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Portuguese Research Report for 1993

by

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A. Status of the fisheries

In 1993 the Portuguese nominal catches proceeding from the NAFO Regulatory Area recorded 35 532 ton. This is a relatively stable value, if compared with the 1992 one with 36 215 ton, but almost half of the catches recorded for 1990 and 1991 (Table I, page 7).

Nominal trawl catches of the traditional species in Div. 3L are null (cod) or almost null (redfish and American plaice) in 1993. This is justified by the moratorium for cod in force since July 1992.

The 3M catches for trawl gear increased slightly from 14 483 ton to 17 090 ton between 1992 and 1993, mainly due to some increase in the cod and redfish catches together with an increase of catches of unquoted species like skates and Anarhichas spp. oppositely the Greenland halibut catches from this division and gear decreased about 1000 ton in 1993.

In Div. 3N trawl catches increased about 25% in 1993, also due to unquoted species like Greenland halibut and roughhead grenadier, and in Div. 3O catches almost doubled the 1992 ones, mainly due to a 3 times increase of the 1993 redfish trawl catches.

Nominal catches of gillnets, which represents only about 5% of the total, almost doubled in 1993 due to an increase in the redfish catches, mainly in Div. 3M. Unquoted species like red hake doubled in Div. 3N but decreased about 100 ton in Div 3O.

The Portuguese fleet operating in the NAFO Regulatory Area in 1993 was composed of 12 trawlers and 5 gillnetters. In overall terms fishing effort was relatively stable between 1992 and 1993 both for trawl and gillnets (Table II, page 8). Nevertheless, due to the moratorium in Div. 3L since 1992, almost all the traditional effort spent in this division was diverted to divisions 3M and 3NO. This is particularly evident for the trawl effort in Div. 3O, originated by attractive catch-rates of redfish.

For the gillnetters sampled cod continued to be the main target species. Nevertheless in Div. 3M more effort than usual was directed to redfish, probably due to a decrease in the cod catch rates and the size of cod in the catches.

In divisions 3N and 3O red hake appears also as an important target species between June and August, what can be understand as a direct effect of continuous reduction of the national quotas, easily exhausted by the middle of the year, along with an observed decrease of gillnet cod catch rates.

Following the changes detected since early 90s in the behavior of some of the most important commercial stocks and a progressive search for unquoted species as an alternative to the scarcity of the traditional ones, the fleet activity, either for trawl and gillnetters, continued to expand on deeper sea, searching for species like Greenland halibut and skates. This was particularly evident in Div. 3N where about 45% of the trawl effort of the vessels sampled was directed to Greenland halibut (30%) and skates (15%). The nominal catches and effort are presented in Tables I and II, pages 7 and 8.

B. Portuguese Annual sampling Program

1. Introduction

During 1993 biological sampling was obtained from one stern trawl fishing in all divisions from January to June and two gillnetters operating between April and August, one mainly in Div. 3M and the other in Div. 3N/3O. Catch and effort data were also obtained from these vessels through direct consultation of the captain's log-book records, as previous years. In addition to this, statistical information on catch and effort from one trawler and one gillnetter fishing in the NAFO Area was also made available by the respective captains, on a daily basis.

Biological sampling was conducted for the most abundant species in each haul following the NAFO sampling recommendations. Cod, redfish (*S. mentella*), American plaice and Greenland halibut were the main species sampled in the trawl vessel sampled. For the gillnet ones besides cod, redfish (both *S. mentella* and *S. Marinus*) and American plaice, red hake was also sampled. Like years before effort data obtained through the 1993 sampling were processed in order to estimate the 1993 total Portuguese effort in the NAFO standard effort units, using the fishing days reported on the 1993 Portuguese STATLANT 21-B. The daily catch and effort data obtained on board were also used to estimate the direct effort and cpue of the target species, by month and division, as well as the main by-catch species.

As in 1992 the redfish trawl catches were dominated by the species *S. mentella* in the divisions 3L, 3N and 3O but in the 3M gillnet fishery both *S. mentella* and *S. marinus* were caught and sampled.

Following the procedure adopted in 1991 and 1992 information on age composition and catch at age for the 3M redfish catches were obtained by using the *S. mentella* and *S. marinus* age length keys of the June/July 93 EC survey.

In order to assess the impact of the redfish trawl fishery on the cod stocks, cod by-catch rates were also estimated in 1993, below and above the 400 depth line (Table V-A, page 15). Also by-catches of cod on direct fishing for Greenland halibut was assessed by month and division (Table V-B, page 15).

The intensity of sampling during 1993 is presented in Table III, page 10, by month, gear, species and division.

The catch rates presented and discussed in the next section are mean annual values, corrected for the month and division of each monthly observation by an additive model used to standardize the cpue's for each stock from 1989 onwards.

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

2.1 - Division 3L

As stated before, as a consequence of a moratorium in this division since July 1992 almost all the trawl fishing effort traditionally spent in this division was diverted to other divisions. This means that during 1993 only 3% of the fishing effort in the NAFO Area was spent in Div. 3L. This effort was directed to Greenland halibut. Catch rates of Greenland halibut increased from 0.261 ton/h in 1992 to 0.360 ton/h in 1993. This value is within the range of the catch rates observed in 1990 and 1991.

2.2 - Division 3M

During 1993 the trawl fleet spent about 40% of its fishing effort in the Flemish Cap, about 5% more compared to 1992. Both cod and redfish remained target species for

trawl although, like 1992, more effort was directed to redfish than to cod. Nevertheless, still compared with 1992, trawl directed effort to cod increased 20% in 1993. Although the strong 1990 year class recruited to the fishery in 1993 at age 3, cod catch rates declined from 1.467 ton/h in 1992 to 0.811 ton/h in 1993.

Direct effort for redfish stayed relatively constant between 1992 and 1993 but catch rates observed a drop from 0.891 ton/h in 1992 to 0.471 ton/h in 1993. Between 1989 and 1991 redfish catch rates show a slight tendency to decrease (from 0.726 ton/h to 0.621 ton/h) but in 1992 jumped to 0.891 ton/h, due to the full recruitment to trawl of the abundant year classes from the mid 80's. Nevertheless the 1993 catch rate is the lowest observed since 1989.

For the gillnet fleet, with a traditional preference for division 3M; a small decrease was observed in the direct effort to cod in 1993, compared with 1991 and 1992. This decrease was balanced by a direct effort to redfish, for the first time recorded for this gear.

Cod catch rates for gillnets increased from 6.31 ton/h in 1992 to 8.48 ton/h in 1993, probably due to the growth of the 1995 and 1996 year classes that, like 1992, dominated the catches.

As for the recent redfish gillnet fishery, catch rates for months with more directed fishing effort recorded ranged between 12.2kg/net/day and 24.8kg/net/day (Table IV-B).

Cod by-catches in the trawl redfish fishery above 400m were important in April and June, although the respective mean for the year is at 1.7%. Below 400m cod by-catch is only recorded in April (Table V-A, page 15). Compared to 1992 cod-by catches below 400m increased in 1993.

2.3 - Division 3N

Direct trawl effort spent in Div 3N in 1993 increased about 11% from 1992. Main effort was directed to redfish (36%) and Greenland halibut (30%) and the remaining was almost all split between American plaice and skates. Only 5% was directed to cod. Compared to 1992 there was an evident increase in the effort directed to redfish and American plaice (about 4 times for both species) and a decrease (about 25%) for Greenland halibut.

Catch rates of redfish were relatively stable (0.355 ton/h in 1992 and 0.362 ton/h in 1993) but catch rates for Greenland halibut almost decreased 45% in 1993 (from 0.371 ton/h in 1992 to 0.203 ton/h in 1993). Oppositely, catch rates for American plaice doubled the 1992 ones, with an increase from 0.183 ton/h to 0.399 ton/h. This 1993 value for American plaice catch rates is the highest one since 1990, for this division and gear.

Trawl cod catch rates in 1993 more than doubled the 1992 ones but catches of cod are not significant in this gear and division. Oppositely cod catch rates from gillnets recorded in 1993 a decrease to less than half of the 1992 value.

Information on cod by-catches in the direct trawl Greenland halibut fishery occurred every month between March and June but decreased in 1993, when compared to 1992.

2.4 - Division 3O

For Division 3O, where trawl fishing effort was minimal till 1992, there are indications, from the vessels sampled, that 13% of the 1993 trawl effort in NAFO Area was spent in Div 3O, all of it directed to redfish. This can be explained by the very attractive catch rates of this species, observed in April, August and September with values ranging between 0.775 ton/h and 1.288 ton/h. It is remarkable the progressive increase of fishing effort in this division between 1989 and 1993, almost all, with the exception of 1992, directed to redfish.

3. Comments on length and age composition

3.1 - Division 3L

Information from catches in Div. 3L is very scarce due to the cod moratorium since 1992 and refers only to redfish, American plaice and Greenland halibut trawl catches sampled during first quarter.

For redfish information is available for *S. mentella* and refers only to 669 fish sampled (Table IX-A, page 21). Comparatively to 1992 the mean length and mean weight in the catch decreased in 1993 but the season scarcity of sampling can be responsible for that.

For American plaice (Table XI-A page 28) the information available refers only to 128 fish measured and data available also suggest a reduction both in the mean length and mean weight in the catch. There is no information on age composition.

For Greenland halibut (based on 438 fish measured and sexed) both mean length and mean weight in the catch suggest a decrease, more evident for females. For both sexes almost no fish bigger than 46cm were sampled.

3.2 - Division 3M

3.2.1 - Information cod cod 3M is available for the first half of 1993 for both trawl and gillnet catches and refers to length and age composition (Tables VIII-A and VIII-C, page 17 and 19 and Table XIII-A and XIII-C pages 33 and 35). Trawl catches were dominated by the 1990 year class at age 3, with 37.4 cm mean length. The 1989 year class, that at same age 3 contributed with 30% to the Portuguese 1992 trawl catches, in 1993, at age 4, only contributed with 15%. Ages 5 and older, with lengths bigger than 50 cm, almost disappeared from the Portuguese trawl catches. Nevertheless, the mean length and mean weight in the catch increased in 1993 mainly as a direct consequence of the growth of the dominant 1990 year class.

Cod catches from gillnets were mainly dominated by fish with length between 60 and 75 cm (Table VIII-C, page 19) corresponding to the 1986 and 1985 year classes at age 8 and 7 respectively (Table XIII-C, page 35). Ages older than 8 almost vanished from the catches. Mean weights at age increased for most of the age groups, when compared to the 1992 values.

3.2.2 - There is no biological information for the redfish trawl catches. Nevertheless for the gillnet catches information for *S. mentella* and *S. marinus* is available. For both species and both sexes lengths between 35cm and 40cm dominated the catches in 1993, corresponding to ages older than 13 years. Younger fish with lengths between 26cm and 33cm (mode at 30cm), coming from the strong year classes of the early 80's, are also well represented in the catches of both species although, specifically for *S. mentella* (the only with information available in 1992), this range of lengths contributed poorly to the catches in 1993. For this stock both younger males and females were dominated by age 9. For both sexes older ages are relatively well represented.

Compared with 1992 mean length in the *S. mentella* catch increased in 1993 about 5 cm for males and 2 cm for females, due to a wider range of both lengths compositions. Mean weight in the catch also increased. Mean weight at age was relatively stable for males but shows some increase for females.

3.2.3 - Information on American plaice catches is very scarce and only available for gillnets (Table XII-C page 30). It is suggested that mean length and mean weight in these catches decreased in 1993 but some caution must be put in this information since only one sample with 39 fish was recorded.

3.3 - Divisions 3N and 3O

Biological information is available for trawl and gillnets. Trawl catches were sampled during February and March while gillnetters were sampled between May and August.

3.3.1 - Cod trawl catches were mainly composed of lengths between 27 cm and 40 cm, with the 1990 year class dominant at age 3, followed by age 4. Ages 5 and older almost disappeared from the catches. (Table VIII-B, page 18 and Table XIII-B, page 34). Mean weight in the catch decreased from 41.4 cm in 1992 to 34.3 cm in 1993 and mean weight in the catch dropped from 747 gr in 1992 to 377 gr in 1993. Mean weight at age also decreased for almost all ages in 1993.

Cod catches from gillnets were dominated by two distinct groups of lengths with modes at 75cm and 105cm. The 1986 year class at age 7 dominated the catches (75.5 cm mean length) followed by the 1985 at age 8 (79.7 cm) and the 1882 at age 11 (99.7 cm). Mean length in the catch decreased about 11cm in 1993 and the mean weight in the catch dropped to a value close to 2/3 of the 1992 one (9285gr in 1993 against 6900gr in 1992). Mean weight at age decreased at all ages older than 7.

3.3.2 - Redfish trawl catches were sampled during March, April, June in Div. 3N and April and May in Div 3O. Catches were dominated by redfish "*S. mentella*".

The bulk of the length spectrum occurred between 27cm - 32cm for males and 27cm - 35cm for females. Fish smaller than 25cm, relatively well represented in the years before, didn't appear in the 1993 catches. Because of this mean length and mean weight in the catches increased in 1993. There is no information on age composition of these catches.

For 30 redfish catches, that in 1993 represented a very attractive fishery for the portuguese fleet, dominant lengths ranged between 25cm - 27cm for males and 25cm - 35cm for females, the second ones with a mode at 29cm. Mean length in the catch was 27cm for males and 30.5cm for females. Compared with Div. 3N redfish catches in Div. 3O are composed of smaller fish.

3.3.3 - Information on Greenland halibut is available for length composition of trawl catches sampled between February and June. Catches were dominated by lengths between 40cm - 50cm for males and 38cm - 58cm for females. Compared to 1992 there are more fish bigger than 52 cm in 1993, mainly females, what justify the increase observed in the mean length and mean weight in the catch. There is no information on age composition.

3.3.4 - For American plaice information on length and age composition is available for both trawl and gillnets catches. Sampling occurred between January and March for trawl and between May and June for gillnets.

Trawl catches were mainly composed of fish with lengths between 24 cm-36 cm for males and 24 cm-42 cm for females (Table XI- page 28), both with a mode at 28 cm-30 cm. For both sexes the 1985 year class at age 8 was dominant, followed by the 1986 one (Table XVA-B, pages 41, 42). Data available suggest a decrease in the mean weight at age for both sexes. Mean length and mean weight for females decreased slightly relatively to 1992.

For the gillnet catches females are mainly composed of lengths between 30 and 48 cm, with a mode at 34 cm - 38 cm, while males are poorly represented in the catches (Table XI - D, page 31). Age composition for females (Table XV - D, page 43) was also dominated by the 1985 year class at age 8, followed by the 1986 and 1987 ones. The age composition for males, although based in a small sample, suggest the same 1985 year class as dominant. Compared to 1992 information available for 1993 suggest, mainly for females, a decrease in the abundance of ages older than females, a decrease in the abundance of ages older than 11. This is quite a new situation since between 1989 and 1992 the

length and age composition of the catches were relatively stable. This is well reflected in an evident decrease, for females, of the mean length and mean weight in the catch, with the 1993 mean weight dropping to almost half of the 1992 value. There is some decrease in the mean weights at age for both sexes but less evident than the one observed in the trawl catches.

4. Others

Information on red hake gillnet catches was obtained for Div. 30 in June and August (Table XII, page 32). The bulk of the catches were composed of fish between 65 cm-82 cm with a mode at 70 cm.

TABLE I : PORTUGUESE NOMINAL CATCHES (mt) IN NAFO AREA, 1993

SPECIES	DIVISION						TOTAL					
	OT	3L	GNS	OT	3N	GNS	OT	30	GNS	1993	1992	1991
Cod	2905.0	224.9	210.0	237.5	14.8	58.5	3651	5984	13357	15138	24129	12931
Redfish	0.5	0.3	4151.0	629.7	155.2	97.0	4794.3	0.3	9828	6581	12163	17810
American plaice	0.7		228.7	1.5	89.7	0.3	21.9	4.4	347	451	1288	714
Yellowtail(1)									1	10	11	5
Witch flounder	20.4	25.0	1.5	191.1	0.2	48.4	2.4	289	849	1982	2254	16
Greenland halibut	346.3	0.3	3229.3	205.3	4788.8	18.5	205.7	0.6	8805	10539	13961	11170
Atlantic halibut	0.8		3.5	0.3	38.6		8.4	0.9	53	81	228	91
Roughhead grenadier(2)	108.1		764.6	44.8	1042.2	0.6	9.1		1969	2000	4486	3211
Anarhichas spp.	3.3		2103.3	32.4	142.5	0.2	19.9		2302	1696	2842	1940
Haddock									10	166	83	17
Pollock									41	28	421	11
Red hake									366	466	1099	467
Capelin												77
Monkfish												2
Skates	243.7	3614.0	2.3	3576.1	0.1	176.8	12.5	7.4	8	37	10	
Unidentified	54.1	54.7		68.9	0.1	56.3	3.6		238	325	174	852
TOTAL	777.9	0.6	17089.1	1144.9	10304.6	594.5	5372.2	248.3	35532	36219	75314	67334
												38011

(1) From the 1993 sampling, there were no yellowtail catches recorded.

(2) Reported as roundnose grenadier in years before.

TABLE II : PORTUGUESE EFFORT IN FISHING DAYS AND FISHING HOURS (TRAWL) OR NUMBER OF NETS (GILLNETS), IN NAFO AREA IN 1993.

MONTH\DIVISION	3L	3M	3N	30	MONTH								
					OT DAYS	GNS DAYS	OT HOURS	GNS DAYS	OT HOURS	GNS DAYS	OT DAYS	GNS DAYS	
JAN.	19	240	81	853				23	355		2	31	
FEB.	4	52	28	308				176	2283		1	13	
MAR.	8	104	64	704	48	10560	164	2096	17	4080	42	538	
APR.	22	305	48	561	13	12141	91	1331	5	1200	39	498	
MAY	16	219	70	961	16	6111	81	1217	7	1680	57	771	
JUN.	5	63	70	882	51	12799	57	735			12	4407	
JUL.		3	687	8	120	103	23584	79	1185	5	1200	30	450
AUG.	1	13	112	1905	31	9278	126	1620	43	10320	27	348	
SEP.	2	26	141	2124	43	15894	98	1279			39	340	
OCT.		169	2028	80	28745	73	1146				35	550	
NOV.		97	889	75	27545	72	898				17	213	
DEC.	1	13	121	1210	20	5873	48	600			20	250	
TOTAL	78	1034	3	687	1009	12546	540	152531	1088	14745	77	18480	
											321	4156	
											111	37838	
												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 (cont.)

