

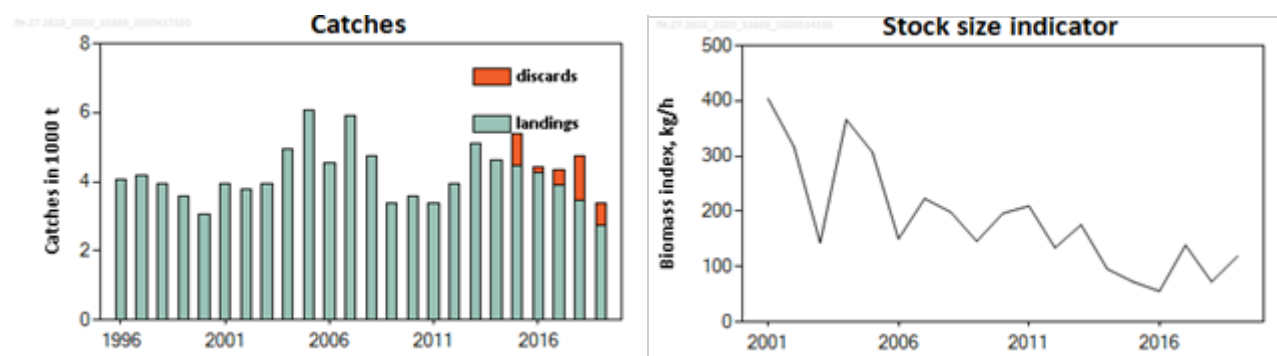
## Flounder (*Platichthys* spp.) in subdivisions 26 and 28 (east of Gotland and Gulf of Gdansk)

### ICES stock advice

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

*Note: This advice is abbreviated due to the Covid-19 disruption. The previous advice issued in 2017 is attached as Annex 1.*

### Stock development over time

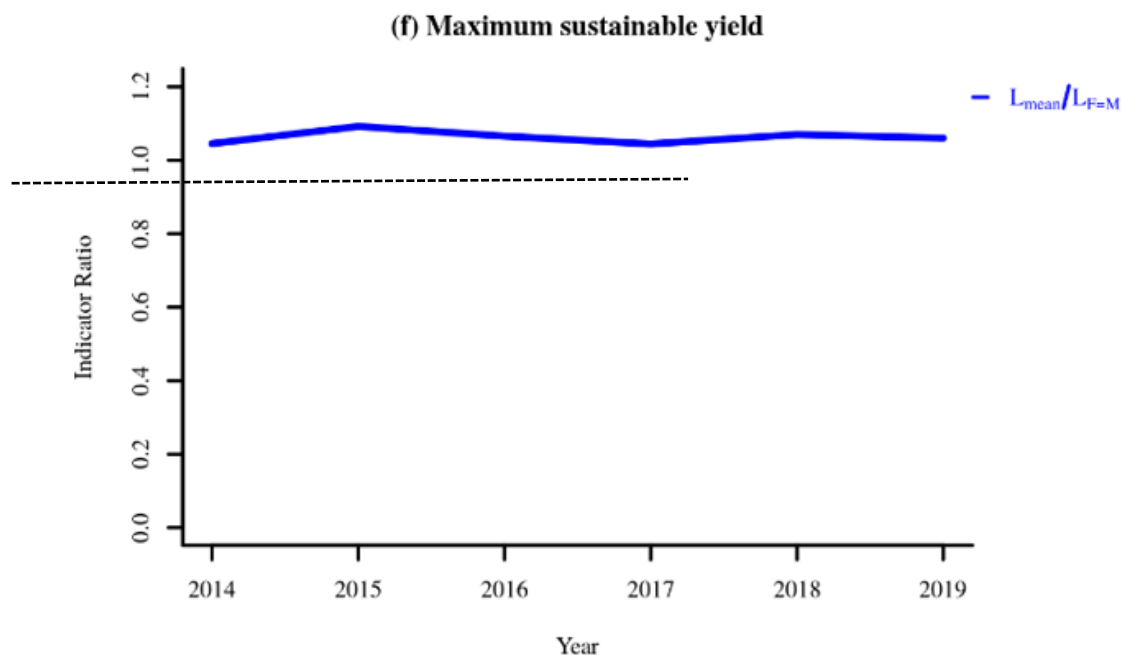


**Figure 1** Flounder in subdivisions 26 and 28. Summary of the stock assessment. Left panel: Catches (ICES estimates) in subdivisions (SDs) 26 and 28. Discard data have only been included since 2015. Right panel: Biomass index ( $\text{kg h}^{-1}$ ) of flounder equal to or larger than 20 cm, from the Baltic International Trawl Survey (BITS Q4).

