

8.3.19 Turbot (*Scophthalmus maximus*) in Subdivisions 22–32 (Baltic Sea)

ICES stock advice

ICES advises that when the precautionary approach is applied, landings in 2016 should be no more than 198 tonnes. ICES cannot quantify the corresponding total catches.

Stock development over time

The average stock size indicator (number hour⁻¹) in the last two years (2013–2014) is 10% lower than the abundance indices in the three previous years (2010–2012).

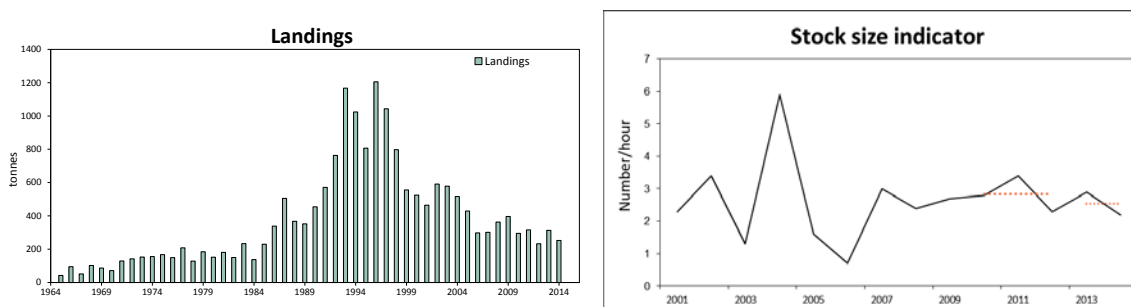


Figure 8.3.19.1 Turbot in Subdivisions 22–32. ICES estimates of landings (in tonnes, left panel). Combined 1st and 4th quarters cpue (number hour⁻¹; weighted average per depth stratum area) of fish equal to or larger than 20 cm, from the Baltic International Trawl Survey (BITS–Q1+Q4) in Subdivisions (SDs) 22–28.

Stock and exploitation status

Table 8.3.19.1 Turbot in Subdivisions 22–32. State of the stock and fishery, relative to reference points.

		Fishing pressure			Stock size					
		2012	2013	2014	2012	2013	2014			
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	-	→	→	→	Stable	-	→	→	→	Stable

Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). The Baltic International Trawl Survey (BITS–Q1+Q4) cpue (number hour⁻¹) 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 decreased by less than 20% and thus the uncertainty cap was not applied when calculating the catch advice. The stock status relative to candidate reference points is unknown. The precautionary buffer has been applied previously (ICES, 2012) and has not been used again.

Table 8.3.19.2 Turbot in Subdivisions 22–32. For stocks in ICES data categories 3–6, one catch option is provided.

Index A (2013, 2014)		2.545
Index B (2010, 2011, 2012)		2.832
Index ratio (A/B)		0.9
Uncertainty cap	Not applied	-
Recent advised landings for 2015		220 t
Discard rate		Unknown
Precautionary buffer	Not applied	-
Landings advice *		198 t

*(recent advised landings × index ratio).

Basis of the advice

Table 8.3.19.3 Turbot in Subdivisions 22–32. The basis of the advice.

Advice basis	Precautionary approach.
Management plan	There is no management plan for turbot in this area.

Quality of the assessment

Catch data, including discards, need to be improved to get a better understanding of the state of turbot in the Baltic Sea.

The advice is based on a combined abundance index from two surveys, used as an indicator of stock size. The uncertainty associated with the index values is not available, but the index is considered uncertain due to the low catch rate in the surveys.

Issues relevant for the advice

Last year the advice was given for catch. Because the discards are this year considered substantial but still not quantified, the advice is now for landings.

Although the exploitation status is unknown, the effort in the main fisheries has decreased (STECF, 2014; Figure 8.3.19.2).

