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PORTUGUESE RESEARCH REPORT FOR 1998

by

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A. Status of the fisheries

In 1998 the Portuguese nominal catches proceeding from NAFO Regulatory Area recorded 9,614 ton (Tab. I). Since 1991 the nominal catches have been decreasing continuously from 75,000 ton (1991) to 9,000 ton (1997), with a major drop from 1994 (30,156 ton) to 1995 (11,441 ton). The level of the 1998 nominal catches is slightly above the level of 1997, which was the lowest on record for the modern history of the Portuguese Northwest Atlantic fisheries.

During 1998 only stern trawlers (11 trawlers, one of them fishing shrimp during 47 days), composed the Portuguese fleet.

The nominal catches in both divisions 3L and 3M decreased from 1997 to 1998, in Div. 3L due to the decrease in the Greenland halibut and roughhead grenadier catches and in the Div. 3M due the drop in the cod catches. In Div. 3N and 3O the catches increased, in Div. 3N due to the roughhead grenadier, Greenland halibut and skates catches and in Div. 3O due to the redfish catches. Since 1994 Greenland halibut is the most important commercial species in Div. 3L and 3N, followed by roughhead grenadier and skates. This group of species corresponded in 1998 to 89% of the overall trawl catch in Div. 3L and 76% in Div. 3N. In Div. 3M, due to the drop in the cod 1998 catches, Greenland halibut for the first time is the species with higher catches. In Div. 3O redfish increased is importance and represent 85% of the catches of this division in 1998 against 60% in 1997.

The total trawl fishing effort in the NAFO Regulatory Area decreased from 1428 days in 1997 to 1172 days in 1998. These decrease was mainly in the divisions 3L and 3M (less 235 and 71 days respectively)(Tab. II-A).

From the monitored fishing vessels Greenland halibut was the priority species for the Portuguese trawl fleet during 1998, accounting with 70.7% of the total directed effort (Tab. II-B, Fig. 1). In 1998 the trawl fishing effort has been evenly spread by the divisions 3L, 3M, 3N and 3O.

B. Portuguese Annual Sampling Program

1. Catch and effort sampling.

Effort and cpue data for 1998 Portuguese trawl fishery on NAFO Regulatory Area were obtained through the revision of skipper logbooks from two trawlers, kindly supplied by their owners. All the information has been recorded and put on file on a daily basis as regards round weight of the catch by species and on a tow basis as regards fishing effort, positions and depths. The conversion factors used in each vessel were also used to convert its processed landings in catches. Effort data obtained through the revision of the 1998 logbooks available were processed in order to convert the 1998 Portuguese effort, reported in fishing days on the 1998 Portuguese STATLANT 21-B, into fishing hours (Tab. II-A).

The daily catch and effort data from the logbooks were used to estimate the directed effort and CPUE for each of the target species/stock, as well as the main by-catch species and depth range of the different fisheries, on a monthly basis. As mentioned before almost all fishing effort was directed to Greenland halibut (Tab. III).

Following the September 1996 recommendation of the NAFO Scientific Council as regards the availability of witch flounder fishery data, a table with the by-catch of this species on the Greenland halibut fishery is included in Tab. III.

Data regarding directed effort and catch rates are presented in Table II-B and Tab. III to IV-B, Fig. 1 and 2.

The Greenland halibut cpue series was update with the 1998 observed cpue's. The additive model (Ávila de Melo and Alpoim, 1995), was upgraded in 1998 (Alpoim et al, 1998), and used like in previous years to standardise the observed cpue's. From January 1988 till April 1995 each monthly observed cpue of this series was previously corrected for 130mm mesh size (Ávila de Melo and Alpoim, 1996). In this analysis, any observation corresponding to a month and a trawler with less than 10 hours of directed effort was rejected. The cpues are presented in Tables IV and Fig. 2, with the associated standard errors (+/- 2 standard errors in the Figures) and coefficients of variation.

1.1. Comments on catch and effort data (based on the vessels sampled)

1.1.1. Greenland halibut in Div. 3L, 3M and 3N

In Division 3L catch rates declined prior to the boom of the deep-water fishery (Tab.IV-A, Fig. 2). However it is from 1990 to 1991, *i.e.* from the first to the second year of this new fishery in the Regulatory Area, that cpue's fell by more than half (0.335 ton/h to 0.133 ton/h). From 1991 to 1994 catch rates remained stable at a low level. Since then catch rates gradually increased reaching 0.275 ton/h in 1998. In Division 3N no trend is apparent on Greenland halibut trawl cpue's. As for Div. 3M a significant increase was observed from 1996 to 1997 but in 1998 catch rate decreased almost to the level of 1996.

For all three divisions combined (Tab.IV-A, Fig. 2) the catch rates series follows the same pattern as the one for Div. 3L, since this is the division of Sub Area 3 with the highest concentration of Greenland halibut fishing effort. Division 3L has also recorded the highest Greenland halibut catch rates during the 1988-1998 period (Tab.IV-B).

2. Biological Sampling

During 1998 biological sampling was obtained from two stern trawlers fishing in Div.3L, 3M, 3N and 3O during all the year. Apart from cod, a priority species always to be sampled whenever it appeared in the catch, biological sampling was conducted for the two most abundant species in each haul, following the NAFO sampling recommendations.

Greenland halibut, roughhead grenadier, redfish (*S. mentella),* American plaice and witch flounder were sampled in Div. 3L, 3M, 3N and 3O (Tab V). Cod was sampled in Div. 3M, 3N and 3O. Redfish (*S. marinus)* was sampled in Div. 3M and 3O and the yellowtail flounder was only sampled in Div. 3N. As usual information on age composition of cod and Greenland halibut catches, were obtained from those sampled catches. In the case of the Greenland halibut an age/length key for the Divisions 3L, 3M and 3N was compiled. Age composition for the 3M redfish (*S.mentella*) and 3M American plaice was obtained using the respective age/length keys of the July 98 EU survey (Vazquez, 1999).

Due to the deep-sea nature of the 1998 commercial bottom trawling, most of the redfish catches were in fact by-catch of the Greenland halibut fishery, dominated by *S. mentella* in all divisions sampled. *S.marinus* was only founded in small portions of the catches in Div. 3M and 3O.

For the above-mentioned species, length and age structure of the catches, respective mean lengths and mean weights in the catch and mean length and mean weight at age by Division are presented from Tables VI to XXXI and Fig. 3 to 34.

As 1996 and 1997, all 1998 commercial sampling information is representative of the catch as a whole although sampling of redfish, Greenland halibut, American plaice, roughhead grenadier and witch flounder has been carried out by sex as in previous years. Mean length and weight at age are the mean of mean lengths and weights at age by sex, weighted by the abundance in the sampled catches of males and females at each age. For all species mean weight at age and mean weight in the catch are derived from the adopted length-weight relationships (appendix).

2.1. Comments on length and age composition of the 1998 trawl catches.

2.1.1. Cod Div. 3M

Biological information of cod catches in Div. 3M is available for January and for the period from June to September.

Length composition of trawl catches (Tab. VI-A, Fig. 3) indicates that dominant lengths were between 42cm to 60cm with a mode at 51cm. The mean length and the mean weight in the catches are 51.8cm and 1367g, both are at the same level of the Portuguese catches of 1996. As in 1997 the 1994 and 1993 year classes, 4 and 5 years old in 1998, dominated the trawl catches (Tab. VI-B, Fig. 5).

2.1.2. Cod Div. 3N

Sampling from April and September (Table VII and Fig. 4) suggest that lengths between 42cm and 57cm dominated the by-catch, with a clear mode at 48cm.

2.1.3. Cod Div. 3O

Information on length composition of the cod by-catch is available for March, June, August and November (Tab. VIII, Fig. 6) from 190m to 600m depth.
Lengths between 46cm and 57 cm (mean length and weight of 54.1cm and 1472g) dominated catches.

2.1.4. Redfish (*S.mentella)* **Div. 3L**

Information on length composition of the redfish (*S. mentella)* trawl by-catch is available from March to May, from depths between 700m and 1191m (Tab.IX, Fig.7).
Most of the lengths fell within a range of 21cm to 30cm with a mode in the 24 and 25 length classes. Mean length of the trawl catches was 26.1 cm.

2.1.5. Redfish (*S.mentella*) **Div. 3M**

Redfish (*S. mentella*) catches were sampled from April to September from depths between 135m and 1073m. On 1998 the bulk of the catch was between 23cm - 29cm, with the most abundant length groups around 26cm (Tab. X-A, Fig.8), corresponding to ages from 6 to 9. The 1990 year class was the most abundant in the commercial catch (Tab. X-B, Fig.10).

2.1.6. Redfish (*S. mentella*) **Div. 3N**

Information on length composition is available for March, June to September and November (Tab. XI, Fig. 9) covering a depth range of 370m-1077m. This information indicates that lengths between 27cm to 33cm dominated the by-catch, with two modes at 27cm and around 32 cm. The mean length of the trawl catches was 30cm with a mean weight of 407g.

2.1.7. Redfish (*S. mentella*) **Div. 3O**

Redfish (*S.mentella*) trawl catches were sampled in February and March and intensively sampled during the second half-year (with the exception of December) covering a depth range of 180m-1100m.
Lengths are spread between 19cm and 33cm with the most abundant lengths around 23cm (Tab.XII, Fig. 11). Mean length and the mean weight of the 1998 catch are 25.3cm and 255g.

2.1.8. Redfish (*S. marinus*) **Div. 3M**

Length information on redfish (*S. marinus*) trawl catches in Div.3M, presented in Tab. XIII and Fig. 12, are from a small number of samples in June and August. This information suggests that lengths between 20cm and 31cm dominated the catches.

2.1.9. Redfish (*S. marinus*) **Div. 3O**

Redfish (*S.marinus*) trawl catches were sampled in July, September and November. Length composition of trawl catches (Tab.XIV, Fig. 13) is distributed trough a range of lengths from 19cm to 34cm, the most abundant length group between 21cm and 23cm.

2.1.10. American plaice Div. 3L

Information on length composition of the American plaice by-catch is available from February to July (Tab. XV, Fig. 14) from 704m to1197m depth. Lengths ranged between 22cm and 58cm, with predominance of classes around 34cm and 36cm. The mean length (38.9cm) and the mean weight (606g) of the catches were the same as 1997.

2.1.11. American plaice Div. 3M

Information on length and age composition of the American plaice catches is available for May and the 3rd quarter, from depths between 134m and 1046m.

Lengths between 44cm and 52cm (TAB. XVI-A, Fig.15) dominated catches. The age 8 (1990 year-class) and the 13 plus years old groups were the most abundant in the catch (Tab.XVI-B, Fig.17).

2.1.12. American plaice Div. 3N

The length composition of the American plaice by-catch refers to February-April and September-December.
Length composition presents a mode around 36 cm (Tab.XVII, Fig. 16). The mean length increased from 33.9cm in 1997 to 39.5cm in 1998 being at the level of the 1996 Portuguese catches.

2.1.13. American plaice Div. 3O

Trawl by-catches of American plaice were sampled in March and November covering depths between 217m and 1178m. The length composition shows a clear mode around 40cm (Tab.XVIII, Fig. 18). The mean length and the mean weight were 42.1cm and 760g.

2.1.14. Yellowtail flounder Div. 3N

Length frequency proceeding from 3 samples in September (Tab.XIX, Fig. 19) suggests that lengths around 34cm dominated the by-catches.

2.1.15. Greenland halibut Div. 3L

Greenland halibut trawl catches were intensively sampled during 1998 (with the exception of October and November) covering a depth range of 664m-1239m.

Since 1996 the length compositions are very similar. Lengths are spread between 24cm and 96cm with the most abundant lengths around 44cm (Tab.XX-A, Fig. 20). Mean length and the mean weight of the 1998 are 45.6cm and 869g and are at the same level of the 1996 and 1997 ones.

A range of age groups between 5 and 8 dominates age composition. The 1990 to 1993 year classes are the most abundant but while the 1993 year class increase its importance, the 1990 year class is now loosing the dominance on the commercial catch that has kept for two consecutive years (1996-97) (Tab. XX-B, Fig. 22).

2.1.16. Greenland halibut Div. 3M

Biological information of the Greenland halibut catches in Div. 3M is available from February to September and for December, from depths between 134m and 1239m.

As in Div. 3L the lengths are spread between the 24cm and 94cm (Tab XXI-A, Fig. 21), but with the most abundant lengths groups around 42cm. The mean length and mean weight of the catches are higher than in Div.3L (46.7cm and 922g). The dominant year classes are the same of Div.3L, but in this division the 1990 and 1993 year classes are at the same level (Tab XXI-B, Fig. 23).

2.1.17. Greenland halibut Div. 3N

Greenland halibut trawl catches were sampled in February, March and June to November. The length (Tab. XXII-A, Fig. 24) and age (Tab. XXII-B, Fig. 25) compositions show the same pattern as in Div. 3L and 3M. The mean length and mean weight are 47.1cm and 961g. The dominant year classes are the same of the Div.3L and 3M, with the same age composition structure of Div 3M.

2.1.18. Greenland halibut Div. 3O

Information on length composition of the Greenland halibut catches is available for February, March, June, July September and November, from 249m to 1185m depth.

Length composition presents a mode around 46cm (Tab.XXIII, Fig. 26). The mean length (49.6cm) in this division is higher than the mean length of the catches on the rest of SubArea 3.

2.1.19. Roughhead grenadier Div. 3L

Trawl catches of roughhead grenadier are the main by-catch of the Greenland halibut fishery and so were also intensively sampled from January to September and December.

Anal lengths are spread between 6cm and 33cm with the most abundant lengths in the vicinity of 12cm (Tab.XXIV, Fig. 27).

2.1.20. Roughhead grenadier Div. 3M

The length composition of roughhead grenadier caught in Div.3M at depths between 818m and 1239m indicates that lengths between 11cm to 15cm dominate the by-catch (Tab. XXV, Fig 28), with mean length of 14.9cm and a mean weight of 377g.

2.1.21. Roughhead grenadier Div. 3N

Information on length composition of roughhead grenadier is available from March to December (with the exception of May and October) covering a depth range of 227-1520m.

The length composition shows a clear mode around 14cm (Tab.XXVI, Fig. 29). The mean length and the mean weight were 16cm and 450g.

2.1.22. Roughhead grenadier Div. 3O

Length frequency proceeding from 1 sample in July (Tab.XXVII, Fig. 30) suggests that lengths between 10cm and 12cm dominated the catches.

2.1.23. Witch flounder Div. 3L

Length composition of witch flounder is available from March to August, for a depth range of 700m-1197m.

The length composition of this by-catch shows a clear mode at 38cm (Tab. XXVIII, Fig.31) with a mean length of 40.8cm.

2.1.24. Witch flounder Div. 3M

Information on length composition of the by-catch of witch flounder is available for March to April and for August (Tab

XXIX, Fig. 32). Most of these catches fell in lengths between 34cm and 44cm.

2.1.25. Witch flounder Div. 3N

Length composition of witch flounder by-catch is available for July and September for a depth range of 56m-1338m. Length composition of trawl catches (Tab XXX, Fig. 33) is distributed between a range of lengths from 28cm to 56cm, with a mode at 38cm.

2.1.26. Witch flounder Div. 3O

Information on length composition of the by-catch of witch flounder is only available for November (Tab XXXI, Fig. 34). This information suggests that 36cm and 38cm length groups dominated the catches.

3. Acknowledgements

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TABLE I : PORTUGUESE NOMINAL TRAWL CATCHES (mt) IN NAFO AREA, 1998

	DIVISION				TOTAL
SPECIES	3L	3M	3N	3O	1998
Cod	0.4	454.8	40.9	53.1	549.2
Redfish	61.4	258.7	173.0	1874.6	2367.7
American plaice	73.9	44.3	180.9	58.0	357.1
Yellowtail		2.0	73.0	10.0	85.0
Witch flounder	91.3	100.8	153.1	35.8	381.0
Greenland halibut	1710.3	693.5	766.1	72.0	3241.9
Atlantic halibut	2.8	0.5	17.9	8.6	29.8
Roughhead grenadier(1)	232.5	122.8	715.8	17.7	1088.8
Anarhichas spp.	26.4	43.3	58.7	11.5	139.9
Hadocck		0.1	1.8	4.4	6.3
Pollock					
Red hake	4.5	3.0	5.1	5.1	17.7
Capelin					
Skates	167.1	112.1	772.3	53.4	1104.9
Monkfish					
Squid				0.9	0.9
Shrimp		203.4			203.4
Unidentified	4.4	5.6	18.0	12.1	40.1
TOTAL	2375.0	2044.9	2976.6	2217.2	9613.7

(1) Reported as Roundnose grenadier in years before.

TABLE I : cont.

SPECIES \ YEAR	TOTAL 1998	TOTAL 1997	TOTAL 1996	TOTAL 1995	TOTAL 1994	TOTAL 1993	TOTAL 1992	TOTAL 1991	TOTAL 1990	TOTAL 1989	TOTAL 1988
Cod	549	1546	1318	1353	2636	3651	5984	13357	15138	24129	12931
Redfish	2368	1125	2152	2590	8609	9828	6581	12163	17810	18870	17072
American plaice	357	389	298	175	344	347	451	1288	714	1821	1791
Yellowtail	85						1	10	11	5	
Witch flounder	381	347	236	375	573	289	849	1982	2254	16	12
Greenland halibut	3242	3343	3308	1814	5967	8805	10539	13961	11170	3614	4194
Atlantic halibut	30	17	12	18	45	53	81	228	91		
Roughhead grenadier(1)	1089	762	784	1402	2223	1969	2000	4486	3211	290	914
Anarhichas spp.	140	185	122	1401	3219	2302	1696	2843	1940		
Hadocck	6	39		2	10	10	166	83	17		
Pollock					13	41	28	421	11		
Red hake	18	56	124	230	267	366	466	1009	467		
Capelin									77		
Skates	1105	904	788	2068	6238	7626	7017	23301	13569	663	1097
Monkfish				2		8	37	10	2		
Squid	1		3								
Shrimp	203	170									
Unidentified	40	116	22	14	12	238	325	174	852		
TOTAL	9614	9000	9167	11441	30156	35532	36220	75314	67334	49408	38011

TABLE II - A : PORTUGUESE TRAWL EFFORT IN FISHING DAYS AND FISHING HOURS IN NAFO AREA IN 1998.

MONTH	DIVISION										MONTH
	3L		3M		3N		3O		TOTAL 1998		
	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	
JAN.	8	56.7	10	90.8					18	148	JAN.
FEB.	96	1283.2	70	678.1	12	80.0	4	42.1	182	2083	FEB.
MAR.	93	1363.7	78	931.5	71	840.5	15	156.0	257	3292	MAR.
APR.	89	1553.8	50	600.7	80	1154.9	12	136.4	231	3446	APR.
MAY	15	178.4	14	185.2	25	358.9	14	159.2	68	882	MAY
JUN.	11	189.4	8	126.2	4	55.8	7	84.4	30	456	JUN.
JUL.	20	320.0	10	75.0	17	205.4	19	178.9	66	779	JUL.
AUG.	27	458.0	22	359.5	37	501.0	19	308.0	105	1626	AUG.
SEP.	18	247.0	11	128.3	45	536.3	19	197.2	93	1109	SEP.
OCT.			2	23.3	14	79.3	15	31.3	31	134	OCT.
NOV.	2	19.5	1	11.1	3	25.5	32	248.0	38	304	NOV.
DEC.	15	146.4	8	89.1	30	2023.0			53	2259	DEC.
TOTAL	394	5816	284	3299	338	5861	156	1541	1172	16517	TOTAL

Note: Fishing hours and number of nets estimated from their monthly rates to fishing days observed in the trawlers and gillnetters sampled by the IPIMAR. Monthly effort of gillnetters is given by the sum of nets per fishing day

TABLE II - A: cont.

YEAR	GEAR				YEAR
	OT		GNS		
	DAYS	HOURS	DAYS	NETS	
1997	1428				1997
1996	1912	27206	166		1996
1995	1425	19083	612	173833	1995
1994	1553	22065	676	166735	1994
1993	2496	32481	731	209536	1993
1992	2670	32662	672	266141	1992
1991	5297	74829	712	302407	1991
1990	5026	72536	714	238732	1990
1989	3850	54833	692	268885	1989

Table II - B : Breakdown of the 1998 sampled Portuguese directed trawl effort by species and division(%).

DIVISION	G.HALIBUT	ROUGHHEAD G.	SKATES	REDFISH	COD	TOTAL/DIV.
3L	35.6	2.1				37.6
3M	10.8	2.5	0.6	0.2	6.0	20.2
3N	22.7	0.4	2.5			25.6
3O	1.7		0.6	14.3		16.6
TOTAL/SPECIES	70.7	5.0	3.7	14.6	6.0	

TABLE III: Portuguese trawl fishery: cpue, bycatch by month and division and bycatch of witch flounder in the Greenland halibut fishery, for 1998.