MONTH\YEAR	TOTAL 1993						TOTAL 1992						TOTAL 1991						TOTAL 1990						TOTAL 1989					
	OT	HOURS	DAYS	GNS	NETS	OT	HOURS	DAYS	GNS	NETS	OT	HOURS	DAYS	GNS	NETS	OT	HOURS	DAYS	GNS	NETS	OT	HOURS	DAYS	GNS	NETS					
JAN.	125	1480	227	2513	99	949	184	1774	40	11759	155	2255	16	3994	348	5063	351	4612	5033	5287	43	10735	382	5033	6	1760	127	43917		
FEB.	299	2656	244	3187	6	1810	326	4293	51	14992	523	7019	45	14648	375	5033	74	24087	383	4987	74	24087	383	4987	127	43917	127	43917		
MAR.	278	3442	65	14640	215	2521	4522	50	15083	732	9760	104	29428	448	5833	400	5780	81	29962	501	7239	161	63144	501	7239	161	63144	501	7239	
APR.	200	2695	78	13341	417	4522	321	3775	73	26273	647	8412	104	29428	448	5833	74	24087	383	4987	74	24087	383	4987	127	43917	127	43917		
MAY	224	3168	35	12198	321	3775	412	4112	145	67829	522	8172	42	16174	400	5780	81	29962	501	7239	161	63144	501	7239	161	63144	501	7239		
JUN.	144	1835	97	29083	268	4112	4112	4112	195	61755	422	5986	71	31147	293	4647	164	61516	301	4774	112	44834	293	4647	164	61516	301	4774		
JUL.	117	1755	137	33958	195	2658	128	61755	174	2458	101	42690	407	5266	153	93191	482	8271	126	47263	178	3054	176	73251	178	3054	176	73251	178	3054
AUG.	266	3886	101	28358	174	2458	118	2452	177	35400	450	7330	69	33476	469	7663	39	14629	219	3578	52	19609	52	19609	52	19609	52	19609		
SEP.	280	3769	43	15894	177	2452	118	1208	37	11100	674	10833	84	36540	466	6431	67	15377	361	4982	36	13885	361	4982	36	13885	361	4982		
OCT.	277	3723	80	28745	118	1208	106	1085	14	4260	482	7137	87	32400	968	13358	30	9464	270	3726	22	8485	270	3726	22	8485	270	3726		
NOV.	186	2000	75	27545	208	2170	352	4915	11	3300	281	3878	4	816	181	2498	181	2498	181	2498	181	2498	181	2498	181	2498	181	2498		
DEC.	190	2073	20	5873	208	2170	352	4915	11	3300	281	3878	4	816	181	2498	181	2498	181	2498	181	2498	181	2498	181	2498	181	2498		
TOTAL	2496	32481	731	20936	2670	32662	672	266141	5297	74829	712	302407	5026	72556	714	238732	3850	54833	692	268885	692	268885	692	268885	692	268885	692	268885		

TABLE III: Intensity of sampling during 1993, by gear, species, division and month.

A- STERN TRAWL

SPECIES	DIV.	MONTH	NO OF SAMPLES	NO FISH MEASURED	SAMPLING WEIGHT(Kg)	OTOLITHS No LENGTH RANGE
COD	3M	JAN.	6	1972	908	113 32-70 cm
		MAIO	5	1216	1356	248 30-112 cm
		JUN	3	1072	897	118 37-78 cm
	3N	FEB.	2	991	444	31 30-63 cm
		MAR.	12	3448	1457	114 36-87 cm
REDFISH	3L	JAN.	2	669	200	42 25-42 cm
		3N	15	2644	1016	183 21-44 cm
		APR.	4	1370	510	189 19-44 cm
	30	JUN	12	3461	1405	176 26-48 cm
		APR.	24	8454	3235	177 20-43 cm
		MAY	3	631	190	
AMERICAN PLAICE	3L	FEB.	1	128	31	
		3N	8	1486	647	185 30-72 cm
		FEB.	20	5379	2452	273 23-68 cm
	30	MAR.	28	4405	1255	134 35-67 cm
		JUN.	5	870	567	90 32-60 cm
GREENLAND HALIBUT	3L	JAN.	2	438	266	34 36-61 cm
		3N	20	7076	9218	405 25-86 cm
		MAR.	29	4388	3866	209 39-85 cm
	30	MAY	23	3214	3569	268 37-86 cm
		JUN.	16	3303	2351	201 36-81 cm

B- GILLNETS

SPECIES	DIV.	MONTH	NO OF SAMPLES	NO FISH MEASURED	SAMPLING WEIGHT(Kg)	OTOLITHS No LENGTH RANGE
COD	3M	APR.	15	1290	3054	292 31-106 cm
		MAY	15	1514	4644	243 35-115 cm
		JUN.	17	1069	3099	206 31-99 cm
		JUL.	4	241	787	129 46-94 cm
	3N	MAY	1	68	921	26 93-131 cm
	30	MAY	9	977	9138	285 30-135 cm
		JUN.	21	1733	9495	332 38-140 cm
		JUL.	24	752	5391	267 44-134 cm
		AUG.	4	125	482	46 59-127 cm
REDFISH <i>Mentella</i>	3M	APR.	16	1037	1012	241 22-55 cm
		MAY	15	858	921	280 15-59 cm
		JUN.	23	2363	1907	288 18-65 cm
		JUL.	13	1571	1381	223 27-47 cm
REDFISH <i>Marinus</i>		APR.	14	442	410	170 24-56 cm
		MAY	9	106	121	105 21-61 cm
		JUN.	23	1224	944	261 16-69 cm
		JUL.	13	707	580	194 26-47 cm
AMERICAN PLAICE	3M	JUN.	1	39	24	39 29-53 cm
	3N	MAY	4	376	206	67 28-64 cm
	30	MAY	11	1093	699	212 26-69 cm
		JUN.	8	636	504	161 26-67 cm
RED HAKE	30	JUN.	4	432	1480	
		JUL.	27	2630	8270	
		AUG.	12	1126	3085	

TABLE IV - A : Portuguese trawl fisheries: cpue and by-catch by month and division, for 1993.

DIVISION	MONTH	DEPTH	TARGET SPECIES	C.P.U.E. (ton/hour)	MAIN BY-CATCH SPECIES	MEAN BY-CATCH (%) MAIN SPECIES	TOTAL
3L	JAN.	378/980	RED-FISH	0.216	G.HALIBUT	37.0	62.6
3L	JAN.	378/980	G.HALIBUT	0.213	RED-FISH	36.2	62.7
3L	APR.	661/977	G.HALIBUT	0.219	AM.PLAICE	29.4	49.6
3M	JAN.	265/420	COD	1.418	SKATE	0.2	0.7
3M	MAR.	710/745	RED-FISH	0.390	SKATE	1.5	1.5
3M	APR.	337/475	COD	0.397	RED-FISH	11.4	12.3
3M	APR.	300/841	RED-FISH	0.201	COD	8.1	9.5
3M	MAY	127/420	COD	1.187	WOLFFISH	0.2	0.4
3M	JUN.	180/325	COD	0.562	RED-FISH	5.6	12.6
3M	JUN.	277/278	RED-FISH	0.471	COD	28.1	58.3
3M	AUG.	260/440	RED-FISH	0.317	WOLFFISH	3.2	4.1
3M	SEP.	260/510	RED-FISH	0.317	COD	1.0	2.4
3M	NOV.	126/245	RED-FISH	0.818	-	-	-
3N	JAN.	700/919	AM.PLAICE	0.959	SKATE	20.9	30.5
3N	FEB.	235/1229	COD	0.976	RED-FISH	8.7	22.1
3N	FEB.	235/1000	RED-FISH	0.180	COD	21.6	67.6
3N	FEB.	297/1217	AM.PLAICE	0.441	G.HALIBUT	18.7	
3N	FEB.	297/1217	G.HALIBUT	0.384	SKATE	20.7	47.2
3N	FEB.	537/1217	G.HALIBUT	0.384	G.HALIBUT	17.0	
3N	FEB.	475/1217	SKATE	0.297	AM.PLAICE	17.5	42.3
3N	FEB.	475/1217	SKATE	0.297	WITCH F.	17.0	
3N	MAR.	310/975	COD	0.133	AM.PLAICE	40.2	61.4
3N	MAR.	277/1000	RED-FISH	0.340	G.HALIBUT	25.4	73.1
3N	MAR.	376/1100	AM.PLAICE	0.190	AM.PLAICE	15.7	43.4
3N	MAR.	327/1056	G.HALIBUT	0.238	G.HALIBUT	13.6	
3N	MAR.	344/1056	SKATE	0.269	SKATE	21.7	62.3
3N	MAR.	344/1056	SKATE	0.269	AM.PLAICE	14.5	
3N	MAR.	344/1056	SKATE	0.269	WITCH F.	20.0	54.1
3N	MAR.	344/1056	SKATE	0.269	AM.PLAICE	13.2	
3N	MAR.	344/1056	SKATE	0.269	G.HALIBUT	18.8	55.7
3N	MAR.	344/1056	SKATE	0.269	G.HALIBUT	18.1	

TABLE IV - A : Portuguese trawl fisheries: cont.

DIVISION	MONTH	DEPTH	TARGET SPECIES	C.P.U.E. (ton/hour)	MAIN BY-CATCH SPECIES	MEAN BY-CATCH (%) MAIN SPECIES	TOTAL
3N	APR.	315/1068	COD	0.501	G.HALIBUT SKATE	10.3 9.7	28.2
3N	APR.	408/1030	RED-FISH	0.221	G.HALIBUT	25.7	51.7
3N	APR.	584/1080	AM.PLACE	0.131	SKATE	26.3	69.6
					G.HALIBUT	24.9	
3N	APR.	431/1135	G.HALIBUT	0.134	RED-FISH	18.0	64.8
3N	APR.	420/1067	SKATE	0.226	G.HALIBUT	28.4	57.0
3N	MAY	178/1000	RED-FISH	0.181	G.HALIBUT	33.5	50.0
3N	MAY	348/888	AM.PLACE	0.068	COD	18.2	27.3
3N	MAY	178/1300	G.HALIBUT	0.238	SKATE	47.3	61.0
3N	MAY	604/1300	SKATE	0.391	G.HALIBUT	30.7	41.0
3N	JUN.	546/1000	RED-FISH	0.252	G.HALIBUT	30.0	54.5
3N	JUN.	476/1005	G.HALIBUT	0.179	RED-FISH	28.1	63.6
3N	JUN.	476/1000	SKATE	0.132	G.HALIBUT	33.7	71.1
3N	JUN.	476/995	ROUGHEAD	0.140	SKATE	31.2	71.4
					G.HALIBUT	29.2	
3N	JUL.	268/970	RED-FISH	0.551	G.HALIBUT	5.7	9.9
3N	JUL.	320/917	G.HALIBUT	0.180	SKATE	34.0	59.2
3N	JUL.	301/997	SKATE	0.236	G.HALIBUT	29.2	53.9
					RED-FISH	23.2	
3N	AUG.	295/930	RED-FISH	0.509	G.HALIBUT	4.8	5.8
3N	AUG.	315/820	G.HALIBUT	0.168	RED-FISH	44.8	52.2
3N	SEP.	270/1050	RED-FISH	0.462	G.HALIBUT	1.3	6.2
3N	OCT.	290/750	RED-FISH	0.366	SKATE	4.4	6.7
3N	NOV.	320/720	RED-FISH	0.519	-	-	-
30	MAR.	240/420	RED-FISH	0.050	AM.PLACE SKATE	20.0 20.0	40.0
30	APR.	298/1000	RED-FISH	0.775	COD WITCH F.	1.9 1.6	5.4
30	MAY	267/1000	RED-FISH	0.298	COD	3.9	11.4
30	AUG.	377/530	RED-FISH	0.972	-	-	-
30	SEP.	320/470	RED-FISH	1.288	-	-	-

TABLE IV - B : Portuguese gillnet fishery: cpue and by-catch by month and division, for 1993.

DIVISION	MONTH	DEPTH	TARGET SPECIES	C.P.U.E (kg/net/day)	MAIN BY-CATCH SPECIES	MEAN BY-CATCH (%) MAIN SPECIES	TOTAL
3M	MAR.	364/600	COD	12.380	RED-FISH	33.0	35.2
3M	MAR.	400/600	RED-FISH	8.840	COD	48.5	51.3
3M	APR.	301/639	COD	18.922	RED-FISH	37.7	38.0
3M	APR.	344/656	RED-FISH	21.594	COD	36.4	36.5
3M	MAY	127/546	COD	5.699	RED-FISH	8.9	10.8
3M	MAY	165/358	RED-FISH	2.224	COD	39.9	57.5
3M	JUN.	155/437	COD	6.915	RED-FISH	18.2	35.2
3M	JUN.	192/624	RED-FISH	12.222	G.HALIBUT	12.6	28.7
3M	JUN.	199/437	G.HALIBUT	5.072	RED-FISH	37.5	68.7
3M	JUL.	127/146	COD	5.455	AM.PL AICE	7.7	8.5
3M	JUL.	291/638	RED-FISH	24.793	ROUGHEAD G.	6.9	12.1
3M	OCT.	154/255	COD	7.644	RED-FISH	8.8	12.7
3M	OCT.	218/255	RED-FISH	5.227	COD	49.4	54.5
3N	MAY	65	COD	2.100	AM.PL AICE	21.0	21.0
3N	AUG.	65	COD	1.100	-	-	-
30	MAY	65/126	COD	4.600	AM.PL AICE	7.4	21.1
30	JUN.	104/180	COD	3.200	RED HAKE	31.4	43.4
			RED HAKE	3.400	COD	23.1	32.7
30	JUL.	120/180	RED HAKE	2.400	COD	17.4	35.7
30	AUG.	120/180	RED HAKE	1.500	SKATE	13.0	25.6

(1) sum number of nets per fishing day.

TABLE V-A: Portuguese red-fish trawl fishery: mean by-catch (%) of cod, above and below the 400m depth line by month and division, for 1993.

DIVISION / MONTH		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	MEAN(*)
3L	> 400												1.8
3N	< 400												1.7
	> 400												7.7
3N	< 400												0.2
	> 400												0.2
30	< 400												0.0
	> 400												0.0
OVERALL MEAN - 1.2													

Note (*) weighted by the number of hauls in each month.

TABLE V-B: Portuguese Greenland halibut trawl fishery: mean by-catch (%) of cod, by month and division, for 1993.

DIVISION / MONTH		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	MEAN(*)
3L										1.3
3N										0.8
		0.0	1.5	0.3	0.2	0.1	0.0	0.0	0.7	
OVERALL MEAN - 0.8										

Note (*) weighted by the number of fishing days in each month.

TABLE VI: Portuguese stern trawl fisheries : C.P.U.E. (ton/h), mean weight (Kg) in the catch, sex ratio and C.P.U.E. in number for males, females and total, by month and division , for 1993.

DIVISION	TARGET	MONTH	C.P.U.E.	MEAN WEIGHT	SEX RATIO	C.P.U.E (number/hour)		
	SPECIES		(ton/hour)	(kg)		males	females	total
3L	RED-FISH	JAN.	0.216	0.313	0.293	202	488	690
3L	G.HALIBUT	JAN.	0.213	0.561	0.418	159	221	380
3M	COD	JAN.	1.418	0.464				3056
3M	COD	MAY	1.187	0.993				1195
3M	COD	JUN.	0.562	0.916				614
3N	COD	FEB.	0.976	0.400				2440
3N	COD	MAR.	0.133	0.327				407
3N	RED-FISH	MAR.	0.340	0.462	0.414	305	431	736
3N	RED-FISH	APR.	0.221	0.409	0.201	109	432	540
3N	RED-FISH	JUN.	0.252	0.559	0.272	123	328	451
3N	AM.PLACE	JAN.	0.959	0.461	0.411	855	1225	2080
3N	AM.PLACE	FEB.	0.441	0.392	0.348	392	734	1125
3N	AM.PLACE	MAR.	0.190	0.347	0.342	187	360	548
3N	G.HALIBUT	FEB.	0.384	1.108	0.167	58	289	347
3N	G.HALIBUT	MAR.	0.238	1.095	0.338	73	144	217
3N	G.HALIBUT	MAY	0.238	1.132	0.308	65	145	210
3N	G.HALIBUT	JUN.	0.179	0.859	0.132	28	181	208
30	RED-FISH	APR.	0.775	0.416	0.152	283	1580	1863
30	RED-FISH	MAY	0.298	0.322	0.204	189	737	925

TABLE VII-A: COD, 1993: cpue in number at age per hour, for the portuguese stern trawl fishery.

DIVISION	TARGET	MONTH	AGE												
			SPECIES	2	3	4	5	6	7	8	9	10	11	12	13
3M	COD	JAN.	348.1	2076.9	531.0	71.3	16.6	12.0							
3M	COD	MAY	8.3	721.1	214.1	130.6	33.6	60.8	23.6	1.6		1.0		0.3	
3M	COD	JUN.	1.1	316.6	192.8	77.1	14.6	9.2	2.5						
3N	COD	FEB.	106.7	1158.9	1046.5	85.9	28.1	12.7	1.2						
3N	COD	MAR.	15.2	285.6	93.5	6.6	2.9	2.3	0.5		0.2	0.03		0.03	

TABLE VII-B: AMERICAN PLAICE, 1993: cpue in number at age per hour, for the portuguese stern trawl fishery.

