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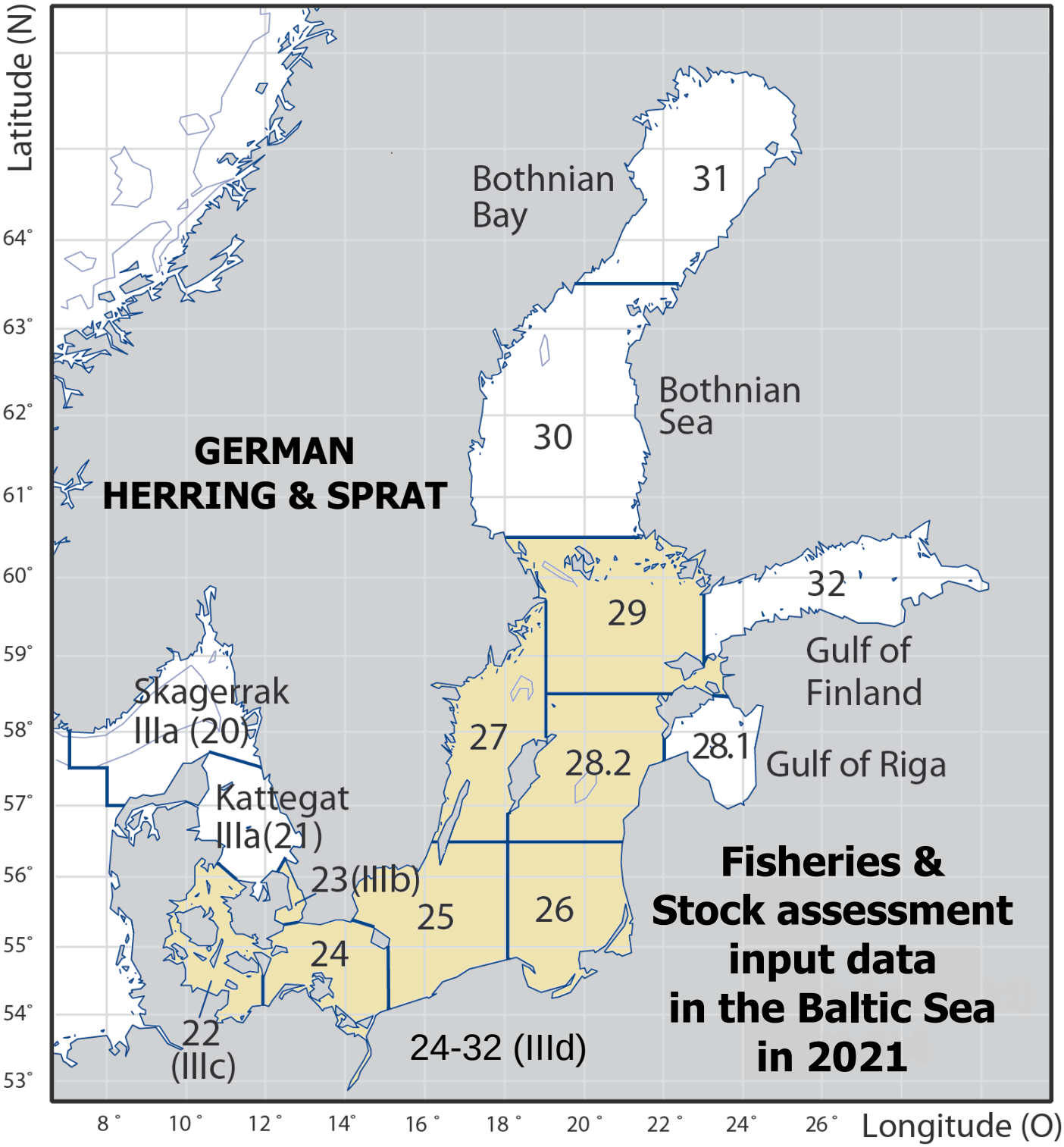

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1 HERRING

1.1 Fisheries

In 2021 the total German herring landings from the Western Baltic Sea in **Subdivisions (SD) 22 and 24** amounted to 843 t, which represents a decrease of 59 % compared to the landings in 2020 (2,069 t). The lower landings in 2021 were caused by a further decrease of the German quota (869 t), which was used by 97 % (2020: 95 %, 2019: 97 %, 2018: 94 %). The fishing activities in one of the main fishing areas, the Greifswald Bay (SD 24), started in mid-February. As in last year, the main German fishery stopped their activities at the end of April.
Only a small part of the total German landings was taken **in Subdivisions 25-29** (2021: 631 t; 2020: 833 t, 2019: 1,752 t). The German quota of 569 t was used by 111 % (2020: 90 %, 2019: 99.7 %). As in the years before, all landings in this area were taken by the trawl fishery. Only 56 % were landed in foreign ports (2020: 96 %, 2019: 95 %).

The landings (t) by quarter and Subdivision (SD) including information about the landings in foreign ports are shown in the table below:

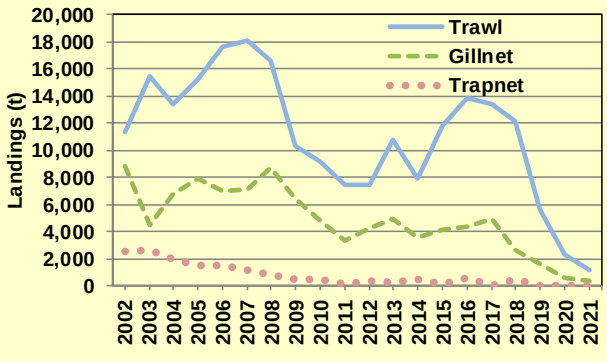
Quarter	SD 22	SD 24	SD 25	SD 26	SD 27	SD 28.2	SD 29	(1) Total SD 25-29	% (1)/(2)	(2) Total SD 22-29	% (2)
I	14.105	246.241	126.503	225.000		16.067	39.717	407.287	61.0%	**667.633**	45.3%
	-	-	31.043	96.324	-	-	-	127.367	100.0%	127.367	36.3%
II	4.394	87.141	182.384	16.892	10.323	-	-	209.599	69.6%	**301.134**	20.4%
	-	-	182.384	16.892	10.323	-	-	209.599	100.0%	209.599	59.7%
III	0.167	0.045	-	-	-	-	-	0.000		**0.212**	0.0%
	-	-	-	-	-	-	-	0.000		0.000	0.0%
IV	2.849	488.310	-	-	-	2.990	10.964	13.954	2.8%	**505.113**	34.3%
	-	-	-	-	-	2.990	10.964	13.954	100.0%	13.954	4.0%
Total	**21.515**	**821.737**	**308.887**	**241.892**	**10.323**	**19.057**	**50.681**	**630.840**	**42.8%**	**1,474.092**	**100.0%**
	0.000	0.000	213.427	113.216	10.323	2.990	10.964	350.920	100.0%	350.920	100.0%

= Fraction of total landings (t) in foreign ports	55.6%	23.8%
	2021/2020:	**2021/2020:**
= Fraction of total landings (t)	75.7%	50.8%
= Fraction of total landings (t) in foreign ports	43.7%	43.7%

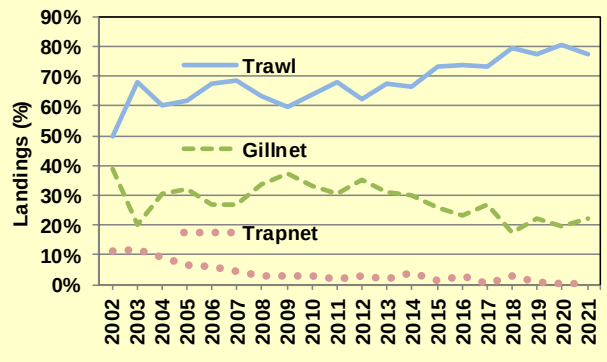
The main fishing season was during spring time as in former years. About 65 % of all herring (SDs 22-29) were caught between January and April (2020: 75 %, 2019: 85 %). 56 % of the German herring landings were taken in Subdivision 24 (2020: 71 %, 2019: 75 %). The German herring fishery in the Baltic Sea is conducted with gillnets, trapnets and trawls. All landings in the area of the Central Baltic Sea (SDs 25-29) are taken by the trawl fishery.

