Advisory Committee on Fishery Management **ICES CM 2003/ACFM:10**
Ref. HAWG

REPORT OF THE

Study Group on the Revision of Data for North Sea Herring

ICES Headquarters
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International Council for the Exploration of the Sea

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1 INTRODUCTION

1.1 Justification and purpose of the study group

A number of significant revisions have been made to sub-sets of data used for the assessment of North Sea Autumn-spawning herring during the last two years. Due to time constraints, the Herring Assessment WG (HAWG) using the data felt unable to revise all data, starting with reallocations of commercial catch information, within a WG meeting. HAWG therefore recommended in 2002 to establish a separate group dealing with this issue and making all updated data needed for the assessment of North Sea Autumn Spawners (NSAS) available to the next HAWG meeting in March 2003.

1.2 Participants

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Reidar Toresen,	IMR, Norway
Steve Warnes,	CEFAS, UK/England
Christopher Zimmermann,	ISH, Germany (chair)

1.3 Terms of Reference

A Study Group on the Revision of Data for North Sea Herring [SGREDNOSE] (Chair C. Zimmermann, Germany) was established and met at ICES headquarters, Copenhagen, from 27.Jan. to 29.Jan.2003, on 11.Mar.2003 and on correspondence thereafter to:

a) re-evaluate the current data used for the stock assessment of North Sea Autumn-spawning herring, in particular
   i) collate the revised Norwegian catch data for 1997- to date;
   ii) use the revised data on the splitting of North Sea Autumn Spawners caught in Division. IIIa (1991-1998);
   iii) collate the revised biological sampling data for The Netherlands (based on a retrospective analysis of the national raising procedure and changes resulting from this analysis);
   iv) thoroughly examine the catch table information and correct it where necessary;
   v) transfer historic catch and sampling information into the new database (minimum 1997-to date);
   vi) re-run the allocation and raising procedures for this time frame;
   vii) update all relevant input data for the assessment of North Sea Autumn-spawners and make them available to the Herring Assessment WG.

SGREDNOSE will report by March 2003 for the attention of HAWG.

ToR a)v) could not be addressed as a new database for collation and handling of commercial catch and sampling information was not functional at the start of the meeting of *SG Rednose*. The group felt that the issue of transferring historic data into this database could be postponed and that the catch and catch-at-age information used in the assessment should be corrected as soon as possible. The group aimed at delivering a reference data set for HAWG.

Preliminary data were made available at the beginning of the 2003 HAWG meeting and were used in exploratory North Sea Autumn Spawning herring (NSAS) assessment runs for comparison. In spite of the number of corrections, these demonstrated negligible influence on the historic perception of the stock. At that time it became obvious that the removal of all Norwegian catch from Division IIIa, which is now believed to have been taken in the eastern North Sea, would require another revision of the split of catches in IIIa. The recalculation could not be conducted *ad hoc* at the WG meeting. The study group considered it an unnecessary effort to update all assessment relevant input tables for the HAWG report when it was clear that they would have to be reworked in due course. It was decided therefore to continue the updating by correspondence and provide an up-to-date reference data set as soon as possible.

1.4 Working procedure

The Study Group focussed on the revision of catch data from 1995 onwards, as this period was considered to have the greatest influence on the assessment, and 1995 was the first year when disaggregated data were available for most nations (see Tab. 8.1 for the content of the extended archive). All changes to previously used data sets have been documented and are listed in the report, as far as confidentiality is not needed.

In a first step (see Section 2), national data for the Netherlands, Norway, Scotland and Denmark were recompiled from catch and sampling information held at the national institutes from 1995 onwards. For the other nations, catch data prior to and including 1998 were obtained from the Herring Assessment WG archives.

The second step was to correct all assessment relevant input data (numbers-at-age in the catch, mean weights-at-age in the catch) for a revision of the split of different herring caught in Sub-Div. IVaE and Div. IIIa. New data for the differentiation between North Sea Autumn Spawners (NSAS) and Western Baltic Spring Spawners (WBSS) caught in both areas had been available for 1991-1999 in 2000. However, the HAWG was unable to correct the historic data prior to 1999. Following the revision of Norwegian catch data for IIIa, the splitting data had to be revised again for 1995-2001. For 1991-1994, input files have been corrected manually (see Section 3).

In a third step (see Section 4) all recompiled or unchanged data were entered into the DISFAD system (Patterson 1998) for 1995-1998, the DISFAD tables for 1999-2001 were corrected where needed and the transfers of WBSS and NSAS were entered separately for 1995-1999. Allocations and raising schemes for unsampled metiers were checked thoroughly and corrected where necessary (for 1995-2001). Finally, an aggregated data set for North Sea autumn spawning herring was produced and all relevant tables for the assessment of this stock were updated.

The last step was to compare the catch tables (catch by area and nation) with data held at the official ICES database and to update the catch tables where needed (see Sect. 5). After accounting for transfers between stocks, the global estimate for catch of NSAS by year was compared with the CATON file used in the assessment.

Finally, a rough comparison of assessment results using the old (WG 2002) data set and the updated data set was made to assess the influence the work of *SG Rednose* has had on the perception of the North Sea Autumn Spawning herring stock.

1.5 Recommendations

SG Rednose recommends:

- • to the national fisheries research institutes to examine national catch and catch-at-age data for the period 1990-1994 to obtain basic, disaggregated sampling information. Catches should be provided by ICES rectangle.
- • to Norway to estimate the amount of misreporting between Div. VIaN and IVaW (if misreporting occurred).
- • to ICES to provide a web-based, highly flexible data base for handling disaggregated assessment input data as soon as possible
- • to HAWG to establish a Study Group like *SG Rednose* to enter DISFAD sheets into the new database as soon as this is functional, and use this to check if outputs are similar (and thus the new database can be used for the purpose of HAWG)

2 RECOMPILATION OF NATIONAL CATCH AND SAMPLING DATA FROM 1995 ONWARDS

National catch and sampling (catch-at-age) data were provided in different formats to the North Sea herring species coordinator and aggregated using individual spreadsheets. For the HAWG meeting in 1999, the WG decided to use an MS Excel workbook initially developed by Ken Patterson of the MarLab, Aberdeen, for the Mackerel Assessment WG. Data delivered and stored in these workbooks were transferred since the 2000 WG meeting into DISFAD files and then aggregated using the SALLOC program (Patterson 1998). National catch-at-age data had to be re-raised due to various reasons (see Sections below). As the group decided that an aggregation of corrected data would be eased by the use of the SALLOC program, DISFAD files have been created for the period 1995-1998 and updated for 1999-2001. The Table below gives an overview of the national catch-at-age data handled during the SG meeting:

Nation	Years	Action
Netherlands (Ned)	1995-2001	Recompilation of data from national database
Norway (Nor)	1995-1997	Transfer of data into DISFAD without corrections, but IIIa catch transferred into IVaE
	1997-2001	Recompilation of data from national database
Denmark (Den)	1995-1998	Recompilation of data from national database (done prior to 2002)
Scotland (Sco)	1995-1998	Recompilation of data from national database (done in 2000)
All others	1995-1998	Creation of DISFAD entries from Stock coordinator's xls-files

Ned, Nor, Den and Sco deliver the vast majority of sampling details for NSAS, while other nations delivered disaggregated catch-at-age data only occasionally. They have been, however, transferred from the recent species coordinator's files and included in the aggregation for the total stock. All confidential national disaggregated data (Excel-workbooks), DISFAD and ALLOC files are stored in the HAWG archive (see Sect. 8).

2.1 The Netherlands

In the past, the Netherlands' raising procedure for herring was based on a partly manual procedure of merging samples to catches by area. Also the raising was based on monthly aggregations by area and it was found that this procedure could lead to unstable estimates of mean weights based on too few observations. In addition, confidential logbook data from a subset of the Dutch fleet were used to check the official logbook registrations.

A new procedure has been developed in which all the necessary data manipulations are carried out within one SAS code, starting from the logbook data all the way up to estimating numbers-at-age etc. Manual allocations of samples to areas are no longer used. This means that the estimates of numbers-at-age that are now provided, are only based on the samples that have taken in the stratum (quarter and ICES subarea).

All data were recompiled from 1995 to 2001.

The new raising procedure gave slightly different estimates of numbers-at-age and mean weights-at-age by area and quarter. However, the overall numbers-at-age by year were very similar. It was considered that the new raising procedure was an improvement to the old procedures that were used by the Netherlands.

2.2 Norway

The Norwegian catch-at-age data were quality checked and transferred into DISFAD files for the years 1995 – 2001.

The catch data for the years 1997-2001 were recompiled with updated figures from the Directorate of Fisheries in Bergen. However, the difference between the "old" data and the new updated data was negligible for most years. The new updated results were transferred into DISFAD files.

The significant difference between the quantities of herring reported from the area south of 62^{o}N by the Fisheries Directorate and the figures used by the HAWG was of concern prior to the meeting, but was explained by the fact that the reported catches include **all landings** of herring south of 62°N, while the data used by the working group only include the NSAS and WBSS. The reported data will be presented separately in the report of the HAWG from now on, to avoid misunderstanding at this point. Table 2.1 gives Norwegian catches of Norwegian Spring Spawning herring and local fjord-type herring caught under a separate quota south of 62°N for 1990-2002.

For the years 1995 and 1996 no updated data were available and the old data were put into the DISFAD files as they were. For the years 1995 – 1997, the reported Norwegian catches in area VIaN were transferred to area IVaWest, as previously done by the HAWG for the year 1998. This was done because it is strongly believed that these catches are taken in the North Sea, and not to the west of 4^{o}W.

For the whole period (1995-2001), catches reported to have been taken in the Skagerrak (Div. IIIa) were transferred into IVaEast, based on a re-evaluation of misreporting patterns. This transfer made an additional update of the splitting between NSAS and WBSS in IIIa necessary.

2.3 Denmark

The Danish landings figures have been available to the HAWG North Sea herring stock coordinator for a number of years and therefore included in the DISFAD files. The Danish figures have been calculated by merging and raising the samples to landings by area. For the Danish North Sea landings no recompilation was necessary for the period 1995 to 2001.

Prior to the HAWG meeting in 2002 a recompilation of the landings from fishery in Div. IIIa had been made. This recompilation had been made due to a re-splitting of the herring into Western spring spawning herring and North Sea autumn herring using the otolith microstructure method (ICES 2002/ACFM:12). The international landings of North autumn herring caught in Div. IIIa have been transferred into DISFAD for the period 1995-1998.

2.4 UK/Scotland

Catches of the Scottish fleets had already been made available in DISFAD format in 2000 (without sampling details) and 2002 (including sampling details) for the period in question. They had been stored in the HAWG archive, and *SG Rednose* provided the opportunity to use this information for a recompilation of the international data. Therefore, no changes to any of the Scottish DISFAD data were needed. Differences between the latter and the data previously used have not been explored, but are considered to be minor.

2.5 UK/England, Wales and Northern Ireland

Historic data 1990-1998 had been transferred into current (DISFAD-) format but additional information/changes may be required. These are: -

1. Blackwater /Thames estuary herring catches currently included in IVc landings
2. Sampling data for areas other than IV need to be added

Major errors detected and corrected: -

IVa. For 1995, 1998 and 1999 the landings for Northern Ireland had been omitted from the Working Group data.
IVb. For 1994 – 1996 the landings of Scottish vessels into E&W had been included in the E&W data.

3 CORRECTION OF DATA DUE TO THE REVISION OF THE SPLIT BETWEEN SPRING- AND AUTUMN SPAWNING HERRING IN SUBDIVISION IVA EAST AND DIVISION IIIA

At HAWG meetings prior to 2002 is has been impossible to run an analytical assessment on the Western Baltic Spring Spawning herring stock. It was realized that the quality of the landings and sampling data were limited. Therefore the HAWG in 1998 recommended that a Study Group on IIIa Herring (SG3AH, ICES 1999/ACFM:10 Ref:G) should be established. This SG analysed landings data for the period 1991 to 1998 as well as the sampling data for the same period. In parallel, otoliths from the same period were analysed, using the otolith microstructure method to split the total landings into WBSS and NSAS.

The HAWG has used the new revised data from the landings in Div. IIIa for 2000 and 2001 for the North Sea herring assessment since 2001 (catch years 2000, 2001 and 2002). The revision of the input data for the North Sea herring assessment is therefore split up in three periods – 1991 to 1994, 1995 to 1999 and 2000 to 2001.

A second revision was applied following the transfer of all Norwegian catches from IIIa into IVaE for 1995-2001. The resulting increase of total catch in IVaE is expected also to have an influence on the amount of WBSS caught in that area, because this is calculated as a fraction of the total catch in a specified “transfer area” in the 2nd and 3rd quarter. However, as the increase in the relevant periods and area was very small, the group decided not to revise the even smaller amount of WBSS caught in the North Sea.

Table 3.1 shows the estimated total numbers, mean weights and SOP catch of North Sea autumn spawners caught in Division IIIa by year, as well as a presentation on differences between the previously used and the corrected data. Table 3.2 gives the same information by quarter. The transfer of the estimated number of WBSS caught in the North Sea is given in Table 3.3 (by quarter, including the corresponding mean weights and SOP catch).

3.1 Period 1991 - 1994

The landings in numbers and mean weight-at-age of NSAS caught in Division IIIa are included in the CANUM for the North Sea for the whole year. It was not possible to re-run the DISFAD program for this period as data on a quarterly and area basis were not available. No revision of the amount of WBSS caught in the North Sea was made.

3.2 Period 1995 – 1999

As landings data by country, quarter and area were available to the SG, revision of all data was made. A second revision was applied following the transfer of all Norwegian catches from IIIa into IVaE.

3.3 Period 2000 – 2001

For 2000 and 2001, the revised data were already included in the HAWG 2002 assessments of NSAS and WBSS. Data were now only updated following the transfer of all Norwegian catches from IIIa into IVaE.

Data for 2002 (HAWG 2003) are again listed here as there was some confusion on Swedish sampling information, which was made available so late in the assessment process that it could not be included in the NSAS assessment. HAWG will use the updated set also for this year from 2004 on.

4 AGGREGATION OF SAMPLING DATA AND RECALCULATION OF ASSESSMENT RELEVANT PARAMETERS

4.1 Sources of disaggregated data sets

As described in Section 2, disaggregated data were taken from recompiled national data sets where possible. For the whole period (1995-2001), these data were available in the required format (DISFAD entries) and consistency checked for NOR, NED, SCO and DEN. In the later years (from 1999 onwards), disaggregated data were available for all nations.

For early years (1995-1998), data of other nations than the ones mentioned above were either taken from updated national catch (SWE) or re-entered into DISFAD from the workbooks used by the species coordinators (GER, FRA, FAR, RUS, BEL, ENG, NIR). All DISFAD entries were cross-checked with data held in the HAWG records and at the national labs (where available).

4.2 Reallocations and filling-in schemes for unsampled metiers

All allocations and filling-in schemes for 1995-2001 have been checked and revised where necessary. In the period in question, at least three different species coordinators have – sometimes arbitrarily – decided which fleet's/metier's information should be used to raise the catch data of unsampled fleets/metiers. Table 4.1 gives the reconstructed allocations used so far for 1995-1998 (as these were not documented before). Unsampled catches of less than 0.5 t have been removed from the DISFAD tables to reduce the number of metiers.

The allocations were now standardised using the following rules:

- search was always for same area/quarter or nearest area/quarter (preference to same area)
- All ENG, FRA and GER catches: *filled in with:* NED, or NED and sampling info from these nations merged,
  Exceptions: FRA "artisanal" or ENG "Blackwater fleet" (for these only actual sampling data was used)

All SWE catches *filled in with:* NOR, 2nd option DEN (A)
All FAR catches *filled in with:* NOR and SCO merged
All RUS catches (appeared in 1997 and 1998 only) *filled in with* any fleet operating in the same quarter and area – SCO, or NOR and SCO merged
All NOR, DEN and SCO catches should be raised by their national catch data only
For DEN by-catches in the small-meshed fishery taken in IVa East or West, DEN (A) fleet can be applied
Detailed information on raising and filling-in decisions can be found in the annual sam.out files stored in the HAWG archive (see Sect. 8). They are not reproduced here as they may contain confidential data.

4.3 Recalculated catch-at-age data 1995-2001

Tables 4.2-4.8a-f, corresponding to HAWG report tables 2.2.1-2.2.5, give the complete recalculated catch-at-age data by quarter and area for 1995-2001. Note that length data were not available in the early years (until 1999), and that data for Div. IVc and VIId were only delivered separately by some nations in the same period.

5 CORRECTIONS OF TOTAL OFFICIAL OR WORKING GROUP CATCH BY AREA AND NATION

Catch tables (catch by area and nation) used by HAWG were finally compared with data held at the official ICES database (Table 5.1), and were updated where differences became obvious in the course of *SG Rednose*'s work. Table 5.2 gives a detailed list of data sources, corrections applied to the official data set and problems that could not be solved for this early period (1995-1998). After accounting for transfers between stocks, the global estimate for catch of NSAS by year was compared with the CATON file used in the assessment (Table 5.3). Table 5.4 gives the updated "official" catch by area (including misreporting, unallocated catch and discards – resembling HAWG Tables 2.1.1-2.1.6). In the course of *SG Rednose*'s work, corrections in the order of 137,000 t have been made (for 1995-2001), resulting in a total reduction of the catch of North Sea herring of 82,000 t for this period.

6 A COMPARISON OF ASSESSMENT RESULTS USING THE PREVIOUS AND THE UPDATED DATA SET

A comparison was made between the North Sea herring assessment carried out at the 2002 meeting of the Herring Assessment Working Group (ICES 2002/ACFM:12) and an assessment using the revised catch data for 1995-2001. Results of the comparison of SSB estimates are shown in Figure 6.1. The revision of the data did not result in any significant difference in perception of the stock.

However, *SG Rednose* was able to remove a number of inconsistencies on various parts of the North Sea herring data set and prepared a checked reference data set ready for a transfer into the new ICES database system.

7 REFERENCES

ICES 1995. Report of the Herring Assessment Working Group for the Area South of 62°N. ICES CM 1995/Assess:13.

ICES 1996. Report of the Herring Assessment Working Group for the Area South of 62°N. ICES CM 1996/Assess:10.

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ICES 2003. Report of the Herring Assessment Working Group for the Area South of 62°N. ICES CM 2003/ACFM:17.

Patterson, K.R. 1998: A programme for calculating total international catch-at-age and weight-at-age. WD to HAWG1998.

8 LIST OF CONFIDENTIAL DATA NOT REPRODUCED IN THIS REPORT

Table 8.1 gives the content of the updated HAWG archive folder for the North Sea stock, which contains confidential national disaggregated catch data not to be published. The following data were added in the course of *SG Rednose*'s work:

DEN: sampling information and age-disaggregated data in HAWG xls-Workbooks, separately for A- and B-fleets, 1994-1998; consistency checked and recompiled 1999-2001

ENG: catch information for England&Wales in HAWG xls-Workbooks, consistency checked, 1990-1998

NED: sampling information and age-disaggregated data in DISFAD-format; consistency checked and recompiled 1995-2001

NOR: sampling information and age-disaggregated data in HAWG xls-Workbooks; consistency checked and recompiled 1998-2001, in DISFAD format 1995-1997

DISFAD, ALLOC and Sam.out-files for the North Sea herring fishery, 1995-1998 (1999-2001 updated)

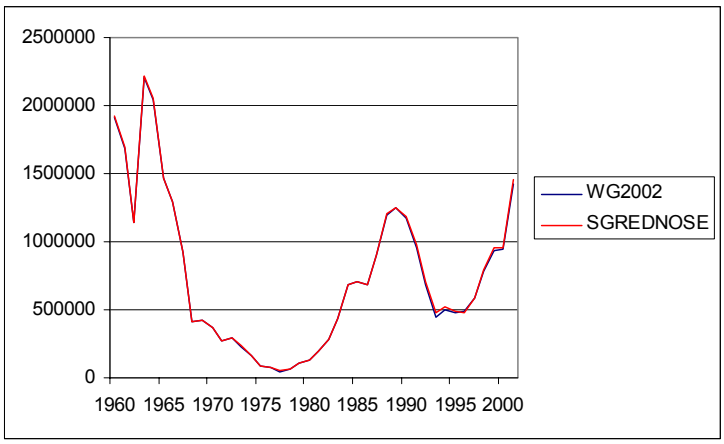

Figure 6.1 Comparison of SSB estimates from the WG 2002 assessment and a run using updated data from *SG Rednose*.

Table 2.1 Norwegian catch (in tons) of Norwegian Spring Spawning herring (NSSH) and local fjord-type herring in the North Sea, 1990-2002

Year	1990	1991	1992	1993	1994	1995	1996
Combined catch of NSSH and fjord-type herring south of 62° N	3915	4903	5352	9051	5902	9501	30274
Catch of NSSH in the North Sea transferred to the NSSH assessment (NPBW-WG reports)	--- not given separately ---						

Year	1997	1998	1999	2000	2001	2002
Combined catch of NSSH and fjord-type herring south of 62° N	54728	29220	32106	25678	7108	4069
Catch of NSSH in the North Sea transferred to the NSSH assessment (NPBW-WG reports)	51725	26579	28860	21405	2921	2105

Tab. 3.1: Catches of North Sea Autumn Spawners in Div. IIIa, 1991-2002. Data for 1994-2001 have been updated by SGREDNOSE in 2003

a. Catch in numbers at age (canum) (thousands)

yr/rings	0	1	2	3	4	5	6	7	8+	Total
1991	677.1	748.3	298.3	52.4	7.7	5.1	1.1	0.4	0.1	**1790.6**
1992	2298.4	1408.8	220.3	22.1	10.4	6.6	2.9	1.0	0.4	**3970.9**
1993	2795.4	2032.5	237.6	26.5	7.7	3.6	2.7	2.2	0.7	**5109.0**
1994	478.6	1027.5	186.8	24.4	5.4	2.5	1.3	0.3	0.2	**1727.0**
1995	1144.5	1180.8	147.1	10.0	2.8	0.9	0.5	0.3	0.2	**2487.2**
1996	516.1	961.1	153.9	12.7	3.0	1.5	0.6	0.3	0.2	**1649.4**
1997	67.6	305.3	125.2	20.4	1.2	0.7	0.2	0.1	0.1	**520.7**
1998	51.3	728.9	145.4	25.0	19.0	3.0	3.1	1.2	0.5	**977.3**
1999	598.1	230.5	132.6	38.6	10.2	4.9	0.7	1.0	0.4	**1017.0**
2000	232.5	977.9	114.7	19.8	21.4	6.9	3.2	0.6	0.0	**1377.0**
2001	807.8	556.9	140.0	14.9	1.2	0.2	0.5	0.0	0.0	**1521.5**
2002	478.5	362.6	56.7	5.6	0.7	0.2	0.1	0.0	0.0	**904.5**

b. Sum-of-Product Catch (caton) (t)

yr/rings	0	1	2	3	4	5	6	7	8+	Total
1991	17314	30336	21744	5098	1049	771	178	59	26	**76575**
1992	28159	72985	18557	2907	1683	1143	533	200	84	**126251**
1993	34903	58107	18939	3749	1016	850	647	390	133	**118734**
1994	7616	42966	15239	2667	741	396	229	66	37	**69957**
1995	12837	46071	12310	1347	450	179	111	75	60	**73440**
1996	5697	22448	12036	1396	483	265	127	71	56	**42579**
1997	1304	14571	8219	2490	185	115	28	14	19	**26945**
1998	1409	41076	11393	2931	3101	534	604	210	106	**61365**
1999	6254	10072	11157	4337	1447	781	126	210	89	**34471**
2000	4944	27645	8670	2047	3469	1314	587	106	6	**48789**
2001	7029	27261	10237	1578	157	27	101	5	4	**46400**
2002	5859	13790	5705	684	106	26	21	8	5	**26205**

c. Mean weight at age (weca) (kg)

yr/rings	0	1	2	3	4	5	6	7	8+
1991	0.026	0.041	0.073	0.097	0.136	0.150	0.156	0.160	0.177
1992	0.012	0.052	0.084	0.131	0.162	0.173	0.185	0.198	0.201
1993	0.012	0.029	0.080	0.141	0.132	0.233	0.239	0.181	0.203
1994	0.016	0.042	0.082	0.109	0.137	0.159	0.178	0.194	0.216
1995	0.011	0.039	0.084	0.135	0.159	0.203	0.203	0.240	0.244
1996	0.011	0.023	0.078	0.110	0.159	0.182	0.215	0.215	0.244
1997	0.019	0.048	0.066	0.122	0.155	0.176	0.175	0.179	0.185
1998	0.027	0.056	0.078	0.117	0.163	0.180	0.197	0.179	0.226
1999	0.010	0.044	0.084	0.112	0.141	0.161	0.181	0.206	0.199
2000	0.021	0.028	0.076	0.103	0.162	0.191	0.184	0.186	0.178
2001	0.009	0.049	0.073	0.106	0.128	0.133	0.224	0.169	0.192
2002	0.012	0.038	0.101	0.122	0.143	0.161	0.179	0.177	0.219

d. catch in numbers: differences to previously used data set ('000)

Year/rings	0	1	2	3	4	5	6	7	8+	Total
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
1993	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
1994	-3.0	-59.1	-14.6	-2.5	-0.6	-0.4	-0.3	0.0	0.0	**-80.5**
1995	0.0	-8.5	-14.4	-3.3	-0.6	-0.2	-0.1	0.0	0.0	**-27.2**
1996	0.0	0.0	-7.5	-4.3	-0.4	-0.2	-0.1	0.0	0.0	**-12.5**
1997	0.0	0.0	-6.5	-0.9	-0.5	-0.1	-0.1	0.0	0.0	**-8.0**
1998	0.0	-16.2	-16.2	-1.7	-0.2	-0.1	0.0	0.0	0.0	**-34.4**
1999	-0.7	-72.5	-16.0	-8.6	-3.2	-1.4	-0.5	0.5	0.0	**-102.4**
2000	-2.8	-6.4	-1.3	-2.1	-1.5	-0.6	-0.1	0.0	0.0	**-14.8**
2001	0.0	-6.8	-10.0	-2.2	-0.1	-0.1	0.0	0.0	0.0	**-19.3**
2002	67.0	17.7	8.6	0.3	-0.1	0.0	0.0	0.0	0.0	**93.5**

Tab. 3.2: Catches of North Sea Autumn Spawners in Div. IIIa by quarter, 1994-2001 (as updated by SG REDNOSE)

a.1994

Catch in numbers ('000)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0.0	290.4	63.8	9.3	1.9	0.6	0.4	0.1	0.1	366.6
2	0.0	396.7	83.0	11.7	0.2	0.2	0.1	0.0	0.0	492.0
3	204.9	132.1	18.7	2.6	3.2	1.7	0.8	0.2	0.1	364.4
4	273.7	208.2	21.2	0.8	0.0	0.0	0.0	0.0	0.0	504.0

SOP catch (t)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0	5058	3510	811	210	90	62	12	10	9764
2	0	6687	6561	1375	35	30	14	5	2	14710
3	2323	12586	2411	358	489	272	150	48	23	18660
4	5293	18635	2757	123	7	3	3	1	1	26824

Mean weight (kg)

Quarter/rings	0	1	2	3	4	5	6	7	8+
1	0.000	0.017	0.055	0.088	0.109	0.145	0.158	0.185	0.194
2	0.000	0.017	0.079	0.117	0.147	0.172	0.189	0.203	0.190
3	0.011	0.095	0.129	0.139	0.152	0.163	0.185	0.195	0.228
4	0.019	0.089	0.130	0.156	0.190	0.204	0.211	0.228	0.277

b. 1995

Catch in numbers ('000)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0.0	574.7	62.7	3.3	1.2	0.3	0.2	0.1	0.1	642.6
2	0.0	172.0	52.2	4.5	0.2	0.0	0.1	0.1	0.0	229.0
3	883.5	286.4	18.6	1.6	1.4	0.6	0.3	0.1	0.1	1192.5
4	261.1	147.6	13.5	0.6	0.1	0.0	0.0	0.0	0.0	423.0

SOP catch (t)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0	11949	4172	427	185	49	31	24	28	16864
2	0	4979	4497	606	26	8	12	11	7	10147
3	8390	19554	2119	224	224	118	64	38	24	30755
4	4446	9589	1522	91	15	4	5	2	0	15673

Mean weight (kg)

Quarter/rings	0	1	2	3	4	5	6	7	8+
1	0.000	0.021	0.067	0.129	0.153	0.190	0.197	0.220	0.247
2	0.000	0.029	0.086	0.136	0.153	0.173	0.182	0.186	0.210
3	0.009	0.068	0.114	0.142	0.166	0.212	0.211	0.280	0.252
4	0.017	0.065	0.112	0.140	0.154	0.180	0.203	0.204	0.212

c. 1996

Catch in numbers ('000)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0.0	732.2	72.8	9.2	1.9	0.6	0.2	0.2	0.1	817.3
2	0.0	80.7	37.7	1.4	0.0	0.0	0.0	0.0	0.0	120.0
3	73.0	40.3	29.7	1.3	1.1	0.8	0.3	0.2	0.1	146.8
4	443.1	107.9	13.6	0.7	0.0	0.0	0.0	0.0	0.0	565.3

SOP catch (t)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0	11238	4227	947	290	106	53	39	36	16936
2	0	2152	2551	148	4	5	2	2	3	4868
3	533	3040	3687	193	183	151	71	29	17	7905
4	5164	6018	1571	108	6	2	1	0	0	12871

Mean weight (kg)

Quarter/rings	0	1	2	3	4	5	6	7	8+
1	0.000	0.015	0.058	0.102	0.153	0.179	0.231	0.239	0.258
2	0.000	0.027	0.068	0.103	0.119	0.143	0.155	0.176	0.171
3	0.007	0.075	0.124	0.147	0.172	0.186	0.206	0.194	0.237
4	0.012	0.056	0.116	0.151	0.170	0.198	0.217	0.000	0.163

d. 1997

Catch in numbers ('000)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0.0	36.1	73.6	7.6	0.0	0.0	0.0	0.0	0.0	117.3
2	0.0	107.3	18.1	0.6	0.1	0.0	0.0	0.0	0.0	126.2
3	13.9	53.2	24.1	12.1	0.7	0.4	0.1	0.0	0.0	104.6
4	53.7	108.7	9.4	0.0	0.4	0.3	0.1	0.0	0.1	172.7

SOP catch (t)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0	1021	4150	829	0	0	0	0	0	6001
2	0	4298	970	78	15	4	3	0	0	5367
3	223	2445	2075	1582	105	67	15	9	8	6529
4	1081	6807	1024	0	66	44	11	4	11	9048

Mean weight (kg)

Quarter/rings	0	1	2	3	4	5	6	7	8+
1	0.000	0.028	0.056	0.109	0.000	0.000	0.000	0.000	0.000
2	0.000	0.040	0.053	0.122	0.139	0.162	0.175	0.000	0.000
3	0.016	0.046	0.086	0.130	0.153	0.177	0.178	0.186	0.183
4	0.020	0.063	0.109	0.000	0.161	0.176	0.173	0.165	0.186

e. 1998

Catch in numbers ('000)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0.0	64.1	52.1	1.4	0.3	0.0	0.0	0.0	0.0	118.0
2	0.0	11.2	24.4	1.3	0.1	0.0	0.0	0.0	0.0	37.0
3	6.0	441.6	16.4	0.8	1.1	0.2	0.4	0.1	0.1	466.7
4	45.3	212.0	52.5	21.4	17.6	2.7	2.6	1.1	0.4	355.6

SOP catch (t)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0	1460	3076	119	23	0	0	0	0	4677
2	0	272	1517	100	8	2	1	1	1	1903
3	137	24337	1321	85	173	29	72	19	18	26190
4	1272	15007	5480	2627	2899	503	531	190	86	28595

Mean weight (kg)

Quarter/rings	0	1	2	3	4	5	6	7	8+
1	0.000	0.023	0.059	0.082	0.081	0.000	0.000	0.000	0.000
2	0.000	0.024	0.062	0.079	0.111	0.139	0.153	0.161	0.191
3	0.023	0.055	0.081	0.103	0.157	0.123	0.176	0.191	0.225
4	0.028	0.071	0.104	0.123	0.165	0.185	0.201	0.178	0.227

f. 1999

Catch in numbers ('000)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0.0	100.0	66.0	12.3	1.3	1.2	0.2	0.1	0.1	181.1
2	0.0	33.4	16.1	7.6	0.9	0.3	0.1	0.0	0.0	58.6
3	333.1	73.2	45.5	12.3	3.7	1.1	0.4	0.3	0.1	469.7
4	264.9	23.9	5.0	6.4	4.4	2.3	0.1	0.6	0.2	307.7

SOP catch (t) W-rings

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0	2646	4948	1245	133	189	27	7	18	9212
2	0	1556	1259	746	93	43	13	6	4	3721
3	2899	4539	4474	1543	547	185	73	59	31	14350
4	3355	1330	475	803	674	365	14	138	35	7189

Mean weight (kg)

Quarter/rings	0	1	2	3	4	5	6	7	8+
1	0.000	0.026	0.075	0.102	0.105	0.158	0.160	0.100	0.170
2	0.000	0.047	0.078	0.098	0.103	0.131	0.136	0.130	0.148
3	0.009	0.062	0.098	0.125	0.149	0.172	0.203	0.225	0.211
4	0.013	0.056	0.095	0.126	0.153	0.161	0.178	0.215	0.217

g. 2000

Catch in numbers ('000)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0.0	543.0	43.1	9.7	1.9	0.9	1.1	0.2	0.0	599.9
2	0.0	75.9	1.8	2.6	0.0	0.0	0.0	0.0	0.0	80.3
3	93.3	242.4	59.1	5.9	6.9	2.1	0.3	0.1	0.0	410.1
4	139.2	116.6	10.7	1.6	12.6	3.9	1.7	0.3	0.0	286.7

SOP catch (t)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0	7679	2343	891	269	166	206	45	4	11604
2	0	1828	76	194	0	0	0	0	0	2097
3	1697	11946	5291	748	1046	374	60	7	0	21170
4	3247	6192	961	214	2154	774	320	54	2	13918

Mean weight (kg)

Quarter/rings	0	1	2	3	4	5	6	7	8+
1	0.000	0.014	0.054	0.092	0.139	0.196	0.188	0.220	0.214
2	0.000	0.024	0.042	0.076	0.000	0.000	0.000	0.000	0.000
3	0.018	0.049	0.090	0.126	0.151	0.176	0.173	0.142	0.000
4	0.023	0.053	0.089	0.133	0.171	0.197	0.183	0.172	0.134

h. 2001

Catch in numbers W-rings

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0.0	232.8	73.5	4.1	0.1	0.0	0.0	0.0	0.0	310.5
2	0.0	80.7	31.2	3.5	0.1	0.1	0.0	0.0	0.0	115.7
3	791.8	165.1	26.4	4.5	0.9	0.1	0.3	0.0	0.0	989.1
4	16.0	78.2	8.9	2.8	0.2	0.0	0.1	0.0	0.0	106.2

SOP catch (t)

Quarter/rings	0	1	2	3	4	5	6	7	8+	Total
1	0	6499	4400	410	9	8	5	2	3	11337
2	0	2448	2275	338	14	13	5	2	1	5096
3	6676	11740	2676	502	109	6	70	0	0	21779
4	353	6574	886	329	25	0	21	0	0	8188

Mean weight (kg)

Quarter/rings	0	1	2	3	4	5	6	7	8+
1	0.000	0.028	0.060	0.099	0.180	0.195	0.184	0.174	0.193
2	0.000	0.030	0.073	0.096	0.141	0.159	0.162	0.165	0.189
3	0.008	0.071	0.101	0.110	0.124	0.075	0.231	0.000	0.000
4	0.022	0.084	0.099	0.119	0.125	0.000	0.231	0.000	0.000