DIVISION	TARGET SPECIES	MONTH	DEPTH RANGE (m) MIN.	MAX.	C.P.U.E. (ton/hour)	MAIN BY-CATCH SPECIES	%	WITCH FLOUNDER BY-CATCH (%)	TOTAL BY-CATCH (%)
3M	COD	JAN.	180	306	0.037	SKATES	11.3		11.3
3M	COD	JUN.	135	313	0.291	A.PLAICE	3.3		6.5
3M	COD	JUL.	134	298	0.069	A.PLAICE	16.8		32.5
3M	COD	AUG.	136	300	0.161	A.PLAICE	26.3		49.0
3M	COD	SEP.	150	280	0.094	A.PLAICE	20.7		50.4
3M	REDFISH	JUL.	246	247	0.080	SKATES	43.3		58.9
3O	REDFISH	JUN.	257	1185	0.465	G.HALIBUT	9.3		25.2
3O	REDFISH	JUL.	180	693	0.940	G.HALIBUT	0.7		2.3
3O	REDFISH	AUG.	190	630	0.138	SKATES	17.6		55.2
3O	REDFISH	SEP.	205	725	0.671	G.HALIBUT	3.5		9.0
3O	REDFISH	OCT.	378	557	2.432	POLLOCK	1.3		2.4
3O	REDFISH	NOV.	217	763	1.448	COD	1.3		4.0
3L	G.HALIBUT	JAN.	1134	1194	0.153	ROUGHHEAD G.	13.3	2.3	17.8
3L	G.HALIBUT	FEB.	900	1239	0.224	ROUGHHEAD G.	9.8	3.7	19.2
3L	G.HALIBUT	MAR.	700	1201	0.341	A.PLAICE	6.9	2.6	19.8
3L	G.HALIBUT	APR.	704	1197	0.241	ROUGHHEAD G.	14.0	7.6	37.6
3L	G.HALIBUT	MAY	705	1156	0.292	ROUGHHEAD G.	20.1	6.0	45.6
3L	G.HALIBUT	JUN.	792	1183	0.311	ROUGHHEAD G.	6.4	1.9	10.2
3L	G.HALIBUT	JUL.	854	1193	0.304	ROUGHHEAD G.	8.7	1.0	13.1
3L	G.HALIBUT	AUG.	760	1195	0.237	ROUGHHEAD G.	8.1	0.6	10.9
3L	G.HALIBUT	SEP.	664	1195	0.196	ROUGHHEAD G.	11.0	0.3	13.1
3L	G.HALIBUT	DEC.	729	1220	0.143	ROUGHHEAD G.	18.5	3.2	26.1
3M	G.HALIBUT	FEB.	985	1199	0.315	ROUGHHEAD G.	8.4	0.5	11.6
3M	G.HALIBUT	MAR.	860	1126	0.346	ROUGHHEAD G.	2.2	0.5	3.1
3M	G.HALIBUT	APR.	315	1133	0.184	ROUGHHEAD G.	19.1	7.1	40.0
3M	G.HALIBUT	MAY	863	1123	0.188	ROUGHHEAD G.	25.9	8.2	54.1
3M	G.HALIBUT	JUN.	270	1000	0.204	ROUGHHEAD G.	10.1	0.4	14.2
3M	G.HALIBUT	JUL.	889	1046	0.317	ROUGHHEAD G.	8.8	0.0	12.0
3M	G.HALIBUT	AUG.	822	1151	0.201	ROUGHHEAD G.	3.4	0.0	6.4
3M	G.HALIBUT	SEP.	818	1079	0.132	ROUGHHEAD G.	11.4	0.0	19.6
3M	G.HALIBUT	DEC.	991	1239	0.101	ROUGHHEAD G.	21.9	0.0	49.3
3N	G.HALIBUT	FEB.	925	997	0.242	SKATES	27.8	3.2	48.4
3N	G.HALIBUT	MAR.	516	1370	0.193	SKATES	24.1	4.0	59.5
3N	G.HALIBUT	APR.	926	1350	0.246	A.PLAICE	22.8	2.2	50.8
3N	G.HALIBUT	JUN.	370	1100	0.258	ROUGHHEAD G.	14.4	2.8	21.1
3N	G.HALIBUT	JUL.	368	1360	0.259	ROUGHHEAD G.	8.2	3.0	15.9
3N	G.HALIBUT	AUG.	513	1340	0.262	ROUGHHEAD G.	10.3	4.8	22.9
3N	G.HALIBUT	SEP.	140	1300	0.205	REDFISH	12.5	5.7	31.7
3N	G.HALIBUT	NOV.	400	1108	0.097	A.PLAICE	12.2	6.6	36.8
3N	G.HALIBUT	DEC.	350	1453	0.143	A.PLAICE	15.1	2.9	34.5
3O	G.HALIBUT	FEB.	202	1170	0.244	ROUGHHEAD G.	6.3	2.2	12.2
3O	G.HALIBUT	MAR.	305	1134	0.167	A.PLAICE	23.5	6.0	69.0
3O	G.HALIBUT	JUN.	919	1160	0.238	WITCH F.	12.3	12.3	22.1
3O	G.HALIBUT	JUL.	344	1142	0.105	SPOTTED W.	32.3	4.9	46.3
3L	ROUGHHEAD G.	APR.	825	1185	0.072	G.HALIBUT	35.0		77.6
3L	ROUGHHEAD G.	MAY	813	1126	0.121	G.HALIBUT	40.7		70.7
3M	ROUGHHEAD G.	MAY	850	1123	0.122	G.HALIBUT	42.2		71.0
3M	ROUGHHEAD G.	DEC.	987	1223	0.108	G.HALIBUT	32.5		64.2
3N	ROUGHHEAD G.	MAR.	939	1370	0.061	SHARKS	29.5		88.7
3M	SKATES	MAY	971	1009	0.168	G.HALIBUT	39.5		79.1
3M	SKATES	JUL.	246	247	0.084	REDFISH	41.1		56.7
3M	SKATES	SEP.	916	971	0.042	G.HALIBUT	48.2		66.6
3N	SKATES	MAR.	888	1520	0.231	G.HALIBUT	30.2		65.7
3N	SKATES	APR.	1012	1200	0.166	G.HALIBUT	43.0		61.3
3N	SKATES	JUL.	963	1092	0.095	G.HALIBUT	43.5		63.3
3O	SKATES	AUG.	190	515	0.062	REDFISH	18.1		77.1

TABLE IV - A: GREENLAND HALIBUT TRAWL CATCH RATES, 1988-98: mean annual cpue's corrected for the month, division and vessel of each observation.

	3L			3M			3N			3LMN			
	CPUE	ST.ERROR	C.V.	CPUE	ST.ERROR	C.V.	CPUE	ST.ERROR	C.V.	CPUE	ST.ERROR	C.V.	
1988	0.414	0.091	38.1							0.429	0.104	41.8	1988
1989	0.382	0.048	37.8							0.352	0.055	47.3	1989
1990	0.335	0.033	33.9	0.166			0.199			0.308	0.031	38.1	1990
1991	0.133	0.037	61.5				0.168	0.032	32.7	0.128	0.024	53.7	1991
1992	0.117	0.030	82.2				0.202	0.024	41.6	0.156	0.024	72.8	1992
1993	0.137	0.024	24.7				0.163	0.017	36.5	0.147	0.015	39.2	1993
1994	0.105	0.036	48.8				0.168	0.009	13.7	0.141	0.017	35.1	1994
1995	0.153	0.026	48.2	0.137	0.018	28.8	0.159	0.017	28.3	0.160	0.017	46.4	1995
1996	0.226	0.024	38.5	0.176	0.017	29.3	0.198	0.015	20.5	0.204	0.011	30.2	1996
1997	0.239	0.021	28.9	0.233	0.026	31.7	0.186	0.036	27.1	0.232	0.020	39.8	1997
1998	0.275	0.018	24.6	0.188	0.020	36.1	0.203	0.017	27.1	0.243	0.010	25.0	1998

TABLE IV - B: GREENLAND HALIBUT TRAWL CATCH RATES, 1988-98: mean cpue's by division corrected for the year, month and vessel of each observation.

	CPUE	ST.ERROR	C.V.	
3L	0.243	0.011	41.3	3L
3M	0.187	0.011	35.0	3M
3N	0.183	0.009	37.5	3N
3LMN	0.213	0.007	42.5	3LMN

TABLE V: Intensity of the trawl sampling during 1998, by species, division and month.

SPECIES	DIV.	MONTH	Nº OF SAMPLES	Nº FISH MEASURED	SAMPLING WEIGHT(Kg)	OTOLITHS Nº	LENGTH RANGE
COD	3M	JAN.	3	160	237	96	37-80 cm
		JUN.	10	951	1126	151	41-78 cm
		JUL.	3	137	175	96	28-88 cm
		AUG.	39	3303	5242	226	33-100 cm
		SEP.	3	177	335	95	41-95 cm
	3N	APR.	3	314	374	96	38-74 cm
		SEP.	2	132	188	-	-
	3O	MAR.	1	100	132	87	36-72 cm
		JUN.	3	270	540	133	37-88 cm
		AUG.	4	365	659	126	41-86 cm
		NOV.	12	687	1040	-	-
REDFISH *S.mentella*	3L	MAR.	16	1296	401	130	21-40 cm
		APR.	18	1818	511	83	21-41 cm
		MAY	7	687	209	148	19-41 cm
	3M	APR.	1	77	40	63	24-42 cm
		MAY	8	978	260	15	23-35 cm
		JUN.	1	82	40	67	22-39 cm
		JUL.	1	76	22	-	-
		AUG.	5	361	130	63	19-35 cm
		SEP.	1	108	27	-	-
	3N	MAR.	1	76	35	66	25-41 cm
		JUN.	1	77	40	51	26-37 cm
		JUL.	5	479	220	154	24-40 cm
		AUG.	3	326	116	112	22-38 cm
		SEP.	14	2146	684	126	25-44 cm
		NOV.	2	164	73	-	
	3O	FEB.	1	100	48	74	28-46 cm
		MAR.	1	110	71	68	28-44 cm
		JUN.	7	671	247	204	20-44 cm
		JUL.	47	4631	1386	377	16-53 cm
		AUG.	12	1226	507	195	20-43 cm
		SEP.	14	2116	574	170	20-34 cm
		OCT.	1	139	32	-	-
		NOV.	48	6871	1406	-	-
REDFISH *S.marinus*	3M	JUN.	1	37	13	33	20-43 cm
		AUG.	2	58	17		
	3O	JUL.	8	597	144	26	19-43 cm
		SEP.	2	139	42	51	23-37 cm
		NOV.	6	626	134	-	-
AMERICAN PLAICE	3L	FEB.	3	248	196	118	30-56 cm
		MAR.	13	963	473	224	22-54 cm
		APR.	13	1052	551	113	24-52 cm
		MAY	1	54	37	51	28-50 cm
		JUN.	1	38	35	38	31-59 cm
		JUL.	1	79	35	-	-
	3M	MAY	2	146	88	40	32-53 cm
		JUL.	1	36	28	36	31-52 cm
		AUG.	11	905	277	101	33-57 cm
		SET.	1	55	62	49	32-57 cm
	3N	FEB.	4	427	277	92	28-55 cm
		MAR.	14	1463	1025	121	26-61 cm
		APR.	9	962	613	114	27-67 cm
		SET.	6	574	440	65	30-60 cm
		OUT.	1	100	62	35	28-56 cm
		NOV.	2	155	73	-	-
		DEC.	4	397	231	113	27-52 cm
	3O	MAR.	3	297	221	111	30-58 cm
		NOV.	3	300	313	-	-
YELLOWTAIL FLOUNDER	3N	SET.	3	199	132	-	-

TABLE V: count.

SPECIES	DIV.	MONTH	Nº OF SAMPLES	Nº FISH MEASURED	SAMPLING WEIGHT(Kg)	OTOLITHS Nº	OTOLITHS LENGTH RANGE
GREENLAND HALIBUT	3L	JAN.	1	18	23	14	41-76 cm
		FEB.	15	1294	1367	199	33-83 cm
		MAR.	30	2854	2490	433	28-93 cm
		APR.	35	3605	3129	392	24-96 cm
		MAY	15	1520	1714	334	28-94 cm
		JUN.	21	2094	2487	407	28-97 cm
		JUL.	26	2597	2742	419	32-87 cm
		AUG.	50	5565	5012	307	33-81 cm
		SET.	27	2607	2379	272	31-85 cm
		DEC.	7	702	566	144	31-76 cm
	3M	FEB.	7	641	693	169	34-69 cm
		MAR.	7	613	501	218	32-86 cm
		APR.	5	441	477	152	26-83 cm
		MAY	16	1964	1932	150	30-95 cm
		JUN.	3	280	285	101	35-72 cm
		JUL.	2	117	205	111	32-82 cm
		AUG.	3	291	229	54	33-80 cm
		SET.	4	370	380	133	35-90 cm
		DEC.	2	190	237	107	38-74 cm
	3N	FEB.	2	186	133	59	34-61 cm
		MAR.	12	1117	1204	172	35-75 cm
		APR.	19	2038	1695	190	30-85 cm
		JUN.	7	681	647	159	30-69 cm
		JUL.	30	2487	2901	376	27-84 cm
		AUG.	12	1198	1247	260	27-89 cm
		SET.	25	2592	2873	254	26-87 cm
		NOV.	6	569	725	-	-
		DEC.	14	1593	1342	227	28-88 cm
	3O	FEB.	2	162	179	104	38-67 cm
		MAR.	1	86	109	58	38-70 cm
		JUN.	4	361	383	101	35-63 cm
		JUL.	12	1124	687	69	39-67 cm
		SEP.	5	583	516	-	-
		NOV.	2	290	269	-	-
ROUGHHEAD GRENADIER	3L	JAN.	1	11	8	10	15-28 cm
		FEB.	8	487	356	128	11.5-26.5 cm
		MAR.	6	549	337	110	8.5-27 cm
		APR.	27	3217	1364	-	-
		MAY	10	1354	592	-	-
		JUN.	8	650	350	180	7-32 cm
		JUL.	12	1054	545	194	7.5-31 cm
		AUG.	25	2378	1084	87	8-30 cm
		SEP.	18	1494	756	203	7-27 cm
		DEC.	4	384	212	121	10-25 cm
	3M	FEB.	3	148	109	45	13.5-23 cm
		MAR.	7	690	270	-	-
		APR.	2	256	151	-	-
		MAY	14	1764	737	-	-
		JUL.	1	67	26	-	-
		AUG.	2	180	74	-	-
		SEP.	1	78	33	-	-
		DEC:	2	181	135	109	12-26 cm
	3N	MAR.	5	421	333	115	13-16 cm
		APR.	2	161	154	78	13-26.5 cm
		JUN.	1	91	77	57	14-27 cm
		JUL.	12	1118	827	161	12-31 cm
		AUG.	6	555	356	137	11-29.5 cm
		SEP.	12	1101	700	172	10.5-32 cm
		NOV.	3	330	173	-	-
		DEC.	11	1425	716	129	10.5-26 cm
	3O	JUL.	1	94	28	-	-
WITCH FLOUNDER	3L	MAR.	4	251	101	-	-
		APR.	24	1895	883	-	-
		MAY	8	765	342	111	22-56 cm
		JUN.	7	419	155	110	28-51 cm
		JUL.	9	654	250	118	27-52 cm
		AUG.	3	367	143	-	-
	3M	MAR.	1	46	26	-	-
		APR.	1	90	44	-	-
		MAY	11	1256	541	-	-
		AUG.	2	162	55	-	-
	3N	JUL.	3	262	101	-	-
		SEP.	1	45	24	-	-
	3O	NOV.	3	416	153	-	-

TABLE VI - A: COD DIV.3M, 1998: length composition of the trawl catches.

LENGTH GROUP	JAN.	JUN.	JUL.	AUG.	SEP.	1st Q.	2nd Q.	3rd Q.	YEAR 1998	LENGTH GROUP
27			14.6					0.1	0.1	27
30			14.6	0.7				0.8	0.4	30
33			14.6	1.6				1.7	0.9	33
36	5.6		36.5		5.6	5.6		0.5	0.3	36
39	11.1	0.0	80.3	9.1	11.3	11.1	0.0	9.8	5.6	39
42	49.3	85.9	306.6	48.1	39.5	49.3	85.9	50.1	65.5	42
45	119.9	145.9	219.0	154.1	158.2	119.9	145.9	154.9	150.7	45
48	227.1	213.1	109.5	198.0	220.3	227.1	213.1	198.0	204.8	48
51	186.7	213.8	94.9	216.8	197.7	186.7	213.8	215.0	214.3	51
54	213.7	198.1	21.9	156.9	192.1	213.7	198.1	157.0	175.2	54
57	107.2	78.4	14.6	121.2	67.8	107.2	78.4	118.3	101.0	57
60	19.1	43.8		65.5	45.2	19.1	43.8	64.2	55.0	60
63	11.9	9.8		19.3	16.9	11.9	9.8	19.1	15.0	63
66	24.6	5.0	7.3	4.0	5.6	24.6	5.0	4.1	4.7	66
69	6.4	3.9	7.3	1.2	16.9	6.4	3.9	1.9	2.8	69
72	6.4	0.9		1.4	11.3	6.4	0.9	1.7	1.4	72
75	5.6		36.5	0.5		5.6		0.8	0.5	75
78	5.6	1.4				5.6	1.4		0.6	78
81			7.3	0.4	5.6			0.7	0.4	81
84			7.3					0.1	0.0	84
87			7.3	0.3				0.3	0.2	87
90				0.3				0.3	0.1	90
93					5.6			0.2	0.1	93
96										96
99				0.3				0.3	0.1	99
102										102
105				0.3				0.3	0.1	105
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	3	10	3	39	3	3	10	45	58	
SAMPLING WEIGHT(kg)	237	1126	175	5242	335	237	1126	5752	7115	
No.F.MEASURED	160	951	137	3303	177	160	951	3617	4728	
MEAN LENGTH(cm)	52.4	51.5	47.2	52.1	52.4	52.4	51.5	52.1	51.8	
MEAN WEIGHT (g)	1432	1335	1148	1391	1454	1432	1335	1391	1367	
DEPTH RANGE (m)	180/306	135/313	134/313	136/300	150/280	180/306	135/313	134/300	134/313	

TABLE VI - B: COD, DIV.3M, 1998: age composition (‰), mean length (cm) and mean weight (Kg) at age of the trawl catches.

AGE	JAN.			JUN.			JUL.			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
2							26.3	31.5	0.292	2
3	11.1	38.5	0.533	4.8	43.0	0.744	174.0	40.4	0.632	3
4	306.6	47.3	1.004	271.8	46.4	0.953	547.1	44.9	0.865	4
5	584.0	53.5	1.479	580.0	52.4	1.383	177.2	50.6	1.249	5
6	43.8	57.2	1.812	90.3	55.6	1.649	5.3	64.1	2.583	6
7	54.4	68.8	3.212	51.3	61.3	2.259	41.3	74.7	4.134	7
8				1.8	67.3	2.950	28.8	81.0	5.243	8
TOTAL	1000			1000			1000			

AGE	AUG.			SEP.			1st Q.			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
2	1.6	33.4	0.344							2
3	22.2	42.5	0.724	23.5	41.8	0.691	11.1	38.5	0.533	3
4	373.6	48.2	1.066	381.6	48.1	1.061	306.6	47.3	1.004	4
5	537.8	54.2	1.542	507.3	53.7	1.495	584.0	53.5	1.479	5
6	34.9	60.2	2.103	28.1	60.9	2.195	43.8	57.2	1.812	6
7	24.9	60.3	2.153	40.1	65.1	2.747	54.4	68.8	3.212	7
8	4.4	67.5	3.174	13.8	74.2	4.087				8
9										9
10				5.6	94.0	8.173				10
11										11
12	0.5	103.0	10.859							12
TOTAL	1000			1000			1000			
Nº FISH AGED							94			

AGE	2nd Q.			3rd Q.			YEAR 1998			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
2				1.8	33.2	0.337	1.0	33.2	0.337	2
3	4.8	43.0	0.744	23.5	42.3	0.717	15.3	42.4	0.719	3
4	271.8	46.4	0.953	375.3	48.1	1.064	330.1	47.5	1.024	4
5	580.0	52.4	1.383	533.8	54.2	1.539	554.1	53.4	1.468	5
6	90.3	55.6	1.649	34.4	60.2	2.106	58.6	57.1	1.800	6
7	51.3	61.3	2.259	25.6	60.7	2.213	36.9	61.2	2.252	7
8	1.8	67.3	2.950	4.9	68.8	3.366	3.5	68.5	3.275	8
9										9
10				0.2	94.0	8.173	0.1	94.0	8.173	10
11										11
12				0.5	103.0	10.859	0.3	103.0	10.9	12
TOTAL	1000			1000			1000			
Nº FISH AGED	150			406			650			

TABLE VII: COD DIV.3N, 1998: length composition of the trawl catches.

LENGTH GROUP	APR.	SEP.	2nd Q.	3rd Q.	YEAR 1998	LENGTH GROUP
36	5.5	4.4	5.5	4.4	5.5	36
39	5.5	56.9	5.5	56.9	5.8	39
42	57.0	87.0	57.0	87.0	57.2	42
45	123.1	263.2	123.1	263.2	123.9	45
48	301.8	270.2	301.8	270.2	301.6	48
51	214.1	107.9	214.1	107.9	213.5	51
54	153.4	144.6	153.4	144.6	153.3	54
57	81.4	49.9	81.4	49.9	81.2	57
60	24.9	11.4	24.9	11.4	24.8	60
63	16.7	4.4	16.7	4.4	16.6	63
66	5.5		5.5		5.5	66
69						69
72	8.3		8.3		8.3	72
75						75
78	2.8		2.8		2.8	78
TOTAL	1000	1000	1000	1000	1000	
No. SAMPLES	3	2	3	2	5	
SAMPLING WEIGHT(kg)	374	188	374	188	562	
No.F.MEASURED	314	132	314	132	446	
MEAN LENGTH(cm)	51.4	49.0	51.4	49.0	51.4	
MEAN WEIGHT (g)	1211	1038	1211	1038	1210	
DEPTH RANGE (m)	612/980	56/679	612/980	56/679	56/980	

TABLE VIII: COD DIV.3O, 1998: length composition of the trawl catches.