Until 2000 the dominant part of herring was caught in the passive fishery by gillnets and trapnets. Since 2001 the activities in the trawl fishery increased. The total amount of herring, which was caught by trawls in SDs 22-29, reached 78 % in 2021 (2020: 80 %; 2019: 77 %). The significant change in fishing pattern was caused by the perspective of a new fish factory on the Island of Rügen, which finally started the production in autumn 2003. This factory can process up to 50,000 t fish per year.

Landings in Subdivisions 22-29 (t)				
Year/Gear	Trawl	Gillnet	Trapnet	Total
2002	11,317.813	8,783.392	2,559.662	22,660.867
2003	15,433.154	4,545.312	2,658.148	22,636.614
2004	13,429.394	6,796.747	2,016.542	22,242.683
2005	15,277.320	7,924.007	1,551.530	24,752.857
2006	17,604.485	6,959.530	1,539.467	26,103.482
2007	18,044.233	7,077.135	1,133.806	26,255.174
2008	16,640.802	8,760.611	789.005	26,190.418
2009	10,305.056	6,403.312	523.998	17,232.366
2010	9,216.880	4,804.818	452.182	14,473.880
2011	7,424.844	3,301.890	189.673	10,916.407
2012	7,491.038	4,252.694	322.308	12,066.040
2013	10,768.220	4,933.173	304.427	16,005.820
2014	7,959.719	3,562.980	449.724	11,972.423
2015	11,839.151	4,183.129	183.533	16,205.813
2016	13,834.307	4,362.550	569.558	18,766.415
2017	13,370.750	4,898.840	19.104	18,288.694
2018	12,136.988	2,663.317	455.174	15,255.479
2019	5,664.366	1,615.909	42.112	7,322.387
2020	2,329.441	571.981	0.711	2,902.133
2021	1,143.915	326.705	3.472	1,474.092



Landings in Subdivisions 22-29 (% t)				
Year/Gear	Trawl	Gillnet	Trapnet	Total
2002	50%	39%	11%	100%
2003	68%	20%	12%	100%
2004	60%	31%	9%	100%
2005	62%	32%	6%	100%
2006	67%	27%	6%	100%
2007	69%	27%	4%	100%
2008	64%	33%	3%	100%
2009	60%	37%	3%	100%
2010	64%	33%	3%	100%
2011	68%	30%	2%	100%
2012	62%	35%	3%	100%
2013	67%	31%	2%	100%
2014	66%	30%	4%	100%
2015	73%	26%	1%	100%
2016	74%	23%	3%	100%
2017	73%	27%	0%	100%
2018	80%	17%	3%	100%
2019	77%	22%	1%	100%
2020	80%	20%	0%	100%
2021	78%	22%	0%	100%



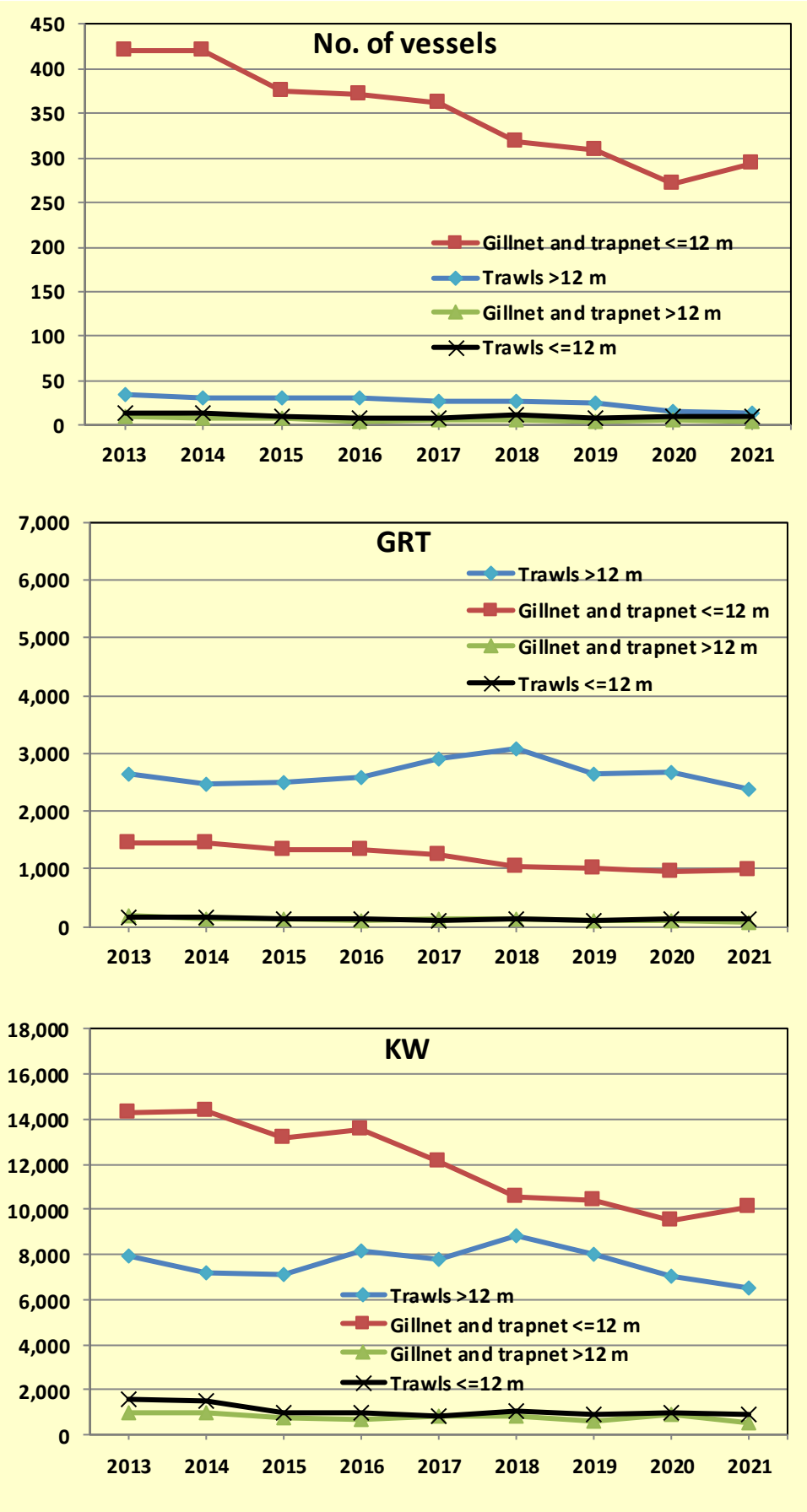
1.2 Fishing fleet

The herring fishing fleet in the Baltic Sea, where all catches are taken in a directed fishery, consists of a:

- coastal fleet with undecked vessels (rowing/motor boats <=12 m and engine power <=100 HP)
- cutter fleet with decked vessels and total lengths between 12 m and 40 m.

In the years from 2013 until 2021 the following types of fishing vessels carried out the herring fishery in the Baltic (only referring to vessels, which are contributing to the overall total landings per year with more than 20 %):

	Type of gear	Vessel length (m)	No. of vessels	GRT	kW
2013	Fixed gears	<=12	421	1,459	14,289
	(gillnet and trapnet)	>12	9	186	1,005
	Trawls	<=12	14	173	1,557
		>12	35	2,638	7,960
	TOTAL		**479**	**4,456**	**24,811**
2014	Fixed gears	<=12	421	1,443	14,351
	(gillnet and trapnet)	>12	8	149	970
	Trawls	<=12	13	170	1,502
		>12	31	2,469	7,205
	TOTAL		**473**	**4,231**	**24,028**
2015	Fixed gears	<=12	375	1,341	13,163
	(gillnet and trapnet)	>12	7	133	802
	Trawls	<=12	9	122	991
		>12	31	2,503	7,148
	TOTAL		**422**	**4,099**	**22,104**
2016	Fixed gears (gillnet and trapnet)	<=12	371	1,341	13,532
	(gillnet and trapnet)	>12	5	103	699
	Trawls	<=12	8	137	997
		>12	30	2,599	8,205
	TOTAL		**414**	**4,180**	**23,433**
2017	Fixed gears	<=12	362	1,237	12,158
	(gillnet and trapnet)	>12	6	148	874
	Trawls	<=12	8	113	872
		>12	27	2,910	7,816
	TOTAL		**403**	**2,910**	**21,720**
2018	Fixed gears	<=12	319	1,049	10,572
	(gillnet and trapnet)	>12	6	148	874
	Trawls	<=12	11	143	1,080
		>12	26	3,093	8,815
	TOTAL		**362**	**4,433**	**21,341**
2019	Fixed gears	<=12	309	1,008	10,374
	(gillnet and trapnet)	>12	4	100	598
	Trawls	<=12	8	114	897
		>12	25	2,655	8,025
	TOTAL		**346**	**3,877**	**19,894**
2020	Fixed gears	<=12	271	938	9,524
	(gillnet and trapnet)	>12	6	100	920
	Trawls	<=12	10	128	983
		>12	165	2,668	7,077
	TOTAL		**303**	**3,835**	**18,504**
2021	Fixed gears	<=12	293	990	10,087
	(gillnet and trapnet)	>12	4	77	523
	Trawls	<=12	10	122	900
		>12	14	2,385	6,551
	TOTAL		**321**	**3,574**	**18,061**


