5 Horse Mackerel in the Northeast Atlantic (*Trachurus trachurus*)

5.1 Fisheries in 2021

The total international catches of horse mackerel in the Northeast Atlantic are shown in Table 5.1.1. Since 2011, the southern horse mackerel stock is assessed by ICES WGHANSA. The total catch from all areas in 2020 for the Western and North Sea stocks was 89 009 t which is 47 741 t less than in 2019 and the second lowest in the time-series.

France, Germany and the Netherlands have a directed trawl fishery and Norway and France a directed purse-seine fishery for horse mackerel. Spain has directed as well as mixed trawl and purse-seine fisheries targeting horse mackerel. In earlier years, most of the catches were used for meal and oil while in later years most of the catches have been used for human consumption.

The quarterly catches of North Sea and Western horse mackerel by Division and Subdivision in 2020 are given in Table 5.1.2 and the distributions of the fisheries are given in Figures 5.1.1.a–5.1.1.d. Note that the figures also include catches of southern horse mackerel. The maps are based on data provided by Belgium, France, Germany, Ireland, Netherlands, Norway, Portugal, Spain and Scotland and represent 99% of the total catches. The distribution of the fishery is similar to recent years with the highest catches taken in the 1st and 4th quarter.

The Dutch, Danish, Irish and German fleets operated mainly in the North and West of Ireland and the Western waters off Scotland. The French fleet were in the Bay of Biscay and West Scotland whereas the Norwegian fleet fished in the Northeastern part of the North Sea. The Spanish fleet operated mainly in waters of Cantabrian Sea and Bay of Biscay.

First quarter: The fishing season with most of the catches 30 961 t (36% of the total catch of the combined Western and North Sea horse mackerel catch). The fishery was mainly carried out west of Scotland and West and North of Ireland and along the Spanish coast (Figure 5.1.1.a).

Second quarter: 7974 t. As usual, catches were significantly lower than in the first quarter as the second quarter is the main spawning period. Most of the catch were taken West of Ireland and along the Spanish coast. (Figure 5.1.1.b)

Third quarter: 19 789 t. Most of the catch were taken in Spanish waters, West of Ireland, in the Channel area and at the Norwegian coast (Figure 5.1.1.c).

Fourth quarter: Catches were 26 988 t (31% of the total catch). The catches were distributed in five main areas (Figure 5.1.1.d):

- Spanish waters,
- Western and Northern Irish waters and West of Scotland
- Norwegian coast
- Eastern part of the Channel
- Northeastern part of the Celtic Sea

5.2 Stock units

For many years the Working Group has considered the horse mackerel in the Northeast Atlantic as consisting of three separate stocks: the North Sea, the Southern and the Western stocks (ICES 1990, ICES 1991). For further information, see the Western Horse Mackerel Stock Annex and the

WD document on horse mackerel stock structure (WD Brunel et al., 2016). The boundaries for the different stocks are given in Figure 5.2.1.

5.3 WG catch estimates

In 2017, a review of catch statistics for North Sea and Western horse mackerel stocks was carried out. The results of this report have been reported in previous Working Groups reports. (Costas, 2017a)

As a result of this review, catches and catch-at-ages of reported historical data of both North Sea and Western stocks of horse mackerel were updated (Figures 5.3.1 and 5.3.2). Catch statistics were reviewed since 1990 onward for Western stock and since 2000 onward for North Sea stock. The main mismatches between the catch statistics in working group reports and these reviewed data were due to several reasons such as late availability of some data for the report or the availability of official catch data only.

5.4 Allocation of catches to stocks

The distribution areas for the three stocks are given in the Stock Annex for the Western Horse Mackerel. The catches in 2019 were allocated to the three stocks as follows:

Western stock: 3rd and 4th quarters: Divisions 3.a and 4.a. Quarters 1–4: 2.a, 5.b, 6.a, 7.a–c, e–k and 8.a-e.

North Sea stock: 1st and 2nd quarters: Divisions 3.a and 4.a Quarters 1–4: divisions 4.b, 4.c and 7.d.

Southern stock: Division 9.a. All catches from these areas were allocated to the southern stock. This stock is now dealt with by another working group (ICES WGHANSA).

The catches by stock are given in Table 5.4.1 and Figure 5.4.1. The catches by ICES Subarea and Division for the Western and North Sea stocks for period 1982–2020 are shown in Figures 5.4.2–5.4.3. The catches by stock and countries for the period 1997–2020 are given in Table 5.4.2–5.4.3.

5.5 Estimates of discards

Only the Netherlands have provided data on discards over an extended period with occasional estimates from Germany and Spain. Since 2017 however, additional countries have provided estimates of discards with 7 countries reporting in 2020. Following the introduction of the European landing obligation for the pelagic fisheries targeting horse mackerel in large areas of the overall fishing area and for Norwegian waters there is general discard ban in place and discards in recent years have decreased. The discard rate is estimated to be 3.3 % in weight for the combined Horse mackerel stocks. The discard rate for the North Sea stock is estimated to be 1.6% and for the Western stock 3.6% in 2020.

5.6 *Trachurus* species mixing

Three species of genus *Trachurus*: *T. trachurus*, *T. mediterraneus* and *T. picturatus* are found together and are commercially exploited in NE Atlantic waters. Following the Working Group recommendation (ICES 2002/ACFM: 06) special care was taken to ensure that catch and length distributions and numbers-at-age of *T. trachurus* supplied to the Working Group did not include *T. mediterraneus* and/or *T. picturatus*.

The *T. mediterraneus* fishery mainly takes place in the eastern part of ICES Division 8.c. There is no clear trend in *T. mediterraneus* catches in this area although the most recent catch is the second lowest in the time-series (Table 5.6.1). Information on the *T. picturatus* fishery is available in the WGHANSA Report (Working Group on Horse Mackerel, Anchovy and Sardine).

Taking into account that the WGWIDE horse mackerel assessments are only made for *T. trachurus*, the Working Group recommends that the TACs and any other management regulations which might be established in future should be related only to *T. trachurus* and not to *Trachurus spp*. More information is needed about the *Trachurus spp*. before the fishery and the stock can be evaluated.

5.7 Length distribution by fleet and country

Ireland, Netherlands, France, UK (England), UK (Scotland) and Spain provided length distributions for their catches in 2020. The length distributions cover approximately 72% of the total landings of the Western and North Sea horse mackerel catches and are shown in Table 5.7.1.

5.8 Comparing trends between areas and stocks

Horse mackerel (*Trachurus trachurus*) in the Northeast Atlantic is assumed to consist of three separate stocks:

- North Sea (4a part of the year, 4b, 4c and 7d)
- Western (4a part of the year, 5b, 6a, 7a–c,e–k, 8a–d)
- Southern (9a)

Catches between 2000 and 2020 are shown in figure 5.4.1 and indicate an overall decline in the catches of horse mackerel since 2009.

A detailed analysis on the development of the catch by age data were presented to the 2017 working group (Pastoors, 2017). In this analysis it was indicated that there is an increase in the catches of juveniles in the Western and North Sea stocks in recent years. This could be an indication of a stronger recruitment of horse mackerel which has been reported by surveys and fishers. However, it is also an alarming signal if a larger proportion of the catch consists of juveniles. These catches could be seen mostly in Division 7.d and to a lesser extent, 7.e.

5.9 Quality and adequacy of fishery and sampling data

Table 5.9.1 shows a summary of the overall sampling intensity on horse mackerel catches in recent years based on the InterCatch input. Since 2011 the Southern horse mackerel is dealt with by ICES WGHANSA.

Countries that routinely sample are Ireland, the Netherlands, Germany, Norway and Spain, covering 42–100% of their respective catches. In 2020, due to the Covid pandemic sampling activities in some countries were hampered which lead to an overall lower sampling coverage for 2020. However, due to the fact that for the first time it was possible to upload age samples taken from English vessels in the Netherlands for North Sea horse mackerel the proportion of sampling increased compared with last year for this stock.

Table 5.9.2 shows the sampling intensity for the Western stock in 2020 and table 5.9.3 shows the sampling intensity for the North Sea stock in 2020 by country.