LENGTH GROUP	MAR.	JUN.	AUG.	NOV.	1st Q.	2nd Q.	3rd Q.	4th Q.	YEAR 1998	LENGTH GROUP
30				3.3				3.3	1.0	30
33				3.1				3.1	0.9	33
36	20	4.8		7.7	20.0	4.8		7.7	9.0	36
39	20	3.6		20.9	20.0	3.6		20.9	12.7	39
42	40	7.3	16.3	102.9	40.0	7.3	16.3	102.9	47.2	42
45	120	91.7	28.6	275.4	120.0	91.7	28.6	275.4	138.4	45
48	200	42.1	53.9	245.3	200.0	42.1	53.9	245.3	151.6	48
51	180	76.0	190.1	172.9	180.0	76.0	190.1	172.9	163.3	51
54	160	132.0	182.3	105.1	160.0	132.0	182.3	105.1	144.8	54
57	90	167.0	246.0	30.2	90.0	167.0	246.0	30.2	123.3	57
60	60	177.2	31.8	18.5	60.0	177.2	31.8	18.5	60.3	60
63	60	91.6	155.1	6.6	60.0	91.6	155.1	6.6	72.8	63
66	30	40.9	46.4	4.0	30.0	40.9	46.4	4.0	28.2	66
69		37.2	17.4			37.2	17.4		10.4	69
72	20	9.7	11.5	2.3	20.0	9.7	11.5	2.3	11.1	72
75		32.4	11.4			32.4	11.4		8.1	75
78		30.6	4.5			30.6	4.5		6.1	78
81		48.8		0.9		48.8		0.9	8.3	81
84			4.6				4.6		1.1	84
87		7.3				7.3			1.2	87
90										90
93										93
96										96
99										99
102										102
105				0.9				0.9	0.3	105
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	1	3	4	12	1	3	4	12	20	
SAMPLING WEIGHT(kg)	132	540	659	1040	132	540	659	1040	2371	
No.F.MEASURED	100	270	365	687	100	270	365	687	1422	
MEAN LENGTH(cm)	52.9	60.0	57.5	49.1	52.9	60.0	57.5	49.1	54.1	
MEAN WEIGHT (g)	1353	2055	1723	1057	1353	2055	1723	1057	1472	
DEPTH RANGE (m)	305/535	265/487	190/580	217/600	305/535	265/487	190/580	217/600	190/600	

TABLE IX: RED-FISH (*S.mentella*), DIV. 3L, 1998: length composition of the trawl catches.

LENGTH GROUP	MAR.	APR.	MAY	1st Q.	2nd Q.	TOTAL	LENGTH GROUP
18	1.1			1.1		0.6	18
19		2.1	3.4		2.6	1.3	19
20	5.4	8.5	10.7	5.4	9.4	7.3	20
21	30.1	43.9	16.8	30.1	32.4	31.2	21
22	85.3	121.0	55.1	85.3	92.9	89.0	22
23	167.1	222.8	76.7	167.1	160.5	163.9	23
24	187.3	193.3	74.7	187.3	142.7	165.9	24
25	133.1	130.1	118.2	133.1	125.0	129.3	25
26	94.4	69.2	140.7	94.4	99.7	96.9	26
27	72.4	72.1	127.8	72.4	95.9	83.7	27
28	58.3	58.1	86.9	58.3	70.4	64.1	28
29	59.0	42.7	80.7	59.0	58.9	59.0	29
30	44.1	21.5	41.8	44.1	30.2	37.4	30
31	22.9	5.6	37.0	22.9	19.0	21.0	31
32	11.1	2.2	41.7	11.1	19.1	14.9	32
33	6.2	3.0	44.4	6.2	20.6	13.1	33
34	11.7	0.9	19.9	11.7	9.0	10.4	34
35	5.0	1.3	6.2	5.0	3.4	4.2	35
36	4.3	0.1	7.4	4.3	3.2	3.8	36
37		0.1	4.4		1.9	0.9	37
38		0.6			0.4	0.2	38
39	1.0	0.5	1.7	1.0	1.0	1.0	39
40							40
41		0.2	4.0		1.8	0.9	41
TOTAL	1000	1000	1000	1000	1000	1000	
No. SAMPLES	16	18	7	16	25	41	
SAMPLING WEIGHT(Kg)	401	511	209	511	720	1231	
No.F.MEASURED	1296	1818	687	1296	2505	3801	
MEAN LENGTH(cm)	25.9	25.0	27.5	25.9	26.1	26.1	
MEAN WEIGHT (g)	263	235	316	263	263	269	
DEPTH RANGE (m)	700/1117	704/1191	705/1073	700/1117	704/1191	700/1191	

TABLE X - A: RED-FISH (*S.mentella*), DIV. 3M, 1998: length composition of the trawl catches.

LENGTH GROUP	APR.	MAY	JUN.	JUL.	AUG	SEP.	2nd Q.	3rd Q.	TOTAL	LENGTH GROUP
15					6.0			5.0	1.4	15
16										16
17					4.3			3.6	1.0	17
18										18
19					20.1			16.8	4.8	19
20		2.6			21.8		2.4	18.2	6.9	20
21		15.3			21.0	64.8	14.5	23.2	17.0	21
22		26.5	24.4		51.8	129.6	25.4	54.8	33.8	22
23		73.8	48.8		41.6	101.9	70.5	43.8	62.8	23
24	13.0	89.7	12.2	39.5	46.7	166.7	85.3	56.8	77.1	24
25	39.0	166.6	170.7	118.4	114.2	111.1	161.9	114.3	148.3	25
26	13.0	156.6	134.1	197.4	136.0	129.6	150.7	140.1	147.7	26
27	26.0	168.6	97.6	171.1	67.1	37.0	161.8	72.3	136.2	27
28	26.0	114.0	61.0	144.7	64.2	64.8	109.6	70.4	98.4	28
29	51.9	67.1	73.2	92.1	121.9	55.6	66.7	113.8	80.1	29
30	116.9	30.3	73.2	39.5	75.9	27.8	34.5	68.8	44.3	30
31	103.9	29.5	122.0	65.8	39.8	18.5	34.2	39.9	35.8	31
32	168.8	26.9	48.8	92.1	35.5	27.8	32.7	39.1	34.5	32
33	129.9	16.1	36.6	13.2	50.7	27.8	20.8	45.8	27.9	33
34	116.9	10.3	12.2	26.3	31.7		14.3	28.5	18.4	34
35	77.9	4.2	48.8		12.3		7.8	10.3	8.5	35
36	26.0	0.6	12.2		15.7	9.3	1.8	14.0	5.3	36
37	13.0	0.6	12.2		15.2	9.3	1.3	13.5	4.8	37
38	13.0				5.5	18.5	0.5	6.2	2.1	38
39	39.0		12.2				1.7		1.2	39
40	13.0				1.2		0.5	1.0	0.6	40
41		0.6					0.6		0.4	41
42	13.0						0.5		0.3	42
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	1	8	1	1	5	1	10	7	17	
SAMPLING WEIGHT(Kg)	40	260	40	22	130	27	340	179	519	
No.F.MEASURED	77	978	82	76	361	108	1137	545	1682	
MEAN LENGTH(cm)	32.7	27.0	28.9	28.4	27.9	26.2	27.3	27.8	27.4	
MEAN WEIGHT (g)	511	292	362	335	332	276	302	327	309	
DEPTH RANGE (m)	315/1009	863/1073	135/313	245/298	146/267	150/231	135/1073	146/267	135/1073	

TABLE X-B: REDFISH (*S.mentella*) , DIV.3M, 1998: age composition (‰), mean length (cm) and mean weight (Kg) at age of the trawl catches.

AGE	APR.			MAY			JUN.			JUL.			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
3													3
4													4
5				14.3	21.7	0.1	4.5	22.5	0.2				5
6	2.6	25.0	0.2	60.5	23.4	0.2	37.1	23.6	0.2	7.9	25.0	0.2	6
7	28.8	27.1	0.3	193.7	26.8	0.3	129.9	26.7	0.3	196.9	27.2	0.3	7
8	76.8	26.4	0.3	478.7	25.9	0.3	345.3	26.0	0.3	389.4	26.6	0.3	8
9	181.0	30.3	0.4	158.0	29.2	0.4	196.3	29.9	0.4	210.1	29.4	0.4	9
10	46.6	31.6	0.5	18.0	30.2	0.4	32.8	31.1	0.4	33.9	30.8	0.4	10
11	67.1	32.2	0.5	13.0	31.9	0.5	34.8	31.8	0.5	30.5	32.0	0.5	11
12	389.6	33.4	0.5	53.4	32.9	0.5	144.8	32.9	0.5	115.0	32.7	0.5	12
13	51.6	34.4	0.6	4.8	33.7	0.5	19.9	34.8	0.6	8.7	33.0	0.5	13
14	38.3	34.9	0.6	3.3	34.0	0.6	18.0	35.7	0.6	7.5	33.0	0.5	14
15	10.3	36.0	0.7	0.4	35.8	0.6	5.7	35.9	0.7				15
16	17.7	37.3	0.7	0.4	35.7	0.6	4.6	35.7	0.6				16
17	46.0	38.7	0.8	0.5	37.1	0.7	18.6	38.3	0.8				17
18	2.4	36.5	0.7	0.1	36.5	0.7	1.1	36.5	0.7				18
19+	41.3	40.2	0.9	0.9	39.5	0.9	6.5	37.4	0.7				19+
TOTAL	1000			1000			1000			1000			

AGE	AUG.			SEP.			2nd Q.			3rd Q.			YEAR 1998			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
3	8.1	16.0	0.1							6.8	16.0	0.1	1.9	16.0	0.1	3
4	13.3	19.2	0.1							11.1	19.2	0.1	3.2	19.2	0.1	4
5	46.5	21.0	0.1	53.7	21.9	0.2	13.6	21.7	0.1	43.6	21.1	0.1	22.2	21.3	0.1	5
6	58.8	22.8	0.2	140.6	22.9	0.2	57.8	23.4	0.2	62.2	22.9	0.2	59.1	23.3	0.2	6
7	124.2	26.5	0.3	146.1	25.8	0.3	186.2	26.8	0.3	131.6	26.5	0.3	170.6	26.7	0.3	7
8	321.1	25.9	0.3	438.6	25.1	0.2	460.9	26.0	0.3	336.7	25.9	0.3	425.4	25.9	0.3	8
9	210.1	29.7	0.4	104.5	29.5	0.4	159.6	29.2	0.4	200.7	29.7	0.4	171.4	29.4	0.4	9
10	20.6	30.7	0.4	12.9	30.5	0.4	19.3	30.3	0.4	21.0	30.7	0.4	19.8	30.5	0.4	10
11	22.9	31.9	0.5	12.5	32.1	0.5	15.5	32.0	0.5	22.5	31.9	0.5	17.5	31.9	0.5	11
12	117.8	33.3	0.5	48.9	32.8	0.5	67.9	33.0	0.5	111.5	33.2	0.5	80.4	33.1	0.5	12
13	14.4	34.5	0.6	5.9	34.1	0.6	6.9	34.0	0.6	13.2	34.4	0.6	8.7	34.1	0.6	13
14	15.1	36.0	0.7	7.2	36.2	0.7	4.9	34.4	0.6	13.8	35.9	0.7	7.5	35.2	0.6	14
15	3.7	36.3	0.7	1.7	36.5	0.7	0.9	35.9	0.7	3.3	36.3	0.7	1.6	36.1	0.7	15
16	6.4	37.6	0.8	14.7	38.4	0.8	1.1	36.7	0.7	6.7	37.8	0.8	2.7	37.5	0.7	16
17	13.3	37.3	0.7	11.8	37.7	0.8	2.6	38.4	0.8	12.1	37.3	0.7	5.3	37.7	0.8	17
18	1.4	36.5	0.7	0.8	36.5	0.7	0.2	36.5	0.7	1.3	36.5	0.7	0.5	36.5	0.7	18
19+	2.1	38.4	0.8				2.5	39.8	0.9	1.7	38.4	0.8	2.3	39.5	0.9	19+
TOTAL	1000			1000			1000			1000			1000			

TABLE XI: RED-FISH (*S.mentella*), DIV. 3N, 1998: length composition of the trawl catches.

LENGTH GROUP	MAR.	JUN.	JUL.	AUG	SEP.	NOV.	1st Q.	2nd Q.	3rd Q.	4st Q.	TOTAL	LENGTH GROUP
18						2.1				2.1	0.01	18
19					0.5				0.3		0.3	19
20					4.1				2.0		2.0	20
21			10.5		13.0				10.0		9.7	21
22				1.2	29.7	2.1			14.8	2.1	14.3	22
23			16.9		43.0				27.0		26.1	23
24			46.6	9.0	57.3	2.1			45.8	2.1	44.3	24
25	52.6		57.4	5.9	68.1	4.3	52.6		54.3	4.3	54.0	25
26	78.9	13.0	94.5	30.9	88.2	62.4	78.9	13.0	81.1	62.4	80.9	26
27	131.6	39.0	135.7	44.2	95.7	67.7	131.6	39.0	101.2	67.7	101.8	27
28	78.9	51.9	116.8	46.5	73.9	114.0	78.9	51.9	84.4	114.0	84.2	28
29	52.6		75.0	81.0	67.6	92.5	52.6		72.3	92.5	71.6	29
30	157.9	64.9	50.6	128.5	61.4	90.3	157.9	64.9	68.5	90.3	71.0	30
31	118.4	103.9	77.1	205.7	104.4	100.0	118.4	103.9	111.3	100.0	111.5	31
32	131.6	142.9	68.7	201.5	108.1	130.1	131.6	142.9	109.5	130.1	110.3	32
33	78.9	298.7	90.7	163.8	93.0	134.4	78.9	298.7	103.6	134.4	103.6	33
34	39.5	207.8	71.6	28.2	57.0	75.2	39.5	207.8	57.4	75.2	57.4	34
35	26.3	39.0	11.9	28.5	11.0	81.8	26.3	39.0	14.1	81.8	14.7	35
36	13.2		32.2		6.1	9.7	13.2		14.1	9.7	14.1	36
37		39.0	21.4	8.3	5.6	9.7		39.0	11.5	9.7	11.3	37
38	13.2		12.8	16.6	3.7	9.7	13.2		8.9	9.7	9.0	38
39	13.2		0.4		3.4		13.2		1.8		2.1	39
40			9.2		1.7				4.0		3.9	40
41	13.2				1.8		13.2		0.9		1.2	41
42					0.2				0.1		0.1	42
43					0.2	2.1			0.1	2.1	0.1	43
44					1.4				0.7		0.7	44
45												45
46						9.7				9.7	0.02	46
47												47
//												//
63					0.02				0.01		0.01	63
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	1	1	5	3	14	2	1	1	22	2	26	
SAMPLING WEIGHT(Kg)	35	40	220	116	684	73	35	40	1020	73	1168	
No.F.MEASURED	76	77	479	326	2146	164	76	77	2951	164	3268	
MEAN LENGTH(cm)	30.7	32.8	30.0	31.5	29.3	31.5	30.7	32.8	29.9	31.5	30.0	
MEAN WEIGHT (g)	430	517	412	461	384	468	430	517	406	468	407	
DEPTH RANGE (m)	570/1024	370/1077	368/891	515/979	512/1050	400/1069	570/1024	370/1077	368/1050	410/1069	370/1077	

TABLE XII: RED-FISH (*S.mentella*), DIV. 3O, 1998: length composition of the trawl catches.

LENGTH GROUP	FEB.	MAR.	JUN.	JUL.	AUG	SEP.	OCT.	NOV.	1st Q.	2nd Q.	3rd Q.	4st Q.	TOTAL	LENGTH GROUP
15								0.2				0.2	0.1	15
16				0.4				0.2			0.3	0.2	0.2	16
17								0.5				0.5	0.3	17
18								1.9				1.9	1.1	18
19				3.0		2.6	7.2	17.1			2.7	17.0	10.9	19
20			24.4	23.1	47.0	28.0	21.6	59.9		24.4	25.3	59.4	45.0	20
21			149.9	68.0	59.2	92.4	100.7	129.6		149.9	72.1	129.2	108.8	21
22			185.8	115.2	121.2	143.5	136.7	173.4		185.8	120.8	172.9	153.8	22
23			204.9	131.6	135.3	122.3	187.1	181.0		204.9	130.1	181.1	162.9	23
24			156.0	124.1	83.7	110.0	107.9	137.2		156.0	119.2	136.7	130.8	24
25			82.2	89.2	82.6	74.4	93.5	82.2		82.2	86.1	82.4	83.5	25
26			29.6	76.8	70.3	58.6	64.7	54.3		29.6	73.1	54.4	60.0	26
27			7.0	55.0	46.4	48.5	36.0	39.1		7.0	53.3	39.1	42.7	27
28	20.0	18.2	6.4	47.6	80.4	42.0	43.2	26.7	18.2	6.4	48.3	27.0	33.8	28
29	70.0		13.2	34.6	41.4	34.4	36.0	21.9	0.9	13.2	34.9	22.1	26.4	29
30	110.0	81.8	6.5	39.6	42.9	54.3	21.6	23.3	82.2	6.5	42.5	23.3	29.8	30
31	150.0	172.7	21.4	45.4	50.3	63.9	57.6	8.8	172.4	21.4	49.1	9.5	25.1	31
32	190.0	200.0	16.3	46.0	36.2	55.9	36.0	14.3	199.9	16.3	47.3	14.6	27.3	32
33	130.0	136.4	19.9	30.6	44.3	32.1	28.8	8.0	136.3	19.9	31.6	8.3	17.8	33
34	80.0	109.1	9.4	16.0	9.0	12.5	14.4	4.4	108.7	9.4	15.0	4.5	8.9	34
35	100.0	36.4	10.3	10.7	28.2	3.9		4.3	37.2	10.3	10.4	4.2	6.9	35
36	20.0	36.4	11.6	7.3	3.9	3.4		2.8	36.2	11.6	6.4	2.7	4.6	36
37	40.0	81.8	9.0	6.0	5.2	1.8		2.5	81.3	9.0	5.1	2.5	4.0	37
38	20.0	45.5	10.1	6.4	6.1	3.2		2.1	45.1	10.1	5.8	2.0	3.9	38
39	20.0	45.5	6.5	5.8	2.3	2.9	7.2	0.6	45.1	6.5	5.0	0.7	2.7	39
40	20.0	9.1	7.0	6.3	2.9	4.9		1.4	9.2	7.0	5.9	1.4	3.4	40
41			8.6	5.6	0.7	2.0		1.4		8.6	4.7	1.4	2.9	41
42	20.0		2.6	1.4	0.3	0.5		0.3	0.2	2.6	1.2	0.3	0.7	42
43		18.2	0.9	2.5	0.2	1.0		0.1	18.0	0.9	2.1	0.1	0.9	43
44		9.1	0.5	1.5				0.2	9.0	0.5	1.1	0.2	0.6	44
45				0.2		1.0					0.3		0.1	45
46	10.0								0.1				0.0	46
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	1	1	7	47	12	14	1	48	2	7	73	49	131	
SAMPLING WEIGHT(Kg)	48	71	247	1386	507	574	32	1406	119	247	2467	1438	4271	
No.F.MEASURED	100	110	671	4631	1226	2116	139	6871	210	671	7973	7010	15864	
MEAN LENGTH(cm)	33.5	34.1	25.2	26.7	26.6	26.4	25.6	24.4	34.1	25.2	26.6	24.4	25.3	
MEAN WEIGHT (g)	556	588	256	303	296	288	261	224	587	256	299	224	255	
DEPTH RANGE (m)	434/542	305/535	265/1100	180/693	190/605	205/725	378/557	217/763	305/542	265/1100	180/725	217/763	180/1100	

TABLE XIII: RED-FISH (*S.marinus*), DIV. 3M, 1998: length composition of the trawl catches.

LENGTH GROUP	JUN.	AUG	2nd Q.	3rd Q.	TOTAL	LENGTH GROUP
20	27.0	17.2	27.0	17.2	21.1	20
21	54.1	51.7	54.1	51.7	52.6	21
22	27.0	34.5	27.0	34.5	31.6	22
23		86.2		86.2	52.6	23
24	81.1	86.2	81.1	86.2	84.2	24
25	108.1	103.4	108.1	103.4	105.3	25
26	108.1	86.2	108.1	86.2	94.7	26
27	135.1	189.7	135.1	189.7	168.4	27
28	81.1	86.2	81.1	86.2	84.2	28
29	81.1	86.2	81.1	86.2	84.2	29
30	189.2	34.5	189.2	34.5	94.7	30
31	27.0	51.7	27.0	51.7	42.1	31
32						32
33		34.5		34.5	21.1	33
34		17.2		17.2	10.5	34
35	27.0	34.5	27.0	34.5	31.6	35
36						36
37						37
38						38
39	27.0		27.0		10.5	39
40						40
41						41
42						42
43	27.0		27.0		10.5	43
TOTAL	1000	1000	1000	1000	1000	
No. SAMPLES	1	2	1	2	3	
SAMPLING WEIGHT(Kg)	13	17	13	17	30	
No.F.MEASURED	37	58	37	58	95	
MEAN LENGTH(cm)	28.2	27.2	28.2	27.2	27.6	
MEAN WEIGHT (g)	395	347	395	347	366	
DEPTH RANGE (m)	275/292	146/254	275/292	146/254	146/292	

TABLE XIV: RED-FISH (*S.marinus*), DIV. 3O, 1998: length composition of the trawl catches.

LENGTH GROUP	JUL.	SEP.	NOV.	3rd Q.	4st Q.	TOTAL	LENGTH GROUP
17			2.5		2.5	1.8	17
18			9.5		9.5	6.8	18
19	1.6		35.9	0.4	35.9	25.7	19
20	36.7	37.7	76.1	37.4	76.1	65.0	20
21	65.1	98.1	191.1	89.2	191.1	161.8	21
22	109.4	105.6	146.3	106.7	146.3	134.9	22
23	170.5	156.8	164.3	160.5	164.3	163.2	23
24	129.3	67.9	108.8	84.4	108.8	101.8	24
25	94.9	94.0	96.2	94.2	96.2	95.7	25
26	101.0	34.4	48.1	52.3	48.1	49.3	26
27	51.5	49.5	12.9	50.0	12.9	23.6	27
28	47.4	68.0	14.9	62.5	14.9	28.6	28
29	50.5	40.3	24.1	43.0	24.1	29.6	29
30	46.9	55.4	28.6	53.1	28.6	35.6	30
31	37.4	54.6	8.3	50.0	8.3	20.3	31
32	26.0	42.0	11.4	37.7	11.4	19.0	32
33	21.9	54.6	5.8	45.8	5.8	17.3	33
34	5.1	21.0	5.3	16.7	5.3	8.6	34
35		6.7	2.2	4.9	2.2	3.0	35
36	1.6	6.7	2.7	5.4	2.7	3.4	36
37		6.7	1.2	4.9	1.2	2.3	37
38	1.6		1.6	0.4	1.6	1.3	38
39	1.8		1.0	0.5	1.0	0.9	39
40							40
41			1.0		1.0	0.7	41
TOTAL	1000	1000	1000	1000	1000	1000	
No. SAMPLES	8	2	6	10	6	16	
SAMPLING WEIGHT(Kg)	144	42	134	186	134	320	
No.F.MEASURED	597	139	626	736	626	1362	
MEAN LENGTH(cm)	25.7	26.5	23.9	26.3	23.9	24.6	
MEAN WEIGHT (g)	261	290	210	282	210	230	
DEPTH RANGE (m)	180/570	304/522	270/540	180/570	270/540	180/570	

TABLE XV: AMERICAN PLAICE, DIV. 3L, 1998: length composition of the trawl catches.