No. of vessels
450
400
350
300
250
200
150
100
50
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Gillnet and trapnet <=12 m
Trawls >12 m
Gillnet and trapnet >12 m
Trawls <=12 m
GRT
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Trawls >12 m
Gillnet and trapnet <=12 m
Gillnet and trapnet >12 m
Trawls <=12 m
KW
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Trawls >12 m
Gillnet and trapnet <=12 m
Gillnet and trapnet >12 m
Trawls <=12 m

1.3 Species composition of landings

The catch composition from gillnet and trapnet consists of nearly 100 % of herring.

The results from the species composition of German trawl catches, which were sampled in **Subdivision 24** of 4 in 2021, are given below:

SD 24/Quarter IV		Weight (kg)					Weight (%)			
	Sample No.	Herring	Sprat	Cod	Other	Total	Herring	Sprat	Cod	Other
Octob.	1									
	2									
	3									
	Mean									
Novemb.	1	43.65	0.04	0.00	0.00	43.69	99.92	0.08	0.00	0.00
	2	36.31	0.02	0.00	0.00	36.33	99.94	0.06	0.00	0.00
	3	37.30	0.00	0.00	0.00	37.30	100.00	0.00	0.00	0.00
	4	30.12	0.05	0.00	0.00	30.17	99.85	0.15	0.00	0.00
	Mean	36.85	0.03	0.00	0.00	36.87	99.93	0.07	0.00	0.00
Decemb.	1	26.17	0.00	0.00	0.00	26.17	100.00	0.00	0.00	0.00
	2	27.72	0.00	0.00	0.00	27.72	100.00	0.00	0.00	0.00
	3									
	Mean	26.95	0.00	0.00	0.00	26.95	100.00	0.00	0.00	0.00
Q IV	Mean	31.90	0.01	0.00	0.00	31.91	99.96	0.04	0.00	0.00

The officially reported total trawl landings of herring in Subdivision 24 (see 2.1) in combination with the detected mean species composition in the samples (see above) results in the following differences:

Subdiv.	Quarter	Trawl landings (t)	Mean Contribution of Herring (%)	Total Herring corrected (t)	Difference (t)
24	IV	**468.759**	99.96	468.571	-0.188

The officially reported trawl landings in Subdivision 24 (see 2.1) and the referring assessment input data (see 2.2 and 2.3) were as in last years not corrected since the results would only result in overall very small changes of the official statistics (<0.1 % difference).

1.4 Logbook registered discards/BMS landings

No BMS landings (new catch categories since 2015) of herring have been reported in the German herring fisheries in 2021 (no BMS landing have been reported since 2015). In 2021 a total amount of logbook registered discards (new catch categories since 2015) of 14.643 t were recorded by the German fisherman (as predation by seals) in the gillnet fisheries in SD 24 (2020 22/24 gillnet/trapnet fisheries: 32.437 t; 2019/SD 22/24 gillnet/trapnet fisheries: 21.882 t; 2018/SD 24/gillnet fisheries: 14.510 t). Neither discards nor logbook registered discards have been reported before 2018.

		Trapnet			Gillnet			Total		
		27.3.c.22	27.3.d.24	Total	27.3.c.22	27.3.d.24	Total	27.3.c.22	27.3.d.24	Total
Month	1	0.000	0.000	0.000	0.000	0.221	0.221	0.000	0.221	0.221
	2	0.000	0.000	0.000	0.000	0.335	0.335	0.000	0.335	0.335
	3	0.000	0.000	0.000	0.000	8.744	8.744	0.000	8.744	8.744
	4	0.000	0.000	0.000	0.000	3.698	3.698	0.000	3.698	3.698
	5	0.000	0.000	0.000	0.000	0.210	0.210	0.000	0.210	0.210
	6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	10	0.000	0.000	0.000	0.000	0.480	0.480	0.000	0.480	0.480
	11	0.000	0.000	0.000	0.000	0.845	0.845	0.000	0.845	0.845
	12	0.000	0.000	0.000	0.000	0.110	0.110	0.000	0.110	0.110
Quarter	1	0.000	0.000	0.000	0.000	9.300	9.300	0.000	9.300	9.300
	2	0.000	0.000	0.000	0.000	3.908	3.908	0.000	3.908	3.908
	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000	1.435	1.435	0.000	1.435	1.435
Total		0.000	0.000	0.000	0.000	14.643	14.643	0.000	14.643	14.643

1.5 Central Baltic herring

In the western Baltic, the distribution areas of two stocks, the Western Baltic Spring Spawning herring (WBSSH) and the Central Baltic herring (CBH) overlap. German autumn acoustic survey (GERAS) results indicated in the recent years that in SD 24, which is part of the WBSSH management area, a considerable fraction of CBH is present and correspondingly erroneously allocated to WBSSH stock indices (ICES, 2013). Accordingly, a stock separation function (SF) based on growth parameters in 2005 to 2010 has been developed to quantify the proportion of CBH and WBSSH in the area (Gröhsler et al., 2013, Gröhsler et al., 2016). The estimates of the growth parameters based on baseline samples of WBSSH and CBH support the applicability of SF in 2011-2018 and 2020-2021 (no update for 2019, due CBH occurring in baseline samples in SD 21 and SD 23, Oeberst et al., 2013, WD Oeberst et al., 2014, WD Oeberst et al., 2015; WD Oeberst et al., 2016; WD Oeberst et al., 2017; WD Gröhsler, T. and Schaber, M., 2018, WD Gröhsler, T. and Schaber, M., 2019, WD Gröhsler, T. and Schaber, M., 2021, WD Gröhsler, T. and Schaber, M., 2022). SF (slightly modified by commercial samples) was employed in the years 2005-2016 to identify the fraction of Central Baltic Herring in German commercial herring landings from SD 22 and 24 (WD Gröhsler et al., 2013; ICES, 2018). These results and further results of the years 2017-2020 showed a rather low share of CBH in landings from all métiers but indicated that the actual degree of mixing might be underrepresented in commercial landings as German commercial fisheries target pre-spawning and spawning aggregations of WBSSH.

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1.7 Landings (tons) and sampling effort under COVID-19 conditions

The sampling in SDs 22-24 was carried out as usual without constraints caused by COVID-19. Independent of Covid-19, it was not possible - as in the years before - to get any samples from the area of SDs 25-29 since 56 % of all herring landings (631 t) were landed in foreign ports.

1.7.1 Subdivisions 22 and 24

Gear	Quarter	SUBDIVISION 22				SUBDIVISION 24				TOTAL SUBDIVISIONS 22 & 24			
		Landings (tons)	No. samples	No. measured	No. aged	Landings (tons)	No. samples	No. measured	No. aged	Landings (tons)	No. samples	No. measured	No. aged
TRAWL	Q 1	1.062	0	0	0	42.430	0	0	0	43.492	0	0	0
	Q 2	0.008	0	0	0	0.706	0	0	0	0.714	0	0	0
	Q 3	0.050	-	-	-	0.000	-	-	-	0.050	-	-	-
	Q 4	0.060	0	0	0	468.759	6	1,624	640	468.819	6	1,624	640
	Total	1.180	0	0	0	511.895	6	1,624	640	513.075	6	1,624	640
GILLNET	Q 1	11.662	3	526	86	203.729	9	1,598	312	215.391	12	2,124	398
	Q 2	3.606	0	0	0	85.982	5	1,051	171	89.588	5	1,051	171
	Q 3	0.100	0	0	0	0.045	0	0	0	0.145	0	0	0
	Q 4	2.693	0	0	0	18.888	0	0	0	21.581	0	0	0
	Total	18.061	3	526	86	308.644	14	2,649	483	326.705	17	3,175	569
TRAPNET	Q 1	1.381	2	568	83	0.082	0	0	0	1.463	-	-	-
	Q 2	0.780	3	958	145	0.453	0	0	0	1.233	3	958	145
	Q 3	0.017	0	0	0	0.000	-	-	-	0.017	0	0	0
	Q 4	0.096	0	0	0	0.663	0	0	0	0.759	0	0	0
	Total	2.274	5	1,526	228	1.198	0	0	0	3.472	3	958	145
TOTAL	Q 1	14.105	5	1,094	169	246.241	9	1,598	312	260.346	14	2,692	481
	Q 2	4.394	3	958	145	87.141	5	1,051	171	91.535	8	2,009	316
	Q 3	0.167	0	0	0	0.045	0	0	0	0.212	0	0	0
	Q 4	2.849	0	0	0	488.310	6	1,624	640	491.159	6	1,624	640
	Total	21.515	8	2,052	314	821.737	20	4,273	1,123	843.252	28	6,325	1,437

1.7.2 Subdivisions 25-29

All herring in this area was caught by trawls.