In 2020, France, Ireland, the Netherlands, UK (England), UK Scotland, and Spain provided samples and length distributions and Ireland, the Netherlands, Norway, UK (England), and Spain

provided also age distributions. However, the lack of age and length distribution data for relatively large portions of the horse mackerel catches continues to have a serious effect on the accuracy and reliability of the assessment and the Working Group remain especially concerned about the small number of fish which are aged.

An analysis on the sampling intensity was carried out for in period 2000–2019 for both the North Sea and the Western stock. Sampling intensity in fisheries can be defined as the ratio of sampled catch to the total catch. The precision and accuracy of sampled catch are of considerable importance to obtain a reliable estimate of the commercial catch. Sampled catch is used to extrapolate to total catch in order to obtain a catch-at-age (or at-length) and weight at age which are often used as inputs for the stock assessment models. In addition, in the case of horse mackerel the impact of temporal (quarter) and spatial (area by ICES Division) factors have to be taken in account in order to obtain a reliable estimate of the commercial catches.

Figure 5.9.1 shows the proportion of sampled catches by Division for the North Sea stock. In general, all ICES divisions show low levels of sampling, especially in recent years. The sampling intensity in relation to the length composition of catch was > 60%. In relation to age composition sampling level are dramatically lower in recent years (Figure 5.9.2) but due to the inclusion of samples of English vessels sampled in the Netherlands higher in 2020. In addition, divisions that are usually not sampled can affect the precision and accuracy of total catch-at-age and weight at age. For the North Sea stock, samples were only available for area 4.c and 7.d from the 3rd and 4th quarters. Therefore, these estimates can be biased, especially, since samples are usually less than the recommended 100 fish per sample. (Table 5.9.1)

The proportion of the sampled catches by region for the Western stock are shown in figure 5.9.3. No samples were available for the most Northern regions of the Western stock distribution and sampling for the West of Scotland/Western Irish waters and the Cantabrian Sea decreased substantially whereas the sampling in the Channel and Bay of Biscay regions slightly increased compared with 2019. The general index of sampling intensity is 51%. Divisions (regions) that are not sampled can affect the precision and accuracy of total catch-at-age and weight at age (Figure 9.5.4).

Length distributions were supplied by a number of countries. However, as some countries only deliver catch-at-age distributions and others only length distributions of the catch, the obtained catch-at-age and length distributions do not reflect the total catch especially in case of North Sea horse mackerel. Furthermore, some of the length distributions are only taken from discards of non-horse mackerel targeting fleets and omit the horse mackerel target fleet. This lack of coverage may also affect the accuracy and reliability of the assessment and is a matter of concern for the Working Group.

5.10 References

Brunel, T., 2016. Revision of the Maturity Ogive for the Western Spawning Component of NEA Mackerel. Working document to WKWIDE, 6pp.

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5.11 Tables

Table 5.1.1 HORSE MACKEREL general. Catches (t) by Sub-area. Data as submitted by Working Group members. Data of limited discard information are only available for some years.

Subarea	1979	1980	1981	1982	1983	1984	1985	1986
2	2	-	+	-	412	23	79	214
4 + 3.a	1 412	2 151	7 245	2 788	4 420	25 987	24 238	20 746
6	7 791	8 724	11 134	6 283	24 881	31 716	33 025	20 455
7	43 525	45 697	34 749	33 478	40 526	42 952	39 034	77 628
8	47 155	37 495	40 073	22 683	28 223	25 629	27 740	43 405
9	37 619	36 903	35 873	39 726	48 733	23 178	20 237	31 159
Total	137 504	130 970	129 074	104 958	147 195	149 485	144 353	193 607

Subarea	1987	1988	1989	1990	1991	1992	1993	1994
2	3 311	6 818	4 809	11 414	3200	13457	0	759
4 + 3.a	20 895	62 892	112 047	145 062	71 195	120 054	145 965	111 899
6	35 157	45 842	34 870	20 904	29 726	39 061	65 397	69 616
7	100 734	90 253	138 890	192 196	150 575	183 458	202 083	196 192
8	37 703	34 177	38 686	46 302	42 840	54 172	44 726	35 501
9	24 540	29 763	29 231	24 023	34 992	27 858	31 521	28 442
Disc					5 440	2 220	9 530	4 565
Total	222 340	269 745	358 533	439 901	337 968	440 280	499 222	446 974

Subarea	1995	1996	1997	1998	1999	2000	2001	2002
2	13151	3366	2601	2544	2557	919	310	1324
4 + 3.a	100 916	25 998	79 761	34 917	58 745	31 435	18 513	52 337
6	83 568	81 311	40 145	35 073	40 381	20 735	24 839	14 843
7	328 995	263 465	326 469	300 723	186 622	140 190	138 428	98 677
8	28 707	48 360	40 806	38 571	48 350	54 197	75 067	55 897
9	25 147	20 400	29 491	41 574	27 733	26 160	24 912	23 665
Disc	2 076	17 082	168	996	0	385	254	307
Total	582 560	459 982	519 441	454 398	364 388	274 022	282 323	247 049

Subarea	2003	2004	2005	2006	2007	2008	2009	2020
2	36	42	176	27	366.34	572	1847	1667
4 + 3.a	34 095	30 736	40 594	37 583	16 226	15 628	78 064	13 600
6	23 772	22 177	22 053	15 722	25 949	25 867	17 775	23 199
7	123 428	115 739	106 671	101 183	93 013	102 755	96 915	148 701
8	41 711	24 126	41 491	34 121	28 396	33 756	33 580	39 659
9	19 570	23 581	23 111	24 557	23 423	23 596	26 496	27 217
Disc	842	2 356	1 864	1 431	509	474	1 483	434
Total	243 455	218 758	235 961	214 624	187 882	202 649	256 161	254 478

Subarea	2011	2012	2013	2014	2015	2016	2017	2018
2	647.588	66.02912	30	424.291	10	45.276	5	718
4 + 3.a	25 158	5 234	8 183	17 270	10 560	11 565	12 609	11 758
6	39 496	44 971	43 266	32 444	24 153	32 186	28 170	38 896
7	120 340	120 476	100 859	66 853	49 644	46 901	33 297	38 816
8	35 245	17 209	26 983	30 844	19 822	17 511	18 307	23 393
9[1]	22 575	25 316	29 382	29 205	33 179	41 081	37 080	31 920
Disc	430	3 279	4 582	1 904	6 232	5 944	5 488	2 873
Total	243 892	216 552	213 285	178 945	143 600	155 232	134 956	148 374

Subarea	2019	2020
2	867	290
4 + 3.a	12 593	13 792
6	47 351	19 037
7	42 973	33 310
8	29 640	19 639
9[1]	34 080	31 344
Disc	3 326	2 942
Total	170 829	120 347

[1] **- Southern Horse Mackerel (ICES Division 9) is assessed by ICES WGHANSA since 2011**

Table 5.1.2 HORSE MACKEREL Western and North Sea Stock combined. Quarterly catches (t) by Division and Subdivision in 2020.

Division	1Q	2Q	3Q	4Q	TOTAL
2.a+5.b	189	96	36	11	290
3	0	0	5	91	96
4.a	1450	761	7077	3310	12598
4.bc	13	290	352	442	1098
7.d	164	203	2598	6089	9077*
6.a b	12766	0	3	5939	19037**
7.a–c e–k	15568	958	1226	6481	24232***
8.a-e	811	5666	8528	4635	19639
Sum	30961	7974	19789	26988	86067****

*** for the total 24 t were added which were only declared as yearly catch**

**** for the total 329 t were added which were only declared as yearly catch**

***** for the total 3 t were added which were only declared as yearly catch**

****** for the total 356 t were added which were only declared as yearly catch**

Table 5.7.1 Horse mackerel general. Length distributions (%) by country and area in 2020.

