

Herring (*Clupea harengus*) in subdivisions 25–29 and 32, excluding the Gulf of Riga (central Baltic Sea)

ICES advice on fishing opportunities

ICES advises that when the EU multiannual plan (MAP) for the Baltic Sea is applied, catches in 2025 that correspond to the F ranges in the plan are between 95 340 (corresponding to $F_{MSY\ lower} \times SSB_{2025}/MSY\ B_{trigger}$) and 125 344 tonnes (corresponding to $F_{MSY} \times SSB_{2025}/MSY\ B_{trigger}$).

Central Baltic herring stock is caught in a fishery with the Gulf of Riga herring stock. This advice applies to all catches from the central Baltic herring stock in all areas where it occurs.

Non-fisheries conservation considerations

The herring stock in the management area consists of several different spawning components that have been shown to be genetically distinct. Differences in genetics and migration routes between spawning components and spatial differences in growth and maturity, make the central Baltic herring stock complex vulnerable to loss in both genetic diversity and overall productivity. For the time being, ICES has not identified any further conservation actions.

Stock development over time

Fishing pressure on the stock is below F_{MSY} , and spawning-stock size is below $MSY\ B_{trigger}$ and between B_{pa} and B_{lim} .

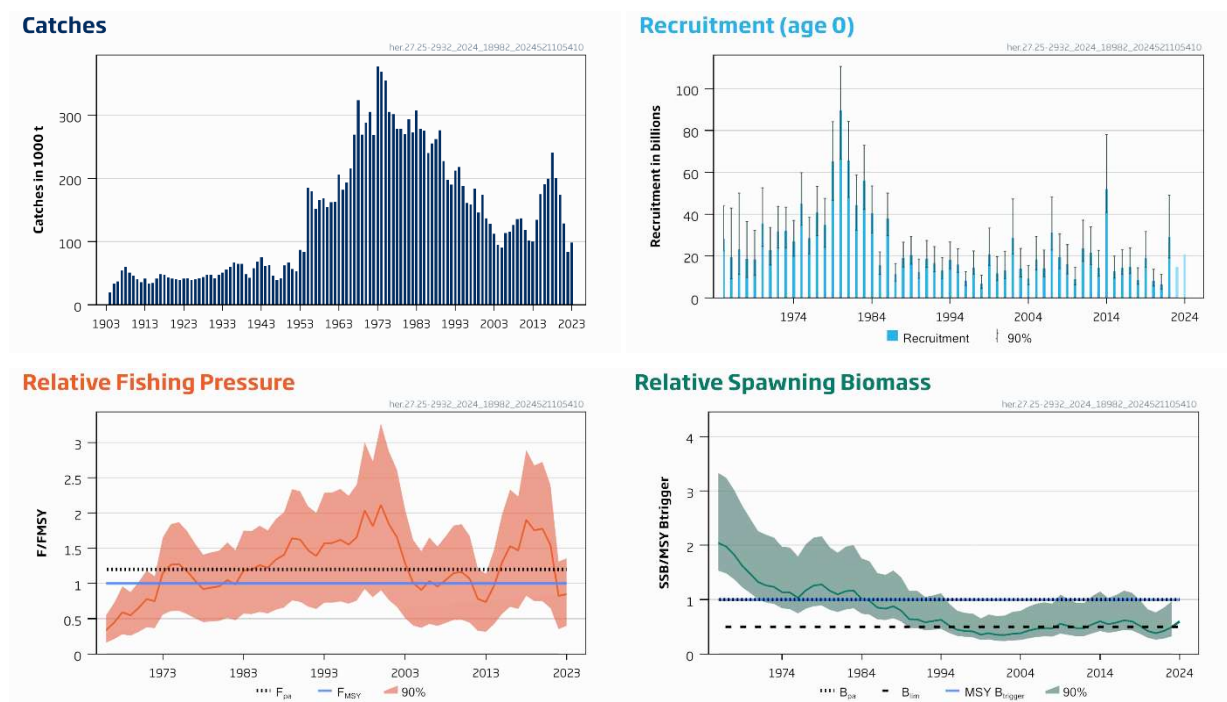


Figure 1 Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga. Summary of the stock assessment. The full time-series of recruitment, fishing pressure and spawning-stock biomass are available in the Baltic Fisheries Assessment Working Group (WGBFAS) report (Table 4.2.11 in ICES [2024a])

Conservation status

ICES is not aware of any information on stock-/species-specific conservation status.

Catch scenarios

Table 1 Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga. Values in the forecast and for the interim year.

