

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.

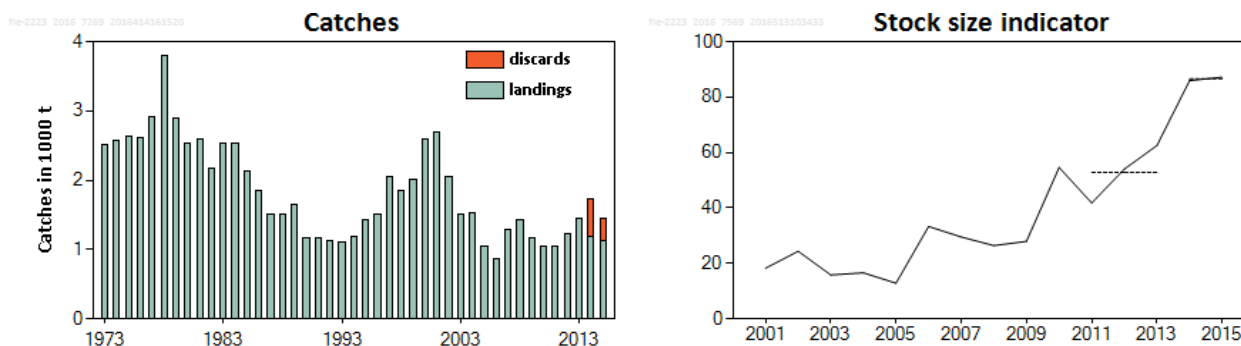


Figure 8.3.7.1 Flounder in subdivisions 22 and 23. Left: ICES landings and ICES estimates of discards in thousand tonnes. Discard data have only been included since 2014. Right: Combined biomass index from the 1st and 4th quarters (kg hour^{-1} ; geometric mean of the weighted average per depth stratum 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 | $MSY B_{trigger}$ | ? | ? | ? | Unknown |
| Precautionary approach | F_{pa}, F_{lim} | ? | ? | ? | Unknown | B_{pa}, B_{lim} | ? | ? | ? | Unknown |
| Management plan | F_{MGT} | - | - | - | Not applicable | SSB_{MGT} | - | - | - | Not applicable |
| Qualitative evaluation | - | → | → | → | Stable | - | ↗ | ↗ | → | 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.

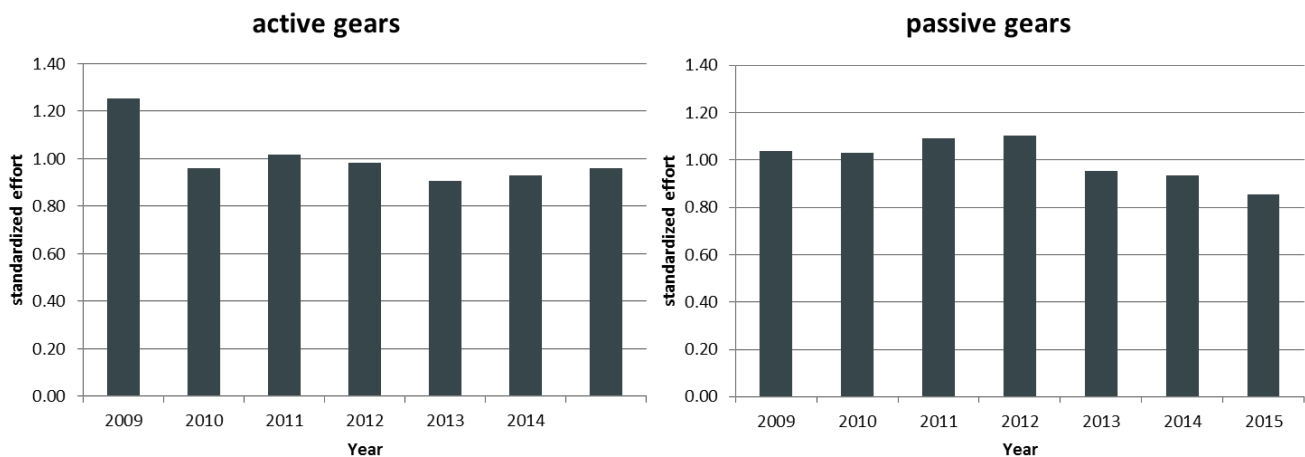


Figure 8.3.7.2 Flounder in subdivisions 22 and 23. Standardized effort for active and passive fleets in subdivisions 22 and 23 (the Belt Seas and the Sound). Standard catches (effort per strata and country divided by average effort per country) were weighted by the mean of cod landings by country.

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

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