DIVISION	TARGET SPECIES	SEX	MONTH	AGE												
				5	6	7	8	9	10	11	12	13	14	15	16	17+
3N	AM. PLAICE	MALE	JAN.	13.1	41.3	151.4	320.2	96.2	42.6	83.5	71.9	22.8	7.0	4.3		
3N	AM. PLAICE	MALE	FEB.	26.6	24.9	93.4	134.6	34.9	15.5	27.8	24.7	6.8	1.6	1.1		
3N	AM. PLAICE	MALE	MAR.	0.4	4.0	32.5	87.8	21.1	9.9	13.0	13.2	3.7	1.2	0.7		
3N	AM. PLAICE	FEMALE	JAN.		136.5	205.4	465.5	106.9	62.3	45.2	46.5	32.3	38.6	15.3	26.1	45.0
3N	AM. PLAICE	FEMALE	FEB.	0.2	87.3	131.9	307.5	70.2	37.4	23.6	26.6	16.0	14.2	3.3	6.6	8.2
3N	AM. PLAICE	FEMALE	MAR.	0.9	63.5	84.5	155.0	23.6	12.4	4.8	4.4	2.5	2.3	1.5	2.0	3.2

TABLE VIII-A: COD DIV.3M, 1993: length composition of the trawl catches.

LENGTH GROUP	JAN.=1st Q.	MAY	JUN.	2nd QUARTER	TOTAL	LENGTH GROUP
21	4.1				3.2	21
24	51.9				39.5	24
27	57.8				44.0	27
30	104.4	30.0	7.6	24.2	85.3	30
33	171.0	90.3	43.5	78.2	148.9	33
36	208.9	207.6	78.7	174.2	200.6	36
39	225.4	164.8	147.6	160.4	209.9	39
42	89.7	123.5	234.5	152.3	104.7	42
45	48.4	72.1	149.4	92.1	58.8	45
48	17.8	47.7	81.4	56.4	27.1	48
51	6.0	40.6	97.9	55.5	17.8	51
54	3.3	55.7	51.2	54.6	15.5	54
57	4.0	31.1	39.6	33.3	11.0	57
60	1.0	30.6	29.4	30.3	8.0	60
63	2.3	22.2	20.5	21.8	6.9	63
66	3.0	27.1	11.9	23.1	7.8	66
69	0.8	14.3	1.1	10.9	3.2	69
72		15.1	1.4	11.5	2.8	72
75		13.5	1.4	10.4	2.5	75
78		3.9	2.9	3.6	0.9	78
81		5.4		4.0	1.0	81
84		2.0		1.5	0.4	84
87		0.5		0.4	0.1	87
90		0.8		0.6	0.1	90
93						93
96		0.3		0.2	0.05	96
99		0.3		0.2	0.05	99
102						102
105		0.3		0.2	0.05	105
108						108
111		0.3		0.2	0.05	111
TOTAL	1000	1000	1000	1000	1000	
No. SAMPLES	6	5	3	8	14	
SAMPLING WEIGHT(kg)	908	1356	897	2253	3161	
No.F.MEASURED	1972	1216	1072	2288	4260	
MEAN LENGTH(cm)	37.0	45.6	46.1	45.7	39.1	
MEAN WEIGHT (g)	463.8	993.4	915.7	973.3	585.4	
DEPTH RANGE (m)	265/420	168/420	180/325	168/420	168/420	

TABLE VIII-B: COD DIV.3N, 1993: length composition of the trawl catches.

LENGTH GROUP	FEBRUARY	MARCH	1st Q.= TOTAL	LENGTH GROUP
21	4.6	1.3	3.6	21
24	39.2	36.1	38.2	24
27	151.7	268.9	188.2	27
30	195.8	342.5	241.5	30
33	206.3	155.1	190.3	33
36	121.5	63.6	103.5	36
39	133.7	58.3	110.2	39
42	64.3	23.7	51.7	42
45	35.4	23.7	31.8	45
48	30.1	8.4	23.3	48
51	10.5	4.5	8.6	51
54	3.8	5.5	4.4	54
57		2.0	0.6	57
60		0.2	0.05	60
63	3.0	1.0	2.4	63
66		1.2	0.4	66
69		1.8	0.6	69
72		1.0	0.3	72
75		0.1	0.02	75
78		0.9	0.3	78
81				81
84		0.1	0.02	84
87		0.1	0.02	87
TOTAL	1000	1000	1000	
NO. SAMPLES	2	12	14	
SAMPLING WEIGHT(kg)	444	1457	1901	
NO.F.MEASURED	991	3448	4439	
MEAN LENGTH(cm)	35.1	32.7	34.3	
MEAN WEIGHT (g)	399.9	327.0	377.2	
DEPTH RANGE (m)	403/1000	350/1100	350/1100	

TABLE VIII-C: COD DIV.3M, 1993: length composition of the gillnet catches.

LENGTH GROUP	APR.	MAY	JUN.	JUL.=3rd Q.	2nd Q.	TOTAL	LENGTH GROUP
30	6.7		0.1		2.7	2.7	30
33	18.0	0.3	0.1		7.3	7.2	33
36	61.5	0.3	1.2		24.6	24.3	36
39	135.6	0.9	5.4		54.9	54.3	39
42	97.9	2.4	3.4		40.4	39.9	42
45	59.0	1.9	6.1	3.9	25.1	24.9	45
48	19.6		3.0		8.2	8.1	48
51	3.9	0.1	1.7	2.0	1.9	1.9	51
54	4.4	7.3	11.6	3.9	6.9	6.8	54
57	3.6	23.2	74.5	19.0	23.8	23.7	57
60	25.0	113.0	147.8	33.5	83.9	83.3	60
63	33.8	150.7	155.1	102.4	105.2	105.1	63
66	63.4	143.8	144.7	160.9	112.2	112.7	66
69	124.2	196.8	142.2	179.9	159.2	159.4	69
72	86.4	85.9	56.5	126.1	81.3	81.8	72
75	84.1	94.6	70.7	124.1	86.6	87.0	75
78	74.4	54.6	67.8	61.1	64.5	64.5	78
81	47.8	50.9	50.9	87.4	49.7	50.1	81
84	10.0	28.5	35.2	72.9	22.3	22.9	84
87	9.5	21.4	15.8	3.9	15.8	15.6	87
90	13.0	12.1	3.1	17.1	11.0	11.1	90
93	8.8	4.7	0.3	2.0	5.6	5.6	93
96	2.7	2.7	1.2		2.5	2.4	96
99	3.7	2.1	1.5		2.6	2.6	99
102	0.3		0.0		0.1	0.1	102
105	2.7		0.0		1.1	1.1	105
108		0.1	0.0		0.1	0.1	108
111		0.1	0.0		0.1	0.1	111
114		1.6	0.0		0.7	0.7	114
TOTAL	1000	1000	1000	1000	1000	1000	
NO. SAMPLES	15	15	17	4	47	51	
SAMPLING WEIGHT(kg)	3054	4644	3099	787	10797	11584	
NO.F.MEASURED	1290	1514	1069	241	3873	4114	
MEAN LENGTH(cm)	60.8	70.4	68.5	72.5	66.3	66.4	
MEAN WEIGHT (g)	2475.1	3230.5	2980.2	3492.0	2891.2	2898.0	
DEPTH RANGE (m)	301/660	165/382	192/624	327/602	165/660	165/660	

TABLE VIII-D: COD DIV.3NO, 1993: length composition of the gillnet catches.

LENGTH GROUP	MAY	JUN.	JUL.	AUG.	2nd QUARTER	3rd QUARTER	TOTAL	LENGTH GROUP
30	0.8				0.4		0.3	30
33		1.9			1.0		0.9	33
36		0.5			0.3		0.2	36
39		2.2			1.1		1.0	39
42	3.6	5.9	1.1		4.8	1.0	4.3	42
45	2.4	7.2	5.0		4.8	4.3	4.8	45
48	0.6	5.8			3.2	0.0	2.8	48
51	0.0	2.3	4.7		1.1	4.1	1.5	51
54	1.2	5.7	1.1	13.7	3.5	2.8	3.4	54
57	2.4	4.8	7.7	6.8	3.6	7.6	4.1	57
60	1.4	12.6	23.6	80.0	7.1	31.1	10.0	60
63	4.6	28.5	34.9	60.5	16.8	38.3	19.4	63
66	10.7	63.3	62.6	94.7	37.5	66.8	41.0	66
69	24.5	85.5	83.6	133.7	55.5	90.2	59.7	69
72	26.7	123.2	77.4	186.3	75.8	91.8	77.8	72
75	51.0	131.0	107.3	73.2	91.8	102.8	93.1	75
78	61.2	131.3	83.1	151.1	96.9	92.1	96.3	78
81	37.2	95.9	45.0	100.5	67.0	52.3	65.3	81
84	48.3	72.9	56.3	45.8	60.8	54.9	60.1	84
87	24.0	41.8	30.4	26.3	33.0	29.9	32.7	87
90	32.5	22.0	24.2	20.5	27.2	23.7	26.8	90
93	51.4	19.4	20.0		35.1	17.4	33.0	93
96	74.0	12.3	24.9		42.6	21.6	40.1	96
99	99.6	21.9	54.7		60.0	47.5	58.5	99
102	100.0	14.2	40.7		56.4	35.3	53.8	102
105	106.7	21.4	50.4		63.3	43.7	60.9	105
108	77.1	15.6	41.6		45.8	36.1	44.6	108
111	48.4	10.8	35.3		29.3	30.6	29.4	111
114	32.5	9.0	33.7		20.5	29.3	21.6	114
117	20.8	8.1	16.9		14.3	14.6	14.4	117
120	24.1	4.3	17.8		14.0	15.4	14.2	120
123	17.1	5.3	8.1		11.1	7.0	10.6	123
126	12.5	8.3	4.5	6.8	10.4	4.8	9.7	126
129	1.3	2.6			2.0		1.7	129
132	1.0	1.1	3.3		1.0	2.9	1.3	132
135	0.4	0.5			0.5		0.4	135
138		0.8			0.4		0.4	138
TOTAL	1000	1000	1000	1000	1000	1000	1000	
No. SAMPLES	10	21	24	4	31	28	59	
SAMPLING WEIGHT(kg)	10059	9495	5391	482	19554	5873	25427	
No.F.MEASURED	1045	1733	752	125	2778	877	3655	
MEAN LENGTH(cm)	96.8	80.4	86.3	73.9	88.4	84.7	88.0	
MEAN WEIGHT (g)	8876.9	5177.8	6587.6	3757.2	6994.3	6213.2	6900.3	
DEPTH RANGE (m)	65/126	104/180	120/180	65/180	65/180	65/180	65/180	

TABLE IX-A: RED-FISH (*S.mentella*), DIVISION 3L,
1993: length composition of the trawl catches.

JAN. = TOTAL			
LENGTH GROUP	M	F	LENGTH GROUP
21	4.9	3.8	21
22	6.9	15.6	22
23	12.6	25.6	23
24	24.9	67.6	24
25	48.6	146.1	25
26	47.2	134.8	26
27	50.1	114.1	27
28	33.5	73.2	28
29	25.4	41.4	29
30	13.6	14.2	30
31	8.0	16.0	31
32	3.8	7.4	32
33	3.1	13.6	33
34	4.4	8.7	34
35		5.6	35
36	1.3	4.4	36
37		1.3	37
38		2.6	38
39		2.6	39
40	3.1	2.6	40
41			41
42	1.3	1.3	42
43			43
44		1.3	44
45		1.8	45
46			46
47		1.8	47
TOTAL	292.7	707.3	
NO. SAMPLES		2	
SAMPLING WEIGHT(Kg)		200	
NO.F.MEASURED		669	
MEAN LENGTH(cm)	27.4	27.4	
MEAN WEIGHT (g)	304	317	
MEAN WEIGHT(M+F)		313	
DEPTH RANGE (m)		378/980	

TABLE IX-B: RED-FISH (*S. mentella*), DIVISION 3N, 1993: length composition of the trawl catches.

LENGTH GROUP	MARCH = 1st Q.		APRIL		JUNE		2nd QUARTER		TOTAL		LENGTH GROUP
	M	F	M	F	M	F	M	F	M	F	
19			1.3				0.3		0.2		19
20											20
21	0.04	0.1	3.1	5.2		0.2	0.8	1.5	0.5	0.9	21
22	5.1	4.8	10.2	9.4		1.0	2.7	3.2	3.8	3.9	22
23	2.8	11.9	7.8	8.2	0.4	2.9	2.4	4.3	2.6	7.7	23
24	5.3	3.4	31.8	13.5	2.7	13.5	10.3	13.5	8.0	8.9	24
25	20.2	8.7	24.3	13.7	4.8	21.4	9.9	19.4	14.5	14.6	25
26	16.6	11.0	27.9	32.3	11.1	25.8	15.5	27.5	16.0	20.1	26
27	36.4	25.7	36.1	54.2	22.4	38.5	26.0	42.6	30.7	35.0	27
28	52.8	56.3	9.4	102.7	25.1	66.0	21.0	75.6	35.3	66.9	28
29	61.7	49.2	10.7	151.3	30.5	76.8	25.3	96.3	41.7	75.1	29
30	58.4	63.4	3.7	122.6	22.6	60.5	17.6	76.8	36.0	70.7	30
31	43.7	71.0	9.7	87.3	23.4	55.1	19.8	63.5	30.6	66.9	31
32	31.7	74.2	2.2	65.0	20.2	42.8	15.5	48.7	22.8	60.2	32
33	26.1	76.2	1.8	63.4	18.4	34.7	14.0	42.2	19.4	57.6	33
34	20.1	37.5	1.6	18.6	13.9	36.9	10.7	32.1	14.9	34.5	34
35	7.5	26.1	2.0	14.7	13.6	35.8	10.5	30.3	9.2	28.4	35
36	14.1	14.2	1.6	7.9	12.9	31.4	9.9	25.2	11.8	20.3	36
37	5.1	11.4	2.6	6.5	11.8	40.1	9.4	31.3	7.5	22.3	37
38	3.5	15.5	2.3	3.8	9.9	41.5	7.9	31.6	5.9	24.3	38
39	2.1	6.9	3.3	5.4	6.9	23.0	5.9	18.4	4.2	13.2	39
40	0.7	6.8	2.9	2.9	8.6	18.5	7.1	14.4	4.2	10.9	40
41	0.3	6.2	2.0	3.9	6.9	15.6	5.6	12.5	3.2	9.7	41
42		2.7	2.6	2.0	2.7	17.4	2.7	13.4	1.5	8.5	42
43		2.4	0.0	2.9	2.3	7.6	1.7	6.4	0.9	4.6	43
44		0.4	0.3	1.3	0.7	12.8	0.6	9.8	0.4	5.5	44
45						6.5		4.8		2.6	45
46						0.9		0.7		0.4	46
47						0.5		0.3		0.2	47
48						0.5		0.3		0.2	48
TOTAL	413.9	586.1	201.0	799.0	271.8	728.2	253.2	746.8	325.8	674.2	
No. SAMPLES		15		4		12		16			31
SAMPLING WEIGHT(Kg)		1016		510		1405		1915			2931
No. F.MEASURED		2644		1370		3461		4831			7475
MEAN LENGTH(cm)	30.4	31.9	27.8	30.4	32.5	33.1	31.5	32.3	30.9		32.2
MEAN WEIGHT (g)	411	498	333	428	513	576	476	535	439		521
MEAN WEIGHT(M+F)		462		409		559		520			494
DEPTH RANGE (m)		350/1100		431/1000		476/1000		431/1000			350/1100

TABLE IX-C: RED-FISH (*S. mentella*), DIVISION 30, 1993: length composition of the trawl catches.

LENGTH GROUP	APRIL		MAY		2nd Q.= TOTAL		LENGTH GROUP
	M	F	M	F	M	F	
19		0.2				0.2	19
20		0.2				0.2	20
21	1.2	3.0			1.2	2.8	21
22	2.3	4.4		16.5	2.1	5.0	22
23	5.1	7.7	1.7	26.0	5.0	8.6	23
24	16.9	11.1	9.1	60.1	16.5	13.6	24
25	31.7	20.8	35.6	83.2	31.9	23.9	25
26	31.6	36.5	62.2	154.3	33.1	42.4	26
27	21.9	54.9	34.2	118.6	22.5	58.1	27
28	14.4	108.6	34.7	118.1	15.4	109.1	28
29	14.7	132.5	13.4	63.3	14.7	129.0	29
30	4.6	123.2	6.3	49.9	4.7	119.5	30
31	2.2	90.6	6.3	25.5	2.4	87.4	31
32	2.1	85.8	0.4	18.3	2.0	82.4	32
33	1.1	62.0	0.4	30.4	1.0	60.4	33
34	1.3	34.8		16.5	1.3	33.9	34
35	0.3	25.2		9.1	0.3	24.4	35
36	0.2	14.4		1.7	0.2	13.8	36
37	0.1	9.9		1.7	0.1	9.5	37
38	0.1	6.0		2.2	0.1	5.8	38
39	0.1	8.4			0.1	8.0	39
40	0.1	3.3			0.1	3.2	40
41	0.02	2.4			0.02	2.3	41
42		1.1				1.0	42
43		0.8				0.7	43
TOTAL	152.1	847.9	204.4	795.6	154.7	845.3	
NO. SAMPLES		24		3		27	
SAMPLING WEIGHT(Kg)		3235		190		3425	
No.F.MEASURED		8454		631		9085	
MEAN LENGTH(cm)	27.0	30.6	27.2	27.9	27.0	30.5	
MEAN WEIGHT (g)	286	439	291	330	287	434	
MEAN WEIGHT(M+F)		416		322		411	
DEPTH RANGE (m)		298/1000		352/1000		298/1000	

TABLE IX-D: RED-FISH (*S. mentella*), DIVISION 3M, 1993: length composition of the gillnet catches.