Tab. 3.3: Catches of Western Baltic Spring Spawners in the transfer area of Div. IVa(East), 1995-20
Data have **not** been changed by SGREDNOSE in 2003

a. Catch in numbers at age (canum) (thousands) by quarter

year	quarter	0	1	2	3	4	5	6	7	8	9+	Total
1995	2	0.0	0.0	11.2	5.5	7.5	2.0	1.5	1.0	0.4	0.0	28.9
1995	3	0.0	0.0	11.2	5.5	7.5	2.0	1.5	1.0	0.4	0.0	28.9
1996	2	0.0	0.0	0.0	1.4	0.4	0.2	0.1	0.1	0.2	0.0	2.25
1996	3	0.0	0.0	0.0	1.4	0.4	0.2	0.1	0.1	0.2	0.0	2.25
1997	2	0.0	0.0	1.1	0.7	0.8	0.2	0.1	0.1	0.1	0.0	2.95
1997	3	0.0	0.0	1.1	0.7	0.8	0.2	0.1	0.1	0.1	0.0	2.95
1998	2	0.0	5.1	3.6	2.6	0.9	0.3	0.1	0.1	0.0	0.0	12.7
1998	3	0.0	0.0	5.9	9.4	9.2	5.7	2.9	0.3	0.9	0.0	34.3
1999	2	0.0	0.0	1.2	5.6	2.9	1.7	0.7	0.3	0.2	0.0	12.6
1999	3	0.0	0.0	2.1	8.7	2.7	1.9	0.8	0.3	0.3	0.0	16.7
2000	2	0.0	0.0	0.9	2.5	1.8	0.7	0.2	0.0	0.0	0.0	6.1
2000	3	0.0	0.0	7.2	7.3	8.4	5.0	2.3	0.6	0.6	0.1	31.5
2001	2	0.0	0.5	2.9	6.3	3.6	4.3	1.6	0.9	0.2	0.0	20.3
2001	3	0.0	0.0	8.4	3.9	2.5	2.8	1.1	0.7	0.2	0.0	19.7
2002	2	0.0	0.0	6.2	14.6	9.7	3.0	2.4	0.8	0.4	0.1	37.3
2002	3	0.0	0.0	1.4	0.2	0.9	0.4	0.5	0.1	0.1	0.0	3.6

b. Sum-of-Product Catch (caton) (t)

year	quarter	0	1	2	3	4	5	6	7	8	9+	Total
1995	2	0	0	1512	957	1468	410	378	253	97	0	5075
1995	3	0	0	1512	957	1468	410	378	253	97	0	5075
1996	2	0	0	0	249	85	48	12	13	40	0	447
1996	3	0	0	0	249	85	48	12	13	40	0	447
1997	2	0	0	135	98	131	41	23	11	27	0	468
1997	3	0	0	135	98	131	41	23	11	27	0	468
1998	2	0	592	490	400	158	59	21	24	0	0	1744
1998	3	0	0	767	1495	1656	1191	682	76	219	0	6085
1999	2	0	0	155	805	468	332	146	58	50	0	2014
1999	3	0	0	268	1318	464	372	170	68	63	0	2722
2000	2	0	0	115	356	289	111	39	9	6	3	929
2000	3	0	0	1034	1252	1588	1060	459	123	170	29	5715
2001	2	0	36	358	936	613	807	308	196	49	8	3311
2001	3	0	0	1088	612	479	540	220	148	53	0	3139
2002	2	0	0	866	2247	1580	543	469	172	89	28	5994
2002	3	0	0	219	39	168	81	99	30	22	0	658

c. Mean weight (weca) (kg)

year	quarter	0	1	2	3	4	5	6	7	8	9+
1995	2	0	0	0.135	0.174	0.197	0.205	0.261	0.266	0.277	0
1995	3	0	0	0.135	0.174	0.197	0.205	0.261	0.266	0.277	0
1996	2	0	0	0	0.178	0.213	0.238	0.243	0.268	0.266	0
1996	3	0	0	0	0.178	0.213	0.238	0.243	0.268	0.266	0
1997	2	0	0	0.123	0.151	0.175	0.205	0.23	0.229	0.274	0
1997	3	0	0	0.123	0.151	0.175	0.205	0.23	0.229	0.274	0
1998	2	0	0.116	0.136	0.154	0.176	0.198	0.205	0.239	0	0
1998	3	0	0	0.13	0.159	0.18	0.209	0.235	0.253	0.243	0
1999	2	0	0	0.125	0.144	0.159	0.191	0.216	0.227	0.279	0
1999	3	0	0	0.129	0.151	0.174	0.197	0.219	0.225	0.248	0
2000	2	0	0	0.124	0.144	0.163	0.169	0.191	0.227	0.217	0.227
2000	3	0	0	0.143	0.172	0.188	0.212	0.203	0.217	0.267	0.282
2001	2	0	0.079	0.123	0.148	0.171	0.186	0.198	0.221	0.261	0.238
2001	3	0	0	0.129	0.157	0.189	0.192	0.198	0.22	0.277	0
2002	2	0	0.081	0.139	0.154	0.163	0.184	0.195	0.207	0.215	0.241
2002	3	0	0.094	0.162	0.180	0.189	0.206	0.212	0.211	0.240	0

Table 4.1: Allocation schemes (for raising of unsampled metiers) used *previously* (1995-1998, prior to the introduction of the DISFAD system). For the new allocation schemes, see Section 4.2. Q = Quarter

Year	Area	Q	unsampled	smpl used
1995	4a(E)	1	Fra 18 kg catch removed	
		2	Swe	Nor
		3	Eng Swe Fra	Nor
		4	Swe Fra	Nor
	4a(W)	1	Ger Fra	Den
		2	Ger	Nor
			Fra	Ned
			Eng	Sco
		3	Fra	Ned
			Swe	Nor
			Eng	Sco
		4	Fra	Ned
			Swe	Nor
			Eng	Sco
	4b	1	Eng 40 kg catch removed	
		2	Eng Fra Ger	Ned
			Swe	Nor
		3	Eng Fra	Ned
			Swe	Nor
		4	Fra 88kg catch removed	
			Eng Ger	Ned
			Swe	Nor
	4c7d	1	Fra "artis anal" sampled	
			Eng	Fra
		2	Fra "artis anal" sampled	
			Eng	Fra
		3	Fra Eng Ger	Ned 4Q
		4	Fra "artis anal" sampled	
			Fra freezers Eng Ger	Ned
1996	4a(E)	2	Swe	Den
		3	Swe	Nor
	4a(W)	1	Eng Fra Ger	Sco
		2	Eng Fra Ger	Sco
			Swe	Nor
		3	Eng	Sco
			Fra Ger	Ned
			Swe	Nor
		4	Eng Fra Ger	Sco
			Swe	Nor
	4b	2	Eng Ger	Sco
		3	Fra	Ned
			Ger	Sco
		4	Eng Fra Ger	Sco 3Q
	4c7d	1	Eng Fra	Ned
		2	Eng Fra	Ned 1Q
		3	Eng Fra Ger	Ned 1Q
		4	Eng Fra Ger	Ned
			Sco 262 kg catch removed	

Year	Area	Q	unsampled	smpl used
1997	4a(E)	1	Fra Ger	Nor
		2	Swe Fra Ger	Nor
		3	Swe Fra Ger	Nor
		4	Fra Ger	Nor
	4a(W)	1	Fra	Ned
			Eng	Sco 6a(N)
		2	Fra	Ned
			Swe	Nor
		3	Fra	Ned
			Swe Rus	Nor
			Ger	Sco
		4	Swe Fra	Nor
	4b	1	Eng	Den
		2	Ned	Sco
			Swe Fra	Nor
		3	Eng Fra Ger	Ned
		4	Fra Ned	
			Ger Nor	
	4c7d	1	Eng Fra	Ned
		2	Eng Fra	Ned 1Q
		3	Eng Fra	Ned 4Q
			Sco 333 kg catch removed	
		4	Eng Fra Ger Bel	Ned
1998	4a(E)	2	Swe Nor	
		3	Swe Fra	Nor
	4a(W)	1	Ger Ned	
		2	Ger Ned	
			Swe Nor	
		3	Eng Fra Ger	Ned
			Swe Far	Nor
		4	Swe Fra Ger	Nor
	4b	2	Ger Ned	
		3	Eng Fra Ger	Ned
			Swe Nor	
		4	Swe Fra Ger	Ned
	4c7d	1	Eng Fra	Ned
		2	Eng Fra	Ned 1Q
		3	Fra	Ned 1Q
		4	Eng Fra Ger	Ned

Table 4.2 a: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1995. Catch in numbers (millions) at age (rings), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBBS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**1144.5**	**5.5**	**0.0**	**5.5**	**0.9**	**6244.7**	**42.8**	**6251.1**	**42.8**	**7438.5**	**6293.9**
1	**1180.8**	**53.6**	**0.0**	**53.6**	**36.5**	**381.8**	**12.3**	**471.9**	**12.3**	**1664.9**	**484.1**
2	**147.1**	**299.1**	**22.4**	**276.7**	**469.5**	**316.6**	**234.2**	**1062.8**	**234.2**	**1444.1**	**1319.4**
3	**10.0**	**252.1**	**11.0**	**241.1**	**290.9**	**166.8**	**107.8**	**698.8**	**107.8**	**816.7**	**817.7**
4	**2.8**	**61.8**	**14.9**	**46.9**	**87.4**	**46.7**	**47.9**	**181.1**	**47.9**	**231.8**	**243.9**
5	**0.9**	**13.1**	**4.0**	**9.1**	**36.9**	**21.6**	**50.1**	**67.6**	**50.1**	**118.5**	**121.7**
6	**0.5**	**9.4**	**2.9**	**6.5**	**19.2**	**14.8**	**14.0**	**40.6**	**14.0**	**55.1**	**57.5**
7	**0.3**	**10.9**	**1.9**	**9.0**	**18.9**	**6.0**	**7.2**	**33.9**	**7.2**	**41.4**	**43.0**
8	**0.2**	**16.8**	**0.7**	**16.1**	**39.2**	**11.1**	**2.4**	**66.3**	**2.4**	**69.0**	**69.4**
9+	**0.0**	**6.7**	**0.0**	**6.7**	**20.3**	**1.8**	**0.4**	**28.8**	**0.4**	**29.2**	**29.2**
Sum	**2487.2**	**729.0**	**57.8**	**671.2**	**1019.7**	**7212.1**	**519.0**	**8903.0**	**519.0**	**11909.2**	**9479.8**
Quarter: 1											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	574.7	0.0	0.0	0.0	0.0	50.8	5.6	50.8	5.6	**631.1**	**56.5**
2	62.7	61.3	0.0	61.3	12.7	23.7	8.0	97.7	8.0	**168.4**	**105.7**
3	3.3	97.1	0.0	97.1	17.2	17.8	5.1	132.1	5.1	**140.5**	**137.2**
4	1.2	10.2	0.0	10.2	1.8	4.0	5.5	16.0	5.5	**22.7**	**21.5**
5	0.3	1.1	0.0	1.1	0.3	0.9	1.5	2.2	1.5	**4.0**	**3.7**
6	0.2	1.1	0.0	1.1	0.2	0.8	0.2	2.0	0.2	**2.4**	**2.2**
7	0.1	1.5	0.0	1.5	0.3	0.1	0.4	2.0	0.4	**2.5**	**2.4**
8	0.1	2.9	0.0	2.9	0.5	0.9	0.0	4.3	0.0	**4.4**	**4.3**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**642.6**	**175.1**	**0.0**	**175.1**	**33.0**	**99.0**	**26.3**	**307.2**	**26.3**	**976.1**	**333.5**
Quarter: 2											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	172.0	10.6	0.0	10.6	0.2	93.8	0.2	104.6	0.2	**276.8**	**104.8**
2	52.2	51.9	11.2	40.7	119.6	45.3	0.1	205.6	0.1	**257.9**	**216.9**
3	4.5	16.2	5.5	10.7	72.7	5.8	0.4	89.3	0.4	**94.1**	**95.1**
4	0.2	7.9	7.5	0.5	19.9	5.4	0.4	25.8	0.4	**26.4**	**33.7**
5	0.0	3.9	2.0	1.9	12.8	2.6	1.7	17.3	1.7	**19.0**	**20.9**
6	0.1	1.0	1.5	-0.4	3.7	1.0	0.3	4.3	0.3	**4.7**	**6.1**
7	0.1	0.9	1.0	0.0	3.5	0.5	1.0	3.9	1.0	**5.0**	**5.9**
8	0.0	0.6	0.4	0.3	4.6	0.8	0.5	5.7	0.5	**6.3**	**6.6**
9+	0.0	0.7	0.0	0.7	2.8	0.4	0.0	3.9	0.0	**3.9**	**3.9**
Sum	**229.0**	**93.9**	**28.9**	**65.0**	**239.7**	**155.7**	**4.6**	**460.4**	**4.6**	**694.0**	**493.9**
Quarter: 3											
0	883.5	0.0	0.0	0.0	0.0	5070.3	0.0	5070.3	0.0	**5953.8**	**5070.3**
1	286.4	10.6	0.0	10.6	8.9	106.8	0.1	126.3	0.1	**412.8**	**126.4**
2	18.6	36.2	11.2	25.0	195.9	208.0	8.0	428.9	8.0	**455.6**	**448.1**
3	1.6	20.8	5.5	15.3	139.3	123.2	4.7	277.8	4.7	**284.1**	**288.0**
4	1.4	13.8	7.5	6.3	52.6	30.8	2.0	89.8	2.0	**93.1**	**99.2**
5	0.6	3.4	2.0	1.4	18.5	13.4	2.6	33.3	2.6	**36.5**	**37.9**
6	0.3	2.9	1.5	1.4	13.1	12.0	1.0	26.5	1.0	**27.8**	**28.9**
7	0.1	2.2	1.0	1.2	11.9	4.7	0.3	17.8	0.3	**18.3**	**19.1**
8	0.1	0.9	0.4	0.5	29.5	8.3	0.2	38.4	0.2	**38.6**	**38.9**
9+	0.0	0.2	0.0	0.2	11.9	1.3	0.1	13.5	0.1	**13.5**	**13.5**
Sum	**1192.5**	**90.9**	**28.9**	**62.0**	**481.7**	**5578.9**	**19.0**	**6122.6**	**19.0**	**7334.1**	**6170.5**
Quarter: 4											
0	261.1	5.5	0.0	5.5	0.9	1174.4	42.8	1180.8	42.8	**1484.7**	**1223.6**
1	147.6	32.4	0.0	32.4	27.4	130.4	6.3	190.2	6.3	**344.1**	**196.5**
2	13.5	149.7	0.0	149.7	141.4	39.6	218.0	330.7	218.0	**562.2**	**548.7**
3	0.6	117.9	0.0	117.9	61.7	20.0	97.7	199.7	97.7	**298.0**	**297.4**
4	0.1	29.9	0.0	29.9	13.1	6.4	40.0	49.5	40.0	**89.6**	**89.5**
5	0.0	4.7	0.0	4.7	5.3	4.8	44.3	14.8	44.3	**59.1**	**59.1**
6	0.0	4.5	0.0	4.5	2.2	1.0	12.6	7.7	12.6	**20.3**	**20.2**
7	0.0	6.3	0.0	6.3	3.2	0.7	5.4	10.2	5.4	**15.6**	**15.6**
8	0.0	12.4	0.0	12.4	4.5	1.1	1.6	18.0	1.6	**19.6**	**19.6**
9+	0.0	5.8	0.0	5.8	5.6	0.0	0.3	11.4	0.3	**11.8**	**11.8**
Sum	**423.0**	**369.1**	**0.0**	**369.1**	**265.3**	**1378.4**	**469.0**	**2012.9**	**469.0**	**2904.9**	**2481.9**

Table 4.2 b: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1995. Mean weight (kg) at age (rings) in the catch (WECA), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(W)	IVb	IVc & VIId	IVa & IVb all	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4										
0	**0.011**	**0.024**	**0.000**	**0.003**	**0.009**	**0.010**	**0.009**	**0.010**	**0.000**	**0.009**
1	**0.039**	**0.081**	**0.000**	**0.083**	**0.040**	**0.056**	**0.048**	**0.056**	**0.097**	**0.048**
2	**0.084**	**0.134**	**0.135**	**0.144**	**0.136**	**0.117**	**0.139**	**0.117**	**0.119**	**0.135**
3	**0.135**	**0.158**	**0.174**	**0.186**	**0.176**	**0.140**	**0.174**	**0.140**	**0.143**	**0.169**
4	**0.159**	**0.193**	**0.197**	**0.218**	**0.201**	**0.169**	**0.206**	**0.169**	**0.178**	**0.199**
5	**0.203**	**0.215**	**0.205**	**0.221**	**0.214**	**0.190**	**0.218**	**0.190**	**0.193**	**0.207**
6	**0.203**	**0.233**	**0.261**	**0.267**	**0.257**	**0.207**	**0.256**	**0.207**	**0.212**	**0.244**
7	**0.239**	**0.227**	**0.266**	**0.268**	**0.267**	**0.212**	**0.255**	**0.212**	**0.224**	**0.248**
8	**0.244**	**0.245**	**0.277**	**0.307**	**0.271**	**0.209**	**0.286**	**0.209**	**0.212**	**0.283**
9+	**0.000**	**0.242**	**0.000**	**0.286**	**0.296**	**0.245**	**0.276**	**-**	**0.000**	**0.276**
Quarter: 1										
0	0.000	0.000		0.000	0.000	0.000	0.000	0.000	**0.009**	**0.000**
1	0.021	0.000		0.154	0.017	0.047	0.017	0.047	**0.042**	**0.020**
2	0.067	0.112		0.115	0.097	0.091	0.109	0.091	**0.130**	**0.107**
3	0.129	0.135		0.137	0.140	0.114	0.136	0.114	**0.169**	**0.135**
4	0.153	0.159		0.165	0.154	0.129	0.159	0.129	**0.198**	**0.151**
5	0.190	0.182		0.190	0.186	0.147	0.185	0.147	**0.207**	**0.170**
6	0.197	0.233		0.232	0.178	0.168	0.213	0.168	**0.243**	**0.209**
7	0.220	0.194		0.201	0.244	0.162	0.199	0.162	**0.247**	**0.193**
8	0.247	0.225		0.227	0.161	0.182	0.212	0.182	**0.283**	**0.212**
9+	0.000	0.000		0.277	0.000	0.172	0.277	0.172	**0.276**	**0.232**
Quarter: 2										
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**	**0.000**
1	0.029	0.059	0.000	0.154	0.025	0.026	0.029	0.026	**0.021**	**0.029**
2	0.086	0.134	0.135	0.138	0.107	0.092	0.131	0.092	**0.092**	**0.131**
3	0.136	0.161	0.174	0.177	0.169	0.136	0.174	0.136	**0.135**	**0.174**
4	0.153	0.193	0.197	0.188	0.218	0.137	0.194	0.137	**0.151**	**0.194**
5	0.173	0.215	0.205	0.189	0.184	0.155	0.194	0.155	**0.171**	**0.191**
6	0.182	0.258	0.261	0.224	0.217	0.159	0.229	0.159	**0.208**	**0.226**
7	0.186	0.293	0.266	0.241	0.254	0.163	0.252	0.163	**0.194**	**0.236**
8	0.210	0.286	0.277	0.252	0.240	0.162	0.254	0.162	**0.213**	**0.246**
9+	0.000	0.257	0.000	0.264	0.243	0.200	0.260	0.200	**0.232**	**0.260**
Quarter: 3										
0	0.009	0.000	0.000	0.06	0.008	0.000	0.008	0.000	**0.000**	**0.008**
1	0.068	0.067	0.000	0.0791	0.049	0.089	0.053	0.089	**0.029**	**0.053**
2	0.114	0.162	0.135	0.1493	0.151	0.114	0.151	0.114	**0.122**	**0.151**
3	0.142	0.179	0.174	0.2012	0.186	0.135	0.193	0.135	**0.172**	**0.192**
4	0.166	0.197	0.197	0.2349	0.211	0.167	0.222	0.167	**0.192**	**0.221**
5	0.212	0.211	0.205	0.2385	0.230	0.193	0.233	0.193	**0.189**	**0.230**
6	0.211	0.238	0.261	0.2852	0.267	0.206	0.273	0.206	**0.214**	**0.271**
7	0.280	0.211	0.266	0.2887	0.273	0.223	0.276	0.223	**0.230**	**0.275**
8	0.252	0.259	0.277	0.3272	0.288	0.230	0.317	0.230	**0.244**	**0.317**
9+	0.000	0.198	0.000	0.3071	0.312	0.251	0.306	0.000	**0.260**	**0.306**
Quarter: 4										
0	0.017	0.024		0.002	0.010	0.010	0.010	0.010	**0.009**	**0.010**
1	0.065	0.093		0.083	0.052	0.063	0.063	0.063	**0.063**	**0.063**
2	0.112	0.137		0.145	0.114	0.119	0.137	0.119	**0.150**	**0.130**
3	0.140	0.174		0.173	0.147	0.142	0.171	0.142	**0.192**	**0.161**
4	0.154	0.202		0.200	0.173	0.175	0.198	0.175	**0.222**	**0.188**
5	0.180	0.225		0.241	0.188	0.193	0.219	0.193	**0.231**	**0.200**
6	0.203	0.223		0.234	0.237	0.209	0.228	0.209	**0.270**	**0.216**
7	0.204	0.231		0.226	0.243	0.225	0.230	0.225	**0.275**	**0.229**
8	0.212	0.247		0.243	0.255	0.223	0.246	0.223	**0.317**	**0.244**
9+	0.000	0.242		0.250	0.284	0.251	0.246	0.000	**0.306**	**0.246**

Table 4.2 c: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1995. Catches (tonnes, SOP figures) at age (rings), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**12.4**	**0.1**	**0.0**	**0.1**	**0.0**	**53.7**	**0.4**	**53.8**	**0.4**	**66.6**	**54.2**
1	**46.2**	**4.4**	**0.0**	**4.4**	**3.0**	**15.3**	**0.7**	**22.6**	**0.7**	**69.5**	**23.3**
2	**12.3**	**40.2**	**3.0**	**37.1**	**67.7**	**43.1**	**27.5**	**147.9**	**27.5**	**187.8**	**178.5**
3	**1.3**	**39.9**	**1.9**	**38.0**	**54.0**	**29.3**	**15.1**	**121.3**	**15.1**	**137.7**	**138.3**
4	**0.5**	**11.9**	**2.9**	**9.0**	**19.0**	**9.4**	**8.1**	**37.4**	**8.1**	**46.0**	**48.5**
5	**0.2**	**2.8**	**0.8**	**2.0**	**8.2**	**4.6**	**9.5**	**14.8**	**9.5**	**24.5**	**25.1**
6	**0.1**	**2.2**	**0.8**	**1.4**	**5.1**	**3.8**	**2.9**	**10.4**	**2.9**	**13.4**	**14.0**
7	**0.1**	**2.5**	**0.5**	**2.0**	**5.1**	**1.6**	**1.5**	**8.6**	**1.5**	**10.2**	**10.7**
8	**0.1**	**4.1**	**0.2**	**3.9**	**12.0**	**3.0**	**0.5**	**19.0**	**0.5**	**19.5**	**19.6**
9+	**0.0**	**1.6**	**0.0**	**1.6**	**5.8**	**0.5**	**0.1**	**8.0**	**0.1**	**8.1**	**8.1**
Sum	**73.1**	**109.7**	**10.1**	**99.6**	**179.9**	**164.3**	**66.3**	**443.8**	**66.3**	**583.2**	**520.3**
Quarter: 1											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	12.1	0.0	0.0	0.0	0.0	0.9	0.3	0.9	0.3	**13.2**	**1.1**
2	4.2	6.9	0.0	6.9	1.5	2.3	0.7	10.6	0.7	**15.5**	**11.3**
3	0.4	13.1	0.0	13.1	2.4	2.5	0.6	18.0	0.6	**19.0**	**18.6**
4	0.2	1.6	0.0	1.6	0.3	0.6	0.7	2.5	0.7	**3.4**	**3.2**
5	0.0	0.2	0.0	0.2	0.1	0.2	0.2	0.4	0.2	**0.7**	**0.6**
6	0.0	0.2	0.0	0.2	0.0	0.1	0.0	0.4	0.0	**0.5**	**0.5**
7	0.0	0.3	0.0	0.3	0.1	0.0	0.1	0.4	0.1	**0.5**	**0.5**
8	0.0	0.7	0.0	0.7	0.1	0.1	0.0	0.9	0.0	**0.9**	**0.9**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**17.0**	**23.0**	**0.0**	**23.0**	**4.4**	**6.8**	**2.6**	**34.2**	**2.6**	**53.8**	**36.8**
Quarter: 2											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	5.0	0.6	0.0	0.6	0.0	2.4	0.0	3.0	0.0	**8.0**	**3.0**
2	4.5	7.0	1.5	5.5	16.5	4.8	0.0	26.8	0.0	**31.3**	**28.3**
3	0.6	2.6	1.0	1.7	12.9	1.0	0.0	15.5	0.0	**16.2**	**16.5**
4	0.0	1.5	1.5	0.1	3.7	1.2	0.1	5.0	0.1	**5.1**	**6.5**
5	0.0	0.8	0.4	0.4	2.4	0.5	0.3	3.3	0.3	**3.6**	**4.0**
6	0.0	0.3	0.4	-0.1	0.8	0.2	0.0	0.9	0.0	**1.0**	**1.4**
7	0.0	0.3	0.3	0.0	0.8	0.1	0.2	1.0	0.2	**1.2**	**1.4**
8	0.0	0.2	0.1	0.1	1.2	0.2	0.1	1.4	0.1	**1.5**	**1.6**
9+	0.0	0.2	0.0	0.2	0.7	0.1	0.0	1.0	0.0	**1.0**	**1.0**
Sum	**10.1**	**13.5**	**5.1**	**8.4**	**39.2**	**10.5**	**0.7**	**58.0**	**0.7**	**68.9**	**63.8**
Quarter: 3											
0	8.0	0.0	0.0	0.0	0.0	42.6	0.0	42.6	0.0	**50.5**	**42.6**
1	19.5	0.7	0.0	0.7	0.7	5.3	0.0	6.7	0.0	**26.2**	**6.7**
2	2.1	5.9	1.5	4.4	29.3	31.4	0.9	65.1	0.9	**68.1**	**67.5**
3	0.2	3.7	1.0	2.8	28.0	22.9	0.6	53.7	0.6	**54.5**	**55.3**
4	0.2	2.7	1.5	1.3	12.4	6.5	0.3	20.1	0.3	**20.7**	**21.9**
5	0.1	0.7	0.4	0.3	4.4	3.1	0.5	7.8	0.5	**8.4**	**8.7**
6	0.1	0.7	0.4	0.3	3.7	3.2	0.2	7.2	0.2	**7.5**	**7.8**
7	0.0	0.5	0.3	0.2	3.4	1.3	0.1	4.9	0.1	**5.0**	**5.2**
8	0.0	0.2	0.1	0.1	9.7	2.4	0.0	12.2	0.0	**12.2**	**12.3**
9+	0.0	0.0	0.0	0.0	3.7	0.4	0.0	4.1	0.0	**4.1**	**4.1**
Sum	**30.2**	**15.2**	**5.1**	**10.1**	**95.2**	**119.1**	**2.7**	**224.4**	**2.7**	**257.4**	**232.2**
Quarter: 4											
0	4.4	0.1	0.0	0.1	0.0	11.5	0.4	11.6	0.4	**16.5**	**12.1**
1	9.6	3.0	0.0	3.0	2.3	6.8	0.4	12.1	0.4	**22.1**	**12.5**
2	1.5	20.5	0.0	20.5	20.5	4.5	25.8	45.5	25.8	**72.8**	**71.3**
3	0.1	20.5	0.0	20.5	10.7	2.9	13.8	34.1	13.8	**48.0**	**47.9**
4	0.0	6.1	0.0	6.1	2.6	1.1	7.0	9.8	7.0	**16.8**	**16.8**
5	0.0	1.1	0.0	1.1	1.3	0.9	8.6	3.2	8.6	**11.8**	**11.8**
6	0.0	1.0	0.0	1.0	0.5	0.2	2.6	1.8	2.6	**4.4**	**4.4**
7	0.0	1.5	0.0	1.5	0.7	0.2	1.2	2.4	1.2	**3.6**	**3.6**
8	0.0	3.1	0.0	3.1	1.1	0.3	0.4	4.4	0.4	**4.8**	**4.8**
9+	0.0	1.4	0.0	1.4	1.4	0.0	0.1	2.8	0.1	**2.9**	**2.9**
Sum	**15.7**	**58.1**	**0.0**	**58.1**	**41.1**	**28.4**	**60.3**	**127.6**	**60.3**	**203.6**	**187.9**

Table 4.2 d: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1995. Percentage age composition (based on numbers, 3+ group summarised), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**46.0%**	**0.8%**	**0.0%**	**0.8%**	**0.1%**	**86.6%**	**8.2%**	**70.2%**	**8.2%**	**62.5%**	**66.4%**
1	**47.5%**	**7.3%**	**0.0%**	**8.0%**	**3.6%**	**5.3%**	**2.4%**	**5.3%**	**2.4%**	**14.0%**	**5.1%**
2	**5.9%**	**41.0%**	**38.8%**	**41.2%**	**46.0%**	**4.4%**	**45.1%**	**11.9%**	**45.1%**	**12.1%**	**13.9%**
3	**0.4%**	**34.6%**	**19.0%**	**35.9%**	**28.5%**	**2.3%**	**20.8%**	**7.8%**	**20.8%**	**6.9%**	**8.6%**
4	**0.1%**	**8.5%**	**25.8%**	**7.0%**	**8.6%**	**0.6%**	**9.2%**	**2.0%**	**9.2%**	**1.9%**	**2.6%**
5	**0.0%**	**1.8%**	**6.9%**	**1.4%**	**3.6%**	**0.3%**	**9.6%**	**0.8%**	**9.6%**	**1.0%**	**1.3%**
6	**0.0%**	**1.3%**	**5.0%**	**1.0%**	**1.9%**	**0.2%**	**2.7%**	**0.5%**	**2.7%**	**0.5%**	**0.6%**
7	**0.0%**	**1.5%**	**3.3%**	**1.3%**	**1.9%**	**0.1%**	**1.4%**	**0.4%**	**1.4%**	**0.3%**	**0.5%**
8	**0.0%**	**2.3%**	**1.2%**	**2.4%**	**3.8%**	**0.2%**	**0.5%**	**0.7%**	**0.5%**	**0.6%**	**0.7%**
9+	**0.0%**	**0.9%**	**0.0%**	**1.0%**	**2.0%**	**0.0%**	**0.1%**	**0.3%**	**0.1%**	**0.2%**	**0.3%**
Sum 3+	**0.6%**	**50.9%**	**61.2%**	**50.0%**	**50.3%**	**3.7%**	**44.3%**	**12.5%**	**44.3%**	**11.4%**	**14.6%**
Quarter: 1											
0	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	89.4%	0.0%	-	0.0%	0.0%	51.3%	21.3%	16.5%	21.3%	**64.7%**	**16.9%**
2	9.8%	35.0%	-	35.0%	38.3%	23.9%	30.5%	31.8%	30.5%	**17.3%**	**31.7%**
3	0.5%	55.5%	-	55.5%	52.1%	18.0%	19.2%	43.0%	19.2%	**14.4%**	**41.1%**
4	0.2%	5.8%	-	5.8%	5.5%	4.1%	20.8%	5.2%	20.8%	**2.3%**	**6.4%**
5	0.0%	0.6%	-	0.6%	0.9%	0.9%	5.7%	0.7%	5.7%	**0.4%**	**1.1%**
6	0.0%	0.6%	-	0.6%	0.6%	0.8%	0.8%	0.7%	0.8%	**0.2%**	**0.7%**
7	0.0%	0.9%	-	0.9%	0.9%	0.1%	1.6%	0.6%	1.6%	**0.3%**	**0.7%**
8	0.0%	1.7%	-	1.7%	1.6%	0.9%	0.1%	1.4%	0.1%	**0.5%**	**1.3%**
9+	0.0%	0.0%	-	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	**0.0%**	**0.0%**
Sum 3+	**0.8%**	**65.0%**	-	**65.0%**	**61.7%**	**24.8%**	**48.1%**	**51.7%**	**48.1%**	**18.1%**	**51.4%**
Quarter: 2											
0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	75.1%	11.3%	0.0%	16.4%	0.1%	60.2%	4.2%	22.7%	4.2%	**39.9%**	**21.2%**
2	22.8%	55.3%	38.8%	62.7%	49.9%	29.1%	2.0%	44.7%	2.0%	**37.2%**	**43.9%**
3	1.9%	17.3%	19.0%	16.5%	30.3%	3.7%	7.8%	19.4%	7.8%	**13.6%**	**19.3%**
4	0.1%	8.4%	25.8%	0.7%	8.3%	3.5%	9.7%	5.6%	9.7%	**3.8%**	**6.8%**
5	0.0%	4.2%	6.9%	2.9%	5.3%	1.7%	35.8%	3.8%	35.8%	**2.7%**	**4.2%**
6	0.0%	1.1%	5.0%	-0.6%	1.6%	0.7%	6.1%	0.9%	6.1%	**0.7%**	**1.2%**
7	0.0%	1.0%	3.3%	-0.1%	1.5%	0.3%	22.3%	0.9%	22.3%	**0.7%**	**1.2%**
8	0.0%	0.6%	1.2%	0.4%	1.9%	0.5%	11.7%	1.2%	11.7%	**0.9%**	**1.3%**
9+	0.0%	0.7%	0.0%	1.1%	1.2%	0.3%	0.5%	0.8%	0.5%	**0.6%**	**0.8%**
Sum 3+	**2.1%**	**33.4%**	**61.2%**	**21.0%**	**50.0%**	**10.7%**	**93.8%**	**32.6%**	**93.8%**	**23.0%**	**34.9%**
Quarter: 3											
0	74.1%	0.0%	0.0%	0.0%	0.0%	90.9%	0.0%	82.8%	0.0%	**81.2%**	**82.2%**
1	24.0%	11.6%	0.0%	17.0%	1.8%	1.9%	0.6%	2.1%	0.6%	**5.6%**	**2.0%**
2	1.6%	39.8%	38.8%	40.4%	40.7%	3.7%	42.2%	7.0%	42.2%	**6.2%**	**7.3%**
3	0.1%	22.9%	19.0%	24.7%	28.9%	2.2%	24.9%	4.5%	24.9%	**3.9%**	**4.7%**
4	0.1%	15.2%	25.8%	10.2%	10.9%	0.6%	10.4%	1.5%	10.4%	**1.3%**	**1.6%**
5	0.0%	3.7%	6.9%	2.3%	3.8%	0.2%	13.7%	0.5%	13.7%	**0.5%**	**0.6%**
6	0.0%	3.1%	5.0%	2.3%	2.7%	0.2%	5.1%	0.4%	5.1%	**0.4%**	**0.5%**
7	0.0%	2.4%	3.3%	2.0%	2.5%	0.1%	1.8%	0.3%	1.8%	**0.2%**	**0.3%**
8	0.0%	1.0%	1.2%	0.8%	6.1%	0.1%	1.0%	0.6%	1.0%	**0.5%**	**0.6%**
9+	0.0%	0.2%	0.0%	0.3%	2.5%	0.0%	0.3%	0.2%	0.3%	**0.2%**	**0.2%**
Sum 3+	**0.3%**	**48.5%**	**61.2%**	**42.6%**	**57.5%**	**3.5%**	**57.2%**	**8.1%**	**57.2%**	**7.0%**	**8.5%**
Quarter: 4											
0	61.7%	1.5%	-	1.5%	0.3%	85.2%	9.1%	58.7%	9.1%	**51.1%**	**49.3%**
1	34.9%	8.8%	-	8.8%	10.3%	9.5%	1.3%	9.4%	1.3%	**11.8%**	**7.9%**
2	3.2%	40.5%	-	40.5%	53.3%	2.9%	46.5%	16.4%	46.5%	**19.4%**	**22.1%**
3	0.2%	31.9%	-	31.9%	23.3%	1.5%	20.8%	9.9%	20.8%	**10.3%**	**12.0%**
4	0.0%	8.1%	-	8.1%	5.0%	0.5%	8.5%	2.5%	8.5%	**3.1%**	**3.6%**
5	0.0%	1.3%	-	1.3%	2.0%	0.3%	9.4%	0.7%	9.4%	**2.0%**	**2.4%**
6	0.0%	1.2%	-	1.2%	0.8%	0.1%	2.7%	0.4%	2.7%	**0.7%**	**0.8%**
7	0.0%	1.7%	-	1.7%	1.2%	0.0%	1.1%	0.5%	1.1%	**0.5%**	**0.6%**
8	0.0%	3.4%	-	3.4%	1.7%	0.1%	0.3%	0.9%	0.3%	**0.7%**	**0.8%**
9+	0.0%	1.6%	-	1.6%	2.1%	0.0%	0.1%	0.6%	0.1%	**0.4%**	**0.5%**
Sum 3+	**0.2%**	**49.2%**	-	**49.2%**	**36.0%**	**2.5%**	**43.0%**	**15.5%**	**43.0%**	**17.7%**	**20.7%**