### Stock and exploitation status

**Table 1** Flounder in subdivisions 26 and 28. State of the stock and the fishery relative to reference points. The status evaluation is based on reference point proxies.

		Fishing pressure			Stock size		
		2017	2018	2019	2017	2018	2019
Maximum sustainable yield	$F_{\text{MSY}}$ proxy	✓	✓	✓ Below proxy	$MSY$ $B_{\text{trigger}}$	?	? Unknown
Precautionary approach	$F_{\text{pa}}, F_{\text{lim}}$	✓	✓	✓ Below possible reference points	$B_{\text{pa}}, B_{\text{lim}}$	?	? Unknown
Management plan	$F_{\text{MGT}}$	—	—	— Not applicable	$B_{\text{MGT}}$	—	— Not applicable
Qualitative evaluation	—	—	—	—	—	↗ ↘	↗ Increasing



**Figure 2** Flounder in subdivisions 26 and 28. Index ratio  $L_{\text{mean}}/L_{F=M}$  from the length-based indicator method (LBI; ICES, 2020) used for the evaluation of the exploitation status. The exploitation status is below the  $F_{\text{MSY}}$  proxy when the index ratio value is higher than 1.

### Catch scenarios

ICES has been requested to provide information on the status of the stock; however, it has not been requested to provide advice on fishing opportunities for this stock.

### Quality of the assessment

Two flounder species occur in the Baltic Sea, both of which are present in the management area. Through studies of survey data from 2014 and 2015, the shares of offshore spawning *Platichthys flesus* and the newly described coastal spawning species *Platichthys solemdali* in this management area were estimated at approximately 45% and 55%, respectively. However, it is not possible at this stage to separate the proportion of this species in either stock assessment or fisheries. Abundance index and LBI reference points were calculated from data from BITS Quarter 4 when the two species are mixing. Assuming that both species have the same life history parameters, the advice is considered to be representative for both flounder species.

### History of the advice, catch, and management

**Table 2** Flounder in subdivisions 26 and 28. ICES advice and official landings. All weights are in tonnes.

Year	ICES advice*	Catches corresponding to advice*	Agreed TAC	ICES estimated landings SDs 22–32	ICES estimated landings SDs 26 and 28	ICES estimated catch SDs 26 and 28
2000	No advice	-	-	14900	3049	
2001	No advice	-	-	17600	3941	
2002	No advice	-	-	19400	3798	
2003	No advice	-	-	15200	3929	
2004	No advice	-	-	18200	4943	
2005	No advice	-	-	20100	6058	
2006	No advice	-	-	17200	4524	
2007	No advice	-	-	19400	5905	
2008	No advice	-	-	16800	4727	
2009	No advice	-	-	15100	3398	

Year	ICES advice*	Catches corresponding to advice*	Agreed TAC	ICES estimated landings SDs 22–32	ICES estimated landings SDs 26 and 28	ICES estimated catch SDs 26 and 28
2010	No advice	-	-	16200	3577	
2011	No advice	-	-	15300	3387	
2012	Reduce catches	-		15900	3959	
2013	Catches should be reduced by 5%	< 15100**		21100	5089	
2014	Landings should be reduced by 15%	< 13500**		20600	4614	
2015	Landings should be reduced by 36%	< 3257**		16800	4443	5388
2016	Precautionary approach (≥ 20% decrease)	≤ 2606**		20200	4252	4443
2017	Precautionary approach (≥ 20% decrease)	≤ 2527		16070	3908	4325
2018	Precautionary approach (≥ 36% decrease relative to the advised catch for 2017)	≤ 1617		17199	3475	4734
2019	Precautionary approach (≥ 36% decrease relative to the advised catch for 2017)	≤ 1617		15790	2740	3390
2020	No advice requested					
2021	No catch advice requested					

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

\*\* Landings corresponding to the advice.