	France	Ireland	Ireland	Ireland	Ireland	Ireland	Ireland	Netherlands	Netherlands	Netherlands	Netherlands	Netherlands	Netherlands	Netherlands	Netherlands
cm	27.8.a	27.6.a	27.7.b	27.7.g	27.7.j	27.7.j.2	27.8.a	27.4.a	27.6.a	27.7.b	27.7.d	27.7.e	27.7.f	27.7.g	27.7.j.2
6			0.0	0.0	0.2										
7															
8															
9															
10															
11															
12	4.5														
13	4.5														
14	15.6														
15	17.8														
16	4.5														
17	11.1														
18	0.0			0.0	0.0									0.2	
19	6.7	0.0									2.5	8.0	2.0	0.2	
20		0.1									6.4	12.0	17.4	8.3	
21	2.2	0.2	0.1						3.9		17.6	12.0	31.7	27.3	
22	6.7	0.5		0.2	0.2				4.0		21.5	12.0	14.2	21.3	
23	2.2	2.5	0.1	0.4	0.8	0.1			0.1		9.4	24.0	14.9	18.7	0.3
24	2.3	4.5	0.0	1.9	5.7				11.3		19.0	16.0	10.8	14.7	0.5
25	0.1	2.5	0.3	4.4	12.6	0.1			4.3	0.0	14.6	8.0	4.8	5.7	0.3
26	0.4	6.8	2.3	8.5	22.1	1.8			8.3	3.7	5.2	8.0	2.4	2.0	1.6
27	0.4	15.3	10.7	11.2	14.9	8.7			21.7	7.8	1.9		0.6	1.3	8.9
28	0.5	21.5	24.0	19.0	12.7	20.0	1.8	2.2	22.8	40.3	1.6		1.2	0.5	16.9
29	1.0	15.5	25.0	23.1	11.0	19.5	1.8	14.5	8.6	17.1	0.2				18.0
30	1.9	8.6	14.9	15.2	3.6	21.5	1.8	29.0	9.6	12.3	0.2				16.1
31	1.6	5.2	9.3	6.2	1.3	13.6	1.8	31.2	3.1	4.5					7.8
32	1.6	3.8	5.3	4.6	2.2	7.7	5.2	16.9	1.0	0.4					7.0
33	1.5	3.2	3.6	1.5	1.0	3.5	9.5	4.2	1.0	3.9					5.4
34	1.6	4.1	2.1	0.7	1.3	1.9	7.7	2.0	0.1	3.9					7.4
35	1.3	3.3	1.3	1.4	2.6	1.1	16.3			1.9					4.2
36	1.0	1.5	0.7	0.6	2.3	0.6	12.1		0.2	4.0					3.1
37	1.2	0.6	0.1	0.1	0.7	0.1	13.7			0.0					1.6
38	5.1	0.2	0.3	0.3	1.6		13.7			0.0					0.6
39	1.3	0.0	0.0	0.2	0.8		9.5			0.1					0.5
40	0.7	0.0	0.0	0.3	1.7		3.4								
41	0.8		0.0	0.1	0.3		1.8								
42+	0.1		0.0	0.1	0.3		0.0								

Table 5.7.1 continued

	Spain	Spain	Spain	Spain	Spain	Spain	Spain	Spain	Spain	Spain	UK (England)	UK (England)	UK (England)	UK (England)	UK (England)	UK (England)	UK (England)	UK(Scotland)
cm	27.6.a	27.7.b	27.7.c.2	27.7.g	27.7.h	27.7.j.2	27.8.b	27.8.c	27.8.c.e	27.8.c.w	27.4.c	27.6.a	27.7.b	27.7.d	27.7.e	27.7.g	27.7.j	27.6.a
6																		
7							0.0								7.8			
8							0.2								25.9			
9							0.6								18.8			
10							0.9		0.0						5.5			
11							1.0		0.0						0.4			
12							3.3		1.1						0.1			
13							4.9		10.6						2.6			
14							9.3		9.7						0.2			
15							6.5	1.0	1.9						3.1			
16							12.7	5.0	2.1						2.4			
17							16.9	1.0	5.8					0.3	6.8			
18							13.8	2.0	8.5		0.6			1.6	3.3			
19							8.3		10.5		2.3			3.1	3.2			
20							3.7	5.0	3.0	0.2	11.4			13.2	2.4			
21							1.7	11.6	2.3	1.7	25.1			24.9	2.4			
22							0.8	9.9	0.9	4.3	21.8			16.2	1.5			0.0
23							0.5	1.7	1.0	4.6	17.7			10.6	3.9			
24							0.5		1.3	7.6	9.9			12.5	1.2			0.1
25							0.3		1.1	5.8	5.0			5.6	1.1			0.2
26		0.1	0.5		0.4	0.6	0.5	20.8	1.9	14.2	4.3	3.3		5.1	1.1			1.8
27		0.3	0.9		0.8	1.1	0.5		2.9	7.4	1.2	18.9	4.1	2.0	1.5		2.2	1.0
28		1.9	4.5		4.3	5.5	0.7	41.2	4.6	3.4	0.7	28.2	12.2	1.6	1.0			5.1
29		5.1	10.0		9.4	12.2	0.9		3.1	3.1		18.6	20.3	0.4	1.8		4.4	8.7
30		8.9	14.2		13.4	17.4	1.1		2.9	3.1		9.7	32.5	0.5	0.5		4.4	8.9
31		5.3	7.0		6.6	8.6	1.5		3.7	2.9		9.8	12.2	1.1	0.5	25.8	2.2	10.1
32		5.7	6.3		5.9	7.7	1.6		3.4	4.6		4.9	8.1	0.5	0.3	22.6	17.0	7.1
33		5.1	4.6		4.4	5.7	1.6		3.1	4.0		5.6	3.6	0.4	0.2	9.7	10.1	10.8
34	6.9	6.7	5.1		4.8	6.3	1.8		3.5	3.1		0.9	7.1	0.2	0.1	22.6	14.2	14.4
35	13.2	7.0	6.0	9.4	6.2	5.3	1.6		3.8	7.3				0.2	0.1	12.9	9.7	15.8
36	32.0	19.8	17.3	37.6	18.5	12.8	1.0		3.0	8.9				0.1	0.1	3.2	17.6	9.8
37	18.8	13.0	13.6	41.2	15.1	7.4	0.6		2.2	5.9					0.0	3.2	6.3	3.5
38	22.9	11.9	6.9	11.9	7.2	5.8	0.4		0.9	4.8					0.2		6.2	1.5
39	6.2	7.8	2.6		2.5	3.2	0.2		0.4	1.1							3.8	0.4
40		1.4	0.4		0.4	0.5	0.1		0.3	0.7								0.3
41							0.0		0.2	0.5					0.0		1.9	0.3
42+							0.0	0.9	0.1	0.1								0.1

Table 5.9.1. Summary of the overall sampling intensity on horse mackerel catches in recent years in all areas 1992—2020

Year	Total Catch (ICES estimate)	% catch covered by sampling programme*	No. samples	No. Measured	No. Aged
1992	436500	45	1803	158447	5797
1993	504190	75	1178	158954	7476
1994	447153	61	1453	134269	6571
1995	580000	48	2041	177803	5885
1996	460200	63	2498	208416	4719
1997	518900	75	2572	247207	6391
1998	399700	62	2539	245220	6416
1999	363033	51	2158	208387	7954
2000	247862	50	378	33317	4126
2001	257411	61	467	46885	7141
2002	223384	68	540	79103	6831
2003	223885	77	434	59241	8044
2004	195177	62	518	62720	9273
2005	212850	76	573	67898	8840
2006	190067	75	602	57701	9905
2007	164459	58	397	41046	8061
2008	179053	72	488	46768	8870
2009	229665	84	902	57505	10575
2010	227261	82	710	49307	14159
2011	221317	71	502	40492	7484
2012	191236	69	501	41148	8220
2013	183903	75	686	87300	9776
2014	149740	83	650	53945	8085
2015	110421	68	825	39415	7034
2016	114151	76	1033	93853	6675
2017	97539	63	1113	116722	8221
2018	116455	74	1584	117768	6965
2019	136750	64	1014	77211	7476

Year	Total Catch (ICES estimate)	% catch covered by sampling programme*	No. samples	No. Measured	No. Aged
2020	89009	52	516	41811	5662

*Percentage related to catch (catch-at-age) according to ICES estimation

Table 5.9.2. Horse mackerel sampling intensity for the Western stock in 2020.

