

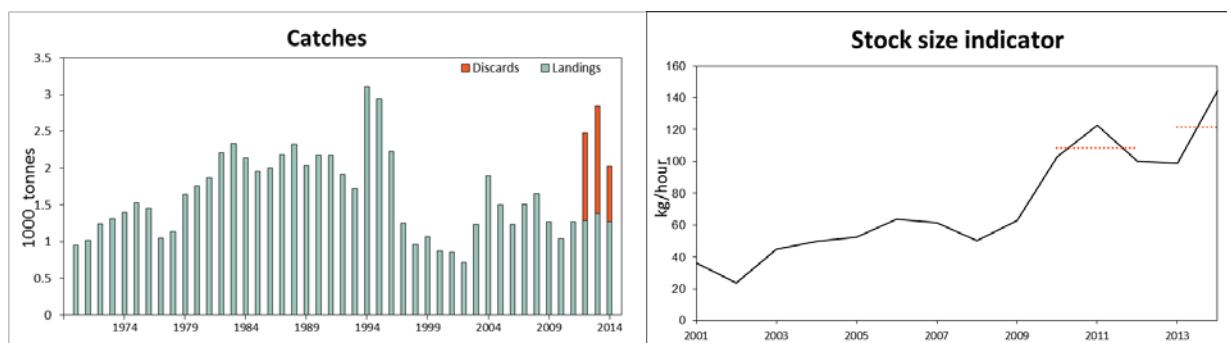
### 8.3.4 Dab (*Limanda limanda*) in Subdivisions 22–32 (Baltic Sea)

#### ICES stock advice

ICES advises that when the precautionary approach is applied, catches in 2016 should be no more than 2980 tonnes.

#### Stock development over time

The stock size indicator from surveys has increased by a factor of three since 2003.



**Figure 8.3.4.1** Dab in Subdivisions 22–32. Left: Official landings and ICES estimates of discards (in thousand tonnes). Right: Geometric mean of 1st and 4th quarters biomass index (kg hour<sup>-1</sup>) of fish  $\geq 15$  cm, from the Baltic International Trawl Survey (BITS–Q1+Q4) in Subdivisions 22, 23, and 24. Dashed lines indicate the average biomass index of the respective year range.

#### Stock and exploitation status

**Table 8.3.4.1** Dab 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	?	?	?
Precautionary approach	$F_{pa}$ , $F_{lim}$	?	?	?	Undefined	$B_{pa}$ , $B_{lim}$	?	?	?
Management Plan	$F_{MGT}$	-	-	-	Not applicable	$SSB_{MGT}$	-	-	-
Qualitative evaluation	-	→	→	→	Stable	-	↘	→	↗
									Increasing

## Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). The geometric mean of the biomass hour<sup>-1</sup> of dab larger or equal to 15 cm from the Baltic International Trawl Survey in quarters 1 and 4 (BITS–Q1+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 landings.

The stock size indicator has increased threefold since 2003; therefore, no additional precautionary buffer was applied. Discarding is known to take place. The discard ratio is variable and has been estimated based on a three-year average.

**Table 8.3.4.2** Dab in Subdivisions 22–32. For stocks in ICES data categories 3–6, one catch option is provided.

Index A (2013, 2014)		121.6
Index B (2010, 2011, 2012)		108.6
Index ratio (A/B)		1.12
Uncertainty cap	Not applied	-
Recent advised landings for 2015		1 428 t
Discard rate (mean over 2012–2014)		0.46
Precautionary buffer	Not applied	-
Catch advice*		2 980 t

\*(recent advised landings × index ratio)/(1 – discard rate).

## Basis of the advice

**Table 8.3.4.3** Dab in Subdivisions 22–32. The basis of the advice.

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

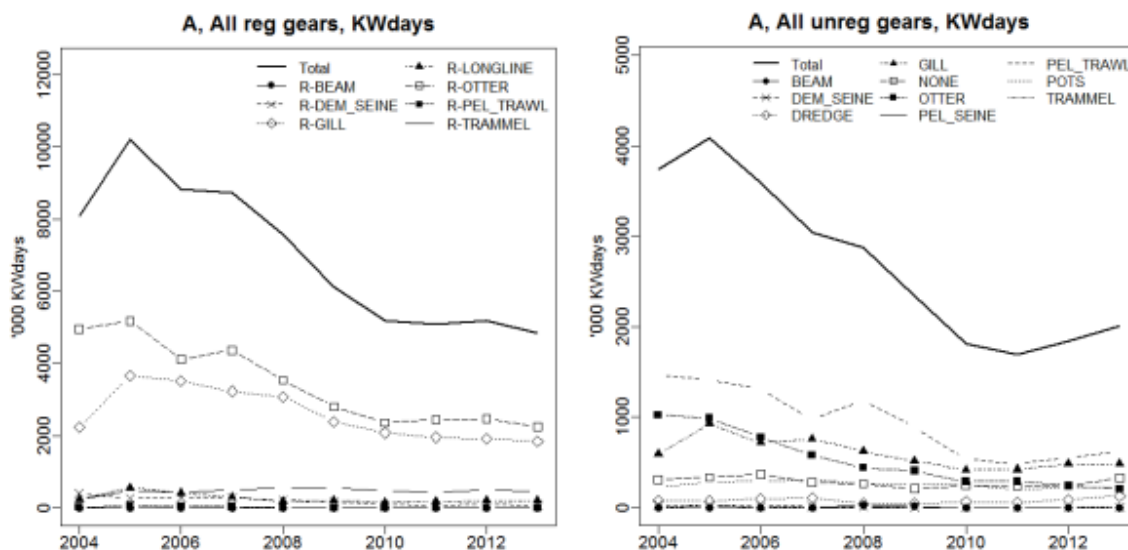
## Quality of the assessment

Information on discards is only available from 2012 onwards and indicates that discarding is substantial. This year's advice is based on catch.

