

Baltic flounder (*Platichthys solemdali*) in subdivisions 27 and 29–32 (northern central and northern Baltic Sea)

ICES stock advice

ICES has not been requested to provide advice on fishing opportunities for this stock for 2023 or 2024.

Stock development over time

Fishing pressure on the stock is above the F_{MSY} proxy (Figure 2). No reference points for stock size have been defined for this stock.

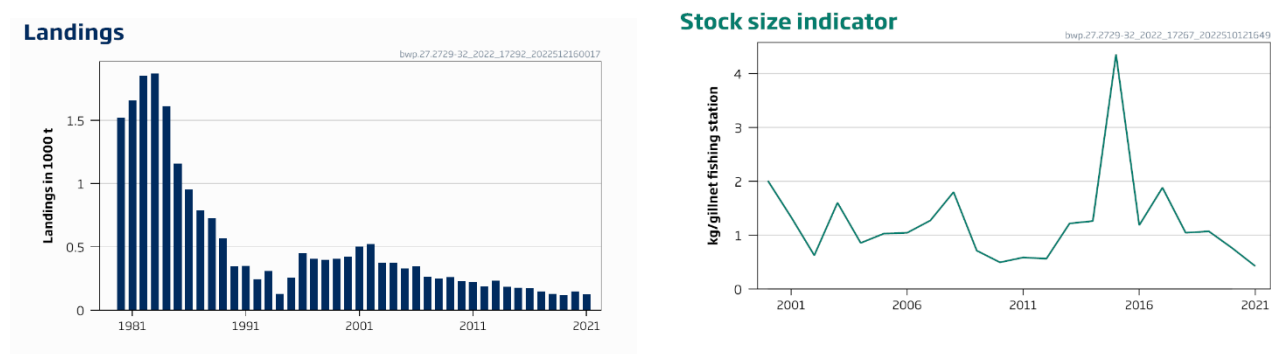


Figure 1 Baltic flounder in subdivisions (SDs) 27 and 29–32. The stock-size indicator is a combined biomass index ($\text{kg} \times [\text{gillnet fishing station}]^{-1}$) of four surveys (Muuga Bay [SD 32], Küdema Bay [SD 29], Muskö [SD 27], and Kvädöfjärden [SD 27]). The stock-size indicator in 2015 is possibly overestimated.

Catch scenarios

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

Basis of the advice

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

Table 1 Baltic flounder in subdivisions 27 and 29–32. The basis of the advice.

Advice basis	No advice requested
Management plan	The EU multiannual plan for the Baltic Sea (EU, 2016, 2019) applies to bycatches of this stock taken when fishing for the target stocks described in the plan

Quality of the assessment

The length sampling from the commercial gillnet fishery is considered adequate to provide a reliable length-based indicator (LBI) of flounder exploitation (Figure 2). LBI assumes a logistic selectivity and gillnet selectivity is usually dome-shape. However, this data was considered the best data available to calculate the index as the survey is also a gillnet survey and the differences in the length frequency distribution between commercial and survey data are minor.

In the 2015 Küdema Bay survey (Subdivision 29) the stock size indicator showed a fourfold increase. The degree of increase is considered unrealistic. An increase was also seen for all the other surveys (except the Muuga Bay survey in Subdivision 32) but at a smaller scale.

Two flounder species occur in the Baltic Sea: European flounder (*Platichthys flesus*) and Baltic flounder (*Platichthys solemdali*). Baltic flounder is the predominant flounder species in this area, although mixing occurs between these two species in the catches.

Discarding is known to occur, but estimates are uncertain and not used for assessment. Information suggests that recreational catches are a substantial proportion of the total catch, though ICES is unable to fully quantify these and they are not shown in Figure 1.

Issues relevant for the advice

The stock-size indicator has been showing a decreasing trend in recent years and is at historically low level (Figure 1).

The F_{MSY} proxy reference point was revised in 2022 (ICES, 2022a). Fishing pressure is now estimated to be just above this reference point ($LBI = 0.97$; Figure 2).