Variable	Value	Notes
F_{2024}/F_{MSY}	0.48	Relative value. Based on a catch of 69 425 tonnes for 2024
$SSB_{2025}/MSY B_{trigger}$	0.73	Relative value, short-term forecast
$R_{age 0}$ (2023)	14.9	Geometric mean (1987–2022); billions
$R_{age 0}$ (2024)	20.8	Beverton and Holt stock–recruitment function with autocorrelation; billions
$R_{age 0}$ (2025)	21.7	Beverton and Holt stock–recruitment function with autocorrelation; billions
Total catch (2024)	69 425	Catch constraint in 2024: EU share (40 368 tonnes) + Russian Federation quota (27 000 tonnes) + central Baltic herring stock caught in Gulf of Riga (2 959 tonnes [mean 2018–2022]) – Gulf of Riga herring stock caught in central Baltic Sea (902 tonnes [mean 2018–2022]); tonnes

Table 2 Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga. Annual catch scenarios. All weights are in tonnes.

Basis	Total catch (2025)	Fishing mortality F_{2025}/F_{MSY}	$SSB_{2026}/MSY B_{trigger}$	% probability of $SSB(2026) < B_{lim}^*$	Probability of $SSB(2026) < MSY B_{trigger}(\%)^*$	% SSB change**	% advice change***
ICES advice basis							
EU MAP [^] : $F = F_{MSY} \times SSB_{2025}/MSY B_{trigger}$	125 344	0.73	0.85	4.9	65	16	139
EU MAP [^] : $F = MAP_{range F_{lower}} \times SSB_{2025}/MSY B_{trigger}$	95 340	0.54	0.87	3.4	62	19	129
Other scenarios							
$F = 0$	0	0.00	0.95	0.9	55	30	–100
F_{MSY}	167 388	1	0.81	7.4	68	11	219
F_{lower}	128 305	0.75	0.85	5.1	65	16	144
F_{upper}	198 182	1.21	0.79	9.8	70	8.2	277
EU MAP [^] : $F = MAP_{range F_{upper}} \times SSB_{2025}/MSY B_{trigger}$	148 932	0.88	0.83	6.3	66	14	138
$SSB(2026) = B_{lim}^{**}$	542 828	4.48	0.51	48	91	–30	933
$SSB(2026) = B_{pa}^{***}$	-	-	-	-	-	-	-
$SSB(2026) = MSY B_{trigger}^{***}$	-	-	-	-	-	-	-
$SSB(2026) = SSB(2025)$	276 349	1.79	0.73	17.0	75	0	426
$F = F_{2024}$	84 879	0.48	0.88	2.99	62	21	62
$p(SSB(2026) < B_{lim}) = 5\%$	127 318	0.74	0.85	5.0	65	16	142

* The probability of SSB being below SSB reference points in 2026. This probability relates to the short-term probability of $SSB < B_{lim}$ and $MSY B_{trigger}$ and is not comparable to the long-term probability of $SSB < B_{lim}$ and $MSY B_{trigger}$ tested in simulations when estimating fishing mortality reference points.

** SSB 2026 relative to SSB 2025.

*** Advice values for 2025 relative to the corresponding values for 2024 (EU MAP advice of 52 549 [F_{MSY}], 41 706 [F_{lower}] tonnes, and 62 558 [F_{upper}] respectively, all other values relative to 52 549).

[^] MAP multiannual plan (EU, 2016, 2019, 2020).

^{^^} For the B_{lim} option only a scenario for which B_{lim} could be achieved by 1.03% is presented. This is because at the high F level required to achieve B_{lim} in 2026 the model did not converge.

^{^^^} The B_{pa} and $MSY B_{trigger}$ options were left blank because B_{pa} and $MSY B_{trigger}$ cannot be achieved in 2026, even with zero catch in 2025.

The increased catch advice is due to the combination of the increase in recruitment, upscaled stock size, and increase in advised F as a result of a higher ratio between SSB and $MSY B_{trigger}$.

Basis of the advice

Table 3 Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga. The basis of the advice.

Advice basis	EU Baltic MAP
Management plan	This stock is shared between the EU and Russian Federation. An EU MAP in place for stocks in the Baltic Sea includes herring (EU, 2016, 2019, 2020). The advice, based on the F_{MSY} ranges used in the management plan, is considered precautionary. Russian Federation does not have a management plan for this stock.

Table 4 Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga. The basis for the conservation considerations.

Advice basis	Ecosystem-based management (EBM) considerations
Existing conservation measures	According to Regulation (EU) 2023/2638, article 8, to protect herring spawning in subdivisions 25–27, 28.2, 29 and 32, closures for pelagic trawlers, fishing for pelagic species with pelagic trawls is prohibited during the following periods: In subdivisions 25 and 26 from April 1 to April 30 In subdivisions 27 and 28.2 from April 16 to May 15 In subdivisions 29 and 32 from May 1 to May 31 Additional management measures may exist at a national or regional level but were not reviewed by ICES