LENGTH GROUP	FEB.	MAR.	APR.	MAY	JUN.	JUL.	1st Q.	2nd Q.	3rd Q.	TOTAL	LENGTH GROUP
22		2.1	0.9				1.9	0.8		1.4	22
24		2.0	5.8			25.3	1.8	5.7	25.3	3.4	24
26		11.1	11.8			38.0	9.9	11.5	38.0	10.7	26
28		16.1	18.6	51.7		113.9	14.5	18.7	113.9	16.6	28
30	13.3	48.4	66.1	51.7	26.3	101.3	44.8	65.5	101.3	53.2	30
32	50.2	88.0	75.3	25.9	105.3	63.3	84.2	75.1	63.3	80.5	32
34	71.6	206.6	144.6	77.6	78.9	101.3	193.1	143.2	101.3	172.9	34
36	88.8	178.1	143.6	46.8	105.3	88.6	169.1	142.1	88.6	158.1	36
38	104.5	112.0	110.8	202.0	52.6	177.2	111.3	111.1	177.2	111.5	38
40	118.6	108.9	121.7	55.7	131.6	113.9	109.9	121.1	113.9	114.4	40
42	122.0	71.8	122.4	131.3	26.3	113.9	76.8	121.5	113.9	94.6	42
44	129.4	54.6	73.5	176.1	26.3	38.0	62.1	74.1	38.0	66.7	44
46	81.9	42.3	48.0	77.6	105.3	12.7	46.2	49.0	12.7	47.2	46
48	95.3	20.6	37.1	77.6	105.3	12.7	28.0	38.3	12.7	32.0	48
50	64.4	22.2	11.5	25.9	52.6		26.5	12.1		20.7	50
52	49.9	14.1	5.1		52.6		17.7	5.6		12.8	52
54	5.0	1.0	2.4		78.9		1.4	3.3		2.1	54
56	5.0	0.4	0.9		26.3		0.8	1.1		1.0	56
58					26.3			0.3		0.1	58
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	3	13	13	1	1	1	16	15	1	32	
SAMPLING WEIGHT(Kg)	196	473	551	37	35	35	669	623	35	1327	
No.F.MEASURED	248	963	1052	54	38	79	1211	1144	79	2434	
MEAN LENGTH(cm)	42.9	38.4	38.9	40.9	43.7	36.4	38.9	39.0	36.4	38.9	
MEAN WEIGHT (g)	808	581	606	702	891	500	604	610	500	606	
DEPTH RANGE (m)	900/1190	711/1177	704/1197	705/943	978/1037	965/1037	711/1177	704/1197	965/1037	704/1197	

TABLE XVI - A: AMERICAN PLAICE, DIV. 3M, 1998: length composition of the trawl catches.

LENGTH GROUP	MAY	JUL.	AUG	SEP.	2nd Q.	3rd Q.	TOTAL	LENGTH GROUP
24	3.8		0.5		3.8	0.5	0.6	24
26	2.5		0.7		2.5	0.7	0.8	26
28	7.6		1.6		7.6	1.5	1.8	28
30	8.8	27.8	2.3		8.8	2.6	2.8	30
32	39.1		5.5	18.2	39.1	5.5	6.8	32
34	88.2	111.1	11.2	18.2	88.2	12.3	15.2	34
36	88.2	83.3	20.2	54.5	88.2	21.0	23.6	36
38	69.3	111.1	57.9	36.4	69.3	58.4	58.8	38
40	133.5	138.9	83.0	54.5	133.5	83.5	85.4	40
42	158.7	166.7	62.6	72.7	158.7	63.7	67.4	42
44	119.6	138.9	168.9	72.7	119.6	168.2	166.4	44
46	103.3	111.1	139.5	181.8	103.3	139.4	138.0	46
48	64.2	27.8	119.9	109.1	64.2	118.8	116.8	48
50	63.0	55.6	146.8	163.6	63.0	145.8	142.7	50
52	50.4	27.8	140.8	145.5	50.4	139.6	136.2	52
54			21.1	18.2		20.9	20.1	54
56			17.4	54.5		17.4	16.7	56
58			0.1			0.1	0.1	58
TOTAL	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	2	1	11	1	2	13	15	
SAMPLING WEIGHT(Kg)	88	28	277	62	88	367	455	
No.F.MEASURED	146	36	905	55	146	996	1142	
MEAN LENGTH(cm)	42.6	42.2	47.0	47.4	42.6	46.9	46.7	
MEAN WEIGHT (g)	836	802	1124	1166	836	1121	1110	
DEPTH RANGE (m)	855/1046	134/298	141/267	150/231	855/1046	134/298	134/1046	

TABLE XVI-B: AMERICAN PLAICE , DIV.3M, 1998: age composition (‰), mean length (cm) and mean weight (Kg) at age of the trawl catches.

AGE	MAY			JUL.			AUG.			SEP.			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
3	6.9	26.8	0.181				1.0	27.1	0.186				3
4	17.5	31.3	0.299				2.6	29.6	0.248	6.1	33.0	0.346	4
5	54.3	34.1	0.389	69.4	35.0	0.426	3.4	33.8	0.384	15.2	35.4	0.445	5
6	75.8	36.8	0.500	109.1	38.1	0.557	23.6	37.8	0.548	33.0	37.4	0.523	6
7	172.4	40.2	0.672	271.4	40.2	0.675	83.0	41.7	0.755	77.5	40.3	0.681	7
8	245.4	42.6	0.807	231.0	42.9	0.824	188.9	43.6	0.865	132.1	43.1	0.841	8
9	143.5	43.3	0.852	104.4	43.8	0.887	119.9	44.2	0.909	93.0	44.6	0.939	9
10	93.8	45.4	0.994	102.2	45.0	0.958	79.5	46.8	1.097	81.3	48.5	1.224	10
11	65.5	48.4	1.226	46.6	48.7	1.240	77.2	49.7	1.316	106.6	50.4	1.378	11
12	73.4	48.4	1.213	34.5	50.0	1.332	96.7	49.7	1.323	127.4	50.9	1.423	12
13+	51.5	50.6	1.390	31.4	51.0	1.414	324.1	50.9	1.411	327.8	50.7	1.406	13+
TOTAL	1000			1000			1000			1000			

AGE	2nd Q.			3rd Q.			YEAR 1998			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
3	6.9	26.8	0.181	1.0	27.1	0.186	1.2	27.0	0.185	3
4	17.5	31.3	0.299	2.6	29.6	0.249	3.2	30.0	0.259	4
5	54.3	34.1	0.389	4.2	34.1	0.393	6.1	34.1	0.391	5
6	75.8	36.8	0.500	24.5	37.8	0.548	26.5	37.7	0.543	6
7	172.4	40.2	0.672	85.0	41.6	0.752	88.4	41.5	0.746	7
8	245.4	42.6	0.807	189.1	43.6	0.864	191.2	43.6	0.861	8
9	143.5	43.3	0.852	119.6	44.2	0.909	120.6	44.2	0.906	9
10	93.8	45.4	0.994	79.8	46.8	1.096	80.3	46.7	1.091	10
11	65.5	48.4	1.226	77.0	49.7	1.316	76.6	49.6	1.313	11
12	73.4	48.4	1.213	96.2	49.7	1.324	95.3	49.7	1.320	12
13+	51.5	50.6	1.390	320.9	50.9	1.411	310.7	50.9	1.411	13+
TOTAL	1000			1000			1000			

TABLE XVII: AMERICAN PLAICE, DIV. 3N, 1998: length composition of the trawl catches.

LENGTH GROUP	FEB.	MAR.	APR.	SEP.	OCT.	NOV.	DEC.	1st Q.	2nd Q.	3rd Q.	4st Q.	TOTAL	LENGTH GROUP
24				6.0						6.0		0.3	24
26			2.2	6.0			9.5		2.2	6.0	4.4	1.7	26
28	8.1	0.5	2.9	26.3	10.0	23.1	28.5	2.5	2.9	26.3	19.5	6.2	28
30	41.9	12.6	19.7	61.4	50.0	155.8	32.8	20.2	19.7	61.4	49.1	26.1	30
32	64.7	53.0	74.3	68.7	110.0	155.8	103.7	56.0	74.3	68.7	110.2	70.8	32
34	112.7	132.2	117.1	167.4	130.0	202.0	138.9	127.2	117.1	167.4	139.0	127.1	34
36	194.4	174.5	185.8	136.1	200.0	132.8	150.4	179.6	185.8	136.1	172.5	178.7	36
38	192.7	191.7	176.0	113.5	120.0	66.4	186.6	191.9	176.0	113.5	147.3	175.8	38
40	155.1	142.0	172.8	93.7	120.0	103.9	186.8	145.4	172.8	93.7	149.9	153.5	40
42	117.1	125.0	91.1	83.8	70.0	56.3	90.9	123.0	91.1	83.8	78.7	103.0	42
44	61.0	70.8	71.3	61.6	90.0	62.1	37.5	68.3	71.3	61.6	63.8	68.4	44
46	34.1	41.3	43.0	60.2	60.0	41.8	17.7	39.4	43.0	60.2	39.2	41.8	46
48		32.9	26.9	32.9			6.2	24.3	26.9	32.9	2.9	22.9	48
50	10.4	11.9	1.2	34.3	10.0		7.2	11.5	1.2	34.3	8.0	8.4	50
52	3.1	4.5	5.6	22.8	10.0		3.4	4.1	5.6	22.8	6.3	5.9	52
54	4.8	3.4	5.5	10.2	10.0			3.8	5.5	10.2	4.7	4.9	54
56				4.0	10.0					4.0	4.7	0.8	56
58		0.4	2.5	6.0				0.3	2.5	6.0		1.4	58
60		3.4		0.8				2.5		0.8		1.1	60
62				2.0						2.0		0.1	62
64													64
66			2.2	2.0					2.2	2.0		0.9	66
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	4	14	9	6	1	2	4	18	9	6	7	40	
SAMPLING WEIGHT(Kg)	277	1025	613	440	62	73	231	1302	613	440	366	2721	
No.F.MEASURED	427	1463	962	574	100	155	397	1890	962	574	652	4078	
MEAN LENGTH(cm)	39.0	39.9	39.5	39.6	39.1	36.7	38.2	39.7	39.5	39.6	38.5	39.5	
MEAN WEIGHT (g)	596	641	626	657	611	500	559	629	626	657	579	623	
DEPTH RANGE (m)	900/1500	570/1330	612/1350	56/679	53/57	400/1108	784/1453	570/1500	612/1350	56/679	53/1453	53/1500	

TABLE XVIII: AMERICAN PLAICE, DIV. 3O, 1998: length composition of the trawl catches.

LENGTH GROUP	MAR.	NOV.	1st Q.	4st Q.	TOTAL	LENGTH GROUP
30	15.7	1.5	15.7	1.5	14.7	30
32	14.1	1.5	14.1	1.5	13.2	32
34	81.4	42.3	81.4	42.3	78.7	34
36	110.4	42.4	110.4	42.4	105.7	36
38	124.7	89.1	124.7	89.1	122.2	38
40	210.8	103.9	210.8	103.9	203.4	40
42	145.2	119.8	145.2	119.8	143.5	42
44	126.5	115.4	126.5	115.4	125.8	44
46	78.7	138.8	78.7	138.8	82.8	46
48	37.5	131.6	37.5	131.6	44.0	48
50	14.2	109.8	14.2	109.8	20.7	50
52	11.9	67.3	11.9	67.3	15.8	52
54	13.1	26.3	13.1	26.3	14.0	54
56		10.3		10.3	0.7	56
58	14.7		14.7		13.7	58
60						60
62						62
64						64
66						66
68	1.1		1.1		1.0	68
TOTAL	1000	1000	1000	1000	1000	
No. SAMPLES	3	3	3	3	6	
SAMPLING WEIGHT(Kg)	221	313	221	313	534	
No.F.MEASURED	297	300	297	300	597	
MEAN LENGTH(cm)	41.9	45.4	41.9	45.4	42.1	
MEAN WEIGHT (g)	746	948	746	948	760	
DEPTH RANGE (m)	305/1178	217/763	305/1178	217/763	217/1178	

TABLE XIX: YELLOWTAIL FLOUNDER, DIV. 3N, 1998:
: length composition of the trawl catches.

LENGTH GROUP	SEP. = YEAR 98	LENGTH GROUP
26	14.3	26
28	34.6	28
30	104.2	30
32	171.6	32
34	228.6	34
36	156.8	36
38	184.5	38
40	33.5	40
42	28.8	42
44	14.9	44
46	19.1	46
48	3.2	48
50	2.8	50
52	2.0	52
54	0.8	54
56	0.4	56
TOTAL	1000	

No. SAMPLES	3
SAMPLING WEIGHT(Kg)	132
No.F.MEASURED	199
MEAN LENGTH(cm)	35.9
MEAN WEIGHT (g)	883
DEPTH RANGE (m)	56/295

TABLE XX - A: GREENLAND HALIBUT, DIV. 3L, 1998: length composition of the trawl catches.

LENGTH GROUP	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG	SEP.	DEC.	1st Q.	2nd Q.	3rd Q.	4st Q.	TOTAL	LENGTH GROUP
24				0.7								0.4			0.1	24
26			0.8	3.8			0.5		0.2		0.6	2.0	0.2		1.0	26
28			3.3	8.7	13.9	2.8	1.0	0.9			2.5	8.2	0.7		4.1	28
30			11.0	13.4	20.7	4.5	0.9	2.2	4.6	4.2	8.6	12.6	2.2	4.2	8.0	30
32		8.6	16.0	26.7	37.6	9.5	5.4	7.6	5.7	8.7	14.3	24.4	6.5	8.7	15.6	32
34		26.3	33.7	50.1	61.8	21.1	15.4	24.3	25.1	42.8	32.0	44.9	21.4	42.8	33.7	34
36		87.4	77.6	89.3	105.0	54.0	40.3	55.3	42.5	124.4	79.5	83.2	47.6	124.4	71.0	36
38		95.9	87.1	106.5	140.4	81.4	63.4	81.4	72.5	136.9	88.7	107.0	73.4	136.9	91.5	38
40	55.6	59.2	113.5	115.4	111.8	109.7	106.8	104.3	102.3	168.4	101.5	113.1	104.7	168.4	108.1	40
42	55.6	99.9	113.1	124.9	125.7	105.2	113.6	135.7	128.6	76.3	110.0	119.9	126.7	76.3	118.9	42
44		92.2	118.1	112.6	85.8	134.6	126.5	131.3	148.1	100.7	112.1	112.8	133.2	100.7	119.2	44
46	111.1	112.5	112.2	95.5	76.9	114.0	119.5	118.7	107.0	64.3	112.2	96.5	116.5	64.3	106.8	46
48	111.1	94.8	85.1	67.2	47.1	75.9	106.3	95.2	98.2	49.6	87.3	65.3	99.6	49.6	82.2	48
50	111.1	88.6	78.9	62.4	41.3	75.9	80.6	71.7	76.4	59.2	81.2	61.6	75.7	59.2	71.4	50
52	111.1	54.7	52.4	42.7	34.9	70.8	64.0	51.8	58.0	87.6	53.1	48.5	57.2	87.6	53.2	52
54	111.1	51.7	36.5	26.6	25.7	40.0	33.7	41.0	42.3	32.1	40.0	30.0	38.8	32.1	35.6	54
56		47.8	23.7	18.4	18.6	27.3	23.5	22.2	29.4	3.3	28.9	20.8	24.2	3.3	23.8	56
58	111.1	27.0	12.3	10.2	11.9	25.4	22.8	18.1	22.7	9.6	15.9	14.6	20.6	9.6	16.9	58
60		19.0	9.4	7.1	8.8	8.7	13.2	10.8	15.6	17.5	11.5	7.9	12.6	17.5	10.5	60
62		9.8	6.2	3.6	5.6	6.3	12.6	8.9	7.5	2.4	6.9	4.7	9.8	2.4	7.0	62
64	111.1	4.8	2.7	2.2	6.3	4.0	9.4	5.1	4.9	2.4	3.5	3.5	6.5	2.4	4.5	64
66		5.7	1.5	1.2	4.3	1.3	8.0	4.7	3.0	2.4	2.4	1.9	5.5	2.4	3.2	66
68		4.5	2.0	1.2	3.1	4.4	4.4	2.2	2.0	2.4	2.6	2.5	2.9	2.4	2.6	68
70	55.6	4.2	0.3	2.1	2.6	4.8	3.1	1.0	2.5		1.3	2.9	2.0		2.2	70
72		2.9	0.7	0.9	1.4	2.2	5.7	0.8			1.2	1.4	2.3		1.6	72
74		0.8	0.2	0.6	2.0	3.7	3.1	1.6		2.4	0.3	1.7	1.8	2.4	1.4	74
76	55.6		0.5	1.6	1.5	2.2	3.3	1.2		2.4	0.6	1.8	1.7	2.4	1.4	76
78		0.8	0.2	0.5	1.3	5.1	3.8	0.6	0.6		0.3	1.9	1.7		1.4	78
80			0.4	1.6	1.3	1.9	5.4	0.5			0.3	1.6	2.1		1.4	80
82		0.8	0.2	0.7	1.0	1.9	2.0	0.5			0.3	1.1	0.9		0.8	82
84			0.3	0.5	0.5		1.1	0.2	0.3		0.2	0.4	0.5		0.4	84
86				0.3	0.4	0.9	0.5					0.5	0.2		0.2	86
88				0.3								0.1			0.1	88
90					0.2			0.2				0.0	0.1		0.0	90
92			0.3	0.1	0.4						0.2	0.1			0.1	92
94					0.1							0.0			0.0	94
96				0.1		0.5		0.2				0.2	0.1		0.1	96
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	1	15	30	35	15	21	26	50	27	7	46	71	103	7	227	
SAMPLING WEIGHT(Kg)	23	1367	2490	3129	1714	2487	2742	5012	2379	566	3880	7330	10133	566	21909	
No.F.MEASURED	18	1294	2854	3605	1520	2094	2597	5565	2607	702	4166	7219	10769	702	22856	
MEAN LENGTH(cm)	55.0	47.0	45.2	44.1	43.5	46.8	47.8	46.2	46.5	44.3	45.6	44.7	46.8	44.3	45.6	
MEAN WEIGHT (g)	1622	956	825	777	767	959	1028	887	897	777	856	823	938	777	869	
DEPTH RANGE (m)	1134/1194	907/1239	700/1201	704/1197	705/1156	792/1183	854/1193	760/1195	664/1195	729/1220	700/1239	704/1197	664/1195	729/1220	664/1239	

TABLE XX - B: GREENLAND HALIBUT, DIV.3L, 1998: age composition (‰), mean length (cm) and mean weight (Kg) at age of the trawl catches.