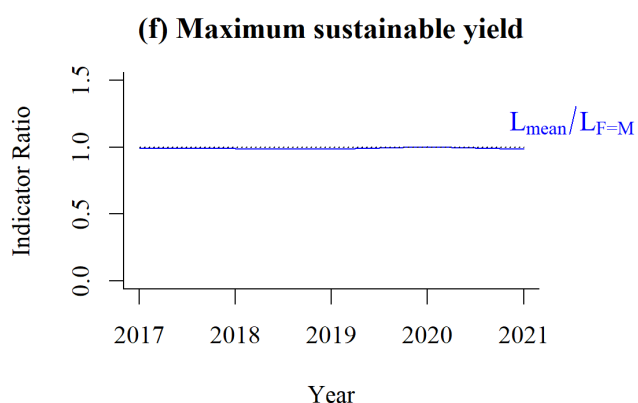


Figure 2 Baltic flounder in subdivisions 27 and 29–32. Index ratio $L_{mean}/L_{F=M}$ from the length-based indicator (LBI; ICES, 2018) method used for the evaluation of the exploitation status. The exploitation status is below the F_{MSY} proxy (dotted line) when the index ratio value is higher than one.

Reference points

Table 2 Baltic flounder in subdivisions 27 and 29–32. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{trigger}$ proxy	Not defined		
	F_{MSY} proxy	$\frac{L_{mean}}{L_{F=M}} = 1$	Relative value from LBI analysis, assuming $M/K = 1.34$. $L_{F=M}$ is based on L_c (length at 50% of modal abundance), which varies each year.	ICES (2022a)
Precautionary approach	B_{lim}	Not defined		
	B_{pa}	Not defined		
	F_{lim}	Not defined		
	F_{pa}	Not defined		
Management plan	SSB_{mgt}	Not defined		
	F_{mgt}	Not defined		

Basis of the assessment

Table 3 Baltic flounder in subdivisions 27 and 29–32. Basis of the assessment and advice.

ICES stock data category	3 (ICES, 2022b)
Assessment type	Survey trends-based assessment (ICES, 2022a)
Input data	Commercial landings and survey data from the Estonian Marine Institute in Muuga Bay (SD 32) and Küdema Bay (SD 29 [N2197]), and from the Swedish University of Agricultural Sciences in Muskö (SD 27) and Kvädöfjärden (SD 27 [N1147]).
Discards and bycatch	Discarding is known to take place but cannot be quantified
Indicators	Length-based Indicators used as proxy for exploitation
Other information	Recreational catches are known to be substantial but cannot be quantified. This stock was benchmarked in 2014 (WKBALFLAT; ICES, 2014); the LBI was revised in 2022 (ICES, 2022a).
Working group	Baltic Fisheries Assessment Working Group (WGBFAS)

History of the advice, catch, and management

Table 4 Baltic flounder in subdivisions (SDs) 27 and 29–32. ICES advice and official landings. All weights are in tonnes.

Year	ICES advice*	Predicted landings corresponding to advice*	Agreed TAC	ICES estimated landings SDs 27 and 29–32
2000	No advice	-	-	422
2001	No advice	-	-	503
2002	No advice	-	-	523
2003	No advice	-	-	374
2004	No advice	-	-	373
2005	No advice	-	-	330**
2006	No advice	-	-	344**
2007	No advice	-	-	263
2008	No advice	-	-	249
2009	No advice	-	-	262
2010	No advice	-	-	227
2011	No advice	-	-	221
2012	Reduce catches	-	-	188
2013	Catches should be reduced by 5%*	< 15 100*	-	234
2014	Landings should be reduced by 15%*	< 13 500*	-	183
2015	Decrease landings by 2% (20% increased, followed by 20% precautionary approach reduction)	< 228	-	176
2016	Precautionary approach (\leq 20% increase)	\leq 274	-	173

Year	ICES advice*	Predicted landings corresponding to advice*	Agreed TAC	ICES estimated landings SDs 27 and 29–32
2017	Precautionary approach ($\leq 20\%$ increase)	≤ 329	-	150
2018	Precautionary approach ($\leq 20\%$ increase relative to advised landings for 2017)	≤ 395		127
2019	Precautionary approach ($\leq 20\%$ increase relative to advised landings for 2017)	≤ 395		121
2020	No advice requested	-	-	149
2021	No catch advice requested	-	-	124
2022	No catch advice requested	-	-	
2023	No catch advice requested	-	-	
2024	No catch advice requested	-	-	

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

** Also includes recreational landings for Estonia.

History of the catch and landings

Table 5 Baltic flounder in subdivisions 27 and 29–32. Catch distribution by fleet in 2021 as estimated by ICES.