LENGTH GROUP	APRIL		MAY		JUNE		JUL. = 3rd Q.		2nd QUARTER		TOTAL	
	M	F	M	F	M	F	M	F	M	F	M	F
15		0.4	1.3						0.02	0.07	0.01	0.04
16												16
17												17
18					0.4				0.3		0.2	18
19					0.5				0.3		0.2	19
20												20
21					0.5	0.4			0.3	0.3	0.2	0.2
22	0.2		2.1		0.6	0.6			0.6	0.4	0.4	0.3
23	3.3	1.3	2.2	1.9	2.5	9.0			2.7	6.6	1.8	4.3
24	2.9		0.0	0.2	6.4	9.6			5.2	6.6	3.4	4.3
25	0.9		1.6	2.4	6.9	7.9			5.0	5.5	3.3	3.6
26	2.3		0.4		8.2	4.9			6.2	3.4	4.1	2.2
27	2.4		7.2	5.3	13.7	13.1	2.1		10.4	9.2	7.5	6.0
28	2.3	0.6	2.4	1.8	27.4	19.3	7.9	6.2	19.4	13.4	15.4	10.9
29	3.7	0.6	3.6	2.8	24.3	21.6	18.2	10.6	17.8	15.1	17.9	13.5
30	7.9	6.3	20.3	7.7	28.4	32.5	50.3	28.8	22.6	24.3	32.2	25.9
31	11.5	7.7	11.3	8.0	25.0	28.6	25.5	25.8	20.7	22.0	22.4	23.3
32	14.0	11.9	0.9	1.6	17.2	14.8	24.8	17.6	15.5	13.3	18.7	14.8
33	12.5	20.3	9.8	9.6	18.4	24.3	27.3	22.8	16.4	22.5	20.2	22.6
34	21.8	7.6	21.5	11.3	25.1	18.2	23.4	27.0	24.1	15.1	23.8	19.2
35	22.5	17.5	21.7	12.8	28.2	25.9	32.4	31.4	26.3	23.0	28.5	25.9
36	35.7	35.9	22.4	17.1	38.3	29.2	26.5	35.6	36.8	30.4	33.3	32.2
37	47.2	46.6	43.0	49.8	30.8	25.1	43.0	42.7	35.8	32.1	38.3	35.8
38	35.6	45.3	46.1	32.6	25.1	22.2	35.5	35.4	28.9	28.9	31.2	31.1
39	58.9	53.1	40.1	40.0	23.3	30.6	43.1	44.1	33.6	37.0	36.9	39.5
40	55.0	74.4	42.2	28.6	33.7	40.3	58.1	38.8	39.8	48.8	46.1	45.3
41	25.1	24.1	40.7	29.9	23.4	24.0	23.7	35.3	24.8	24.3	24.4	28.1
42	32.4	55.9	43.3	52.3	16.4	26.6	19.4	30.1	22.0	35.7	21.1	33.7
43	20.9	41.5	20.7	28.5	13.2	20.2	13.9	22.6	15.6	26.3	15.0	25.0
44	17.4	31.6	30.3	22.9	19.8	24.1	12.2	15.1	19.7	26.0	17.1	22.2
45	8.0	9.3	13.7	19.9	14.9	10.1	8.1	13.7	13.0	10.4	11.3	11.5
46	20.9	15.7	22.4	10.8	12.1	15.7	6.0	12.8	15.0	15.4	11.9	14.5
47	9.3	9.5	17.5	18.7	5.3	6.0	0.5	1.6	7.0	7.5	4.7	5.5
48	3.1	1.8	5.7	11.1	0.5	0.3			1.4	1.2	0.9	0.8
49	0.6	1.8	7.8	5.8	0.4				0.9	0.8	0.6	0.5
50	0.1		3.3	6.8		1.1			0.2	1.1	0.1	0.7
51	0.1	0.5	4.4	6.7					0.2	0.5	0.2	0.3
52	-	0.1	1.9	4.5		0.4			0.1	0.5	0.1	0.3
53	0.1	0.2	0.7	10.8		0.5			0.1	0.9		0.6
54	-	0.3	3.1	12.3	0.5	0.4			0.5	1.0	0.3	0.7
55	0.2	0.2	3.7	0.7					0.2	0.1	0.2	0.1
56	-	-	0.3	2.0						0.1	0.01	0.1
57	-	-	2.2	0.4		0.5			0.1	0.4	0.1	0.2
58	-	-										58
59	-	-	0.7								0.02	59
60	-	-			0.3					0.2		0.1
//	-	-			0.3					0.2		//
65	-	-			0.3					0.1		65
TOTAL	478.5	521.5	520.9	479.1	491.1	508.9	502.2	497.8	489.2	510.7	493.7	506.3
No. SAMPLES		16		15		23		13		54		67
SAMPLING WEIGHT(Kg)	1012		921		1907		1381		3840		5221	
No.F.MEASURED	1037		858		2363		1571		4258		5829	
MEAN LENGTH(cm)	38.8	39.9	40.1	41.3	36.1	36.4	36.8	37.8	37.0	37.6	36.9	37.7
MEAN WEIGHT (g)	856	968	957	1116	712	780	733	835	763	847	752	843
MEAN WEIGHT(M+F)	915		1033		746		784		806		798	
DEPTH RANGE (m)	301/660		165/382		192/624		327/638		165/660		165/660	

TABLE IX-E: RED-FISH (*S. marinus*), DIVISION 3M, 1993: length composition of the gillnet catches.

	APRIL		MAY		JUNE		JULY = 3rd Q.		2nd QUARTER		TOTAL		
LENGTH GROUP	M	F	M	F	M	F	M	F	M	F	M	F	LENGTH GROUP
16						0.8				0.6		0.4	16
//													//
21		5.2			1.3				1.0		0.7		21
22					0.8	1.0			0.6	0.7	0.4	0.5	22
23					0.9	0.9			0.6	0.6	0.4	0.4	23
24	3.4			3.2	1.4	3.4			1.9	2.5	1.3	1.7	24
25					9.7	10.6			7.0	7.7	4.6	5.1	25
26		2.0			14.6	24.8		0.9	10.6	18.0	7.0	12.2	26
27	3.4		3.2	2.3	10.8	16.2	4.3	1.6	8.8	11.8	7.2	8.3	27
28	2.9	5.2		16.6	21.3	14.9	4.0	8.7	16.2	12.4	12.1	11.1	28
29	4.9	6.8			28.9	26.0	18.3	22.9	22.3	20.7	20.9	21.4	29
30	10.0	5.1	15.1	16.6	28.3	30.8	53.9	44.1	23.3	23.9	33.7	30.8	30
31		6.8	34.7	15.1	27.9	21.8	33.6	34.0	20.7	17.8	25.1	23.3	31
32	16.5	1.5	58.3		12.2	14.3	27.5	30.0	13.9	10.8	18.6	17.3	32
33	12.5	12.8	2.0	5.2	15.8	17.5	25.3	21.0	14.8	16.1	18.4	17.8	33
34	37.0	39.8	0.0	26.6	16.4	27.1	25.3	28.5	21.6	30.4	22.8	29.8	34
35	53.4	78.2	21.8		19.9	32.4	35.1	34.1	28.7	44.0	30.9	40.6	35
36	49.0	59.1	70.2	26.2	24.2	21.6	35.0	34.4	31.2	31.5	32.5	32.5	36
37	56.3	47.8	24.1	27.0	35.9	40.8	37.0	45.2	41.0	42.5	39.7	43.4	37
38	54.9	41.2	2.0	76.3	32.1	30.1	43.0	33.2	37.7	33.6	39.5	33.5	38
39	48.3	63.1	16.6	63.6	32.6	37.6	32.2	35.1	36.5	44.6	35.0	41.4	39
40	31.4	45.1	4.5	53.8	37.7	41.6	52.6	42.3	35.6	42.7	41.4	42.5	40
41	35.3	30.2	17.8	65.1	22.5	26.2	14.8	36.4	25.8	27.8	22.1	30.7	41
42	20.0	23.7	26.6	58.1	30.1	22.2	17.2	22.0	27.4	23.0	23.9	22.7	42
43	12.1	11.7	8.0	14.4	22.8	20.9	16.5	17.2	19.8	18.4	18.7	18.0	43
44	21.6	32.6	31.2	45.2	17.6	22.9	8.6	15.3	18.8	25.7	15.4	22.2	44
45	3.8	3.1	4.5	15.1	5.4	9.8	3.7	3.8	5.0	8.1	4.5	6.7	45
46	0.2	5.4	6.5	17.4	2.2	2.6			1.8	3.5	1.2	2.3	46
47	0.2	0.4	5.6	9.1		1.8		1.7	0.1	1.5	0.1	1.6	47
48			4.5						0.1		0.04		48
49				2.4	1.9	0.3			1.3	0.2	0.9	0.1	49
50				7.1						0.1		0.1	50
51		0.2	7.8	18.3					0.1	0.3	0.1	0.2	51
52	2.9		15.1	3.2					1.0	0.04	0.6	0.03	52
53			15.1						0.2		0.1		53
54			3.2	3.2						0.04	0.03	0.03	54
55													55
56	0.1					0.2			0.04	0.1	0.02	0.1	56
57						0.5				0.4		0.2	57
//													//
61				3.2		0.8				0.6		0.4	61
//													//
65						0.9				0.6		0.4	65
//													//
69					1.3				0.9		0.6		69
TOTAL	480.1	519.9	405.6	594.4	476.5	523.5	487.7	512.3	475.6	523.4	480.4	519.6	
NO. SAMPLES	14	9			23		13		46			59	
SAMPLING WEIGHT(Kg)	410	121			944		580		1475			2055	
No.F.MEASURED	442	106			1224		707		1772			2479	
MEAN LENGTH(cm)	37.9	38.2	38.7	40.4	36.2	36.1	36.2	36.6	36.6	36.7	36.5	36.7	
MEAN WEIGHT(g)	788	846	893	1027	719	753	698	757	739	781	725	773	
MEAN WEIGHT(M+F)	818	972			737		728		761			750	
DEPTH RANGE (m)	301/660		165/382		192/624		327/602		165/660			165/660	

TABLE X-A: GREENLAND HALIBUT, DIVISION 3L, 1993:
length composition of the trawl catches.

JAN. = TOTAL			
LENGTH GROUP	M	F	LENGTH GROUP
30	2.1	2.4	30
32	13.4	20.1	32
34	24.6	48.2	34
36	70.4	103.1	36
38	67.8	99.9	38
40	76.9	114.5	40
42	54.9	75.3	42
44	47.7	46.9	44
46	39.1	51.5	46
48	6.7	6.7	48
50	9.4	4.6	50
52	2.4	2.4	52
54	2.4	2.1	54
56		2.4	56
58			58
60		2.1	60
TOTAL	417.8	582.2	
No. SAMPLES		2	
SAMPLING WEIGHT(Kg)		266	
No.F.MEASURED		438	
MEAN LENGTH(cm)	41.1	40.7	
MEAN WEIGHT (g)	573	553	
MEAN WEIGHT(M+F)		561	
DEPTH RANGE (m)		378/980	

TABLE X-B: GREENLAND HALIBUT, DIVISION 3N, 1993: length composition of the trawl catches.

	FEB.		MAR.		MAY		JUN.		1st Q.		2nd Q.		TOTAL			
LENGTH GROUP	M	F	M	F	M	F	M	F	M	F	M	F	M	F	LENGTH GROUP	
24	0.2	0.1							0.1	0.1			0.1	0.04	24	
26	0.2	1.8							0.1	0.9			0.1	0.5	26	
28		0.8								0.4				0.2	28	
30	1.9	4.2							0.9	2.0			0.5	1.1	30	
32	3.1	13.7				0.4		0.9	1.5	6.6		0.6	0.8	4.0	32	
34	6.5	27.0		0.3	0.4	6.3	0.8	9.6	3.1	13.2	0.5	7.5	2.0	10.7	34	
36	13.4	48.6	0.2	1.8	4.2	15.7	6.3	24.0	6.6	24.4	4.9	18.7	5.8	21.9	36	
38	18.8	54.8	9.1	12.6	10.8	26.1	15.6	48.9	13.8	32.9	12.5	34.2	13.2	33.5	38	
40	25.2	71.8	33.4	68.9	18.8	38.0	32.5	89.9	29.4	70.3	23.7	56.6	26.9	64.3	40	
42	27.7	71.1	88.5	125.4	26.3	48.3	21.8	138.3	59.2	99.2	24.7	80.5	44.0	91.0	42	
44	20.9	63.6	78.2	79.4	38.3	50.3	20.0	139.9	50.6	71.8	31.7	82.3	42.3	76.4	44	
46	14.2	64.5	39.9	66.4	38.9	64.6	14.5	114.6	27.5	65.4	30.2	82.5	28.7	72.9	46	
48	15.8	68.0	27.7	46.8	33.7	57.3	9.5	82.4	21.9	57.0	25.0	66.2	23.3	61.1	48	
50	8.3	54.4	26.3	39.6	62.4	88.0	4.6	64.3	17.6	46.8	41.7	79.5	28.2	61.1	50	
52	5.0	45.6	12.5	32.7	48.4	94.4	1.9	67.4	8.9	38.9	31.7	84.7	18.9	59.0	52	
54	2.0	46.3	10.7	30.8	19.4	59.4	1.8	34.3	6.5	38.3	13.1	50.4	9.4	43.6	54	
56	1.7	47.6	7.5	43.1	3.9	41.1	1.6	26.6	4.7	45.3	3.1	35.9	4.0	41.2	56	
58	0.8	22.8	1.5	29.4	1.0	30.8	0.2	12.9	1.1	26.2	0.7	24.4	1.0	25.4	58	
60	0.4	26.4	0.6	14.2	1.0	25.7	0.2	6.5	0.5	20.1	0.7	18.9	0.6	19.6	60	
62	0.4	21.9	0.4	11.2	0.1	17.3		3.2	0.4	16.4	0.1	12.3	0.3	14.6	62	
64	0.3	11.6	0.4	9.8	0.3	10.3		1.5	0.4	10.7	0.2	7.2	0.3	9.1	64	
66		15.2		7.9		7.0		1.5		11.4		5.0		8.6	66	
68		13.2		0.2	7.0		2.2		0.5	0.1	10.0		1.6	0.1	6.3	68
70		9.6		0.7	9.6		2.7		0.5	0.4	9.6		1.9	0.2	6.2	70
72		12.3		5.1		1.9		0.2		8.5		1.3		5.4	72	
74		5.1		5.6		3.2				5.3		2.1		3.9	74	
76		3.1		3.0	0.3	0.4		0.2		3.1	0.2	0.3	0.1	1.9	76	
78		2.8		5.3		0.3				4.1		0.2		2.4	78	
80		3.2		3.3				0.5		3.3		0.2		1.9	80	
82		1.6		1.8						1.7				1.0	82	
84		0.3		1.3						0.8				0.5	84	
86		0.2				0.3				0.1		0.2		0.1	86	
TOTAL	166.8	833.2	337.7	662.3	308.0	692.0	131.5	868.5	255.3	744.7	244.9	755.1	250.8	749.2		
No. SAMPLES		20		29		23		16		49		39		88		
SAMPLING WEIGHT(Kg)		9218		3866		3569		2351		13084		5920		19004		
No.F.MEASURED		7076		4388		3214		3303		11464		6517		17981		
MEAN LENGTH(cm)	43.4	49.3	46.0	50.3	48.4	50.7	43.7	46.6	45.2	49.7	47.5	49.0	46.2	49.4		
MEAN WEIGHT (g)	702	1190	830	1230	979	1199	698	883	790	1208	925	1069	848	1147		
MEAN WEIGHT(M+F)	1108		1095			1132		859		1101		1034		1072		
DEPTH RANGE (m)	403/1217		350/1100		178/1300		476/1000		350/1217		178/1300		178/1300			

TABLE XI-A: AMERICAN PLAICE, DIVISION 3L, 1993:
length composition of the trawl catches.

FEB. = TOTAL			
LENGTH GROUP	M	F	LENGTH GROUP
22		23.4	22
24	54.7	62.5	24
26	117.2	101.6	26
28	125.0	148.4	28
30	54.7	70.3	30
32	23.4	54.7	32
34	23.4	46.9	34
36		46.9	36
38		23.4	38
40		7.8	40
42		15.6	42
TOTAL	398.4	601.6	
NO. SAMPLES		1	
SAMPLING WEIGHT(Kg)		31	
NO. F. MEASURED		128	
MEAN LENGTH(cm)	28.7	30.6	
MEAN WEIGHT (g)	232	295	
MEAN WEIGHT(M+F)		270	
DEPTH RANGE (m)		378/980	

TABLE XI-B: AMERICAN PLAICE, DIVISION 3N, 1993: length composition of the trawl catches.

	JANUARY		FEBRUARY		MARCH		JUNE = 2nd Q.		1st QUARTER		TOTAL	
LENGTH GROUP	M	F	M	F	M	F	M	F	M	F	M	F LENGTH GROUP
18				0.1						0.03		0.03 18
20			1.5	0.1		1.6			0.7	0.5	0.7	0.5 20
22	2.4	12.0	11.0	10.7	0.3	1.5			5.6	8.4	5.6	8.3 22
24	15.7	26.7	44.3	29.8	1.7	6.1			24.5	22.2	24.2	21.9 24
26	49.6	57.3	55.4	60.8	18.3	65.3			43.3	61.2	42.7	60.4 26
28	66.1	67.1	54.9	84.1	99.8	198.5			70.7	112.2	69.8	110.7 28
30	76.8	73.5	55.8	84.9	87.8	169.6			70.5	106.0	69.6	104.6 30
32	56.2	63.9	39.8	82.4	52.7	82.1	22.7	9.6	47.9	77.3	47.5	76.4 32
34	48.6	74.0	29.4	79.4	27.6	45.7	19.1	15.5	34.0	68.3	33.8	67.6 34
36	30.9	42.5	20.6	57.3	19.5	27.8	28.3	65.1	23.0	45.0	23.1	45.2 36
38	26.0	27.6	12.8	48.9	5.9	15.9	20.6	149.3	14.4	33.8	14.5	35.3 38
40	17.2	22.1	10.1	39.7	7.9	16.1	10.1	151.5	11.3	28.3	11.3	29.9 40
42	9.7	27.0	7.5	21.4	3.4	5.0	13.2	148.4	6.9	18.2	7.0	20.0 42
44	7.9	19.3	3.1	16.4	7.2	1.9	5.8	93.0	5.6	13.0	5.6	14.1 44
46	2.2	19.1	1.6	8.5	5.6	1.2	1.7	72.2	2.9	9.3	2.8	10.1 46
48	1.1	9.6	0.2	9.2	2.0	3.3	4.2	48.3	1.0	7.6	1.0	8.2 48
50	0.5	8.3	0.1	5.9	2.2	3.0		56.1	0.8	5.7	0.8	6.4 50
52		9.0	0.3	2.8		2.9		37.1	0.1	4.5	0.1	4.9 52
54		6.2		4.4		3.2		17.8		4.5		4.7 54
56		6.1		1.4		3.9		7.5		3.4		3.4 56
58		4.6		2.1		1.2		2.5		2.5		2.5 58
60		5.0		0.8		1.0		0.3		2.0		2.0 60
62		5.3		0.3						1.5		1.5 62
64		1.0		0.1		0.9				0.6		0.6 64
66		1.3				0.2				0.4		0.4 66
68				0.2						0.1		0.1 68
70										0.2		0.2 70
72			0.6							0.2		0.2 72
TOTAL	410.7	589.3	348.4	651.6	342.1	657.9	125.6	874.4	363.2	636.8	360.1	639.9
No. SAMPLES		8		20		28		5		56		61
SAMPLING WEIGHT(Kg)		647		2452		1255		567		4354		4921
No.F.MEASURED		1486		5379		4405		870		11270		12140
MEAN LENGTH(cm)	32.7	35.8	31.0	34.3	32.4	32.0	38.2	43.5	31.9	34.0	31.9	34.1
MEAN WEIGHT (g)	362	530	310	436	350	345	556	834	336	432	337	440
MEAN WEIGHT(M+F)		461		392		347		799		397		403
DEPTH RANGE (m)		700/919		403/1217		350/1100		476/1000		350/1217		350/1217

TABLE XI-C: AMERICAN PLAICE, DIVISION 3M, 1993:
length composition of the gillnet catches.