AGE	JAN.			FEB.			MAR.			APR.			MAY			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
3							2.0	28.6	0.163	10.5	29.5	0.187	9.2	30.7	0.210	3
4				37.0	36.5	0.370	48.8	35.0	0.327	91.1	34.9	0.327	114.9	34.6	0.317	4
5	33.6	41.3	0.559	146.5	38.4	0.442	168.0	38.4	0.444	228.5	39.2	0.479	260.1	38.8	0.461	5
6	88.1	45.0	0.755	220.4	42.7	0.638	259.4	42.6	0.633	283.1	43.1	0.659	273.9	42.5	0.629	6
7	256.1	49.2	1.015	269.2	47.1	0.885	285.3	46.6	0.855	231.2	47.2	0.894	187.5	46.7	0.869	7
8	266.7	53.1	1.311	197.1	52.2	1.242	162.3	51.4	1.177	99.6	51.2	1.169	83.1	51.3	1.185	8
9	79.4	54.8	1.460	63.1	55.9	1.564	41.3	54.9	1.478	26.0	55.4	1.511	25.1	56.3	1.604	9
10	78.0	61.0	2.095	29.3	58.3	1.804	16.3	57.6	1.735	12.3	60.4	2.018	17.8	61.4	2.130	10
11	8.3	57.2	1.664	16.1	61.0	2.099	8.4	60.5	2.031	7.3	65.6	2.731	12.0	65.9	2.751	11
12	78.7	64.6	2.495	11.0	66.9	2.827	5.6	66.7	2.816	5.1	70.5	3.496	8.3	70.1	3.400	12
13	55.6	77.0	4.470	6.3	71.9	3.655	0.9	75.6	4.438	3.9	74.7	4.259	6.1	73.4	4.038	13
14	55.6	71.0	3.408	4.0	71.7	3.540	0.7	73.7	3.909	0.6	80.7	5.353	1.3	82.1	5.698	14
15							0.2	81.0	5.295	0.4	83.6	5.965	0.5	80.2	5.181	15
16							0.8	82.7	5.883	0.2	85.7	6.533	0.2	83.4	5.876	16
TOTAL	1000			1000			1000			1000			1000			

AGE	JUN.			JUL.			AUG.			SEP.			DEC.			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
3	2.0	31.2	0.223	0.5	27.9	0.150	0.2	29.0	0.170				15.7	34.3	0.300	3
4	45.5	35.7	0.350	54.9	37.1	0.395	76.4	36.9	0.387	66.2	36.7	0.383	251.9	37.8	0.421	4
5	165.5	40.0	0.511	163.8	41.0	0.553	192.4	40.8	0.545	181.3	40.9	0.550	293.5	41.5	0.573	5
6	276.5	43.7	0.689	270.0	44.7	0.740	275.2	44.5	0.727	275.0	44.6	0.730	196.1	46.0	0.817	6
7	277.4	47.7	0.928	254.3	47.6	0.911	249.4	47.3	0.895	252.0	47.4	0.899	117.6	50.8	1.131	7
8	133.8	52.0	1.229	124.8	52.2	1.237	114.3	52.1	1.236	127.4	52.4	1.255	72.9	54.1	1.396	8
9	38.7	55.8	1.547	44.4	56.4	1.603	42.8	56.0	1.568	47.4	56.1	1.568	26.4	53.8	1.366	9
10	21.5	60.6	2.039	27.5	60.2	1.999	21.7	59.3	1.894	27.8	59.4	1.902	6.9	58.9	1.865	10
11	15.0	66.1	2.805	28.4	66.3	2.794	17.2	64.5	2.522	14.6	63.0	2.320	14.2	67.6	3.003	11
12	12.9	72.1	3.723	20.2	71.1	3.564	7.6	67.8	3.028	6.7	65.1	2.615	4.6	64.4	2.496	12
13	7.5	74.3	4.123	6.5	77.4	4.692	1.3	77.0	4.691	1.1	69.3	3.219				13
14	2.0	80.7	5.369	3.9	77.7	4.667	1.1	81.4	5.667	0.5	77.9	4.831				14
15	1.2	80.2	5.165	0.7	81.8	5.482	0.2	82.5	5.627							15
16	0.5	90.1	7.722													16
TOTAL	1000			1000			1000			1000			1000			

AGE	1st Q.			2nd Q.			3rd Q.			4th Q.			YEAR 1998			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
3	1.5	28.6	0.163	8.0	29.9	0.195	0.3	28.3	0.158	15.7	34.3	0.300	3.8	30.0	0.197	3
4	46.1	35.2	0.335	84.0	35.0	0.327	67.0	36.9	0.388	251.9	37.8	0.421	70.9	35.8	0.353	4
5	162.8	38.4	0.443	218.4	39.2	0.481	180.4	40.9	0.548	293.5	41.5	0.573	192.4	39.6	0.496	5
6	250.3	42.6	0.634	279.4	43.2	0.661	273.4	44.6	0.732	196.1	46.0	0.817	268.6	43.6	0.680	6
7	281.7	46.8	0.862	234.3	47.3	0.900	251.6	47.4	0.901	117.6	50.8	1.131	250.7	47.2	0.891	7
8	170.3	51.6	1.194	105.2	51.5	1.192	120.6	52.2	1.240	72.9	54.1	1.396	126.8	51.8	1.210	8
9	46.2	55.2	1.503	29.2	55.7	1.540	44.3	56.2	1.580	26.4	53.8	1.366	38.6	55.7	1.542	9
10	19.4	57.9	1.763	15.9	60.7	2.052	24.9	59.7	1.935	6.9	58.9	1.865	19.7	59.5	1.927	10
11	10.1	60.7	2.054	10.3	65.9	2.764	20.5	65.1	2.621	14.2	67.6	3.003	13.7	64.5	2.561	11
12	7.1	66.7	2.807	7.8	71.1	3.574	11.7	69.4	3.294	4.6	64.4	2.496	8.9	69.4	3.284	12
13	2.3	73.5	3.974	5.3	74.2	4.155	3.1	76.8	4.586				3.7	74.8	4.245	13
14	1.6	72.3	3.644	1.1	81.0	5.443	2.0	78.7	4.938				1.5	77.6	4.734	14
15	0.1	81.0	5.295	0.7	81.3	5.440	0.3	82.0	5.514				0.4	81.5	5.447	15
16	0.6	82.7	5.883	0.3	87.6	7.045							0.3	84.6	6.339	16
TOTAL	1000			1000			1000			1000			1000			
Nº FISH AGED	538			783			658			159			2138			

TABLE XXI-A: GREENLAND HALIBUT, DIV. 3M, 1998: length composition of the trawl catches.

LENGTH GROUP	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG	SEP.	DEC.	1st Q.	2nd Q.	3rd Q.	4st Q.	TOTAL	LENGTH GROUP
24				0.2							0.2			0.1	24
26			0.8								0.1			0.1	26
28			0.8	1.1			10.2	1.4			0.9	6.0		0.9	28
30		1.7	7.0	1.5			6.8			1.2	2.4	3.7		1.9	30
32		13.4	3.1	3.6		5.5	10.3	3.2		9.3	3.1	7.5		6.5	32
34	13.9	19.9	15.7	28.0	2.7	28.8	24.0	14.7		18.1	23.0	22.3		20.1	34
36	26.6	63.5	34.7	43.4	2.7	35.4	106.0	17.5		52.0	37.5	69.5		47.0	36
38	41.8	97.8	52.4	88.1	13.6	51.0	140.9	35.3	24.1	80.4	73.5	96.4	24.1	78.2	38
40	70.2	138.6	139.5	120.6	100.1	77.5	134.3	57.3	26.7	117.4	122.0	103.4	26.7	116.2	40
42	92.6	162.8	124.1	114.5	113.7	89.7	124.3	93.2	41.6	141.0	116.2	109.8	41.6	126.3	42
44	85.2	119.5	132.1	122.7	151.7	59.8	123.6	157.6	125.4	108.8	127.5	121.5	125.4	117.8	44
46	84.4	88.5	151.8	114.9	189.7	52.1	96.5	122.9	145.7	87.3	129.7	95.8	145.7	106.0	46
48	115.3	99.6	85.5	86.9	165.1	54.2	48.4	125.0	160.6	104.5	94.8	70.2	160.6	98.3	48
50	90.9	66.1	75.5	85.2	119.3	23.3	41.5	90.7	81.2	73.8	87.0	51.6	81.2	77.0	50
52	112.8	42.9	45.0	60.5	24.5	41.0	65.5	72.4	123.6	64.6	53.8	63.0	123.6	61.2	52
54	109.1	37.0	48.9	35.4	21.8	63.2	16.9	48.9	65.0	59.4	36.5	33.8	65.0	47.9	54
56	57.1	15.3	38.8	24.3	51.4	46.5	13.5	50.2	54.6	28.3	29.9	29.3	54.6	29.5	56
58	43.1	14.8	10.4	24.5	10.9	124.0	10.3	41.0	65.0	23.6	20.4	38.8	65.0	24.5	58
60	25.6	5.0	15.0	14.9	13.6	28.8	10.2	14.0	27.9	11.4	14.8	14.5	27.9	13.3	60
62	15.3	3.3	3.7	8.9	8.2	47.6	6.8	14.4	9.1	7.0	7.8	16.1	9.1	8.3	62
64	6.4	2.6	3.1	3.5	2.7	23.3	3.4	5.9	16.2	3.8	3.4	7.6	16.2	4.2	64
66	6.8	5.2	0.8	3.9	2.7	42.1		5.9	4.6	5.7	3.2	9.0	4.6	5.0	66
68	2.9		1.5	1.8	2.7	23.3		5.9	13.7	0.9	1.9	5.7	13.7	2.0	68
70			0.8	1.9		12.2	3.4	5.9	4.6		1.5	5.6	4.6	1.2	70
72			1.5	2.2	2.7	5.5		5.9	5.8		2.2	2.6	5.8	1.2	72
74		1.0	1.5	1.5		17.7			4.6	0.7	1.3	3.1	4.6	1.2	74
76			1.5	3.0		5.5		2.7			2.4	1.7		1.1	76
78			0.8	0.3		12.2		2.7			0.4	2.9		0.4	78
80			1.5	0.3		12.2	3.4	2.7			0.5	4.8		0.7	80
82			2.3	0.3		17.7					0.7	3.1		0.6	82
84				0.3							0.2			0.1	84
86		1.5								1.0				0.5	86
88				0.8							0.6			0.2	88
90								2.7				0.7		0.1	90
92															92
94				0.9							0.6			0.3	94
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	7	7	5	16	3	2	3	4	2	14	24	9	2	49	
SAMPLING WEIGHT(Kg)	693	501	477	1932	285	205	229	380	237	1194	2694	814	237	4939	
No.F.MEASURED	641	613	441	1964	280	117	291	370	190	1254	2685	778	190	4907	
MEAN LENGTH(cm)	49.4	45.1	46.6	46.6	47.8	53.3	44.1	49.1	51.1	46.5	46.7	47.1	51.1	46.7	
MEAN WEIGHT (g)	1089	809	909	923	954	1565	764	1102	1211	896	923	997	1211	922	
DEPTH RANGE (m)	985/1199	860/1126	941/1133	836/1123	270/1000	134/1046	822/1151	172/1079	987/1239	860/1199	270/1133	134/1151	987/1239	134/1239	

TABLE XXI - B: GREENLAND HALIBUT, DIV. 3M, 1998: age composition (‰), mean length (cm) and mean weight (Kg) at age of the trawl catches.

AGE	FEB. AGE COMP.	FEB. MEAN LENGTH	FEB. MEAN WEIGHT	MAR. AGE COMP.	MAR. MEAN LENGTH	MAR. MEAN WEIGHT	APR. AGE COMP.	APR. MEAN LENGTH	APR. MEAN WEIGHT	MAY AGE COMP.	MAY MEAN LENGTH	MAY MEAN WEIGHT	AGE
3							2.5	29.9	0.194	1.8	32.0	0.250	
4	10.0	37.0	0.387	33.2	36.0	0.357	27.5	35.6	0.345	37.0	36.5	0.372	4
5	77.7	39.3	0.480	162.2	38.9	0.465	161.6	40.7	0.543	173.1	40.1	0.517	5
6	185.1	43.5	0.675	293.4	42.6	0.630	304.4	44.0	0.701	289.1	43.8	0.689	6
7	282.9	48.0	0.944	300.2	46.2	0.829	282.3	47.5	0.913	273.8	47.7	0.927	7
8	277.8	52.9	1.292	146.7	51.2	1.167	137.4	51.5	1.195	132.8	51.8	1.213	8
9	87.9	56.2	1.581	36.9	54.7	1.458	41.0	55.6	1.532	40.6	56.1	1.577	9
10	39.9	58.5	1.811	11.8	56.7	1.641	21.4	59.5	1.916	23.2	60.8	2.067	10
11	24.1	60.5	2.028	8.0	61.4	2.139	9.4	64.4	2.591	12.6	64.8	2.596	11
12	11.8	63.9	2.410	6.0	66.3	2.766	6.9	69.2	3.302	8.0	67.9	3.053	12
13	3.0	68.7	3.061	0.8	80.9	5.590	4.2	74.6	4.189	5.9	70.9	3.580	13
14							1.0	78.9	4.906	1.6	87.2	7.083	14
15				0.6	87.0	6.725	0.3	78.4	4.768	0.6	85.5	6.445	15
16				0.3	87.0	6.725	0.1	81.0	5.295	0.0	81.0	5.295	16
TOTAL	1000			1000			1000			1000			

AGE	JUN. AGE COMP.	JUN. MEAN LENGTH	JUN. MEAN WEIGHT	JUL. AGE COMP.	JUL. MEAN LENGTH	JUL. MEAN WEIGHT	AUG. AGE COMP.	AUG. MEAN LENGTH	AUG. MEAN WEIGHT	SEP. AGE COMP.	SEP. MEAN LENGTH	SEP. MEAN WEIGHT	DEC. AGE COMP.	DEC. MEAN LENGTH	DEC. MEAN WEIGHT	AGE
3	0.2	35.0	0.320				2.0	29.0	0.170	0.4	29.0	0.170				3
4	2.4	37.5	0.407	53.0	36.5	0.374	124.7	36.5	0.378	31.8	36.8	0.385	16.6	40.2	0.509	4
5	95.7	42.3	0.609	118.1	40.1	0.515	257.9	40.1	0.513	125.9	41.9	0.597	128.0	44.0	0.694	5
6	309.9	45.1	0.759	165.9	43.9	0.694	267.1	43.6	0.679	250.1	45.4	0.778	262.2	47.3	0.884	6
7	356.0	47.9	0.933	137.3	47.5	0.913	199.3	46.6	0.856	272.6	48.0	0.938	172.0	51.4	1.180	7
8	149.1	50.7	1.129	134.6	55.0	1.479	88.6	51.9	1.216	156.6	52.7	1.282	276.6	53.4	1.347	8
9	41.3	54.7	1.457	108.0	58.7	1.823	27.5	56.0	1.568	67.3	56.6	1.620	69.7	56.3	1.594	9
10	22.1	60.1	1.980	82.1	60.2	1.991	14.6	58.8	1.839	40.5	59.4	1.906	27.3	59.7	1.951	10
11	13.1	61.5	2.151	104.3	66.6	2.807	10.0	62.7	2.275	27.1	64.4	2.530	24.5	64.9	2.555	11
12	6.0	65.3	2.645	53.3	69.5	3.256	5.1	68.3	3.116	17.8	69.0	3.187	22.2	71.1	3.451	12
13	4.3	65.1	2.596	17.7	78.4	4.842	1.7	76.1	4.440	7.9	80.2	5.384	0.5	71.0	3.408	13
14				19.8	79.5	5.045	1.1	81.0	5.295	1.7	77.4	4.628	0.4	69.0	3.097	14
15				5.8	82.5	5.640	0.4	81.0	5.295	0.3	81.0	5.295				15
16																16
TOTAL	1000			1000			1000			1000			1000			

AGE	1st Q. AGE COMP.	1st Q. MEAN LENGTH	1st Q. MEAN WEIGHT	2nd Q. AGE COMP.	2nd Q. MEAN LENGTH	2nd Q. MEAN WEIGHT	3rd Q. AGE COMP.	3rd Q. MEAN LENGTH	3rd Q. MEAN WEIGHT	4th Q. AGE COMP.	4th Q. MEAN LENGTH	4th Q. MEAN WEIGHT	YEAR 1998 AGE COMP.	YEAR 1998 MEAN LENGTH	YEAR 1998 MEAN WEIGHT	AGE
3				1.8	31.5	0.236	1.2	29.0	0.170				0.8	31.1	0.226	3
4	26.0	36.1	0.361	31.6	36.3	0.368	86.9	36.6	0.378	16.6	40.2	0.509	33.9	36.3	0.369	4
5	136.0	39.0	0.468	162.8	40.4	0.527	197.4	40.4	0.528	128.0	44.0	0.694	152.5	39.8	0.504	5
6	259.8	42.8	0.640	294.2	44.0	0.699	244.6	44.1	0.708	262.2	47.3	0.884	272.0	43.5	0.676	6
7	294.8	46.7	0.863	284.0	47.7	0.925	208.1	47.2	0.892	172.0	51.4	1.180	279.9	47.2	0.894	7
8	187.4	52.0	1.224	135.3	51.6	1.200	115.2	52.8	1.295	276.6	53.4	1.347	161.3	52.0	1.225	8
9	52.7	55.4	1.521	40.7	55.8	1.556	52.5	57.2	1.679	69.7	56.3	1.594	48.2	55.8	1.551	9
10	20.5	57.8	1.744	22.7	60.5	2.031	33.6	59.6	1.927	27.3	59.7	1.951	22.8	59.2	1.889	10
11	13.0	60.9	2.075	12.1	64.3	2.545	31.3	65.4	2.649	24.5	64.9	2.555	14.6	63.1	2.363	11
12	7.8	65.2	2.598	7.6	67.9	3.062	17.1	69.1	3.214	22.2	71.1	3.451	8.8	67.1	2.910	12
13	1.5	73.2	3.995	5.4	71.0	3.588	6.2	78.7	4.965	0.5	71.0	3.408	3.5	72.8	3.909	13
14				1.3	86.0	6.768	4.6	79.5	5.036	0.4	69.0	3.097	1.0	82.9	5.948	14
15	0.4	87.0	6.725	0.5	84.6	6.229	1.3	82.2	5.564				0.5	84.9	6.257	15
16	0.2	87.0	6.725	0.0	81.0	5.295							0.1	86.2	6.542	16
TOTAL	1000			1000			1000			1000			1000			
Nº FISH AGED	538			783			658			159			2138			

TABLE XXII-A: GREENLAND HALIBUT, DIV. 3N, 1998: length composition of the trawl catches.

LENGTH GROUP	FEB.	MAR.	APR.	JUN.	JUL.	AUG	SEP.	NOV.	DEC.	1st Q.	2nd Q.	3rd Q.	4st Q.	TOTAL	LENGTH GROUP
26					0.2	1.5	0.2					0.5		0.2	26
28					0.2	4.1	3.8	0.2	1.4			2.5	1.3	1.2	28
30			8.0	3.5	1.1	11.3	3.1	3.9	2.7		7.3	4.3	2.8	4.2	30
32			15.2	5.7	11.6	12.7	9.6	4.9	3.3		13.7	11.1	3.4	8.7	32
34	7.8	1.7	46.5	20.5	24.3	25.4	13.9	52.0	25.0	3.1	42.6	20.5	27.4	25.3	34
36	7.8	9.4	84.2	50.1	32.7	45.0	29.9	54.2	58.3	9.0	79.1	34.5	57.9	47.4	36
38	197.3	30.0	101.0	56.0	50.5	67.8	40.0	106.9	85.8	69.5	94.2	50.5	87.7	72.6	38
40	242.1	56.9	103.5	85.4	60.5	81.5	43.7	91.7	138.9	100.6	100.8	58.9	134.6	91.2	40
42	139.7	99.5	130.2	108.8	90.6	78.9	88.0	146.7	173.8	109.0	126.9	86.8	171.3	117.3	42
44	101.7	123.8	102.9	109.3	103.7	98.6	98.8	149.5	165.4	118.6	103.9	100.6	164.0	116.2	44
46	51.8	134.7	101.8	141.7	112.3	114.3	131.5	83.9	84.3	115.1	107.8	120.2	84.2	109.2	46
48	76.8	104.4	104.3	101.2	94.1	108.9	103.7	82.7	77.1	97.9	103.9	101.3	77.6	97.0	48
50	73.2	86.2	75.1	80.1	101.6	78.1	120.8	75.4	51.4	83.1	75.8	103.6	53.6	83.3	50
52	7.8	91.0	54.0	87.9	87.4	84.9	89.2	63.0	33.7	71.4	59.1	87.5	36.4	67.5	52
54	70.6	73.8	34.1	71.4	65.8	34.5	62.3	36.4	30.3	73.0	39.7	57.1	30.9	49.8	54
56	7.8	63.7	17.1	31.3	50.1	31.0	46.5	32.4	28.9	50.5	19.3	44.3	29.2	35.4	56
58	10.4	50.9	10.5	22.1	29.7	36.0	27.8	7.7	15.7	41.4	12.3	30.5	15.0	24.2	58
60	2.6	31.9	5.7	12.4	18.0	21.8	30.9	4.9	5.8	25.0	6.7	23.9	5.7	15.8	60
62		8.9	1.7	6.0	10.6	10.6	18.0	1.0	7.2	6.8	2.4	13.4	6.6	8.0	62
64	2.6	14.9	0.9	0.9	7.5	10.0	9.4	0.8	3.3	12.0	0.9	8.8	3.0	6.0	64
66		4.2		2.1	5.6	8.5	1.9	1.4	4.5	3.2	0.3	4.9	4.2	3.2	66
68		7.6	1.3	3.6	6.2	6.5	5.3	0.2	0.5	5.8	1.6	5.9	0.5	3.7	68
70		3.6	0.4		3.6	1.8	9.1	0.2	0.2	2.7	0.4	5.3	0.2	2.6	70
72					2.4	3.0	2.5		0.3			2.6	0.3	1.0	72
74		1.5			11.3	2.5	0.7		0.2	1.2		5.1	0.2	2.1	74
76			0.5		3.4	1.6	2.3		0.8		0.4	2.6	0.8	1.2	76
78		1.5	0.5		7.4	6.1	2.7		0.3	1.2	0.4	5.3	0.3	2.3	78
80			0.5		4.7	1.8	0.8				0.4	2.5		1.1	80
82					1.2	4.4	0.9					1.9		0.7	82
84			0.1		1.1	3.2	0.9				0.1	1.5		0.6	84
86					0.0	2.0	1.8					1.2		0.4	86
88					0.3	1.6			0.3			0.5	0.3	0.2	88
90															90
92															92
94									0.7				0.6	0.1	94
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	2	12	19	7	30	12	25	6	14	14	26	67	20	127	
SAMPLING WEIGHT(Kg)	133	1204	1695	647	2901	1247	2873	725	1342	1337	2342	7021	2067	12767	
No.F.MEASURED	186	1117	2038	681	2487	1198	2592	569	1593	1303	2719	6277	2162	12461	
MEAN LENGTH(cm)	44.4	49.9	44.7	47.1	49.2	48.2	49.3	45.1	45.2	48.6	45.1	49.0	45.2	47.1	
MEAN WEIGHT (g)	751	1125	786	928	1136	1082	1118	801	817	1037	808	1117	815	961	
DEPTH RANGE (m)	900/1500	516/1520	612/1350	370/1100	368/1360	513/1340	227/1300	400/1108	350/1395	516/1500	370/1350	227/1360	350/1395	227/1520	

TABLE XXII-B: GREENLAND HALIBUT , DIV.3N, 1998: age composition (‰), mean length (cm) and mean weight (Kg) at age of the trawl catches.