## Summary of the assessment

**Table 3** Flounder in subdivisions 26 and 28. Total catch (tonnes) and stock-size indicator. The stock-size indicator is a biomass index of flounder equal to or larger than 20 cm, from the Baltic International Trawl Survey (BITS–Q4). The index is weighted averages per depth stratum area.

Year	Stock-size indicator (kg h <sup>-1</sup> )	Landings (tonnes)	Discards (tonnes)
1996		4043	
1997		4175	
1998		3940	
1999		3590	
2000		3049	
2001	404	3941	
2002	317	3798	
2003	143	3929	
2004	366	4943	
2005	307	6058	
2006	150	4524	
2007	223	5905	
2008	199	4727	
2009	146	3398	
2010	196	3577	
2011	210	3387	
2012	134	3959	
2013	176	5089	
2014	96	4614	
2015	72	4443	945
2016	56	4252	191
2017	139	3908	417
2018	73	3475	1259
2019	119	2740	650

## Sources and references

ICES. 2020. Baltic Fisheries Assessment Working Group (WGBFAS). ICES Scientific Reports. 2:45.

<http://doi.org/10.17895/ices.pub.6024>

*Recommended citation:* ICES. 2020. Flounder (*Platichthys* spp.) in subdivisions 26 and 28 (east of Gotland and Gulf of Gdansk). In Report of the ICES Advisory Committee, 2020. ICES Advice 2020, bwq.27.2628.

<https://doi.org/10.17895/ices.advice.5770>.

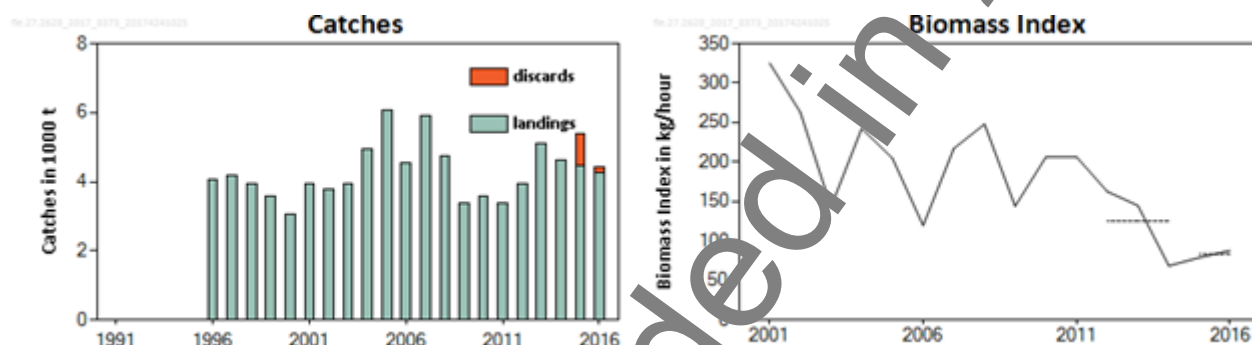
## Flounder (*Platichthys flesus*) in subdivisions 26 and 28 (east of Gotland and Gulf of Gdansk)

### ICES stock advice

ICES advises that when the precautionary approach is applied, catches in each of the years 2018 and 2019 should be no more than 1617 tonnes. If discard rates do not change from the average of the last two years (2015–2016), this implies landings of no more than 1439 tonnes.

### Stock development over time

The stock size indicator from surveys has decreased since 2012 and has been stable in the last three years.



**Figure 1** Flounder in subdivisions 26 and 28. Summary of the stock assessment. Left panel: Catches (ICES estimates) in subdivisions (SDs) 26 and 28. Discard data have only been included since 2015. Right panel: Combined biomass index (kg per hour) of flounder equal to or larger than 20 cm, from the Baltic International Trawl Survey (BITS-Q1 and Q4). The dashed lines indicate the average biomass index of the respective year range.

### Stock and exploitation status

**Table 1** Flounder in subdivisions 26 and 28. State of the stock and fishery relative to reference points.

		Fishing pressure			Stock size					
		2014	2015	2016			2014	2015	2016	
Maximum sustainable yield	$F_{MSY}$	?	?	?	Undefined	MSY	?	?	?	Undefined
Precautionary approach	$F_{pa}$ , $F_{lim}$	?	?	?	Undefined	$B_{pa}$ , $B_{lim}$	?	?	?	Undefined
Management plan	$F_{MGT}$	-	-	-	Not applicable	$SSB_{MGT}$	-	-	-	Not applicable
Qualitative evaluation	-	↘	→	↗	Increasing	-	↘	→	→	Stable

### Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). The Baltic International Trawl Survey (BITS-Q1 and Q4) was 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 decreased 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 precautionary buffer was last applied in 2014. Because there is no information on stock size or fishing pressure, and the stock size indicator has showed a marked decline over the last decade, the precautionary buffer was applied again in 2017. Discarding is known to take place and the discard rate has been estimated based on 2015–2016 data.