JUN. = TOTAL			
LENGTH GROUP	M	F	LENGTH GROUP
28	51.3	25.6	28
30	102.6	76.9	30
32	102.6	51.3	32
34	51.3		34
36	51.3	76.9	36
38	25.6	51.3	38
40	51.3	51.3	40
42		102.6	42
44		25.6	44
46		25.6	46
48			48
50		25.6	50
52		51.3	52
TOTAL	435.9	564.1	
NO. SAMPLES		1	
SAMPLING WEIGHT(Kg)		24	
No.F.MEASURED		39	
MEAN LENGTH(cm)	34.1	40.0	
MEAN WEIGHT (g)	400	733	
MEAN WEIGHT(M+F)		588	
DEPTH RANGE (m)		199/624	

TABLE XI-D: AMERICAN PLAICE, DIVISION 3NO, 1993: length composition of the gillnet catches.

LENGTH GROUP	MAY		JUNE		2nd Q.= TOTAL		LENGTH GROUP
	M	F	M	F	M	F	
24	0.6				0.5		24
26	1.2	13.3	3.0		1.6	10.6	26
28	1.6	20.7	1.6		1.6	16.6	28
30	9.9	44.5	9.2	7.3	9.7	37.1	30
32	15.8	75.2	10.1	26.2	14.7	65.5	32
34	25.6	139.5	14.8	24.1	23.5	116.6	34
36	20.2	119.3	21.5	47.4	20.5	105.0	36
38	17.2	128.3	18.5	120.7	17.5	126.8	38
40	14.7	89.1	12.4	132.6	14.2	97.7	40
42	7.4	76.8	16.3	155.8	9.2	92.5	42
44	5.8	58.5	1.6	97.7	4.9	66.3	44
46	0.5	29.9		106.7	0.4	45.2	46
48		22.5		68.1		31.6	48
50		13.5		33.8		17.5	50
52		12.7		21.8		14.5	52
54		8.5		23.8		11.5	54
56		5.5		4.5		5.3	56
58		3.8		3.0		3.6	58
60		6.2				4.9	60
62		8.4		3.2		7.4	62
64		1.3		9.7		3.0	64
66		0.9		3.5		1.4	66
68		0.8		1.1		0.9	68
70							70
72							72
74		0.2				0.2	74
TOTAL	120.6	879.4	109.1	890.9	118.3	881.7	
NO. SAMPLES		15		8		23	
SAMPLING WEIGHT(Kg)		905		504		1409	
NO.F.MEASURED		1469		636		2105	
MEAN LENGTH(cm)	36.9	39.5	37.3	43.8	36.9	40.3	
MEAN WEIGHT (g)	501	652	518	866	504	695	
MEAN WEIGHT(M+F)		634		828		673	
DEPTH RANGE (m)		65/126		104/180		65/180	

TABLE XII: RED HAKE DIV.30, 1993: length composition of the gillnet catches.

LENGTH GROUP	JUN.=2nd Q.	JUL.	AUG.	3rd Q.	TOTAL	LENGTH GROUP	LENGTH GROUP	JUN.=2nd Q.	JUL.	AUG.	3rd Q.	TOTAL	LENGTH GROUP	
45		0.3		0.2	0.1	45		88	28.6	2.8	1.3	2.3	14.5	88
46						46		89	13.3	2.2		1.5	7.0	89
47						47		90	15.4	6.2		4.4	9.5	90
48						48		91	7.4	2.5	1.2	2.1	4.6	91
49		0.8	0.2	0.1	0.1	49		92	18.4	0.4	0.8	0.5	8.8	92
50		0.3	2.0	0.8	0.4	50		93	12.3	1.3		0.9	6.2	93
51		1.8		1.2	0.7	51		94	9.4	1.1	0.3	0.9	4.8	94
52		2.8	3.9	3.1	1.7	52		95	10.1	2.6	0.9	2.1	5.8	95
53		2.5	4.1	2.9	1.6	53		96	7.6	0.4	0.4	0.4	3.7	96
54		1.6	3.1	2.1	1.1	54		97	3.5	0.6		0.4	1.9	97
55		3.7	5.1	4.1	2.2	55		98	4.4	0.6		0.4	2.3	98
56		2.5	6.9	3.8	2.0	56		99	4.7	0.2	0.3	0.2	2.3	99
57		5.9	17.9	9.4	5.1	57		100	1.8	0.2		0.1	0.9	100
58		9.2	18.4	11.9	6.4	58		101	3.8	0.5		0.4	1.9	101
59	2.7	9.7	35.3	17.2	10.5	59		102	6.5				3.0	102
60		17.0	29.9	20.8	11.2	60		103	7.7				3.5	103
61		23.6	38.9	28.1	15.1	61		104						104
62	2.0	27.4	45.8	32.8	18.6	62		105						105
63		36.9	39.0	37.5	20.2	63		106						106
64	2.0	34.6	61.8	42.6	23.9	64		107	2.9				1.4	107
65		68.6	95.0	76.4	41.1	65		108						108
66	2.0	44.6	69.8	52.0	28.9	66		109						109
67		70.1	81.0	73.3	39.5	67		110		0.8		0.6	0.3	110
68	8.2	67.6	58.2	64.8	38.7	68		111						111
69	7.5	60.7	51.6	58.0	34.7	69		112						112
70	14.2	85.4	75.6	82.5	51.0	70		113	2.7				1.2	113
71	16.7	60.5	51.3	57.8	38.8	71		114						114
72	7.4	62.9	44.6	57.5	34.4	72		115						115
73	19.3	51.1	40.7	48.0	34.8	73		116						116
74	20.6	45.4	34.8	42.3	32.3	74		117						117
75	48.9	41.4	25.9	36.9	42.4	75		118						118
76	59.0	28.5	14.3	24.4	40.3	76		119						119
77	73.4	26.6	16.5	23.6	46.6	77		120						120
78	73.2	16.6	6.9	13.7	41.2	78		121						121
79	65.5	12.6	4.9	10.3	35.8	79		122						122
80	85.3	12.7	5.8	10.6	45.1	80		123						123
81	71.5	6.4	1.7	5.0	35.7	81		124						124
82	74.6	6.0	2.9	5.1	37.2	82		125						125
83	58.3	8.3	0.0	5.9	30.1	83		126						126
84	45.1	6.2	0.0	4.4	23.2	84		127						127
85	35.3	5.2	0.0	3.7	18.3	85		128						128
86	32.1	6.4	0.3	4.6	17.3	86		129		0.6		0.4	0.2	129
87	14.7	3.5	0.3	2.6	8.2	87								

TOTAL	1000	1000	1000	1000	1000
No. SAMPLES	4	27	12	39	43
SAMPLING WEIGHT(kg)	1480	8270	3085	11355	12835
No.F.MEASURED	432	2630	1126	3756	4188
MEAN LENGTH(cm)	81.9	81.9	70.5	69.6	75.3
DEPTH RANGE (m)	104/180	120/180	120/180	120/180	120/180

TABLE XIII-A : COD, DIVISION 3M, 1993: age composition (%), mean length (cm) and mean weight (Kg) at age of the trawl catches.

JAN. = 1st Q.		MAY				JUNE				2nd QUARTER				TOTAL 1993			
AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	
2	113.9	26.4	0.152	6.9	31.0	0.246	1.7	31.0	0.246	5.6	31.0	0.246	105.0	27.2	0.168	2	
3	679.6	36.4	0.415	603.4	38.6	0.499	515.7	41.0	0.599	580.7	39.2	0.522	680.4	37.4	0.454	3	
4	173.7	42.8	0.678	179.2	48.0	0.974	314.0	47.7	0.953	214.1	47.9	0.966	147.3	45.0	0.798	4	
5	23.3	50.7	1.183	109.3	58.9	1.813	125.6	57.2	1.661	113.5	58.4	1.769	39.9	56.5	1.626	5	
6	5.4	56.1	1.556	28.1	61.0	2.034	23.9	59.6	1.877	27.0	60.7	1.998	10.4	59.1	1.841	6	
7	3.9	66.9	2.640	50.9	70.9	3.198	15.0	67.2	2.751	41.6	70.5	3.156	12.8	69.7	3.038	7	
8				19.7	75.9	3.995	4.1	69.8	3.108	15.7	75.5	3.935	3.8	75.4	3.926	8	
9				1.3	87.0	6.023				1.0	87.0	6.023	0.2	87.0	6.023	9	
10																10	
11				0.8	101.0	9.607				0.6	101.0	9.607	0.1	101.0	9.607	11	
12																12	
13				0.3	106.0	10.896				0.2	106.0	10.896	0.05	106.0	10.896	13	
TOTAL		1000.0		1000.0						1000.0				1000.0			
No FISH AGED														471			

TABLE XIII-B : COD, DIVISION 3N, 1993: age composition (%), mean length (cm) and mean weight (Kg)
at age of the trawl catches.

FEBRUARY				MARCH				1st Q. = TOTAL 1993				
AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE
2	43.7	24.7	0.122	37.5	24.9	0.125	41.8	24.7	0.123	2		
3	474.9	31.0	0.251	701.6	30.3	0.232	545.6	30.7	0.244	3		
4	428.9	38.8	0.506	229.8	38.2	0.482	366.8	38.7	0.502	4		
5	35.2	48.4	0.982	16.2	49.4	1.056	29.3	48.6	0.995	5		
6	11.5	53.3	1.336	7.2	55.0	1.475	10.2	53.7	1.367	6		
7	5.2	53.1	1.338	5.7	62.8	2.292	5.4	56.3	1.656	7		
8	0.5	64.0	2.298	1.3	73.2	3.525	0.8	69.0	2.962	8		
9										9		
10				0.4	79.0	4.399	0.1	79.0	4.399	10		
11				0.1	85.0	5.514	0.02	85.0	5.514	11		
12										12		
13				0.1	88.0	6.137	0.02	88.0	6.137	13		
TOTAL		1000.0			1000.0			1000.0				

No FISH AGED

145

TABLE XIII-C : COD, DIVISION 3M, 1993: age composition (%), mean length (cm) and mean weight (kg) at age of the gillnet catches.

	APRIL						MAY						JUNE						JULY = 3rd Q.						2nd QUARTER						TOTAL 1993					
	AGE	AGE	MEAN	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN	AGE	MEAN				
	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT			
2	1.6	32.9	0.296	0.01	34.0	0.326	0.02	32.1	0.276	0.02	46.0	0.830	0.6	32.9	0.296	0.6	32.9	0.296	0.6	32.9	0.296	0.6	32.9	0.296	0.6	32.9	0.296	0.6	32.9	0.296	0.6					
3	354.7	40.7	0.580	5.0	42.5	0.661	15.1	42.6	0.670	2.0	51.0	1.160	21.3	40.7	0.583	143.0	40.7	0.582	143.0	40.7	0.582	143.0	40.7	0.582	143.0	40.7	0.582	143.0	40.7	0.582	143.0	40.7	0.582			
4	40.8	47.5	0.930	6.1	56.9	1.630	15.1	54.7	1.458	5.9	51.0	1.160	21.3	49.5	1.081	21.2	49.3	1.063	49.5	1.081	21.2	49.3	1.063	49.5	1.081	21.2	49.3	1.063	49.5	1.081	21.2	49.3	1.063			
5	63.0	61.1	2.087	212.3	62.6	2.164	282.4	61.6	2.059	73.5	62.5	2.150	164.6	62.1	2.123	151.5	61.9	2.107	151.5	61.9	2.107	151.5	61.9	2.107	151.5	61.9	2.107	151.5	61.9	2.107	151.5	61.9	2.107			
6	70.7	68.9	2.916	151.7	66.9	2.668	151.0	65.9	2.555	176.1	67.9	2.787	119.5	67.2	2.703	127.8	67.2	2.699	127.8	67.2	2.699	127.8	67.2	2.699	127.8	67.2	2.699	127.8	67.2	2.699	127.8	67.2	2.699			
7	251.4	72.6	3.426	371.8	70.9	3.206	315.0	70.6	3.174	357.9	70.2	3.092	315.0	71.4	3.270	312.1	71.1	3.231	312.1	71.1	3.231	312.1	71.1	3.231	312.1	71.1	3.231	312.1	71.1	3.231	312.1	71.1	3.231			
8	208.6	79.2	4.546	247.2	78.7	4.464	219.7	78.5	4.403	384.6	79.1	4.492	227.5	78.9	4.484	237.5	78.7	4.466	237.5	78.7	4.466	237.5	78.7	4.466	237.5	78.7	4.466	237.5	78.7	4.466	237.5	78.7	4.466			
9	4.0	96.1	8.058	2.9	96.5	8.222	1.0	97.7	8.486	3.0	96.3	8.155	2.9	96.5	8.187	9	96.5	8.187	9	96.5	8.187	9	96.5	8.187	9	96.5	8.187	9	96.5	8.187	9					
10	1.9	102.7	9.950	1.8	111.8	13.027	0.02	94.0	7.521	1.6	107.5	11.564	1.5	107.7	11.653	10	107.7	11.653	10	107.7	11.653	10	107.7	11.653	10	107.7	11.653	10	107.7	11.653	10					
11	2.2	104.0	10.287	0.3	100.0	9.103	0.3	100.0	9.103	1.1	103.3	10.073	1.1	103.3	10.073	11	103.3	10.073	11	103.3	10.073	11	103.3	10.073	11	103.3	10.073	11	103.3	10.073	11					
12	1.1	97.3	8.385	0.7	99.2	8.954	0.3	99.6	9.002	0.8	98.2	8.646	0.8	98.3	8.694	12	98.3	8.694	12	98.3	8.694	12	98.3	8.694	12	98.3	8.694	12	98.3	8.694	12					
TOTAL	1000.0		1000.0		1000.0		1000.0		1000.0		1000.0		1000.0		1000.0		1000.0		1000.0		1000.0		1000.0		1000.0		1000.0		1000.0		1000.0					
NO FISH AGED																																				

TABLE XIII-D: COD, DIVISION 3NO, 1993: age composition (%), mean length (cm) and mean weight (Kg) at age of the gillnet catches.

MAY				JUNE				JULY				AUGUST				
AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
3	0.8	31.0	0.246	2.4	34.6	0.347										3
4	6.5	44.6	0.759	21.7	45.5	0.815	20.0	54.7	1.490	35.1	58.8	1.784			4	
5	3.8	60.0	1.916	19.0	60.2	1.945	38.3	62.9	2.215	90.0	63.3	2.248			5	
6	12.0	69.3	2.996	52.3	68.1	2.834	44.3	68.5	2.877	64.2	67.3	2.721			6	
7	121.6	76.5	4.071	369.6	74.4	3.733	348.9	75.5	3.929	495.5	74.3	3.717			7	
8	130.4	82.3	5.146	273.8	78.8	4.436	148.1	78.4	4.403	231.6	76.7	4.097			8	
9	32.2	90.1	6.739	35.2	85.6	5.699	49.7	88.0	6.254	43.3	83.8	5.334			9	
10	77.9	95.9	8.153	42.0	89.5	6.605	33.8	91.5	7.248	26.2	79.2	4.513			10	
11	199.9	100.8	9.472	62.5	92.9	7.693	88.7	101.8	9.734	7.4	89.7	6.508			11	
12	135.3	104.2	10.563	44.5	98.1	8.964	71.3	107.9	11.610						12	
13	85.6	106.1	11.075	17.9	106.0	11.078	49.4	106.8	11.223						13	
14	55.6	107.2	11.485	17.6	100.9	9.929	32.7	113.0	13.392	3.4	127.0	19.029			14	
15	61.4	110.0	12.374	13.3	111.4	12.870	26.5	116.4	14.640						15	
16	32.8	115.6	14.499	9.8	118.6	15.668	11.9	115.3	14.168						16	
17	15.5	120.8	16.475	6.5	123.9	17.748	16.7	109.6	12.285						17	
18	22.7	112.7	13.605	9.2	122.1	17.426	13.9	116.5	14.678						18	
19	1.1	127.0	19.029	0.8	127.0	19.029	2.3	127.0	19.029	3.4	127.0	19.029			19	
20	3.0	120.6	16.357	1.6	124.3	17.947	3.3	133.0	21.942						20	
21															21	
22	1.9	121.0	16.390	0.3	121.0	16.390									22	
TOTAL		1000.0			1000.0			1000.0			1000.0					

TABLE XIII-D : count.