Quality of the assessment

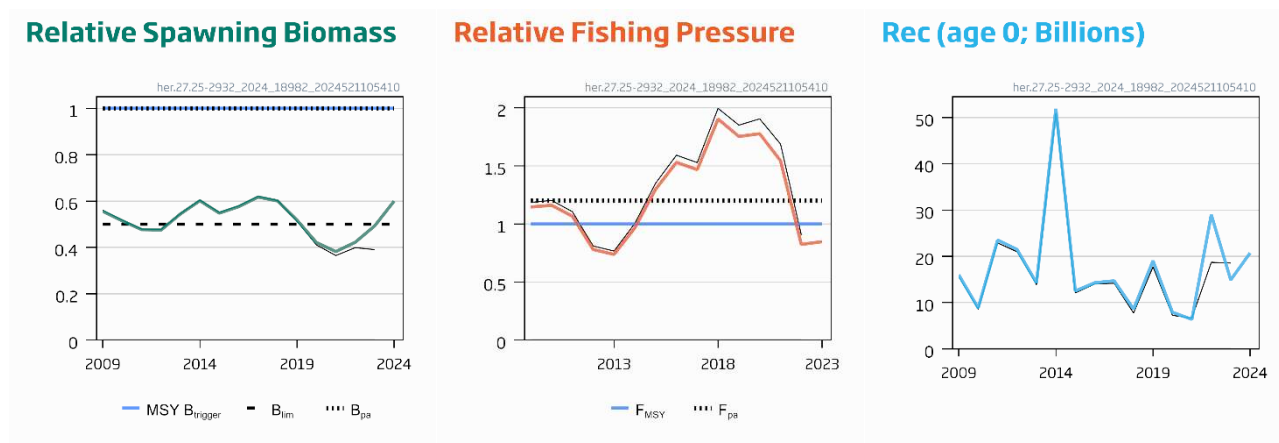


Figure 2 Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga. Historical assessment results. The stock was benchmarked in 2023. The fishing mortality and biomass reference points were updated at the benchmark, and only the assessment results from the last two years should be compared to the reference points indicated. As recruitment age was changed from age 1 to age 0, historical estimates for recruitment age 0 are available from two years.

The recruitment in 2023 and 2024 are uncertain, and this uncertainty will be propagated into the forecasted catch in 2025 and SSB in 2026.

Species misreporting of herring and sprat has occurred in the past, and there is evidence that this is an ongoing problem. These effects have been neither quantified nor included in the assessment because a lack of access to representative data. Considerable effort was made before the benchmark to estimate levels of misreporting – resulting in minor revisions to the catch time-series – but the work was not finalized and is still ongoing. Misreporting undermines the data quality used in the assessment and introduces a level of uncertainty in the assessment and advice that cannot be quantified.

In recent years pelagic trawlers in subdivisions 24, 25, and 26 have reported landings of flounder in the catch (over 3 000 tonnes in 2020–2021, with a decline to approximately 500 tonnes in 2023). These catches are suspected to be misreported sprat and herring but have so far not been included in the flounder, central Baltic herring, or Baltic sprat assessments. Analyses to validate these landings are in progress and will likely result in the assignment of these catches to either sprat, herring, or flounder.

No information on Russian Federation catches for 2022 or 2023 was officially reported to ICES. Therefore, the Russian Federation catches for 2022 and 2023 included in the assessment were based on publicly available information (Russian Federation, 2024). No biological information on composition of these catches was available to ICES. The age composition from other countries was used to estimate Russian Federation data. Russian Federation catches account for around 25% of the total catches, and the impact on the quality of the assessment cannot be quantified.

Issues relevant for the advice

On fishing opportunities

Several factors are contributing to the increased catch advice for 2025. The overall reason is a combination of an increase in SSB and an upward revision of SSB since 2022. The increase in SSB is the result of the decreased fishing mortality in the most recent years and the relatively large incoming 2022 year class. In last year's assessment the 2022 year class was underestimated. This, in addition to an increase in weight-at-age in 2023, has led to an upward revision of the SSB.

A mixture of central Baltic herring (subdivisions 25–27, 28.2, 29, and 32) and Gulf of Riga herring (Subdivision 28.1) is caught in the central Baltic Sea. In the assessment and the advice, the central Baltic herring stock is considered to be caught both in and outside of the central Baltic Sea. The TAC (sum of the EU and Russian Federation autonomous quotas) is set for herring caught in the central Baltic management area; it includes a small amount of Gulf of Riga herring caught in the central Baltic Sea but excludes central Baltic herring caught outside of the central Baltic Sea.

An example of how TAC setting could address the stock mixing issues is presented based on ICES MSY approach advised catch for the central Baltic herring stock (125 344 tonnes), plus the assumed catch of Gulf of Riga herring taken in the central Baltic, minus the assumed catch of central Baltic herring taken in the Gulf of Riga. The values of the two latter figures are given by the average over the last five years.

- Central Baltic herring assumed to be taken in the Gulf of Riga in 2025 (Subdivision 28.1) is 3 263 tonnes (average 2019–2023).
- Gulf of Riga herring assumed to be taken in Subdivision 28.2 in 2025 is 861 tonnes (average 2019–2023).