**Table 2** Flounder in subdivisions 26 and 28. The basis for the catch options.\*

Index A (2015, 2016)		85 kg h <sup>-1</sup>
Index B (2012, 2013, 2014)		131 kg h <sup>-1</sup>
Index ratio (A/B)		0.65
Uncertainty cap	Applied	0.8
Advised catch for 2017		2 527 tonnes
Discard rate (2015,2016)		0.110
Precautionary buffer	Applied	0.8
Catch advice**		1 617 tonnes
Landings corresponding to the catch advice***		1 439 tonnes

\* 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.

\*\* (advice for 2017 × uncertainty cap) × precautionary buffer.

\*\*\* (catch advice) × (1 – discard ratio).

### Basis of the advice

**Table 3** Flounder in subdivisions 26 and 28. The basis of the advice

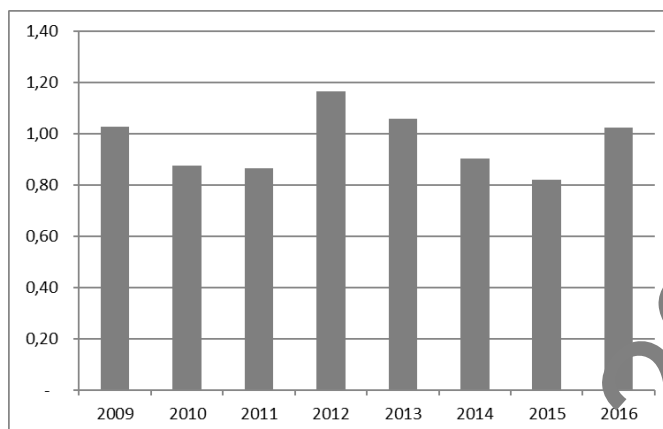
Advice basis	Precautionary approach.
Management plan	Bycatch of this species is taken into account in the EU Multiannual Plan for the Baltic Sea ( <a href="#">EU, 2016</a> ).

### Quality of the assessment

The discard ratio in both subdivisions varies between countries, fleets, vessels, and even individual hauls of the same vessel and trip. Discard estimates from the last two years (2015–2016) were used in this year's advice.

### Issues relevant for the advice

Catches are mainly taken as bycatch, while specialized flounder fishery was observed in Latvia, Russia, and Lithuania. This stock is currently not regulated by a TAC. Fishing effort data (days at sea) fluctuated without any trend (Figure 2).



**Figure 2** Flounder in subdivisions 26 and 28. Standardized fishing effort (days at sea) weighted by the mean of demersal fish landings by country. Includes only those countries that have flounder landings.

### Reference points

No reference points are defined for this stock. An attempt was made this year to calculate MSY proxy reference points for the stock. However, there were concerns on the quality of the input parameters for the analysis and further investigation is needed (ICES, 2017).

### Basis of the assessment

**Table 4** Flounder in subdivisions 26 and 28. Basis of assessment and advice.

ICES stock data category	3 (ICES, 2016).
Assessment type	Survey trends (ICES, 2017).
Input data	Commercial landings and survey data from the Baltic International Trawl Survey (BITS–Q1 and Q4).
Discards and bycatch	2015 and 2016 discard rates are used in the advice.
Indicators	Commercial 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 5** Flounder in subdivisions 26 and 28. ICES advice and official landings. All weights are in tonnes.