Table 4.3 a: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caugh in the North Sea 1996. Catch in numbers (millions) at age (rings), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBBS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**516.1**	**0.0**	**0.0**	**0.0**	**12.6**	**1782.6**	**0.0**	**1795.1**	**0.0**	**2311.2**	**1795.1**
1	**961.1**	**0.4**	**0.0**	**0.4**	**0.3**	**644.6**	**0.0**	**645.3**	**0.0**	**1606.4**	**645.3**
2	**153.9**	**67.4**	**0.0**	**67.4**	**129.2**	**104.7**	**186.9**	**301.3**	**186.9**	**642.1**	**488.2**
3	**12.7**	**130.6**	**2.8**	**127.8**	**168.4**	**82.5**	**134.2**	**378.7**	**134.2**	**525.6**	**515.7**
4	**3.0**	**39.5**	**0.8**	**38.7**	**60.9**	**25.1**	**44.4**	**124.6**	**44.4**	**172.1**	**169.9**
5	**1.5**	**10.8**	**0.4**	**10.4**	**16.9**	**10.2**	**18.7**	**37.5**	**18.7**	**57.6**	**56.5**
6	**0.6**	**2.0**	**0.1**	**1.9**	**5.4**	**2.1**	**12.6**	**9.3**	**12.6**	**22.5**	**22.0**
7	**0.3**	**2.5**	**0.1**	**2.4**	**2.8**	**3.1**	**0.6**	**8.3**	**0.6**	**9.3**	**9.0**
8	**0.2**	**4.6**	**0.3**	**4.3**	**10.3**	**2.0**	**0.3**	**16.6**	**0.3**	**17.2**	**17.3**
9+	**0.0**	**1.1**	**0.0**	**1.1**	**1.2**	**1.6**	**0.0**	**3.9**	**0.0**	**3.9**	**3.9**
Sum	**1649.4**	**258.9**	**4.5**	**254.4**	**407.9**	**2658.6**	**397.7**	**3320.8**	**397.7**	**5367.9**	**3723.0**
Quarter: 1											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	732.2	0.2	0.0	0.2	0.0	432.7	0.0	432.9	0.0	**1165.1**	**432.9**
2	72.8	15.3	0.0	15.3	3.5	29.9	6.3	48.7	6.3	**127.8**	**55.0**
3	9.2	80.7	0.0	80.7	13.5	2.7	39.3	97.0	39.3	**145.5**	**136.3**
4	1.9	19.3	0.0	19.3	2.8	0.4	15.3	22.5	15.3	**39.7**	**37.8**
5	0.6	4.6	0.0	4.6	0.6	0.0	8.7	5.2	8.7	**14.5**	**13.9**
6	0.2	0.4	0.0	0.4	0.1	0.0	7.0	0.5	7.0	**7.7**	**7.5**
7	0.2	0.9	0.0	0.9	0.1	0.0	0.6	1.0	0.6	**1.7**	**1.6**
8	0.1	0.9	0.0	0.9	0.1	0.0	0.3	1.0	0.3	**1.4**	**1.3**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**817.3**	**122.4**	**0.0**	**122.4**	**20.7**	**465.7**	**77.5**	**608.7**	**77.5**	**1503.5**	**686.2**
Quarter: 2											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	80.7	0.2	0.0	0.2	0.3	147.5	0.0	148.0	0.0	**228.7**	**148.0**
2	37.7	16.9	0.0	16.9	76.8	21.8	0.2	115.4	0.2	**153.4**	**115.7**
3	1.4	3.4	1.4	2.0	105.3	9.1	1.6	116.5	1.6	**119.5**	**119.4**
4	0.0	0.8	0.4	0.4	18.4	2.7	0.6	21.5	0.6	**22.1**	**22.5**
5	0.0	0.0	0.2	-0.2	3.8	1.1	0.3	4.8	0.3	**5.1**	**5.3**
6	0.0	0.0	0.1	0.0	1.8	0.8	0.3	2.5	0.3	**2.8**	**2.8**
7	0.0	0.0	0.1	0.0	0.7	0.3	0.0	0.9	0.0	**1.0**	**1.0**
8	0.0	0.0	0.2	-0.1	0.4	0.1	0.0	0.3	0.0	**0.3**	**0.5**
9+	0.0	0.0	0.0	0.0	0.9	0.5	0.0	1.3	0.0	**1.3**	**1.3**
Sum	**120.0**	**21.4**	**2.3**	**19.1**	**208.3**	**183.7**	**3.1**	**411.1**	**3.1**	**534.2**	**416.4**
Quarter: 3											
0	73.012	0.0	0.0	0.0	0.0	550.9	0.0	550.9	0.0	**623.9**	**550.9**
1	40.3	0.0	0.0	0.0	0.0	1.3	0.0	1.3	0.0	**41.6**	**1.3**
2	29.727	5.2	0.0	5.2	44.4	24.4	3.6	73.9	3.6	**107.3**	**77.5**
3	1.3141	6.1	1.4	4.7	43.5	40.5	1.9	88.7	1.9	**92.0**	**92.1**
4	1.0671	5.2	0.4	4.8	37.0	14.0	0.6	55.7	0.6	**57.3**	**56.7**
5	0.8135	2.6	0.2	2.4	11.2	5.2	0.2	18.8	0.2	**19.8**	**19.2**
6	0.3459	0.6	0.1	0.6	3.1	0.6	0.1	4.3	0.1	**4.8**	**4.5**
7	0.1508	0.4	0.1	0.4	1.8	1.5	0.0	3.7	0.0	**3.8**	**3.7**
8	0.0706	0.4	0.2	0.3	9.1	1.5	0.0	10.9	0.0	**10.9**	**11.0**
9+	0	1.1	0.0	1.1	0.3	0.6	0.0	2.0	0.0	**2.0**	**2.0**
Sum	**146.8**	**21.6**	**2.3**	**19.3**	**150.3**	**640.5**	**6.5**	**810.2**	**6.5**	**963.5**	**819.0**
Quarter: 4											
0	443.1	0.0	0.0	0.0	12.6	1231.7	0.0	1244.3	0.0	**1687.3**	**1244.3**
1	107.9	0.0	0.0	0.0	0.0	63.1	0.0	63.1	0.0	**171.0**	**63.1**
2	13.6	30.0	0.0	30.0	4.6	28.7	176.7	63.3	176.7	**253.6**	**240.0**
3	0.7	40.4	0.0	40.4	6.0	30.2	91.4	76.6	91.4	**168.7**	**167.9**
4	0.0	14.2	0.0	14.2	2.8	8.1	28.0	25.0	28.0	**53.0**	**53.0**
5	0.0	3.6	0.0	3.6	1.3	3.9	9.4	8.7	9.4	**18.2**	**18.2**
6	0.0	0.9	0.0	0.9	0.4	0.8	5.2	2.0	5.2	**7.2**	**7.2**
7	0.0	1.2	0.0	1.2	0.2	1.3	0.0	2.7	0.0	**2.7**	**2.7**
8	0.0	3.3	0.0	3.3	0.7	0.4	0.0	4.5	0.0	**4.5**	**4.5**
9+	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.6	0.0	**0.6**	**0.6**
Sum	**565.3**	**93.6**	**0.0**	**93.6**	**28.6**	**1368.6**	**310.7**	**1490.7**	**310.7**	**2366.7**	**1801.4**

Table 4.3 b: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1996. Mean weight (kg) at age (rings) in the catch (WECA), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(W)	IVb	IVc & VIId	IVa & IVb all	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4										
0	**0.011**	**0.000**	**0.000**	**0.012**	**0.016**	**0.000**	**0.016**	**0.000**	**0.015**	**0.016**
1	**0.023**	**0.045**	**0.000**	**0.071**	**0.010**	**0.000**	**0.010**	**0.000**	**0.018**	**0.010**
2	**0.078**	**0.131**	**0.000**	**0.131**	**0.111**	**0.121**	**0.124**	**0.121**	**0.112**	**0.123**
3	**0.110**	**0.141**	**0.178**	**0.167**	**0.184**	**0.143**	**0.162**	**0.143**	**0.156**	**0.157**
4	**0.160**	**0.168**	**0.213**	**0.215**	**0.209**	**0.159**	**0.199**	**0.159**	**0.188**	**0.189**
5	**0.182**	**0.196**	**0.238**	**0.218**	**0.230**	**0.185**	**0.215**	**0.185**	**0.204**	**0.205**
6	**0.215**	**0.217**	**0.243**	**0.237**	**0.249**	**0.194**	**0.236**	**0.194**	**0.212**	**0.212**
7	**0.215**	**0.218**	**0.268**	**0.275**	**0.297**	**0.203**	**0.267**	**0.203**	**0.261**	**0.262**
8	**0.244**	**0.242**	**0.266**	**0.301**	**0.282**	**0.155**	**0.282**	**0.155**	**0.280**	**0.280**
9+	**0.000**	**0.300**	**0.000**	**0.278**	**0.287**	**0.000**	**0.288**	**-**	**0.288**	**0.288**
Quarter: 1										
0	0.000	0.000		0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.015	0.014		0.000	0.006	0.000	0.006	-	**0.012**	**0.006**
2	0.058	0.096		0.119	0.069	0.079	0.081	0.079	**0.068**	**0.081**
3	0.103	0.120		0.126	0.123	0.099	0.121	0.099	**0.114**	**0.114**
4	0.153	0.139		0.143	0.148	0.121	0.139	0.121	**0.133**	**0.132**
5	0.179	0.144		0.151	0.000	0.140	0.145	0.140	**0.143**	**0.142**
6	0.231	0.197		0.199	0.000	0.168	0.197	0.168	**0.172**	**0.170**
7	0.239	0.167		0.171	0.000	0.204	0.167	0.204	**0.186**	**0.181**
8	0.258	0.210		0.210	0.000	0.155	0.210	0.155	**0.202**	**0.196**
9+	0.000	0.000		0.265	0.000	0.000	0.265	-	**0.265**	**0.265**
Quarter: 2										
0	0.000	0.000	0.000	0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.027	0.078	0.000	0.070	0.006	0.000	0.007	-	**0.014**	**0.007**
2	0.068	0.115	0.000	0.128	0.096	0.079	0.120	0.079	**0.107**	**0.120**
3	0.103	0.154	0.178	0.166	0.153	0.099	0.165	0.099	**0.163**	**0.164**
4	0.119	0.167	0.213	0.196	0.172	0.121	0.192	0.121	**0.189**	**0.190**
5	0.143	0.146	0.238	0.199	0.187	0.140	0.196	0.140	**0.190**	**0.192**
6	0.155	0.197	0.243	0.224	0.197	0.163	0.216	0.163	**0.210**	**0.211**
7	0.176	0.167	0.268	0.242	0.193	0.193	0.227	0.193	**0.223**	**0.226**
8	0.171	0.210	0.266	0.250	0.186	0.155	0.236	0.155	**0.216**	**0.234**
9+	0.000	0.000	0.000	0.269	0.232	0.000	0.256	-	**0.256**	**0.256**
Quarter: 3										
0	0.007	0.000	0.000	0.000	0.019	0.000	0.019	-	**0.018**	**0.019**
1	0.075	0.000	0.000	0.087	0.076	0.000	0.076	-	**0.076**	**0.076**
2	0.124	0.160	0.000	0.138	0.138	0.124	0.140	0.124	**0.135**	**0.139**
3	0.147	0.203	0.178	0.183	0.188	0.164	0.187	0.164	**0.186**	**0.186**
4	0.172	0.226	0.213	0.230	0.213	0.183	0.225	0.183	**0.224**	**0.225**
5	0.186	0.236	0.238	0.230	0.231	0.227	0.231	0.227	**0.229**	**0.231**
6	0.206	0.248	0.243	0.253	0.280	0.235	0.256	0.235	**0.252**	**0.256**
7	0.194	0.266	0.268	0.297	0.302	0.000	0.296	-	**0.292**	**0.296**
8	0.237	0.274	0.266	0.306	0.280	0.000	0.301	-	**0.301**	**0.301**
9+	0.000	0.300	0.000	0.303	0.306	0.000	0.302	-	**0.302**	**0.302**
Quarter: 4										
0	0.012	0.000		0.012	0.015	0.000	0.015	-	**0.014**	**0.015**
1	0.056	0.000		0.087	0.045	0.000	0.045	-	**0.052**	**0.045**
2	0.116	0.152		0.120	0.142	0.122	0.145	0.122	**0.128**	**0.128**
3	0.151	0.174		0.160	0.194	0.162	0.181	0.162	**0.171**	**0.171**
4	0.170	0.188		0.210	0.218	0.180	0.200	0.180	**0.190**	**0.190**
5	0.198	0.234		0.197	0.239	0.227	0.231	0.227	**0.229**	**0.229**
6	0.217	0.205		0.176	0.276	0.230	0.226	0.230	**0.229**	**0.229**
7	0.000	0.239		0.256	0.314	0.000	0.277	-	**0.277**	**0.277**
8	0.163	0.246		0.280	0.311	0.000	0.257	-	**0.257**	**0.258**
9+	0.000	0.000		0.218	0.314	0.000	0.311	-	**0.311**	**0.311**

Table 4.3 c: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1996. Catches (tonnes, SOP figures) at age (rings), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**5.7**	**0.0**	**0.0**	**0.0**	**0.1**	**29.1**	**0.0**	**29.2**	**0.0**	**34.9**	**29.2**
1	**22.5**	**0.0**	**0.0**	**0.0**	**0.0**	**6.5**	**0.0**	**6.6**	**0.0**	**29.0**	**6.6**
2	**12.0**	**8.8**	**0.0**	**8.8**	**16.9**	**11.6**	**22.5**	**37.3**	**22.5**	**71.8**	**59.8**
3	**1.4**	**18.5**	**0.5**	**18.0**	**28.1**	**15.2**	**19.2**	**61.3**	**19.2**	**81.9**	**81.0**
4	**0.5**	**6.6**	**0.2**	**6.5**	**13.1**	**5.2**	**7.1**	**24.8**	**7.1**	**32.3**	**32.0**
5	**0.3**	**2.1**	**0.1**	**2.0**	**3.7**	**2.3**	**3.4**	**8.0**	**3.4**	**11.7**	**11.6**
6	**0.1**	**0.4**	**0.0**	**0.4**	**1.3**	**0.5**	**2.4**	**2.2**	**2.4**	**4.8**	**4.7**
7	**0.1**	**0.5**	**0.0**	**0.5**	**0.8**	**0.9**	**0.1**	**2.2**	**0.1**	**2.4**	**2.4**
8	**0.1**	**1.1**	**0.1**	**1.0**	**3.1**	**0.6**	**0.1**	**4.7**	**0.1**	**4.8**	**4.8**
9+	**0.0**	**0.3**	**0.0**	**0.3**	**0.3**	**0.5**	**0.0**	**1.1**	**0.0**	**1.1**	**1.1**
Sum	**42.6**	**38.5**	**0.9**	**37.6**	**67.4**	**72.4**	**54.9**	**177.4**	**54.9**	**274.8**	**233.1**
Quarter: 1											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	11.2	0.0	0.0	0.0	0.0	2.6	0.0	2.6	0.0	**13.8**	**2.6**
2	4.2	1.5	0.0	1.5	0.4	2.1	0.5	3.9	0.5	**8.7**	**4.4**
3	0.9	9.7	0.0	9.7	1.7	0.3	3.9	11.7	3.9	**16.5**	**15.6**
4	0.3	2.7	0.0	2.7	0.4	0.1	1.8	3.1	1.8	**5.3**	**5.0**
5	0.1	0.7	0.0	0.7	0.1	0.0	1.2	0.8	1.2	**2.1**	**2.0**
6	0.1	0.1	0.0	0.1	0.0	0.0	1.2	0.1	1.2	**1.3**	**1.3**
7	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.2	0.1	**0.3**	**0.3**
8	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.2	0.0	**0.3**	**0.3**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**16.9**	**14.9**	**0.0**	**14.9**	**2.7**	**5.0**	**8.8**	**22.6**	**8.8**	**48.3**	**31.4**
Quarter: 2											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	2.2	0.0	0.0	0.0	0.0	0.9	0.0	1.0	0.0	**3.1**	**1.0**
2	2.6	1.9	0.0	1.9	9.8	2.1	0.0	13.8	0.0	**16.4**	**13.9**
3	0.1	0.5	0.2	0.3	17.5	1.4	0.2	19.1	0.2	**19.4**	**19.5**
4	0.0	0.1	0.1	0.0	3.6	0.5	0.1	4.1	0.1	**4.2**	**4.3**
5	0.0	0.0	0.0	0.0	0.8	0.2	0.0	0.9	0.0	**1.0**	**1.0**
6	0.0	0.0	0.0	0.0	0.4	0.1	0.0	0.5	0.0	**0.6**	**0.6**
7	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.2	0.0	**0.2**	**0.2**
8	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	**0.1**	**0.1**
9+	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.3	0.0	**0.3**	**0.3**
Sum	**4.9**	**2.6**	**0.4**	**2.2**	**32.6**	**5.4**	**0.3**	**40.1**	**0.3**	**45.4**	**40.9**
Quarter: 3											
0	0.5	0.0	0.0	0.0	0.0	10.5	0.0	10.5	0.0	**11.1**	**10.5**
1	3.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	**3.1**	**0.1**
2	3.7	0.8	0.0	0.8	6.1	3.4	0.5	10.3	0.5	**14.5**	**10.8**
3	0.2	1.2	0.2	1.0	8.0	7.6	0.3	16.6	0.3	**17.1**	**17.2**
4	0.2	1.2	0.1	1.1	8.5	3.0	0.1	12.6	0.1	**12.8**	**12.7**
5	0.2	0.6	0.0	0.6	2.6	1.2	0.0	4.3	0.0	**4.5**	**4.4**
6	0.1	0.2	0.0	0.1	0.8	0.2	0.0	1.1	0.0	**1.2**	**1.2**
7	0.0	0.1	0.0	0.1	0.5	0.5	0.0	1.1	0.0	**1.1**	**1.1**
8	0.0	0.1	0.0	0.1	2.8	0.4	0.0	3.3	0.0	**3.3**	**3.3**
9+	0.0	0.3	0.0	0.3	0.1	0.2	0.0	0.6	0.0	**0.6**	**0.6**
Sum	**7.9**	**4.5**	**0.4**	**4.1**	**29.4**	**27.0**	**1.0**	**60.5**	**1.0**	**69.4**	**61.9**
Quarter: 4											
0	5.2	0.0	0.0	0.0	0.1	18.6	0.0	18.7	0.0	**23.9**	**18.7**
1	6.0	0.0	0.0	0.0	0.0	2.9	0.0	2.9	0.0	**8.9**	**2.9**
2	1.6	4.6	0.0	4.6	0.6	4.1	21.6	9.2	21.6	**32.3**	**30.8**
3	0.1	7.0	0.0	7.0	1.0	5.8	14.8	13.8	14.8	**28.8**	**28.7**
4	0.0	2.7	0.0	2.7	0.6	1.8	5.0	5.0	5.0	**10.1**	**10.0**
5	0.0	0.8	0.0	0.8	0.2	0.9	2.1	2.0	2.1	**4.2**	**4.2**
6	0.0	0.2	0.0	0.2	0.1	0.2	1.2	0.5	1.2	**1.7**	**1.6**
7	0.0	0.3	0.0	0.3	0.1	0.4	0.0	0.8	0.0	**0.8**	**0.8**
8	0.0	0.8	0.0	0.8	0.2	0.1	0.0	1.1	0.0	**1.2**	**1.1**
9+	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	**0.2**	**0.2**
Sum	**12.9**	**16.4**	**0.0**	**16.4**	**2.8**	**35.0**	**44.8**	**54.2**	**44.8**	**111.9**	**99.0**

Table 4.3 d: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1996. Percentage age composition (based on numbers, 3+ group summarised), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**31.3%**	**0.0%**	**0.0%**	**0.0%**	**3.1%**	**67.0%**	**0.0%**	**54.1%**	**0.0%**	**43.1%**	**48.2%**
1	**58.3%**	**0.2%**	**0.0%**	**0.2%**	**0.1%**	**24.2%**	**0.0%**	**19.4%**	**0.0%**	**29.9%**	**17.3%**
2	**9.3%**	**26.0%**	**0.0%**	**26.5%**	**31.7%**	**3.9%**	**47.0%**	**9.1%**	**47.0%**	**12.0%**	**13.1%**
3	**0.8%**	**50.5%**	**62.2%**	**50.3%**	**41.3%**	**3.1%**	**33.7%**	**11.4%**	**33.7%**	**9.8%**	**13.9%**
4	**0.2%**	**15.2%**	**17.8%**	**15.2%**	**14.9%**	**0.9%**	**11.2%**	**3.8%**	**11.2%**	**3.2%**	**4.6%**
5	**0.1%**	**4.2%**	**8.9%**	**4.1%**	**4.1%**	**0.4%**	**4.7%**	**1.1%**	**4.7%**	**1.1%**	**1.5%**
6	**0.0%**	**0.8%**	**2.2%**	**0.7%**	**1.3%**	**0.1%**	**3.2%**	**0.3%**	**3.2%**	**0.4%**	**0.6%**
7	**0.0%**	**1.0%**	**2.2%**	**0.9%**	**0.7%**	**0.1%**	**0.2%**	**0.3%**	**0.2%**	**0.2%**	**0.2%**
8	**0.0%**	**1.8%**	**6.7%**	**1.7%**	**2.5%**	**0.1%**	**0.1%**	**0.5%**	**0.1%**	**0.3%**	**0.5%**
9+	**0.0%**	**0.4%**	**0.0%**	**0.4%**	**0.3%**	**0.1%**	**0.0%**	**0.1%**	**0.0%**	**0.1%**	**0.1%**
Sum 3+	**1.1%**	**73.8%**	**100.0%**	**73.3%**	**65.2%**	**4.8%**	**53.0%**	**17.4%**	**53.0%**	**15.1%**	**21.3%**
Quarter: 1											
0	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	89.6%	0.2%	-	0.2%	0.0%	92.9%	0.0%	71.1%	0.0%	**77.5%**	**63.1%**
2	8.9%	12.5%	-	12.5%	16.7%	6.4%	8.1%	8.0%	8.1%	**8.5%**	**8.0%**
3	1.1%	66.0%	-	66.0%	65.4%	0.6%	50.7%	15.9%	50.7%	**9.7%**	**19.9%**
4	0.2%	15.8%	-	15.8%	13.5%	0.1%	19.7%	3.7%	19.7%	**2.6%**	**5.5%**
5	0.1%	3.8%	-	3.8%	2.9%	0.0%	11.2%	0.9%	11.2%	**1.0%**	**2.0%**
6	0.0%	0.4%	-	0.4%	0.3%	0.0%	9.0%	0.1%	9.0%	**0.5%**	**1.1%**
7	0.0%	0.7%	-	0.7%	0.6%	0.0%	0.8%	0.2%	0.8%	**0.1%**	**0.2%**
8	0.0%	0.7%	-	0.7%	0.6%	0.0%	0.4%	0.2%	0.4%	**0.1%**	**0.2%**
9+	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Sum 3+	**1.5%**	**87.3%**	-	**87.3%**	**83.3%**	**0.7%**	**91.9%**	**20.9%**	**91.9%**	**14.0%**	**28.9%**
Quarter: 2											
0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	67.3%	1.0%	0.0%	1.1%	0.1%	80.3%	0.0%	36.0%	0.0%	**42.8%**	**35.5%**
2	31.5%	79.0%	0.0%	88.3%	36.9%	11.8%	8.1%	28.1%	8.1%	**28.7%**	**27.8%**
3	1.2%	16.0%	62.2%	10.6%	50.6%	5.0%	50.8%	28.3%	50.8%	**22.4%**	**28.7%**
4	0.0%	3.7%	17.8%	2.1%	8.8%	1.5%	19.8%	5.2%	19.8%	**4.1%**	**5.4%**
5	0.0%	0.2%	8.9%	-0.8%	1.8%	0.6%	11.2%	1.2%	11.2%	**1.0%**	**1.3%**
6	0.0%	0.0%	2.2%	-0.2%	0.9%	0.4%	8.9%	0.6%	8.9%	**0.5%**	**0.7%**
7	0.0%	0.0%	2.2%	-0.2%	0.3%	0.2%	0.8%	0.2%	0.8%	**0.2%**	**0.2%**
8	0.0%	0.0%	6.7%	-0.7%	0.2%	0.1%	0.4%	0.1%	0.4%	**0.1%**	**0.1%**
9+	0.0%	0.0%	0.0%	0.0%	0.4%	0.3%	0.0%	0.3%	0.0%	**0.3%**	**0.3%**
Sum 3+	**1.3%**	**20.0%**	**100.0%**	**10.6%**	**63.0%**	**7.9%**	**91.9%**	**35.9%**	**91.9%**	**28.5%**	**36.7%**
Quarter: 3											
0	49.7%	0.0%	0.0%	0.0%	0.0%	86.0%	0.0%	68.0%	0.0%	**64.8%**	**67.3%**
1	27.5%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.2%	0.0%	**4.3%**	**0.2%**
2	20.2%	24.0%	0.0%	26.8%	29.5%	3.8%	56.0%	9.1%	56.0%	**11.1%**	**9.5%**
3	0.9%	28.1%	62.2%	24.2%	29.0%	6.3%	29.8%	11.0%	29.8%	**9.5%**	**11.2%**
4	0.7%	23.9%	17.8%	24.7%	24.6%	2.2%	8.8%	6.9%	8.8%	**6.0%**	**6.9%**
5	0.6%	11.9%	8.9%	12.3%	7.4%	0.8%	3.3%	2.3%	3.3%	**2.1%**	**2.3%**
6	0.2%	3.0%	2.2%	3.1%	2.1%	0.1%	2.2%	0.5%	2.2%	**0.5%**	**0.6%**
7	0.1%	2.0%	2.2%	2.0%	1.2%	0.2%	0.0%	0.5%	0.0%	**0.4%**	**0.5%**
8	0.0%	2.1%	6.7%	1.5%	6.0%	0.2%	0.0%	1.3%	0.0%	**1.1%**	**1.3%**
9+	0.0%	5.0%	0.0%	5.5%	0.2%	0.1%	0.0%	0.3%	0.0%	**0.2%**	**0.2%**
Sum 3+	**2.6%**	**76.0%**	**100.0%**	**73.2%**	**70.5%**	**10.0%**	**44.0%**	**22.7%**	**44.0%**	**19.8%**	**23.1%**
Quarter: 4											
0	78.4%	0.0%	-	0.0%	44.0%	90.0%	0.0%	83.5%	0.0%	**71.3%**	**69.1%**
1	19.1%	0.0%	-	0.0%	0.0%	4.6%	0.0%	4.2%	0.0%	**7.2%**	**3.5%**
2	2.4%	32.1%	-	32.1%	16.1%	2.1%	56.9%	4.2%	56.9%	**10.7%**	**13.3%**
3	0.1%	43.2%	-	43.2%	21.0%	2.2%	29.4%	5.1%	29.4%	**7.1%**	**9.3%**
4	0.0%	15.2%	-	15.2%	9.7%	0.6%	9.0%	1.7%	9.0%	**2.2%**	**2.9%**
5	0.0%	3.8%	-	3.8%	4.4%	0.3%	3.0%	0.6%	3.0%	**0.8%**	**1.0%**
6	0.0%	0.9%	-	0.9%	1.4%	0.1%	1.7%	0.1%	1.7%	**0.3%**	**0.4%**
7	0.0%	1.2%	-	1.2%	0.8%	0.1%	0.0%	0.2%	0.0%	**0.1%**	**0.2%**
8	0.0%	3.5%	-	3.5%	2.6%	0.0%	0.0%	0.3%	0.0%	**0.2%**	**0.2%**
9+	0.0%	0.0%	-	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Sum 3+	**0.1%**	**67.9%**	-	**67.9%**	**39.9%**	**3.3%**	**43.1%**	**8.1%**	**43.1%**	**10.8%**	**14.1%**

Table 4.4 a: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caugh in the North Sea 1997. Catch in numbers (millions) at age (rings), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBBS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**67.6**	**0.0**	**0.0**	**0.0**	**0.0**	**363.3**	**0.3**	**363.3**	**0.3**	**431.2**	**363.5**
1	**305.3**	**14.1**	**0.0**	**14.1**	**7.1**	**143.4**	**9.9**	**164.6**	**9.9**	**479.7**	**174.4**
2	**125.2**	**91.0**	**2.2**	**88.8**	**255.1**	**39.8**	**179.0**	**383.7**	**179.0**	**687.9**	**564.9**
3	**20.4**	**79.7**	**1.3**	**78.4**	**132.1**	**35.5**	**180.5**	**246.0**	**180.5**	**446.9**	**427.8**
4	**1.2**	**73.3**	**1.5**	**71.8**	**94.9**	**72.7**	**44.4**	**239.3**	**44.4**	**284.9**	**285.2**
5	**0.7**	**20.2**	**0.4**	**19.8**	**44.0**	**34.7**	**10.0**	**98.5**	**10.0**	**109.2**	**108.9**
6	**0.2**	**7.0**	**0.2**	**6.8**	**10.5**	**6.8**	**7.2**	**24.0**	**7.2**	**31.4**	**31.4**
7	**0.1**	**2.1**	**0.1**	**2.0**	**2.6**	**3.7**	**3.6**	**8.2**	**3.6**	**11.8**	**11.9**
8	**0.1**	**5.8**	**0.2**	**5.6**	**6.1**	**3.4**	**3.6**	**15.1**	**3.6**	**18.8**	**18.9**
9+	**0.0**	**0.4**	**0.0**	**0.4**	**4.8**	**0.4**	**0.0**	**5.7**	**0.0**	**5.7**	**5.7**
Sum	**520.7**	**293.5**	**5.9**	**287.6**	**557.3**	**703.5**	**438.4**	**1548.4**	**438.4**	**2507.5**	**1992.7**
Quarter: 1											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	36.1	3.9	0.0	3.9	0.1	1.9	8.1	5.9	8.1	**50.1**	**14.0**
2	73.6	11.8	0.0	11.8	0.6	0.7	24.9	13.1	24.9	**111.6**	**38.0**
3	7.6	33.2	0.0	33.2	2.3	0.6	31.8	36.0	31.8	**75.5**	**67.9**
4	0.0	41.5	0.0	41.5	3.1	0.7	12.8	45.3	12.8	**58.1**	**58.1**
5	0.0	8.5	0.0	8.5	1.4	0.1	4.4	10.1	4.4	**14.5**	**14.5**
6	0.0	1.4	0.0	1.4	0.5	0.0	3.3	1.9	3.3	**5.2**	**5.2**
7	0.0	0.7	0.0	0.7	0.0	0.0	1.8	0.7	1.8	**2.5**	**2.5**
8	0.0	2.4	0.0	2.4	0.3	0.0	0.3	2.8	0.3	**3.0**	**3.0**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**117.3**	**103.3**	**0.0**	**103.3**	**8.3**	**4.2**	**87.4**	**115.8**	**87.4**	**320.5**	**203.2**
Quarter: 2											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	107.3	5.3	0.0	5.3	1.6	55.0	0.0	61.9	0.0	**169.2**	**61.9**
2	18.1	62.7	1.1	61.6	89.8	17.2	0.3	168.6	0.3	**187.1**	**170.0**
3	0.6	14.6	0.7	14.0	47.2	8.1	0.6	69.2	0.6	**70.5**	**70.5**
4	0.1	10.3	0.8	9.6	19.1	5.0	0.3	33.7	0.3	**34.1**	**34.7**
5	0.0	2.7	0.2	2.5	4.4	1.7	0.1	8.6	0.1	**8.7**	**8.9**
6	0.0	1.6	0.1	1.5	1.7	0.6	0.1	3.9	0.1	**4.0**	**4.0**
7	0.0	0.5	0.1	0.4	0.6	1.0	0.0	2.0	0.0	**2.0**	**2.0**
8	0.0	0.4	0.1	0.3	0.2	0.1	0.0	0.6	0.0	**0.6**	**0.7**
9+	0.0	0.3	0.0	0.3	0.2	0.0	0.0	0.5	0.0	**0.5**	**0.5**
Sum	**126.2**	**98.4**	**3.0**	**95.5**	**164.8**	**88.7**	**1.5**	**349.0**	**1.5**	**476.6**	**353.4**
Quarter: 3											
0	13.9	0.0	0.0	0.0	0.0	203.9	0.0	203.9	0.0	**217.8**	**203.9**
1	53.2	0.0	0.0	0.0	2.0	22.0	0.0	24.0	0.0	**77.2**	**24.1**
2	24.1	3.0	1.1	1.9	149.6	17.2	0.3	168.8	0.3	**193.2**	**170.2**
3	12.1	3.6	0.7	3.0	79.5	18.2	0.4	100.7	0.4	**113.2**	**101.8**
4	0.7	3.1	0.8	2.4	70.8	50.3	0.1	123.5	0.1	**124.3**	**124.4**
5	0.4	1.2	0.2	1.0	36.5	24.6	0.0	62.1	0.0	**62.5**	**62.3**
6	0.1	0.4	0.1	0.3	8.1	4.4	0.0	12.8	0.0	**12.9**	**12.9**
7	0.0	0.1	0.1	0.0	1.9	1.9	0.0	3.8	0.0	**3.9**	**3.9**
8	0.0	0.3	0.1	0.2	5.4	2.2	0.0	7.9	0.0	**8.0**	**8.0**
9+	0.0	0.1	0.0	0.1	4.5	0.4	0.0	5.1	0.0	**5.1**	**5.1**
Sum	**104.6**	**11.9**	**3.0**	**8.9**	**358.5**	**345.2**	**0.9**	**712.6**	**0.9**	**818.1**	**716.5**
Quarter: 4											
0	53.7	0.0	0.0	0.0	0.0	159.4	0.3	159.4	0.3	**213.4**	**159.6**
1	108.7	4.8	0.0	4.8	3.4	64.6	1.8	72.7	1.8	**183.2**	**74.5**
2	9.4	13.5	0.0	13.5	15.1	4.6	153.4	33.2	153.4	**196.0**	**186.6**
3	0.0	28.2	0.0	28.2	3.1	8.7	147.7	40.0	147.7	**187.7**	**187.7**
4	0.4	18.4	0.0	18.4	1.8	16.6	31.2	36.8	31.2	**68.4**	**68.0**
5	0.3	7.8	0.0	7.8	1.8	8.2	5.5	17.8	5.5	**23.5**	**23.2**
6	0.1	3.5	0.0	3.5	0.2	1.7	3.8	5.5	3.8	**9.4**	**9.3**
7	0.0	0.8	0.0	0.8	0.1	0.8	1.7	1.7	1.7	**3.4**	**3.4**
8	0.1	2.7	0.0	2.7	0.2	1.0	3.3	3.9	3.3	**7.2**	**7.1**
9+	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	**0.1**	**0.1**
Sum	**172.7**	**79.9**	**0.0**	**79.9**	**25.7**	**265.4**	**348.6**	**370.9**	**348.6**	**892.2**	**719.6**

Table 4.4 b: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1997. Mean weight (kg) at age (rings) in the catch (WECA), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(W)	IVb	IVc & VIId	IVa & IVb all	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4										
0	**0.019**	**0.000**	**0.000**	**0.000**	**0.015**	**0.018**	**0.015**	**0.018**	**0.015**	**0.015**
1	**0.048**	**0.071**	**0.000**	**0.073**	**0.032**	**0.035**	**0.037**	**0.035**	**0.044**	**0.037**
2	**0.066**	**0.122**	**0.123**	**0.127**	**0.124**	**0.101**	**0.125**	**0.101**	**0.108**	**0.118**
3	**0.122**	**0.149**	**0.151**	**0.166**	**0.170**	**0.133**	**0.161**	**0.133**	**0.148**	**0.149**
4	**0.155**	**0.174**	**0.175**	**0.218**	**0.210**	**0.156**	**0.202**	**0.156**	**0.195**	**0.195**
5	**0.176**	**0.204**	**0.205**	**0.248**	**0.230**	**0.168**	**0.233**	**0.168**	**0.227**	**0.227**
6	**0.175**	**0.228**	**0.230**	**0.246**	**0.259**	**0.166**	**0.245**	**0.166**	**0.226**	**0.227**
7	**0.179**	**0.229**	**0.229**	**0.262**	**0.263**	**0.190**	**0.254**	**0.190**	**0.235**	**0.235**
8	**0.185**	**0.221**	**0.274**	**0.294**	**0.286**	**0.163**	**0.264**	**0.163**	**0.244**	**0.245**
9+	**0.000**	**0.313**	**0.000**	**0.289**	**0.286**	**0.000**	**0.291**	**-**	**0.291**	**0.291**
Quarter: 1										
0	0.000	0.000		0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.028	0.059		0.066	0.029	0.026	0.049	-	**0.030**	**0.036**
2	0.056	0.108		0.121	0.047	0.063	0.106	-	**0.064**	**0.078**
3	0.109	0.132		0.127	0.130	0.095	0.131	0.095	**0.114**	**0.115**
4	0.000	0.158		0.147	0.158	0.131	0.157	0.131	**0.151**	**0.151**
5	0.000	0.179		0.160	0.179	0.147	0.176	0.147	**0.167**	**0.167**
6	0.000	0.191		0.207	0.191	0.158	0.195	0.158	**0.172**	**0.172**
7	0.000	0.210		0.213	0.210	0.169	0.210	-	**0.181**	**0.181**
8	0.000	0.198		0.170	0.198	0.151	0.195	-	**0.190**	**0.190**
9+	0.000	0.000		0.000	0.000	0.000	#DIV/0!	-	**0.000**	**0.000**
Quarter: 2										
0	0.000	0.000	0.000	0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.040	0.061	0.000	0.067	0.018	0.000	0.023	-	**0.034**	**0.023**
2	0.054	0.120	0.123	0.118	0.104	0.079	0.117	-	**0.111**	**0.117**
3	0.122	0.158	0.151	0.146	0.143	0.099	0.149	0.099	**0.148**	**0.148**
4	0.139	0.192	0.175	0.198	0.188	0.131	0.195	0.131	**0.194**	**0.194**
5	0.162	0.221	0.205	0.212	0.213	0.147	0.215	0.147	**0.214**	**0.214**
6	0.175	0.234	0.230	0.226	0.229	0.158	0.229	0.158	**0.228**	**0.228**
7	0.000	0.220	0.229	0.209	0.220	0.169	0.217	-	**0.215**	**0.216**
8	0.000	0.241	0.274	0.239	0.287	0.151	0.248	-	**0.243**	**0.247**
9+	0.000	0.299	0.000	0.196	0.000	0.000	0.252	-	**0.252**	**0.252**
Quarter: 3										
0	0.016	0.000	0.000	0.000	0.012	0.000	0.012	#DIV/0!	**0.012**	**0.012**
1	0.046	0.115	0.000	0.071	0.033	0.080	0.036	0.080	**0.043**	**0.036**
2	0.086	0.137	0.123	0.134	0.141	0.111	0.135	0.111	**0.129**	**0.135**
3	0.130	0.184	0.151	0.179	0.184	0.149	0.180	0.149	**0.175**	**0.180**
4	0.153	0.206	0.175	0.226	0.214	0.168	0.220	0.168	**0.220**	**0.220**
5	0.177	0.237	0.205	0.257	0.233	0.184	0.247	0.184	**0.247**	**0.247**
6	0.178	0.247	0.230	0.253	0.263	0.173	0.256	0.173	**0.255**	**0.256**
7	0.186	0.253	0.229	0.277	0.282	0.214	0.279	0.214	**0.278**	**0.279**
8	0.183	0.240	0.274	0.303	0.287	0.164	0.296	0.164	**0.295**	**0.295**
9+	0.000	0.343	0.000	0.295	0.286	0.000	0.295	-	**0.295**	**0.295**
Quarter: 4										
0	0.020	0.000		0.000	0.018	0.018	0.018	0.018	**0.019**	**0.018**
1	0.063	0.090		0.078	0.044	0.078	0.049	0.078	**0.057**	**0.050**
2	0.109	0.138		0.113	0.144	0.107	0.128	0.107	**0.111**	**0.111**
3	0.000	0.159		0.157	0.167	0.141	0.161	0.141	**0.145**	**0.145**
4	0.161	0.194		0.228	0.209	0.167	0.202	0.167	**0.186**	**0.186**
5	0.176	0.220		0.214	0.228	0.185	0.223	0.185	**0.214**	**0.214**
6	0.173	0.239		0.261	0.261	0.173	0.246	0.173	**0.216**	**0.216**
7	0.165	0.248		0.282	0.276	0.213	0.262	0.213	**0.236**	**0.237**
8	0.186	0.236		0.306	0.287	0.164	0.252	0.164	**0.211**	**0.212**
9+	0.000	0.000		0.295	0.000	0.000	0.295	-	**0.295**	**0.295**