As an example, following ICES MSY approach (here identical to the MAP F_{MSY}), catches from the central Baltic herring stock in 2025 should be no more than 125 344 tonnes. The corresponding TAC in the central Baltic management area for 2025 would be calculated as: 125 344 tonnes + 861 tonnes – 3 263 tonnes = 122 942 tonnes. This would result in a TAC increase of 82%.

On non-fisheries conservation considerations

The central Baltic herring stock consists of several different spawning components (Ojaveer *et al.*, 1981), which have been shown to be genetically distinct (Han *et al.*, 2020; Laikre and Johannesson, 2023; ICES, 2024b). Differences in genetics and migration routes between spawning components and spatial differences in growth and maturity (Popiel, 1958; Ojaveer, 1989; ICES, 2023a) makes the central Baltic herring stock complex vulnerable to loss in both genetic diversity and overall productivity. Moreover, the mixing of central Baltic and western Baltic spring-spawning herring in SDs 24–26 could also have significant impacts on the perception of both herring stocks.

Reference points

Table 5 Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY B_{trigger}	$B_{30\%}$	Relative value. Set at 30% of B_0^* . Determined through management strategy evaluation with the objective to achieve high sustainable yields without exceeding a 5% probability of SSB falling below B_{lim} in any single year.	ICES (2023a)
	F_{MSY}	$F_{B30\%}$	Relative value. Set as the F which will achieve 30% of B_0 . Determined through management strategy evaluation with the objective to achieve high sustainable yields without exceeding a 5% probability of SSB falling below B_{lim} in any single year.	ICES (2023a)
Precautionary approach	B_{lim}	$0.15 \times B_0$	Relative value. Set at 15% of B_0 .	ICES (2023b)
	$B_{\text{pa}} = \text{MSY } B_{\text{trigger}}$	$B_{30\%}$	Relative value. Set at 30% of B_0 . Determined through management strategy evaluation with the objective to achieve high sustainable yields without exceeding a 5% probability of SSB falling below B_{lim} in any single year.	ICES (2023a)
	F_{pa}	$F_{B25\%}^{**} = F_{\text{MSY}} * 1.21$	F_{P05} . Relative value. Determined through management strategy evaluation. The F that leads to $\text{SSB} \geq B_{\text{lim}}$ with 95% probability.	ICES (2023a)
Management plan	MAP MSY B_{trigger}	$B_{30\%}$	MSY B_{trigger}	ICES (2023a)
	MAP B_{lim}	$0.15 \times B_0$	B_{lim}	ICES (2023a)
	MAP F_{MSY}	$F_{B30\%}$	F_{MSY}	ICES (2023a)
	MAP target range F_{lower}	$F_{B40\%} = F_{\text{MSY}} * 0.75$	Relative value. Determined through management strategy evaluation, consistent with the ranges that result in no more than a 5% reduction in long-term yield compared to MSY.	ICES (2023a)
	MAP target range F_{upper}	$F_{B25\%}^{**} = F_{\text{MSY}} * 1.21$	Relative value. Determined through management strategy evaluation, consistent with the ranges that result in no more than a 5% reduction in long-term yield compared to MSY. Capped to F_{P05} .	ICES (2023a)

* B_0 is the estimated unexploited spawning biomass at current conditions (average biological parameters for the last 10 years).

** Determined from the management strategy evaluation. To be precautionary, this reference point can only be used with the MSY B_{trigger} .

Basis of the assessment

Table 6 Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga. Basis of the assessment and advice.

ICES stock data category	1 (ICES, 2023c)
Assessment type	Age-based analytical assessment SS (ICES, 2024a) that uses catches in the model and in the forecast. An ensemble of three models is used where each model differs based on the assumed level of natural mortality.
Input data	Commercial catches (international landings, age distributions from catch sampling); one survey acoustic index (BIAS [A1588]); natural mortalities from multispecies model (SMS) until 2021, 2022 and 2023 = 2021. Catches for the Russian Federation in 2022 and 2023 are taken from Russian Federation (2024).
Discards and bycatch	Discarding is considered negligible
Indicators	None
Other information	Benchmark in 2023 (ICES, 2023a). Information on Russian Federation TACs starting from 2023 are taken from AtlantNIRO (2024).
Working group	Baltic Fisheries Assessment Working Group (WGBFAS)

History of the advice, catch, and management

Table 7 Herring in subdivisions (SDs) 25–29 and 32, excluding the Gulf of Riga. ICES advice, TACs, and catches. All weights are in tonnes.

