		627		47	1181	246	1427
2009	505	113		521		37	1026	150	1176
2010	557	91		376		29	933	120	1053
2011	441	78		497	0.2	28	938	106	1044
2012	530	98		569		22	1099	120	1219
2013	639	83		713		19	1352	102	1454
2014	513	68		589		23	1102	91	1193
2015	361	73		679		16	1040	90	1130

Summary of the assessment

Table 8.3.7.8 Flounder in subdivisions 22 and 23. Total landings (tonnes) and biomass index (weighted average per depth stratum area, kg hour⁻¹) of fish equal to or larger than 20 cm from BITS for the 1st quarter, 4th quarter, and combined (geometric mean).

Year	Landings	BITS Q1	BITS Q4	Combined survey index
2001	2540	36.4	9.2	18.27
2002	1849	25.5	23.3	24.40
2003	1337	22.5	11.2	15.84
2004	1298	38.9	7.1	16.60
2005	1041	51.6	3.2	12.87
2006	866	52.1	21.3	33.35
2007	1250	50.2	17.4	29.53
2008	1427	41.2	16.9	26.43
2009	1176	33.0	23.7	27.96
2010	1053	53.2	56.1	54.61
2011	1044	82.6	21.1	41.80
2012	1219	83.4	35.0	54.04
2013	1454	126.6	30.9	62.55
2014	1193	89.5	82.5	85.93
2015	1130	98.6	77.1	87.17

Sources and references

ICES. 2012. ICES Implementation of Advice for Data-limited Stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM 68. 42 pp.

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ICES. 2016b. Report of the Baltic Fisheries Assessment Working Group (WGBFAS), 12–19 April 2016, ICES Headquarters, Copenhagen, Denmark. ICES CM 2016/ACOM:11.