Gear	Quarter	SUBDIVISION 25				SUBDIVISION 26				SUBDIVISION 27			
		Landings (tons)	No. samples	No. measured	No. aged	Landings (tons)	No. samples	No. measured	No. aged	Landings (tons)	No. samples	No. measured	No. aged
TRAWL	Q 1	126.503	0	0	0	225.000	0	0	0	0.000	-	-	-
	Q 2	182.384	0	0	0	16.892	0	0	0	10.323	0	0	0
	Q 3	0.000	-	-	-	0.000	-	-	-	0.000	-	-	-
	Q 4	0.000	-	-	-	0.000	-	-	-	0.000	-	-	-
	Total	308.887	0	0	0	241.892	0	0	0	10.323	0	0	0

Gear	Quarter	SUBDIVISION 28.2				SUBDIVISION 29				SUBDIVISION 25-29			
		Landings (tons)	No. samples	No. measured	No. aged	Landings (tons)	No. samples	No. measured	No. aged	Landings (tons)	No. samples	No. measured	No. aged
TRAWL	Q 1	16.067	0	0	0	39.717	0	0	0	407.287	0	0	0
	Q 2	0.000	-	-	-	0.000	-	-	-	209.599	0	0	0
	Q 3	0.000	-	-	-	0.000	-	-	-	0.000	0	0	0
	Q 4	2.990	0	0	0	10.964	0	0	0	13.954	0	0	0
	Total	19.057	0	0	0	50.681	0	0	0	630.840	0	0	0

1.8 Catch in numbers (millions)

1.8.1 Subdivisions 22 and 24

No replacement has been carried out for trawl landings in quarter 1 and 2 of SDs 22&24.

		SUBDIVISION 22				SUBDIVISION 24				SUBDIVISIONS 22+24			
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAWL	0			0.000002	0.000002				0.019			0.00000	0.019
	1			0.00001	0.00001				0.066			0.00001	0.066
	2			0.00006	0.00008				0.601			0.00006	0.602
	3			0.00013	0.00015				1.173			0.00013	1.173
	4			0.00010	0.00012				0.921			0.00010	0.922
	5			0.00005	0.00005				0.427			0.00005	0.427
	6			0.00003	0.00004				0.296			0.00003	0.296
	7			0.00002	0.00003				0.209			0.00002	0.209
	8+			0.00001	0.00001				0.070			0.00001	0.070
	Sum			0.00040	0.00048				3.783			0.00040	3.783
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
GILLNET	0												
	1												
	2												
	3	0.0001	0.0001	0.000003	0.0001		0.003	0.00000	0.001	0.000	0.003	0.00000	0.001
	4	0.004	0.0010	0.000027	0.0007	0.061	0.023	0.00001	0.005	0.066	0.024	0.00004	0.006
	5	0.029	0.0030	0.000084	0.0023	0.096	0.072	0.00004	0.016	0.124	0.075	0.00012	0.018
	6	0.026	0.0067	0.000186	0.0050	0.404	0.160	0.00008	0.035	0.431	0.166	0.00027	0.040
	7	0.004	0.0039	0.000109	0.0029	0.248	0.094	0.00005	0.021	0.252	0.097	0.00016	0.023
	8+	0.011	0.0075	0.000207	0.0056	0.301	0.178	0.00009	0.039	0.311	0.185	0.00030	0.045
	Sum	0.074	0.0222	0.000616	0.0166	1.110	0.530	0.00028	0.116	1.185	0.552	0.00089	0.133
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAPNET	0												
	1												
	2		0.001	0.000015	0.00008		0.0004		0.0006		0.0011	0.00001	0.00065
	3	0.000	0.002	0.000045	0.00025	0.00002	0.0012		0.0018	0.0004	0.0033	0.00004	0.00201
	4	0.003	0.002	0.000046	0.00026	0.00018	0.0012		0.0018	0.0032	0.0033	0.00005	0.00204
	5	0.005	0.004	0.000093	0.00052	0.00032	0.0025		0.0036	0.0056	0.0067	0.00009	0.00414
	6	0.002	0.001	0.000012	0.00007	0.00012	0.0003		0.0005	0.0021	0.0009	0.00001	0.00054
	7	0.000	0.000	0.000004	0.00002	0.00001	0.0001		0.0001	0.0002	0.0003	0.00000	0.00016
	8+	0.001	0.000	0.000000	0.00000	0.00004	0.0000		0.0000	0.0008	0.0000	0.00000	0.00001
	Sum	0.012	0.010	0.00021	0.00121	0.00069	0.0057		0.0083	0.0122	0.0155	0.00021	0.00955
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TOTAL	0			0.000002	0.00000				0.019			0.00000	0.019
	1			0.00001	0.00001				0.066			0.00001	0.066
	2		0.0007	0.00008	0.00016		0.000		0.602		0.0011	0.00008	0.602
	3	0.0005	0.0022	0.00017	0.00049	0.000	0.004	0.00000	1.176	0.001	0.0062	0.00017	1.176
	4	0.0073	0.0031	0.00017	0.00110	0.062	0.024	0.00001	0.928	0.069	0.0274	0.00018	0.929
	5	0.0339	0.0073	0.00022	0.00285	0.096	0.075	0.00004	0.447	0.130	0.0822	0.00026	0.450
	6	0.0282	0.0073	0.00023	0.00511	0.405	0.160	0.00008	0.331	0.433	0.1673	0.00031	0.336
	7	0.0046	0.0041	0.00013	0.00298	0.248	0.094	0.00005	0.230	0.253	0.0977	0.00018	0.233
	8+	0.0113	0.0075	0.00021	0.00558	0.301	0.178	0.00009	0.109	0.312	0.1854	0.00031	0.115
	Sum	0.0858	0.0320	0.00123	0.0183	1.111	0.535	0.00028	3.907	1.197	0.5673	0.00151	3.925

REPLACEMENT OF MISSING SAMPLES:

SUBDIVISION 22					SUBDIVISION 24				
Missing		Replacement by			Missing		Replacement by		
Gear	Quart.	Area	Gear	Quart.	Gear	Quart.	Area	Gear	Quart.
Trawl	3 & 4	24	Trawl	4	Gillnet	3 & 4	24	Gillnet	2
Gillnet	2-4	24	Gillnet	2	Trapn	1	22	Trapn	1
Trapn	3 & 4	22	Trapn	2	Trapn	2 & 4	22	Trapn	2
Trawl	1 & 2	with no filling			Trawl	1 & 2	with no filling		

1.8.2 Subdivisions 25-29

No sampling.

1.9 Mean weight in the catch (grams)

1.9.1 Subdivisions 22 and 24

No replacement has been carried out for trawl landings in quarter 1 and 2 of SDs 22&24.