Table 4.4 c: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1997. Catches (tonnes, SOP figures) at age (rings), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**1.3**	**0.0**	**0.0**	**0.0**	**0.0**	**5.3**	**0.0**	**5.3**	**0.0**	**6.6**	**5.3**
1	**14.6**	**1.0**	**0.0**	**1.0**	**0.5**	**4.6**	**0.3**	**6.2**	**0.3**	**21.1**	**6.5**
2	**8.2**	**11.1**	**0.3**	**10.8**	**32.4**	**4.9**	**18.1**	**48.2**	**18.1**	**74.5**	**66.5**
3	**2.5**	**11.9**	**0.2**	**11.7**	**21.9**	**6.0**	**24.0**	**39.6**	**24.0**	**66.1**	**63.8**
4	**0.2**	**12.7**	**0.3**	**12.5**	**20.6**	**15.3**	**6.9**	**48.4**	**6.9**	**55.5**	**55.6**
5	**0.1**	**4.1**	**0.1**	**4.0**	**10.9**	**8.0**	**1.7**	**22.9**	**1.7**	**24.7**	**24.7**
6	**0.0**	**1.6**	**0.0**	**1.5**	**2.6**	**1.8**	**1.2**	**5.9**	**1.2**	**7.1**	**7.1**
7	**0.0**	**0.5**	**0.0**	**0.5**	**0.7**	**1.0**	**0.7**	**2.1**	**0.7**	**2.8**	**2.8**
8	**0.0**	**1.3**	**0.1**	**1.2**	**1.8**	**1.0**	**0.6**	**4.0**	**0.6**	**4.6**	**4.6**
9+	**0.0**	**0.1**	**0.0**	**0.1**	**1.4**	**0.1**	**0.0**	**1.7**	**0.0**	**1.7**	**1.7**
Sum	**26.9**	**44.3**	**0.9**	**43.3**	**92.9**	**48.0**	**53.5**	**184.2**	**53.5**	**264.6**	**238.6**
Quarter: 1											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	1.0	0.2	0.0	0.2	0.0	0.1	0.2	0.3	0.2	**1.5**	**0.5**
2	4.2	1.3	0.0	1.3	0.1	0.0	1.6	1.4	1.6	**7.1**	**3.0**
3	0.8	4.4	0.0	4.4	0.3	0.1	3.0	4.7	3.0	**8.6**	**7.8**
4	0.0	6.6	0.0	6.6	0.5	0.1	1.7	7.1	1.7	**8.8**	**8.8**
5	0.0	1.5	0.0	1.5	0.2	0.0	0.7	1.8	0.7	**2.4**	**2.4**
6	0.0	0.3	0.0	0.3	0.1	0.0	0.5	0.4	0.5	**0.9**	**0.9**
7	0.0	0.1	0.0	0.1	0.0	0.0	0.3	0.2	0.3	**0.5**	**0.5**
8	0.0	0.5	0.0	0.5	0.1	0.0	0.0	0.5	0.0	**0.6**	**0.6**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**6.0**	**14.8**	**0.0**	**14.8**	**1.2**	**0.3**	**8.0**	**16.4**	**8.0**	**30.4**	**24.4**
Quarter: 2											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	4.3	0.3	0.0	0.3	0.1	1.0	0.0	1.4	0.0	**5.7**	**1.4**
2	1.0	7.5	0.1	7.4	10.5	1.8	0.0	19.7	0.0	**20.7**	**19.9**
3	0.1	2.3	0.1	2.2	6.9	1.2	0.1	10.3	0.1	**10.4**	**10.4**
4	0.0	2.0	0.1	1.8	3.8	0.9	0.0	6.6	0.0	**6.6**	**6.7**
5	0.0	0.6	0.0	0.5	0.9	0.4	0.0	1.8	0.0	**1.9**	**1.9**
6	0.0	0.4	0.0	0.4	0.4	0.1	0.0	0.9	0.0	**0.9**	**0.9**
7	0.0	0.1	0.0	0.1	0.1	0.2	0.0	0.4	0.0	**0.4**	**0.4**
8	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	**0.1**	**0.2**
9+	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	**0.1**	**0.1**
Sum	**5.4**	**13.4**	**0.5**	**12.9**	**22.9**	**5.6**	**0.2**	**41.4**	**0.2**	**47.0**	**42.1**
Quarter: 3											
0	0.2	0.0	0.0	0.0	0.0	2.4	0.0	2.4	0.0	**2.7**	**2.4**
1	2.4	0.0	0.0	0.0	0.1	0.7	0.0	0.9	0.0	**3.3**	**0.9**
2	2.1	0.4	0.1	0.3	20.1	2.4	0.0	22.8	0.0	**24.9**	**23.0**
3	1.6	0.7	0.1	0.6	14.3	3.3	0.1	18.2	0.1	**19.8**	**18.3**
4	0.1	0.6	0.1	0.5	16.0	10.8	0.0	27.3	0.0	**27.4**	**27.4**
5	0.1	0.3	0.0	0.2	9.4	5.7	0.0	15.4	0.0	**15.4**	**15.4**
6	0.0	0.1	0.0	0.1	2.0	1.2	0.0	3.3	0.0	**3.3**	**3.3**
7	0.0	0.0	0.0	0.0	0.5	0.5	0.0	1.1	0.0	**1.1**	**1.1**
8	0.0	0.1	0.0	0.0	1.6	0.6	0.0	2.3	0.0	**2.3**	**2.4**
9+	0.0	0.0	0.0	0.0	1.3	0.1	0.0	1.5	0.0	**1.5**	**1.5**
Sum	**6.5**	**2.2**	**0.5**	**1.8**	**65.4**	**27.9**	**0.1**	**95.1**	**0.1**	**101.7**	**95.7**
Quarter: 4											
0	1.1	0.0	0.0	0.0	0.0	2.9	0.0	2.9	0.0	**4.0**	**2.9**
1	6.8	0.4	0.0	0.4	0.3	2.9	0.1	3.6	0.1	**10.5**	**3.7**
2	1.0	1.9	0.0	1.9	1.7	0.7	16.5	4.2	16.5	**21.7**	**20.7**
3	0.0	4.5	0.0	4.5	0.5	1.5	20.8	6.4	20.8	**27.2**	**27.2**
4	0.1	3.6	0.0	3.6	0.4	3.5	5.2	7.4	5.2	**12.7**	**12.6**
5	0.0	1.7	0.0	1.7	0.4	1.9	1.0	4.0	1.0	**5.0**	**5.0**
6	0.0	0.8	0.0	0.8	0.1	0.4	0.7	1.3	0.7	**2.0**	**2.0**
7	0.0	0.2	0.0	0.2	0.0	0.2	0.4	0.4	0.4	**0.8**	**0.8**
8	0.0	0.6	0.0	0.6	0.1	0.3	0.5	1.0	0.5	**1.5**	**1.5**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**9.0**	**13.8**	**0.0**	**13.8**	**3.4**	**14.1**	**45.2**	**31.3**	**45.2**	**85.5**	**76.5**

Table 4.4 d: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1997. Percentage age composition (based on numbers, 3+ group summarised), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**13.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**51.6%**	**0.1%**	**23.5%**	**0.1%**	**17.2%**	**18.2%**
1	**58.6%**	**4.8%**	**0.0%**	**4.9%**	**1.3%**	**20.4%**	**2.2%**	**10.6%**	**2.2%**	**19.1%**	**8.8%**
2	**24.0%**	**31.0%**	**37.3%**	**30.9%**	**45.8%**	**5.7%**	**40.8%**	**24.8%**	**40.8%**	**27.4%**	**28.3%**
3	**3.9%**	**27.2%**	**22.0%**	**27.3%**	**23.7%**	**5.0%**	**41.2%**	**15.9%**	**41.2%**	**17.8%**	**21.5%**
4	**0.2%**	**25.0%**	**25.4%**	**25.0%**	**17.0%**	**10.3%**	**10.1%**	**15.5%**	**10.1%**	**11.4%**	**14.3%**
5	**0.1%**	**6.9%**	**6.8%**	**6.9%**	**7.9%**	**4.9%**	**2.3%**	**6.4%**	**2.3%**	**4.4%**	**5.5%**
6	**0.0%**	**2.4%**	**3.4%**	**2.4%**	**1.9%**	**1.0%**	**1.6%**	**1.6%**	**1.6%**	**1.3%**	**1.6%**
7	**0.0%**	**0.7%**	**1.7%**	**0.7%**	**0.5%**	**0.5%**	**0.8%**	**0.5%**	**0.8%**	**0.5%**	**0.6%**
8	**0.0%**	**2.0%**	**3.4%**	**1.9%**	**1.1%**	**0.5%**	**0.8%**	**1.0%**	**0.8%**	**0.7%**	**0.9%**
9+	**0.0%**	**0.1%**	**0.0%**	**0.2%**	**0.9%**	**0.1%**	**0.0%**	**0.4%**	**0.0%**	**0.2%**	**0.3%**
Sum 3+	**4.3%**	**64.2%**	**62.7%**	**64.2%**	**52.9%**	**22.3%**	**56.9%**	**41.1%**	**56.9%**	**36.2%**	**44.7%**
Quarter: 1											
0	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	30.8%	3.8%	-	3.8%	0.9%	46.1%	9.3%	5.1%	9.3%	**15.6%**	**6.9%**
2	62.8%	11.4%	-	11.4%	7.5%	16.5%	28.5%	11.3%	28.5%	**34.8%**	**18.7%**
3	6.5%	32.1%	-	32.1%	27.1%	14.2%	36.4%	31.1%	36.4%	**23.5%**	**33.4%**
4	0.0%	40.1%	-	40.1%	37.7%	17.7%	14.6%	39.2%	14.6%	**18.1%**	**28.6%**
5	0.0%	8.3%	-	8.3%	16.8%	3.6%	5.1%	8.7%	5.1%	**4.5%**	**7.1%**
6	0.0%	1.4%	-	1.4%	5.8%	0.6%	3.7%	1.7%	3.7%	**1.6%**	**2.5%**
7	0.0%	0.7%	-	0.7%	0.2%	0.3%	2.0%	0.6%	2.0%	**0.8%**	**1.2%**
8	0.0%	2.3%	-	2.3%	4.1%	1.0%	0.3%	2.4%	0.3%	**1.0%**	**1.5%**
9+	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Sum 3+	**6.5%**	**84.8%**	-	**84.8%**	**91.7%**	**37.4%**	**62.2%**	**83.6%**	**62.2%**	**49.6%**	**74.4%**
Quarter: 2											
0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	85.0%	5.4%	0.0%	5.6%	1.0%	62.0%	0.0%	17.7%	0.0%	**35.5%**	**17.5%**
2	14.4%	63.7%	37.3%	64.5%	54.5%	19.4%	22.2%	48.3%	22.2%	**39.2%**	**48.1%**
3	0.5%	14.9%	22.0%	14.7%	28.6%	9.1%	44.0%	19.8%	44.0%	**14.8%**	**20.0%**
4	0.1%	10.5%	25.4%	10.0%	11.6%	5.7%	19.1%	9.7%	19.1%	**7.2%**	**9.8%**
5	0.0%	2.7%	6.8%	2.6%	2.7%	1.9%	6.7%	2.5%	6.7%	**1.8%**	**2.5%**
6	0.0%	1.7%	3.4%	1.6%	1.1%	0.7%	4.9%	1.1%	4.9%	**0.8%**	**1.1%**
7	0.0%	0.5%	1.7%	0.4%	0.3%	1.1%	2.7%	0.6%	2.7%	**0.4%**	**0.6%**
8	0.0%	0.4%	3.4%	0.3%	0.1%	0.1%	0.4%	0.2%	0.4%	**0.1%**	**0.2%**
9+	0.0%	0.3%	0.0%	0.3%	0.2%	0.0%	0.0%	0.2%	0.0%	**0.1%**	**0.2%**
Sum 3+	**0.6%**	**30.9%**	**62.7%**	**29.9%**	**44.5%**	**18.6%**	**77.8%**	**33.9%**	**77.8%**	**25.3%**	**34.4%**
Quarter: 3											
0	13.3%	0.0%	0.0%	0.0%	0.0%	59.1%	0.0%	28.6%	0.0%	**26.6%**	**28.5%**
1	50.9%	0.4%	0.0%	0.5%	0.6%	6.4%	1.5%	3.4%	1.5%	**9.4%**	**3.4%**
2	23.0%	25.6%	37.3%	21.7%	41.7%	5.0%	36.0%	23.7%	36.0%	**23.6%**	**23.8%**
3	11.6%	30.6%	22.0%	33.4%	22.2%	5.3%	43.0%	14.1%	43.0%	**13.8%**	**14.2%**
4	0.7%	26.1%	25.4%	26.3%	19.8%	14.6%	10.5%	17.3%	10.5%	**15.2%**	**17.4%**
5	0.4%	10.0%	6.8%	11.1%	10.2%	7.1%	1.5%	8.7%	1.5%	**7.6%**	**8.7%**
6	0.1%	3.1%	3.4%	3.0%	2.3%	1.3%	3.5%	1.8%	3.5%	**1.6%**	**1.8%**
7	0.0%	0.6%	1.7%	0.2%	0.5%	0.5%	1.0%	0.5%	1.0%	**0.5%**	**0.5%**
8	0.0%	2.5%	3.4%	2.2%	1.5%	0.7%	3.0%	1.1%	3.0%	**1.0%**	**1.1%**
9+	0.0%	1.2%	0.0%	1.6%	1.3%	0.1%	0.0%	0.7%	0.0%	**0.6%**	**0.7%**
Sum 3+	**12.8%**	**74.1%**	**62.7%**	**77.8%**	**57.7%**	**29.6%**	**62.5%**	**44.3%**	**62.5%**	**40.3%**	**44.4%**
Quarter: 4											
0	31.1%	0.0%	-	0.0%	0.0%	60.0%	0.1%	43.0%	0.1%	**23.9%**	**22.2%**
1	63.0%	6.0%	-	6.0%	13.1%	24.3%	0.5%	19.6%	0.5%	**20.5%**	**10.3%**
2	5.4%	16.9%	-	16.9%	58.8%	1.7%	44.0%	9.0%	44.0%	**22.0%**	**25.9%**
3	0.0%	35.4%	-	35.4%	12.0%	3.3%	42.4%	10.8%	42.4%	**21.0%**	**26.1%**
4	0.2%	23.1%	-	23.1%	7.0%	6.2%	9.0%	9.9%	9.0%	**7.7%**	**9.4%**
5	0.1%	9.8%	-	9.8%	7.0%	3.1%	1.6%	4.8%	1.6%	**2.6%**	**3.2%**
6	0.0%	4.4%	-	4.4%	0.8%	0.7%	1.1%	1.5%	1.1%	**1.0%**	**1.3%**
7	0.0%	1.1%	-	1.1%	0.2%	0.3%	0.5%	0.5%	0.5%	**0.4%**	**0.5%**
8	0.0%	3.4%	-	3.4%	0.8%	0.4%	0.9%	1.0%	0.9%	**0.8%**	**1.0%**
9+	0.0%	0.0%	-	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Sum 3+	**0.5%**	**77.1%**	-	**77.1%**	**28.1%**	**13.9%**	**55.4%**	**28.5%**	**55.4%**	**33.6%**	**41.5%**

Table 4.5 a: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caugh in the North Sea 1998. Catch in numbers (millions) at age (rings), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBBS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**51.3**	**0.0**	**0.0**	**0.0**	**0.0**	**190.2**	**18.0**	**190.2**	**18.0**	**259.5**	**208.2**
1	**728.9**	**0.5**	**5.1**	**-4.6**	**1.8**	**211.2**	**40.3**	**208.5**	**40.3**	**977.7**	**253.9**
2	**145.4**	**191.8**	**9.5**	**182.3**	**453.8**	**262.8**	**175.8**	**898.9**	**175.8**	**1220.1**	**1084.2**
3	**25.0**	**109.3**	**12.0**	**97.3**	**181.6**	**63.0**	**171.0**	**341.9**	**171.0**	**537.9**	**525.0**
4	**19.0**	**71.8**	**10.1**	**61.7**	**116.4**	**28.8**	**50.4**	**206.9**	**50.4**	**276.3**	**267.4**
5	**3.0**	**50.7**	**6.0**	**44.7**	**77.8**	**39.8**	**10.4**	**162.4**	**10.4**	**175.8**	**178.8**
6	**3.1**	**31.8**	**3.0**	**28.8**	**39.4**	**11.9**	**5.7**	**80.2**	**5.7**	**88.9**	**88.9**
7	**1.2**	**4.9**	**0.4**	**4.5**	**7.9**	**1.7**	**0.0**	**14.1**	**0.0**	**15.2**	**14.5**
8	**0.5**	**6.6**	**0.9**	**5.7**	**8.3**	**1.6**	**0.7**	**15.6**	**0.7**	**16.8**	**17.2**
9+	**0.0**	**1.4**	**0.0**	**1.4**	**2.2**	**0.1**	**0.0**	**3.8**	**0.0**	**3.8**	**3.8**
Sum	**977.3**	**469.0**	**47.0**	**422.0**	**889.3**	**811.2**	**472.3**	**2122.5**	**472.3**	**3572.1**	**2641.8**
Quarter: 1											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	64.1	0.0	0.0	0.0	0.0	123.6	34.3	123.6	34.3	**222.0**	**157.9**
2	52.1	36.9	0.0	36.9	1.8	16.3	9.0	54.9	9.0	**116.0**	**63.8**
3	1.4	16.6	0.0	16.6	1.2	0.9	47.4	18.7	47.4	**67.6**	**66.2**
4	0.3	13.2	0.0	13.2	1.3	2.4	10.3	16.9	10.3	**27.5**	**27.3**
5	0.0	9.9	0.0	9.9	1.6	0.6	2.0	12.2	2.0	**14.1**	**14.1**
6	0.0	15.1	0.0	15.1	4.7	0.9	1.3	20.7	1.3	**22.0**	**22.0**
7	0.0	2.6	0.0	2.6	1.0	0.1	0.0	3.8	0.0	**3.8**	**3.8**
8	0.0	4.0	0.0	4.0	0.8	0.2	0.7	5.0	0.7	**5.6**	**5.6**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**118.0**	**98.2**	**0.0**	**98.2**	**12.5**	**145.0**	**105.0**	**255.7**	**105.0**	**478.7**	**360.7**
Quarter: 2											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	11.2	0.1	5.1	-5.0	1.5	23.1	0.2	19.7	0.2	**31.1**	**25.0**
2	24.4	63.2	3.6	59.6	109.9	12.6	0.1	182.0	0.1	**206.5**	**185.7**
3	1.3	32.8	2.6	30.2	32.2	0.8	0.5	63.2	0.5	**65.0**	**66.3**
4	0.1	17.5	0.9	16.6	15.7	1.0	0.1	33.3	0.1	**33.5**	**34.3**
5	0.0	6.3	0.3	6.0	4.9	0.3	0.0	11.1	0.0	**11.2**	**11.5**
6	0.0	2.0	0.1	1.9	2.1	0.9	0.0	4.9	0.0	**4.9**	**5.0**
7	0.0	0.6	0.1	0.5	0.6	0.4	0.0	1.4	0.0	**1.4**	**1.5**
8	0.0	0.4	0.0	0.4	0.2	0.1	0.0	0.7	0.0	**0.7**	**0.7**
9+	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.2	0.0	**0.2**	**0.2**
Sum	**37.0**	**123.2**	**12.7**	**110.5**	**167.0**	**39.2**	**0.9**	**316.7**	**0.9**	**354.6**	**330.3**
Quarter: 3											
0	6.0	0.0	0.0	0.0	0.0	84.6	1.0	84.6	1.0	**91.6**	**85.6**
1	441.6	0.4	0.0	0.4	0.3	52.2	0.5	52.8	0.5	**494.9**	**53.3**
2	16.4	40.5	5.9	34.6	313.3	169.6	0.7	517.5	0.7	**534.6**	**524.1**
3	0.8	25.4	9.4	16.0	138.7	41.0	0.5	195.6	0.5	**197.0**	**205.6**
4	1.1	15.4	9.2	6.2	94.7	22.0	0.2	122.9	0.2	**124.2**	**132.3**
5	0.2	9.5	5.7	3.8	68.1	32.3	0.0	104.2	0.0	**104.5**	**110.0**
6	0.4	4.9	2.9	2.0	31.7	9.1	0.0	42.8	0.0	**43.3**	**45.8**
7	0.1	0.4	0.3	0.1	6.1	1.1	0.0	7.3	0.0	**7.4**	**7.6**
8	0.1	0.6	0.9	-0.3	7.2	1.1	0.0	8.1	0.0	**8.2**	**9.0**
9+	0.0	0.8	0.0	0.8	2.0	0.1	0.0	3.0	0.0	**3.0**	**3.0**
Sum	**466.7**	**98.0**	**34.3**	**63.7**	**662.1**	**413.1**	**2.9**	**1138.9**	**2.9**	**1608.5**	**1176.1**
Quarter: 4											
0	45.3	0.0	0.0	0.0	0.0	105.6	17.0	105.6	17.0	**167.9**	**122.6**
1	212.0	0.0	0.0	0.0	0.0	12.4	5.3	12.4	5.3	**229.7**	**17.7**
2	52.5	36.9	0.0	36.9	28.9	64.4	166.1	130.1	166.1	**363.0**	**310.5**
3	21.4	16.6	0.0	16.6	9.5	20.3	122.6	46.4	122.6	**208.4**	**187.0**
4	17.6	13.2	0.0	13.2	4.6	3.4	39.7	21.2	39.7	**91.1**	**73.5**
5	2.7	9.9	0.0	9.9	3.3	6.6	8.4	19.8	8.4	**46.0**	**43.3**
6	2.6	15.1	0.0	15.1	0.9	1.1	4.4	17.1	4.4	**18.7**	**16.1**
7	1.1	2.6	0.0	2.6	0.2	0.0	0.0	2.8	0.0	**2.6**	**1.5**
8	0.4	4.0	0.0	4.0	0.1	0.1	0.0	4.2	0.0	**2.2**	**1.9**
9+	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0	**0.6**	**0.6**
Sum	**355.6**	**98.2**	**0.0**	**98.2**	**47.8**	**213.9**	**363.5**	**359.9**	**363.5**	**1130.3**	**774.8**

Table 4.5 b: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1998. Mean weight (kg) at age (rings) in the catch (WECA), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(W)	IVb	IVc & VIId	IVa & IVb all	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4										
0	**0.027**	**0.000**	**0.000**	**0.000**	**0.019**	**0.017**	**0.019**	**0.017**	**0.021**	**0.019**
1	**0.056**	**0.073**	**0.116**	**0.073**	**0.034**	**0.037**	**0.035**	**0.037**	**0.051**	**0.035**
2	**0.078**	**0.114**	**0.132**	**0.130**	**0.117**	**0.096**	**0.123**	**0.096**	**0.114**	**0.119**
3	**0.118**	**0.148**	**0.158**	**0.170**	**0.162**	**0.114**	**0.162**	**0.114**	**0.145**	**0.146**
4	**0.163**	**0.171**	**0.180**	**0.205**	**0.203**	**0.146**	**0.194**	**0.146**	**0.183**	**0.185**
5	**0.180**	**0.199**	**0.208**	**0.244**	**0.216**	**0.149**	**0.224**	**0.149**	**0.219**	**0.219**
6	**0.197**	**0.219**	**0.234**	**0.263**	**0.243**	**0.184**	**0.243**	**0.184**	**0.238**	**0.239**
7	**0.179**	**0.237**	**0.250**	**0.270**	**0.218**	**0.000**	**0.253**	**0.000**	**0.247**	**0.253**
8	**0.226**	**0.269**	**0.243**	**0.308**	**0.311**	**0.176**	**0.293**	**0.176**	**0.289**	**0.288**
9+	**0.000**	**0.233**	**0.000**	**0.314**	**0.307**	**0.000**	**0.283**	**-**	**0.283**	**0.283**
Quarter: 1										
0	0.000	0.000		0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.023	0.000		0.094	0.031	0.031	0.031	-	**0.029**	**0.031**
2	0.059	0.071		0.106	0.048	0.058	0.065	-	**0.062**	**0.064**
3	0.082	0.116		0.127	0.117	0.080	0.117	0.080	**0.090**	**0.091**
4	0.081	0.141		0.151	0.115	0.103	0.138	0.103	**0.124**	**0.125**
5	0.000	0.170		0.164	0.170	0.112	0.169	0.112	**0.161**	**0.161**
6	0.000	0.210		0.211	0.210	0.136	0.210	0.136	**0.206**	**0.206**
7	0.000	0.233		0.223	0.233	0.000	0.230	-	**0.230**	**0.230**
8	0.000	0.289		0.236	0.289	0.176	0.281	-	**0.268**	**0.268**
9+	0.000	0.000		0.184	0.000	0.000	0.184	-	**0.184**	**0.184**
Quarter: 2										
0	0.000	0.000	0.000	0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.024	0.068	0.116	0.072	0.027	0.026	0.030	-	**0.014**	**0.030**
2	0.062	0.116	0.136	0.110	0.068	0.059	0.109	-	**0.103**	**0.109**
3	0.079	0.137	0.154	0.145	0.106	0.080	0.140	0.080	**0.138**	**0.140**
4	0.111	0.154	0.176	0.170	0.117	0.103	0.160	0.103	**0.159**	**0.160**
5	0.139	0.176	0.198	0.201	0.146	0.112	0.186	0.112	**0.185**	**0.186**
6	0.153	0.197	0.205	0.238	0.203	0.136	0.215	0.136	**0.215**	**0.215**
7	0.161	0.205	0.239	0.264	0.178	0.000	0.219	-	**0.217**	**0.219**
8	0.191	0.239	0.000	0.174	0.232	0.176	0.223	-	**0.222**	**0.222**
9+	0.000	0.232	0.000	0.000	0.000	0.000	0.232	-	**0.232**	**0.232**
Quarter: 3										
0	0.023	0.000	0.000	0.000	0.020	0.02	0.020	0.020	**0.020**	**0.020**
1	0.055	0.075	0.000	0.077	0.042	0.0347	0.042	0.035	**0.054**	**0.042**
2	0.081	0.130	0.130	0.137	0.126	0.09727	0.133	0.097	**0.131**	**0.133**
3	0.103	0.159	0.159	0.176	0.167	0.1271	0.172	0.127	**0.173**	**0.172**
4	0.157	0.180	0.180	0.212	0.216	0.15801	0.209	0.158	**0.211**	**0.209**
5	0.123	0.209	0.209	0.249	0.220	0.16641	0.237	0.166	**0.239**	**0.237**
6	0.176	0.235	0.235	0.272	0.249	0.199	0.264	0.199	**0.265**	**0.264**
7	0.191	0.253	0.253	0.279	0.231	0	0.270	#DIV/0!	**0.270**	**0.270**
8	0.225	0.237	0.243	0.319	0.324	0	0.314	#DIV/0!	**0.321**	**0.314**
9+	0.000	0.249	0.000	0.318	0.307	0	0.298	-	**0.298**	**0.298**
Quarter: 4										
0	0.028	0.000		0.000	0.018	0.017	0.018	0.017	**0.021**	**0.018**
1	0.071	0.000		0.063	0.049	0.073	0.049	0.073	**0.070**	**0.056**
2	0.104	0.129		0.131	0.119	0.098	0.124	0.098	**0.110**	**0.111**
3	0.123	0.166		0.168	0.155	0.127	0.162	0.127	**0.138**	**0.139**
4	0.165	0.193		0.197	0.205	0.157	0.196	0.157	**0.173**	**0.175**
5	0.185	0.213		0.229	0.201	0.157	0.211	0.157	**0.201**	**0.202**
6	0.201	0.228		0.270	0.251	0.199	0.232	0.199	**0.221**	**0.224**
7	0.178	0.253		0.274	0.000	0.000	0.254	#DIV/0!	**0.224**	**0.255**
8	0.227	0.241		0.297	0.326	0.000	0.244	#DIV/0!	**0.245**	**0.249**
9+	0.000	0.201		0.299	0.000	0.000	0.299	-	**0.231**	**0.231**

Table 4.5 c: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1998. Catches (tonnes, SOP figures) at age (rings), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**1.4**	**0.0**	**0.0**	**0.0**	**0.0**	**3.6**	**0.3**	**3.6**	**0.3**	**5.3**	**3.9**
1	**41.1**	**0.0**	**0.6**	**-0.6**	**0.1**	**7.2**	**1.5**	**6.8**	**1.5**	**49.4**	**8.9**
2	**11.4**	**21.8**	**1.3**	**20.5**	**59.0**	**30.7**	**16.9**	**110.3**	**16.9**	**138.6**	**128.5**
3	**2.9**	**16.2**	**1.9**	**14.3**	**30.9**	**10.2**	**19.5**	**55.4**	**19.5**	**77.8**	**76.8**
4	**3.1**	**12.3**	**1.8**	**10.5**	**23.9**	**5.8**	**7.4**	**40.2**	**7.4**	**50.7**	**49.4**
5	**0.5**	**10.1**	**1.3**	**8.9**	**19.0**	**8.6**	**1.6**	**36.4**	**1.6**	**38.5**	**39.2**
6	**0.6**	**6.9**	**0.7**	**6.2**	**10.4**	**2.9**	**1.1**	**19.5**	**1.1**	**21.2**	**21.3**
7	**0.2**	**1.2**	**0.1**	**1.1**	**2.1**	**0.4**	**0.0**	**3.6**	**0.0**	**3.8**	**3.7**
8	**0.1**	**1.8**	**0.2**	**1.6**	**2.5**	**0.5**	**0.1**	**4.6**	**0.1**	**4.8**	**5.0**
9+	**0.0**	**0.3**	**0.0**	**0.3**	**0.7**	**0.0**	**0.0**	**1.1**	**0.0**	**1.1**	**1.1**
Sum	**61.4**	**70.6**	**7.8**	**62.8**	**148.7**	**70.0**	**48.3**	**281.4**	**48.3**	**391.1**	**337.6**
Quarter: 1											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	1.5	0.0	0.0	0.0	0.0	3.8	1.1	3.8	1.1	**6.4**	**4.9**
2	3.1	2.6	0.0	2.6	0.2	0.8	0.5	3.6	0.5	**7.2**	**4.1**
3	0.1	1.9	0.0	1.9	0.2	0.1	3.8	2.2	3.8	**6.1**	**6.0**
4	0.0	1.9	0.0	1.9	0.2	0.3	1.1	2.3	1.1	**3.4**	**3.4**
5	0.0	1.7	0.0	1.7	0.3	0.1	0.2	2.1	0.2	**2.3**	**2.3**
6	0.0	3.2	0.0	3.2	1.0	0.2	0.2	4.3	0.2	**4.5**	**4.5**
7	0.0	0.6	0.0	0.6	0.2	0.0	0.0	0.9	0.0	**0.9**	**0.9**
8	0.0	1.1	0.0	1.1	0.2	0.1	0.1	1.4	0.1	**1.5**	**1.5**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**4.7**	**13.0**	**0.0**	**13.0**	**2.2**	**5.4**	**7.0**	**20.6**	**7.0**	**32.2**	**27.6**
Quarter: 2											
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	0.3	0.0	0.6	-0.6	0.1	0.6	0.0	0.2	0.0	**0.4**	**0.7**
2	1.5	7.3	0.5	6.8	12.1	0.9	0.0	19.8	0.0	**21.3**	**20.2**
3	0.1	4.5	0.4	4.1	4.7	0.1	0.0	8.8	0.0	**9.0**	**9.3**
4	0.0	2.7	0.2	2.5	2.7	0.1	0.0	5.3	0.0	**5.3**	**5.5**
5	0.0	1.1	0.1	1.0	1.0	0.0	0.0	2.1	0.0	**2.1**	**2.1**
6	0.0	0.4	0.0	0.4	0.5	0.2	0.0	1.1	0.0	**1.1**	**1.1**
7	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.3	0.0	**0.3**	**0.3**
8	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.0	**0.2**	**0.2**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**1.9**	**16.3**	**1.7**	**14.5**	**21.2**	**2.0**	**0.1**	**37.7**	**0.1**	**39.7**	**39.5**
Quarter: 3											
0	0.1	0.0	0.0	0.0	0.0	1.7	0.0	1.7	0.0	**1.8**	**1.7**
1	24.3	0.0	0.0	0.0	0.0	2.2	0.0	2.2	0.0	**26.6**	**2.2**
2	1.3	5.3	0.8	4.5	43.0	21.4	0.1	68.9	0.1	**70.3**	**69.7**
3	0.1	4.0	1.5	2.5	24.5	6.9	0.1	33.9	0.1	**34.0**	**35.4**
4	0.2	2.8	1.7	1.1	20.1	4.7	0.0	26.0	0.0	**26.2**	**27.6**
5	0.0	2.0	1.2	0.8	17.0	7.1	0.0	24.9	0.0	**24.9**	**26.1**
6	0.1	1.2	0.7	0.5	8.6	2.3	0.0	11.4	0.0	**11.5**	**12.1**
7	0.0	0.1	0.1	0.0	1.7	0.3	0.0	2.0	0.0	**2.0**	**2.1**
8	0.0	0.1	0.2	-0.1	2.3	0.4	0.0	2.6	0.0	**2.6**	**2.8**
9+	0.0	0.2	0.0	0.2	0.6	0.0	0.0	0.9	0.0	**0.9**	**0.9**
Sum	**26.2**	**15.7**	**6.1**	**9.6**	**117.8**	**46.9**	**0.2**	**174.3**	**0.2**	**200.7**	**180.6**
Quarter: 4											
0	1.3	0.0	0.0	0.0	0.0	1.9	0.3	1.9	0.3	**3.5**	**2.2**
1	15.0	0.0	0.0	0.0	0.0	0.6	0.4	0.6	0.4	**16.0**	**1.0**
2	5.5	4.8	0.0	4.8	3.8	7.7	16.4	16.2	16.4	**38.0**	**32.6**
3	2.6	2.7	0.0	2.7	1.6	3.2	15.6	7.5	15.6	**25.7**	**23.1**
4	2.9	2.5	0.0	2.5	0.9	0.7	6.3	4.2	6.3	**13.3**	**10.4**
5	0.5	2.1	0.0	2.1	0.7	1.3	1.3	4.2	1.3	**6.0**	**5.5**
6	0.5	3.4	0.0	3.4	0.3	0.3	0.9	4.0	0.9	**5.4**	**4.8**
7	0.2	0.7	0.0	0.7	0.1	0.0	0.0	0.7	0.0	**0.9**	**0.7**
8	0.1	1.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	**1.1**	**1.0**
9+	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	**0.1**	**0.1**
Sum	**28.6**	**17.2**	**0.0**	**17.2**	**7.4**	**15.7**	**41.1**	**40.3**	**41.1**	**110.0**	**81.4**