Country	Catch	% Catch Sampled*	No. Samples	No. Measured	No. Aged
Denmark	6705	0	0	0	0
Faroe Islands	-	0	0	0	0
France**	2742	-*	35	808	0
Germany	955	0	0	0	0
Ireland	17507	98	268	10573	1833
Netherlands	14240	95	44	7515	1072
Norway	10666	0	0	0	0
Poland	1001	0	0	0	0
Spain	19349	35	478	24432	1143
Sweden	83	0	0	0	0
UK (England)***	4046	96	66	557	147
UK(Northern Ireland)	1503	0	0	0	0
UK(Scotland)**	439	-*	111	697	0
Total	76422	51	507	39777	4195

*Percentage based on ICES estimate with regards to age samples

**provided only length distributions

*** age samples processed by the Netherlands

Table 5.9.3. Horse mackerel sampling intensity for the North Sea stock in 2020.

Country	Catch	% Catch Sampled*	No. Samples	No. Measured	No. Aged
Belgium	39	0	0	0	0
Denmark	191	0	0	0	0
Faroe Islands	109	0	0	0	0
France**	945	0	0	0	0
Germany	3	0	0	0	0
Lithuania	0	0	0	0	0

Country	Catch	% Catch Sampled*	No. Samples	No. Measured	No. Aged
Netherlands	4803	60	9	2034	223
Norway	2090	0	0	0	0
Sweden	1	0	0	0	0
UK (England)****	4381	97	50	15847	1244
UK(Northern Ireland)	0	0	0	0	0
UK(Scotland)***	24	0	0	0	0
Total	12587	56	99	1902	475

***Percentage based on ICES estimate with regards to age samples.**

**** provided only length distributions**

*****provided length distributions not incl. in InterCatch**

****** age samples processed by the Netherlands**

5.12 Figures

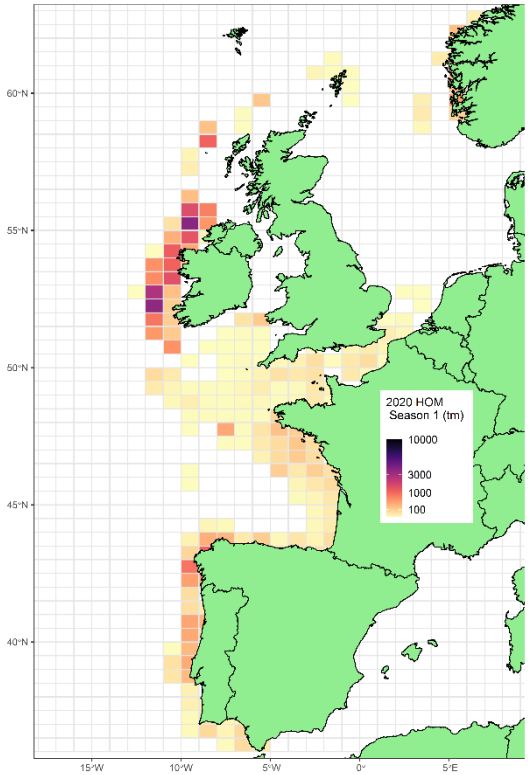

Figure 5.1.1a. Horse mackerel catches 1st quarter 2020

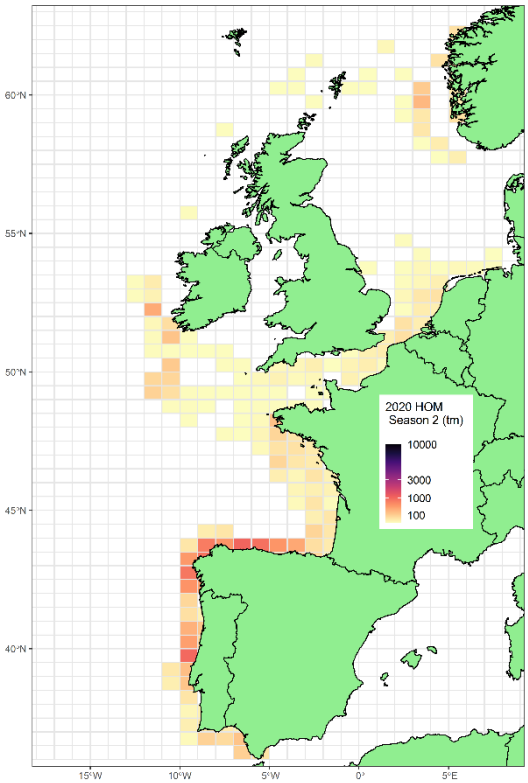

Figure 5.1.1b. Horse mackerel catches 2nd quarter 2020.

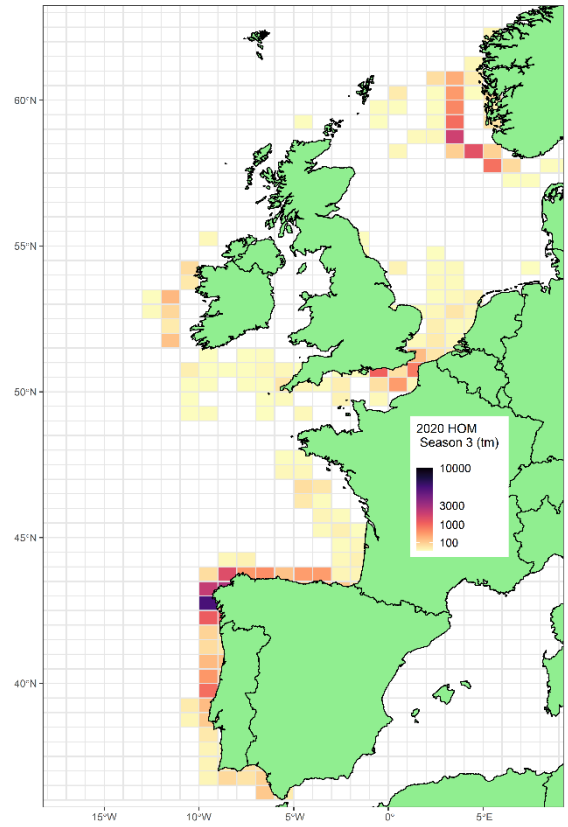

Figure 5.1.1c. Horse mackerel catches 3rd quarter 2020.

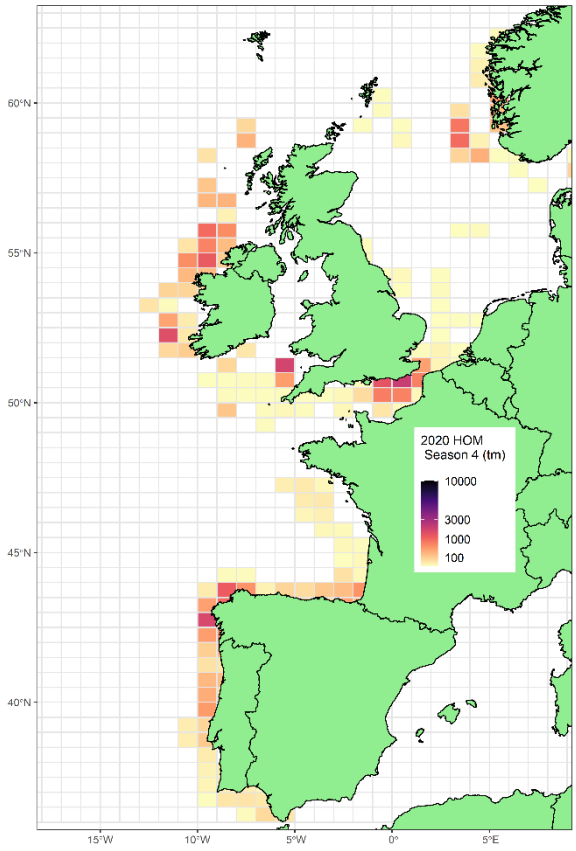

Figure 5.1.1d. Horse mackerel catches 4th quarter 2020.