Total catch (2021)	Commercial landings		Recreational landings	Discards
Unknown	1 % with active gears	99% with passive gears	Recreational landings are substantial but could not be quantified	Discarding is known to take place but could not be quantified
	124 tonnes			

Table 6 Baltic flounder in subdivisions 27 and 29–32. History of commercial catch and landings; both the official and ICES estimated values are presented by area for each country participating in the fishery. Zero values indicate landings under 0.5 tonnes. All weights are in tonnes.

Year	Country	SD 27	SD 29	SD 30	SD 31	SD 32	Total
1980	Finland*		27	14	1	11	53
	Sweden	20	32				52
	USSR		334			1 080	1 414
	Total	20	393	14	1	1 091	1 519
1981	Finland*		67	4		7	78
	Sweden	21	34				55
	USSR		445			1 078	1 523
	Total	21	546	4	0	1 085	1 656
1982	Finland*		38	6		6	50
	Sweden	65	3				68
	USSR		615			1 121	1 736
	Total	65	656	6	0	1 127	1 854
1983	Finland*		28	7		3	38
	Sweden	212	9				221
	USSR		497			1 114	1 611
	Total	212	534	7	0	1 117	1 870
1984	Finland*		27	10		6	43
	Sweden	53	2				55
	USSR		286			1 226	1 512
	Total	53	315	10	0	1 232	1 610
1985	Finland*		21	9		7	37
	Sweden	47	2				49
	USSR		265			806	1 071
	Total	47	288	9	0	813	1 157
1986	Finland*		36	11		5	52
	Sweden	60	3				63
	USSR		281			556	837
	Total	60	320	11	0	561	952
1987	Denmark	1					1
	Finland*		37	18		3	58

Year	Country	SD 27	SD 29	SD 30	SD 31	SD 32	Total
	Sweden	51	2				53
	USSR		279			397	676
	Total	52	318	18	0	400	788
1988	Finland*		43	21		5	69
	Sweden	68	3				71
	USSR		257			331	588
	Total	68	303	21	0	336	728
1989	Finland*		39	24		6	69
	Sweden	66	3				69
	USSR		214			214	428
	Total	66	256	24	0	220	566
1990	Finland*		35	19		4	58
	USSR		144			141	285
	Total	0	179	19	0	145	343
1991	Finland*		53	17		5	75
	Sweden	88					88
	Estonia		135			51	186
	Total	88	188	17	0	56	349
1992	Finland*		48	10		5	63
	Sweden	86	3				89
	Estonia		47			46	93
	Total	86	98	10	0	51	245
1993	Finland*		52	26		5	83
	Sweden	83					83
	Estonia		86			55	141
	Total	83	138	26	0	60	307
1994	Denmark	9					9
	Finland*		47	24		8	79
	Sweden	33	10				43
	Estonia		3			4	7
	Total	42	60	24	0	12	138
1995	Denmark		1				1
	Finland*		54	29		6	89
	Sweden	81					81
	Estonia		52			35	87
	Total	81	107	29	0	41	258
1996	Finland*		47	36		9	92
	Sweden	114					114
	Estonia		99			145	244
	Total	114	146	36	0	154	450
1997	Finland*		35	32		13	80
	Sweden	105					105
	Estonia		96			125	221
	Total	105	131	32	0	138	406
1998	Finland*		36	21		14	71
	Sweden	70					70
	Estonia		79			87	166
	Total	70	115	21	0	101	307
1999	Denmark	0	1				1
	Finland*		43	22	2	9	76
	Sweden	15					15
	Estonia		150			164	314
	Total	15	194	22	2	173	406
2000	Denmark	1					1
	Finland*		34	13	0	9	56
	Sweden	73					73
	Estonia**		166			126	292