		SUBDIVISION 22				SUBDIVISION 24				SUBDIVISIONS 22+24			
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAWL	0			20.1	20.1				20.1			20.1	20.1
	1			38.4	38.4				38.4			38.4	38.4
	2			83.2	83.2				83.2			83.2	83.2
	3			106.8	106.8				106.8			106.8	106.8
	4			135.3	135.3				135.3			135.3	135.3
	5			150.1	150.1				150.1			150.1	150.1
	6			171.1	171.1				171.1			171.1	171.1
	7			182.1	182.1				182.1			182.1	182.1
	8+			187.2	187.2				187.2			187.2	187.2
	Sum			123.9	123.9				123.9			123.9	123.9
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
GILLNET	0												
	1												
	2												
	3	107.8	111.4	111.4	111.4		111.4	111.4	111.4	107.8	111.4	111.4	111.4
	4	139.5	136.2	136.2	136.2	152.4	136.2	136.2	136.2	151.5	136.2	136.2	136.2
	5	153.4	153.3	153.3	153.3	171.3	153.3	153.3	153.3	167.2	153.3	153.3	153.3
	6	156.6	161.2	161.2	161.2	182.2	161.2	161.2	161.2	180.6	161.2	161.2	161.2
	7	166.5	165.8	165.8	165.8	187.6	165.8	165.8	165.8	187.2	165.8	165.8	165.8
	8+	171.1	169.6	169.6	169.6	192.1	169.6	169.6	169.6	191.4	169.6	169.6	169.6
	Sum	157.0	162.4	162.4	162.4	183.5	162.4	162.4	162.4	181.8	162.4	162.4	162.4
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAPNET	0												
	1												
	2		49.5	49.5	49.5		49.5		49.5		49.5	49.5	49.5
	3	78.8	54.8	54.8	54.8	78.8	54.8		54.8	78.8	54.8	54.8	54.8
	4	96.3	79.6	79.6	79.6	96.3	79.6		79.6	96.3	79.6	79.6	79.6
	5	122.8	92.8	92.8	92.8	122.8	92.8		92.8	122.8	92.8	92.8	92.8
	6	139.0	93.0	93.0	93.0	139.0	93.0		93.0	139.0	93.0	93.0	93.0
	7	134.2	107.8	107.8	107.8	134.2	107.8		107.8	134.2	107.8	107.8	107.8
	8+	161.6	200.0	200.0	200.0	161.6	200.0		200.0	161.6	200.0	200.0	200.0
	Sum	119.7	79.4	79.4	79.4	119.7	79.4		79.4	119.7	79.4	79.4	79.4
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TOTAL	0			20.1	20.1				20.1			20.1	20.1
	1			38.4	38.4				38.4			38.4	38.4
	2		49.5	77.0	65.8		49.5		83.2		49.5	77.0	83.2
	3	86.3	57.9	93.4	80.9	78.8	94.7	111.4	106.7	86.0	81.8	93.6	106.7
	4	121.7	97.5	120.5	122.8	152.2	133.3	136.2	135.2	149.0	129.3	121.6	135.2
	5	148.6	118.0	127.4	142.1	171.2	151.3	153.3	149.7	165.3	148.3	131.2	149.7
	6	155.4	155.9	158.9	160.3	182.2	161.1	161.2	169.9	180.4	160.8	159.5	169.8
	7	165.4	163.4	166.9	165.5	187.6	165.7	165.8	180.6	187.2	165.6	166.6	180.4
	8+	170.5	169.6	170.2	169.6	192.1	169.6	169.6	180.9	191.3	169.6	170.0	180.4
	Sum	152.0	137.0	135.4	155.9	183.5	161.5	162.4	125.0	181.2	160.1	140.4	125.1

REPLACEMENT OF MISSING SAMPLES:

SUBDIVISION 22					SUBDIVISION 24				
Missing		Replacement by			Missing		Replacement by		
Gear	Quart.	Area	Gear	Quart.	Gear	Quart.	Area	Gear	Quart.
Trawl	3 & 4	24	Trawl	4	Gillnet	3 & 4	24	Gillnet	2
Gillnet	2-4	24	Gillnet	2	Trapn	1	22	Trapn	1
Trapn	3 & 4	22	Trapn	2	Trapn	2 & 4	22	Trapn	2
Trawl	1 & 2	with no filling			Trawl	1 & 2	with no filling		

1.9.2 Subdivisions 25 and 29

No sampling.

1.10 Mean length in the catch (cm)

1.10.1 Subdivisions 22 and 24

No replacement has been carried out for trawl landings in quarter 1 and 2 of SDs 22&24.

		SUBDIVISION 22				SUBDIVISION 24				SUBDIVISIONS 22+24			
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAWL	0			14.9	14.9				14.9			14.9	14.9
	1			18.4	18.4				18.4			18.4	18.4
	2			23.0	23.0				23.0			23.0	23.0
	3			24.6	24.6				24.6			24.6	24.6
	4			26.2	26.2				26.2			26.2	26.2
	5			27.0	27.0				27.0			27.0	27.0
	6			28.2	28.2				28.2			28.2	28.2
	7			28.8	28.8				28.8			28.8	28.8
	8+			29.4	29.4				29.4			29.4	29.4
	Sum			25.4	25.4				25.4			25.4	25.4
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
GILLNET	0												
	1												
	2												
	3	24.3	24.6	24.6	24.6		24.6	24.6	24.6	24.3	24.6	24.6	24.6
	4	26.3	26.2	26.2	26.2	27.2	26.2	26.2	26.2	27.1	26.2	26.2	26.2
	5	27.3	27.3	27.3	27.3	28.4	27.3	27.3	27.3	28.1	27.3	27.3	27.3
	6	27.6	28.0	28.0	28.0	29.1	28.0	28.0	28.0	29.0	28.0	28.0	28.0
	7	28.2	28.3	28.3	28.3	29.5	28.3	28.3	28.3	29.5	28.3	28.3	28.3
	8+	28.6	28.6	28.6	28.6	29.8	28.6	28.6	28.6	29.8	28.6	28.6	28.6
	Sum	27.6	28.0	28.0	28.0	29.2	28.0	28.0	28.0	29.1	28.0	28.0	28.0
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAPNET	0												
	1												
	2		19.5	19.5	19.5		19.5		19.5		19.5	19.5	19.5
	3	23.0	20.3	20.3	20.3	23.0	20.3		20.3	23.0	20.3	20.3	20.3
	4	24.1	23.1	23.1	23.1	24.1	23.1		23.1	24.1	23.1	23.1	23.1
	5	26.0	24.2	24.2	24.2	26.0	24.2		24.2	26.0	24.2	24.2	24.2
	6	27.0	24.1	24.1	24.1	27.0	24.1		24.1	27.0	24.1	24.1	24.1
	7	26.8	25.1	25.1	25.1	26.8	25.1		25.1	26.8	25.1	25.1	25.1
	8+	28.5	29.3	29.3	29.3	28.5	29.3		29.3	28.5	29.3	29.3	29.3
	Sum	25.7	22.8	22.8	22.8	25.7	22.8		22.8	25.7	22.8	22.8	22.8
	W-rings	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TOTAL	0			14.9	14.9				14.9			14.9	14.9
	1			18.4	18.4				18.4			18.4	18.4
	2		19.5	22.3	21.2		19.5		22.9		19.5	22.3	22.9
	3	23.3	20.5	23.4	22.4	23.0	23.3	24.6	24.6	23.3	22.3	23.5	24.6
	4	25.4	24.0	25.4	25.4	27.2	26.0	26.2	26.2	27.0	25.8	25.4	26.2
	5	27.1	25.5	25.9	26.7	28.4	27.2	27.3	27.0	28.0	27.1	26.2	27.0
	6	27.5	27.7	27.8	27.9	29.1	28.0	28.0	28.2	29.0	27.9	27.8	28.2
	7	28.2	28.1	28.3	28.3	29.5	28.3	28.3	28.8	29.5	28.3	28.3	28.7
	8+	28.6	28.6	28.6	28.6	29.8	28.6	28.6	29.1	29.8	28.6	28.6	29.1
	Sum	27.3	26.4	26.3	27.6	29.2	28.0	28.0	25.5	29.1	27.9	26.6	25.5

REPLACEMENT OF MISSING SAMPLES:

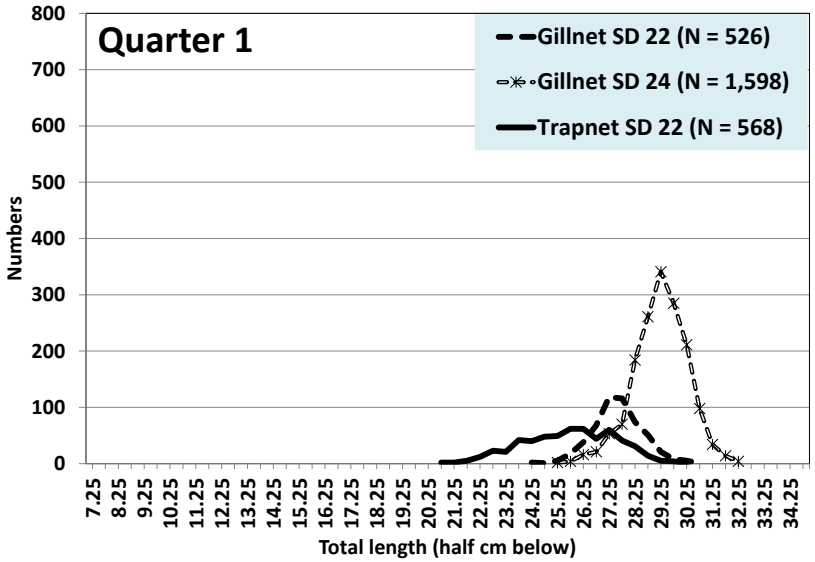
SUBDIVISION 22					SUBDIVISION 24				
Missing		Replacement by			Missing		Replacement by		
Gear	Quart.	Area	Gear	Quart.	Gear	Quart.	Area	Gear	Quart.
Trawl	3 & 4	24	Trawl	4	Gillnet	3 & 4	24	Gillnet	2
Gillnet	2-4	24	Gillnet	2	Trapn	1	22	Trapn	1
Trapn	3 & 4	22	Trapn	2	Trapn	2 & 4	22	Trapn	2
Trawl	1 & 2	with no filling			Trawl	1 & 2	with no filling		

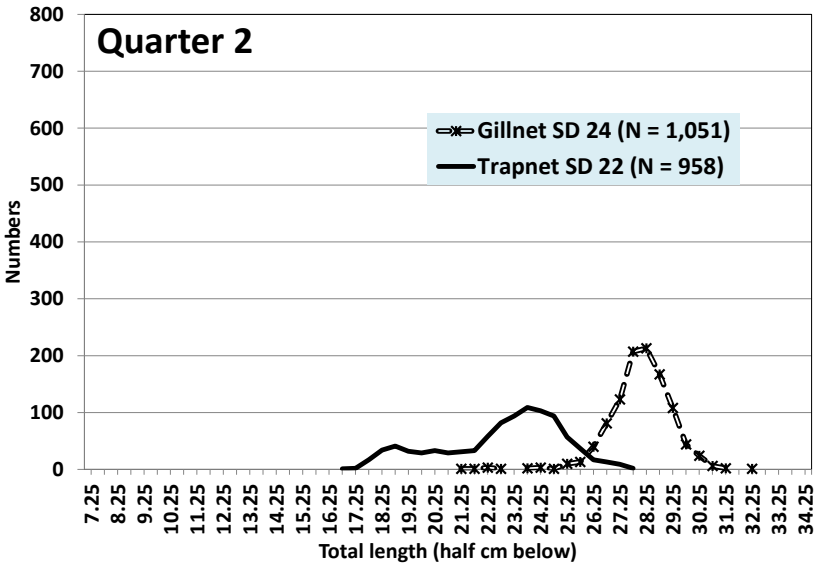
1.10.2 Subdivisions 25 and 29

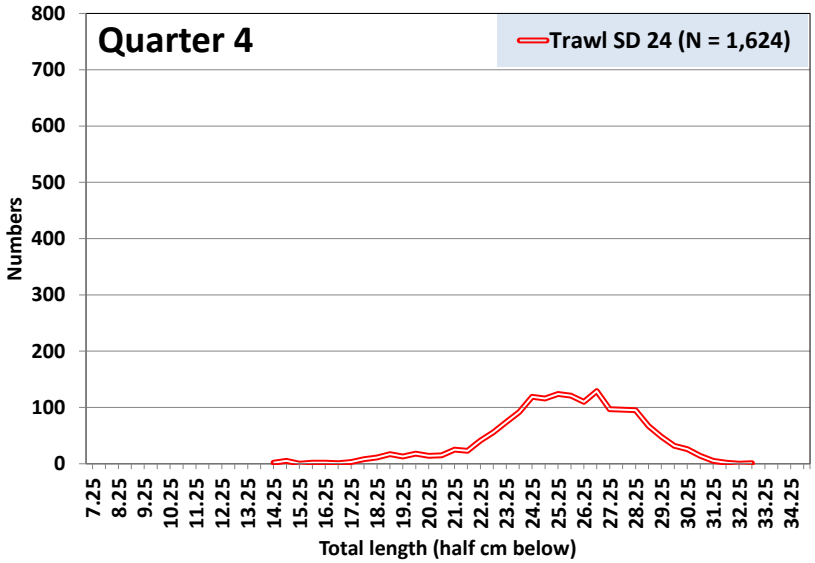
No sampling.

1.11 Sampled length distributions by Subdivision, quarter and type of gear

1.11.1 Subdivisions 22 and 24







1.11.2 Subdivisions 25 and 29

No sampling.

2 SPRAT

2.1 Fisheries

The provisional sprat **landings in Subdivisions 22-29 in 2021 reached** according to the
(a) share of the EU quota (2021: 13,933 t) and
(b) further transfer of quota (overall 1,930 t were transferred to other Baltic countries)

11,959 t,

which represents a utilization of the final overall quota in 2021 (12,003 t) of 99,6 % (2020: 96.2 %). Only 45 % of the sprat landings were landed in foreign ports in 2021 (2020: 87 %).

As in previous years most sprat was

- caught in the first quarter (2021: 82 %, 2020: 54 %, 2019: 62 %),
- caught in Subdivisions 25-29 (2021: 99,97 %, 2020: 99.8 %, 2019: 97 %)

The landings (t) by quarter and Subdivision including information about the landings in foreign ports are shown in the table below:

Quarter	SD 22	SD 24	SD 25	SD 26	SD 27	SD 28	SD 29	(1) Total SD 25-29	% (1)/(2)	(2) Total SD 22-29	% (2)
I	0.462	-	2,829.636	5,835.929	-	569.735	599.433	9,834.733	100.0%	9,835.195	82.2%
	-	-	1,001.664	2,218.966	-	75.635	-	3,296.265	100.0%	3,296.265	60.9%
II	-	0.700	912.682	538.175	219.257	-	-	1,670.114	100.0%	1,670.814	14.0%
	-	-	912.192	538.175	219.257	-	-	1,669.624	100.0%	1,669.624	30.8%
III	0.005	-	-	-	-	-	-	0.000	0.0%	**0.005**	0.0%
	-	-	-	-	-	-	-	-	-	-	-
IV	0.002	2.948	86.844	-	-	66.410	296.291	449.545	99.3%	452.495	3.8%
	-	-	86.844	-	-	66.410	296.291	449.545	100.0%	449.545	8.3%
Total	**0.469**	**3.648**	**3,829.162**	**6,374.104**	**219.257**	**636.145**	**895.724**	**11,954.392**	**100.0%**	**11,958.509**	100.0%
	0.000	0.000	2,000.700	2,757.141	219.257	142.045	296.291	5,415.434	100.0%	5,415.434	45.3%
								2021/2020		**2021/2020**	
								134.2%		**133.9%**	
			Fraction of total landings (t) in foreign ports					69.6%		69.5%	
								Proportion landed in foreign ports in 2021:		**45.3%**	