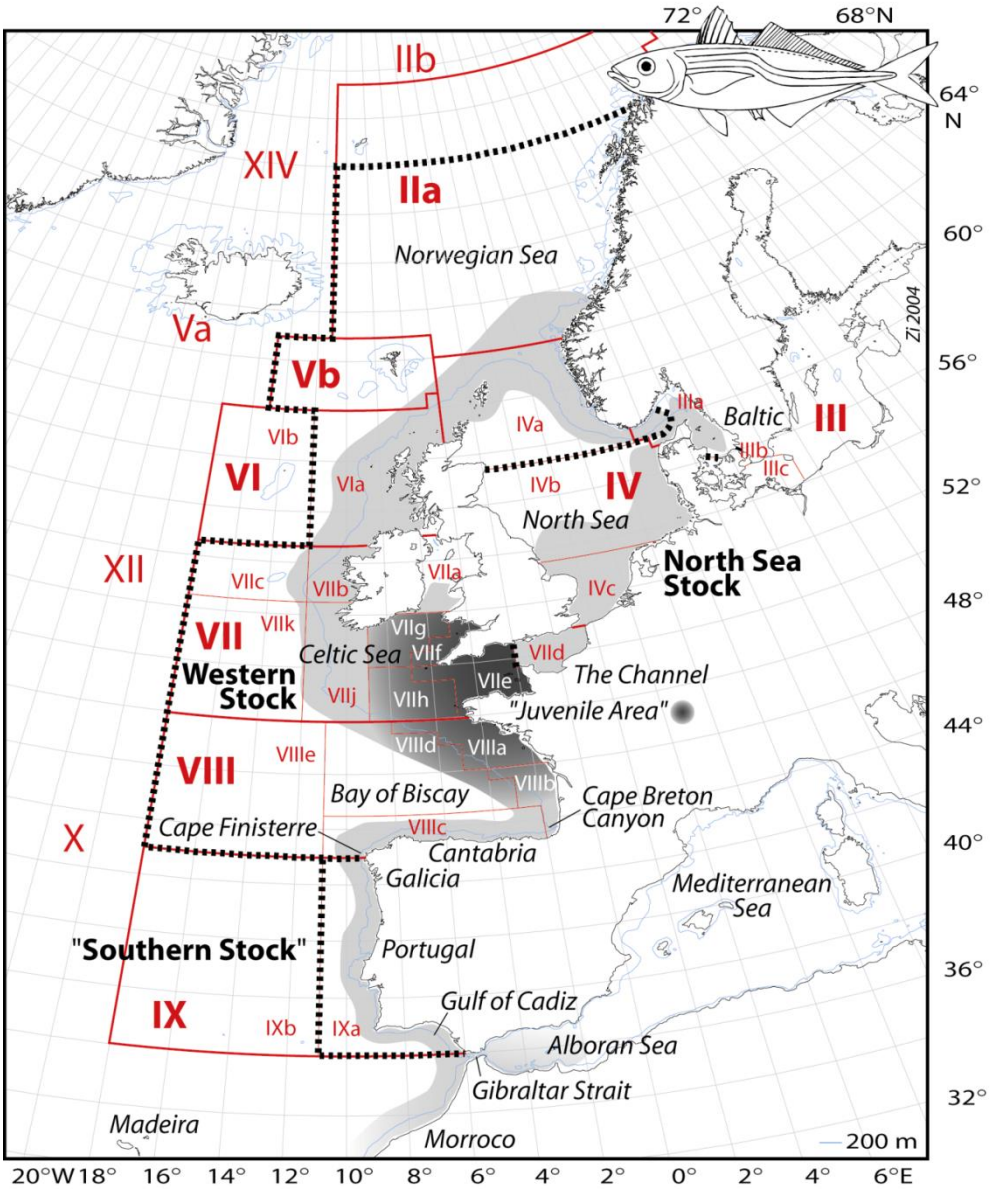

Figure 5.2.1: Distribution of Horse Mackerel in the Northeast-Atlantic: Stock definitions as used by the 2004 WG MHSA. Note that the "Juvenile Area" is currently only defined for the Western Stock distribution area – juveniles do also occur in other areas (like in Div. 7.d). Map source: GEBCO, polar projection, 200 m depth contour drawn.

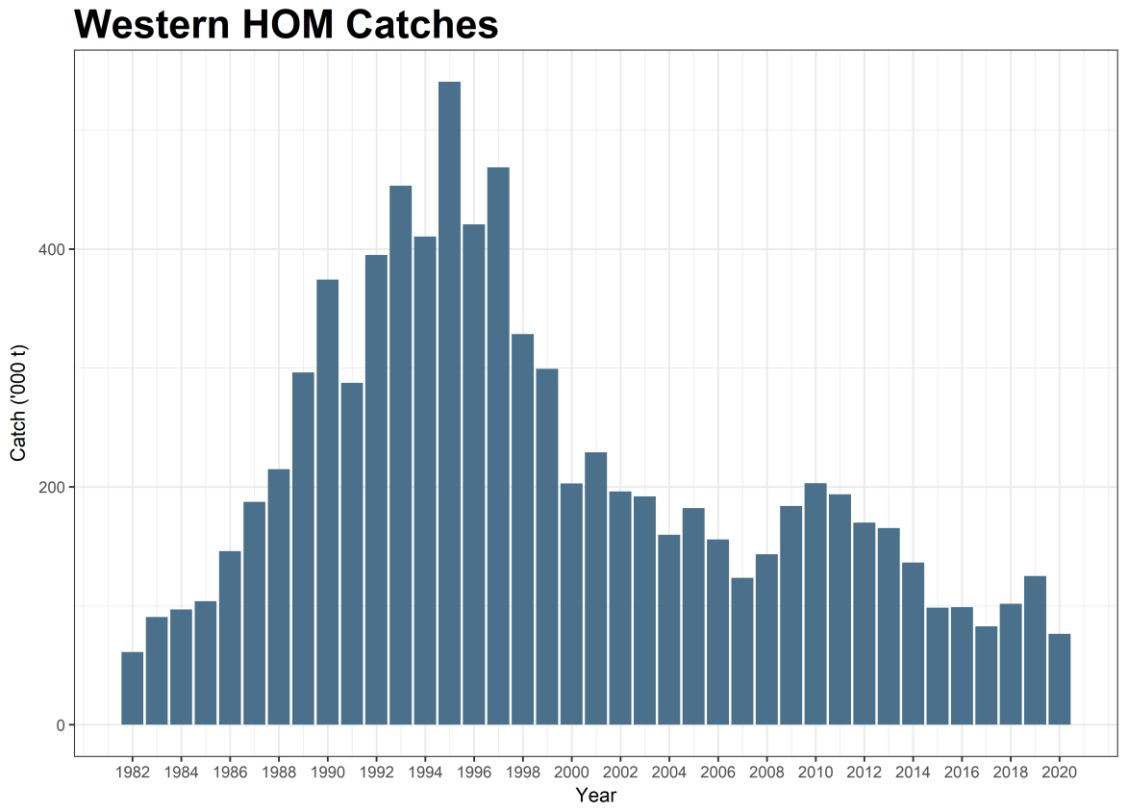

Figure 5.3.1. Total catch for Western Horse Mackerel stock, period 1982–2020.