AGE	FEB.			MAR.			APR.			JUN.			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
3							2.6	33.2	0.272	0.5	31.6	0.228	3
4	15.6	38.3	0.434	4.5	37.6	0.408	65.9	35.8	0.350	38.5	36.2	0.363	4
5	207.5	39.8	0.495	53.7	40.5	0.528	212.2	39.3	0.484	141.4	40.1	0.516	5
6	330.2	42.1	0.599	193.9	44.2	0.710	289.7	43.4	0.673	263.3	44.4	0.723	6
7	264.8	45.7	0.802	311.1	47.5	0.907	261.8	47.7	0.922	295.1	48.3	0.960	7
8	143.0	51.7	1.201	254.1	52.6	1.275	120.7	51.2	1.168	166.9	51.9	1.219	8
9	22.6	54.4	1.428	90.4	56.4	1.606	29.5	54.7	1.443	50.0	55.2	1.488	9
10	12.3	55.4	1.510	39.7	59.0	1.864	9.7	58.9	1.849	22.1	59.1	1.870	10
11	2.5	59.8	1.935	22.9	60.2	1.988	3.9	62.1	2.235	14.3	61.5	2.138	11
12	1.5	63.3	2.340	19.4	65.5	2.644	2.6	68.6	3.225	5.1	62.2	2.211	12
13				7.1	71.0	3.452	1.2	69.4	3.336	2.8	62.8	2.282	13
14				3.2	70.5	3.335	0.1	80.1	5.111				14
15							0.1	79.0	4.871				15
16													16
17													17
TOTAL	1000			1000			1000			1000			

AGE	JUL.			AUG.			SEP.			NOV.			DEC.			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
3				2.0	28.2	0.157	0.9	28.8	0.166	18.2	34.7	0.312	9.2	33.7	0.286	3
4	55.4	36.3	0.367	80.4	35.8	0.356	49.9	35.7	0.352	169.0	37.9	0.424	157.1	38.4	0.445	4
5	128.6	40.7	0.545	149.7	40.2	0.523	111.7	41.3	0.570	258.3	42.3	0.610	307.2	42.4	0.612	5
6	219.9	45.2	0.764	222.9	45.0	0.755	222.0	45.6	0.787	263.1	45.8	0.801	260.5	45.5	0.780	6
7	248.6	48.3	0.956	245.9	47.9	0.933	262.7	48.5	0.969	142.5	50.1	1.086	125.0	49.5	1.049	7
8	169.9	52.9	1.293	143.6	52.8	1.284	174.1	52.7	1.276	102.0	52.6	1.272	94.9	53.4	1.354	8
9	71.6	56.1	1.573	53.2	56.5	1.611	72.0	56.3	1.587	33.7	53.8	1.366	24.5	55.3	1.506	9
10	37.0	59.3	1.899	36.9	59.9	1.958	45.4	59.8	1.953	7.3	57.2	1.661	8.4	58.3	1.789	10
11	29.4	66.8	2.887	29.5	65.8	2.730	33.7	64.0	2.478	4.8	61.3	2.124	8.7	63.6	2.391	11
12	27.4	71.6	3.636	18.8	69.8	3.370	18.8	68.6	3.167	1.0	64.8	2.543	2.3	69.1	3.175	12
13	8.0	75.0	4.221	7.5	75.9	4.424	5.6	72.1	3.716	0.0	71.0	3.408	1.0	75.4	4.193	13
14	3.8	77.4	4.677	9.4	83.5	5.969	3.2	81.9	5.659				0.8	91.9	8.230	14
15	0.2	81.0	5.295	0.4	83.0	5.746										15
16																16
17													0.3	89.0	7.257	17
TOTAL	1000			1000			1000			1000			1000			

AGE	1st Q.			2nd Q.			3rd Q.			4th Q.			YEAR 1998			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
3				2.3	33.2	0.271	0.8	28.5	0.161	10.0	33.9	0.291	2.8	33.1	0.272	3
4	7.1	38.0	0.421	61.8	35.8	0.351	59.1	36.0	0.359	158.2	38.4	0.443	70.4	37.0	0.393	4
5	90.0	40.1	0.510	201.5	39.4	0.487	126.9	40.8	0.547	302.8	42.3	0.612	175.1	40.8	0.546	5
6	226.0	43.5	0.672	285.7	43.5	0.680	221.4	45.3	0.771	260.7	45.5	0.782	247.5	44.5	0.730	6
7	300.2	47.1	0.885	266.8	47.8	0.929	253.5	48.3	0.956	126.6	49.5	1.053	240.6	48.0	0.943	7
8	227.9	52.5	1.264	127.6	51.3	1.178	165.4	52.8	1.284	95.6	53.4	1.346	151.4	52.4	1.262	8
9	74.4	56.3	1.593	32.6	54.8	1.454	67.5	56.3	1.586	25.3	55.2	1.489	50.9	55.9	1.555	9
10	33.2	58.7	1.833	11.6	59.0	1.855	40.2	59.6	1.935	8.3	58.2	1.779	25.2	59.3	1.894	10
11	18.1	60.2	1.986	5.5	61.9	2.197	31.1	65.4	2.680	8.3	63.5	2.377	17.7	64.1	2.502	11
12	15.2	65.5	2.636	3.0	67.0	2.964	22.1	70.2	3.428	2.2	68.9	3.148	11.9	69.0	3.231	12
13	5.4	71.0	3.452	1.5	67.5	3.027	7.0	74.3	4.114	0.9	75.4	4.191	4.1	73.0	3.872	13
14	2.4	70.5	3.335	0.1	80.1	5.111	4.9	81.3	5.508	0.7	91.9	8.230	2.4	80.2	5.321	14
15				0.1	79.0	4.871	0.2	82.0	5.526				0.1	81.4	5.395	15
16																16
17										0.3	89.0	7.257	0.1	89.0	7.257	17
TOTAL	1000			1000			1000			1000			1000			
Nº FISH AGED	538			783			658			159			2138			

TABLE XXIII: GREENLAND HALIBUT, DIV. 3O, 1998: length composition of the trawl catches.

LENGTH GROUP	FEB.	MAR.	JUN.	JUL.	SEP.	NOV.	1st Q.	2nd Q.	3rd Q.	4st Q.	TOTAL	LENGTH GROUP
22				0.3					0.2		0.04	22
24												24
26				4.0					2.7		0.5	26
28				13.1	2.2				9.5		1.8	28
30				26.4	7.2				20.0		3.8	30
32			4.1	28.3	5.7	3.6		4.1	20.8	3.6	4.3	32
34			4.2	50.3	13.5	10.4		4.2	38.1	10.4	9.2	34
36		23.3		72.3	54.5	40.6	11.2		66.4	40.6	22.0	36
38	20.7	23.3	8.3	69.1	95.2	78.8	21.9	8.3	77.7	78.8	32.0	38
40	76.0	11.6	16.6	60.4	122.5	105.7	45.0	16.6	81.0	105.7	48.1	40
42	57.0	34.9	141.5	66.4	147.5	143.6	46.3	141.5	93.3	143.6	77.3	42
44	120.0	58.1	175.9	91.1	121.3	157.0	90.2	175.9	101.1	157.0	104.2	44
46	122.7	104.7	124.4	94.1	100.7	135.1	114.0	124.4	96.3	135.1	131.2	46
48	139.9	151.2	107.6	84.5	86.4	100.8	145.3	107.6	85.1	100.8	117.0	48
50	66.5	127.9	194.9	66.5	74.4	66.8	96.0	194.9	69.1	66.8	107.1	50
52	112.3	81.4	110.5	73.5	41.3	42.3	97.4	110.5	62.8	42.3	100.8	52
54	110.6	58.1	24.9	52.1	26.9	31.0	85.3	24.9	43.8	31.0	66.9	54
56	74.3	34.9	18.7	59.7	39.3	6.9	55.3	18.7	52.9	6.9	43.5	56
58	45.7	104.7	37.3	21.5	32.0	13.7	74.1	37.3	25.0	13.7	49.0	58
60	25.0	69.8	18.6	26.9	7.5	20.6	46.6	18.6	20.4	20.6	34.3	60
62	12.9	46.5	12.5	5.7	11.3	10.7	29.1	12.5	7.6	10.7	19.6	62
64	4.3	34.9		16.9	2.1		19.0		12.0		11.6	64
66	12.1	23.3		16.5	3.0	14.3	17.5		12.0	14.3	11.4	66
68					1.8				0.6		0.1	68
70		11.6		0.4	1.8		5.6		0.8		2.7	70
72												72
74						7.1				7.1	0.5	74
76					1.8	3.6			0.6	3.6	0.4	76
78												78
80						3.6				3.6	0.3	80
82												82
84												84
86						3.6				3.6	0.3	86
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	2	1	4	12	5	2	3	4	17	2	26	
SAMPLING WEIGHT(Kg)	179	109	383	687	516	269	288	383	1203	269	2143	
No.F.MEASURED	162	86	361	1124	583	290	248	361	1707	290	2606	
MEAN LENGTH(cm)	50.2	52.7	49.7	46.4	46.0	46.8	51.4	49.7	46.3	46.8	49.6	
MEAN WEIGHT (g)	1129	1354	1077	938	868	942	1238	1077	915	942	1110	
DEPTH RANGE (m)	434/1170	305/1178	257/1185	305/1142	304/725	249/763	305/1178	257/1185	304/1142	249/763	249/1185	

TABLE XXIV: ROUGHHEAD GRENADIER, DIV. 3L, 1998: length composition of the trawl catches.

LENGTH GROUP	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG	SEP.	DEC.	1st Q.	2nd Q.	3rd Q.	4st Q.
6								0.4					0.2	
7			7.0	3.7	6.9	5.0	7.7	6.2	8.4		2.2	5.0	7.2	
8			12.0	11.8	15.3	15.4	19.9	22.9	15.5		3.8	13.3	20.0	
9			32.2	33.6	46.0	37.2	47.3	34.1	30.6		10.3	38.4	37.4	
10			114.7	117.7	127.5	82.8	90.7	95.3	56.3	24.0	36.8	119.5	83.8	24.0
11		3.2	213.5	239.7	213.2	172.1	194.4	177.7	131.0	79.5	70.6	226.3	171.1	79.5
12		23.0	155.4	233.4	217.5	177.2	203.7	271.1	214.6	96.7	65.1	224.5	234.9	96.7
13		91.1	120.9	142.1	140.8	163.3	136.4	135.2	153.8	132.9	99.1	142.7	140.4	132.9
14		148.8	76.2	87.4	80.4	89.5	78.1	77.3	111.6	187.7	122.9	84.9	86.4	187.7
15	90.9	149.5	63.2	59.1	55.8	69.5	73.2	78.2	92.2	162.8	120.8	58.4	80.2	162.8
16	454.5	145.2	44.0	27.8	37.3	64.4	33.4	32.3	57.3	111.8	118.0	33.3	39.1	111.8
17		123.2	40.1	14.9	18.0	32.5	15.4	14.1	46.9	72.0	94.4	17.0	23.0	72.0
18	90.9	88.7	6.2	11.4	10.0	24.8	13.7	12.1	14.9	63.2	62.3	11.6	13.3	63.2
19		60.1	20.1	9.5	9.7	16.6	12.0	3.0	15.1	17.7	46.2	10.0	9.0	17.7
20	181.8	64.9	4.9	3.6	2.6	10.2	12.7	10.1	9.5	2.8	47.7	3.6	10.8	2.8
21		32.8	15.1	1.0	4.4	2.9	13.8	5.1	11.8	15.3	26.5	2.4	9.6	15.3
22		23.7	5.5	0.7	1.4	3.5	9.3	4.5	9.3	10.7	17.5	1.1	7.3	10.7
23		26.3	19.7	0.4	3.0	4.5	8.2	4.2	4.7	18.3	23.7	1.6	5.6	18.3
24	90.9	6.6	8.8	0.6	2.3	7.1	7.8	2.0	5.3		8.8	1.5	4.7	
25		5.6	11.3	0.1	3.1	5.5	5.0	2.7	3.7	4.6	7.4	1.5	3.7	4.6
26		7.2	9.1	0.3		3.4	5.1	0.9	1.0		7.7	0.4	2.3	
27			8.3		2.2	2.9	2.9	4.8	1.5		2.7	1.0	3.3	
28	90.9		8.3	0.3	0.8	3.4	3.1	2.4	1.5		4.2	0.7	2.4	
29						1.0	4.4	0.3	1.8			0.1	2.0	
30			1.8		0.8	2.0	0.9	2.9	1.1		0.6	0.4	1.8	
31			1.8	0.9	1.0	2.1	0.9	0.1	0.6		0.6	1.0	0.5	
32						1.0						0.1		
33								0.2					0.1	
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
No. SAMPLES	1	8	6	27	10	8	12	25	18	4	15	45	55	4
SAMPLING WEIGHT(Kg)	8	356	337	1364	592	350	545	1084	756	212	701	2306	2385	212
No.F.MEASURED	11	487	549	3217	1354	650	1054	2378	1494	384	1047	5221	4926	384
MEAN LENGTH(cm)	19.1	17.1	14.0	12.8	12.9	13.8	13.6	13.2	13.9	15.2	16.1	12.9	13.5	15.2
MEAN WEIGHT (g)	732	511	344	225	241	309	302	264	307	371	461	235	287	371
DEPTH RANGE (m)	1134/1194	907/1239	700/1201	704/1197	705/1156	976/1118	854/1193	760/1195	664/1195	729/1220	700/1239	704/1197	664/1195	729/1220

TABLE XXV: ROUGHHEAD GRENADIER, DIV. 3M, 1998: length composition of the trawl catches.

LENGTH GROUP	FEB.	MAR.	APR.	MAY	JUL.	AUG	SEP.	DEC.	1st Q.	2nd Q.	3rd Q.	4st Q.	TOTAL	LENGTH GROUP
7		4.0	12.0	5.7		11.3	12.8		1.2	9.8	7.2		4.5	7
8		14.0	24.1	13.8	14.9	17.8	25.6		4.1	20.4	19.6		11.0	8
9		40.6	32.2	42.0	59.7	68.7	51.3		11.9	35.7	58.3		25.7	9
10		166.6	106.5	161.7	44.8	103.3	115.4		48.9	126.1	83.5		67.7	10
11		278.5	231.0	276.7	104.5	149.5	166.7		81.8	247.3	137.3		122.5	11
12		212.7	241.9	207.7	358.2	241.4	166.7	17.9	62.4	229.8	261.5	17.9	140.6	12
13	25.7	100.7	110.2	105.8	164.2	180.8	153.8	70.4	47.7	108.7	163.5	70.4	92.6	13
14	161.7	77.6	38.7	76.7	134.3	93.8	179.5	180.4	137.0	52.2	143.5	180.4	123.7	14
15	138.3	39.2	67.1	38.7	104.5	61.1	38.5	130.1	109.2	57.0	70.5	130.1	91.1	15
16	108.2	26.9	44.2	29.5		22.5		95.6	84.3	39.0	4.5	95.6	57.6	16
17	110.5	33.2	16.9	32.3	14.9	13.1	25.6	87.7	87.8	22.4	18.7	87.7	55.7	17
18	125.0	5.0	15.3	5.5		22.5	25.6	95.6	89.8	11.8	14.3	95.6	54.1	18
19	82.7	0.9	21.3	1.9		4.7		43.2	58.7	14.4	0.9	43.2	31.7	19
20	113.8		10.9	1.0				119.4	80.4	7.4		119.4	51.4	20
21	79.3							43.2	56.0			43.2	26.8	21
22	10.1			1.0			25.6	53.9	7.1	0.4	9.8	53.9	14.8	22
23	36.8		3.2				12.8	43.2	26.0	2.1	4.9	43.2	18.4	23
24	7.8		3.2					7.9	5.5	2.1		7.9	3.9	24
25			3.2					3.6		2.1		3.6	1.2	25
26			1.6					7.9		1.0		7.9	1.8	26
27			1.6							1.0			0.3	27
28			6.5			4.7				4.2	0.9		1.3	28
29			3.2							2.1			0.6	29
30						4.7					0.9		0.2	30
31			1.6							1.0			0.3	31
32			1.6							1.0			0.3	32
33			1.6							1.0			0.3	33
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	3	7	2	14	1	2	1	2	10	16	4	2	32	
SAMPLING WEIGHT(Kg)	109	270	151	737	26	74	33	135	379	888	133	135	1535	
No.F.MEASURED	148	690	256	1764	67	180	78	181	838	2020	325	181	3364	
MEAN LENGTH(cm)	17.8	12.4	13.2	12.4	12.9	12.8	13.1	17.6	16.2	12.9	13.0	17.6	14.9	
MEAN WEIGHT (g)	566	203	277	206	223	239	254	564	459	251	238	564	377	
DEPTH RANGE (m)	985/1199	860/1095	965/1133	836/1123	889/1046	822/1151	818/1079	987/1239	860/1199	836/1133	818/1151	987/1239	818/1239	

TABLE XXVI: ROUGHHEAD GRENADIER, DIV. 3N, 1998: length composition of the trawl catches.

LENGTH GROUP	MAR.	APR.	JUN.	JUL.	AUG	SEP.	NOV.	DEC.	1st Q.	2nd Q.	3rd Q.	4st Q.	TOTAL	LENGTH GROUP
6								0.7				0.7	0.2	6
7				1.0				5.8			0.3	5.4	1.8	7
8				4.1		0.7	15.1	13.9			1.5	14.0	4.9	8
9				3.1		3.4	55.8	37.3			2.5	38.5	12.7	9
10				12.0		6.1	66.8	57.2			6.2	57.8	20.1	10
11				30.7	12.9	51.1	178.0	153.9			35.6	155.5	62.2	11
12				38.1	86.6	95.8	211.3	206.8			76.9	207.1	95.4	12
13	51.0	20.7		72.2	136.7	151.3	184.2	146.6	51.0	12.3	124.9	149.1	107.7	13
14	121.9	130.1	65.9	147.8	184.7	168.5	105.1	99.1	121.9	104.2	166.7	99.5	132.2	14
15	133.5	132.8	142.9	141.3	146.1	114.1	60.9	74.7	133.5	136.9	130.0	73.8	114.3	15
16	130.5	151.9	131.9	90.0	125.1	121.6	24.5	48.2	130.5	143.8	113.4	46.7	99.4	16
17	138.2	191.7	142.9	96.4	129.0	97.2	14.1	30.2	138.2	172.0	105.1	29.1	95.0	17
18	97.5	70.1	175.8	84.1	61.5	41.1	8.4	21.1	97.5	112.8	58.6	20.2	59.3	18
19	88.1	71.7	87.9	68.3	24.7	29.4	13.3	32.2	88.1	78.3	39.4	31.0	48.9	19
20	96.6	83.4	98.9	42.6	24.4	38.3		34.6	96.6	89.6	36.0	32.3	50.5	20
21	68.5	52.0	76.9	63.8	30.3	31.6	9.5	11.5	68.5	62.1	40.5	11.3	38.5	21
22	13.6	12.2	22.0	18.9	18.6	14.1	8.5	6.1	13.6	16.2	16.6	6.2	12.9	22
23	37.4	67.4	11.0	47.5	5.4	4.9		6.2	37.4	44.6	17.2	5.8	20.1	23
24	19.0	5.3	33.0	10.7		14.4	11.3	3.4	19.0	16.5	9.7	3.9	10.2	24
25	2.5			18.0		1.0	6.7	2.6	2.5		5.6	2.8	3.6	25
26	1.7	10.6	11.0	4.2	3.7	4.9	5.7	3.9	1.7	10.8	4.4	4.0	4.6	26
27				1.8	8.0	4.1	5.7	0.3			4.4	0.7	2.1	27
28						2.7	2.8	2.2			1.2	2.2	1.2	28
29					2.4	0.4	6.7	0.3			0.8	0.7	0.6	29
30				1.3			2.8	0.7			0.4	0.8	0.4	30
31				1.2							0.4		0.2	31
32				1.0		2.7		0.5			1.5	0.5	0.8	32
33						0.7	2.8				0.3	0.2	0.2	33
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	5	2	1	12	6	12	3	11	5	3	30	14	52	
SAMPLING WEIGHT(Kg)	333	154	77	827	356	700	173	716	333	231	1883	889	3336	
No.F.MEASURED	421	161	91	1118	555	1101	330	1425	421	252	2774	1755	5202	
MEAN LENGTH(cm)	17.8	17.9	18.3	17.2	16.0	15.9	13.7	14.0	17.8	18.1	16.3	14.0	16.0	
MEAN WEIGHT (g)	571	576	612	540	432	435	312	314	571	591	464	314	450	
DEPTH RANGE (m)	516/1520	612/1350	370/1100	368/1360	513/1340	227/1300	400/1083	350/1395	516/1520	370/1350	227/1360	350/1395	227/1520	

TABLE XXVII: ROUGHHEAD GRENADIER, DIV. 3O, 199
length composition of the trawl catche

LENGTH GROUP	JUL. =YEAR 1998	LENGTH GROUP
7	63.8	7
8	74.5	8
9	95.7	9
10	148.9	10
11	223.4	11
12	234.0	12
13	53.2	13
14	21.3	14
15	53.2	15
16	10.6	16
17		17
18		18
19		19
20	10.6	20
21		21
22		22
23	10.6	23
TOTAL	1000	
No. SAMPLES	1	
SAMPLING WEIGHT(Kg)	28	
No.F.MEASURED	94	
MEAN LENGTH(cm)	11.6	
MEAN WEIGHT (g)	178	
DEPTH RANGE (m)	381/693	

TABLE XXVIII: WITCH FLOUNDER, DIV. 3L, 1998: length composition of the trawl catches.

LENGTH GROUP	MAR.	APR.	MAY	JUN.	JUL.	AUG	1st Q.	2nd Q.	3rd Q.	TOTAL	LENGTH GROUP
26	1.7	3.3			8.2		1.7	2.2	4.2	2.3	26
28	1.7	7.9	8.0	5.1	20.0	3.6	1.7	7.8	12.1	7.4	28
30	32.8	30.2	19.4	77.9	65.0	69.3	32.8	29.6	67.1	32.2	30
32	76.8	59.3	30.8	70.3	80.2	96.8	76.8	52.3	88.2	57.0	32
34	146.7	70.9	80.8	144.3	124.9	107.4	146.7	77.1	116.4	86.7	34
36	136.6	109.4	90.7	159.7	205.5	166.6	136.6	106.8	186.7	114.9	36
38	171.4	165.1	152.9	216.1	220.5	228.7	171.4	164.3	224.5	168.7	38
40	133.3	136.6	151.9	151.5	84.0	119.2	133.3	141.4	101.0	138.1	40
42	45.8	133.8	176.2	88.1	74.1	57.4	45.8	142.9	66.0	128.1	42
44	44.0	106.5	147.4	27.6	61.7	75.5	44.0	113.6	68.4	103.5	44
46	114.3	73.5	85.5	45.5	38.8	44.5	114.3	75.3	41.6	77.3	46
48	27.9	30.1	29.5	9.0	7.0	23.7	27.9	29.0	15.1	28.0	48
50	27.8	32.6	13.4	4.9	1.5		27.8	26.2	0.8	24.8	50
52	35.9	23.6	6.4		7.6	3.6	35.9	17.9	5.7	19.0	52
54	3.3	10.4	5.6				3.3	8.6		7.5	54
56		5.5	1.4			3.6		4.1	1.8	3.5	56
58		1.4						1.0		0.8	58
60											60
62											62
64											64
66											66
68					0.9				0.4	0.03	68
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	4	24	8	7	9	3	4	39	12	55	
SAMPLING WEIGHT(Kg)	101	883	342	155	250	143	101	1380	393	1874	
No.F.MEASURED	251	1895	765	419	654	367	251	3079	1021	4351	
MEAN LENGTH(cm)	40.2	41.1	41.3	38.3	38.2	38.7	40.2	41.0	38.4	40.8	
MEAN WEIGHT (g)	480	517	512	394	392	411	480	510	402	500	
DEPTH RANGE (m)	700/1117	704/1197	705/1156	976/1118	854/1193	760/1176	700/1117	704/1197	760/1193	700/1197	

TABLE XXIX: WITCH FLOUNDER, DIV. 3M, 1998: length composition of the trawl catches.