Table 4.5 d: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1998. Percentage age composition (based on numbers, 3+ group summarised), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc & VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**5.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**23.4%**	**3.8%**	**9.0%**	**3.8%**	**7.3%**	**7.9%**
1	**74.6%**	**0.1%**	**10.9%**	**-1.1%**	**0.2%**	**26.0%**	**8.5%**	**9.8%**	**8.5%**	**27.4%**	**9.6%**
2	**14.9%**	**40.9%**	**20.2%**	**43.2%**	**51.0%**	**32.4%**	**37.2%**	**42.4%**	**37.2%**	**34.2%**	**41.0%**
3	**2.6%**	**23.3%**	**25.5%**	**23.1%**	**20.4%**	**7.8%**	**36.2%**	**16.1%**	**36.2%**	**15.1%**	**19.9%**
4	**1.9%**	**15.3%**	**21.5%**	**14.6%**	**13.1%**	**3.6%**	**10.7%**	**9.7%**	**10.7%**	**7.7%**	**10.1%**
5	**0.3%**	**10.8%**	**12.8%**	**10.6%**	**8.8%**	**4.9%**	**2.2%**	**7.7%**	**2.2%**	**4.9%**	**6.8%**
6	**0.3%**	**6.8%**	**6.4%**	**6.8%**	**4.4%**	**1.5%**	**1.2%**	**3.8%**	**1.2%**	**2.5%**	**3.4%**
7	**0.1%**	**1.1%**	**0.9%**	**1.1%**	**0.9%**	**0.2%**	**0.0%**	**0.7%**	**0.0%**	**0.4%**	**0.5%**
8	**0.0%**	**1.4%**	**1.9%**	**1.4%**	**0.9%**	**0.2%**	**0.1%**	**0.7%**	**0.1%**	**0.5%**	**0.7%**
9+	**0.0%**	**0.3%**	**0.0%**	**0.3%**	**0.3%**	**0.0%**	**0.0%**	**0.2%**	**0.0%**	**0.1%**	**0.1%**
Sum 3+	**5.3%**	**59.0%**	**68.9%**	**57.9%**	**48.8%**	**18.1%**	**50.4%**	**38.9%**	**50.4%**	**31.2%**	**41.5%**
Quarter: 1											
0	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	54.3%	0.0%	-	0.0%	0.1%	85.2%	32.7%	48.3%	32.7%	**46.4%**	**43.8%**
2	44.2%	37.5%	-	37.5%	14.0%	11.2%	8.5%	21.5%	8.5%	**24.2%**	**17.7%**
3	1.2%	16.9%	-	16.9%	9.8%	0.6%	45.2%	7.3%	45.2%	**14.1%**	**18.3%**
4	0.2%	13.4%	-	13.4%	10.4%	1.7%	9.9%	6.6%	9.9%	**5.8%**	**7.6%**
5	0.0%	10.1%	-	10.1%	13.1%	0.4%	1.9%	4.8%	1.9%	**3.0%**	**3.9%**
6	0.0%	15.4%	-	15.4%	37.7%	0.6%	1.3%	8.1%	1.3%	**4.6%**	**6.1%**
7	0.0%	2.7%	-	2.7%	8.1%	0.1%	0.0%	1.5%	0.0%	**0.8%**	**1.0%**
8	0.0%	4.0%	-	4.0%	6.3%	0.2%	0.6%	1.9%	0.6%	**1.2%**	**1.6%**
9+	0.0%	0.0%	-	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Sum 3+	**1.5%**	**62.5%**	-	**62.5%**	**85.8%**	**3.5%**	**58.8%**	**30.2%**	**58.8%**	**29.4%**	**38.5%**
Quarter: 2											
0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	30.3%	0.1%	40.2%	-4.5%	0.9%	58.9%	23.2%	6.2%	23.2%	**8.8%**	**7.6%**
2	65.9%	51.3%	28.3%	54.0%	65.8%	32.0%	9.9%	57.5%	9.9%	**58.2%**	**56.2%**
3	3.5%	26.6%	20.5%	27.4%	19.3%	2.1%	51.4%	20.0%	51.4%	**18.3%**	**20.1%**
4	0.2%	14.2%	7.1%	15.0%	9.4%	2.5%	11.3%	10.5%	11.3%	**9.5%**	**10.4%**
5	0.0%	5.1%	2.4%	5.4%	2.9%	0.8%	2.1%	3.5%	2.1%	**3.2%**	**3.5%**
6	0.0%	1.6%	0.8%	1.7%	1.2%	2.4%	1.4%	1.6%	1.4%	**1.4%**	**1.5%**
7	0.0%	0.5%	0.8%	0.4%	0.3%	1.1%	0.0%	0.5%	0.0%	**0.4%**	**0.5%**
8	0.0%	0.3%	0.0%	0.4%	0.1%	0.4%	0.7%	0.2%	0.7%	**0.2%**	**0.2%**
9+	0.0%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	**0.1%**	**0.1%**
Sum 3+	**3.7%**	**48.6%**	**31.5%**	**50.5%**	**33.3%**	**9.1%**	**66.9%**	**36.3%**	**66.9%**	**33.0%**	**36.2%**
Quarter: 3											
0	1.3%	0.0%	0.0%	0.0%	0.0%	20.5%	33.7%	7.4%	33.7%	**5.7%**	**7.3%**
1	94.6%	0.4%	0.0%	0.6%	0.0%	12.6%	15.6%	4.6%	15.6%	**30.8%**	**4.5%**
2	3.5%	41.4%	17.2%	54.4%	47.3%	41.1%	24.4%	45.4%	24.4%	**33.2%**	**44.6%**
3	0.2%	25.9%	27.4%	25.1%	20.9%	9.9%	18.0%	17.2%	18.0%	**12.2%**	**17.5%**
4	0.2%	15.7%	26.8%	9.7%	14.3%	5.3%	6.3%	10.8%	6.3%	**7.7%**	**11.2%**
5	0.1%	9.7%	16.6%	6.0%	10.3%	7.8%	1.3%	9.2%	1.3%	**6.5%**	**9.3%**
6	0.1%	5.0%	8.5%	3.1%	4.8%	2.2%	0.7%	3.8%	0.7%	**2.7%**	**3.9%**
7	0.0%	0.4%	0.9%	0.2%	0.9%	0.3%	0.0%	0.6%	0.0%	**0.5%**	**0.6%**
8	0.0%	0.6%	2.6%	-0.4%	1.1%	0.3%	0.0%	0.7%	0.0%	**0.5%**	**0.8%**
9+	0.0%	0.8%	0.0%	1.3%	0.3%	0.0%	0.0%	0.3%	0.0%	**0.2%**	**0.3%**
Sum 3+	**0.6%**	**58.2%**	**82.8%**	**45.0%**	**52.6%**	**25.8%**	**26.4%**	**42.5%**	**26.4%**	**30.3%**	**43.6%**
Quarter: 4											
0	12.7%	0.0%	-	0.0%	0.0%	49.4%	4.7%	29.3%	4.7%	**14.9%**	**15.8%**
1	59.6%	0.0%	-	0.0%	0.0%	5.8%	1.5%	3.4%	1.5%	**20.3%**	**2.3%**
2	14.8%	37.5%	-	37.5%	60.6%	30.1%	45.7%	36.2%	45.7%	**32.1%**	**40.1%**
3	6.0%	16.9%	-	16.9%	20.0%	9.5%	33.7%	12.9%	33.7%	**18.4%**	**24.1%**
4	4.9%	13.4%	-	13.4%	9.7%	1.6%	10.9%	5.9%	10.9%	**8.1%**	**9.5%**
5	0.8%	10.1%	-	10.1%	6.8%	3.1%	2.3%	5.5%	2.3%	**4.1%**	**5.6%**
6	0.7%	15.4%	-	15.4%	1.9%	0.5%	1.2%	4.7%	1.2%	**1.7%**	**2.1%**
7	0.3%	2.7%	-	2.7%	0.4%	0.0%	0.0%	0.8%	0.0%	**0.2%**	**0.2%**
8	0.1%	4.0%	-	4.0%	0.2%	0.1%	0.0%	1.2%	0.0%	**0.2%**	**0.2%**
9+	0.0%	0.0%	-	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	**0.1%**	**0.1%**
Sum 3+	**12.9%**	**62.5%**	-	**62.5%**	**39.4%**	**14.7%**	**48.2%**	**31.0%**	**48.2%**	**32.7%**	**41.8%**

Table 4.6 a: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caugh in the North Sea 1999. Catch in numbers (millions) at age (rings), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBBS	IVa(E) NSAS only	IVa(W)	IVb	IVc	VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4												
0	**598.1**	**0.0**	**0.0**	**0.0**	**0.0**	**935.2**	**33.1**	**0.0**	**935.2**	**33.1**	**1566.3**	**968.3**
1	**230.5**	**2.3**	**0.0**	**2.3**	**5.8**	**60.1**	**4.7**	**0.2**	**68.2**	**4.8**	**303.5**	**73.0**
2	**132.6**	**96.9**	**3.3**	**93.6**	**175.0**	**151.8**	**10.2**	**53.1**	**420.4**	**63.3**	**616.4**	**487.1**
3	**38.6**	**178.9**	**14.3**	**164.6**	**466.4**	**241.6**	**28.9**	**118.6**	**872.6**	**147.5**	**1058.7**	**1034.5**
4	**10.2**	**56.2**	**5.6**	**50.6**	**115.3**	**24.6**	**18.2**	**75.2**	**190.5**	**93.3**	**294.1**	**289.4**
5	**4.9**	**34.1**	**3.6**	**30.5**	**59.9**	**13.0**	**3.9**	**23.5**	**103.4**	**27.4**	**135.6**	**134.4**
6	**0.7**	**17.1**	**1.4**	**15.7**	**38.7**	**9.0**	**1.3**	**4.0**	**63.4**	**5.2**	**69.3**	**70.1**
7	**1.0**	**6.0**	**0.6**	**5.4**	**17.3**	**0.8**	**0.1**	**3.4**	**23.5**	**3.4**	**28.0**	**27.5**
8	**0.4**	**2.7**	**0.4**	**2.3**	**5.6**	**1.8**	**0.0**	**0.0**	**9.7**	**0.0**	**10.2**	**10.2**
9+	**0.0**	**0.5**	**0.0**	**0.5**	**1.6**	**0.0**	**0.0**	**0.0**	**2.1**	**0.0**	**2.1**	**2.1**
Sum	**1017.0**	**394.7**	**29.3**	**365.4**	**885.6**	**1438.0**	**100.3**	**277.9**	**2689.0**	**378.2**	**4084.2**	**3096.4**
Quarter: 1												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	100.0	0.1	0.0	0.1	0.2	13.4	4.6	0.1	13.7	4.8	**118.5**	**18.5**
2	66.0	6.4	0.0	6.4	4.2	13.4	3.7	1.5	24.0	5.2	**95.2**	**29.2**
3	12.3	32.1	0.0	32.1	8.6	5.0	17.3	7.1	45.7	24.5	**82.4**	**70.2**
4	1.3	14.9	0.0	14.9	7.0	2.5	11.1	4.6	24.4	15.7	**41.3**	**40.0**
5	1.2	7.2	0.0	7.2	5.4	1.1	1.6	0.7	13.6	2.2	**17.0**	**15.8**
6	0.2	4.5	0.0	4.5	3.6	0.8	0.3	0.1	9.0	0.4	**9.6**	**9.4**
7	0.1	1.3	0.0	1.3	1.6	0.2	0.0	0.0	3.2	0.0	**3.2**	**3.2**
8	0.1	0.2	0.0	0.2	0.2	0.0	0.0	0.0	0.3	0.0	**0.4**	**0.3**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**181.1**	**66.8**	**0.0**	**66.8**	**30.7**	**36.4**	**38.7**	**14.1**	**134.0**	**52.8**	**367.8**	**186.7**
Quarter: 2												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	33.4	1.0	0.0	1.0	0.9	34.0	0.0	0.0	35.8	0.0	**69.3**	**35.9**
2	16.1	48.5	1.2	47.3	34.0	39.4	0.1	0.3	120.7	0.4	**137.2**	**122.3**
3	7.6	51.4	5.6	45.8	41.5	22.9	0.3	1.3	110.2	1.7	**119.5**	**117.5**
4	0.9	18.1	2.9	15.2	12.7	7.6	0.2	0.9	35.4	1.1	**37.4**	**39.4**
5	0.3	10.7	1.7	9.0	4.7	1.7	0.0	0.1	15.4	0.2	**15.9**	**17.3**
6	0.1	4.2	0.7	3.5	2.6	0.3	0.0	0.0	6.4	0.0	**6.5**	**7.1**
7	0.0	1.6	0.3	1.3	1.2	0.1	0.0	0.0	2.7	0.0	**2.7**	**2.9**
8	0.0	1.1	0.2	0.9	0.1	0.0	0.0	0.0	1.0	0.0	**1.1**	**1.2**
9+	0.0	0.2	0.0	0.2	0.2	0.0	0.0	0.0	0.5	0.0	**0.5**	**0.5**
Sum	**58.6**	**136.8**	**12.6**	**124.2**	**98.0**	**105.9**	**0.7**	**2.6**	**328.1**	**3.3**	**390.0**	**344.0**
Quarter: 3												
0	333.1	0.0	0.0	0.0	0.0	833.8	0.6	0.0	833.8	0.6	**1167.6**	**834.4**
1	73.2	0.2	0.0	0.2	0.7	6.3	0.0	0.0	7.3	0.0	**80.5**	**7.3**
2	45.5	27.0	2.1	24.9	92.5	76.8	0.3	0.2	194.2	0.5	**240.2**	**196.8**
3	12.3	43.9	8.7	35.1	309.4	144.5	0.5	0.4	489.0	0.9	**502.3**	**498.7**
4	3.7	15.1	2.7	12.4	84.7	9.0	0.3	0.3	106.1	0.6	**110.4**	**109.4**
5	1.1	10.8	1.9	9.0	43.2	8.3	0.1	0.1	60.4	0.2	**61.7**	**62.5**
6	0.4	4.5	0.8	3.7	27.8	6.7	0.1	0.0	38.2	0.1	**38.6**	**39.0**
7	0.3	1.7	0.3	1.4	11.9	0.4	0.0	0.0	13.7	0.0	**14.0**	**14.0**
8	0.1	1.2	0.3	1.0	4.9	1.6	0.0	0.0	7.5	0.0	**7.6**	**7.7**
9+	0.0	0.2	0.0	0.2	1.3	0.0	0.0	0.0	1.5	0.0	**1.5**	**1.5**
Sum	**469.7**	**104.7**	**16.7**	**88.0**	**576.4**	**1087.4**	**1.9**	**1.0**	**1751.7**	**2.9**	**2224.4**	**1771.3**
Quarter: 4												
0	264.9	0.0	0.0	0.0	0.0	101.4	32.5	0.0	101.4	32.5	**398.8**	**133.9**
1	23.9	0.9	0.0	0.9	4.0	6.4	0.0	0.0	11.4	0.0	**35.3**	**11.4**
2	5.0	14.9	0.0	14.9	44.3	22.2	6.1	51.1	81.4	57.2	**143.7**	**138.7**
3	6.4	51.5	0.0	51.5	106.9	69.2	10.7	109.7	227.6	120.5	**354.4**	**348.1**
4	4.4	8.1	0.0	8.1	10.9	5.6	6.5	69.5	24.6	76.0	**105.0**	**100.6**
5	2.3	5.4	0.0	5.4	6.7	2.0	2.2	22.6	14.1	24.8	**41.1**	**38.8**
6	0.1	4.0	0.0	4.0	4.6	1.3	0.9	3.8	9.9	4.7	**14.6**	**14.6**
7	0.6	1.3	0.0	1.3	2.6	0.1	0.1	3.3	4.0	3.4	**8.1**	**7.4**
8	0.2	0.2	0.0	0.2	0.5	0.2	0.0	0.0	0.9	0.0	**1.0**	**0.9**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**307.7**	**86.4**	**0.0**	**86.4**	**180.5**	**208.3**	**59.0**	**260.1**	**475.2**	**319.1**	**1102.0**	**794.3**

Table 4.6 b: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1999. Mean weight (kg) at age (rings) in the catch (WECA), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(W)	IVb	IVc	VIId	IVa & IVb all	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**0.011**	**0.000**	**0.000**	**0.000**	**0.008**	**0.010**	**0.000**	**0.008**	**0.010**	**0.009**	**0.009**
1	**0.044**	**0.081**	**0.000**	**0.089**	**0.045**	**0.038**	**0.039**	**0.050**	**0.038**	**0.045**	**0.049**
2	**0.084**	**0.125**	**0.128**	**0.129**	**0.118**	**0.099**	**0.119**	**0.124**	**0.116**	**0.115**	**0.123**
3	**0.113**	**0.143**	**0.148**	**0.162**	**0.148**	**0.110**	**0.146**	**0.155**	**0.139**	**0.151**	**0.152**
4	**0.141**	**0.162**	**0.166**	**0.192**	**0.154**	**0.130**	**0.166**	**0.179**	**0.159**	**0.171**	**0.172**
5	**0.161**	**0.191**	**0.194**	**0.227**	**0.207**	**0.173**	**0.192**	**0.213**	**0.189**	**0.207**	**0.208**
6	**0.181**	**0.207**	**0.218**	**0.250**	**0.226**	**0.214**	**0.193**	**0.236**	**0.198**	**0.233**	**0.233**
7	**0.206**	**0.226**	**0.226**	**0.261**	**0.209**	**0.217**	**0.217**	**0.250**	**0.217**	**0.245**	**0.246**
8	**0.199**	**0.232**	**0.261**	**0.272**	**0.287**	**0.000**	**0.000**	**0.264**	**-**	**0.261**	**0.264**
9+	**0.000**	**0.272**	**0.000**	**0.309**	**0.345**	**0.000**	**0.000**	**0.301**	**-**	**0.301**	**0.301**
Quarter: 1											
0	0.000	0.000		0.000	0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.026	0.079		0.090	0.017	0.038	0.039	0.018	0.038	**0.026**	**0.024**
2	0.075	0.126		0.122	0.051	0.059	0.059	0.083	0.059	**0.076**	**0.079**
3	0.102	0.119		0.136	0.112	0.085	0.085	0.121	0.085	**0.108**	**0.109**
4	0.105	0.143		0.152	0.139	0.102	0.102	0.145	0.102	**0.128**	**0.128**
5	0.158	0.179		0.181	0.176	0.128	0.128	0.179	0.128	**0.171**	**0.172**
6	0.160	0.186		0.190	0.173	0.150	0.150	0.187	0.150	**0.184**	**0.185**
7	0.100	0.202		0.198	0.197	0.000	0.000	0.199	-	**0.197**	**0.199**
8	0.170	0.228		0.200	0.277	0.000	0.000	0.212	-	**0.202**	**0.213**
9+	0.000	0.272		0.285	0.000	0.000	0.000	0.276	-	**0.276**	**0.276**
Quarter: 2											
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.047	0.079	0.000	0.088	0.049	0.039	0.039	0.050	0.039	**0.049**	**0.050**
2	0.078	0.126	0.125	0.124	0.099	0.059	0.059	0.117	0.059	**0.112**	**0.117**
3	0.098	0.144	0.144	0.152	0.122	0.085	0.085	0.142	0.085	**0.139**	**0.142**
4	0.103	0.159	0.159	0.172	0.132	0.102	0.102	0.158	0.102	**0.155**	**0.156**
5	0.131	0.191	0.191	0.220	0.163	0.128	0.128	0.196	0.128	**0.195**	**0.195**
6	0.136	0.216	0.216	0.261	0.171	0.150	0.150	0.232	0.150	**0.231**	**0.231**
7	0.130	0.227	0.227	0.271	0.170	0.000	0.000	0.243	-	**0.243**	**0.243**
8	0.148	0.228	0.279	0.280	0.277	0.000	0.000	0.232	-	**0.222**	**0.232**
9+	0.000	0.272	0.000	0.299	0.320	0.000	0.000	0.287	-	**0.287**	**0.287**
Quarter: 3											
0	0.009	0.000	0.000	0.000	0.008	0.010	0.000	0.008	0.010	**0.008**	**0.008**
1	0.062	0.076	0.000	0.084	0.060	0.000	0.000	0.063	-	**0.062**	**0.063**
2	0.098	0.129	0.129	0.137	0.136	0.123	0.121	0.135	0.122	**0.128**	**0.135**
3	0.125	0.151	0.151	0.170	0.156	0.150	0.151	0.164	0.150	**0.163**	**0.164**
4	0.149	0.173	0.174	0.201	0.170	0.176	0.172	0.194	0.174	**0.193**	**0.194**
5	0.172	0.197	0.197	0.238	0.222	0.209	0.195	0.229	0.203	**0.229**	**0.229**
6	0.203	0.218	0.219	0.263	0.235	0.240	0.199	0.253	0.230	**0.253**	**0.253**
7	0.225	0.224	0.225	0.271	0.217	0.217	0.217	0.263	0.217	**0.263**	**0.263**
8	0.211	0.242	0.248	0.281	0.287	0.000	0.000	0.276	-	**0.276**	**0.276**
9+	0.000	0.272	0.000	0.312	0.352	0.000	0.000	0.306	-	**0.306**	**0.306**
Quarter: 4											
0	0.013	0.000		0.000	0.012	0.010	0.000	0.012	0.010	**0.013**	**0.012**
1	0.056	0.085		0.090	0.065	0.000	0.000	0.076	-	**0.062**	**0.076**
2	0.095	0.112		0.118	0.128	0.123	0.121	0.120	0.121	**0.120**	**0.120**
3	0.126	0.150		0.147	0.145	0.150	0.151	0.147	0.151	**0.148**	**0.148**
4	0.153	0.181		0.174	0.167	0.175	0.171	0.175	0.172	**0.172**	**0.172**
5	0.161	0.198		0.195	0.200	0.205	0.194	0.197	0.195	**0.194**	**0.196**
6	0.178	0.209		0.216	0.225	0.235	0.195	0.215	0.202	**0.210**	**0.211**
7	0.215	0.250		0.249	0.250	0.217	0.217	0.249	0.217	**0.233**	**0.234**
8	0.217	0.205		0.205	0.284	0.000	0.000	0.219	-	**0.219**	**0.220**
9+	0.000	0.000		0.273	0.335	0.000	0.000	0.288	-	**0.288**	**0.288**

Table 4.6 c: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1999. Mean length (cm) at age (rings) in the catch, by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(W)	IVb	IVc	VIId	IVa & IVb all	IVc & VIId	Herring caught in the North Sea
Quarters: 1-4										
0	**n.d.**	**0.0**	**n.d.**	**0.0**	**10.9**	**11.5**	**0.0**	**10.9**	**11.5**	**10.9**
1	**n.d.**	**21.5**	**n.d.**	**22.3**	**17.4**	**15.7**	**18.6**	**18.0**	**15.8**	**17.9**
2	**n.d.**	**23.8**	**n.d.**	**24.5**	**23.5**	**22.8**	**23.8**	**24.0**	**23.6**	**24.0**
3	**n.d.**	**25.7**	**n.d.**	**26.4**	**25.8**	**24.1**	**25.3**	**26.1**	**25.1**	**25.9**
4	**n.d.**	**26.8**	**n.d.**	**27.7**	**26.7**	**25.3**	**26.4**	**27.3**	**26.2**	**26.9**
5	**n.d.**	**28.2**	**n.d.**	**29.4**	**28.7**	**27.1**	**27.7**	**29.0**	**27.6**	**28.7**
6	**n.d.**	**29.3**	**n.d.**	**30.4**	**29.6**	**28.6**	**28.5**	**30.0**	**28.5**	**29.9**
7	**n.d.**	**29.9**	**n.d.**	**31.0**	**30.3**	**29.0**	**29.0**	**30.7**	**29.0**	**30.5**
8	**n.d.**	**30.0**	**n.d.**	**31.3**	**29.9**	**0.0**	**0.0**	**30.7**	-	**30.7**
9+	**n.d.**	**32.0**	**n.d.**	**32.0**	**33.8**	**0.0**	**0.0**	**32.0**	-	**32.0**
Quarter: 1										
0	n.d.	0.0	n.d.	0.0	0.0	0.0	0.0	-	-	**0.0**
1	n.d.	21.0	n.d.	21.7	14.1	15.7	18.6	14.2	15.8	**14.6**
2	n.d.	23.6	n.d.	23.9	19.7	20.6	20.6	21.5	20.6	**21.3**
3	n.d.	25.3	n.d.	25.7	25.3	23.3	23.3	25.4	23.3	**24.7**
4	n.d.	26.9	n.d.	27.4	27.0	24.8	24.8	27.0	24.8	**26.2**
5	n.d.	28.8	n.d.	29.2	29.2	26.5	26.5	29.0	26.5	**28.7**
6	n.d.	29.5	n.d.	29.8	29.0	28.1	28.1	29.6	28.1	**29.5**
7	n.d.	30.2	n.d.	30.2	30.4	0.0	0.0	30.2	-	**30.2**
8	n.d.	29.8	n.d.	30.2	31.9	0.0	0.0	30.0	-	**30.0**
9+	n.d.	32.0	n.d.	31.0	0.0	0.0	0.0	31.7	-	**31.7**
Quarter: 2										
0	n.d.	0.0	n.d.	0.0	0.0	0.0	0.0	-	-	**0.0**
1	n.d.	21.0	n.d.	21.5	17.8	18.6	18.6	18.0	18.6	**18.0**
2	n.d.	23.6	n.d.	23.7	21.9	20.6	20.6	23.1	20.6	**23.1**
3	n.d.	24.9	n.d.	25.3	23.8	23.3	23.3	24.8	23.3	**24.8**
4	n.d.	25.8	n.d.	26.2	25.0	24.8	24.8	25.8	24.8	**25.8**
5	n.d.	27.4	n.d.	28.7	26.6	26.5	26.5	27.7	26.5	**27.7**
6	n.d.	28.7	n.d.	30.2	28.4	28.1	28.1	29.3	28.1	**29.3**
7	n.d.	29.2	n.d.	30.7	28.4	0.0	0.0	29.8	-	**29.8**
8	n.d.	29.8	n.d.	31.4	32.3	0.0	0.0	29.9	-	**29.9**
9+	n.d.	32.0	n.d.	31.2	33.8	0.0	0.0	31.6	-	**31.6**
Quarter: 3										
0	n.d.	0.0	n.d.	0.0	10.7	11.5	0.0	10.7	11.5	**10.7**
1	n.d.	20.6	n.d.	21.8	19.7	0.0	0.0	19.9	-	**19.9**
2	n.d.	23.9	n.d.	24.7	24.5	24.2	23.9	24.5	24.1	**24.5**
3	n.d.	25.8	n.d.	26.5	25.9	25.4	25.5	26.2	25.4	**26.2**
4	n.d.	26.9	n.d.	28.0	27.3	26.1	26.4	27.8	26.3	**27.8**
5	n.d.	28.1	n.d.	29.6	29.0	27.5	27.7	29.3	27.6	**29.3**
6	n.d.	28.9	n.d.	30.5	29.6	28.8	28.5	30.2	28.7	**30.2**
7	n.d.	29.5	n.d.	31.1	30.5	29.0	29.0	30.9	29.0	**30.9**
8	n.d.	30.3	n.d.	31.5	29.9	0.0	0.0	31.0	-	**31.0**
9+	n.d.	32.0	n.d.	32.2	33.8	0.0	0.0	32.2	-	**32.2**
Quarter: 4										
0	n.d.	0.0	n.d.	0.0	12.7	11.5	0.0	12.7	11.5	**12.4**
1	n.d.	22.4	n.d.	22.6	20.4	0.0	0.0	21.3	-	**21.3**
2	n.d.	24.5	n.d.	24.8	25.0	24.1	23.9	24.8	23.9	**24.5**
3	n.d.	26.7	n.d.	26.4	26.4	25.4	25.5	26.5	25.5	**26.1**
4	n.d.	28.3	n.d.	27.8	27.7	26.2	26.5	27.9	26.5	**26.8**
5	n.d.	29.3	n.d.	28.8	28.8	27.5	27.7	29.0	27.7	**28.2**
6	n.d.	30.1	n.d.	30.2	29.9	28.8	28.5	30.1	28.6	**29.6**
7	n.d.	31.1	n.d.	31.0	31.3	29.0	29.0	31.0	29.0	**30.1**
8	n.d.	29.3	n.d.	29.3	29.9	0.0	0.0	29.4	-	**29.4**
9+	n.d.	0.0	n.d.	31.6	33.8	0.0	0.0	32.1	-	**32.1**

Table 4.6 d: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1999. Catches (tonnes, SOP figures) at age (rings), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc	VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4												
0	**6.5**	**0.0**	**0.0**	**0.0**	**0.0**	**7.9**	**0.3**	**0.0**	**7.9**	**0.3**	**14.6**	**8.2**
1	**10.1**	**0.2**	**0.0**	**0.2**	**0.5**	**2.7**	**0.2**	**0.0**	**3.4**	**0.2**	**13.6**	**3.6**
2	**11.1**	**12.1**	**0.4**	**11.6**	**22.6**	**17.9**	**1.0**	**6.3**	**52.1**	**7.3**	**70.6**	**59.9**
3	**4.3**	**25.6**	**2.1**	**23.5**	**75.6**	**35.9**	**3.2**	**17.3**	**134.9**	**20.5**	**159.8**	**157.6**
4	**1.4**	**9.1**	**0.9**	**8.2**	**22.1**	**3.8**	**2.4**	**12.5**	**34.1**	**14.8**	**50.4**	**49.9**
5	**0.8**	**6.5**	**0.7**	**5.8**	**13.6**	**2.7**	**0.7**	**4.5**	**22.1**	**5.2**	**28.1**	**28.0**
6	**0.1**	**3.6**	**0.3**	**3.2**	**9.7**	**2.0**	**0.3**	**0.8**	**14.9**	**1.0**	**16.1**	**16.3**
7	**0.2**	**1.3**	**0.1**	**1.2**	**4.5**	**0.2**	**0.0**	**0.7**	**5.9**	**0.7**	**6.9**	**6.8**
8	**0.1**	**0.6**	**0.1**	**0.5**	**1.5**	**0.5**	**0.0**	**0.0**	**2.6**	**0.0**	**2.7**	**2.7**
9+	**0.0**	**0.1**	**0.0**	**0.1**	**0.5**	**0.0**	**0.0**	**0.0**	**0.6**	**0.0**	**0.6**	**0.6**
Sum	**34.6**	**59.1**	**4.7**	**54.4**	**150.6**	**73.5**	**8.0**	**42.2**	**278.5**	**50.2**	**363.4**	**333.5**
Quarter: 1												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	2.6	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.3	0.2	**3.0**	**0.4**
2	4.9	0.8	0.0	0.8	0.5	0.7	0.2	0.1	2.0	0.3	**7.3**	**2.3**
3	1.2	3.8	0.0	3.8	1.2	0.6	1.5	0.6	5.5	2.1	**8.9**	**7.6**
4	0.1	2.1	0.0	2.1	1.1	0.3	1.1	0.5	3.5	1.6	**5.3**	**5.1**
5	0.2	1.3	0.0	1.3	1.0	0.2	0.2	0.1	2.4	0.3	**2.9**	**2.7**
6	0.0	0.8	0.0	0.8	0.7	0.1	0.0	0.0	1.7	0.1	**1.8**	**1.7**
7	0.0	0.3	0.0	0.3	0.3	0.0	0.0	0.0	0.6	0.0	**0.6**	**0.6**
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	**0.1**	**0.1**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**9.2**	**9.2**	**0.0**	**9.2**	**4.8**	**2.2**	**3.3**	**1.3**	**16.2**	**4.5**	**29.9**	**20.7**
Quarter: 2												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	1.6	0.1	0.0	0.1	0.1	1.7	0.0	0.0	1.8	0.0	**3.4**	**1.8**
2	1.3	6.1	0.2	6.0	4.2	3.9	0.0	0.0	14.1	0.0	**15.4**	**14.3**
3	0.7	7.4	0.8	6.6	6.3	2.8	0.0	0.1	15.7	0.1	**16.6**	**16.6**
4	0.1	2.9	0.5	2.4	2.2	1.0	0.0	0.1	5.6	0.1	**5.8**	**6.2**
5	0.0	2.0	0.3	1.7	1.0	0.3	0.0	0.0	3.0	0.0	**3.1**	**3.4**
6	0.0	0.9	0.1	0.8	0.7	0.0	0.0	0.0	1.5	0.0	**1.5**	**1.6**
7	0.0	0.4	0.1	0.3	0.3	0.0	0.0	0.0	0.7	0.0	**0.7**	**0.7**
8	0.0	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.2	0.0	**0.2**	**0.3**
9+	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	**0.1**	**0.1**
Sum	**3.7**	**20.1**	**2.0**	**18.1**	**14.9**	**9.7**	**0.1**	**0.2**	**42.7**	**0.3**	**46.7**	**45.0**
Quarter: 3												
0	3.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	6.7	0.0	**9.7**	**6.7**
1	4.5	0.0	0.0	0.0	0.1	0.4	0.0	0.0	0.5	0.0	**5.0**	**0.5**
2	4.5	3.5	0.3	3.2	12.6	10.5	0.0	0.0	26.3	0.1	**30.8**	**26.6**
3	1.5	6.6	1.3	5.3	52.4	22.5	0.1	0.1	80.2	0.1	**81.9**	**81.7**
4	0.5	2.6	0.5	2.1	17.0	1.5	0.1	0.0	20.7	0.1	**21.3**	**21.2**
5	0.2	2.1	0.4	1.8	10.3	1.8	0.0	0.0	13.9	0.0	**14.1**	**14.3**
6	0.1	1.0	0.2	0.8	7.3	1.6	0.0	0.0	9.7	0.0	**9.8**	**9.9**
7	0.1	0.4	0.1	0.3	3.2	0.1	0.0	0.0	3.6	0.0	**3.7**	**3.7**
8	0.0	0.3	0.1	0.2	1.4	0.5	0.0	0.0	2.1	0.0	**2.1**	**2.1**
9+	0.0	0.1	0.0	0.1	0.4	0.0	0.0	0.0	0.5	0.0	**0.5**	**0.5**
Sum	**14.4**	**16.6**	**2.7**	**13.9**	**104.7**	**45.5**	**0.2**	**0.2**	**164.1**	**0.4**	**178.9**	**167.1**
Quarter: 4												
0	3.4	0.0	0.0	0.0	0.0	1.2	0.3	0.0	1.2	0.3	**5.0**	**1.5**
1	1.3	0.1	0.0	0.1	0.4	0.4	0.0	0.0	0.9	0.0	**2.2**	**0.9**
2	0.5	1.7	0.0	1.7	5.2	2.8	0.7	6.2	9.8	6.9	**17.2**	**16.7**
3	0.8	7.7	0.0	7.7	15.7	10.0	1.6	16.6	33.5	18.2	**52.5**	**51.7**
4	0.7	1.5	0.0	1.5	1.9	0.9	1.1	11.9	4.3	13.0	**18.0**	**17.3**
5	0.4	1.1	0.0	1.1	1.3	0.4	0.4	4.4	2.8	4.8	**8.0**	**7.6**
6	0.0	0.8	0.0	0.8	1.0	0.3	0.2	0.7	2.1	1.0	**3.1**	**3.1**
7	0.1	0.3	0.0	0.3	0.6	0.0	0.0	0.7	1.0	0.7	**1.9**	**1.7**
8	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	**0.2**	**0.2**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**7.3**	**13.2**	**0.0**	**13.2**	**26.3**	**16.2**	**4.5**	**40.5**	**55.7**	**45.0**	**108.0**	**100.7**

Table 4.6 e: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1999. Percentage age composition (based on numbers, 3+ group summarised), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc	VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4												
0	**58.8%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**65.0%**	**33.0%**	**0.0%**	**34.8%**	**8.8%**	**38.4%**	**31.3%**
1	**22.7%**	**0.6%**	**0.0%**	**0.6%**	**0.7%**	**4.2%**	**4.6%**	**0.1%**	**2.5%**	**1.3%**	**7.4%**	**2.4%**
2	**13.0%**	**24.5%**	**11.3%**	**25.6%**	**19.8%**	**10.6%**	**10.2%**	**19.1%**	**15.6%**	**16.7%**	**15.1%**	**15.7%**
3	**3.8%**	**45.3%**	**48.8%**	**45.0%**	**52.7%**	**16.8%**	**28.8%**	**42.7%**	**32.5%**	**39.0%**	**25.9%**	**33.4%**
4	**1.0%**	**14.2%**	**19.1%**	**13.8%**	**13.0%**	**1.7%**	**18.1%**	**27.1%**	**7.1%**	**24.7%**	**7.2%**	**9.3%**
5	**0.5%**	**8.6%**	**12.4%**	**8.3%**	**6.8%**	**0.9%**	**3.9%**	**8.4%**	**3.8%**	**7.2%**	**3.3%**	**4.3%**
6	**0.1%**	**4.3%**	**4.9%**	**4.3%**	**4.4%**	**0.6%**	**1.3%**	**1.4%**	**2.4%**	**1.4%**	**1.7%**	**2.3%**
7	**0.1%**	**1.5%**	**1.9%**	**1.5%**	**2.0%**	**0.1%**	**0.1%**	**1.2%**	**0.9%**	**0.9%**	**0.7%**	**0.9%**
8	**0.0%**	**0.7%**	**1.5%**	**0.6%**	**0.6%**	**0.1%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.2%**	**0.3%**
9+	**0.0%**	**0.1%**	**0.0%**	**0.1%**	**0.2%**	**0.0%**	**0.0%**	**0.0%**	**0.1%**	**0.0%**	**0.1%**	**0.1%**
Sum 3+	**5.5%**	**74.9%**	**88.7%**	**73.8%**	**79.6%**	**20.2%**	**52.2%**	**80.8%**	**47.1%**	**73.2%**	**39.1%**	**50.6%**
Quarter: 1												
0	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	55.2%	0.2%	-	0.2%	0.5%	36.8%	12.0%	0.9%	10.2%	9.0%	**32.2%**	**9.9%**
2	36.4%	9.6%	-	9.6%	13.7%	36.8%	9.6%	10.8%	17.9%	9.9%	**25.9%**	**15.7%**
3	6.8%	48.1%	-	48.1%	28.0%	13.8%	44.8%	50.5%	34.1%	46.3%	**22.4%**	**37.6%**
4	0.7%	22.4%	-	22.4%	22.7%	6.8%	28.7%	32.3%	18.2%	29.7%	**11.2%**	**21.4%**
5	0.7%	10.7%	-	10.7%	17.4%	3.0%	4.1%	4.6%	10.2%	4.2%	**4.6%**	**8.5%**
6	0.1%	6.7%	-	6.7%	11.9%	2.2%	0.8%	0.9%	6.7%	0.8%	**2.6%**	**5.0%**
7	0.0%	2.0%	-	2.0%	5.3%	0.6%	0.0%	0.0%	2.4%	0.0%	**0.9%**	**1.7%**
8	0.1%	0.2%	-	0.2%	0.6%	0.0%	0.0%	0.0%	0.2%	0.0%	**0.1%**	**0.2%**
9+	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Sum 3+	**8.3%**	**90.2%**	-	**90.2%**	**85.8%**	**26.4%**	**78.4%**	**88.3%**	**71.8%**	**81.1%**	**41.9%**	**74.4%**
Quarter: 2												
0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	57.0%	0.7%	0.0%	0.8%	0.9%	32.1%	0.9%	0.9%	10.9%	0.9%	**17.8%**	**10.4%**
2	27.6%	35.5%	9.8%	38.1%	34.7%	37.2%	10.8%	10.8%	36.8%	10.8%	**35.2%**	**35.5%**
3	13.0%	37.6%	44.3%	36.9%	42.3%	21.6%	50.5%	50.5%	33.6%	50.5%	**30.7%**	**34.1%**
4	1.5%	13.2%	23.3%	12.2%	13.0%	7.1%	32.3%	32.3%	10.8%	32.3%	**9.6%**	**11.5%**
5	0.6%	7.8%	13.8%	7.2%	4.8%	1.6%	4.6%	4.6%	4.7%	4.6%	**4.1%**	**5.0%**
6	0.2%	3.0%	5.3%	2.8%	2.7%	0.2%	0.9%	0.9%	1.9%	0.9%	**1.7%**	**2.1%**
7	0.1%	1.2%	2.0%	1.1%	1.3%	0.1%	0.0%	0.0%	0.8%	0.0%	**0.7%**	**0.9%**
8	0.0%	0.8%	1.4%	0.8%	0.1%	0.0%	0.0%	0.0%	0.3%	0.0%	**0.3%**	**0.4%**
9+	0.0%	0.2%	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	**0.1%**	**0.1%**
Sum 3+	**15.4%**	**63.8%**	**90.2%**	**61.1%**	**64.4%**	**30.7%**	**88.3%**	**88.3%**	**52.3%**	**88.3%**	**47.1%**	**54.0%**
Quarter: 3												
0	70.9%	0.0%	0.0%	0.0%	0.0%	76.7%	32.3%	0.0%	47.6%	21.3%	**52.5%**	**47.1%**
1	15.6%	0.2%	0.0%	0.3%	0.1%	0.6%	0.0%	0.0%	0.4%	0.0%	**3.6%**	**0.4%**
2	9.7%	25.8%	12.5%	28.3%	16.1%	7.1%	16.2%	20.1%	11.1%	17.5%	**10.8%**	**11.1%**
3	2.6%	41.9%	52.3%	39.9%	53.7%	13.3%	27.1%	42.0%	27.9%	32.2%	**22.6%**	**28.2%**
4	0.8%	14.4%	16.0%	14.1%	14.7%	0.8%	16.3%	26.4%	6.1%	19.7%	**5.0%**	**6.2%**
5	0.2%	10.4%	11.3%	10.2%	7.5%	0.8%	5.4%	8.6%	3.4%	6.5%	**2.8%**	**3.5%**
6	0.1%	4.3%	4.6%	4.2%	4.8%	0.6%	2.7%	1.7%	2.2%	2.4%	**1.7%**	**2.2%**
7	0.1%	1.6%	1.8%	1.6%	2.1%	0.0%	0.0%	1.2%	0.8%	0.4%	**0.6%**	**0.8%**
8	0.0%	1.2%	1.5%	1.1%	0.8%	0.1%	0.0%	0.0%	0.4%	0.0%	**0.3%**	**0.4%**
9+	0.0%	0.2%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	**0.1%**	**0.1%**
Sum 3+	**3.8%**	**74.0%**	**87.5%**	**71.4%**	**83.8%**	**15.7%**	**51.5%**	**79.9%**	**40.9%**	**61.2%**	**33.1%**	**41.4%**
Quarter: 4												
0	86.1%	0.0%	-	0.0%	0.0%	48.7%	55.1%	0.0%	21.3%	10.2%	**36.2%**	**16.9%**
1	7.8%	1.1%	-	1.1%	2.2%	3.1%	0.0%	0.0%	2.4%	0.0%	**3.2%**	**1.4%**
2	1.6%	17.3%	-	17.3%	24.5%	10.7%	10.3%	19.7%	17.1%	17.9%	**13.0%**	**17.5%**
3	2.1%	59.6%	-	59.6%	59.2%	33.2%	18.2%	42.2%	47.9%	37.7%	**32.2%**	**43.8%**
4	1.4%	9.3%	-	9.3%	6.1%	2.7%	11.1%	26.7%	5.2%	23.8%	**9.5%**	**12.7%**
5	0.7%	6.2%	-	6.2%	3.7%	1.0%	3.7%	8.7%	3.0%	7.8%	**3.7%**	**4.9%**
6	0.0%	4.6%	-	4.6%	2.5%	0.6%	1.5%	1.5%	2.1%	1.5%	**1.3%**	**1.8%**
7	0.2%	1.5%	-	1.5%	1.4%	0.1%	0.1%	1.3%	0.8%	1.1%	**0.7%**	**0.9%**
8	0.1%	0.3%	-	0.3%	0.3%	0.1%	0.0%	0.0%	0.2%	0.0%	**0.1%**	**0.1%**
9+	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Sum 3+	**4.5%**	**81.6%**	-	**81.6%**	**73.2%**	**37.6%**	**34.6%**	**80.3%**	**59.1%**	**71.9%**	**47.6%**	**64.3%**