Only survey data for Subdivisions 22–24 are used. These subdivisions are considered to contain the bulk of the stock.

## Issues relevant for the advice

Although the exploitation status is unknown, the effort in the main fisheries has decreased (STECF, 2014; Figure 8.3.4.2).



**Figure 8.3.4.2** Dab in Subdivisions 22–32. Area A, Baltic. Trends in nominal effort by gear types 2004–2013 (KW × days-at-sea). Left panel: Regulated gears. Right panel: 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 8.3.4.4** Dab 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 the Baltic International Trawl Survey (BITS–Q1+Q4).
Discards and bycatch	Discard data from 2012 onwards were used in the advice.
Indicators	Commercial effort (STECF, 2014).
Other information	This stock was benchmarked in 2014 (WKBALFLAT; ICES, 2014).
Working group	Baltic Fisheries Assessment Working Group ( <a href="#">WGBFAS</a> ).

### Information from stakeholders

There is no available information.

### History of advice, catch and management

**Table 8.3.4.5** Dab in Subdivisions 22–32. History of ICES advice, the agreed TAC, and official landings. Weights in thousand tonnes.

Year	ICES advice	Predicted landings corresp. to advice	Agreed TAC	Official landings
2000	No advice	-	-	0.876
2001	No advice	-	-	0.861
2002	No advice	-	-	0.715
2003	No advice	-	-	1.233
2004	No advice	-	-	1.894
2005	No advice	-	-	1.495
2006	No advice	-	-	1.228
2007	No advice	-	-	1.504
2008	No advice	-	-	1.648
2009	No advice	-	-	1.268
2010	No advice	-	-	1.041
2011	No advice	-	-	1.268
2012	Catches should not be increased	-	-	1.285
2013	No more than 20% catch increase	≤ 1.4	-	1.384
2014	No more than 20% landings increase	≤ 1.4	-	1.267
2015	Increased landings by no more than 3%	≤ 1.428	-	
2016	Precautionary approach (≤ 12% increase in catch)	≤ 2.980*	-	

\*Catch advice.

### History of catch and landings

**Table 8.3.4.6** Dab in Subdivisions 22–32. Catch distribution by fleet in 2014 as estimated by ICES.

Total catch (2014)	Landings		Discards
2 026 t	demersal trawls 88%	other gears 12%	757 t
	1 269 t		

**Table 8.3.4.7** Dab in Subdivisions 22–32. History of official landings and ICES estimates of discards and catch by area. Weights in tonnes. \*, \*\*

Year	Landings SD 22	Landings SD 23	Landings SD 24***	Landings SD 25^	Landings SD 26	Landings SD 27	Landings SD 28	Landings SD 29	Landings SD 30	Total landings SDs 22–30	Discards	Total catch
1970	930		20							950		
1971	985		26							1 011		
1972	1 182		53							1 235		
1973	1 223		88							1 311		
1974	1 314		85							1 399		
1975	1 424		106							1 530		
1976	1 369		87							1 456		
1977	991		57							1 048		
1978	1 075		69							1 144		
1979	1 554		85							1 639		
1980	1 709		49							1 758		
1981	1 789		76							1 865		
1982	2 091		98	5		8	6		1	2 209		
1983	2 164		94	20		32	22		2	2 334		
1984	2 001		118	3		5	4		1	2 132		
1985	1 832		114	3		5	3		1	1 958		
1986	1 876		122	1		1	1			2 001		
1987	1 996		185	1		1	1			2 184		
1988	2 149		168	1		1	1			2 320		
1989	1 966		69	1		2	1			2 039		
1990	2 009		166							2 175		
1991	2 071		101							2 172		
1992	1 815		87	1		1		4		1 908		
1993	1 552	7	166	1				1		1 727		
1994	2 811	5	244	46						3 106		
1995	2 695	52	177	18			1			2 943		
1996	1 907	37	265	17	2	1				2 229		
1997	1 141	5	86	12		3	1			1 248		
1998	849	7	98	5		1				960		
1999	1 003	3	64	1						1 071		
2000	824	2	49	1						876		
2001	777	4	78	2						861		
2002	675	4	36							715		
2003	1 053	1	179	< 1						1 233		
2004	1 698	1	196	< 1						1 894		
2005	1 226	35	209	25						1 495		
2006	894	24	138	172						1 228		
2007	1 332	40	126	7						1 504		
2008	1 264	39	119	223		1	2			1 648		
2009	1 108	27	129	1		1	3			1 268		
2010	950	19	69	2						1 041		
2011	1 192	21	53	1						1 268		
2012	1 173	23	89							1 287	1 189	2 476
2013	1 279	18	86	<1						1 384	1 456	2 842
2014	1 174	11	82	<1						1 269	757	2 026

\*From October to December 1990 landings of Germany Fed. Rep. are included.

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

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

^ In 1995 Danish landings of Subdivisions 25–28 are included.

## Summary of the assessment

**Table 8.3.4.8** Dab in Subdivisions 22–32. Geometric mean of Q1+Q4 biomass index ( $\text{kg hr}^{-1}$ ) fish  $\geq 15$  cm in Subdivisions 22, 23, and 24.

Year	cpue SDs 22–24
2001	36.30
2002	23.73
2003	44.91
2004	49.56
2005	52.57
2006	63.67
2007	61.37
2008	50.18
2009	62.84
2010	102.76
2011	122.74
2012	100.28
2013	99.00
2014	144.29

## Sources and references

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