2nd QUARTER				3rd QUARTER				TOTAL 1993							
AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	AGE COMP.	MEAN LENGTH	MEAN WEIGHT
3	1.6	33.8	0.323					1.4	33.8	0.323					3
4	14.2	45.3	0.803	22.0	55.6	1.552	16.1	47.9	0.993						4
5	11.5	60.2	1.940	45.1	63.0	2.224	18.5	62.2	2.159						5
6	32.5	68.3	2.863	46.9	68.3	2.849	33.0	68.5	2.881						6
7	247.8	74.9	3.814	368.3	75.3	3.892	280.2	75.5	3.917						7
8	203.4	79.9	4.659	159.1	78.1	4.344	184.4	79.7	4.630						8
9	33.7	87.7	6.187	48.8	87.5	6.146	41.1	87.6	6.160						9
10	59.6	93.6	7.598	32.8	90.2	6.958	53.9	92.9	7.464						10
11	130.0	98.9	9.037	78.0	101.6	9.694	118.3	99.7	9.213						11
12	89.1	102.7	10.157	61.9	107.9	11.610	84.1	104.0	10.498						12
13	51.1	106.1	11.075	42.9	106.8	11.223	51.2	106.1	11.041						13
14	36.2	105.6	11.101	28.9	113.2	13.480	34.6	108.1	11.865						14
15	36.9	110.3	12.465	23.0	116.4	14.640	32.9	111.6	12.933						15
16	21.1	116.3	14.774	10.3	115.3	14.168	18.2	116.4	14.768						16
17	10.9	121.7	16.862	14.5	109.6	12.285	12.9	116.8	15.045						17
18	15.9	115.5	14.738	12.1	116.5	14.678	15.0	116.7	15.120						18
19	0.9	127.0	19.029	2.4	127.0	19.029	1.5	127.0	19.029						19
20	2.3	121.9	16.926	2.9	133.0	21.942	2.2	124.1	17.931						20
21															21
22	1.1	121.0	16.390				0.7	121.0	16.390						22
TOTAL		1000.0			1000.0			1000.0							
No FISH AGED								675							

TABLE XIV-A : REDFISH mentella (males), DIVISION 3H, 1993: age composition (%), mean length (cm) and mean weight (kg) at age of the gillnet catches.

APRIL										MAY										JUNE										TOTAL 1993									
AGE	AGE	MEAN	MEAN	AGE	MEAN	MEAN	AGE	MEAN	MEAN	AGE	MEAN	MEAN	AGE	MEAN	MEAN	AGE	MEAN	MEAN																					
		COMP.	LENGTH		COMP.	LENGTH		COMP.	LENGTH		COMP.	LENGTH			COMP.	LENGTH																							
4		0.4	15.5	0.055																																			
5	1.0	23.6	0.189	1.2	22.9	0.174	0.4	19.5	0.108	0.3	19.5	0.108	0.02	15.5	0.055	0.01	15.5	0.055	4																				
6	6.1	24.2	0.203	4.5	23.8	0.196	1.7	22.9	0.174	1.5	23.0	0.176	0.2	19.5	0.108	0.2	19.5	0.108	5																				
7	4.9	26.9	0.219	7.3	27.5	0.296	22.7	27.1	0.284	2.1	27.5	0.297	11.8	24.7	0.216	7.7	24.7	0.216	7																				
8	6.4	29.5	0.366	9.3	29.8	0.377	46.7	29.2	0.354	31.6	29.7	0.372	34.1	29.2	0.355	33.2	29.4	0.361	9																				
9	4.5	30.5	0.405	9.3	30.5	0.404	18.7	30.0	0.387	23.2	30.5	0.402	14.4	30.1	0.389	17.5	30.3	0.395	10																				
10	10.6	31.3	0.436	12.4	30.9	0.418	28.6	30.9	0.418	35.2	30.9	0.420	23.0	30.9	0.421	27.2	30.9	0.420	11																				
11	17.9	33.1	0.519	10.7	33.0	0.516	27.1	32.8	0.503	35.0	32.7	0.497	23.8	32.9	0.507	27.7	32.8	0.502	12																				
12	21.9	33.9	0.553	17.1	34.2	0.568	29.4	33.7	0.545	34.6	33.7	0.542	26.8	33.8	0.548	29.5	33.7	0.545	13																				
13	27.0	35.7	0.645	23.1	35.9	0.658	29.9	35.4	0.628	31.1	35.2	0.620	28.8	35.5	0.634	29.6	35.4	0.629	14																				
14	39.1	36.4	0.684	34.5	36.5	0.688	38.0	36.2	0.669	38.5	36.3	0.675	38.1	36.2	0.674	38.3	36.3	0.675	15																				
15	32.9	39.8	0.702	28.8	36.8	0.703	29.0	36.5	0.686	34.2	36.5	0.690	30.1	36.6	0.692	31.5	36.6	0.691	16																				
16	43.3	39.0	0.833	34.4	38.8	0.825	20.9	38.8	0.820	34.6	38.9	0.827	27.6	38.8	0.826	30.0	38.9	0.826	19																				
17	195.9	42.7	1.103	268.8	44.1	1.227	140.4	42.9	1.117	138.2	41.8	1.035	161.7	42.9	1.122	153.5	42.6	1.095	20+																				
TOTAL	478.5			520.9			491.1			502.2			489.3			493.7																							
No FISH AGED																																							

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TABLE XIV-B : REDFISH mentela (females), DIVISION 3W, 1993: age composition (%), mean length (cm) and mean weight (Kg) at age of the gillnet catches.

AGE	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	TOTAL 1993	
																									2nd QUARTER	
4	0.1	23.5	0.190	0.2	1.3	15.5	0.054	1.4	22.1	0.163	0.1	15.5	0.054	0.1	15.5	0.054	0.1	15.5	0.054	0.1	15.5	0.054	0.1	15.5	0.054	4
5	0.1	23.5	0.190	1.0	23.8	0.199	9.1	23.8	0.199	0.1	22.2	0.164	0.6	22.2	0.164	0.6	22.2	0.164	0.6	22.2	0.164	0.6	22.2	0.164	5	
6	0.6	23.5	0.190	3.5	25.1	0.232	20.8	25.0	0.230	6.4	23.8	0.199	4.2	23.8	0.199	4.2	23.8	0.199	4.2	23.8	0.199	4.2	23.8	0.199	6	
7	0.6	23.5	0.190	7.7	27.8	0.318	37.6	28.2	0.329	8.0	28.7	0.349	14.6	25.0	0.230	9.5	25.0	0.230	14.6	25.0	0.230	14.6	25.0	0.230	7	
8	0.7	28.6	0.346	11.6	30.4	0.416	56.3	30.3	0.410	42.8	30.4	0.415	41.3	30.3	0.411	41.8	30.3	0.412	41.8	30.3	0.412	41.8	30.3	0.412	8	
9	8.3	30.6	0.424	7.0	32.1	0.489	24.9	32.0	0.485	23.6	32.0	0.486	20.3	32.1	0.488	21.5	32.1	0.487	21.5	32.1	0.487	21.5	32.1	0.487	9	
10	11.1	32.4	0.505	5.1	33.6	0.562	19.7	33.1	0.534	23.1	33.1	0.536	17.7	33.0	0.533	19.6	33.1	0.534	19.6	33.1	0.534	19.6	33.1	0.534	10	
11	14.8	32.9	0.528	11.7	34.3	0.599	23.1	34.0	0.583	29.4	34.2	0.593	19.0	34.0	0.586	22.6	34.1	0.589	22.6	34.1	0.589	22.6	34.1	0.589	11	
12	10.1	34.4	0.604	33.5	36.4	0.718	42.6	35.8	0.681	54.2	36.0	0.696	43.4	36.0	0.694	47.1	36.0	0.695	47.1	36.0	0.695	47.1	36.0	0.695	12	
13	47.3	36.4	0.730	18.6	37.1	0.759	23.8	36.1	0.705	29.7	36.4	0.721	24.3	36.4	0.718	26.2	36.4	0.719	26.2	36.4	0.719	26.2	36.4	0.719	13	
14	26.6	36.8	0.742	32.5	38.3	0.836	25.0	38.4	0.841	35.6	38.3	0.835	30.1	38.4	0.843	32.0	38.4	0.840	32.0	38.4	0.840	32.0	38.4	0.840	14	
15	42.7	38.5	0.848	55.4	38.5	0.847	50.5	38.5	0.850	67.0	38.4	0.840	59.9	38.6	0.855	62.4	38.5	0.850	62.4	38.5	0.850	62.4	38.5	0.850	15	
16	85.2	38.7	0.865	15.5	39.8	0.940	14.5	40.0	0.955	18.5	39.9	0.946	17.4	40.0	0.948	17.7	39.9	0.947	17.7	39.9	0.947	17.7	39.9	0.947	16	
17	25.1	39.8	0.940	29.8	39.7	0.934	23.3	39.9	0.947	32.9	39.9	0.943	27.2	39.9	0.941	29.2	39.9	0.942	29.2	39.9	0.942	29.2	39.9	0.942	17	
18	36.8	39.7	0.933	8.4	40.4	0.980	7.9	40.5	0.986	10.2	40.4	0.983	9.2	40.4	0.979	9.5	40.4	0.980	9.5	40.4	0.980	9.5	40.4	0.980	18	
19	12.5	40.2	0.967	20.4	42.1	1.110	19.8	41.7	1.077	21.6	41.7	1.083	24.0	41.7	1.081	23.2	41.7	1.082	23.2	41.7	1.082	23.2	41.7	1.082	19	
20	35.5	41.8	1.084	1.234	43.4	1.215	24.8	43.5	1.226	23.9	43.1	1.190	27.9	43.5	1.228	26.5	43.4	1.216	26.5	43.4	1.216	26.5	43.4	1.216	20	
21	35.7	43.6	1.293	187.4	46.8	1.560	83.8	44.8	1.354	77.6	44.0	1.273	100.8	44.8	1.353	92.8	44.6	1.330	92.8	44.6	1.330	92.8	44.6	1.330	21	
22+	128.0	44.2	No FISH AGED	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	479.1	22+	
TOTAL	521.5																									506.3
No FISH AGED																										185

TABLE XIV-C : REDFISH *marinus* (males), DIVISION 3W, 1993: age composition (%), mean length (cm) and mean weight (kg) at age of the gillnet catches.

AGE	APRIL			MAY			JUNE			JUL. = 3rd Q.			2nd QUARTER			TOTAL 1993						
	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT	AGE	MEAN COMP.	MEAN LENGTH	MEAN WEIGHT		
4																						
5	0.3	24.5	0.211	0.3	21.5	0.144	0.1	21.5	0.144	0.3	23.6	0.194	0.1	21.5	0.144	0.04	21.5	0.144	0.5	5		
6	2.3	24.8	0.221	4.5	21.5	0.144	3.2	23.6	0.194	25.5	0.243	15.0	25.7	0.245	0.3	27.5	0.297	11.5	23.6	0.193	6	
7	8.2	28.0	0.317	1.4	25.5	0.243	5.1	28.0	0.316	46.3	28.0	0.316	16.2	29.2	0.354	35.8	28.0	0.316	7.7	25.7	0.245	7
8	7.5	29.8	0.378	5.1	29.8	0.378	5.3	30.4	0.398	34.0	29.6	0.371	31.9	30.0	0.385	26.7	29.7	0.372	28.5	28.2	0.323	8
9	6.5	31.2	0.433	33.9	31.6	0.447	29.0	31.2	0.430	45.1	31.1	0.430	23.2	31.2	0.427	23.2	31.2	0.430	30.6	31.1	0.429	10
10	15.2	32.6	0.490	44.2	32.2	0.475	23.2	32.1	0.469	40.6	32.1	0.469	32.1	40.6	0.470	21.4	32.2	0.473	27.9	32.1	0.471	11
11	28.2	35.0	0.608	30.7	34.7	0.596	22.1	34.1	0.565	34.1	34.1	0.565	23.8	34.1	0.564	23.8	34.4	0.579	27.3	34.3	0.572	12
12	58.2	35.3	0.621	41.0	34.9	0.607	30.0	34.7	0.595	48.3	34.7	0.595	34.7	48.3	0.596	37.6	34.9	0.605	41.2	34.9	0.602	13
13	25.2	35.2	0.617	7.3	35.5	0.632	9.9	35.2	0.615	16.7	35.2	0.615	16.7	35.2	0.616	13.9	35.2	0.616	14.9	35.2	0.616	14
14	81.2	37.4	0.742	41.6	37.3	0.734	49.9	37.2	0.733	54.8	37.3	0.733	54.8	37.3	0.736	58.0	37.2	0.736	56.9	37.3	0.737	15
15	86.9	38.9	0.830	17.6	38.3	0.795	71.7	39.3	0.856	92.5	39.4	0.864	75.0	39.2	0.848	81.0	39.3	0.854	16			
16	39.5	38.8	0.822	5.1	39.3	0.854	24.2	38.8	0.824	29.6	38.8	0.824	29.6	38.8	0.823	28.0	38.8	0.822	28.5	38.8	0.822	17
17	120.7	42.1	1.062	167.6	45.2	1.340	118.0	42.9	1.131	77.6	41.9	1.040	119.4	42.7	1.116	105.1	42.5	1.097	18+			
TOTAL	480.1			405.6			476.5			481.7			476.6			480.4						
No FISH AGED																						

TABLE XIV-D : REDFISH *marinus* (females), DIVISION 3H, 1993: age composition (%), mean length (cm) and mean weight (Kg) at age of the gillnet catches.

NO FISH AGED

TABLE XV-A : AMERICAN PLAICE (males), DIVISION 3X, 1993: age composition (%), mean length (cm) and mean weight (Kg) at age of the trawl catches.

JUN. = 2nd Q.										TOTAL 1993																												
JANUARY					FEBRUARY					MARCH					1st QUARTER																							
AGE	MEAN	MEAN	MEAN	MEAN	AGE	MEAN	MEAN	MEAN	MEAN	COMP.	LENGTH	WEIGHT	AGE	MEAN	MEAN	MEAN	MEAN	COMP.	LENGTH	WEIGHT	AGE	MEAN	MEAN	MEAN	MEAN	COMP.	LENGTH	WEIGHT	AGE	MEAN	MEAN	MEAN	MEAN					
COMP.	LENGTH	WEIGHT	COMP.	LENGTH	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT	COMP.	LENGTH	WEIGHT					
5	6.3	24.2	0.136	23.6	23.8	0.129	0.8	24.1	0.134											12.5	23.9	0.130	12.3	23.9	0.130				5	6.3	24.2	0.136	23.8	0.134	12.3	23.9	0.130	5
6	19.9	27.0	0.187	22.1	27.0	0.187	7.3	27.0	0.187											17.3	27.0	0.187	17.1	27.0	0.187				6	19.9	27.0	0.187	27.0	0.187	17.1	27.0	0.187	6
7	72.8	28.2	0.216	83.0	27.4	0.199	59.4	29.2	0.239											73.5	28.0	0.213	72.6	28.0	0.213				7	72.8	28.2	0.216	27.4	0.199	72.6	28.0	0.213	7
8	154.0	31.8	0.317	119.6	31.1	0.298	160.2	31.2	0.295											140.4	31.3	0.302	138.9	31.3	0.303				8	154.0	31.8	0.317	119.6	0.298	138.9	31.3	0.303	8
9	46.3	34.4	0.404	31.1	34.1	0.391	38.6	33.5	0.373											37.3	34.0	0.390	37.0	34.0	0.391				9	46.3	34.4	0.404	31.1	0.391	37.0	34.0	0.391	9
10	20.5	35.6	0.459	13.7	-34.7	0.427	18.0	34.1	0.427											16.7	34.8	0.437	16.7	34.8	0.438				10	20.5	35.6	0.459	13.7	0.427	16.7	34.8	0.438	10
11	40.2	37.9	0.536	24.7	37.7	0.527	23.8	38.4	0.565											31.5	38.8	0.583	28.6	37.9	0.540				11	40.2	37.9	0.536	24.7	0.527	28.6	37.9	0.540	11
12	34.6	38.1	0.563	22.0	38.0	0.562	24.0	37.7	0.568											20.9	41.4	0.704	25.9	38.0	0.564				12	34.6	38.1	0.563	22.0	0.562	25.9	38.0	0.565	12
13	11.0	39.0	0.589	6.1	38.8	0.583	6.7	41.4	0.721											7.5	40.5	0.669	7.5	39.5	0.621				13	11.0	39.0	0.589	6.1	0.583	7.5	39.5	0.621	13
14	3.3	42.5	0.758	1.5	42.2	0.741	2.1	44.1	0.840											2.5	42.4	0.752	2.2	42.9	0.776				14	3.3	42.5	0.758	1.5	0.741	2.2	42.9	0.776	14
15	2.1	41.2	0.691	1.0	41.3	0.695	1.3	44.3	0.859											1.6	41.1	0.686	1.4	42.1	0.737				15	2.1	41.2	0.691	1.0	0.695	1.4	42.1	0.737	15

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TABLE XV-B : AMERICAN PLAICE (females), DIVISION 3N, 1993; age composition (%), mean length (cm) and mean weight (Kg) at age of the trawl catches.

	JANUARY			FEBRUARY			MARCH			JUN. = 2nd Q.			1st QUARTER			TOTAL 1993					
	AGE	AGE	MEAN	MEAN	AGE	MEAN	MEAN	COMP.	LENGTH	WEIGHT	AGE	MEAN	MEAN	COMP.	LENGTH	WEIGHT	AGE	MEAN	MEAN	COMP.	LENGTH
5	65.6	28.5	0.228	77.6	28.6	0.230	115.8	29.6	0.249	1.0	33.0	0.345	85.3	29.0	0.237	84.2	29.0	0.237	5	6	5
6	98.7	29.9	0.264	117.2	30.1	0.273	154.1	30.0	0.264	21.6	37.5	0.513	122.8	30.0	0.268	121.5	30.1	0.268	7	6	6
7	223.8	32.9	0.362	273.4	33.4	0.377	282.8	31.5	0.310	216.6	39.3	0.593	262.8	32.7	0.353	262.2	32.7	0.356	8	8	8
8	51.4	37.3	0.525	62.4	37.1	0.512	43.1	34.5	0.410	125.5	41.5	0.703	54.0	36.5	0.492	54.9	36.7	0.499	9	9	9
9	29.9	38.0	0.568	33.3	36.8	0.509	22.6	34.6	0.415	66.3	43.6	0.827	29.3	36.6	0.504	29.8	36.9	0.514	10	10	10
10	21.7	42.3	0.779	21.0	40.7	0.686	8.7	39.8	0.650	77.6	44.9	0.909	17.7	41.1	0.711	18.5	41.3	0.723	11	11	11
11	22.4	43.2	0.803	23.7	42.0	0.733	8.1	41.7	0.722	111.0	43.4	0.810	18.9	42.3	0.754	20.1	42.4	0.758	12	12	12
12	15.5	46.0	0.975	14.2	44.4	0.876	4.5	45.6	0.972	76.7	45.1	0.914	11.8	45.1	0.921	12.7	45.1	0.920	13	13	13
13	18.6	48.6	1.140	12.6	48.0	1.094	4.3	50.6	1.289	86.0	48.2	1.111	11.8	48.5	1.133	12.8	48.5	1.131	14	14	14
14	7.4	56.3	1.793	3.0	53.8	1.556	2.7	56.8	1.833	14.1	51.9	1.393	4.1	55.6	1.724	4.2	55.4	1.709	15	15	15
15	12.5	52.8	1.500	5.8	50.3	1.283	3.6	54.2	1.593	39.3	49.4	1.201	7.0	52.1	1.433	7.4	51.9	1.416	16	16	16
16	21.6	58.1	1.989	7.3	54.3	1.620	5.8	56.9	1.845	38.8	51.7	1.373	10.7	56.8	1.855	11.1	56.5	1.832	17+	17+	17+
TOTAL	589.3		651.6			657.9			874.4			636.8			639.9						
NO FISH AGED																370					

TABLE XV-C : AMERICAN PLAICE (males), DIVISION 3NO, 1993: age composition (%), mean length (cm) and mean weight (kg) at age of the gillnet catches.