Table 4.7 a: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caugh in the North Sea 2000. Catch in numbers (millions) at age (rings), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBBS	IVa(E) NSAS only	IVa(W)	IVb	IVc	VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4												
0	**232.5**	**0.1**	**0.0**	**0.1**	**0.7**	**857.6**	**14.2**	**0.0**	**858.4**	**14.2**	**1105.1**	**872.6**
1	**977.9**	**6.6**	**0.0**	**6.6**	**94.7**	**83.6**	**9.0**	**0.0**	**184.8**	**9.0**	**1171.7**	**193.8**
2	**114.7**	**76.1**	**8.2**	**68.0**	**238.4**	**105.8**	**13.9**	**82.1**	**412.2**	**95.9**	**622.9**	**516.3**
3	**19.8**	**78.1**	**9.8**	**68.3**	**204.4**	**120.3**	**8.8**	**41.6**	**393.0**	**50.4**	**463.2**	**453.1**
4	**21.4**	**92.9**	**10.2**	**82.6**	**338.0**	**99.5**	**15.4**	**90.0**	**520.1**	**105.3**	**646.8**	**635.6**
5	**6.9**	**43.9**	**5.7**	**38.2**	**84.4**	**24.3**	**5.7**	**54.0**	**146.9**	**59.7**	**213.5**	**212.2**
6	**3.2**	**15.1**	**2.5**	**12.7**	**37.2**	**4.1**	**3.1**	**22.1**	**54.0**	**25.3**	**82.5**	**81.8**
7	**0.6**	**4.2**	**0.6**	**3.6**	**17.0**	**7.2**	**1.1**	**6.2**	**27.8**	**7.3**	**35.7**	**35.7**
8	**0.0**	**4.4**	**0.7**	**3.7**	**8.3**	**2.6**	**0.0**	**0.0**	**14.6**	**0.0**	**14.6**	**15.3**
9+	**0.0**	**0.7**	**0.1**	**0.6**	**1.9**	**0.0**	**0.0**	**0.0**	**2.5**	**0.0**	**2.5**	**2.6**
Sum	**1377.0**	**321.9**	**37.6**	**284.3**	**1024.9**	**1305.1**	**71.2**	**295.9**	**2614.3**	**367.1**	**4358.3**	**3019.0**
Quarter: 1												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	543.0	0.0	0.0	0.0	0.0	7.8	8.9	0.0	7.8	8.9	**559.7**	**16.7**
2	43.1	0.3	0.0	0.3	0.0	3.3	11.7	1.7	3.6	13.4	**60.1**	**17.0**
3	9.7	4.5	0.0	4.5	5.5	1.8	6.7	1.6	11.8	8.3	**29.8**	**20.1**
4	1.9	9.1	0.0	9.1	21.1	3.4	13.5	2.1	33.6	15.6	**51.1**	**49.2**
5	0.9	3.9	0.0	3.9	3.3	1.8	4.4	1.8	9.0	6.2	**16.1**	**15.2**
6	1.1	0.0	0.0	0.0	1.6	0.0	2.7	0.9	1.6	3.7	**6.4**	**5.3**
7	0.2	0.0	0.0	0.0	0.0	0.0	1.1	0.1	0.0	1.2	**1.4**	**1.2**
8	0.0	0.4	0.0	0.4	0.2	0.0	0.0	0.0	0.5	0.0	**0.6**	**0.5**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**599.9**	**18.3**	**0.0**	**18.3**	**31.6**	**18.0**	**49.1**	**8.3**	**67.9**	**57.4**	**725.1**	**125.2**
Quarter: 2												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	75.9	3.2	0.0	3.2	12.1	41.2	0.0	0.0	56.6	0.0	**132.6**	**56.6**
2	1.8	48.8	0.9	47.8	63.0	39.3	0.1	0.0	150.1	0.1	**152.1**	**151.2**
3	2.6	42.4	2.5	40.0	51.0	5.4	0.0	0.0	96.4	0.1	**99.1**	**99.0**
4	0.0	42.9	1.8	41.1	52.4	1.9	0.1	0.1	95.4	0.1	**95.6**	**97.4**
5	0.0	15.8	0.7	15.1	12.6	0.5	0.0	0.0	28.2	0.1	**28.3**	**28.9**
6	0.0	4.9	0.2	4.7	5.3	0.3	0.0	0.0	10.4	0.0	**10.4**	**10.6**
7	0.0	1.0	0.0	0.9	1.1	0.0	0.0	0.0	2.0	0.0	**2.0**	**2.0**
8	0.0	0.6	0.0	0.6	0.4	0.0	0.0	0.0	1.0	0.0	**1.0**	**1.1**
9+	0.0	0.3	0.0	0.3	0.4	0.0	0.0	0.0	0.7	0.0	**0.7**	**0.8**
Sum	**80.3**	**160.0**	**6.1**	**153.9**	**198.4**	**88.7**	**0.3**	**0.2**	**440.9**	**0.5**	**521.8**	**447.6**
Quarter: 3												
0	93.3	0.1	0.0	0.1	0.0	601.3	4.2	0.0	601.4	4.2	**698.9**	**605.6**
1	242.4	2.8	0.0	2.8	53.6	32.0	0.1	0.0	88.4	0.1	**330.9**	**88.5**
2	59.1	22.1	7.2	14.8	132.9	50.7	0.0	0.1	198.5	0.2	**257.7**	**205.9**
3	5.9	24.4	7.3	17.1	102.6	96.0	0.0	0.1	215.6	0.1	**221.7**	**223.0**
4	6.9	29.9	8.4	21.4	194.9	77.0	0.0	0.2	293.3	0.2	**300.4**	**302.0**
5	2.1	17.7	5.0	12.7	56.7	17.1	0.0	0.1	86.5	0.1	**88.7**	**91.6**
6	0.3	8.0	2.3	5.7	25.7	2.4	0.0	0.0	33.8	0.0	**34.2**	**36.1**
7	0.1	2.0	0.6	1.4	14.1	6.2	0.0	0.0	21.8	0.0	**21.9**	**22.4**
8	0.0	2.2	0.6	1.6	6.9	2.3	0.0	0.0	10.8	0.0	**10.8**	**11.4**
9+	0.0	0.4	0.1	0.3	1.4	0.0	0.0	0.0	1.7	0.0	**1.7**	**1.8**
Sum	**410.1**	**109.4**	**31.5**	**77.8**	**588.8**	**885.1**	**4.4**	**0.5**	**1551.8**	**4.9**	**1966.8**	**1588.2**
Quarter: 4												
0	139.2	0.0	0.0	0.0	0.7	256.3	10.0	0.0	257.0	10.0	**406.2**	**267.0**
1	116.6	0.5	0.0	0.5	28.9	2.5	0.0	0.0	32.0	0.0	**148.6**	**32.0**
2	10.7	5.0	0.0	5.0	42.5	12.5	2.0	80.2	60.0	82.2	**153.0**	**142.2**
3	1.6	6.8	0.0	6.8	45.3	17.1	2.0	39.9	69.2	41.9	**112.7**	**111.0**
4	12.6	11.0	0.0	11.0	69.5	17.2	1.7	87.6	97.7	89.3	**199.6**	**187.1**
5	3.9	6.5	0.0	6.5	11.8	5.0	1.3	52.0	23.2	53.3	**80.4**	**76.5**
6	1.7	2.1	0.0	2.1	4.7	1.4	0.4	21.1	8.3	21.5	**31.5**	**29.8**
7	0.3	1.3	0.0	1.3	1.8	1.0	0.0	6.0	4.0	6.1	**10.4**	**10.1**
8	0.0	1.1	0.0	1.1	0.9	0.2	0.0	0.0	2.2	0.0	**2.2**	**2.2**
9+	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	**0.1**	**0.1**
Sum	**286.7**	**34.3**	**0.0**	**34.3**	**206.1**	**313.3**	**17.5**	**286.9**	**553.7**	**304.3**	**1144.7**	**858.0**

Table 4.7 b: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 2000. Mean weight (kg) at age (rings) in the catch (WECA), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(W)	IVb	IVc	VIId	IVa & IVb all	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**0.021**	**0.014**	**0.000**	**0.014**	**0.013**	**0.014**	**0.000**	**0.013**	**0.014**	**0.015**	**0.013**
1	**0.028**	**0.067**	**0.000**	**0.071**	**0.042**	**0.015**	**0.000**	**0.058**	**0.015**	**0.033**	**0.056**
2	**0.076**	**0.130**	**0.141**	**0.127**	**0.118**	**0.078**	**0.111**	**0.125**	**0.106**	**0.113**	**0.122**
3	**0.103**	**0.154**	**0.165**	**0.159**	**0.173**	**0.108**	**0.138**	**0.162**	**0.133**	**0.157**	**0.159**
4	**0.162**	**0.172**	**0.184**	**0.187**	**0.194**	**0.118**	**0.155**	**0.185**	**0.150**	**0.179**	**0.180**
5	**0.190**	**0.195**	**0.207**	**0.214**	**0.224**	**0.139**	**0.184**	**0.210**	**0.180**	**0.201**	**0.202**
6	**0.184**	**0.202**	**0.202**	**0.237**	**0.229**	**0.151**	**0.200**	**0.227**	**0.194**	**0.216**	**0.217**
7	**0.186**	**0.218**	**0.218**	**0.271**	**0.251**	**0.149**	**0.213**	**0.258**	**0.203**	**0.246**	**0.247**
8	**0.177**	**0.261**	**0.265**	**0.293**	**0.240**	**0.000**	**0.000**	**0.275**	**-**	**0.275**	**0.275**
9+	**0.000**	**0.256**	**0.276**	**0.265**	**0.268**	**0.000**	**0.000**	**0.263**	**-**	**0.262**	**0.263**
Quarter: 1											
0	0.000	0.000		0.000	0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.014	0.064		0.000	0.029	0.015	0.000	0.029	0.015	**0.014**	**0.022**
2	0.054	0.124		0.000	0.044	0.068	0.086	0.050	0.071	**0.058**	**0.066**
3	0.092	0.129		0.121	0.129	0.095	0.100	0.125	0.096	**0.106**	**0.113**
4	0.139	0.141		0.130	0.141	0.112	0.116	0.134	0.112	**0.128**	**0.127**
5	0.196	0.172		0.137	0.172	0.122	0.126	0.159	0.123	**0.147**	**0.145**
6	0.188	0.191		0.166	0.000	0.143	0.135	0.166	0.141	**0.156**	**0.149**
7	0.220	0.227		0.000	0.000	0.147	0.140	0.227	0.146	**0.157**	**0.146**
8	0.214	0.190		0.190	0.000	0.000	0.000	0.190	-	**0.191**	**0.190**
9+	0.000	0.227		0.000	0.000	0.000	0.000	0.227	-	**0.227**	**0.227**
Quarter: 2											
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.024	0.067	0.000	0.080	0.027	0.015	0.000	0.040	0.015	**0.031**	**0.040**
2	0.042	0.123	0.124	0.121	0.084	0.077	0.083	0.112	0.079	**0.111**	**0.112**
3	0.076	0.144	0.144	0.150	0.134	0.099	0.099	0.147	0.099	**0.145**	**0.147**
4	0.000	0.163	0.163	0.172	0.150	0.115	0.115	0.167	0.115	**0.167**	**0.167**
5	0.000	0.169	0.169	0.172	0.188	0.124	0.124	0.170	0.124	**0.170**	**0.170**
6	0.000	0.191	0.191	0.202	0.183	0.138	0.138	0.196	0.138	**0.196**	**0.196**
7	0.000	0.227	0.227	0.255	0.232	0.142	0.142	0.241	0.142	**0.241**	**0.241**
8	0.000	0.217	0.217	0.251	0.215	0.000	0.000	0.230	-	**0.231**	**0.230**
9+	0.000	0.227	0.227	0.251	0.242	0.000	0.000	0.241	-	**0.241**	**0.241**
Quarter: 3											
0	0.018	0.014	0.000	0.014	0.012	0.012	0.000	0.012	0.012	**0.013**	**0.012**
1	0.049	0.064	0.000	0.072	0.062	0.037	0.000	0.068	0.037	**0.054**	**0.068**
2	0.090	0.143	0.143	0.128	0.144	0.115	0.115	0.133	0.115	**0.123**	**0.133**
3	0.126	0.172	0.172	0.169	0.177	0.141	0.141	0.173	0.141	**0.172**	**0.173**
4	0.151	0.188	0.188	0.205	0.200	0.159	0.159	0.202	0.159	**0.201**	**0.202**
5	0.176	0.212	0.212	0.234	0.234	0.188	0.188	0.230	0.188	**0.230**	**0.230**
6	0.173	0.203	0.203	0.254	0.239	0.203	0.203	0.242	0.203	**0.244**	**0.242**
7	0.142	0.217	0.217	0.278	0.255	0.214	0.214	0.266	0.214	**0.267**	**0.266**
8	0.000	0.267	0.267	0.308	0.241	0.000	0.000	0.286	-	**0.287**	**0.286**
9+	0.000	0.282	0.282	0.268	0.273	0.000	0.000	0.271	-	**0.270**	**0.271**
Quarter: 4											
0	0.000	0.014		0.014	0.015	0.015	0.000	0.015	0.015	**0.018**	**0.015**
1	0.014	0.089		0.066	0.092	0.048	0.000	0.068	0.048	**0.056**	**0.068**
2	0.054	0.140		0.135	0.138	0.131	0.112	0.136	0.112	**0.120**	**0.122**
3	0.092	0.162		0.153	0.166	0.153	0.139	0.157	0.140	**0.150**	**0.151**
4	0.139	0.189		0.166	0.184	0.169	0.156	0.171	0.156	**0.165**	**0.164**
5	0.196	0.229		0.180	0.211	0.194	0.186	0.201	0.186	**0.191**	**0.191**
6	0.188	0.222		0.205	0.222	0.207	0.203	0.212	0.203	**0.204**	**0.205**
7	0.220	0.213		0.227	0.226	0.214	0.214	0.222	0.214	**0.216**	**0.217**
8	0.214	0.299		0.218	0.240	0.000	0.000	0.260	-	**0.259**	**0.260**
9+	0.000	0.000		0.304	0.000	0.000	0.000	0.304	-	**0.304**	**0.304**

Table 4.7 c: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 1995. Mean length (cm) at age (rings) in the catch, by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(W)	IVb	IVc	VIId	IVa & IVb all	IVc & VIId	Herring caught in the North Sea
Quarters: 1-4										
0	**n.d.**	**11.5**	**n.d.**	**11.5**	**15.1**	**14.2**	**0.0**	**15.1**	**14.2**	**15.1**
1	**n.d.**	**20.7**	**n.d.**	**21.1**	**18.2**	**13.4**	**0.0**	**19.8**	**13.4**	**19.5**
2	**n.d.**	**24.1**	**n.d.**	**24.5**	**23.8**	**21.7**	**23.9**	**24.3**	**23.6**	**24.1**
3	**n.d.**	**25.6**	**n.d.**	**26.4**	**26.9**	**24.3**	**25.3**	**26.4**	**25.1**	**26.2**
4	**n.d.**	**26.8**	**n.d.**	**27.7**	**27.9**	**25.5**	**26.4**	**27.6**	**26.3**	**27.4**
5	**n.d.**	**27.7**	**n.d.**	**28.6**	**29.1**	**26.5**	**27.4**	**28.5**	**27.3**	**28.1**
6	**n.d.**	**28.3**	**n.d.**	**29.8**	**29.6**	**27.7**	**27.9**	**29.4**	**27.9**	**28.9**
7	**n.d.**	**29.7**	**n.d.**	**31.1**	**30.5**	**27.5**	**28.5**	**30.7**	**28.4**	**30.3**
8	**n.d.**	**30.9**	**n.d.**	**31.8**	**31.9**	**0.0**	**0.0**	**31.6**	**-**	**31.6**
9+	**n.d.**	**30.6**	**n.d.**	**31.0**	**31.1**	**0.0**	**0.0**	**30.9**	**-**	**30.9**
Quarter: 1										
0	n.d.	0.0	n.d.	0.0	0.0	0.0	0.0	-	-	**0.0**
1	n.d.	19.2	n.d.	0.0	16.4	13.2	0.0	16.4	13.2	**14.7**
2	n.d.	23.7	n.d.	0.0	18.6	21.3	23.0	19.0	21.5	**21.0**
3	n.d.	26.6	n.d.	25.6	26.7	24.0	24.3	26.1	24.1	**25.3**
4	n.d.	27.4	n.d.	26.4	27.4	25.4	25.6	26.7	25.4	**26.3**
5	n.d.	29.1	n.d.	26.7	29.1	26.2	26.5	28.2	26.3	**27.4**
6	n.d.	27.7	n.d.	28.5	0.0	27.7	27.5	28.5	27.7	**27.9**
7	n.d.	29.1	n.d.	0.0	0.0	27.4	28.0	29.1	27.5	**27.5**
8	n.d.	30.5	n.d.	30.5	0.0	0.0	0.0	30.5	-	**30.5**
9+	n.d.	30.0	n.d.	0.0	0.0	0.0	0.0	30.0	-	**30.0**
Quarter: 2										
0	n.d.	0.0	n.d.	0.0	0.0	0.0	0.0	-	-	**0.0**
1	n.d.	19.6	n.d.	21.2	12.0	13.2	0.0	14.4	13.2	**14.4**
2	n.d.	23.7	n.d.	23.8	21.6	22.0	22.7	23.2	22.3	**23.2**
3	n.d.	25.0	n.d.	25.5	24.7	24.2	24.2	25.2	24.2	**25.2**
4	n.d.	26.1	n.d.	26.6	25.9	25.5	25.5	26.4	25.5	**26.4**
5	n.d.	26.4	n.d.	26.7	26.9	26.4	26.4	26.5	26.4	**26.5**
6	n.d.	27.7	n.d.	28.3	28.1	27.6	27.6	28.0	27.6	**28.0**
7	n.d.	29.1	n.d.	30.4	29.3	27.8	27.8	29.8	27.8	**29.7**
8	n.d.	29.6	n.d.	30.5	29.4	0.0	0.0	30.0	-	**30.0**
9+	n.d.	30.0	n.d.	30.6	30.4	0.0	0.0	30.4	-	**30.4**
Quarter: 3										
0	n.d.	11.5	n.d.	11.5	15.8	15.8	0.0	15.8	15.8	**15.8**
1	n.d.	21.4	n.d.	20.8	26.3	33.5	0.0	22.8	33.5	**22.8**
2	n.d.	24.6	n.d.	24.4	25.4	24.0	24.0	24.7	24.0	**24.7**
3	n.d.	26.0	n.d.	26.5	27.0	25.3	25.3	26.7	25.3	**26.7**
4	n.d.	27.0	n.d.	28.1	28.0	26.5	26.5	27.9	26.5	**27.9**
5	n.d.	28.0	n.d.	29.2	29.2	27.4	27.4	29.0	27.4	**29.0**
6	n.d.	28.2	n.d.	30.2	29.9	27.8	27.8	29.7	27.8	**29.7**
7	n.d.	29.8	n.d.	31.2	30.6	28.6	28.6	30.9	28.6	**30.9**
8	n.d.	30.8	n.d.	31.9	31.9	0.0	0.0	31.7	-	**31.7**
9+	n.d.	31.2	n.d.	31.1	31.2	0.0	0.0	31.1	-	**31.1**
Quarter: 4										
0	n.d.	11.5	n.d.	11.5	13.6	13.6	0.0	13.6	13.6	**13.6**
1	n.d.	23.0	n.d.	21.6	22.7	19.5	0.0	21.7	19.5	**21.7**
2	n.d.	26.3	n.d.	26.0	25.5	24.3	23.9	25.9	23.9	**24.8**
3	n.d.	27.5	n.d.	27.1	27.0	25.3	25.3	27.1	25.3	**26.4**
4	n.d.	28.4	n.d.	27.8	27.8	26.6	26.4	27.9	26.4	**27.2**
5	n.d.	29.5	n.d.	28.6	28.9	27.4	27.4	28.9	27.4	**27.9**
6	n.d.	30.2	n.d.	29.7	29.5	27.5	27.9	29.8	27.9	**28.4**
7	n.d.	30.0	n.d.	30.2	29.8	28.6	28.6	30.1	28.6	**29.2**
8	n.d.	32.1	n.d.	31.5	31.9	0.0	0.0	31.8	-	**31.8**
9+	n.d.	0.0	n.d.	32.7	0.0	0.0	0.0	32.7	-	**32.7**

Table 4.7 d: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 2000. Catches (tonnes, SOP figures) at age (rings), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc	VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4												
0	**4.9**	**0.0**	**0.0**	**0.0**	**0.0**	**11.1**	**0.2**	**0.0**	**11.1**	**0.2**	**16.2**	**11.3**
1	**27.5**	**0.4**	**0.0**	**0.4**	**6.7**	**3.5**	**0.1**	**0.0**	**10.7**	**0.1**	**38.3**	**10.9**
2	**8.7**	**9.9**	**1.1**	**8.7**	**30.3**	**12.5**	**1.1**	**9.1**	**51.5**	**10.2**	**70.4**	**62.8**
3	**2.0**	**12.0**	**1.6**	**10.4**	**32.6**	**20.8**	**1.0**	**5.7**	**63.7**	**6.7**	**72.5**	**72.0**
4	**3.5**	**16.0**	**1.9**	**14.1**	**63.1**	**19.3**	**1.8**	**14.0**	**96.5**	**15.8**	**115.7**	**114.1**
5	**1.3**	**8.6**	**1.2**	**7.4**	**18.0**	**5.4**	**0.8**	**9.9**	**30.9**	**10.7**	**42.9**	**42.8**
6	**0.6**	**3.1**	**0.5**	**2.6**	**8.8**	**0.9**	**0.5**	**4.4**	**12.3**	**4.9**	**17.8**	**17.7**
7	**0.1**	**0.9**	**0.1**	**0.8**	**4.6**	**1.8**	**0.2**	**1.3**	**7.2**	**1.5**	**8.8**	**8.8**
8	**0.0**	**1.1**	**0.2**	**1.0**	**2.4**	**0.6**	**0.0**	**0.0**	**4.0**	**0.0**	**4.0**	**4.2**
9+	**0.0**	**0.2**	**0.0**	**0.1**	**0.5**	**0.0**	**0.0**	**0.0**	**0.6**	**0.0**	**0.6**	**0.7**
Sum	**48.6**	**52.2**	**6.6**	**45.5**	**167.1**	**76.0**	**5.6**	**44.5**	**288.6**	**50.1**	**387.2**	**345.3**
Quarter: 1												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	7.6	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.2	0.1	**8.0**	**0.4**
2	2.3	0.0	0.0	0.0	0.0	0.1	0.8	0.1	0.2	0.9	**3.5**	**1.1**
3	0.9	0.6	0.0	0.6	0.7	0.2	0.6	0.2	1.5	0.8	**3.2**	**2.3**
4	0.3	1.3	0.0	1.3	2.7	0.5	1.5	0.2	4.5	1.8	**6.5**	**6.3**
5	0.2	0.7	0.0	0.7	0.5	0.3	0.5	0.2	1.4	0.8	**2.4**	**2.2**
6	0.2	0.0	0.0	0.0	0.3	0.0	0.4	0.1	0.3	0.5	**1.0**	**0.8**
7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	**0.2**	**0.2**
8	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	**0.1**	**0.1**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**11.5**	**2.7**	**0.0**	**2.7**	**4.2**	**1.4**	**4.2**	**0.9**	**8.2**	**5.1**	**24.8**	**13.3**
Quarter: 2												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	1.8	0.2	0.0	0.2	1.0	1.1	0.0	0.0	2.3	0.0	**4.1**	**2.3**
2	0.1	6.0	0.1	5.9	7.6	3.3	0.0	0.0	16.8	0.0	**16.9**	**16.9**
3	0.2	6.1	0.4	5.8	7.6	0.7	0.0	0.0	14.1	0.0	**14.3**	**14.5**
4	0.0	7.0	0.3	6.7	9.0	0.3	0.0	0.0	16.0	0.0	**16.0**	**16.3**
5	0.0	2.7	0.1	2.5	2.2	0.1	0.0	0.0	4.8	0.0	**4.8**	**4.9**
6	0.0	0.9	0.0	0.9	1.1	0.1	0.0	0.0	2.0	0.0	**2.0**	**2.1**
7	0.0	0.2	0.0	0.2	0.3	0.0	0.0	0.0	0.5	0.0	**0.5**	**0.5**
8	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	**0.2**	**0.2**
9+	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	**0.2**	**0.2**
Sum	**2.1**	**23.4**	**0.9**	**22.4**	**28.9**	**5.6**	**0.0**	**0.0**	**56.9**	**0.1**	**59.1**	**57.9**
Quarter: 3												
0	1.7	0.0	0.0	0.0	0.0	7.2	0.1	0.0	7.2	0.1	**8.9**	**7.3**
1	11.9	0.2	0.0	0.2	3.9	2.0	0.0	0.0	6.0	0.0	**17.9**	**6.0**
2	5.3	3.2	1.0	2.1	17.0	7.3	0.0	0.0	26.4	0.0	**31.7**	**27.4**
3	0.7	4.2	1.3	2.9	17.3	17.0	0.0	0.0	37.3	0.0	**38.0**	**38.5**
4	1.0	5.6	1.6	4.0	39.9	15.4	0.0	0.0	59.3	0.0	**60.3**	**60.9**
5	0.4	3.7	1.1	2.7	13.3	4.0	0.0	0.0	20.0	0.0	**20.4**	**21.0**
6	0.1	1.6	0.5	1.2	6.5	0.6	0.0	0.0	8.3	0.0	**8.3**	**8.7**
7	0.0	0.4	0.1	0.3	3.9	1.6	0.0	0.0	5.8	0.0	**5.8**	**6.0**
8	0.0	0.6	0.2	0.4	2.1	0.6	0.0	0.0	3.1	0.0	**3.1**	**3.3**
9+	0.0	0.1	0.0	0.1	0.4	0.0	0.0	0.0	0.4	0.0	**0.4**	**0.5**
Sum	**21.1**	**19.7**	**5.7**	**13.9**	**104.3**	**55.6**	**0.1**	**0.1**	**173.8**	**0.1**	**195.0**	**179.6**
Quarter: 4												
0	0.0	0.0	0.0	0.0	0.0	3.8	0.2	0.0	3.9	0.2	**4.0**	**4.0**
1	1.6	0.0	0.0	0.0	1.9	0.2	0.0	0.0	2.2	0.0	**3.8**	**2.2**
2	0.6	0.7	0.0	0.7	5.7	1.7	0.3	8.9	8.1	9.2	**17.9**	**17.4**
3	0.1	1.1	0.0	1.1	6.9	2.9	0.3	5.5	10.9	5.8	**16.9**	**16.7**
4	1.7	2.1	0.0	2.1	11.5	3.2	0.3	13.7	16.8	14.0	**32.5**	**30.7**
5	0.8	1.5	0.0	1.5	2.1	1.1	0.2	9.7	4.7	9.9	**15.4**	**14.6**
6	0.3	0.5	0.0	0.5	1.0	0.3	0.1	4.3	1.8	4.4	**6.4**	**6.1**
7	0.1	0.3	0.0	0.3	0.4	0.2	0.0	1.3	0.9	1.3	**2.3**	**2.2**
8	0.0	0.3	0.0	0.3	0.2	0.1	0.0	0.0	0.6	0.0	**0.6**	**0.6**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**5.3**	**6.5**	**0.0**	**6.5**	**29.8**	**13.5**	**1.3**	**43.4**	**49.7**	**44.8**	**99.8**	**94.5**

Table 4.7 e: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 2000. Percentage age composition (based on numbers, 3+ group summarised), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc	VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4												
0	**16.9%**	**0.0%**	**0.0%**	**0.0%**	**0.1%**	**65.7%**	**20.0%**	**0.0%**	**32.8%**	**3.9%**	**25.4%**	**28.9%**
1	**71.0%**	**2.0%**	**0.0%**	**2.3%**	**9.2%**	**6.4%**	**12.6%**	**0.0%**	**7.1%**	**2.5%**	**26.9%**	**6.4%**
2	**8.3%**	**23.6%**	**21.7%**	**23.9%**	**23.3%**	**8.1%**	**19.5%**	**27.7%**	**15.8%**	**26.1%**	**14.3%**	**17.1%**
3	**1.4%**	**24.2%**	**25.9%**	**24.0%**	**19.9%**	**9.2%**	**12.3%**	**14.0%**	**15.0%**	**13.7%**	**10.6%**	**15.0%**
4	**1.6%**	**28.8%**	**27.2%**	**29.1%**	**33.0%**	**7.6%**	**21.6%**	**30.4%**	**19.9%**	**28.7%**	**14.8%**	**21.1%**
5	**0.5%**	**13.6%**	**15.0%**	**13.4%**	**8.2%**	**1.9%**	**8.0%**	**18.2%**	**5.6%**	**16.3%**	**4.9%**	**7.0%**
6	**0.2%**	**4.7%**	**6.6%**	**4.4%**	**3.6%**	**0.3%**	**4.4%**	**7.5%**	**2.1%**	**6.9%**	**1.9%**	**2.7%**
7	**0.0%**	**1.3%**	**1.6%**	**1.3%**	**1.7%**	**0.6%**	**1.6%**	**2.1%**	**1.1%**	**2.0%**	**0.8%**	**1.2%**
8	**0.0%**	**1.4%**	**1.8%**	**1.3%**	**0.8%**	**0.2%**	**0.0%**	**0.0%**	**0.6%**	**0.0%**	**0.3%**	**0.5%**
9+	**0.0%**	**0.2%**	**0.3%**	**0.2%**	**0.2%**	**0.0%**	**0.0%**	**0.0%**	**0.1%**	**0.0%**	**0.1%**	**0.1%**
Sum 3+	**3.8%**	**74.3%**	**78.3%**	**73.8%**	**67.4%**	**19.8%**	**47.9%**	**72.3%**	**44.3%**	**67.5%**	**33.5%**	**47.6%**
Quarter: 1												
0	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	90.5%	0.1%	-	0.1%	0.0%	43.4%	18.1%	0.0%	11.5%	15.5%	**77.2%**	**13.3%**
2	7.2%	1.6%	-	1.6%	0.0%	18.3%	23.9%	20.5%	5.3%	23.4%	**8.3%**	**13.6%**
3	1.6%	24.6%	-	24.6%	17.4%	9.8%	13.7%	18.9%	17.3%	14.5%	**4.1%**	**16.0%**
4	0.3%	49.9%	-	49.9%	66.7%	18.7%	27.6%	25.6%	49.5%	27.3%	**7.1%**	**39.3%**
5	0.1%	21.6%	-	21.6%	10.5%	9.7%	8.9%	22.0%	13.3%	10.8%	**2.2%**	**12.2%**
6	0.2%	0.2%	-	0.2%	4.9%	0.0%	5.5%	11.4%	2.3%	6.4%	**0.9%**	**4.2%**
7	0.0%	0.0%	-	0.0%	0.0%	0.0%	2.2%	1.6%	0.0%	2.1%	**0.2%**	**1.0%**
8	0.0%	2.0%	-	2.0%	0.5%	0.0%	0.0%	0.0%	0.8%	0.0%	**0.1%**	**0.4%**
9+	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Sum 3+	**2.3%**	**98.4%**	-	**98.4%**	**100.0%**	**38.3%**	**58.0%**	**79.5%**	**83.2%**	**61.1%**	**14.5%**	**73.1%**
Quarter: 2												
0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	94.6%	2.0%	0.0%	2.1%	6.1%	46.5%	11.0%	0.0%	12.8%	6.4%	**25.4%**	**12.7%**
2	2.2%	30.5%	15.1%	31.1%	31.7%	44.3%	22.1%	21.7%	34.1%	22.0%	**29.1%**	**33.8%**
3	3.2%	26.5%	40.4%	26.0%	25.7%	6.1%	15.9%	18.6%	21.9%	17.0%	**19.0%**	**22.1%**
4	0.0%	26.8%	29.0%	26.7%	26.4%	2.1%	25.2%	29.5%	21.6%	27.0%	**18.3%**	**21.8%**
5	0.0%	9.9%	10.8%	9.8%	6.3%	0.5%	15.6%	18.2%	6.4%	16.7%	**5.4%**	**6.5%**
6	0.0%	3.1%	3.4%	3.1%	2.7%	0.3%	8.5%	9.9%	2.3%	9.1%	**2.0%**	**2.4%**
7	0.0%	0.6%	0.7%	0.6%	0.5%	0.0%	1.8%	2.1%	0.5%	1.9%	**0.4%**	**0.5%**
8	0.0%	0.4%	0.4%	0.4%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	**0.2%**	**0.2%**
9+	0.0%	0.2%	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.2%	0.0%	**0.1%**	**0.2%**
Sum 3+	**3.2%**	**67.5%**	**84.9%**	**66.8%**	**62.1%**	**9.2%**	**66.9%**	**78.3%**	**53.1%**	**71.6%**	**45.5%**	**53.6%**
Quarter: 3												
0	22.7%	0.1%	0.0%	0.1%	0.0%	67.9%	95.5%	0.0%	38.8%	85.5%	**35.5%**	**38.1%**
1	59.1%	2.5%	0.0%	3.5%	9.1%	3.6%	2.0%	0.0%	5.7%	1.7%	**16.8%**	**5.6%**
2	14.4%	20.2%	22.9%	19.0%	22.6%	5.7%	0.7%	27.9%	12.8%	3.6%	**13.1%**	**13.0%**
3	1.4%	22.3%	23.1%	21.9%	17.4%	10.8%	0.4%	15.8%	13.9%	2.0%	**11.3%**	**14.0%**
4	1.7%	27.3%	26.8%	27.5%	33.1%	8.7%	0.7%	29.5%	18.9%	3.8%	**15.3%**	**19.0%**
5	0.5%	16.2%	15.9%	16.3%	9.6%	1.9%	0.5%	18.0%	5.6%	2.3%	**4.5%**	**5.8%**
6	0.1%	7.3%	7.2%	7.4%	4.4%	0.3%	0.2%	7.0%	2.2%	0.9%	**1.7%**	**2.3%**
7	0.0%	1.8%	1.8%	1.8%	2.4%	0.7%	0.0%	1.9%	1.4%	0.2%	**1.1%**	**1.4%**
8	0.0%	2.1%	2.0%	2.1%	1.2%	0.3%	0.0%	0.0%	0.7%	0.0%	**0.5%**	**0.7%**
9+	0.0%	0.3%	0.3%	0.3%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	**0.1%**	**0.1%**
Sum 3+	**3.7%**	**77.3%**	**77.1%**	**77.3%**	**68.3%**	**22.7%**	**1.8%**	**72.1%**	**42.8%**	**9.2%**	**34.5%**	**43.3%**
Quarter: 4												
0	48.6%	0.0%	-	0.0%	0.3%	81.8%	57.5%	0.0%	46.4%	3.3%	**35.5%**	**31.1%**
1	40.7%	1.6%	-	1.6%	14.0%	0.8%	0.1%	0.0%	5.8%	0.0%	**13.0%**	**3.7%**
2	3.7%	14.6%	-	14.6%	20.6%	4.0%	11.7%	27.9%	10.8%	27.0%	**13.4%**	**16.6%**
3	0.6%	19.7%	-	19.7%	22.0%	5.5%	11.3%	13.9%	12.5%	13.8%	**9.8%**	**12.9%**
4	4.4%	32.0%	-	32.0%	33.7%	5.5%	9.9%	30.5%	17.7%	29.4%	**17.4%**	**21.8%**
5	1.4%	18.9%	-	18.9%	5.7%	1.6%	7.2%	18.1%	4.2%	17.5%	**7.0%**	**8.9%**
6	0.6%	6.3%	-	6.3%	2.3%	0.5%	2.1%	7.4%	1.5%	7.1%	**2.8%**	**3.5%**
7	0.1%	3.7%	-	3.7%	0.9%	0.3%	0.2%	2.1%	0.7%	2.0%	**0.9%**	**1.2%**
8	0.0%	3.2%	-	3.2%	0.4%	0.1%	0.0%	0.0%	0.4%	0.0%	**0.2%**	**0.3%**
9+	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Sum 3+	**7.0%**	**83.8%**	-	**83.8%**	**65.0%**	**13.4%**	**30.8%**	**72.1%**	**37.0%**	**69.7%**	**38.2%**	**48.6%**