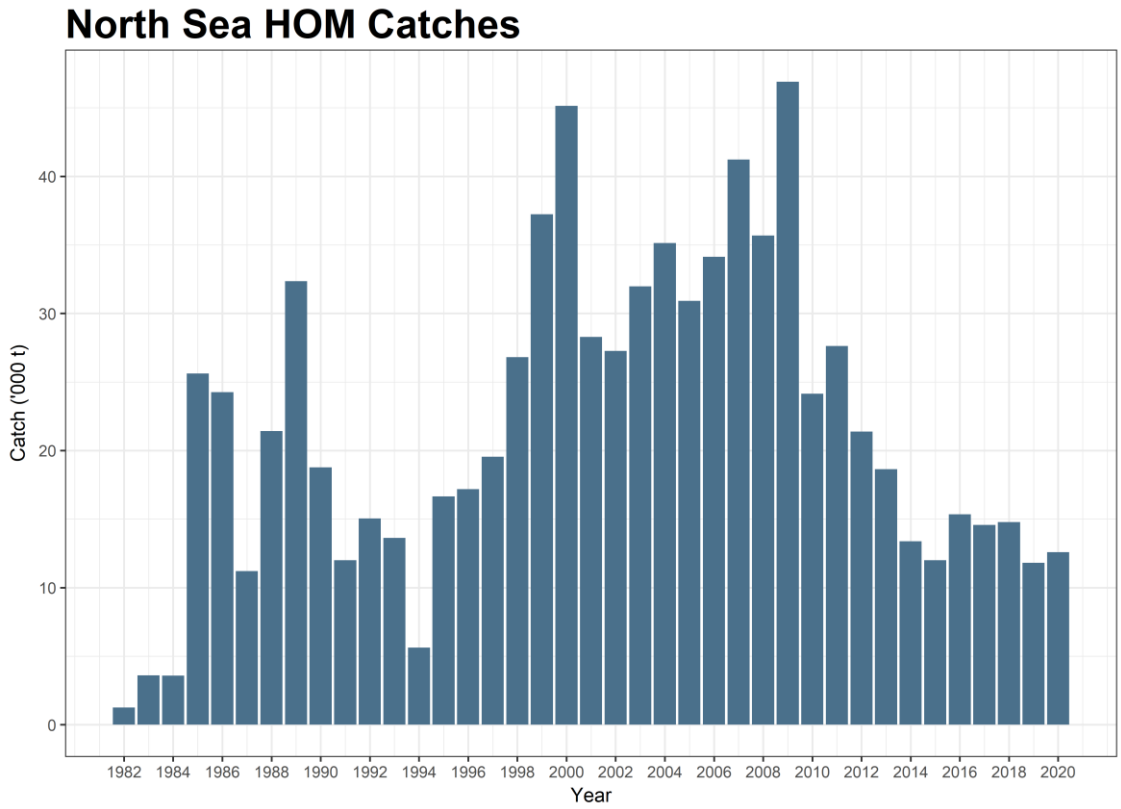

Figure 5.3.4. Total catch for North Sea Horse Mackerel stock, period 1982–2020

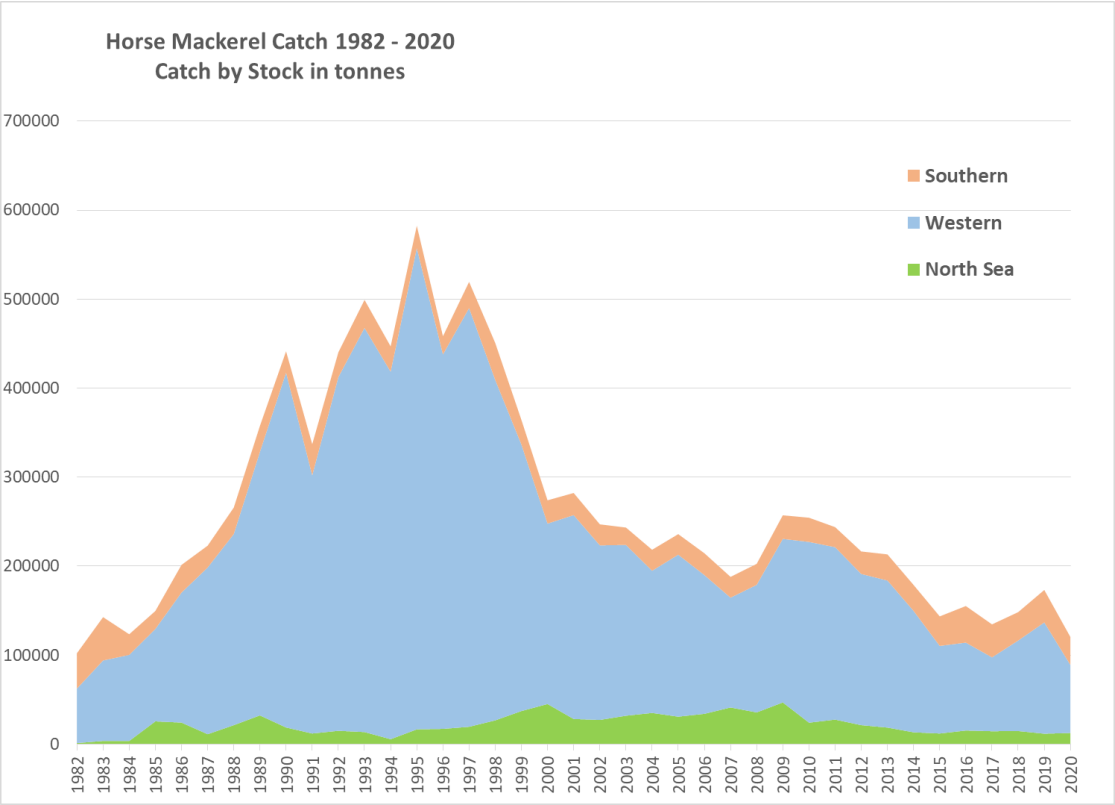

Figure 5.4.1 Horse mackerel general overview. Total catches in the Northeast Atlantic during the period 1982—2020. The catches taken from the southern, western and North Sea horse mackerel stocks are shown in relation to the total catches in the Northeast Atlantic. Catches from Div. 8.c were transferred from southern stock to Western stock from 1982 onwards. Southern horse mackerel is assessed by ICES WGHANSA since 2011.

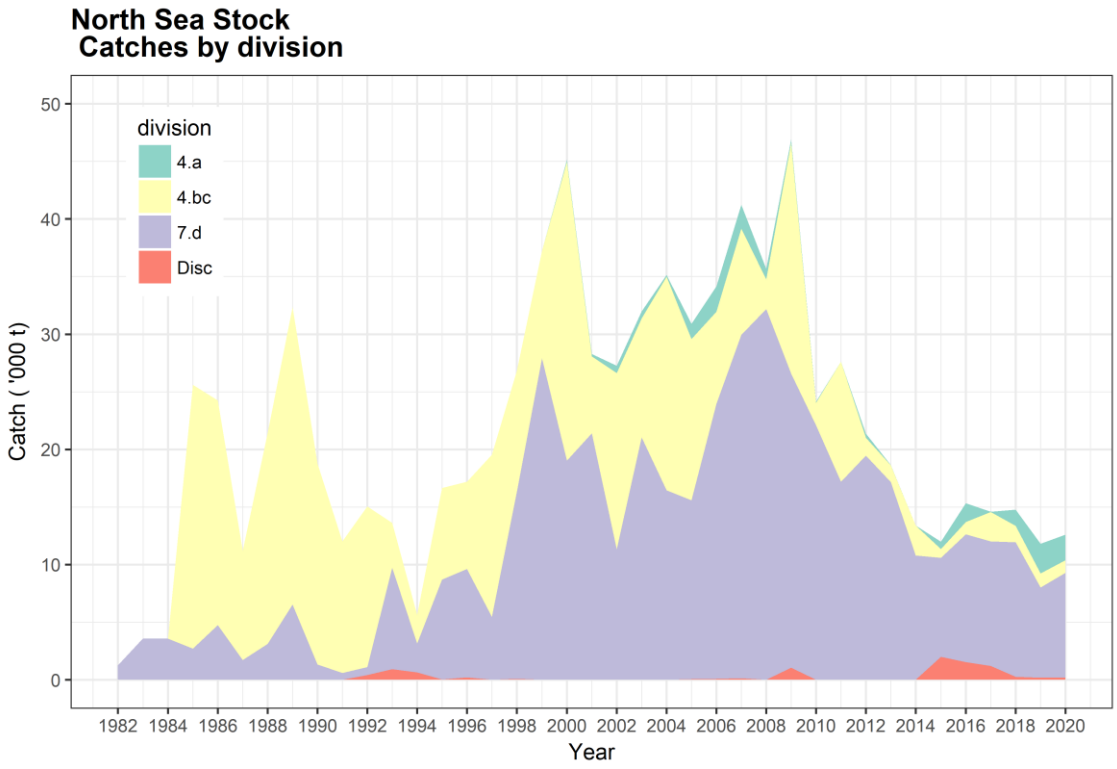

Figure 5.4.2. North Sea horse mackerel stock. Total catches by Division during the period 1982–2020.