TABLE XV-D : AMERICAN PLAICE (females), DIVISION 3NO, 1993: age composition (%), mean length (cm) and mean weight (Kg) at age of the gillnet catches.

AGE	MAY			JUNE			2nd Q. = TOTAL 1993			AGE
	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	AGE COMP.	MEAN LENGTH	MEAN WEIGHT	
6	20.1	31.0	0.287	3.4	32.0	0.316	16.8	31.0	0.288	6
7	193.3	33.8	0.380	60.7	35.6	0.442	167.0	33.9	0.385	7
8	423.0	37.9	0.540	334.8	40.3	0.646	405.5	38.3	0.557	8
9	111.7	43.3	0.799	205.0	44.0	0.837	130.3	43.5	0.811	9
10	57.3	46.0	0.957	140.8	46.6	0.993	73.9	46.2	0.971	10
11	30.1	50.6	1.294	71.8	49.6	1.214	38.4	50.2	1.264	11
12	11.6	53.3	1.508	26.3	51.9	1.385	14.5	52.8	1.464	12
13	7.6	52.8	1.452	17.2	52.1	1.391	9.5	52.5	1.430	13
14	5.5	53.5	1.498	10.9	53.7	1.515	6.6	53.5	1.504	14
15	1.7	55.2	1.692	4.9	59.0	2.085	2.4	56.8	1.853	15
16	3.8	63.5	2.526	4.8	65.0	2.713	4.0	63.8	2.570	16
17+	13.6	62.9	2.466	10.3	65.5	2.782	13.0	63.3	2.516	17+
TOTAL	879.4			890.9			881.7			
NO FISH AGED							240			

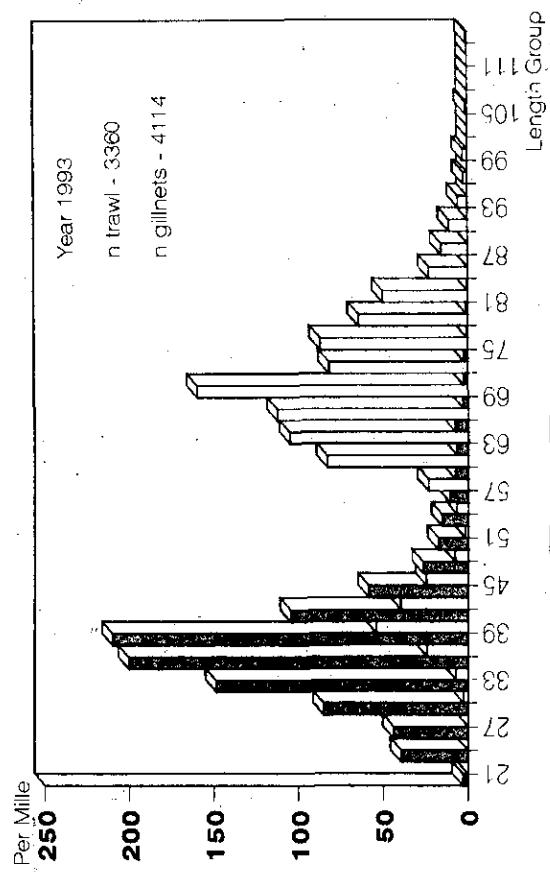


Fig. 1 - Annual length composition of Cod in Division 3M, trawl and gillnet fisheries in 1993.

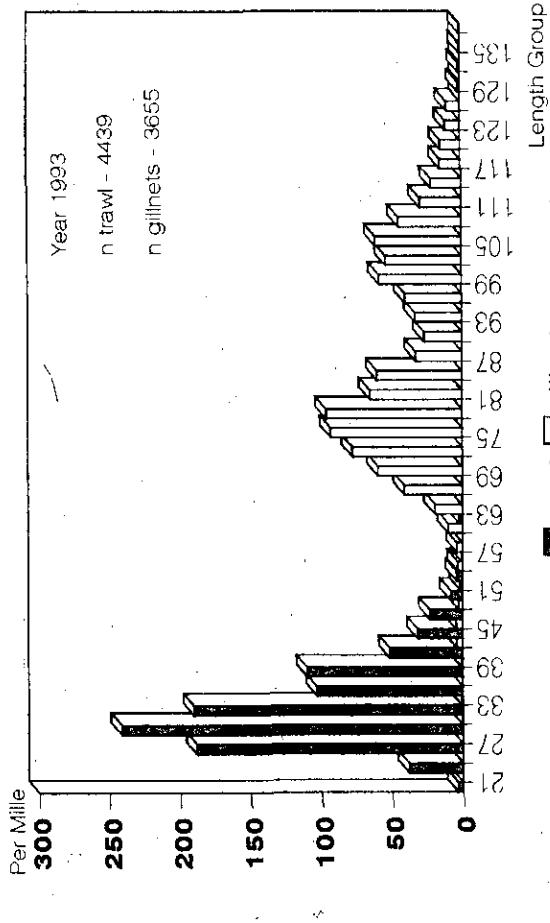


Fig. 2 - Annual length composition of Cod in Division 3NO, trawl and gillnet fisheries in 1993.

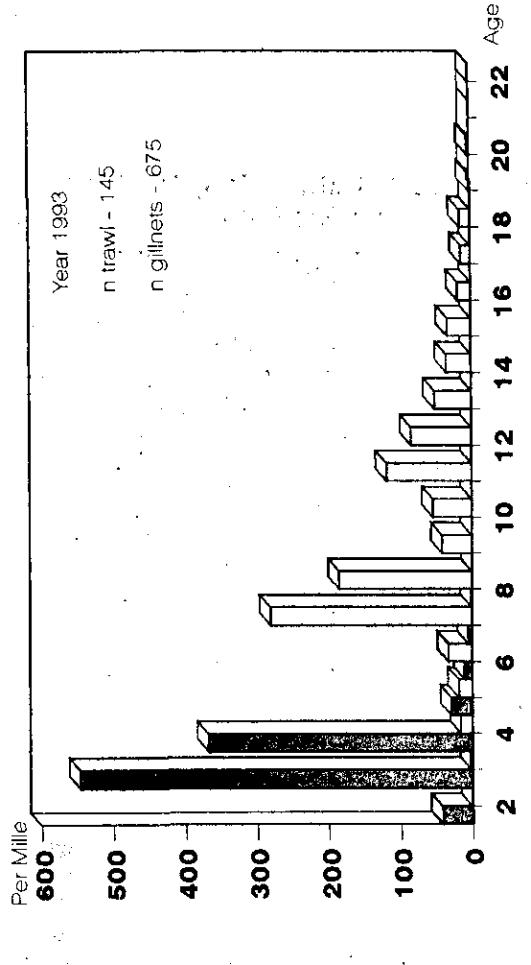


Fig. 3 - Annual age composition of Cod in Division 3M, trawl and gillnet fisheries in 1993.

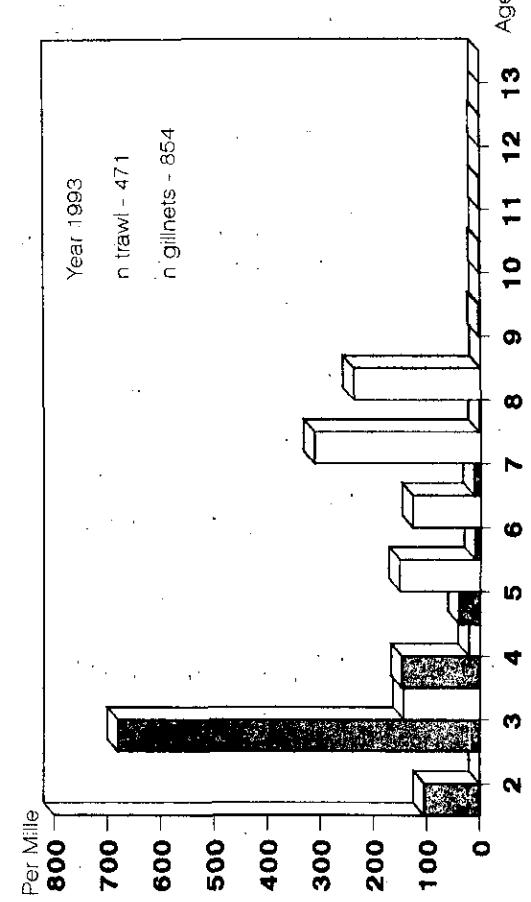


Fig. 4 - Annual age composition of Cod in Division 3NO, trawl and gillnet fisheries in 1993.

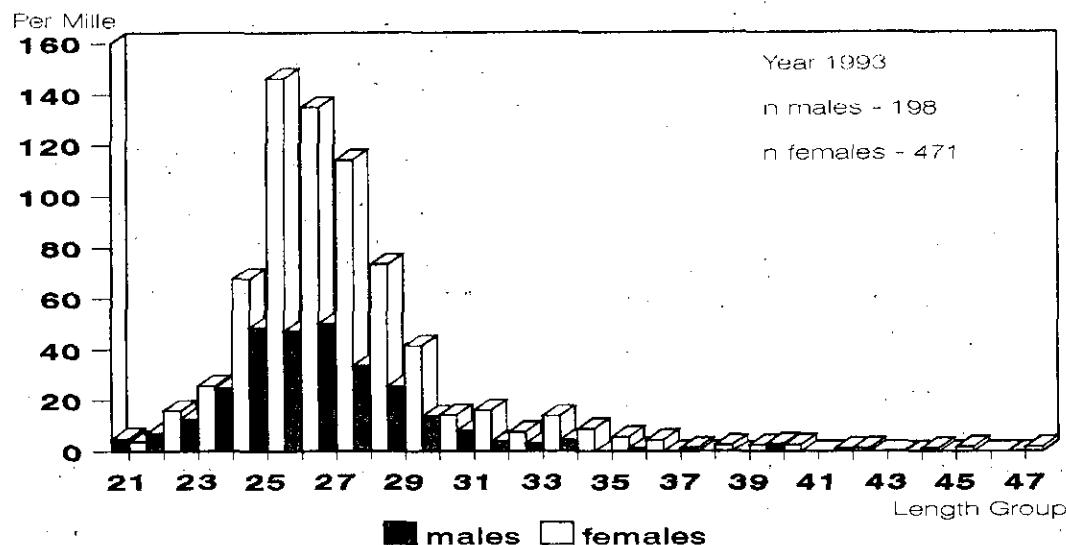


Fig. 5 - Annual length composition of Redfish, *S.mentella* in Division 3L, trawl fishery in 1993.

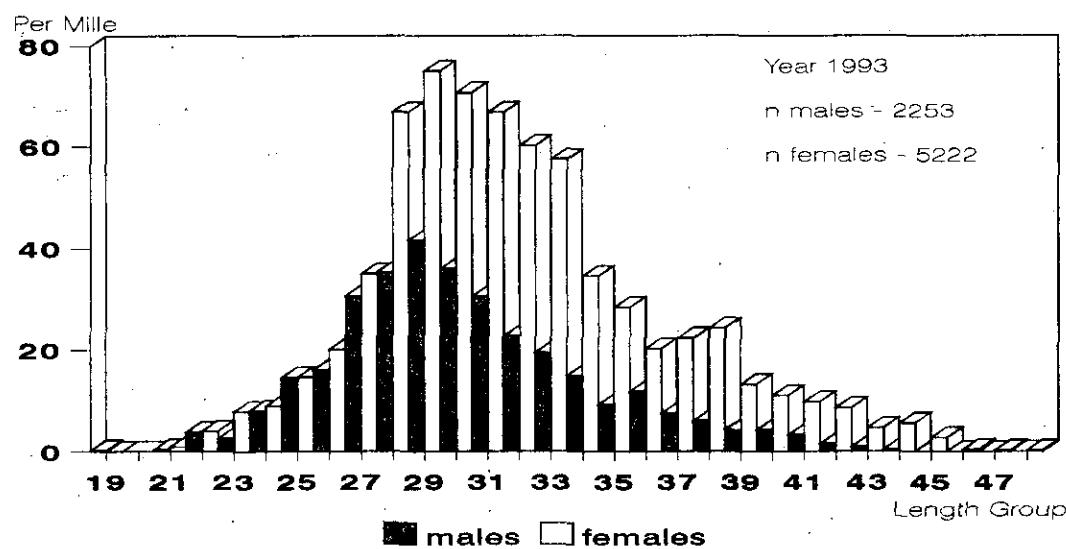


Fig. 6 - Annual length composition of Redfish, *S.mentella* in Division 3N, trawl fishery in 1993.

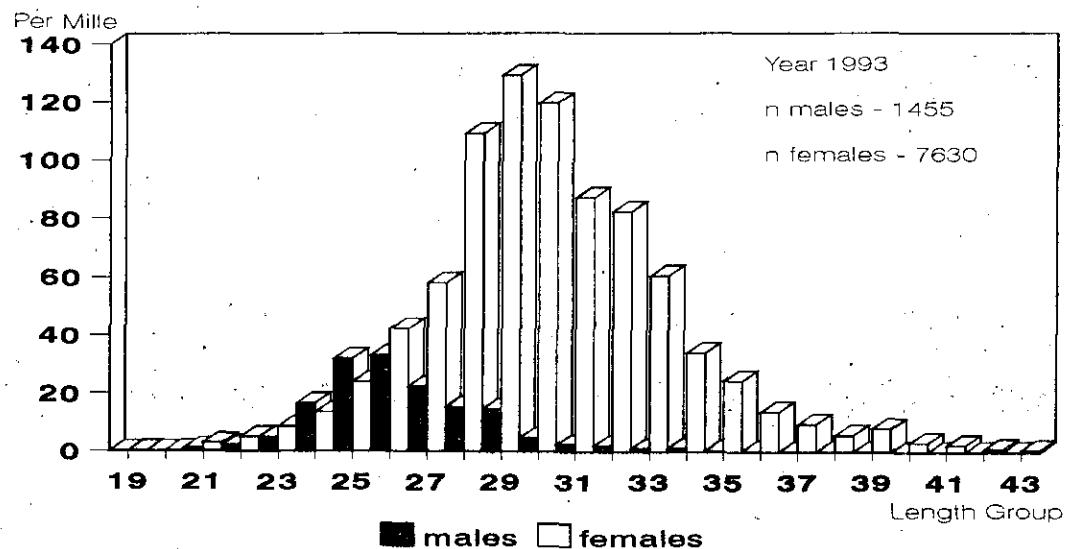


Fig. 7 - Annual length composition of Redfish, *S.mentella* in Division 3O, trawl fishery in 1993.

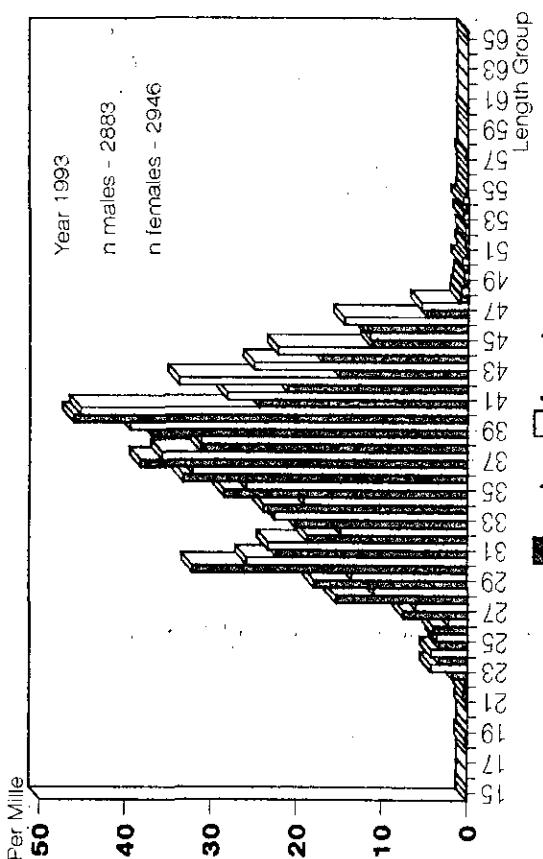


Fig. 8 - Annual length composition of Redfish, *S.mentella* in Division 3M, gillnet fishery in 1993.

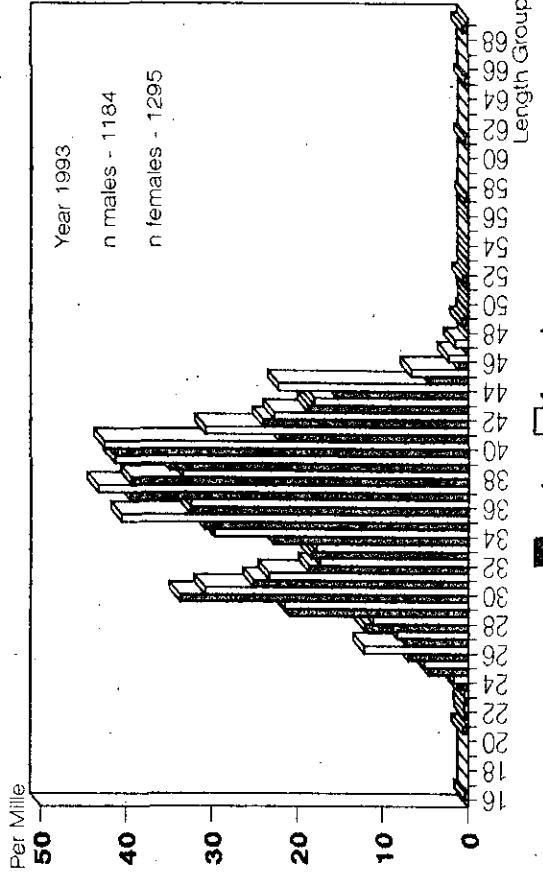


Fig. 9 - Annual length composition of Redfish, *S.marinus* in Division 3M, gillnet fishery in 1993.