Year	ICES advice*	Predicted landings corresp. to advice	Agreed TAC	ICES estimated landings SDs 22–32	ICES estimated landings SDs 26 and 28	ICES estimated catch
2000	No advice	-	-	14900	3049	
2001	No advice	-	-	17600	3941	
2002	No advice	-	-	19400	3798	
2003	No advice	-	-	15200	3929	
2004	No advice	-	-	18200	4943	
2005	No advice	-	-	20100	6058	
2006	No advice	-	-	17200	4524	
2007	No advice	-	-	19400	5905	

Year	ICES advice*	Predicted landings corresp. to advice	Agreed TAC	ICES estimated landings SDs 22–32	ICES estimated landings SDs 26 and 28	ICES estimated catch
2008	No advice	-	-	16800	1727	
2009	No advice	-	-	15100	3098	
2010	No advice	-	-	16200	3571	
2011	No advice	-	-	15300	3387	
2012	Reduce catches	-	-	15900	3959	
2013	Catches should be reduced by 5%	< 15100*		21100	5089	
2014	Landings should be reduced by 15%	< 13500*		20600	4614	
2015	Landings should be reduced by 36%	< 3257		16000	4443	5388
2016	Precautionary approach (≥ 20% decrease)	≤ 2606		20200	4252	4443
2017	Precautionary approach (≥ 20% decrease)**	≤ 2527				
2018	Precautionary approach (≥ 36% decrease relative to the advised catch for 2017)**	≤ 1617				
2019	Precautionary approach (≥ 36% decrease relative to the advised catch for 2017)**	≤ 1617				

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

\*\* For 2017, 2018, and 2019 catch advice is given.

## History of the catch and landings

**Table 6** Flounder in subdivisions 26 and 28. Catch distribution by gear in 2016 as estimated by ICES.

Catch (2016)	Landings		Discards
4442 tonnes	Active gears (80%)	Passive gears (20%)	191 tonnes
	4251 tonnes		

**Table 7** Flounder in subdivisions 26 and 28. History of commercial landings; both the official and ICES estimated values are presented by area for each country participating in the fishery. All weights are in tonnes.

Year	Denmark	Finland	Germany	Poland	Sweden	Estonia	Latvia	Lithuania	Russia	Total
1996	0	0	19	7556	79	44	289	316	740	4043
1997	10	0	16	7730	401	101	362	554	1001	4175
1998	0	0	2	1370	135	146	362	737	1188	3940
1999	0	0	0	1435	47	92	505	547	964	3590
2000	9	0	0	721	28	65	415	575	1236	3049
2001	15	0	0	548	182	100	613	1127	1355	3941
2002	42	0	0	626	52	91	596	1077	1314	3798
2003	1	0	0	648	17	122	673	1066	1402	3929
2004	1	0	0	1955	18	89	769	834	1277	4943
2005	0	0	0	1743	124	133	1716	949	1393	6058
2006	4	0	0	1675	22	83	1155	355	1231	4524
2007	2	0	0	1829	20	92	1043	268	2650	5905
2008	0	0	0	1451	19	91	577	629	1960	4727
2009	0	0	0	1472	17	77	364	499	969	3398
2010	0	0	0	1727	15	93	250	462	1030	3577
2011	0	1	0	1437	20	89	280	418	1139	3387
2012	0	10	0	1501	14	81	622	651	1079	3959
2013	2	8	0	1581	45	76	1399	949	1010	5089
2014	1	0	0	1210	0	79	1578	698	1047	4614
2015	0	0	0	981	18	55	2025	258	1106	4443
2016	0	0	1	912	16	52	1843	295	1133	4252

## Summary of the assessment

**Table 8** Flounder in subdivisions 26 and 28. Total landings (tonnes) and stock size indicator. 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.

Year	Biomass index kg h <sup>-1</sup>	Landings tonnes	Discards tonnes
1996		4043	
1997		4175	
1998		3941	
1999		3590	
2000		3041	
2001	336	3941	
2002	275	3798	
2003	151	3929	
2004	231	4943	
2005	199	6058	
2006	125	4524	
2007	231	5905	
2008	256	4727	
2009	153	3398	
2010	218	3577	
2011	220	3387	
2012	169	3959	
2013	153	5089	
2014	72 <sup>†</sup>	4614	
2015	84	4443	945
2016	85	4252	191
<b>Average</b>	<b>85</b>	<b>4254</b>	<b>568</b>

## Sources and references

EU. 2016. Regulation (EU) 2016/1139 of the European Parliament and of the Council of 6 July 2016 establishing a multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks, amending Council Regulation (EC) No 2187/2005 and repealing Council Regulation (EC) No 1098/2007. Official Journal of the European Union, L 191/1. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R1139&rid=1>.

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<sup>†</sup> Version 2: Values corrected.