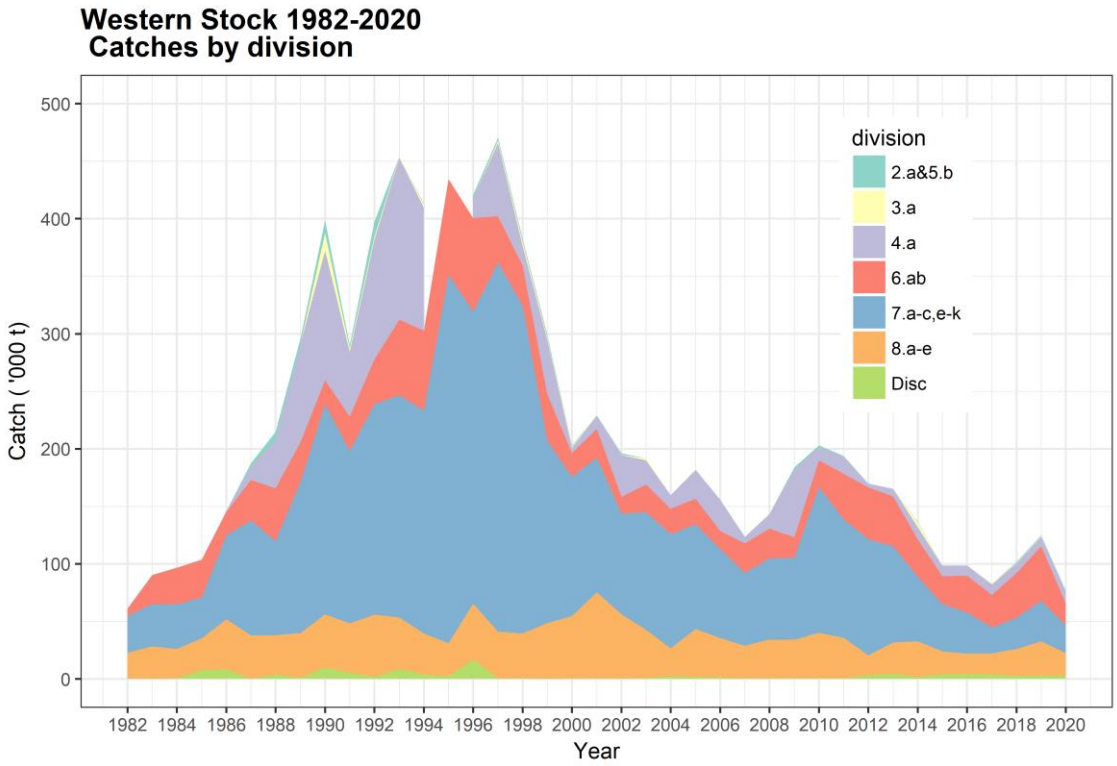

Figure 5.4.3. Western horse mackerel stock. Total catches by Sub-Area during the period 1982–2020.

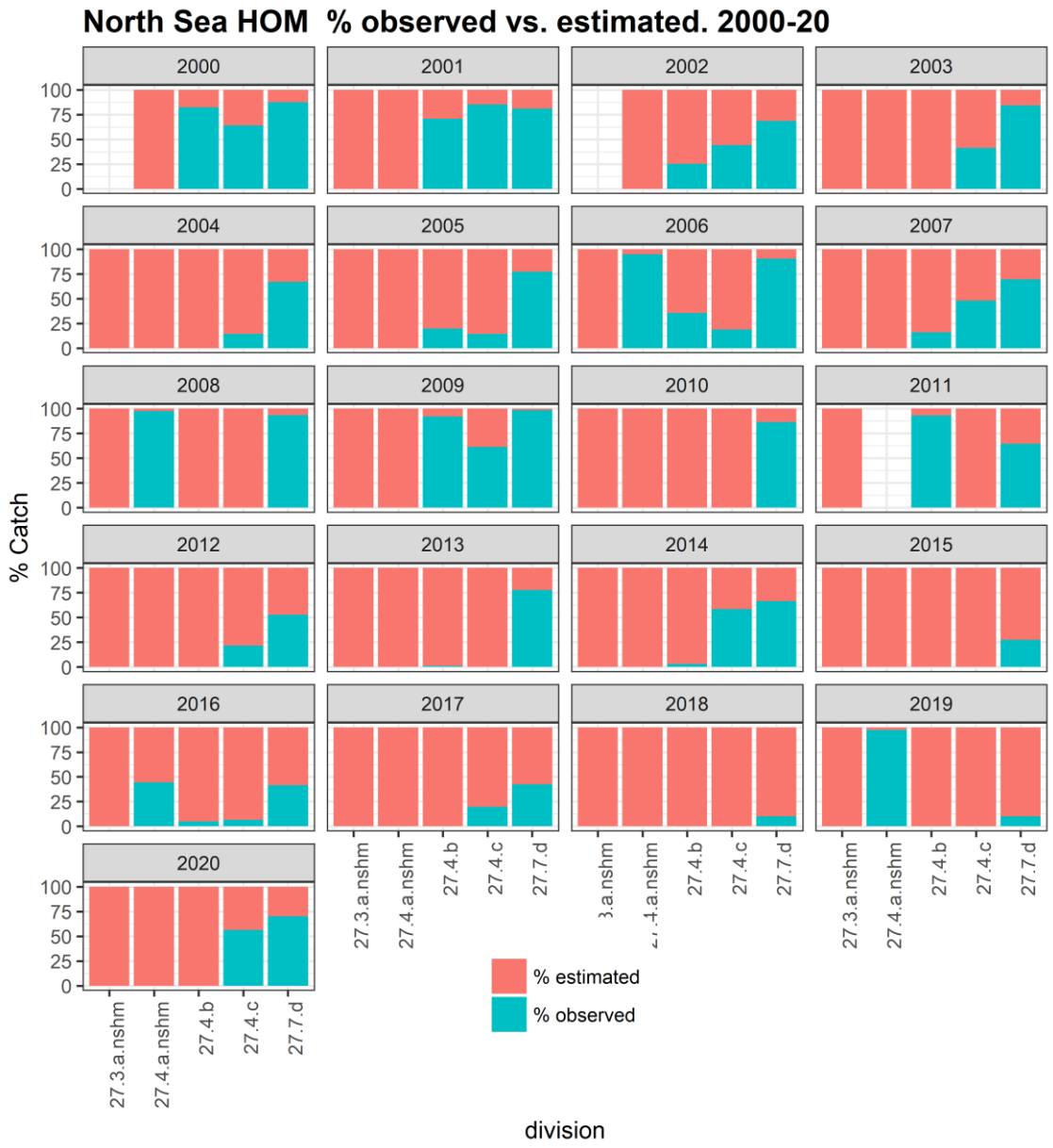

Figure 5.9.1 North Sea horse mackerel stock. Percentage sampled catch (blue) vs. unsampled catch (red) by Division and year. Period 2000–2020.