Year	ICES advice	Catch corresponding to the advice	Agreed TAC	ICES catch SDs 25–29 and 32	ICES catch
1988*		204 000	399 000**	286 000	
1989*		176 000	399 000**	290 000	
1990*		112 000	399 000**	244 000	
1991*	TAC for the entire area	293 000	402 000**	213 000	
1992*	F near present level	343 000	402 000**	210 000	
1993*	Increase in yield at higher F	371 000	560 000**	231 000	
1994*	Increase in yield at higher F	317 000–463 000	560 000**	242 000	
1995*	TAC	394 000	560 000**	221 000	
1996*	TAC	394 000	560 000**	195 000	
1997*	No advice	-	560 000**	208 000	
1998*	No advice	-	560 000**	212 000	
1999*	Proposed $F_{pa} = (0.17)$	117 000	476 000**	178 000	
2000*	Proposed $F_{pa} = (0.17)$	95 000	405 000**	208 000	
2001*	Proposed $F_{pa} = (0.17)$	60 000	300 000**	188 000	
2002*	$F < F_{pa}$	< 73 000	Not agreed**	168 000	
2003*	$F < F_{pa}$	< 72 000	143 000**	154 000	
2004	$F < F_{pa}$	< 80 000	171 000**		95 151
2005	$F < F_{pa}$ (single-stock exploitation boundaries)	< 130 000	130 000***		91 069
2006	$F < F_{pa}$ (single-stock exploitation boundaries)	< 120 000	128 000***		113 401
2007	$F < F_{pa}$ (single-stock exploitation boundaries)	< 164 000	133 000^		115 790
2008	$F < F_{pa}$ (single-stock exploitation boundaries)	< 194 000	153 000^		126 363
2009	$F < F_{pa}$ (single-stock exploitation boundaries)	< 147 000	143 609^		135 647
2010	$F < F_{pa}$ (single-stock exploitation boundaries)	< 103 000	139 776^^		137 189
2011	MSY framework ($F = 0.19$)	< 95 000	120 020^^		118 563
2012	MSY transition ($F = F_{pa} = 0.19$)	< 92 000	93 317^^		101 546
2013	MSY transition ($F = F_{pa} = 0.19$)	< 117 000	101 480^^		100 484
2014	MSY approach	< 164 000	132 225^^		134 482
2015	MSY approach ($F_{MSY} = 0.26$)	< 193 000	186 351^^		174 946
2016	MSY approach ($F_{MSY} = 0.22$)	$\leq 201 000$	206 605^^		190 641
2017	MSY approach ($F_{MSY} = 0.22$)	$\leq 216 000$	220 629^^		199 428

Year	ICES advice	Catch corresponding to the advice	Agreed TAC	ICES catch SDs 25–29 and 32	ICES catch
2018	MAP target F ranges: F_{lower} to F_{upper} (0.16–0.28), but F higher than $F_{MSY} = 0.22$ only under conditions specified in MAP	200 236–331 510 but catch higher than 267 745 only under conditions specified in MAP	258 855 ^{^^}		240 739
2019	MAP target F ranges: F_{lower} to F_{upper} (0.16–0.28), but F higher than $F_{MSY} = 0.22$ only under conditions specified in MAP	115 591–192 787 but catch higher than 155 333 only under conditions specified in MAP	200 260 ^{^^}		200 957
2020	MAP target F ranges: F_{lower} to F_{upper} (0.16–0.28), but F higher than $F_{MSY} = 0.22$ only under conditions specified in MAP	130 546–214 553 but catch higher than 173 975 only under conditions specified in MAP	182 484 ^{^^}		174 520
2021	Management plan	111 852 (range 83 971–138 183)	126 051 ^{^^}		128 961
2022	Management plan	71 939 (range 52 443–87 581)	80 753 ^{^^}		83 821 ^{^^^§}
2023	Management plan	95 643 (range 70 130–95 643)	97 822 ^{^^}		98 696 ^{^^^}
2024	Management plan	52 549 (range 41 706–52 549)	67 368 ^{^^}		
2025	Management plan	125 344 (range 95 340–125 344)			

* 1988–2003 including Gulf of Riga herring.

** TAC for subdivisions 22–29S and 32.

*** TAC for subdivisions 25–28.2, 29, and 32.

[^] EU TAC for subdivisions 25–28.2, 29, and 32.

^{^^} TAC is calculated as EU (subdivisions 25–28.2, 29, and 32) + Russian Federation autonomous quotas.

^{^^^} Russian Federation landings were not officially reported to ICES, but an estimate is included.

[§] Russian Federation landings were updated in during the Baltic Fisheries Assessment Working Group (WGBFAS) 2024 meeting.

History of the catch and landings

Table 8 Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga. Catch distribution by fleet as estimated by ICES.

Total herring catch in the central Baltic management area (2023)	Total catch of stock (2023)	Landings	Discards
92 965 tonnes	98 696 tonnes	Mainly pelagic trawls. Minor part taken by trapnets, gillnets, and purse-seines	Negligible (0.01 %)
		98 696 tonnes	

Table 9 Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga. History of commercial catch and landings; official catches are presented for each country participating in the fishery. All weights are in tonnes.