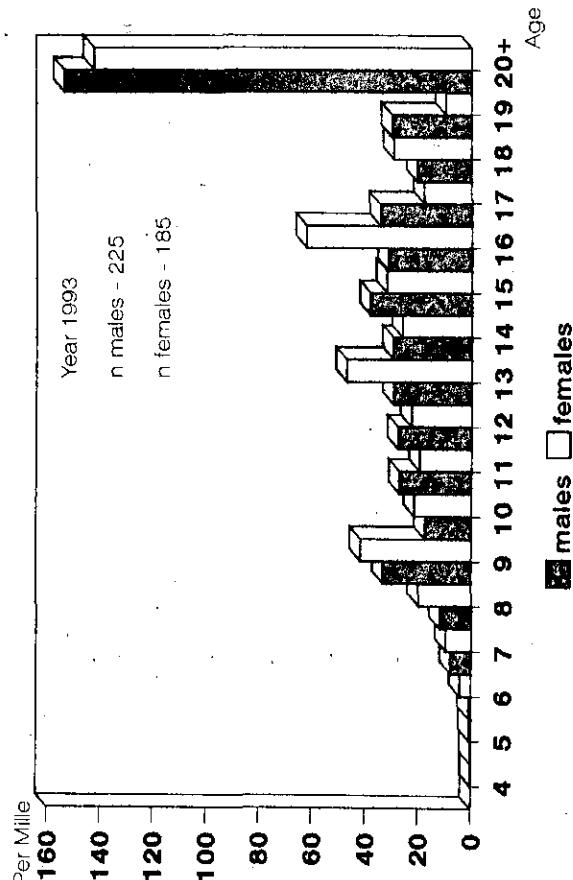


Fig. 10 - Annual age composition of Redfish, *S.mentella* in Division 3M, gillnet fishery in 1993.

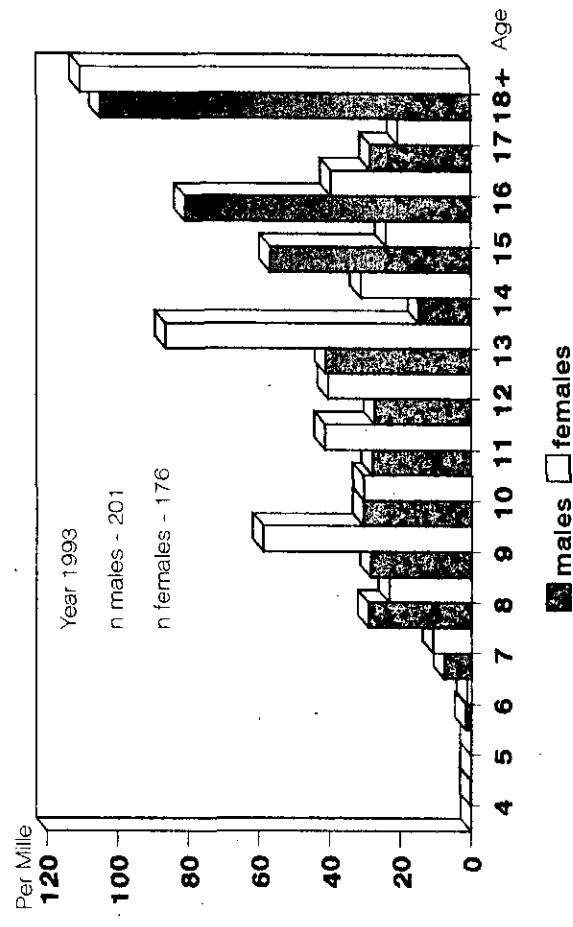


Fig. 11 - Annual age composition of Redfish, *S.marinus* in Division 3M, gillnet fishery in 1993.

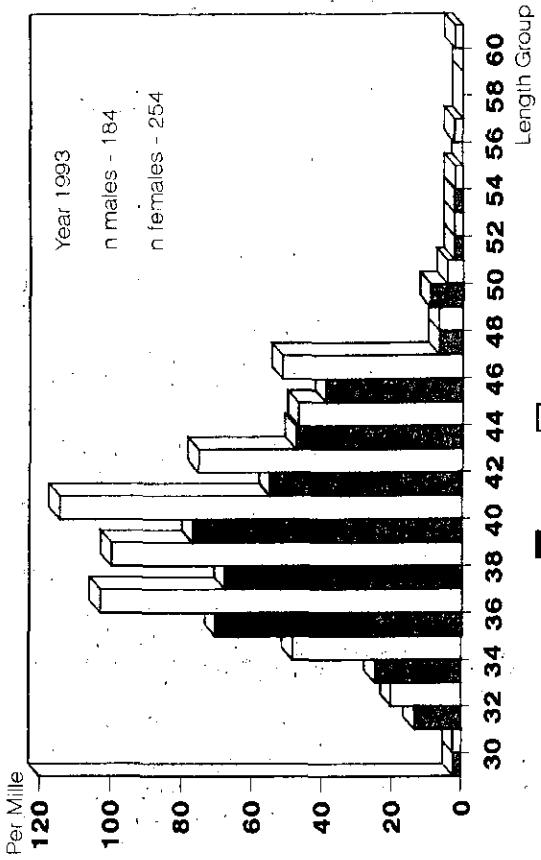


Fig. 12 - Annual length composition of Greenland halibut, in Division 3L, trawl fishery in 1993.

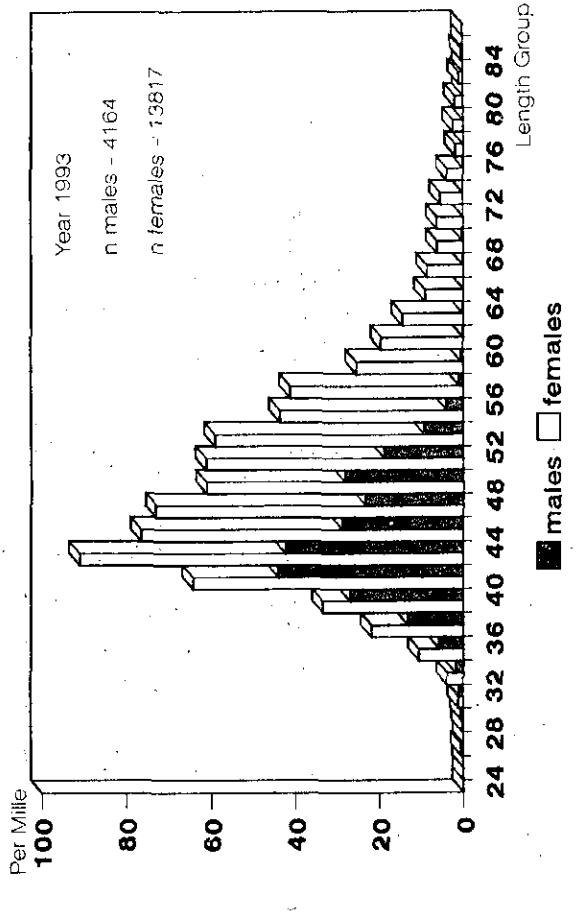


Fig. 13 - Annual length composition of Greenland halibut, in Division 3N, trawl fishery in 1993.

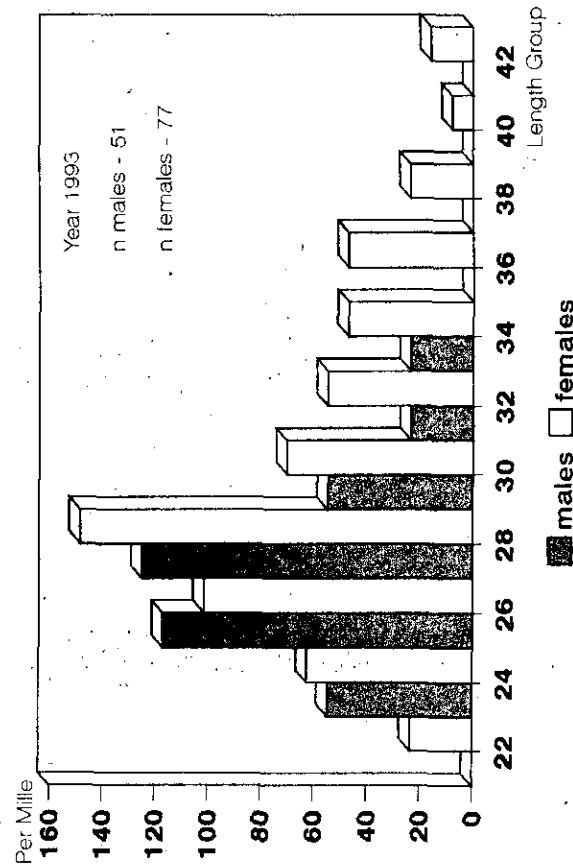


Fig. 14 - Annual length composition of American plaice, in Division 3L, trawl fishery in 1993.

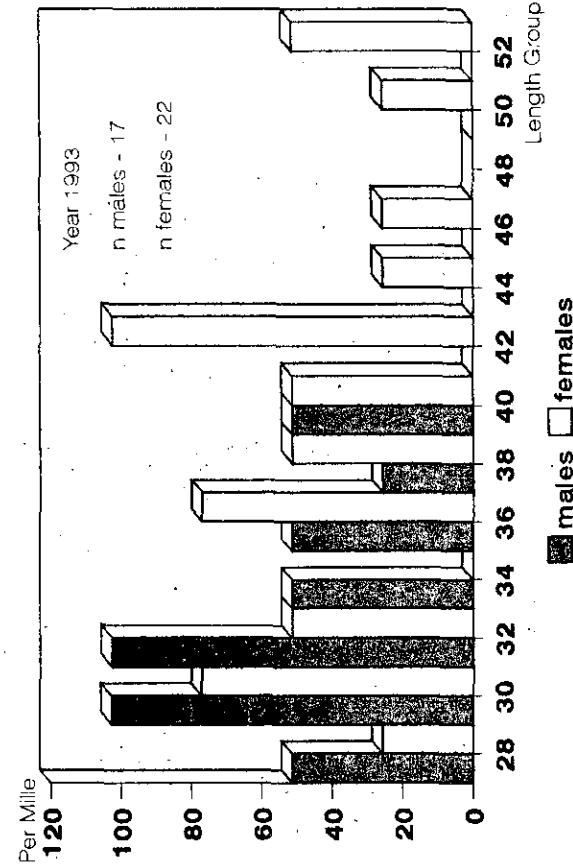


Fig. 15 - Annual length composition of American plaice, in Division 3M, gillnet fishery in 1993.

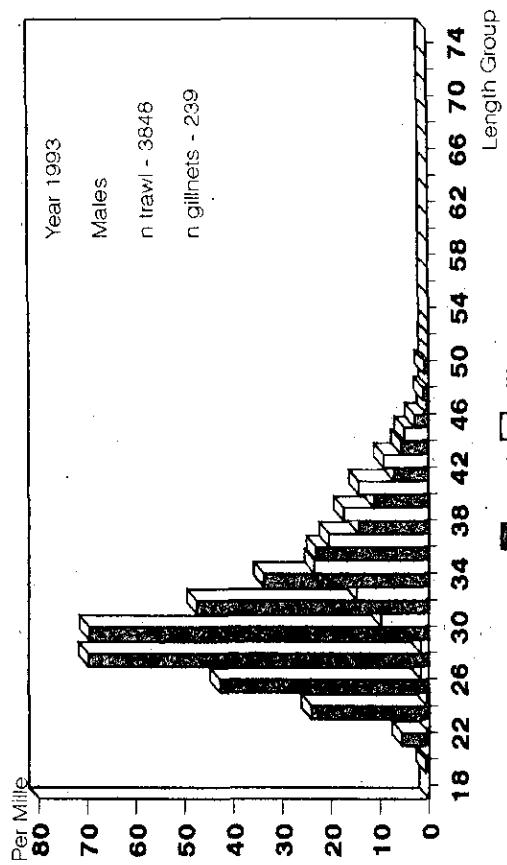


Fig. 16 - Annual length composition of American plaice, (male) in Division 3NO , trawl and gillnet fisheries in 1993.

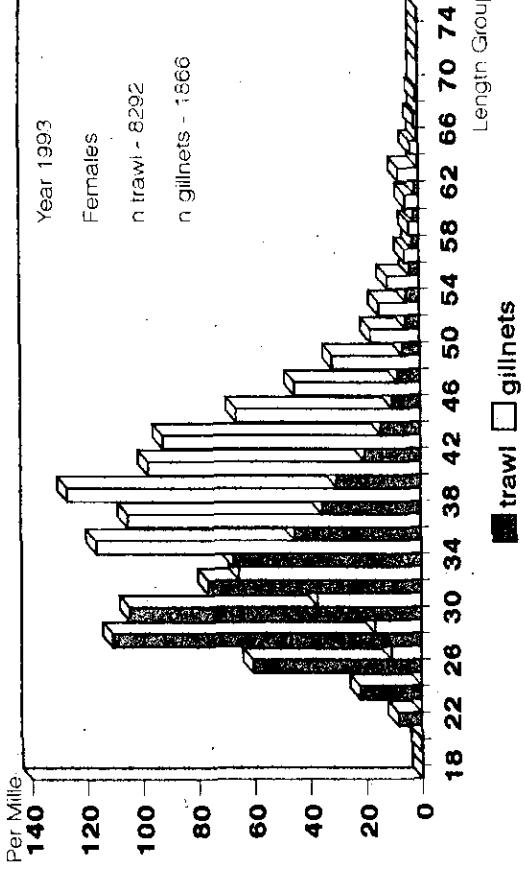


Fig. 17 - Annual length composition of American plaice, (female) in Division 3NO , trawl and gillnet fisheries in 1993.

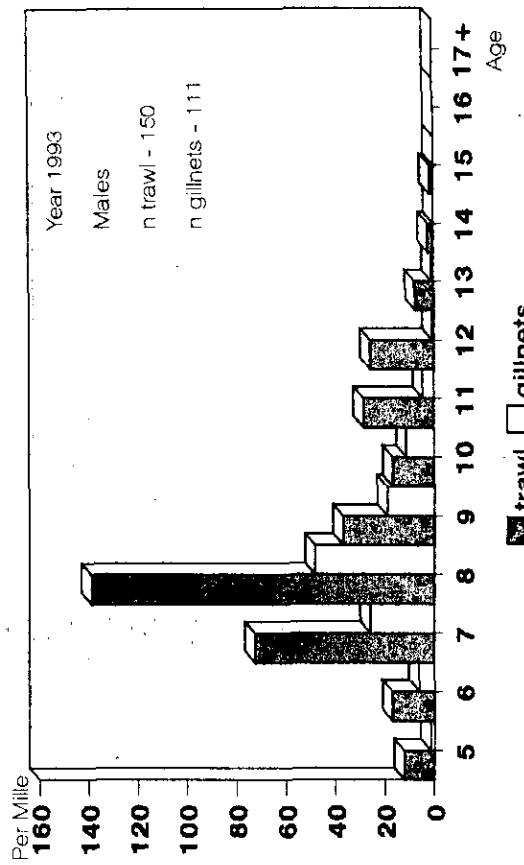


Fig. 18 - Annual age composition of American plaice, (male) in Division 3NO , trawl and gillnet fisheries in 1993.

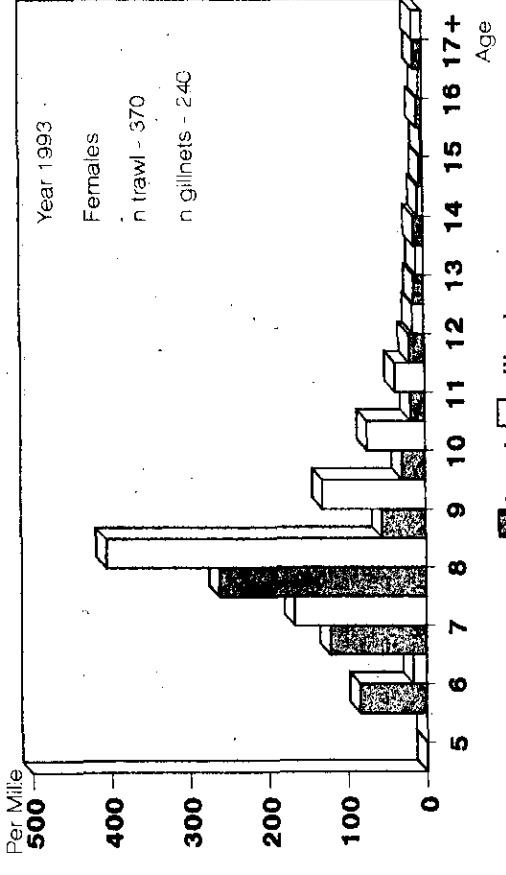


Fig. 19 - Annual age composition of American plaice, (female) in Division 3NO , trawl and gillnet fisheries in 1993.

APPENDIX

COD, divisions 3L, 3M, 3N and 3O

$$\log w = -5.2106 + 3.034 \log l \quad (\text{Hodder, 1964})$$

REDFISH, divisions 3L, 3M, 3N and 3O

$$\begin{array}{ll} 2.9548 & \\ \text{males } w = 0.01659*l & \\ \\ 3.0210 & \\ \text{females } w = 0.01372*l & \text{(Power and Atkinson, 1990)} \end{array}$$

AMERICAN PLAICE, divisions 3L and 3N

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

division 3M

$$\begin{array}{ll} 3.3362 & \\ w = 0.002956*l & \text{(Vazquez, 1993)} \end{array}$$

GREENLAND HALIBUT, divisions 3L and 3N

$$\begin{array}{ll} 3.3454 & \\ w = 0.002184*l & \text{(Bowering and Stansbury, 1984)} \end{array}$$