LENGTH GROUP	MAR.	APR.	MAY	AUG	1st Q.	2nd Q.	3rd Q.	TOTAL	LENGTH GROUP
26			7.2			6.6		5.2	26
28			3.2	36.8		3.0	36.8	9.8	28
30	71.4	22.2	32.4	75.2	71.4	31.6	75.2	41.2	30
32	125.0	44.4	41.7	92.4	125.0	41.9	92.4	53.8	32
34	89.3	166.7	91.4	87.4	89.3	97.1	87.4	95.0	34
36	71.4	88.9	100.0	235.4	71.4	99.1	235.4	126.4	36
38	160.7	122.2	147.4	192.9	160.7	145.5	192.9	155.4	38
40	125.0	144.4	147.3	55.6	125.0	147.1	55.6	128.0	40
42	71.4	111.1	152.2	85.9	71.4	149.1	85.9	134.7	42
44	71.4	88.9	162.4	108.1	71.4	156.8	108.1	145.3	44
46	71.4	33.3	56.9	30.3	71.4	55.1	30.3	50.4	46
48		66.7	25.7			28.8		22.4	48
50	53.6	44.4	14.2		53.6	16.5		13.8	50
52		55.6	6.5			10.3		8.0	52
54	35.7		7.3		35.7	6.8		5.9	54
56	53.6	11.1	4.2		53.6	4.7		4.7	56
TOTAL	1000	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	1	1	11	2	1	12	2	15	
SAMPLING WEIGHT(Kg)	26	44	541	55	26	585	55	666	
No.F.MEASURED	46	90	1256	162	46	1346	162	1554	
MEAN LENGTH(cm)	40.9	41.4	40.9	38.0	40.9	40.9	38.0	40.3	
MEAN WEIGHT (g)	534	536	497	385	534	500	385	477	
DEPTH RANGE (m)	899/1095	965/1133	836/1123	146/267	899/1095	836/1133	146/267	146/1133	

TABLE XXX: WITCH FLOUNDER, DIV. 3N, 1998: length composition of the trawl catches.

LENGTH GROUP	JUL.	SEP.	3rd Q.	TOTAL	LENGTH GROUP
28	12.0	22.2	15.3	15.3	28
30	50.5	44.4	48.5	48.5	30
32	105.3	44.4	85.5	85.5	32
34	103.6	66.7	91.6	91.6	34
36	163.1	88.9	138.9	138.9	36
38	210.0	133.3	185.0	185.0	38
40	107.2	133.3	115.7	115.7	40
42	97.1	133.3	108.9	108.9	42
44	67.1	88.9	74.2	74.2	44
46	58.5	66.7	61.2	61.2	46
48	17.8	66.7	33.7	33.7	48
50		66.7	21.7	21.7	50
52	3.9	22.2	9.9	9.9	52
54		22.2	7.2	7.2	54
56	3.9		2.6	2.6	56
TOTAL	1000	1000	1000	1000	
No. SAMPLES	3	1	4	4	
SAMPLING WEIGHT(Kg)	101	24	125	125	
No.F.MEASURED	262	45	307	307	
MEAN LENGTH(cm)	38.9	41.7	39.8	39.8	
MEAN WEIGHT (g)	419	549	461	461	
DEPTH RANGE (m)	368/1338	56/900	56/1338	56/1338	

TABLE XXXI: WITCH FLOUNDER, DIV. 3O, 1998:
length composition of the trawl catches.

LENGTH GROUP	NOV. =YEAR 1998	LENGTH GROUP
26	2.2	26
28	28.7	28
30	59.0	30
32	77.3	32
34	104.7	34
36	210.7	36
38	229.9	38
40	70.4	40
42	86.4	42
44	81.8	44
46	29.3	46
48	8.5	48
50	5.4	50
52	4.0	52
54	1.8	54
TOTAL	1000	

No. SAMPLES	3
SAMPLING WEIGHT(Kg)	153
No.F.MEASURED	416
MEAN LENGTH(cm)	38.4
MEAN WEIGHT (g)	398
DEPTH RANGE (m)	217/763

Fig. 1A - Breakdown of the 1998 Portuguese trawl directed effort by species.

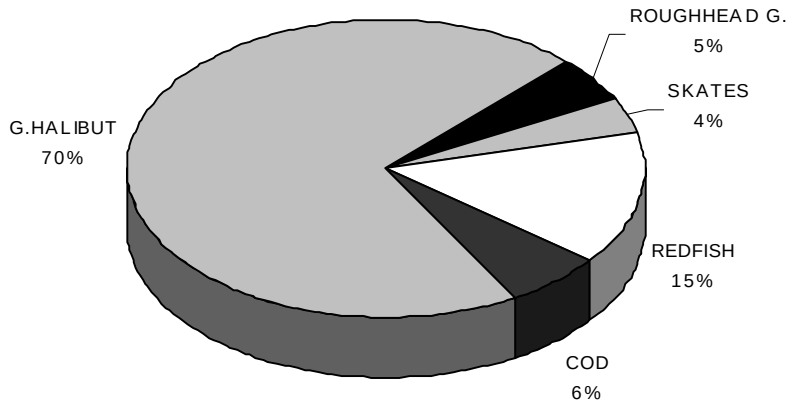
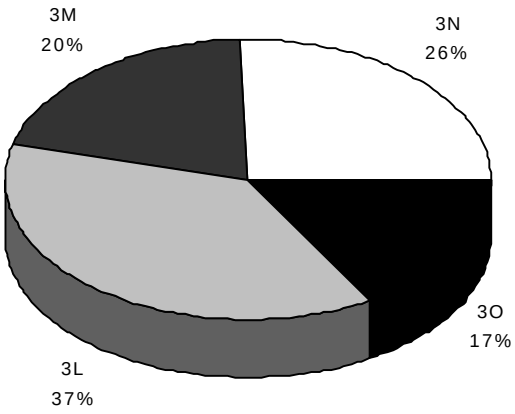
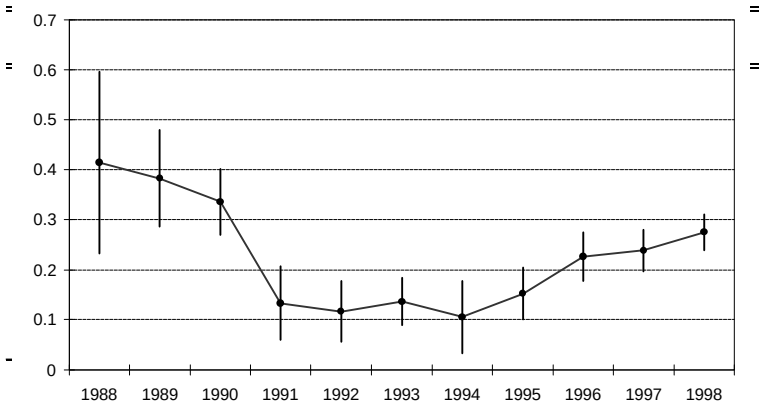
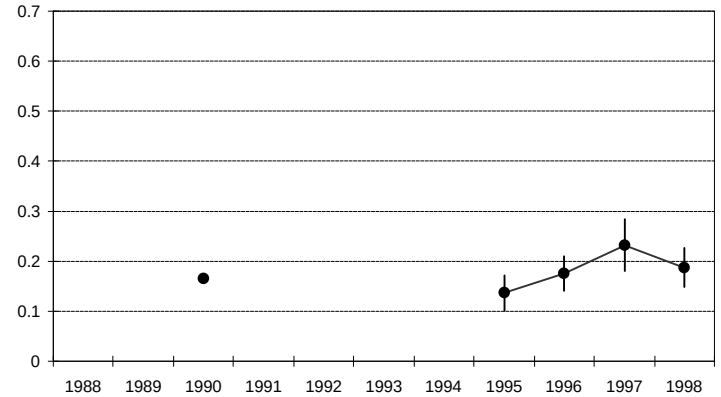


Fig. 1B - Breakdown of the 1998 Portuguese trawl directed effort by divisions.

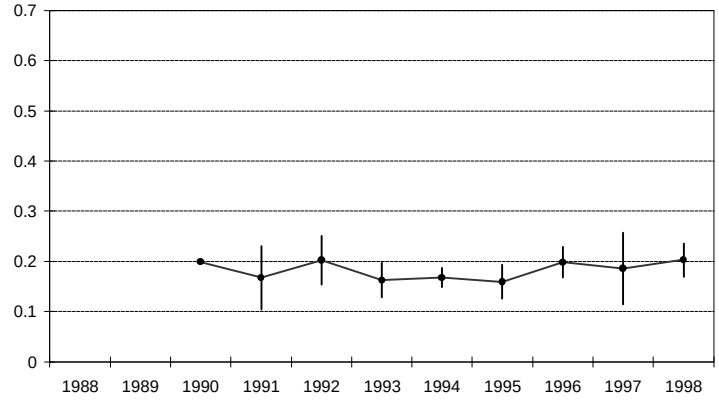




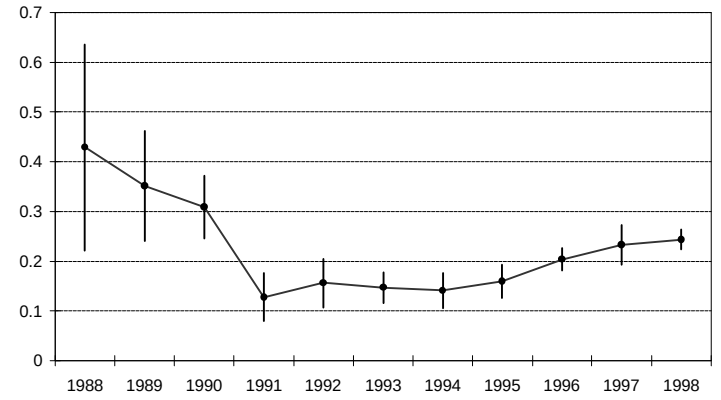
Div.3L



Div.3M



Div.3N



Div.3LMN

Fig. 2 - Greenland halibut trawl catch rates by division, 1988 - 1998.

Fig. 3 - Annual length composition of Cod in Division 3M, trawl fishery in 1998.

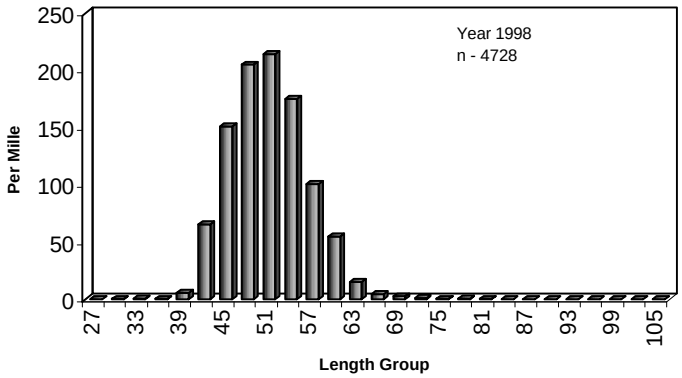


Fig. 4 - Annual length composition of Cod in Division 3N, trawl fishery in 1998.

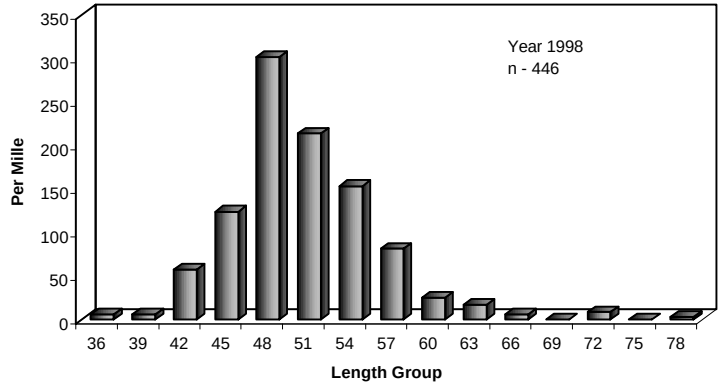


Fig. 5 - Annual age composition of Cod in Division 3M, trawl fishery in 1998.

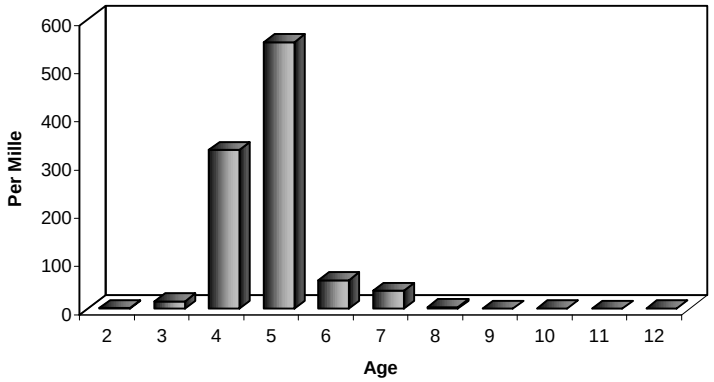


Fig. 6 - Annual length composition of Cod in Division 3O, trawl fishery in 1998.

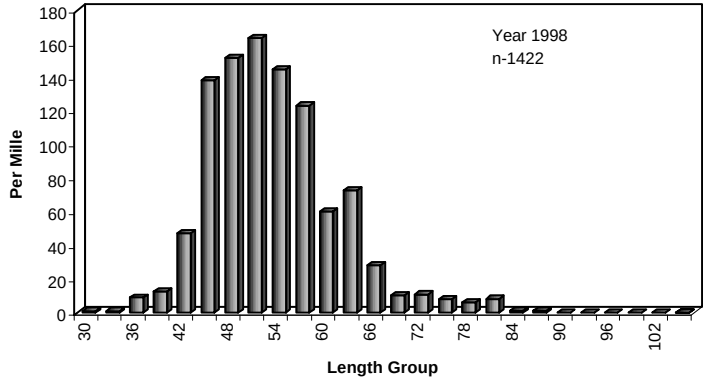


Fig. 7 - Annual length composition of Redfish (*S.mentella*) in Division 3L, trawl fishery in 1998.

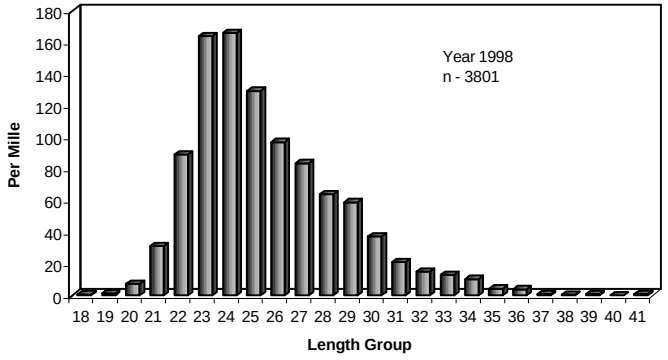


Fig. 8 - Annual length composition of Redfish (*S.mentella*) in Division 3M, trawl fishery in 1998.

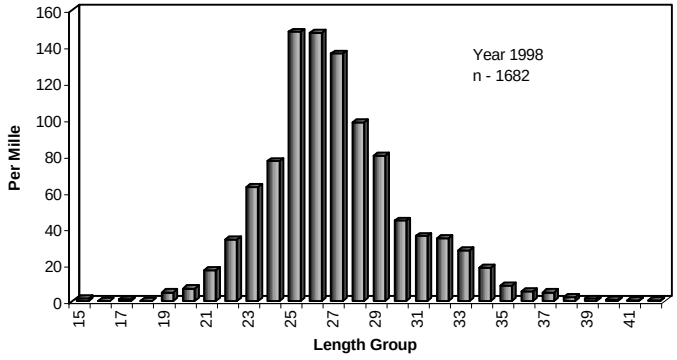


Fig. 9 Annual length composition of Redfish (*S.mentella*) in Division 3N, trawl fishery in 1998.

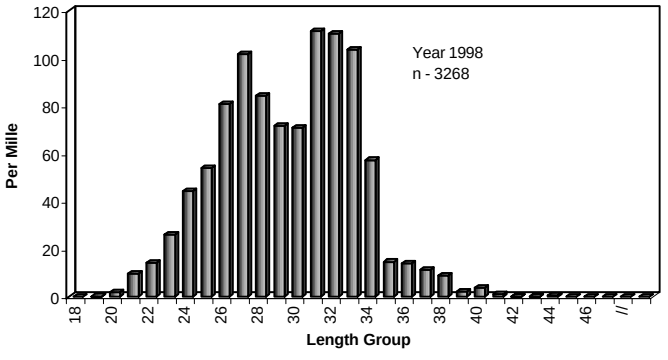


Fig. 10 - Annual age composition of Redfish (*S.mentella*) Division 3M, trawl fishery in 1998.

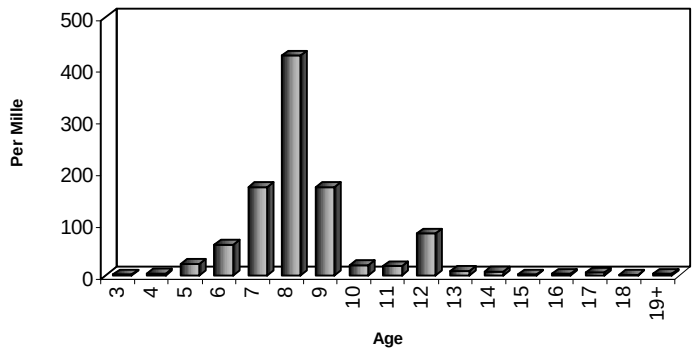


Fig. 11 - Annual length composition of Redfish (*S.mentella*) in Division 3O, trawl fishery in 1998.

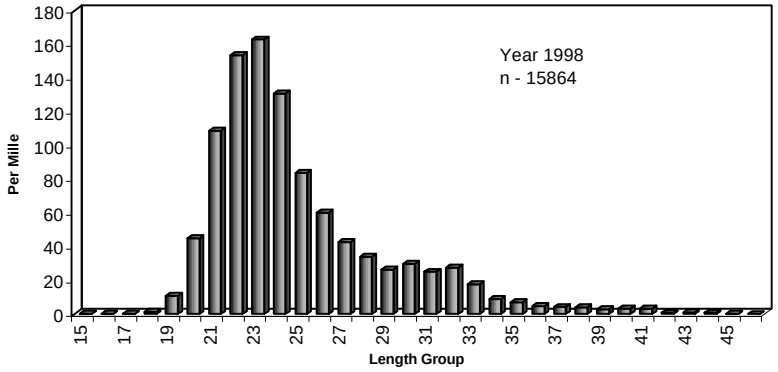


Fig. 12- Annual length composition of Redfish (*S.marinus*) in Division 3M, trawl fishery in 1998.

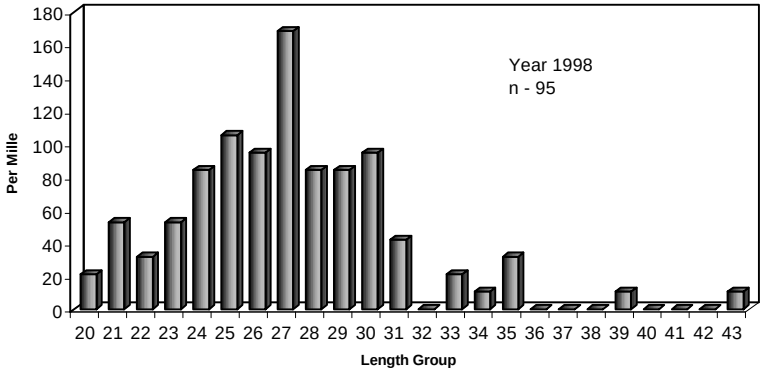


Fig. 13 - Annual length composition of Redfish (*S.marinus*) in Division 3O, trawl fishery in 1998.

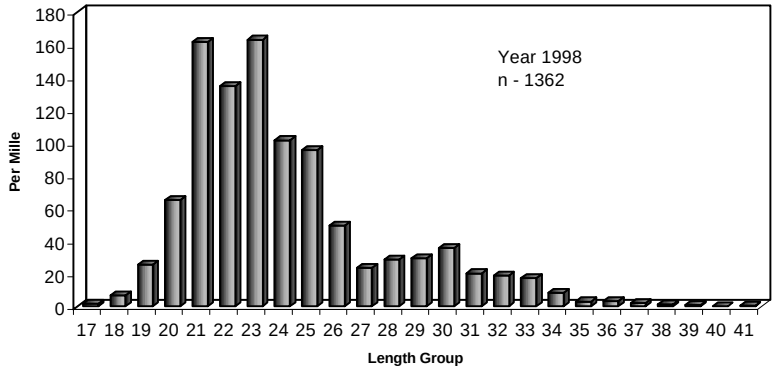


Fig. 14 - Annual length composition of American plaice in Division 3L, trawl fishery in 1998.