Year	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Russia	Sweden	USSR	Total
1977	11 900		33 700				57 200		48 700	112 814	264 314
1978	13 900		38 300	100			61 300		55 400	113 872	282 872
1979	19 400		40 400				70 400		71 300	100 958	302 458
1980	10 600		44 000				58 300		72 500	103 002	288 402
1981	14 100		42 500	1 000			51 200		72 900	93 431	275 131
1982	15 300		47 500	1 300			63 000		83 800	86 423	297 323
1983	10 500		59 100	1 000			67 100		78 600	69 059	285 359
1984	6 500		54 100				65 800		56 900	89 757	273 057
1985	7 600		54 200				72 800		42 500	95 225	272 325
1986	3 900		49 400				67 800		29 700	98 773	249 573
1987	11 003		50 400				55 500		25 400	100 916	243 219
1988	17 618		58 100				57 200		33 400	106 009	272 327
1989	7 878		50 000				51 800		55 400	105 017	270 095
1990	3 641		26 900				52 300		44 200	101 269	228 310
1991	6 723	27 036	18 100		20 709	6 500	47 100	31 900	36 500		194 568
1992	8 568	22 264	30 000		12 533	4 600	39 200	29 500	43 000		189 665
1993	11 858	25 420	32 300		9 576	3 000	41 100	21 600	66 400		211 254
1994	11 106	26 345	38 200	3 700	9 797	4 900	46 100	16 700	61 600		218 447
1995	10 651	30 681	31 400		9 328	3 600	38 700	17 000	47 200		188 560
1996	10 718	35 943	31 502		11 569	4 243	30 712	14 626	25 909		165 222
1997	8 451	42 585	23 749		10 140	3 324	26 229	12 526	44 078		171 082
1998	12 236	34 005	24 777		9 972	2 368	19 344	10 520	70 997		184 220
1999	5 980	35 437	17 850		8 292	1 312	18 121	12 676	48 866		148 534
2000	14 441	30 135	23 330		6 718	1 070	23 066	14 814	60 161		173 735
2001	4 462	27 425	26 103		5 217	1 639	28 358	15 797	29 832		138 832
2002	3 679	21 010	25 724	291	3 917	1 537	28 510	14 168	29 423		128 260
2003	3 873	13 300	14 698	3 860	3 132	2 060	26 311	13 363	31 785		112 381
2004	2 320	10 912	14 468	4 323	2 655	1 778	22 834	6 526	29 336		95 151
2005	2 555	10 783	6 410	3 713	1 951	748	18 476	7 007	39 426		91 069
2006	3 301	13 400	9 600	3 200	3 000	1 200	16 800	7 600	55 300		113 401
2007	1 112	13 979	13 890	1 672	3 212	3 474	19 802	8 772	49 879		115 790
2008	1 458	21 581	19 134	3 358	3 520	1 749	13 331	8 551	53 681		126 363
2009	2 995	19 937	23 329	1 252	4 108	3 576	18 441	11 800	50 208		135 647
2010	5 851	17 915	21 602	2 235	3 903	1 492	25 028	9 126	50 037		137 189
2011	3 627	14 924	19 229	2 730	3 432	1 997	27 998	8 471	36 156		118 563
2012	2 049	11 380	18 049	896	2 637	1 847	25 472	13 044	26 153		101 546
2013	2 949	12 601	18 175	1 415	3 548	1 724	20 568	10 046	29 458		100 484
2014	4 505	15 334	27 905	1 731	4 853	2 096	27 316	15 854	34 888		134 482
2015	844	18 782	31 571	2 917	5 657	4 694	39 024	20 889	50 568		174 946
2016	2 626	20 097	28 852	4 340	8 362	5 184	40 990	24 179	56 011		190 641
2017	6 253	23 320	40 692	3 594	7 912	4 037	40 102	22 327	51 191		199 428
2018	7 741	24 269	45 363	3 951	11 187	6 564	49 280	25 437	66 946		240 739
2019	5 371	21 485	37 037	1 752	7 620	6 085	40 271	25 759	55 577		200 957
2020	6 717	17 074	31 890	833	5 241	5 558	35 879	26 039	45 289		174 520
2021	6 625	1 2521	1 9822	631	3 828	4 338	26 695	23 744	30 757		128 961
2022	2 056	7 675	10 276	250	4 180	1 753	17 754	25 319*	14 559		83 821
2023	5 192	11 183	13 668	575	5 664	1 550	19 920	24 515*	16 428		98 696

* Russian Federation landings were not officially reported to ICES.

Table 10 Herring in subdivisions 25–29 and 32 (excluding Gulf of Riga herring). Catches (in tonnes) from the central Baltic management area and of the central Baltic stock.