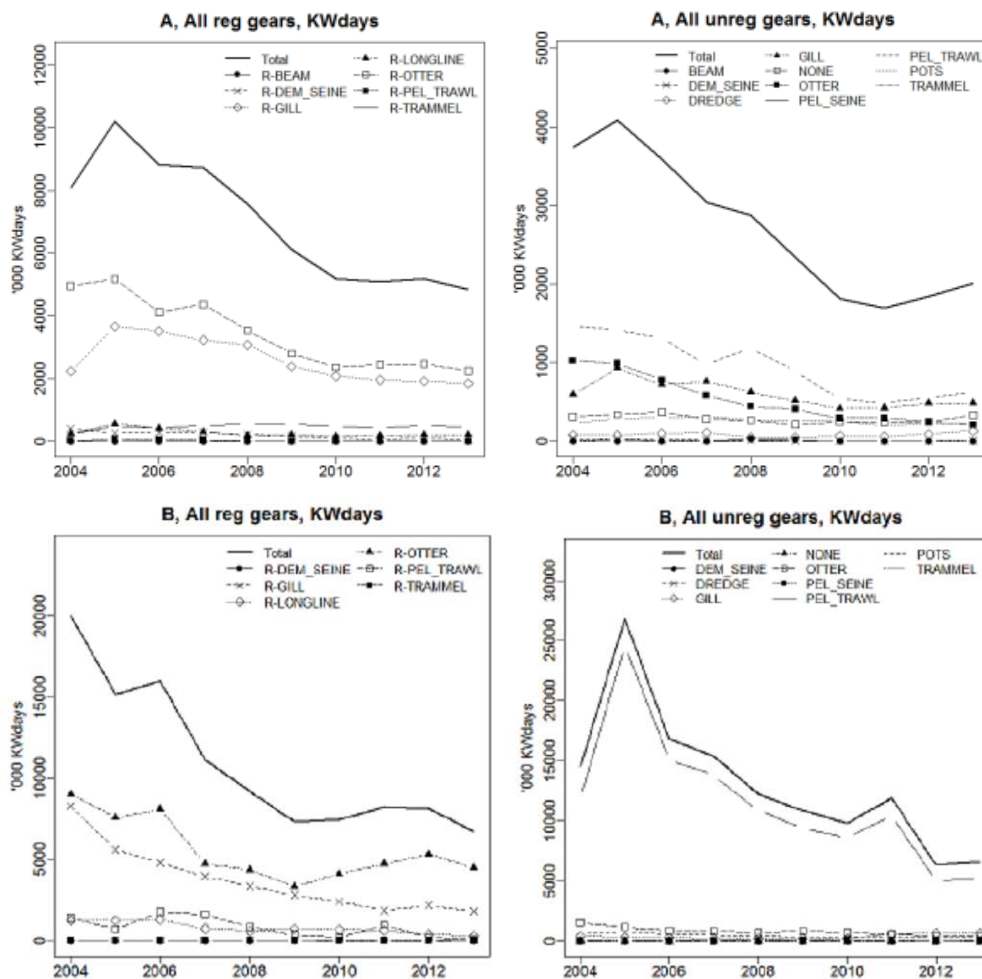


Figure 8.3.19.2 Turbot in Subdivisions 22–32. Trend in nominal effort by gear types 2004–2013 (kW × days-at-sea). Top panels: Area A, Baltic Sea. Bottom panels: Area B, Baltic Sea. Left panels: Regulated gears. Right panels: Unregulated gears. Note that data from Poland, Latvia, and Lithuania are only available from 2004, and Estonian data from 2005 onwards. Therefore, effort trends are shown from 2004 to 2013. No data were available from Finland. (Source: STECF, 2014.)

Reference points

No reference points are defined for this stock.

Basis of the assessment

Table 8.3.19.4 Turbot in Subdivisions 22–32. The basis of the assessment.

ICES stock data category	3.2.0 (ICES, 2015a).
Assessment type	Survey trends. (ICES, 2015b).
Input data	Commercial landings and survey data from Baltic International Trawl Survey (BITS Q1 + Q4).
Discards and bycatch	Discards are known to take place but cannot be quantified.
Indicators	None.
Other information	None.
Working group	Baltic Fisheries Assessment Working Group (WGBFAS).

Information from stakeholders

There is no available information.

History of advice, catch, and management

Table 8.3.19.5 Turbot in Subdivisions 22–32. History of ICES advice, the agreed TAC, and official landings. Weights in thousand tonnes.

Year	ICES advice	Predicted catches corresp. to advice	Agreed TAC	Official landings
2000	No advice	-	-	0.53
2001	No advice	-	-	0.46
2002	No advice	-	-	0.59
2003	No advice	-	-	0.58
2004	No advice	-	-	0.52
2005	No advice	-	-	0.43
2006	No advice	-	-	0.30
2007	No advice	-	-	0.30
2008	No advice	-	-	0.36
2009	No advice	-	-	0.40
2010	No advice	-	-	0.30
2011	No advice	-	-	0.32
2012	Reduce catch	-	-	0.23
2013	Reduce catches by 17% (and an additional 20%)	< 0.22	-	0.31
2014	Same advice as in 2013	< 0.22	-	0.25
2015	Same advice as last year	< 0.22	-	
2016	Precautionary approach ($\leq 10\%$ decrease in advised landings)*	≤ 0.198	-	

*In 2016 landings advice is provided.