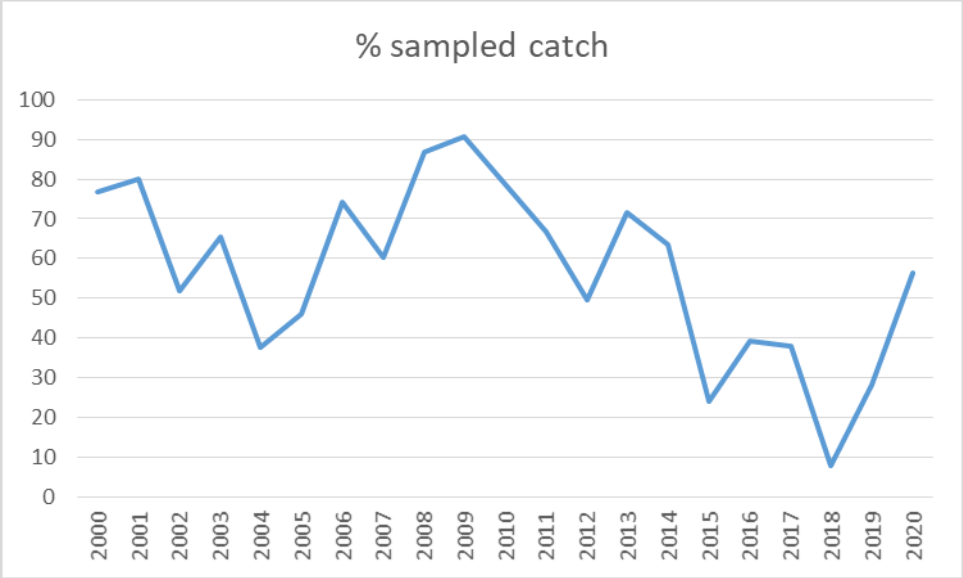

Figure 5.9.2. North Sea horse mackerel stock. Sampling intensity index as percentage sampled catch in total catch by year. Period 2000–2020

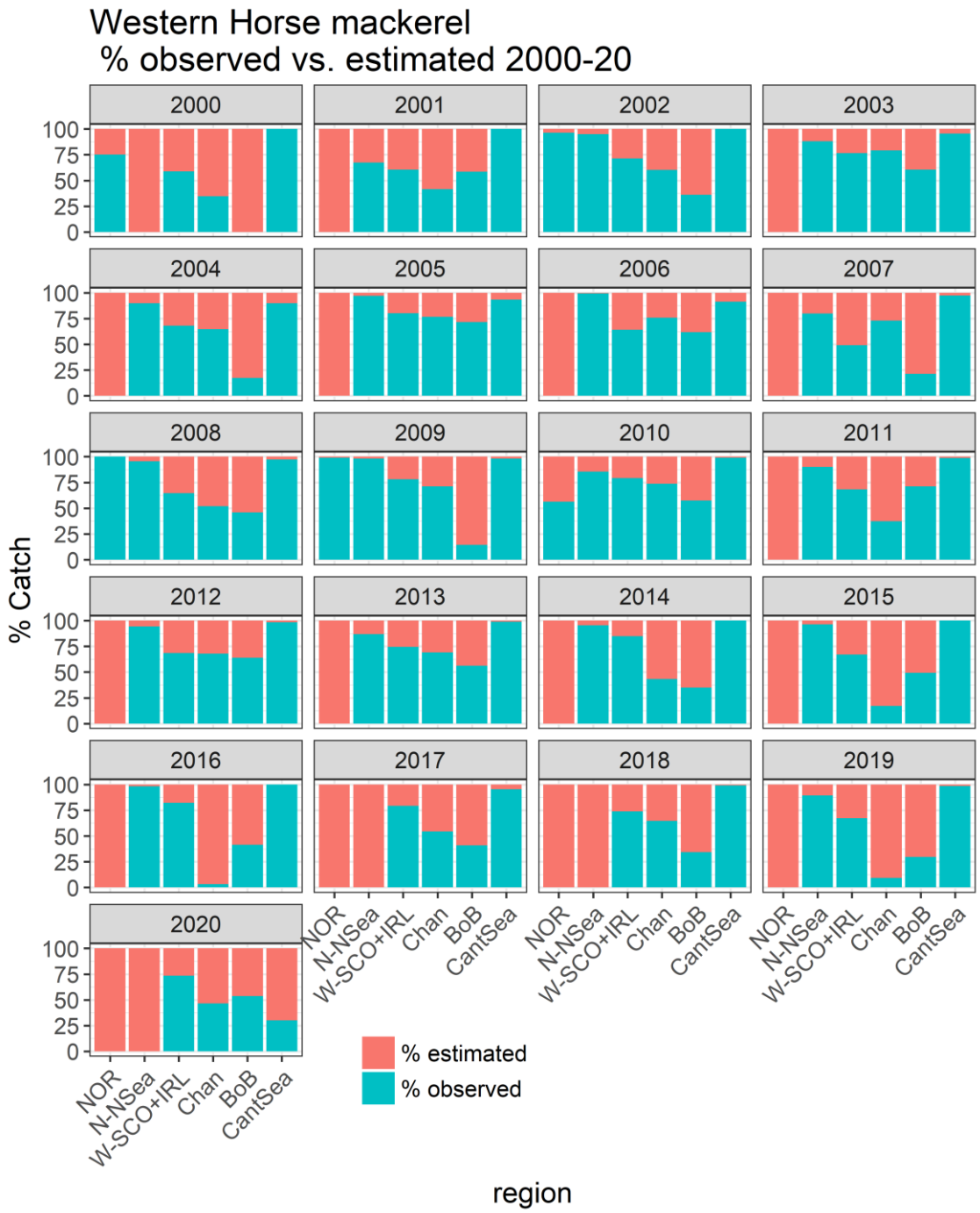

Figure 5.9.5. Western horse mackerel stock. Percentage sampled catch (blue) vs. unsampled catch (red) by Division and year. Period 2000–2020. Area of distribution of Western stock was divided into different regions. Chan: (7.e,f,h); W-SCO+IRL (7.a-c, 7.j-k and 6.a); BoB (8.a,b,d); CanSea(8.c); N-Nsea (3.a and 4.a); NOR (2.a and 5.a).

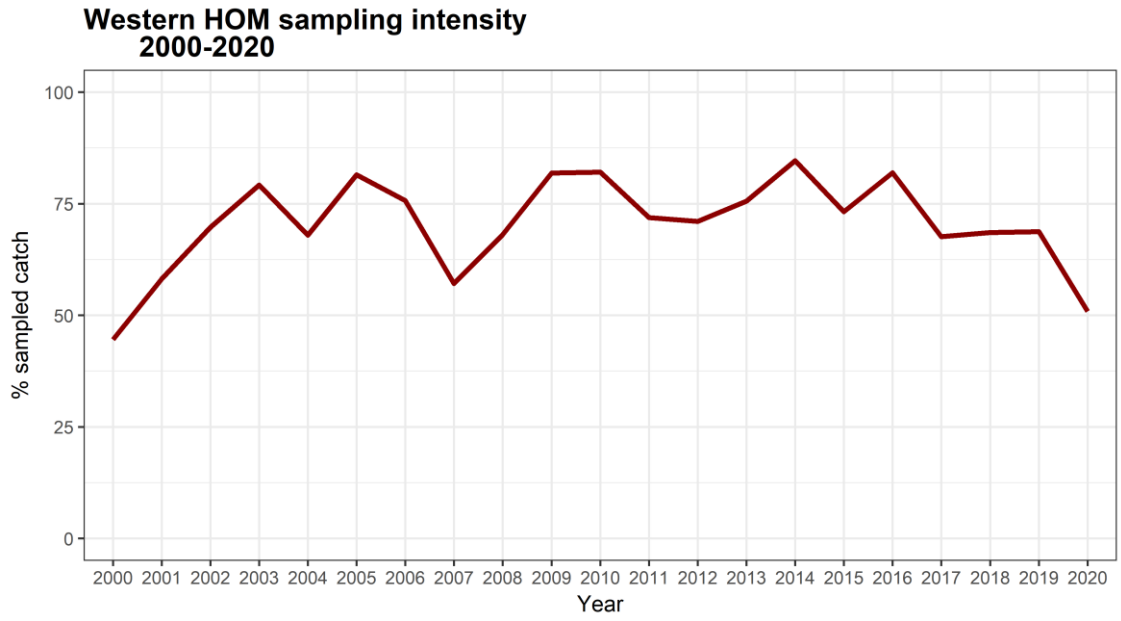

Figure 9.5.6. Western horse mackerel stock. Sampling intensity index as percentage sampled catch in total catch by year. Period 2000–2020.