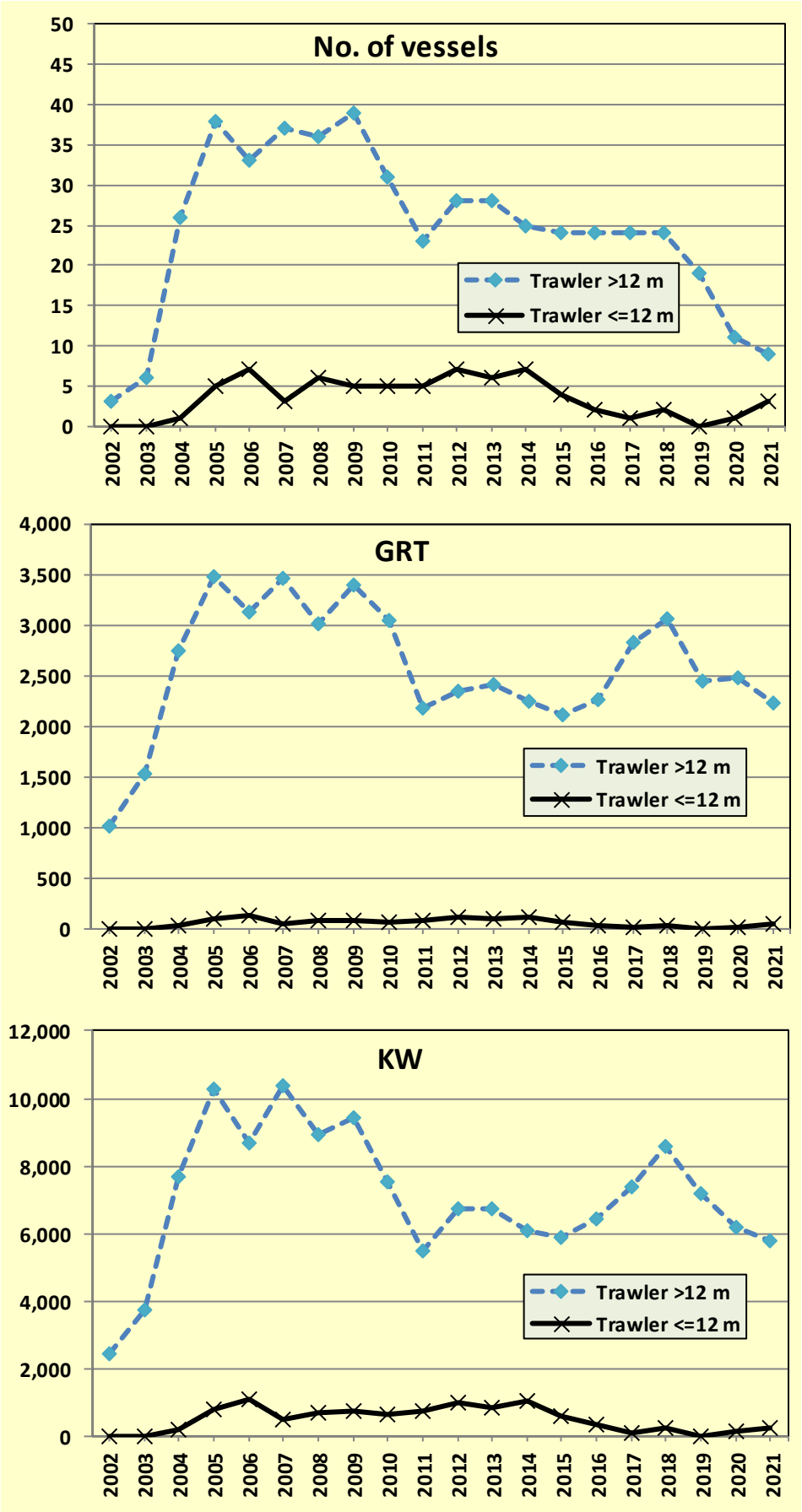
2.2 Fishing fleet

The German fishing fleet in the Baltic Sea consists of only one fleet where all catches for sprat are taken in a directed trawl fishery:

- cutter fleet of total length <= 12 m,
- cutter fleet of total length > 12 m.

In the years 2002 – 2021 the following type of fishing vessels were available to carry out the sprat fishery in the Baltic Sea (only referring to vessels, which are contributing to the overall total landings per year with more than 20 %):

Year	Vessel length (m)	No. of vessels	GRT	kW
2002	<=12	0	0	0
	>12	3	1,009	2,434
2003	<=12	0	0	0
	>12	6	1,531	3,716
2004	<=12	1	24	220
	>12	26	2,750	7,682
2005	<=12	5	93	798
	>12	38	3,479	10,289
2006	<=12	7	123	1,090
	>12	33	3,134	8,685
2007	<=12	3	43	492
	>12	37	3,454	10,396
2008	<=12	6	72	679
	>12	36	3,014	8,913
2009	<=12	5	79	761
	>12	39	3,389	9,438
2010	<=12	5	69	664
	>12	31	3,041	7,525
2011	<=12	5	74	756
	>12	23	2,174	5,494
2012	<=12	7	107	1.007
	>12	28	2.345	6.727
2013	<=12	6	94	868
	>12	28	2,411	6,728
2014	<=12	7	112	1,019
	>12	25	2,241	6,070
2015	<=12	4	69	596
	>12	24	2,119	5,892
2016	<=12	2	37	345
	>12	24	2,254	6,424
2017	<=12	1	17	100
	>12	24	2,821	7,396
2018	<=12	2	32	246
	>12	24	3,052	8,560
2019	<=12	0	0	0
	>12	19	2,445	7,179
2020	<=12	1	16	143
	>12	11	2,476	6,166
2021	<=12	3	48	260
	>12	9	2,224	5,761


No. of vessels
50
45
40
35
30
25
20
15
10
5
0
Trawler >12 m
Trawler <=12 m
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
GRT
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Trawler >12 m
Trawler <=12 m
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021
KW
12,000
10,000
8,000
6,000
4,000
2,000
0
Trawler >12 m
Trawler <=12 m
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

2.3 Species composition of landings

The results from the species composition of German trawl catches, which were sampled in **Subdivision 25 of quarter 1 and 2** in 2021, are given below:

SD 25/Quarter I		Weight (kg)					Weight (%)			
	Sample No.	Sprat	Herring	Cod	Other	Total	Sprat	Herring	Cod	Other
January	1	8.3	0.1	0.0	0.0	8.4	98.9	1.1	0.0	0.0
	Mean	8.3	0.1	0.0	0.0	8.4	98.9	1.1	0.0	0.0
February										
	Mean									
March	1	6.6	0.2	0.0	0.0	6.8	96.9	3.1	0.0	0.0
	2	6.7	0.1	0.0	0.0	6.8	98.9	1.1	0.0	0.0
	3	7.3	0.2	0.0	0.0	7.5	97.6	2.4	0.0	0.0
	4	7.1	0.2	0.0	0.0	7.3	96.6	3.4	0.0	0.0
	5	6.3	0.1	0.0	0.2	6.6	95.2	1.9	0.0	2.9
	6	6.7	0.0	0.0	0.3	6.7	99.5	0.5	0.0	4.4
	7	7.7	0.0	0.0	0.0	7.7	100.0	0.0	0.0	0.0
	Mean	6.9	0.1	0.0	0.1	7.0	97.8	1.8	0.0	1.0
Q I	Mean	7.6	0.1	0.0	0.0	7.7	98.3	1.4	0.0	0.5

SD 25/Quarter II		Weight (kg)					Weight (%)			
	Sample No.	Sprat	Herring	Cod	Other	Total	Sprat	Herring	Cod	Other
April	1	7.2	0.1	0.0	0.0	7.3	99.1	0.9	0.0	0.0
	2	8.3	0.2	0.0	0.0	8.5	97.1	2.9	0.0	0.0
	Mean	7.8	0.2	0.0	0.0	7.9	98.1	1.9	0.0	0.0
May										
	Mean									
June										
	Mean									
Q II	Mean	7.8	0.2	0.0	0.0	7.9	98.1	1.9	0.0	0.0

The results from the species composition of German trawl catches, which were sampled in **Subdivision 26 of quarter 1** in 2021 are given below:

SD 26/Quarter I		Weight (kg)					Weight (%)			
	Sample No.	Sprat	Herring	Cod	Other	Total	Sprat	Herring	Cod	Other
January	1	7.4	0.0	0.0	0.0	7.4	100.0	0.0	0.0	0.0
	2	7.2	0.0	0.0	0.0	7.2	100.0	0.0	0.0	0.0
	Mean	7.3	0.0	0.0	0.0	7.3	100.0	0.0	0.0	0.0
February	3	7.3	0.0	0.0	0.0	7.3	100.0	0.0	0.0	0.0
	4	7.9	0.0	0.0	0.0	7.9	100.0	0.0	0.0	0.0
	Mean	7.6	0.0	0.0	0.0	7.6	100.0	0.0	0.0	0.0
March										
	Mean									
Q I	Mean	7.5	0.0	0.0	0.0	7.5	100.0	0.0	0.0	0.0

The results from the species composition of German trawl catches, which were sampled in **Subdivision 28 of quarter 1** in 2021, are given below:

SD 28/Quarter I		Weight (kg)					Weight (%)			
	Sample No.	Sprat	Herring	Cod	Other	Total	Sprat	Herring	Cod	Other
January	1	6.2	0.0	0.0	0.0	6.2	100.0	0.0	0.0	0.0
	Mean	6.2	0.0	0.0	0.0	6.2	100.0	0.0	0.0	0.0
February										
	Mean									
March										
	Mean									
Q I	Mean	6.2	0.0	0.0	0.0	6.2	100.0	0.0	0.0	0.0