History of catch and landings

Table 8.3.19.6 Turbot in Subdivisions 22–32. Catch distribution by fleet in 2014 as estimated by ICES.

Total catch (2014)	Landings		Discards
	Passive gears 78%	Active gears 22%	
Unknown	253.2 t		Discards are known to take place and are considered substantial but could not be quantified

Table 8.3.19.7 Turbot in Subdivisions 22–32. History of official landings, presented by area (Subdivision). Weights in tonnes.

Year	SD 22	SD 23	SD 24*	SD 25	SD 26	SD 27	SD 28(+29)	SDs 30–32	SDs 22–32 Total
1965	3		39						42
1966	21		74						95
1967	21		30						51
1968	17		85						102
1969	17		70						87
1970	16		55						71
1971	15		114						129
1972	13		129						142
1973	14		68	58	13				153
1974	16		69	34	36				155
1975	45		93	23	6				167
1976	40		83	14	12				149
1977	41		100	12	55				208
1978	44		74	7	3				128
1979	32		89	29	34				184
1980	37		83	12	20				152
1981	37		115	10	19				181
1982	39		81	6	17	4	3		150
1983	44		80	46	4	35	24		233
1984	57		56	17	2	3	2		137
1985	76		60	72	15	4	3		230
1986	130		119	40	37	7	5		338
1987	168		135	166	21	9	6		505
1988	154		157	23	10	14	9		367
1989	162		142	15	11	13	9		352
1990	208		197	24	25				454
1991	272		178	85	20	16			571
1992	322		207	92	85	21	36		763
1993	233	31	212	534	106	13	38		1167
1994	263	20	226	408	46	17	44		1024
1995	322	13	150	88	93	31	110		807
1996	244	15	157	392	236	55	107		1206
1997	211	2	126	363	188	53	100		1043
1998	182	2	139	125	239	18	93		798
1999	129	2	111	59	144	17	94		556
2000	120	2	115	129	95	16	48		525
2001	95	2	89	137	102	9	30		464
2002	93	5	56	266	135	7	29		591
2003	58	1	69	208	225	3	16		579
2004	73	1	55	241	121	3	22		516
2005	72	5	74	143	94	5	27	0	420
2006	49	6	63	126	35	4	22	0	305
2007	83	5	65	94	44	2	16	0	309
2008	103	6	70	113	39	8	17	0	356
2009	144	7	91	110	31	5	6	0	394
2010	126	7	70	58	15	4	15	0	295
2011	110	3	63	32	34	2	10	0	254
2012	59	3	46	70	45	2	7	0	234
2013	88	5	83	77	50	1	7	0	313
2014	119	5	60	39	19	2	9	0	253

*For the years 1970–1981 and 1990 the Swedish catches of Subdivisions 25–28 are included in Subdivision 24.

Landings were corrected by Poland for 2012 and 2013 and by Russia for 2000–2009.

Summary of the assessment

Table 8.3.19.8 Turbot in Subdivisions 22–32. Combined 1st and 4th quarters cpue (number hour⁻¹; weighted average per depth stratum area) from the Baltic International Trawl Survey (BITS–Q1+Q4) of fish equal to or larger than 20 cm in Subdivisions (SDs) 22–28.

Year	cpue SDs 22–28
2001	2.30
2002	3.42
2003	1.33
2004	5.91
2005	1.59
2006	0.67
2007	3.01
2008	2.35
2009	2.68
2010	2.75
2011	3.44
2012	2.28
2013	2.88
2014	2.21

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.
- ICES. 2015a. Advice basis. *In* Report of the ICES Advisory Committee, 2015. ICES Advice 2015, Book 1. In preparation.
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- STECF. 2014. Scientific, Technical and Economic Committee for Fisheries (STECF) – Evaluation of Fishing Effort Regimes in European Waters – Part 2(STECF-14-20). 2014. Publications Office of the European Union, Luxembourg, EUR 27027 EN, JRC 93183. 844 pp.