Year	Country	SD 27	SD 29	SD 30	SD 31	SD 32	Total
	Total	74	200	13	0	135	422
2001	Denmark	10					10
	Finland*		28	14	0	7	50
	Sweden	85			3		88
	Estonia**		135			220	355
	Total	100	164	14	3	227	503
2002	Finland*		16	8		11	35
	Sweden	90		5			95
	Estonia**		166			226	392
	Total	90	182	13	0	247	523
2003	Denmark	1					1
	Finland*	0	16	9	0	7	31
	Sweden	57					57
	Estonia**		156			128	284
	Total	57	172	9	0	135	374
2004	Finland*		13	18	0	4	34
	Sweden	45					45
	Estonia**		127			167	294
	Total	45	140	18	0	171	373
2005	Finland*		11	10	0	3	23
	Sweden	47	2	0			49
	Estonia		144			114	258
	Total	47	157	10	0	117	330
2006	Finland*		11	4.166	0	2	17
	Sweden	33					33
	Estonia		165			129	294
	Total	33	176	4	0	131	344
2007	Finland*		6	1	0	2	9
	Sweden	39	0	0	0		39
	Estonia**		110			104	214
	Total	39	116	1	0	107	263
2008	Finland		5	1	0	5	11
	Sweden	49	0	0			49
	Estonia**		103			86	189
	Total	49	108	1	0	89	249
2009	Finland		6	1	0	3	10
	Sweden	41	0	0			41
	Estonia**		109			102	210
	Total	41	115	1	0	105	262
2010	Finland	0	6	1	0	3	10
	Sweden	36	0	0			36
	Estonia**		85			96	180
	Total	36	91	1	0	99	227
2011	Finland	0	5	1	0	2	9
	Sweden	34	0	0	1		35
	Estonia**	0	94	0	0	83	177
	Total	34	99	1	1	85	221
2012	Finland		3	0	0	1	5
	Sweden	36	0		0		36
	Estonia**		79			67	147
	Total	36	85	0	0	69	188
2013	Finland		3	1	0	1	5
	Sweden	31	0				31
	Estonia		123			75	198
	Total	31	129	1	0	77	234

Year	Country	SD 27	SD 29	SD 30	SD 31	SD 32	Total
2014	Finland		2	0	0	1	4
	Sweden	29	0				29
	Estonia		85			65	150
	Total	29	87	0	0	67	183
2015	Finland		3	0	0	1	4
	Sweden	26	0	0			27
	Estonia		81			64	145
	Total	26	85	0	0	64	176
2016	Finland		2	0	0	1	3
	Sweden	22	0				22
	Estonia		96			52	148
	Total	22	98	0	0	53	173
2017	Finland		3	0	0	1	4
	Sweden	18	0				18
	Estonia		95			33	128
	Total	18	98	0	0	34	150
2018	Finland		2	0	0	1	3
	Sweden	14	0				14
	Estonia		78			31	109
	Total	14	80	0	0	32	127
2019	Finland		2	0	0	0	3
	Sweden	12	0				12
	Estonia		76			30	106
	Total	12	78	0	0	31	121
2020	Finland		2	0	0	3	4
	Sweden	15	0				15
	Estonia		96			34	130
	Total	15	98	0	0	36	149
2021	Finland		0	0		0	1
	Sweden	15	0		0		15
	Estonia		90			18	108
	Total	15	90	0	0	19	124

* Finland 1980–2007: landings from SDs 27 and 28 are included in SD 29, and landings from SD 31 are included in SD 30.

** Data for Estonia 2000–2004 and 2007–2012 have been corrected with figures from the Estonian Ministry of the Environment. Older data include the recreational fishery.

Summary of the assessment

Table 7 Baltic flounder in subdivisions 27 and 29–32. Combined biomass index using a weighted average, where the weights are proportional to the landings in each of the SDs.

Year	Stock-size indicator (kg per gillnet fishing station)	Landings (tonnes)
1980		1 519
1981		1 656
1982		1 854
1983		1 870
1984		1 610
1985		1 157
1986		952
1987		787
1988		728
1989		566
1990		343
1991		349
1992		245
1993		307
1994		129

Year	Stock-size indicator (kg per gillnet fishing station)	Landings (tonnes)
1995		258
1996		450
1997		406
1998		397
1999		406
2000	2.01	422
2001	1.34	503
2002	0.63	523
2003	1.60	374
2004	0.86	373
2005	1.03	330
2006	1.04	344
2007	1.27	263
2008	1.80	249
2009	0.71	262
2010	0.50	227
2011	0.59	221
2012	0.56	188
2013	1.22	234
2014	1.26	183
2015	4.4	176
2016	1.18	173
2017	1.88	150
2018	1.04	127
2019	1.07	121
2020	0.76	149
2021	0.43	124

Sources and references

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[Download the stock assessment data and figures.](#)

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