Year	Catches of herring from the central Baltic area			Central Baltic herring stock catches	
	Central Baltic herring stock	Gulf of Riga herring stock	Total	Central Baltic herring caught in the Gulf of Riga	Total catch of central Baltic herring stock
1977	261 900	-	261 900	2 400	264 300
1978	276 600	-	276 600	6 300	282 900
1979	297 800	-	297 800	4 700	302 500
1980	282 700	-	282 700	5 700	288 400
1981	269 200	-	269 200	5 900	275 100
1982	292 600	-	292 600	4 700	297 300
1983	280 600	-	280 600	4 800	285 400
1984	269 300	-	269 300	3 800	273 100
1985	267 700	-	267 700	4 600	272 300
1986	248 300	-	248 300	1 300	249 600
1987	238 419	-	238 419	4 800	243 219
1988	269 327	-	269 327	3 000	272 327
1989	264 195	-	264 195	5 900	270 095
1990	222 310	-	222 310	6 000	228 310
1991	188 468	-	188 468	6 100	194 568
1992	186 165	1 300	187 465	3 500	189 665
1993	206 954	1 200	208 154	4 300	211 254
1994	213 447	2 100	215 547	5 000	218 447
1995	182 460	2 400	184 860	6 100	188 560
1996	160 822	4 300	165 122	4 400	165 222
1997	166 782	2 900	169 682	4 300	171 082
1998	180 120	2 800	182 920	4 100	184 220
1999	144 234	1 900	146 134	4 300	148 534
2000	169 135	1 900	171 035	4 600	173 735
2001	135 962	1 153	137 115	2 870	138 832
2002	124 792	400	125 192	3 468	128 260
2003	108 131	359	108 490	4 250	112 381
2004	91 817	193	92 010	3 334	95 151
2005	88 815	510	89 325	2 254	91 069
2006	110 247	398	110 644	3 154	113 401
2007	114 304	125	114 429	1 486	115 790
2008	120 260	144	120 403	6 103	126 363
2009	130 782	112	130 894	4 865	135 647
2010	131 983	432	132 415	5 206	137 189
2011	113 092	85	113 177	5 472	118 563
2012	97 762	166	97 928	3 784	101 546
2013	96 381	254	96 635	4 103	100 484
2014	129 947	162	130 109	4 535	134 482
2015	169 978	316	170 294	4 968	174 946
2016	186 326	289	186 615	4 315	190 641
2017	195 532	234	195 766	3 896	199 428
2018	236 531	530	237 061	4 208	240 739
2019	197 397	1 200	198 597	3 560	200 957
2020	173 256	1 229	174 485	1 264	174 520
2021	125 835	775	126 610	3 126	128 961
2022	81 185	777	81 962	2 636	83 821*
2023	92 965	325	93 290	5 731	98 696*

*Russian Federation landings were not officially reported to ICES.

Summary of the assessment

Table 11 Herring in subdivisions 25–29 and 32, excluding the Gulf of Riga. Assessment summary. Weights are in tonnes. Recruitment in thousands. The full time-series (since 1904) of catches, recruitment, SSB, and fishing pressure are available in the Baltic Fisheries Assessment Working Group (WGBFAS) report (Table 4.2.11 in ICES [2024a])