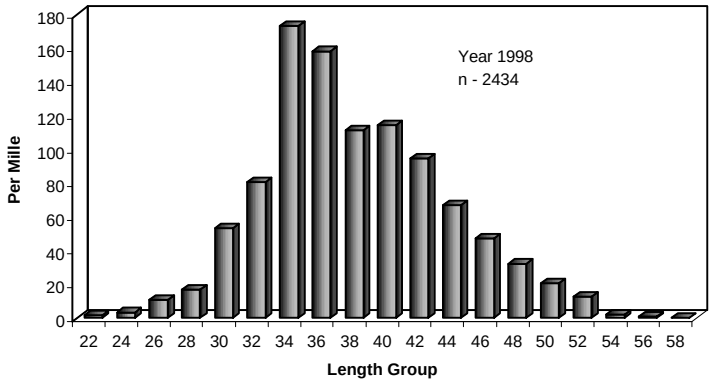


Fig. 15 - Annual length composition of American plaice in Division 3M, trawl fishery in 1998.

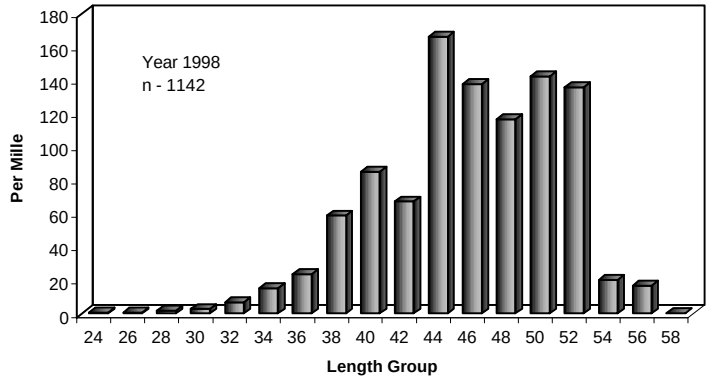


Fig. 16 - Annual length composition of American plaice in Division 3N, trawl fishery in 1998.

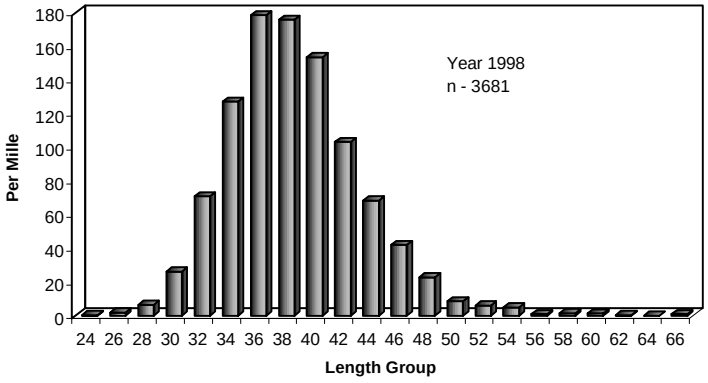


Fig. 17 - Annual age composition of American plaice in Division 3M, trawl fishery in 1998.

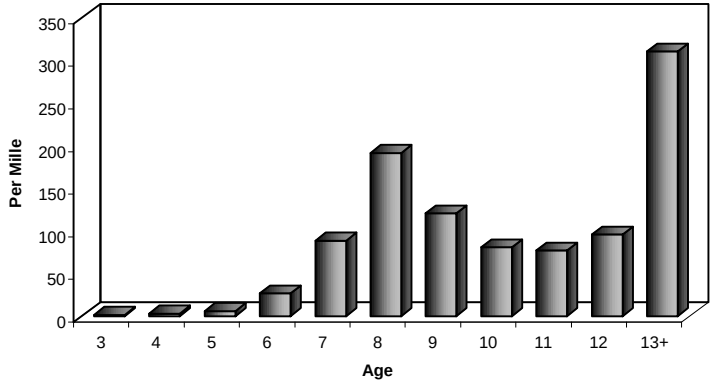


Fig. 18 - Annual length composition of American plaice in Division 3O, trawl fishery in 1998.

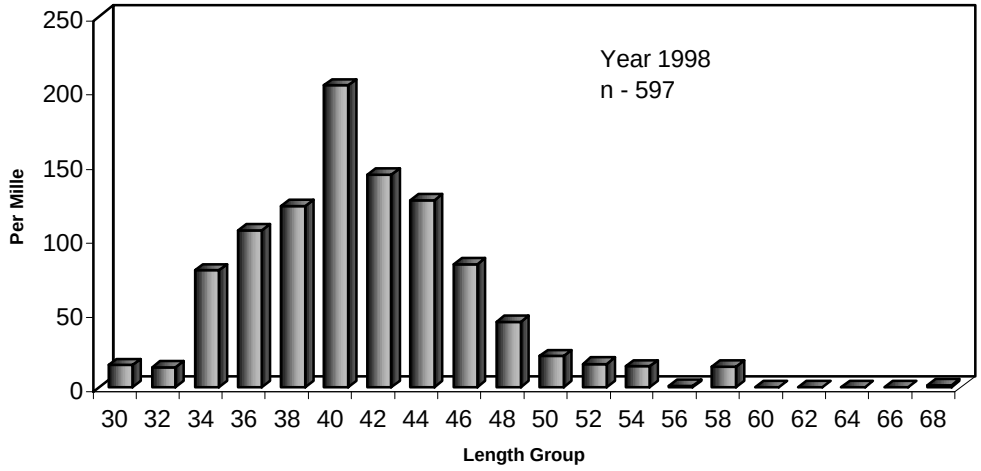


Fig. 19 - Annual length composition of Yellowtail flounder in Division 3N, trawl fishery in 1998.

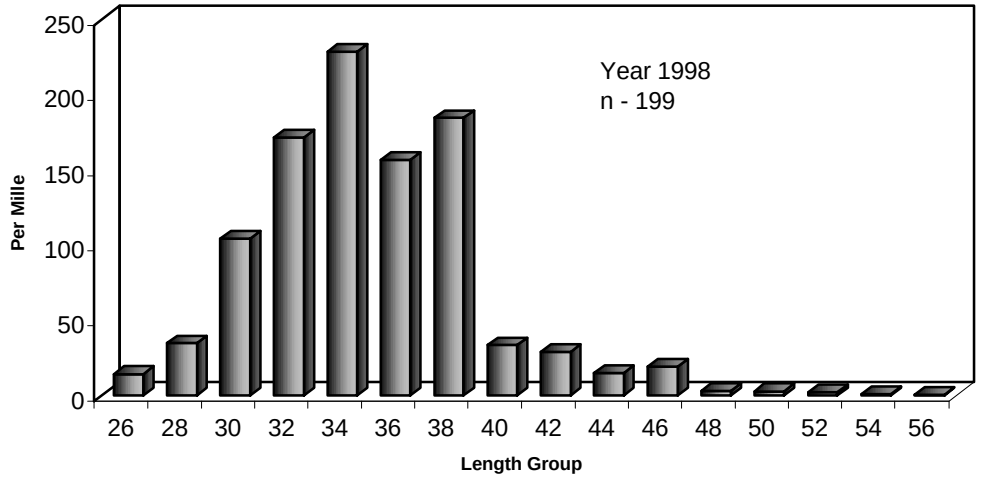


Fig. 20 - Annual length composition of Greenland halibut in Division 3L, trawl fishery in 1998.

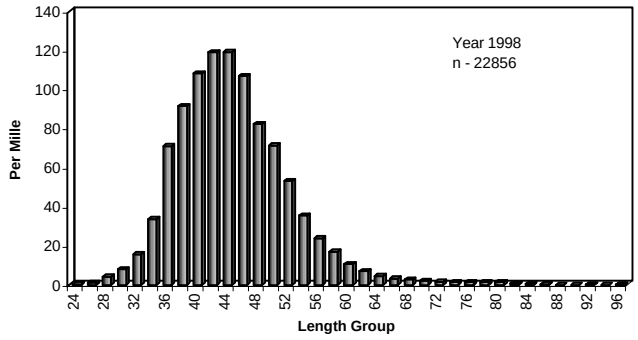


Fig. 21 - Annual length composition of Greenland halibut in Division 3M, trawl fishery in 1998.

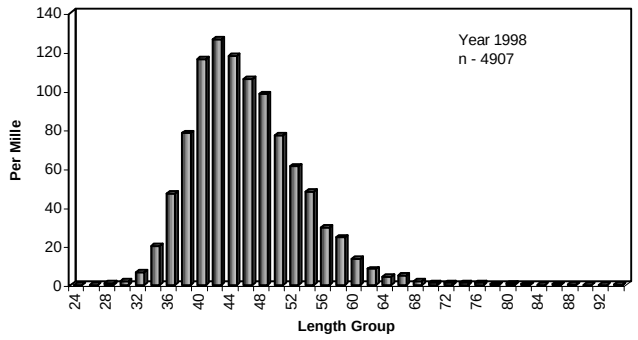


Fig. 22 - Annual age composition of Greenland halibut Division 3L, trawl fishery in 1998.

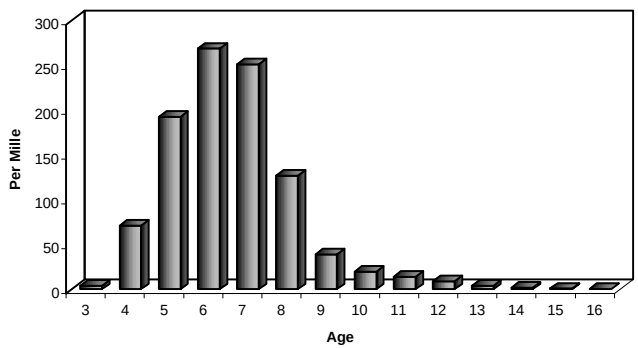


Fig. 23 - Annual age composition of Greenland halibut Division 3M, trawl fishery in 1998.

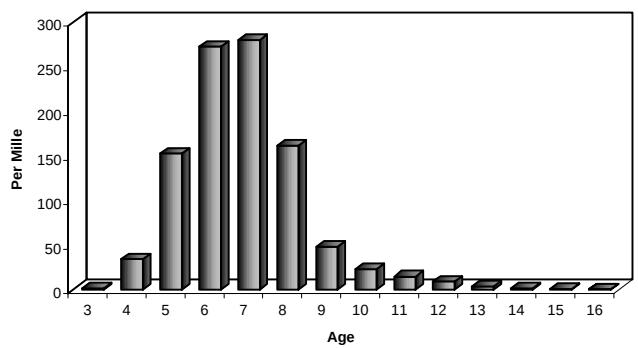


Fig. 24 - Annual length composition of Greenland halibut in Division 3N, trawl fishery in 1998.

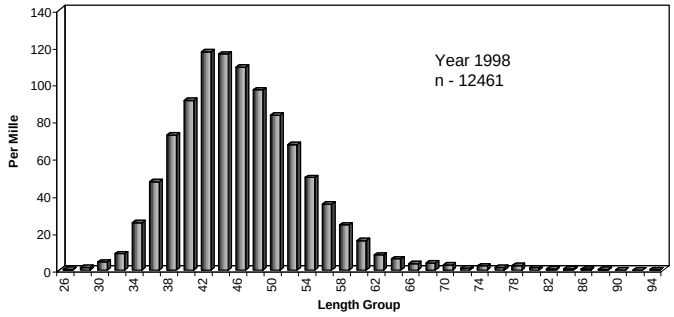


Fig. 25 - Annual age composition of Greenland halibut Division 3N, trawl fishery in 1998.

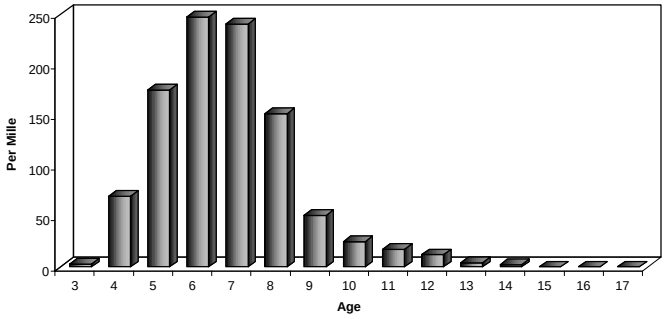


Fig. 26 - Annual length composition of Greenland halibut in Division 3O, trawl fishery in 1998.

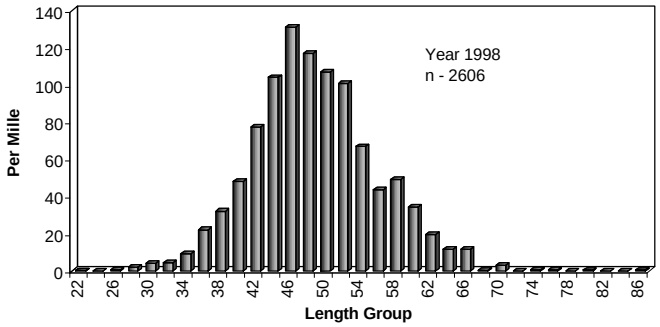


Fig. 27 - Annual length composition of Roughhead grenadier in Division 3L, trawl fishery in 1998.

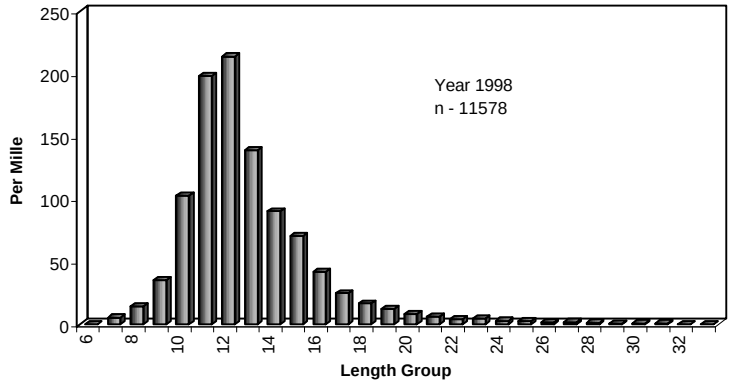


Fig. 28 - Annual length composition of Roughhead grenadier in Division 3M, trawl fishery in 1998.

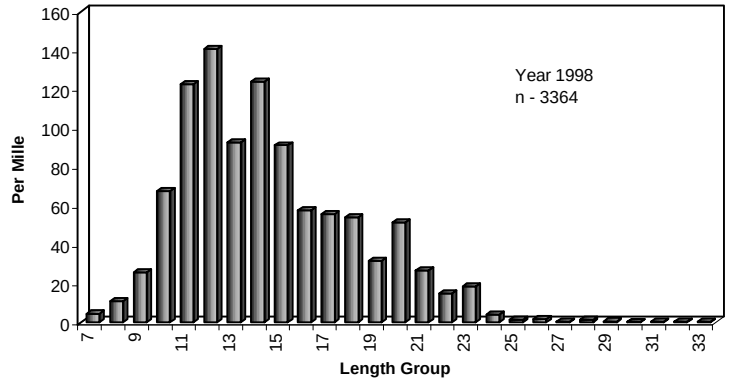


Fig. 29 - Annual length composition of Roughhead grenadier in Division 3N, trawl fishery in 1998.

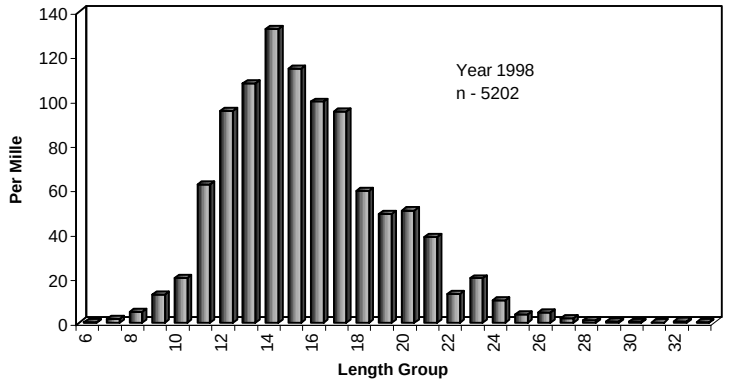


Fig. 30 - Annual length composition of Roughhead grenadier in Division 3O, trawl fishery in 1998.

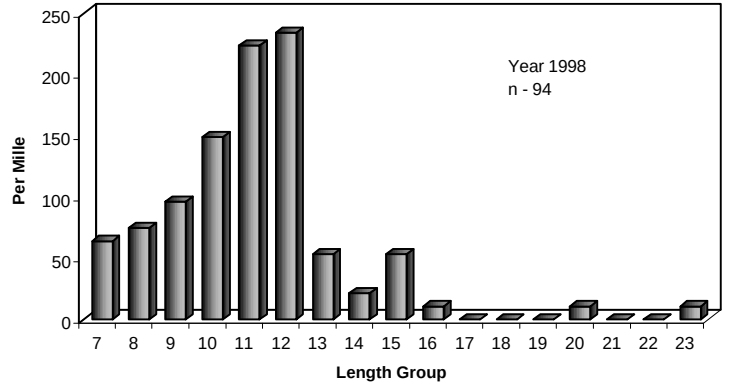


Fig. 31 - Annual length composition of Witch flounder in Division 3L, trawl fishery in 1998.

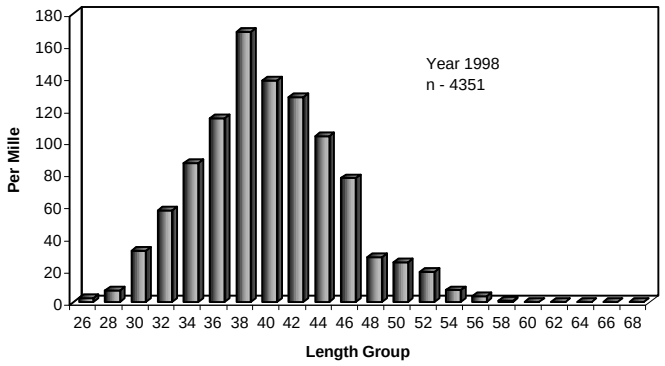


Fig. 32 - Annual length composition of Witch flounder in Division 3M, trawl fishery in 1998.

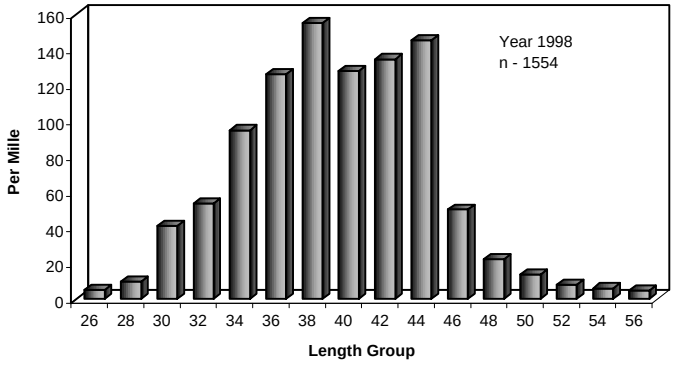


Fig. 33 - Annual length composition of Witch flounder in Division 3N, trawl fishery in 1998.

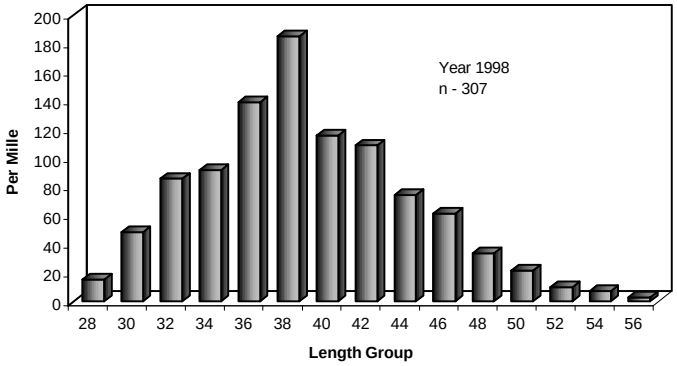
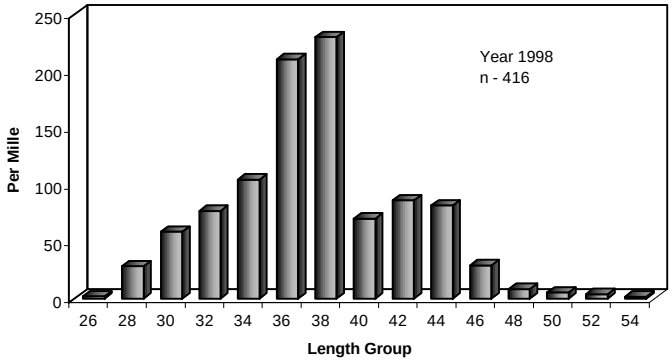


Fig. 34 - Annual length composition of Witch flounder in Division 3O, trawl fishery in 1998.



APPENDIX

COD, divisions 3L

$\log w = -5.2106+3.0879 \log l$ (Hodder, 1964)

COD, division 3M

$w = 0.007331 * l^{3.0648}$ (Vazquez, 1998)

REDFISH (S.mentella), divisions 3L and 3N

males $w = 0.01659*l^{2.9548}$

females $w = 0.01372*l^{3.0210}$ (Power and Atkinson, 1990)

REDFISH (S.mentella), divisions 3M

$w = 0.01776*l^{2.93616}$ (Saborido Rey,pers.comm.1999)

REDFISH (S.marinus), divisions 3M

$w = 0.02668*l^{2.85615}$ (Saborido Rey,pers.comm.1999)

AMERICAN PLAICE, divisions 3L and 3N

$\text{Log } w = -5.080+3.041 \log l$ (Pitt, 1978)

AMERICAN PLAICE, divisions 3M

$w = 0.004369 * l^{3.2260}$ (Vazquez, 1998)

YELLOWTAIL FLOUNDER, divisions 3N

$\log w = -5.434+3.443 \log l$ (Pitt,1978)

GREENLAND HALIBUT, divisions 3L, 3M and 3N

$w = 0.002184*l^{3.3454}$ (Bowering and Stansbury, 1984)

WITCH FLOUNDER, divisions 3L and 3M

$w = 0.001083*l^{3.497}$ (Bowering and Stansbury, 1984)