Table 4.8 a: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caugh in the North Sea 2001. Catch in numbers (millions) at age (rings), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBBS	IVa(E) NSAS only	IVa(W)	IVb	IVc	VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4												
0	**807.8**	**0.0**	**0.0**	**0.0**	**0.0**	**1008.8**	**16.1**	**0.0**	**1008.8**	**16.1**	**1832.7**	**1024.9**
1	**556.9**	**5.5**	**0.5**	**5.0**	**3.1**	**44.6**	**4.7**	**0.0**	**52.7**	**4.7**	**614.3**	**57.9**
2	**140.0**	**174.9**	**11.3**	**163.6**	**352.2**	**74.5**	**4.2**	**72.0**	**590.3**	**76.2**	**806.5**	**677.8**
3	**14.9**	**136.8**	**10.2**	**126.6**	**119.3**	**75.0**	**4.0**	**137.7**	**320.8**	**141.7**	**477.5**	**472.7**
4	**1.2**	**73.3**	**6.1**	**67.2**	**94.3**	**46.9**	**1.1**	**63.2**	**208.5**	**64.3**	**274.0**	**278.9**
5	**0.2**	**80.4**	**7.2**	**73.2**	**135.8**	**58.1**	**1.6**	**42.9**	**267.1**	**44.5**	**311.9**	**318.8**
6	**0.5**	**22.6**	**2.7**	**19.9**	**41.9**	**17.3**	**0.5**	**9.2**	**79.2**	**9.7**	**89.3**	**91.5**
7	**0.0**	**14.3**	**1.6**	**12.7**	**18.2**	**3.7**	**0.2**	**2.6**	**34.7**	**2.8**	**37.5**	**39.0**
8	**0.0**	**3.6**	**0.4**	**3.2**	**10.7**	**1.7**	**0.1**	**1.4**	**15.6**	**1.5**	**17.2**	**17.6**
9+	**0.0**	**0.4**	**0.0**	**0.4**	**1.8**	**0.2**	**0.0**	**0.0**	**2.4**	**0.0**	**2.4**	**2.4**
Sum	**1521.5**	**511.8**	**39.9**	**471.9**	**777.4**	**1330.8**	**32.5**	**329.1**	**2580.1**	**361.6**	**4463.3**	**2981.7**
Quarter: 1												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	232.8	0.0	0.0	0.0	0.0	8.7	4.7	0.0	8.7	4.7	**246.2**	**13.4**
2	73.5	22.8	0.0	22.8	16.1	12.2	3.4	0.9	51.1	4.3	**128.9**	**55.4**
3	4.1	17.3	0.0	17.3	8.3	6.8	2.7	17.8	32.4	20.5	**57.0**	**52.8**
4	0.1	20.7	0.0	20.7	7.8	5.2	0.4	5.2	33.7	5.5	**39.3**	**39.2**
5	0.0	20.9	0.0	20.9	8.8	4.5	1.2	16.7	34.2	17.9	**52.2**	**52.1**
6	0.0	2.6	0.0	2.6	5.7	0.1	0.4	5.5	8.4	5.9	**14.3**	**14.3**
7	0.0	2.1	0.0	2.1	1.1	0.2	0.2	2.6	3.5	2.8	**6.3**	**6.2**
8	0.0	1.1	0.0	1.1	0.8	0.2	0.1	1.4	2.0	1.5	**3.6**	**3.6**
9+	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	**0.1**	**0.1**
Sum	**310.5**	**87.6**	**0.0**	**87.6**	**48.6**	**37.9**	**13.0**	**50.0**	**174.1**	**63.0**	**547.6**	**237.1**
Quarter: 2												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	80.7	5.5	0.5	5.0	1.5	28.1	0.0	0.0	34.7	0.0	**115.4**	**35.1**
2	31.2	75.9	2.9	73.0	40.6	32.8	0.0	0.0	146.3	0.0	**177.6**	**149.3**
3	3.5	82.1	6.3	75.8	22.3	23.7	0.1	0.1	121.8	0.1	**125.5**	**128.3**
4	0.1	34.0	3.6	30.4	12.1	9.9	0.1	0.0	52.4	0.1	**52.6**	**56.1**
5	0.1	41.1	4.3	36.8	15.5	12.1	0.1	0.1	64.3	0.1	**64.5**	**68.8**
6	0.0	14.7	1.6	13.2	5.7	4.0	0.0	0.0	22.9	0.0	**23.0**	**24.5**
7	0.0	8.4	0.9	7.5	2.4	2.2	0.0	0.0	12.0	0.0	**12.1**	**12.9**
8	0.0	1.8	0.2	1.6	1.5	0.6	0.0	0.0	3.7	0.0	**3.7**	**3.8**
9+	0.0	0.3	0.0	0.3	0.2	0.2	0.0	0.0	0.6	0.0	**0.6**	**0.6**
Sum	**115.7**	**263.8**	**20.3**	**243.5**	**101.6**	**113.6**	**0.2**	**0.2**	**458.7**	**0.4**	**574.9**	**479.5**
Quarter: 3												
0	791.8	0.0	0.0	0.0	0.0	268.9	1.1	0.0	268.9	1.1	**1061.7**	**269.9**
1	165.1	0.0	0.0	0.0	1.6	7.8	0.0	0.0	9.4	0.0	**174.5**	**9.4**
2	26.4	33.1	8.4	24.7	282.6	20.0	0.0	0.1	327.3	0.2	**353.8**	**335.8**
3	4.5	20.7	3.9	16.8	80.6	32.9	0.0	0.2	130.4	0.3	**135.2**	**134.6**
4	0.9	8.8	2.5	6.3	62.3	25.1	0.0	0.1	93.7	0.2	**94.7**	**96.4**
5	0.1	9.6	2.8	6.8	108.5	31.3	0.1	0.1	146.7	0.1	**146.9**	**149.6**
6	0.3	3.8	1.1	2.7	30.3	9.4	0.0	0.0	42.4	0.0	**42.7**	**43.5**
7	0.0	2.3	0.7	1.6	14.4	0.7	0.0	0.0	16.7	0.0	**16.7**	**17.4**
8	0.0	0.6	0.2	0.4	8.4	0.5	0.0	0.0	9.3	0.0	**9.3**	**9.5**
9+	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	1.7	0.0	**1.7**	**1.7**
Sum	**989.1**	**79.0**	**19.7**	**59.4**	**590.4**	**396.6**	**1.3**	**0.6**	**1046.4**	**1.9**	**2037.3**	**1067.9**
Quarter: 4												
0	16.0	0.0	0.0	0.0	0.0	740.0	15.0	0.0	740.0	15.0	**771.0**	**755.0**
1	78.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**78.2**	**0.0**
2	8.9	43.1	0.0	43.1	12.9	9.5	0.8	71.0	65.6	71.7	**146.2**	**137.3**
3	2.8	16.6	0.0	16.6	8.1	11.5	1.3	119.6	36.2	120.8	**159.8**	**157.0**
4	0.2	9.9	0.0	9.9	12.1	6.8	0.6	57.9	28.7	58.5	**87.5**	**87.3**
5	0.0	8.7	0.0	8.7	3.0	10.1	0.3	26.2	21.8	26.4	**48.3**	**48.3**
6	0.1	1.5	0.0	1.5	0.3	3.7	0.0	3.7	5.4	3.8	**9.3**	**9.2**
7	0.0	1.5	0.0	1.5	0.4	0.6	0.0	0.0	2.4	0.0	**2.4**	**2.4**
8	0.0	0.1	0.0	0.1	0.1	0.5	0.0	0.0	0.6	0.0	**0.6**	**0.6**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**106.2**	**81.4**	**0.0**	**81.4**	**36.8**	**782.7**	**18.0**	**278.3**	**900.9**	**296.3**	**1303.4**	**1197.2**

Table 4.8 b: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 2001. Mean weight (kg) at age (rings) in the catch (WECA), by quarter and division

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(W)	IVb	IVc	VIId	IVa & IVb all	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4											
0	**0.008**	**0.000**	**0.000**	**0.000**	**0.014**	**0.015**	**0.000**	**0.014**	**0.015**	**0.012**	**0.014**
1	**0.049**	**0.079**	**0.079**	**0.087**	**0.031**	**0.025**	**0.000**	**0.039**	**0.025**	**0.048**	**0.038**
2	**0.073**	**0.121**	**0.127**	**0.138**	**0.105**	**0.053**	**0.116**	**0.129**	**0.113**	**0.117**	**0.127**
3	**0.105**	**0.148**	**0.151**	**0.168**	**0.150**	**0.104**	**0.139**	**0.156**	**0.138**	**0.149**	**0.150**
4	**0.128**	**0.165**	**0.178**	**0.193**	**0.176**	**0.156**	**0.171**	**0.180**	**0.171**	**0.177**	**0.178**
5	**0.133**	**0.177**	**0.188**	**0.222**	**0.188**	**0.148**	**0.168**	**0.202**	**0.167**	**0.197**	**0.197**
6	**0.224**	**0.197**	**0.198**	**0.235**	**0.199**	**0.159**	**0.172**	**0.217**	**0.171**	**0.212**	**0.212**
7	**0.170**	**0.220**	**0.221**	**0.266**	**0.206**	**0.168**	**0.168**	**0.242**	**0.168**	**0.237**	**0.236**
8	**0.192**	**0.262**	**0.269**	**0.285**	**0.244**	**0.180**	**0.180**	**0.275**	**0.180**	**0.267**	**0.267**
9+	**0.000**	**0.238**	**0.238**	**0.296**	**0.275**	**0.000**	**0.000**	**0.285**	**-**	**0.286**	**0.285**
Quarter: 1											
0	0.000	0.000		0.000	0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.028	0.000		0.086	0.025	0.025	0.000	0.025	0.025	**0.028**	**0.025**
2	0.060	0.095		0.097	0.065	0.038	0.066	0.088	0.043	**0.071**	**0.085**
3	0.099	0.137		0.161	0.112	0.081	0.090	0.138	0.089	**0.117**	**0.119**
4	0.180	0.140		0.174	0.137	0.115	0.115	0.147	0.115	**0.143**	**0.143**
5	0.195	0.155		0.183	0.148	0.134	0.134	0.161	0.134	**0.152**	**0.152**
6	0.184	0.186		0.147	0.212	0.150	0.150	0.160	0.150	**0.156**	**0.156**
7	0.174	0.211		0.230	0.214	0.168	0.168	0.217	0.168	**0.195**	**0.195**
8	0.193	0.243		0.243	0.235	0.180	0.180	0.242	0.180	**0.215**	**0.215**
9+	0.000	0.238		0.287	0.000	0.000	0.000	0.244	-	**0.244**	**0.244**
Quarter: 2											
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-	**0.000**	**0.000**
1	0.030	0.079	0.079	0.083	0.033	0.030	0.000	0.042	-	**0.034**	**0.042**
2	0.073	0.123	0.123	0.131	0.100	0.135	0.066	0.120	-	**0.112**	**0.120**
3	0.096	0.148	0.148	0.159	0.139	0.170	0.090	0.148	0.125	**0.147**	**0.148**
4	0.141	0.171	0.171	0.192	0.154	0.190	0.115	0.173	0.169	**0.173**	**0.173**
5	0.159	0.186	0.186	0.213	0.188	0.193	0.134	0.192	0.162	**0.193**	**0.192**
6	0.162	0.198	0.198	0.235	0.190	0.218	0.150	0.205	0.179	**0.206**	**0.205**
7	0.165	0.222	0.221	0.255	0.208	0.000	0.168	0.226	0.168	**0.226**	**0.226**
8	0.189	0.261	0.261	0.273	0.249	0.000	0.180	0.264	0.180	**0.264**	**0.264**
9+	0.000	0.238	0.238	0.273	0.275	0.000	0.000	0.257	-	**0.258**	**0.257**
Quarter: 3											
0	0.008	0.000	0.000	0.000	0.012	0.012	0.000	0.012	0.012	**0.009**	**0.012**
1	0.071	0.000	0.000	0.090	0.032	0.031	0.000	0.042	0.031	**0.069**	**0.042**
2	0.101	0.129	0.129	0.141	0.128	0.159	0.117	0.139	0.121	**0.137**	**0.139**
3	0.110	0.156	0.157	0.174	0.164	0.170	0.146	0.169	0.150	**0.167**	**0.169**
4	0.124	0.188	0.189	0.205	0.190	0.192	0.176	0.200	0.180	**0.199**	**0.200**
5	0.075	0.192	0.192	0.228	0.193	0.193	0.189	0.218	0.191	**0.219**	**0.218**
6	0.231	0.198	0.198	0.251	0.207	0.218	0.204	0.237	0.213	**0.238**	**0.237**
7	0.000	0.220	0.220	0.271	0.201	0.000	0.000	0.262	-	**0.264**	**0.262**
8	0.000	0.278	0.277	0.291	0.244	0.000	0.000	0.288	-	**0.288**	**0.288**
9+	0.000	0.000	0.000	0.298	0.000	0.000	0.000	0.298	-	**0.298**	**0.298**
Quarter: 4											
0	0.022	0.000		0.000	0.015	0.015	0.000	0.015	0.015	**0.015**	**0.015**
1	0.084	0.000		0.090	0.000	0.000	0.000	0.090	-	**0.084**	**0.090**
2	0.099	0.124		0.125	0.124	0.117	0.117	0.124	0.117	**0.119**	**0.120**
3	0.119	0.151		0.131	0.159	0.146	0.146	0.149	0.146	**0.146**	**0.147**
4	0.125	0.174		0.141	0.188	0.176	0.176	0.163	0.176	**0.172**	**0.172**
5	0.000	0.176		0.187	0.193	0.189	0.189	0.185	0.189	**0.187**	**0.187**
6	0.231	0.193		0.234	0.192	0.204	0.204	0.194	0.204	**0.199**	**0.198**
7	0.000	0.217		0.238	0.200	0.000	0.000	0.215	-	**0.216**	**0.216**
8	0.000	0.347		0.293	0.244	0.000	0.000	0.267	-	**0.267**	**0.267**
9+	0.000	0.000		0.299	0.000	0.000	0.000	0.299	-	**0.299**	**0.299**

Table 4.8 c: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 2001. Mean length (cm) at age (rings) in the catch, by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(W)	IVb	IVc	VIId	IVa & IVb all	IVc & VIId	Herring caught in the North Sea
Quarters: 1-4										
0	**n.d.**	**0.0**	**n.d.**	**0.0**	**13.4**	**13.9**	**0.0**	**13.4**	**13.9**	**13.4**
1	**n.d.**	**20.0**	**n.d.**	**21.9**	**16.0**	**14.6**	**0.0**	**16.8**	**14.6**	**16.6**
2	**n.d.**	**24.0**	**n.d.**	**24.9**	**22.8**	**19.2**	**23.7**	**24.4**	**23.4**	**24.3**
3	**n.d.**	**25.3**	**n.d.**	**26.4**	**25.4**	**23.5**	**25.1**	**25.7**	**25.0**	**25.5**
4	**n.d.**	**26.6**	**n.d.**	**27.6**	**26.7**	**26.3**	**26.6**	**27.1**	**26.6**	**27.0**
5	**n.d.**	**27.2**	**n.d.**	**28.8**	**27.5**	**26.8**	**27.0**	**28.0**	**27.0**	**27.9**
6	**n.d.**	**27.6**	**n.d.**	**29.3**	**28.0**	**27.6**	**27.6**	**28.6**	**27.6**	**28.5**
7	**n.d.**	**29.2**	**n.d.**	**30.5**	**28.5**	**28.0**	**28.0**	**29.8**	**28.0**	**29.6**
8	**n.d.**	**31.3**	**n.d.**	**31.3**	**30.2**	**29.2**	**29.2**	**31.2**	**29.2**	**31.0**
9+	**n.d.**	**30.6**	**n.d.**	**31.9**	**31.8**	**-**	**-**	**31.7**	**-**	**31.7**
Quarter: 1										
0	n.d.	0.0	n.d.	0.0	0.0	0.0	0.0	-	-	**0.0**
1	n.d.	0.0	n.d.	21.9	14.6	14.6	0.0	14.6	14.6	**14.6**
2	n.d.	23.6	n.d.	23.2	20.8	18.2	21.8	22.8	18.9	**22.5**
3	n.d.	26.2	n.d.	26.5	24.5	22.6	23.7	26.0	23.6	**25.0**
4	n.d.	26.6	n.d.	27.2	26.6	25.6	25.6	26.7	25.6	**26.6**
5	n.d.	27.3	n.d.	27.7	27.2	26.6	26.6	27.4	26.6	**27.1**
6	n.d.	28.2	n.d.	27.2	29.5	27.5	27.5	27.5	27.5	**27.5**
7	n.d.	29.6	n.d.	29.9	29.8	28.0	28.0	29.7	28.0	**29.0**
8	n.d.	31.4	n.d.	30.9	31.2	29.2	29.2	31.2	29.2	**30.3**
9+	n.d.	30.6	n.d.	31.2	0.0	0.0	0.0	30.7	-	**30.7**
Quarter: 2										
0	n.d.	0.0	n.d.	0.0	0.0	0.0	0.0	-	-	**0.0**
1	n.d.	20.0	n.d.	21.5	16.4	16.1	0.0	17.2	16.1	**17.2**
2	n.d.	23.6	n.d.	24.3	22.2	23.6	21.8	23.5	23.3	**23.5**
3	n.d.	24.9	n.d.	25.6	24.7	25.7	23.7	25.0	24.6	**25.0**
4	n.d.	26.2	n.d.	27.2	25.8	26.8	25.6	26.4	26.5	**26.4**
5	n.d.	27.1	n.d.	28.1	27.5	27.3	26.6	27.4	26.9	**27.4**
6	n.d.	27.6	n.d.	28.8	27.6	28.5	27.5	27.9	27.9	**27.9**
7	n.d.	29.2	n.d.	29.9	28.6	0.0	28.0	29.2	28.0	**29.2**
8	n.d.	31.4	n.d.	30.5	30.2	0.0	29.2	30.8	29.2	**30.8**
9+	n.d.	30.6	n.d.	30.9	31.8	0.0	0.0	31.0	-	**31.0**
Quarter: 3										
0	n.d.	0.0	n.d.	0.0	11.8	11.8	0.0	11.8	11.8	**11.8**
1	n.d.	0.0	n.d.	22.3	16.3	16.2	0.0	17.3	16.2	**17.3**
2	n.d.	24.1	n.d.	25.1	24.2	24.9	23.7	25.0	23.8	**25.0**
3	n.d.	25.6	n.d.	26.7	25.8	25.7	25.3	26.3	25.4	**26.3**
4	n.d.	27.0	n.d.	28.0	27.0	26.9	26.7	27.6	26.8	**27.6**
5	n.d.	27.2	n.d.	29.0	27.5	27.3	27.3	28.5	27.3	**28.5**
6	n.d.	27.4	n.d.	29.8	28.2	28.5	27.8	29.3	28.3	**29.3**
7	n.d.	28.7	n.d.	30.6	28.3	0.0	0.0	30.3	-	**30.3**
8	n.d.	30.9	n.d.	31.5	30.0	0.0	0.0	31.4	-	**31.4**
9+	n.d.	0.0	n.d.	32.0	0.0	0.0	0.0	32.0	-	**32.0**
Quarter: 4										
0	n.d.	0.0	n.d.	0.0	14.0	14.0	0.0	14.0	14.0	**14.0**
1	n.d.	0.0	n.d.	22.4	0.0	0.0	0.0	22.4	-	**22.4**
2	n.d.	24.6	n.d.	25.0	24.5	23.7	23.7	24.7	23.7	**24.2**
3	n.d.	25.9	n.d.	25.5	26.1	25.3	25.3	25.8	25.3	**25.4**
4	n.d.	27.4	n.d.	26.4	27.3	26.7	26.7	27.0	26.7	**26.8**
5	n.d.	27.5	n.d.	28.3	27.8	27.3	27.3	27.8	27.3	**27.5**
6	n.d.	27.3	n.d.	29.1	27.8	27.8	27.8	27.8	27.8	**27.8**
7	n.d.	28.9	n.d.	30.2	28.3	0.0	0.0	28.9	-	**28.9**
8	n.d.	31.3	n.d.	31.4	30.0	0.0	0.0	30.4	-	**30.4**
9+	n.d.	0.0	n.d.	32.0	0.0	0.0	0.0	32.0	-	**32.0**

Table 4.8 d: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 2001. Catches (tonnes, SOP figures) at age (rings), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc	VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4												
0	**6.7**	**0.0**	**0.0**	**0.0**	**0.0**	**14.3**	**0.2**	**0.0**	**14.3**	**0.2**	**21.3**	**14.6**
1	**27.2**	**0.4**	**0.0**	**0.4**	**0.3**	**1.4**	**0.1**	**0.0**	**2.1**	**0.1**	**29.4**	**2.2**
2	**10.2**	**21.1**	**1.4**	**19.7**	**48.4**	**7.8**	**0.2**	**8.4**	**75.9**	**8.6**	**94.7**	**85.9**
3	**1.6**	**20.3**	**1.5**	**18.7**	**20.0**	**11.3**	**0.4**	**19.1**	**50.0**	**19.5**	**71.1**	**71.0**
4	**0.2**	**12.1**	**1.1**	**11.0**	**18.2**	**8.3**	**0.2**	**10.8**	**37.4**	**11.0**	**48.6**	**49.5**
5	**0.0**	**14.3**	**1.3**	**12.9**	**30.2**	**10.9**	**0.2**	**7.2**	**54.1**	**7.4**	**61.5**	**62.8**
6	**0.1**	**4.4**	**0.5**	**3.9**	**9.8**	**3.5**	**0.1**	**1.6**	**17.2**	**1.7**	**19.0**	**19.4**
7	**0.0**	**3.1**	**0.3**	**2.8**	**4.9**	**0.8**	**0.0**	**0.4**	**8.4**	**0.5**	**8.9**	**9.2**
8	**0.0**	**0.9**	**0.1**	**0.8**	**3.1**	**0.4**	**0.0**	**0.3**	**4.3**	**0.3**	**4.6**	**4.7**
9+	**0.0**	**0.1**	**0.0**	**0.1**	**0.5**	**0.0**	**0.0**	**0.0**	**0.7**	**0.0**	**0.7**	**0.7**
Sum	**46.0**	**76.8**	**6.4**	**70.3**	**135.3**	**58.7**	**1.5**	**47.8**	**264.4**	**49.3**	**359.7**	**320.1**
Quarter: 1												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	6.5	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.2	0.1	**6.9**	**0.3**
2	4.4	2.2	0.0	2.2	1.6	0.8	0.1	0.1	4.5	0.2	**9.1**	**4.7**
3	0.4	2.4	0.0	2.4	1.3	0.8	0.2	1.6	4.5	1.8	**6.7**	**6.3**
4	0.0	2.9	0.0	2.9	1.4	0.7	0.0	0.6	5.0	0.6	**5.6**	**5.6**
5	0.0	3.2	0.0	3.2	1.6	0.7	0.2	2.2	5.5	2.4	**7.9**	**7.9**
6	0.0	0.5	0.0	0.5	0.8	0.0	0.1	0.8	1.3	0.9	**2.2**	**2.2**
7	0.0	0.4	0.0	0.4	0.3	0.0	0.0	0.4	0.8	0.5	**1.2**	**1.2**
8	0.0	0.3	0.0	0.3	0.2	0.0	0.0	0.3	0.5	0.3	**0.8**	**0.8**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**11.4**	**11.9**	**0.0**	**11.9**	**7.1**	**3.3**	**0.8**	**6.0**	**22.3**	**6.8**	**40.4**	**29.1**
Quarter: 2												
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
1	2.4	0.4	0.0	0.4	0.1	0.9	0.0	0.0	1.5	0.0	**3.9**	**1.5**
2	2.3	9.3	0.4	9.0	5.3	3.3	0.0	0.0	17.6	0.0	**19.9**	**17.9**
3	0.3	12.2	0.9	11.2	3.5	3.3	0.0	0.0	18.1	0.0	**18.4**	**19.0**
4	0.0	5.8	0.6	5.2	2.3	1.5	0.0	0.0	9.0	0.0	**9.1**	**9.7**
5	0.0	7.6	0.8	6.8	3.3	2.3	0.0	0.0	12.4	0.0	**12.4**	**13.2**
6	0.0	2.9	0.3	2.6	1.3	0.8	0.0	0.0	4.7	0.0	**4.7**	**5.0**
7	0.0	1.9	0.2	1.7	0.6	0.5	0.0	0.0	2.7	0.0	**2.7**	**2.9**
8	0.0	0.5	0.0	0.4	0.4	0.1	0.0	0.0	1.0	0.0	**1.0**	**1.0**
9+	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	**0.2**	**0.2**
Sum	**5.1**	**40.7**	**3.3**	**37.4**	**17.0**	**12.7**	**0.0**	**0.0**	**67.1**	**0.1**	**72.3**	**70.5**
Quarter: 3												
0	6.3	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0	**9.6**	**3.2**
1	11.7	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.4	0.0	**12.1**	**0.4**
2	2.7	4.3	1.1	3.2	39.9	2.6	0.0	0.0	45.6	0.0	**48.3**	**46.8**
3	0.5	3.2	0.6	2.6	14.1	5.4	0.0	0.0	22.1	0.0	**22.6**	**22.7**
4	0.1	1.7	0.5	1.2	12.8	4.8	0.0	0.0	18.8	0.0	**18.9**	**19.3**
5	0.0	1.8	0.5	1.3	24.7	6.0	0.0	0.0	32.1	0.0	**32.1**	**32.6**
6	0.1	0.8	0.2	0.5	7.6	1.9	0.0	0.0	10.1	0.0	**10.1**	**10.3**
7	0.0	0.5	0.1	0.4	3.9	0.1	0.0	0.0	4.4	0.0	**4.4**	**4.6**
8	0.0	0.2	0.1	0.1	2.4	0.1	0.0	0.0	2.7	0.0	**2.7**	**2.7**
9+	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	**0.5**	**0.5**
Sum	**21.4**	**12.5**	**3.1**	**9.3**	**106.1**	**24.4**	**0.0**	**0.1**	**139.8**	**0.1**	**161.4**	**143.1**
Quarter: 4												
0	0.4	0.0	0.0	0.0	0.0	11.1	0.2	0.0	11.1	0.2	**11.7**	**11.3**
1	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**6.6**	**0.0**
2	0.9	5.3	0.0	5.3	1.6	1.2	0.1	8.3	8.1	8.4	**17.4**	**16.5**
3	0.3	2.5	0.0	2.5	1.1	1.8	0.2	17.5	5.4	17.6	**23.4**	**23.0**
4	0.0	1.7	0.0	1.7	1.7	1.3	0.1	10.2	4.7	10.3	**15.0**	**15.0**
5	0.0	1.5	0.0	1.5	0.6	2.0	0.1	4.9	4.0	5.0	**9.0**	**9.0**
6	0.0	0.3	0.0	0.3	0.1	0.7	0.0	0.8	1.1	0.8	**1.8**	**1.8**
7	0.0	0.3	0.0	0.3	0.1	0.1	0.0	0.0	0.5	0.0	**0.5**	**0.5**
8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0	**0.2**	**0.2**
9+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**	**0.0**
Sum	**8.2**	**11.7**	**0.0**	**11.7**	**5.1**	**18.3**	**0.7**	**41.7**	**35.1**	**42.3**	**85.6**	**77.4**

Table 4.8 e: North Sea Autumn Spawning Herring (NSAS), and Western Baltic Spring Spawners (WBSS) caught in the North Sea 2001. Percentage age composition (based on numbers, 3+ group summarised), by quarter and division.

rings	IIIa NSAS	IVa(E) all	IVa(E) WBSS	IVa(E) NSAS only	IVa(W)	IVb	IVc	VIId	IVa & IVb NSAS	IVc & VIId	Total NSAS	Herring caught in the North Sea
Quarters: 1-4												
0	**53.1%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**75.8%**	**49.5%**	**0.0%**	**39.1%**	**4.5%**	**41.1%**	**34.4%**
1	**36.6%**	**1.1%**	**1.1%**	**1.1%**	**0.4%**	**3.4%**	**14.5%**	**0.0%**	**2.0%**	**1.3%**	**13.8%**	**1.9%**
2	**9.2%**	**34.2%**	**28.4%**	**34.7%**	**45.3%**	**5.6%**	**12.9%**	**21.9%**	**22.9%**	**21.1%**	**18.1%**	**22.7%**
3	**1.0%**	**26.7%**	**25.6%**	**26.8%**	**15.3%**	**5.6%**	**12.4%**	**41.8%**	**12.4%**	**39.2%**	**10.7%**	**15.9%**
4	**0.1%**	**14.3%**	**15.3%**	**14.2%**	**12.1%**	**3.5%**	**3.4%**	**19.2%**	**8.1%**	**17.8%**	**6.1%**	**9.4%**
5	**0.0%**	**15.7%**	**17.9%**	**15.5%**	**17.5%**	**4.4%**	**5.0%**	**13.0%**	**10.4%**	**12.3%**	**7.0%**	**10.7%**
6	**0.0%**	**4.4%**	**6.7%**	**4.2%**	**5.4%**	**1.3%**	**1.5%**	**2.8%**	**3.1%**	**2.7%**	**2.0%**	**3.1%**
7	**0.0%**	**2.8%**	**3.9%**	**2.7%**	**2.3%**	**0.3%**	**0.6%**	**0.8%**	**1.3%**	**0.8%**	**0.8%**	**1.3%**
8	**0.0%**	**0.7%**	**0.9%**	**0.7%**	**1.4%**	**0.1%**	**0.3%**	**0.4%**	**0.6%**	**0.4%**	**0.4%**	**0.6%**
9+	**0.0%**	**0.1%**	**0.1%**	**0.1%**	**0.2%**	**0.0%**	**0.0%**	**0.0%**	**0.1%**	**0.0%**	**0.1%**	**0.1%**
Sum 3+	**1.1%**	**64.8%**	**70.5%**	**64.3%**	**54.3%**	**15.2%**	**23.1%**	**78.1%**	**36.0%**	**73.2%**	**27.1%**	**41.0%**
Quarter: 1												
0	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	75.0%	0.0%	-	0.0%	0.0%	22.9%	35.9%	0.0%	5.0%	7.4%	**44.9%**	**5.6%**
2	23.7%	26.0%	-	26.0%	33.2%	32.2%	26.1%	1.7%	29.4%	6.8%	**23.5%**	**23.4%**
3	1.3%	19.8%	-	19.8%	17.1%	17.8%	20.3%	35.6%	18.6%	32.5%	**10.4%**	**22.3%**
4	0.0%	23.6%	-	23.6%	16.0%	13.7%	2.9%	10.3%	19.4%	8.8%	**7.2%**	**16.6%**
5	0.0%	23.9%	-	23.9%	18.2%	11.9%	9.4%	33.3%	19.7%	28.4%	**9.5%**	**22.0%**
6	0.0%	3.0%	-	3.0%	11.6%	0.4%	3.1%	10.9%	4.8%	9.3%	**2.6%**	**6.0%**
7	0.0%	2.4%	-	2.4%	2.3%	0.6%	1.5%	5.2%	2.0%	4.4%	**1.1%**	**2.6%**
8	0.0%	1.2%	-	1.2%	1.6%	0.5%	0.8%	2.9%	1.2%	2.4%	**0.7%**	**1.5%**
9+	0.0%	0.1%	-	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	**0.0%**	**0.0%**
Sum 3+	**1.4%**	**74.0%**	-	**74.0%**	**66.8%**	**44.9%**	**38.0%**	**98.3%**	**65.6%**	**85.8%**	**31.5%**	**71.0%**
Quarter: 2												
0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
1	69.8%	2.1%	2.2%	2.1%	1.5%	24.8%	10.2%	0.0%	7.6%	5.4%	**20.1%**	**7.3%**
2	27.0%	28.8%	14.4%	30.0%	39.9%	28.9%	8.9%	1.7%	31.9%	5.5%	**30.9%**	**31.1%**
3	3.0%	31.1%	31.2%	31.1%	21.9%	20.9%	24.5%	35.6%	26.6%	29.7%	**21.8%**	**26.8%**
4	0.1%	12.9%	17.7%	12.5%	11.9%	8.7%	23.2%	10.3%	11.4%	17.2%	**9.1%**	**11.7%**
5	0.1%	15.6%	21.4%	15.1%	15.2%	10.7%	26.2%	33.3%	14.0%	29.6%	**11.2%**	**14.3%**
6	0.0%	5.6%	7.7%	5.4%	5.6%	3.6%	7.0%	10.9%	5.0%	8.8%	**4.0%**	**5.1%**
7	0.0%	3.2%	4.4%	3.1%	2.3%	1.9%	0.0%	5.2%	2.6%	2.4%	**2.1%**	**2.7%**
8	0.0%	0.7%	0.9%	0.7%	1.5%	0.5%	0.0%	2.9%	0.8%	1.3%	**0.6%**	**0.8%**
9+	0.0%	0.1%	0.2%	0.1%	0.2%	0.1%	0.0%	0.0%	0.1%	0.0%	**0.1%**	**0.1%**
Sum 3+	**3.2%**	**69.1%**	**83.4%**	**68.0%**	**58.6%**	**46.4%**	**80.9%**	**98.3%**	**60.5%**	**89.1%**	**49.0%**	**61.5%**
Quarter: 3												
0	80.1%	0.0%	0.0%	0.0%	0.0%	67.8%	83.8%	0.0%	25.7%	57.9%	**52.1%**	**25.3%**
1	16.7%	0.0%	0.0%	0.0%	0.3%	2.0%	2.4%	0.0%	0.9%	1.6%	**8.6%**	**0.9%**
2	2.7%	41.9%	42.9%	41.5%	47.9%	5.0%	1.1%	25.5%	31.3%	8.6%	**17.4%**	**31.4%**
3	0.5%	26.2%	19.8%	28.4%	13.7%	8.3%	3.9%	43.0%	12.5%	15.9%	**6.6%**	**12.6%**
4	0.1%	11.1%	12.9%	10.5%	10.6%	6.3%	3.6%	20.8%	9.0%	8.9%	**4.6%**	**9.0%**
5	0.0%	12.2%	14.3%	11.5%	18.4%	7.9%	4.1%	9.4%	14.0%	5.8%	**7.2%**	**14.0%**
6	0.0%	4.8%	5.6%	4.5%	5.1%	2.4%	1.1%	1.3%	4.1%	1.2%	**2.1%**	**4.1%**
7	0.0%	2.9%	3.4%	2.8%	2.4%	0.2%	0.0%	0.0%	1.6%	0.0%	**0.8%**	**1.6%**
8	0.0%	0.8%	1.0%	0.8%	1.4%	0.1%	0.0%	0.0%	0.9%	0.0%	**0.5%**	**0.9%**
9+	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.2%	0.0%	**0.1%**	**0.2%**
Sum 3+	**0.6%**	**58.1%**	**57.1%**	**58.5%**	**51.9%**	**25.2%**	**12.7%**	**74.5%**	**42.1%**	**31.8%**	**22.0%**	**42.4%**
Quarter: 4												
0	15.1%	0.0%	-	0.0%	0.0%	94.5%	83.5%	0.0%	82.1%	5.1%	**59.2%**	**63.1%**
1	73.7%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**6.0%**	**0.0%**
2	8.4%	53.0%	-	53.0%	35.1%	1.2%	4.2%	25.5%	7.3%	24.2%	**11.2%**	**11.5%**
3	2.6%	20.4%	-	20.4%	21.9%	1.5%	7.1%	43.0%	4.0%	40.8%	**12.3%**	**13.1%**
4	0.2%	12.1%	-	12.1%	32.9%	0.9%	3.4%	20.8%	3.2%	19.8%	**6.7%**	**7.3%**
5	0.0%	10.7%	-	10.7%	8.2%	1.3%	1.5%	9.4%	2.4%	8.9%	**3.7%**	**4.0%**
6	0.1%	1.8%	-	1.8%	0.7%	0.5%	0.2%	1.3%	0.6%	1.3%	**0.7%**	**0.8%**
7	0.0%	1.8%	-	1.8%	1.0%	0.1%	0.0%	0.0%	0.3%	0.0%	**0.2%**	**0.2%**
8	0.0%	0.1%	-	0.1%	0.2%	0.1%	0.0%	0.0%	0.1%	0.0%	**0.0%**	**0.1%**
9+	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Sum 3+	**2.9%**	**47.0%**	-	**47.0%**	**64.9%**	**4.2%**	**12.3%**	**74.5%**	**10.6%**	**70.7%**	**23.6%**	**25.5%**