Year	Recruitment			SSB relative to MSY			Total catch	Fishing pressure relative to		
	5%	Age 0	95%	5%	SSB	95%		5%	Ages 3–6	95%
1966	9208348	19261477	42909122	1.53	2.04	3.33	216123	0.162	0.34	0.55
1967	11175144	23031976	50081525	1.48	1.97	3.24	269141	0.21	0.45	0.73
1968	9709100	18573905	36484245	1.37	1.82	3.01	323765	0.28	0.59	0.96
1969	10690909	18414624	32235823	1.22	1.62	2.73	269536	0.26	0.55	0.88
1970	24668104	35498294	52619772	1.12	1.47	2.49	288626	0.31	0.65	1.02
1971	15642298	22746612	33701941	1	1.32	2.26	305211	0.38	0.78	1.19
1972	23709591	31784297	43668659	0.95	1.26	2.19	268832	0.37	0.75	1.10
1973	23962802	31883858	43280133	0.92	1.23	2.14	376787	0.56	1.15	1.66
1974	19852766	26933878	36985445	0.84	1.14	1.97	368652	0.61	1.27	1.84
1975	34630260	44995701	59773862	0.82	1.13	1.96	354851	0.61	1.28	1.87
1976	21061045	28448644	38447806	0.75	1.03	1.8	305420	0.56	1.17	1.75
1977	29737645	40746012	53249682	0.83	1.17	2.02	301952	0.50	1.04	1.57
1978	24119669	34715725	47506807	0.88	1.26	2.14	278966	0.45	0.92	1.41
1979	46684825	65090894	84233003	0.89	1.28	2.16	278182	0.46	0.94	1.44
1980	66432927	89604808	110588329	0.81	1.16	1.96	270282	0.47	0.96	1.47
1981	47991139	65589173	84295704	0.77	1.1	1.86	293615	0.51	1.05	1.59
1982	32314411	44311754	58693645	0.82	1.15	1.97	273134	0.48	0.98	1.47
1983	42275156	55923790	72952906	0.84	1.17	2	307601	0.57	1.19	1.75
1984	31027439	40260376	53477780	0.74	1.01	1.76	277926	0.57	1.19	1.75
1985	11214010	15486368	21947917	0.72	0.98	1.71	275760	0.60	1.26	1.82
1986	29819186	37738930	50093524	0.64	0.85	1.49	240516	0.57	1.22	1.75
1987	8008384	11269636	16373947	0.62	0.83	1.46	255498	0.63	1.34	1.92
1988	14674756	18960041	26606450	0.66	0.88	1.54	262558	0.66	1.41	2.0
1989	16021277	20357444	29319985	0.6	0.79	1.41	276066	0.76	1.64	2.3
1990	9325621	12437760	18547833	0.48	0.64	1.16	227617	0.74	1.62	2.3
1991	14574988	18761027	27420769	0.48	0.64	1.16	197610	0.67	1.47	2.1
1992	12431860	16692134	24450593	0.43	0.58	1.05	190258	0.64	1.39	2.0
1993	9260830	12883096	19196764	0.45	0.61	1.08	212101	0.73	1.57	2.3
1994	13869207	18132721	26723878	0.46	0.63	1.12	218116	0.73	1.58	2.3
1995	12171742	15778543	23487449	0.39	0.52	0.93	187409	0.75	1.62	2.3
1996	5926631	8144193	12588660	0.33	0.45	0.8	161148	0.71	1.55	2.2
1997	11328601	14559199	22384699	0.32	0.42	0.76	159056	0.76	1.65	2.4
1998	4620599	6633220	10846853	0.31	0.41	0.74	184140	0.92	2.0	3.0
1999	15480120	20876174	33371084	0.26	0.36	0.65	145717	0.80	1.81	2.7
2000	8180231	11561944	19657361	0.27	0.38	0.73	174301	0.90	2.1	3.3
2001	9249787	13032541	22280198	0.24	0.35	0.7	137080	0.76	1.84	2.9
2002	20999230	28620431	47205824	0.24	0.35	0.71	128344	0.66	1.65	2.6
2003	9972974	13983902	23599721	0.25	0.37	0.78	112118	0.51	1.29	2.1
2004	6349416	9114402	15428692	0.26	0.38	0.79	95151	0.40	1.01	1.62
2005	13205968	18280547	29340001	0.29	0.43	0.87	91094	0.37	0.91	1.46
2006	10051029	14160611	22851606	0.31	0.46	0.93	113536	0.42	1.03	1.66
2007	22833708	31184634	48222980	0.32	0.48	0.95	115790	0.40	0.96	1.53
2008	13934629	19468052	30603377	0.32	0.47	0.93	126363	0.44	1.05	1.67
2009	11391931	16025832	25415146	0.37	0.56	1.09	135659	0.48	1.15	1.82
2010	6098912	8867588	14641861	0.35	0.52	1.01	137189	0.48	1.16	1.84
2011	17368299	23531923	37134013	0.33	0.48	0.94	118563	0.44	1.07	1.68
2012	15928417	21503301	33841063	0.33	0.47	0.94	101526	0.33	0.78	1.22
2013	10407545	14297754	22685413	0.38	0.54	1.07	100484	0.32	0.74	1.14
2014	40815216	51899849	78034154	0.42	0.6	1.15	134482	0.42	0.97	1.48
2015	9403641	12528108	19993865	0.39	0.55	1.03	174945	0.57	1.30	1.98
2016	11129206	14310779	22919582	0.41	0.58	1.08	190641	0.67	1.53	2.3

Year	Recruitment			SSB relative to MSY B _{trigger} *			Total catch	Fishing pressure relative to F _{MSY}		
	5%	Age 0	95%	5%	SSB	95%		5%	Ages 3–6	95%
2017	11596814	14715995	23871804	0.44	0.62	1.17	199428	0.64	1.47	2.2
2018	6491583	8614520	14360464	0.43	0.6	1.13	240738	0.82	1.90	2.9
2019	14726608	19054115	31694263	0.37	0.52	0.99	200956	0.75	1.75	2.7
2020	5594781	7930762	13656349	0.3	0.42	0.82	174521	0.75	1.78	2.7
2021	4117065	6387027	11200810	0.26	0.38	0.77	128961	0.65	1.54	2.4
2022	19066104	29003801	49015406	0.28	0.42	0.85	83821**	0.35	0.82	1.31
2023		14913162^		0.32	0.49	0.97	98696**	0.40	0.85	1.36
2024		20751785			0.60					

* 1 January.

** Russian Federation landings were not officially reported to ICES.

^ Geometric mean of the years 1987-2022

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