The results from the species composition of German trawl catches, which were sampled in **Subdivision 29 of quarter 1** in 2021, are given below:

SD 29/Quartal 1		Weight (kg)					Weight (%)			
	Sample No.	Sprat	Herring	Cod	Other	Total	Sprat	Herring	Cod	Other
January										
	Mean									
February	1	7.6	0.7	0.0	0.0	8.3	91.4	8.6	0.0	0.0
	Mean	7.6	0.7	0.0	0.0	8.3	91.4	8.6	0.0	0.0
March										
	Mean									
Q I	Mean	7.6	0.7	0.0	0.0	8.3	91.4	8.6	0.0	0.0

The officially reported total trawl landings of sprat in Subdivisions 25-29 (see 2.1) in combination with the noticed mean species composition in the samples (see above) would result in the following differences:

Subdiv.	Quarter	Trawl landings (t)	Mean Contribution of Sprat (%)	Total Sprat corrected (t)	Difference (t)
25	I	2,830	98.3	2,782	48
	II	913	98.1	895	17
26	I	5,836	100.0	5,836	0
28	I	570	100.0	570	0
29	I	599	91.4	548	52

The overall difference amounted to -117 t, which would represent a change of the total landing value for Germany in 2021 of -1 % [total landings in SD 22-29 in 2021 of 11,959 t - 117 t ->11,842 t, 2019-2020: -3 %, 2018: -12 %, 2017: -4 %, 2016: -11 %, 2015: -14 %; 2014: -7 %, 2013: -6 %]. The officially reported trawl landings (see 2.1) and the referring assessment input data (see 2.5 and 2.6) were not corrected these small differences in 2021. However, an implementation error of about at least 1-14 % regarding the total landing figure for Germany could be explored during the next benchmark process.

2.4 Logbook registered discards/BMS landings

No logbook registered discards or BMS landings (both new catch categories since 2015) of sprat have been reported in the German fisheries in 2021 (almost no BMS landing have been reported in 2015 - 2018 and no discards/logbook registered discards have been reported before 2019).

2.5 Landings (tons) and sampling effort under Covid-19 conditions

Only 45 % sprat was landed in foreign ports in 2021 (2020: 87%, 2019: 89 %, 2018: 90 %). In contrast to last year where it was only possible to sample 55 % of the total landings (most likely caused by a combination of COVID-19 restrictions and reduced quota), the sampling in 2021 got back to the higher levels before 2020. In 2021 it was possible to sample 90 % of the sprat landings (2019: 90 %, 2018: 93 %).

Gear	Quarter	SUBDIVISION 22[1]				SUBDIVISION 24[2]				SUBDIVISION 25[3]			
		Landings (tons)	No. samples	No. measured	No. aged	Landings (tons)	No. samples	No. measured	No. aged	Landings (tons)	No. samples	No. measured	No. aged
TRAWL	Q 1	0.462	0	0	0	0.000	-	-	-	2,829.636	8	1,836	343
	Q 2	0.000	-	-	-	0.700	0	0	0	912.682	2	472	69
	Q 3	0.005	0	0	0	0.000	-	-	-	0.000	-	-	-
	Q 4	0.002	0	0	0	2.948	0	0	0	86.844	0	0	0
	Total	0.469	0	0	0	3.648	0	0	0	3,829.162	10	2,308	412

Gear	Quarter	SUBDIVISION 26[3]				SUBDIVISION 27[3]				SUBDIVISION 28[3]			
		Landings (tons)	No. samples	No. measured	No. aged	Landings (tons)	No. samples	No. measured	No. aged	Landings (tons)	No. samples	No. measured	No. aged
TRAWL	Q 1	5,835.929	4	985	206	0.000	-	-	-	569.735	1	238	33
	Q 2	538.175	-	-	-	219.257	-	-	-	0.000	-	-	-
	Q 3	0.000	-	-	-	0.000	-	-	-	0.000	-	-	-
	Q 4	0.000	-	-	-	0.000	-	-	-	66.410	-	-	-
	Total	6,374.104	4	985	206	219.257	0	0	0	636.145	1	238	33

Gear	Quarter	SUBDIVISION 29[3]				SUBDIVISIONS 22-29[4]			
		Landings (tons)	No. samples	No. measured	No. aged	Landings (tons)	No. samples	No. measured	No. aged
TRAWL	Q 1	599.433	1	227	47	9,835.195	14	3,286	629
	Q 2	0.000	-	-	-	1,670.814	2	472	69
	Q 3	0.000	-	-	-	0.005	0	0	0
	Q 4	296.291	-	-	-	452.495	0	0	0
	Total	895.724	1	227	47	11,958.509	16	3,758	698

Fraction of landings in foreign ports:

[1]SD 22: 0 %
[2]SD 24: 0 %
[3]SD 25-29: 5,415 t (45 %)
[4]SD 22-29: 5,415 t (45 %)

2.6 Catch in numbers (millions)

		SUBDIVISION 22				SUBDIVISION 24				SUBDIVISION 25				SUBDIVISION 26			
	Age	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAWL	0																
	1									6.009	1.659			59.443			
	2									101.173	39.132			326.773			
	3									52.220	19.488			99.524			
	4									61.513	20.935			82.970			
	5									20.138	9.107			42.753			
	6									28.597	3.872			27.992			
	7									5.011	3.664			6.261			
	8+									0.450							
	Sum									275.110	97.857			645.716			

		SUBDIVISION 27				SUBDIVISION 28				SUBDIVISION 29				SUBDIVISIONS 22-29			
	Age	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAWL	0																
	1					15.244				6.186				86.882	1.659		
	2					19.103				46.882				493.931	39.132		
	3					20.466				5.990				178.201	19.488		
	4					5.910				6.251				156.644	20.935		
	5					16.803				2.279				81.972	9.107		
	6					0.327				6.316				63.232	3.872		
	7													11.272	3.664		
	8+													0.450			
	Sum					77.853				73.904				1072.584	97.857		

2.7 Mean weight in the catch (grams)

		SUBDIVISION 22				SUBDIVISION 24				SUBDIVISION 25				SUBDIVISION 26			
	Age	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAWL	0																
	1									3.8	3.6			4.1			
	2									9.1	8.1			8.7			
	3									10.7	9.9			9.9			
	4									11.1	10.2			10.5			
	5									12.2	11.2			11.3			
	6									11.8	11.5			11.6			
	7									11.9	10.4			11.3			
	8+									16.4							
	Sum									10.3	9.3			9.0			

		SUBDIVISION 27				SUBDIVISION 28				SUBDIVISION 29				SUBDIVISIONS 22-29			
	Age	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAWL	0																
	1					6.1				2.4				4.3	3.6		
	2					6.8				7.9				8.7	8.1		
	3					7.9				9.8				9.9	9.9		
	4					7.6				10.3				10.6	10.2		
	5					8.2				11.3				10.9	11.2		
	6					9.9				10.0				11.5	11.5		
	7													11.6	10.4		
	8+													16.4			
	Sum					7.3				8.1				9.2	9.3		

2.8 Mean length in the catch (cm)

		SUBDIVISION 22				SUBDIVISION 24				SUBDIVISION 25				SUBDIVISION 26			
	Age	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAWL	0																
	1									8.9	8.8			9.0			
	2									11.5	11.1			11.2			
	3									12.2	12.1			11.7			
	4									12.4	12.2			12.0			
	5									12.8	12.6			12.4			
	6									12.6	12.7			12.5			
	7									12.7	12.3			12.4			
	8+									14.3							
	Sum									12.0	11.7			11.3			

		SUBDIVISION 27				SUBDIVISION 28				SUBDIVISION 29				SUBDIVISIONS 22-29			
	Age	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TRAWL	0																
	1					10.2				7.9				9.2	8.8		
	2					10.7				10.7				11.2	11.1		
	3					11.5				11.7				11.8	12.1		
	4					11.4				12.0				12.1	12.2		
	5					11.7				12.5				12.3	12.6		
	6					13.3				11.8				12.5	12.7		
	7													12.5	12.3		
	8+													14.3			
	Sum					11.1				10.8				11.4	11.7		

2.9 Sampled length distributions of sprat by Subdivision and quarter