Table 5.1: Comparison of catch data held in the official ICES catch data base with data obtained by SG Rednose (left) and data used by HAWG in 2002 (right), 1995-1998. Note that catches for Denmark are submitted by WG members and cannot be used for management purposes, and that official data for Norway may include Norwegian Spring Spawning herring caught under a a separate quota (see Sect. 2.2).

a. ICES Div. IVa

SG Rednose						HAWG 2002				
IVa		1995	1996	1997	1998	**IVa**	1995	1996	1997	1998
	ICES	0	0	0	0	ICES				
Belgium	REDNOSE	0	0	0	0	HAWG/2002				
	Difference	0	0	0	0	Difference	0	0	0	0
	ICES	52800	18935	18885	22658	ICES	52800	18935	18885	22658
Denmark	REDNOSE	63005	22349	25519	30384	HAWG/2002	63005	22403	25549	30384
	Difference	-10205	-3414	-6634	-7726	Difference	-10205	-3468	-6664	-7726
	ICES	3314	2391		5321	ICES	3314	2391		5321
E&W&NI	REDNOSE	3316	2391	49	5321	HAWG/2002	3091	2391		4306
	Difference	-2	0	-49	0	Difference	223	0	0	1015
	ICES	2018	815	1156	1246	ICES	2018	815	1156	1246
Faroes	REDNOSE	2018	815	1156	1246	HAWG/2002	0	0	0	25
	Difference	0	0	0	0	Difference	2018	815	1156	1221
	ICES	10444	5443	6670	4760	ICES	10444	5443	6670	4760
France	REDNOSE	10431	3177	364	4758	HAWG/2002	10427	3177	364	4757
	Difference	13	2266	6306	2	Difference	17	2266	6306	3
	ICES	17094	2167	4576	7752	ICES	17094	2167	4576	7752
Germany	REDNOSE	17094	2167	4576	7753	HAWG/2002	17094	2167	4576	7752
	Difference	0	0	0	-1	Difference	0	0	0	0
	ICES	24696	3214	6904	11852	ICES	24696	3214	6904	11852
Netherlands	REDNOSE	27372	7714	6828	11218	HAWG/2002	24696	2978	6904	11852
	Difference	-2676	-4500	76	634	Difference	0	236	0	0
	ICES	121313	68622	89790	97674	ICES	121313	68622	89790	97674
Norway	REDNOSE	118348	40443	37844	70936	HAWG/2002	118348	40443	34975	68478
	Difference	2965	28179	51946	26738	Difference	2965	28179	54815	29196
	ICES	0	0	0	0					
Russia	REDNOSE	0	0	1619	452					
	Difference	0	0	-1619	-452					
	ICES	43400	12763	16213	29402	ICES	43400	12763	16213	29402
Scotland	REDNOSE	43204	12763	17121	29462	HAWG/2002	40159	13455	17120	30552
	Difference	196	0	-908	-60	Difference	3241	-692	-907	-1150
	ICES	3336	1595	724	1504	ICES	3336	1595	724	1504
Sweden	REDNOSE	3218	1888	2039	1504	HAWG/2002	3088	2398	2044	1504
	Difference	118	-293	-1315	0	Difference	248	-803	-1320	0
	ICES	278415	115945	144919	182169	ICES	222301	94619	126034	154190
TOTAL	REDNOSE	288006	93707	97115	163034	HAWG/2002	213812	64618	65983	124920
	Difference	-9591	22238	47804	19136	Difference	8489	30001	60050	29270

b. ICES Div. IVb

IVb		1995	1996	1997	1998	**IVb**	1995	1996	1997	1998
	ICES	0	0	0	0	ICES		0		0
Belgium	REDNOSE	0	0	0	0	HAWG/2002				
	Difference	0	0	0	0	Difference	0	0	0	0
	ICES	23131	2459	4171	11314	ICES	23131	2459	4171	11314
Denmark	REDNOSE	87917	43749	11558	26667	HAWG/2002	87917	43749	11636	26667
	Difference	-64786	-41290	-7387	-15353	Difference	-64786	-41290	-7465	-15353
	ICES	9688	2757	2033	1767	ICES	9688	2757	2033	1767
E&W&NI	REDNOSE	9688	2757	2033	1767	HAWG/2002	9688	2757	2033	1767
	Difference	0	0	0	0	Difference	0	0	0	0
	ICES	231			1	ICES	231			1
Faroes	REDNOSE	0	0	0	0	HAWG/2002	231			1
	Difference	231	0	0	1	Difference	0	0	0	0
	ICES	7865			8931	ICES	7865			8931
France	REDNOSE	7639	2373	6069	8945	HAWG/2002	7639	2373	6069	8944
	Difference	226	-2373	-6069	-14	Difference	226	-2373	-6069	-13
	ICES	21209	11052	7456	13591	ICES	21209	11052	7456	13591
Germany	REDNOSE	21209	11051	7455	13590	HAWG/2002	21707	11052	7456	13591
	Difference	-1	1	1.3	1	Difference	-499	0	0	0
	ICES	31558	18584	14697	27486	ICES	31558	18584	14697	27486
Netherlands	REDNOSE	31025	21053	14976	27468	HAWG/2002	30065	18474	14697	27408
	Difference	533	-2469	-278	18	Difference	1493	110	0	78
	ICES	12764	3296	3762	45	ICES	12764	3296	3762	45
Norway	REDNOSE	12678	3296	3762	45	HAWG/2002	12764	3296	3770	45
	Difference	86	0	0	0	Difference	0	0	-8	0
	ICES	4680	4449	5647	1851	ICES	4680	4449	5647	1851
Scotland	REDNOSE	4700	4449	5461	1851	HAWG/2002	4654	4449	5461	1851
	Difference	-20	0	186	0	Difference	26	0	186	0
	ICES	1939	1399	1939	1717	ICES	1939	1399	1939	1717
Sweden	REDNOSE	1929	570	214	1717	HAWG/2002	1929	0	209	1717
	Difference	10	829	1725	0	Difference	10	1399	1730	0
	ICES	113064	43996	39706	66703	ICES	113064	43996	39706	66703
TOTAL	REDNOSE	176785	89298	51528	82050	HAWG/2002	176594	86150	51332	81991
	Difference	-63720	-45302	-11822	-15347	Difference	-63530	-42154	-11626	-15288

Table 5.1: Comparison of catch data (continued).
c. ICES Div. IVc and VIId

SG Rednose IVcVIId		1995	1996	1997	1998
	ICES		0		0
Belgium	REDNOSE	0	0	1	0
	Difference	0	0	-1	0
	ICES	592	298	344	360
Denmark	REDNOSE	2439	635	1247	1873
	Difference	-1847	-337	-903	-1513
	ICES	1896	1733	1389	1562
E&W&NI	REDNOSE	1895	1733	1388	1562
	Difference	1	0	1	0
	ICES	11259	3946	8062	7083
France	REDNOSE	11433	6950	8091	7081
	Difference	-174	-3004	-29	2
	ICES	4997	997	1349	916
Germany	REDNOSE	4996	997	1349	916
	Difference	1	-1	0	0
	ICES	23817	13931	13528	11393
Netherlands	REDNOSE	23889	14024	14181	11247
	Difference	-72	-93	-654	145
	ICES	185	0	461	102
Scotland	REDNOSE	40	0	0	0
	Difference	145	0	461	102
	ICES	42746	20905	25133	21416
TOTAL	REDNOSE	44692	24339	26257	22679
	Difference	-1947	-3434	-1124	-1263

HAWG 2002 IVcVIId	1995	1996	1997	1998
ICES		0		0
HAWG/2002	12		1	1
Difference	-12	0	-1	-1
ICES	592	298	344	360
HAWG/2002	2441	1344	1246	1873
Difference	-1849	-1046	-902	-1513
ICES	1896	1733	1389	1562
HAWG/2002	1896	1733	1388	1562
Difference	0	0	1	0
ICES	11259	3946	8062	7083
HAWG/2002	11433	6950	8091	7081
Difference	-174	-3004	-29	2
ICES	4997	997	1349	916
HAWG/2002	4996	997	1349	916
Difference	1	-1	0	0
ICES	23817	13931	13528	11393
HAWG/2002	23730	13824	13528	11395
Difference	87	107	-1	-3
ICES	185	0	461	102
HAWG/2002	0	262	333	0
Difference	185	-262	128	102
ICES	42746	20905	25133	21416
HAWG/2002	44508	25110	25936	22828
Difference	-1763	-4205	-804	-1412

d. ICES Area IV and Div. VIId (total North Sea)

North Sea		1995	1996	1997	1998
	ICES	0	0	0	0
Belgium	REDNOSE	0	0	1	0
	Difference	0	0	-1	0
	ICES	76523	21692	23400	34332
Denmark	REDNOSE	153361	66733	38324	58924
	Difference	-76838	-45041	-14924	-24592
	ICES	14898	6881	3422	8650
E&W&NI	REDNOSE	14899	6880	3470	8650
	Difference	-1	1	-48	0
	ICES	2249	815	1156	1247
Faroes	REDNOSE	2018	815	1156	1246
	Difference	231	0	0	1
	ICES	29568	9389	14732	20774
France	REDNOSE	29503	12500	14523	20784
	Difference	65	-3111	209	-10
	ICES	43299	14215	13382	22259
Germany	REDNOSE	43299	14215	13380	22259
	Difference	0	0	2	0
	ICES	80071	35729	35129	50731
Netherlands	REDNOSE	82286	42792	35985	49933
	Difference	-2216	-7063	-856	798
	ICES	134077	71918	93552	97719
Norway	REDNOSE	131026	43739	41606	70981
	Difference	3051	28179	51946	26738
	ICES	0	0	0	0
Russia	REDNOSE	0	0	1619	452
	Difference	0	0	-1619	-452
	ICES	48265	17212	22321	31355
Scotland	REDNOSE	47944	17212	22582	31313
	Difference	321	0	-261	42
	ICES	5275	2994	2663	3221
Sweden	REDNOSE	5147	2458	2253	3221
	Difference	128	536	410	0
	ICES	434225	180845	209757	270288
TOTAL	REDNOSE	**509483**	**207344**	**174899**	**267763**
	Difference	**-75258**	**-26499**	**34857**	**2525**

North Sea	1995	1996	1997	1998
ICES	0	1	0	0
HAWG/2002	12	0	1	1
Difference	-12	1	-1	-1
ICES	76523	21692	23400	34332
HAWG/2002	153363	67496	38431	58924
Difference	-76840	-45804	-15031	-24592
ICES	14898	6881	3422	8650
HAWG/2002	14675	6881	3421	7635
Difference	223	0	1	1015
ICES	2249	815	1156	1247
HAWG/2002	231	0	0	26
Difference	2018	815	1156	1221
ICES	29568	9389	14732	20774
HAWG/2002	29499	12500	14524	20782
Difference	69	-3111	208	-8
ICES	43299	14215	13382	22259
HAWG/2002	43797	14215	13382	22259
Difference	-498	-1	0	0
ICES	80071	35729	35129	50731
HAWG/2002	78491	35276	35129	50655
Difference	1580	453	-1	76
ICES	134077	71918	93552	97719
HAWG/2002	131112	43739	38745	68523
Difference	2965	28179	54807	29196
ICES	48265	17212	22321	31355
HAWG/2002	44813	18166	22914	32403
Difference	3452	-954	-593	-1048
ICES	5275	2994	2663	3221
HAWG/2002	5017	2398	2253	3221
Difference	258	596	410	0
ICES	434225	180845	209757	270288
HAWG/2002	**501010**	**200671**	**168800**	**264429**
Difference	**-66785**	**-19826**	**40957**	**5859**

Table 5.2: Record of detailed revisions of catch and sampling data during *SG Rednose* for 1995-1998. All data applied to "official" data only. Changes of Danish data (which are Working Group estimates and may differ from official data) are not listed here (Source for these: Jørgen Dalskov, DFU).

1995

England & Wales - (Source: Steve Warnes)
- Q4 IVa(W) - 1137 t changed to 1360 t, to include 223 t from Northern Ireland

Germany - (Source: Archive\North Sea 1998\Germany-NSea\1995)
- Q3 IVa(W) – 9315 t changed to 7373 t
- Q4 IVa(W) – 4233 t changed to 3852 t
- Q3 IVb – 20367 t changed to 21109 t

Netherlands – catch removed from sampled column in all three cases because no samples available
- Q1 IVa(E)
- Q1 IVa(W)
- Q1 IVb

Sweden - (Source: J. Modin's HAWG 2002 archive files)
- Q4 IVa(E) – 822 t changed to 952 t

1996

England & Wales (Source: Phil Welsby, CEFAS)
- Q1 IVa(W) – 93 t changed to 11 t
- Q3 IVa(W) – 1283 t changed to 957 t
- Q4 IVa(W) - 208 t changed to 18 t
- Q3 IVb – 2734 t added to table (this includes Scottish catch landed into E&W)

Netherlands – catch removed from sampled column in both cases because no samples available
- Q1 IVa(W)
- Q2 IVa(W)

Sweden - (Source: J. Modin's HAWG 2002 archive files)
- Q2 IVa(E) - 129 t changed to 189 t
- Q3 IVa(E) – 564 t changed to 714 t
- Q4 IVa(E) – 216 t added to table
- Q2 IVa(W) – 1849 t changed to 603 t
- Q3 IVa(W) – 1091 t changed to 166 t
- Q2 IVb – 243 t added to table
- Q3 IVb– 210 t added to table
- Q4 IVb– 117 t added to table

1997

Netherlands – catch removed from sampled column in both cases because no samples available
- Q2 IVb
- Q4 IVb

Russia – (Source: HAWG species coordinators files)
- Q4 IVa(W)- 1619 t moved from Q2 IVa(W)

Sweden - (Source: J. Modin's HAWG 2002 archive files)
- Q3 IVa(E) – 135 t changed to 130 t
- Q4 IVa(W) – 50 t removed so now zero catch

1998

Germany – **N.B.** the her98ge.xls spreadsheet has sample information on the 'sampling' sheet for Q3 IVa(W) and Q3 IVb but none in the corresponding 'canum' sheets.

Netherlands – catch removed from sampled column in both cases because no samples available
- Q2 IVa(E)
- Q3 IVc

Northern Ireland – (Source: Phil Welsby, CEFAS)
- Q3 IVa(W) – 945 t added to table
- Q4 IVa(W) – 70 t added to table

Table 5.3 Comparison of total North Sea Autumn spawner catch (t) used by the Herring Assessment WG (HAWG) in 2002, in 2003 (including some corrections made by *SG Rednose* for 1996-2001) and final data for future assessments by *SG Rednose* in 2003

	CATON FILES			DIFFERENCES SG Rednose to		
Year	HAWG02	HAWG03	**Rednose03**	HAWG02	HAWG03	abs HAWG03
1990	645229					
1991	658008					
1992	716799					
1993	671397					
1994	568234					
1995	639146	639146	**579371**	-59775	-59775	59775
1996	306157	276923	**275098**	-31059	-1825	31059
1997	272627	265424	**264313**	-8314	-1111	8314
1998	380178	394308	**391628**	11450	-2680	11450
1999	372341	368346	**363163**	-9178	-5183	9178
2000	372420	389457	**388157**	15737	-1300	15737
2001	364029	364953	**362978**	-1051	-1975	1051
2002		370941	**370941**			
Sum				-82190	-73849	136564

Table 5.4 a: HERRING caught in the North Sea (Sub-area IV and Division VIId). Catch in tonnes by country, 1993–2002. These figures do not an all cases correspond to the official statistics and cannot be used for management purposes.

Country	**1993**		**1994**		**1995**	9	**1996**	9	**1997**	9
Belgium	56		144		-		-		1	
Denmark	164817		121559		153361		66733		38324	
Faroe Islands	-		-		2018		815		1156	
France	12623		27941		29503		12500		14525	
Germany, Fed.Rep	41619	9	38394		43299		14215		13380	
Netherlands	79190		76155		82286		42792		35985	
Norway 4	122815		125522		131026		43739		41606	
Sweden	5782		5425		5147		2458		2253	
USSR/Russia					-		-		1619	
UK (England)	12002	10	14216		14899		6880		3470	
UK (Scotland)	55532		49919		47944		17212		22582	
UK (N.Ireland)	-		-		-		-		-	
Unallocated landings	18410		5749		6599	12	26069	12	63403	6,12
Misreporting from VIaN	24397		30234				-		-	
Total landings	537243	10	495258		516082		233413		238304	
Discards	3470		2510		-		-		-	
Total catch	**540713**	**10**	**497768**		**516082**		**233413**		**238304**	
Estimates of the parts of the catches which have been allocated to spring spawning stocks										
IIIa type (WBSS)	8928		13228		10315		855		979	
Thames estuary 5	201		215		203		168		202	
Norw. Spring Spawners 13	9051		5902		9501		30274		54728	

Country	**1998**	9	**1999**	9	**2000**	9	**2001**	9	**2002**	1
Belgium	-		2		-		-		23	
Denmark 7	58924		61268		64123		67096		70825	
Faroe Islands	1246		1977		915		1082		1413	
France	20784		26962		20952		24515		25422	
Germany	22259		26764		26687		29779		27213	
Netherlands	49933		54467		54341		51293		55257	
Norway 4	70981		74071	1	72072	1	75886	1	74974	
Sweden	3221		3241		3046		3695		3418	
USSR/Russia	452		-		-		-		-	
UK (England)	7635		11434		11179		14582		13757	
UK (Scotland)	31313		29911		30033		26719		30926	
UK (N.Ireland)	1015		-		996		1018		944	
Unallocated landings	70329	12	43327	12	61673	12	27362	12	31552	12
Misreporting from VIaN										
Total landings	338092		333424		346017		323027		335724	
Discards									17093	
Total catch	**338092**		**333424**		**346017**		**323027**		**352817**	
Estimates of the parts of the catches which have been allocated to spring spawning stocks										
IIIa type (WBSS)	7833		4732		6649		6449		6652	
Thames estuary 5	88		88		76		107		60	
Others 11					378		1097		0	
Norw. Spring Spawners 13	29220		32106		25678		7108		4069	

1 Preliminary.
4 Catches of Norwegian spring spawners removed (taken under a separate TAC).
5 Landings from the Thames estuary area are included in the North Sea catch figure for UK (England).
7 Including any bycatches in the industrial fishery
9 Figures verified and altered if needed in 2003 by SG Rednose
10 Figure altered in 2001
11 Caught in the whole North Sea, included in the catch figure for The Netherlands
12 may include misreported catch from VIaN and discards
13 These catches (including some local fjord-type Spring Spawners) are taken by Norway under a separate quota south of 62°N and are not included in the Norwegian North Sea catch figure for this area.

Table 5.4 b: HERRING, catch in tonnes in Division IVa West. These figures do not in all cases correspond to the official statistics and cannot be used for management purposes.

Country	1993		1994		1995	11	1996	11	1997	11
Denmark	10604		20017		17748		3183		2657	
Faroe Islands	-		-		2018		815		1156	
France	3362		11658		10427		3177		362	
Germany	17342	4	18364		17095		2167		4576	
Netherlands	28616		16944		27205		7714		6072	
Norway	33442		56422		56124		22187		16869	
Sweden	1372		2159		1007		769		1617	
Russia	-		-		-		-		1619	
UK (England)	4742		3862		3315		2391		49	
UK (Scotland)	36628	4	44687		43204		12763		17121	
UK (N. Ireland)	-		-		-		-		-	
Unallocated landings	-8271	5	3214	9	-2556	8	12681	8	40662	6,8
Misreporting from VIa North	24397		30234							
Total Landings	152234		207561		175587		67847		92760	
Discards	825		550							
Total catch	**153059**		**208111**		**175587**		**67847**		**92760**	

Country	1998	11	1999	11	2000	11	2001	11	2002	1
Denmark 7	4634		15359		25530		17770		26422	
Faroe Islands	1246		1977		205		192		-	
France	4758		6369		3210		8164		10522	
Germany	7753		11206		5811		17753		15189	
Netherlands	10917		21552		15117		17503	10	18289	
Norway	27290		31395	1	33164	1	11653	1	10836	
Sweden	315		859		1479		1418		2397	
Russia	452		-		-		-		-	
UK (England)	4306		7999		8859		12283		10142	
UK (Scotland)	29462		28537		29055		25105		30014	
UK (N. Ireland)	1015		-		996		1018		944	
Unallocated landings	56058	8	25469	8	44334	8	24725	8	14201	8
Misreporting from VIa North										
Total Landings	148206		150722		167760		137584		138956	
Discards									17093	
Total catch	**148206**		**150722**		**167760**		**137584**		**156049**	

1 Preliminary.
4 Including IVa East.
5 Negative unallocated catches due to misreporting from other areas.
6 Altered in 2000 on the basis of a Bayesian assessment on misreporting into VIa (North)
7 Including any bycatches in the industrial fishery
8 May include misreported catch from VIaN and discards
9 Figure altered in 2001
10 Including 1057 t of local spring spawners
11 Figures verified and altered if needed in 2003 by SG Rednose

Table 5.4 c: HERRING, catch in tonnes in Division IVa East. These figures do not in all cases correspond to the official statistics and cannot be used for management purposes.

Country	1993	1994	1995 [7]	1996 [7]	1997 [7]
Denmark [5]	43224	43787	45257	19166	22862
Faroe Islands	-	-	-	-	-
France	4	14	4	-	3
Germany	- [3]	-	-	-	-
Netherlands	-	-	167	-	756
Norway [2]	56215	40658	62224	18256	20975
Sweden	711	1010	2211	1119	422
UK (Scotland)	- [3]	-	-	-	-
Unallocated landings	-	-	-132 [4]	-	-756 [4]
Total landings	100154	85469	109731	38541	44262
Discards	-	-	-	-	-
Total catch	**100154**	**85469**	**109731**	**38541**	**44262**
Norw. Spring Spawners [6]	9051	5902	9501	30274	54728

Country	1998 [7]	1999 [7]	2000 [7]	2001 [7]	2002 [1]
Denmark [5]	25750	18259	11300	18466	17846
Faroe Islands	-	-	710	890	1365
France	-	115	-	-	-
Germany	-	-	29	-	81
Netherlands	301	-	38	-	-
Norway [2]	43646	39977	38655	56904 [1]	63482
Sweden	1189	772	1177	517	568
Unallocated landings	-292 [4]	-	338	o	5961
Total landings	70594	59123	52247	76777	89303
Discards	-	-	-	-	-
Total catch	**70594**	**59123**	**52247**	**76777**	**89303**
Norw. Spring Spawners [6]	29220	32106	25678	7108	4069

1 Preliminary
2 Catches of Norwegian spring spawners herring removed (taken under a separate TAC).
3 Included in IVa West.
4 Negative unallocated catches due to misreporting into other areas.
5 Including any bycatches in the industrial fishery
6 These catches (including some local fjord-type Spring Spawners) are taken by Norway under a separate quota south of 62°N and are not included in the Norwegian North Sea catch figure for this area.
7 Figures verified and amended if needed by SG Rednose in 2003

Table 5.4 d: HERRING, catch in tonnes in Division IVb. These figures do not in all cases correspond to the official statistics and cannot be used for management purposes.

Country	1993	1994	1995 6	1996 6	1997 6
Belgium	-	-	-	-	-
Denmark 4	109994	55060	87917	43749	11558
Faroe Islands	-	-	-	-	-
France	2086	5492	7639	2373	6069
Germany	23628	14796	21209	11051	7455
Netherlands	31370	39052	31025	21053	14976
Norway	33158	28442	12678	3296	3762
Sweden	3699	2256	1929	570	214
UK (England)	3804	7337	9688	2757	2033
UK (Scotland)	18904	5101	4700	4449	5461
Unallocated landings	-16415 3	-26988 3	-12552 3	-17313 5	-3744 5
Total landings	210228	130548	164233	71985	47784
Discards 2	245	460	-		
Total catch	**210473**	**131008**	**164233**	**71985**	**47784**

Country	1998 6	1999 6	2000 6	2001 6	2002 1
Belgium	-	1	-	-	-
Denmark 4	26667	26211	26825	30277	26387
Faroe Islands	-	-	-	-	48
France	8945	7634	10863	7601	4214
Germany	13590	13529	18818	8340	7577
Netherlands	27468	22343	26839	24160	13154
Norway	45	2699	253	7329 1	656
Sweden	1717	1610	390	1760	453
UK (England)	1767	1641	669	814	317
UK (Scotland)	1851	1374	978	1614	289
Unallocated landings	-12138 5	-3794 5	-9820 5	-22885 5	4052
Total landings	69912	73248	75815	59010	57147
Discards 2					
Total catch	**69912**	**73248**	**75815**	**59010**	**57147**

1 Preliminary
2 Discards partly included in unallocated
3 Negative unallocated catches due to misreporting from other areas.
4 Including any bycatches in the industrial fishery
5 May include discards. Negative unallocated due to misreporting into other areas.
6 Figures verified and altered if needed by SG Rednose in 2003

Table 5.4 e: HERRING, catch in tonnes in Divisions IVc and VIId. These figures do not in all cases correspond to the official statistics and cannot be used for management purposes.

Country	1993	1994	1995 9	1996 9	1997 9
Belgium	56	144	-	-	1
Denmark	995	2695	2439	635	1247
France	7171	10777	11433	6950	8091
Germany	649	4964	4996	997	1349
Netherlands	19204	20159	23889	14024	14181
UK (England)	3456 10	3016	1895	1733	1388
UK (Scotland)	-	131	40	-	-
Unallocated landings	43096	29792	21840 4	30702 4	27241 4
Total landings	74627 10	71678	66532	55041	53498
Discards 3	2400	2400			
Total catch	**77027 10**	**74078**	**66532**	**55041**	**53498**
Coastal spring spawners included above 2	201	215	203	168	143

Country	1998 9	1999 9	2000 9	2001 9	2002 1
Belgium	-	1	1	-	23
Denmark	1873	1439	468	583	170
France	7081	12844	6879	8750	10686
Germany	916	2029	2029	3686	4366
Netherlands	11247	10572	12348	9630	23814
UK (England)	1562	1794	1651	1485	3298
UK (Scotland)	-	-	-	-	623
Unallocated landings	26701 4	21652 4	26822 4	25522 4	7338
Total landings	49380	50331	50198	49656	50318
Discards 3					-
Total catch	**49380**	**50331**	**50198**	**49656**	**50318**
Coastal spring spawners included above 2	88	88	76	147 11	60

1 Preliminary
2 Landings from the Thames estuary area are included in the North Sea catch figure for UK (England).
3 Discards partly included in unallocated
4 May include misreported catch and discards.
9 Figures verified and altered if needed by SG Rednose in 2003
10 Figure altered in 2002 (was 7851 t higher before)
11 Thames/Blackwater herring landings: 107 t, others included in the catch figure for The Netherlands

Table 5.4 f ("The Wonderful Table"): HERRING in Sub-area IV, Division VIId and Division IIIa. Figures in thousand tonnes. Data 1995-2001 were updated by SG Rednose in 2003.

Year	1989	1990	1991	1992	1993	1994	1995 [18]	1996 [18]	1997 [18]	1998 [18]	1999 [18]	2000 [18]	2001 [18]	2002	2003
Sub-Area IV and Division VIId: TAC (IV and VIId)															
Recommended Divisions IVa, b [1]	484	373, 332	363 [6]	352	290 [7]	296 [7]	389 [11]	156	159	254	265	265	265	265	400
Recommended Divisions IVc, VIId	30	30	50-60 [6]	54	50	50	50	- [14]	- [14]	- [14]	- [14]	- [14]	- [14]	- [14]	- [14]
Expected catch of spring spawners				10	8										
Agreed Divisions IVa,b [2]	484	385	370 [6]	380	380	390	390	263;131 [13]	134	229	240	240	240	223	340.5
Agreed Div. IVc, VIId	30	30	50 [6]	50	50	50	50	50; 25 [13]	25	25	25	25	25	42.7	59.5
Bycatch ceiling in the small mesh fishery									24	22	30	36	36	36	52
CATCH (IV and VIId)															
National landings Divisions IVa,b [3]	639	499	495	481	463	421	465	183	149	245	261	261	272	261	
Unallocated landings Divisions IVa,b	-2	14	30	14	-1	6	-15	-5	36	44	22	35	2	24	
Discard/slipping Divisions IVa,b [4]	3	4	2	3	1	1	-	-	-	-	-	-	-	17	
Total catch Divisions IVa,b [5]	638	516	527	498	463	428	450	178	185	289	283	296	273	303	
National landings Divisions IVc, VIId [3]	30	24	42	37	32 [21]	42	45	24	26	23	29	23	24	43	
Unallocated landings Divisions IVc,VIId	48	32	16	35	43	30	22	31	27241	27	22	27	26	7	
Discard/slipping Divisions IVc, VIId [4]	1	5	3	2	2	2	-	-	-	-	-	-	-	0	
Total catch Divisions IVc, VIId	79	61	61	74	77 [21]	74	67	55	53	49	50	50	50	50	
Total catch IV and VIId as used by ACFM [5]	**717**	**578**	**588**	**572**	**540** [21]	**498**	**516**	**233**	**238**	**338**	**333**	**346**	**323**	**353**	
CATCH BY FLEET/STOCK (IV and VIId) [10]															
North Sea autumn spawners directed fisheries (Fleet A)	N.a.	N.a.	446	441	438	447	439	195	225	316	313	322	296	323	
North Sea autumn spawners industrial (Fleet B)	N.a.	N.a.	134	124	101	38	67	38	13	14	15	18	20	22	
North Sea autumn spawners in IV and VIId total	**696**	**569**	**580**	**564**	**539**	**485**	**506**	**233**	**237**	**330**	**329**	**339**	**317**	**346**	
Baltic-IIIa-type spring spawners in IV	20	8	8	8	9	13	10	1	1	8	5	7	6	7	
Coastal-type spring spawners	2.3	1.1	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	1.2	0.1	
Norw. Spring Spawners caught under a separate quota in IV [20]	N.a.	4	5	5	9	6	10	30	55	29	32	26	7	4	
Division IIIa: TAC (IIIa)															
Predicted catch of autumn spawners			96	153	102	77	98	48	35	58	43	53	67	63	27
Recommended spring spawners	84	67	91	90	93–113	- [9]	- [12]	- [12]	- [15]	- [15]	- [15]	- [15]	- [15]	- [15]	- [15]
Recommended mixed clupeoids	80	60	0	0	0	-	-	-	-	-	-	-	-	-	-
Agreed herring TAC	138	120	104.5	124	165	148	140	120	80	80	80	80	80	80	80
Agreed mixed clupeoid TAC	80	65	50	50	45	43	43	43							
Bycatch ceiling in the small mesh fishery									20	17	19	21	21	21	21
CATCH (IIIa)															
National landings	192	202	188	227	214	168	157	115	83	120	86	108	90	79	
Catch as used by ACFM	162	195	191	227	214	168	157	115	83	105	86	108	90	73	
CATCH BY FLEET/STOCK (IIIa) [10]															
Autumn spawners human consumption (Fleet C)	N.a.	N.a.	26	47	44	42	21	23	34	54	31 [17]	37	36	17 [22]	
Autumn spawners mixed clupeoid (Fleet D) [19]	N.a.	N.a.	13	23	25	12	6	12	4	5	8 [17]	13	12	9 [22]	
Autumn spawners other industrial landings (Fleet E)	N.a.	N.a.	38	82	63	32	43	7	2						
Autumn spawners in IIIa total	**91**	**77** [8]	**77**	**152**	**132**	**86**	**73**	**43**	**27**	**61**	**34** [17]	**49**	**46**	**26** [22]	
Spring spawners human consumption (Fleet C)	N.a.	N.a.	68	53	68	59	59	69	34	43	44 [17]	53	39	38 [22]	
Spring spawners mixed clupeoid (Fleet D) [19]	N.a.	N.a.	5	2	1	1	2	1	1	3	3 [17]	5	3	9 [22]	
Spring spawners other industrial landings (Fleet E)	N.a.	N.a.	40	20	12	24	29	3	1						
Spring spawners in IIIa total	**71**	**118**	**113**	**75**	**81**	**84**	**90**	**73**	**37**	**46**	**47** [17]	**58**	**42**	**47** [22]	
North Sea autumn spawners Total as used by ACFM	**787**	**646**	**657**	**716**	**671**	**571**	**579**	**275**	**264**	**392**	**363**	**388**	**363**	**372** [22]	

[1] Includes catches in directed fishery and catches of 1-ringers in small mesh fishery up to 1992. [2] IVa,b and EC zone of IIa. [3] Provided by Working Group members. [4] Incomplete, only some countries providing discard information. Discards might also be included in un. [5] Includes spring spawners not included in assessment. [6] Revised during 1991. [7] Based on F=0.3 in directed fishery only; TAC advised for IVc, VIId subtracted. [8] Estimated. [9] 130-180 for spring spawners in all areas. [10] Based on sum-of-products (number x mean weight at age). [11] Status quo F catch for fleet A. [12] The catch should not exceed recent catch levels. [13] During the middle of 1996 revised to 50% of its original agreed TAC. [14] Included in IVa,b. [15] Managed in accordance with autumn spawners. [17] Figure altered in 2001. [18] Data for 1995-2001 were verified and amended where necessary by SG REDNOSE in 2003. [19] Fleet D and E are merged from 1999 onwards. [20] These catches (including local fjord-type Spring Spawners) are taken by Norway under a separate quota south of 62°N and are not included in the Norwegian North Sea catch figure for this area. [21] figure altered in 2003 to account for earlier summarizing errors. [22] Already including revisions of Swedish catch data available only late during the 2003 WG. Data used for the 2003 assessment of NSAS might differ slightly.

Shaded data on catches by fleet in Div. IIIa were not amended by SG Rednose, data will be updated at HAWG 2004.

Table 8.1: Available disaggregated data on North Sea herring for the HAWG per May 2003
X: Multiple spreadsheets (usually xls); W: WG-data national input spreadsheets (xls);
D: Disfad inputs and Alloc-outputs (ascii/txt). National Data: Disfad-entries

Stock	Catchyear	Format			Comments
		X	W	D	
North Sea					
her_47d3, her_nsea	1991	X			provided by Yves Verin, Feb. 2001
	1992	X			provided by Yves Verin, Feb. 2001
	1993	X			provided by Yves Verin, Feb. 2001
	1994	X			provided by Yves Verin, Feb. 2001
	1995	X		**D**	provided by Yves Verin, Feb. 2001; D prov. by Chr. Zimmermann, Mar. 2003
	1996	X		**D**	provided by Yves Verin, Feb. 2001; D prov. by Chr. Zimmermann, Mar. 2003
	1997	X		**D**	provided by Yves Verin, Feb. 2001; D prov. by Chr. Zimmermann, Mar. 2003
	1998	X	W	**D**	provided by Yves Verin, Mar. 2000, D prov. by Chr. Zimmermann, Mar. 2003
	1999		W	D	provided by Christopher Zimmermann, Mar. 2000, updated Mar. 2003
	2000		W	D	provided by Christopher Zimmermann, Mar. 2001, updated Mar. 2003
	2001		W	D	provided by Christopher Zimmermann, Mar. 2002, updated Mar. 2003
	2002		W	D	provided by Christopher Zimmermann, Mar. 2003
National Data					
Denmark	**1994-1998**		**W**		provided by Jærgen Dalskov, Jan. 2003
Netherlands	**1995-2001**			**D**	provided by Martin Pastoors, Jan. 2003
Norway	1995-1997			D	provided by Reidar Toresen, Jan. 2003
	1998-2001		**W**		provided by Reidar Toresen, Sept. 2003
Germany: North Sea	1995-1998		W		provided by Christopher Zimmermann, Mar. 2001 (without sampling)
Sweden	1990-2000		W		provided by Johan Modin, Mar. 2001 (without sampling)
UK/England & Wales	1985-2000	X			database output provided by Marinelle Basson, Mar. 2001 (without sampling)
UK/England & Wales& Northern Ireland	1990-1998		**W**		provided by Steve Warnes, Jan. 2003
UK/Scotland	1990-1998		W		provided by Sandy Robb/Emma Hatfield, Mar. 2002