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By-Catch Species in the Greenland Halibut Spanish
(NAFO Divisions 3LM and 3NO): 1991-1994

by

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ABSTRACT

The specific composition of by-catch was studied: 17 species, their presence calculated by depth strata, month and Division, and variations in monthly yield by division in the Spanish Greenland halibut fishery, developed in the NAFO regulated area for the period 1991-1994.

Two groups of species were identified depending on the importance of their presence in catches: the more and less frequent species. The more frequent species were considered those with a value of above 5 kg/h annual yield, i.e. Skate, Roundnose grenadier and Roughhead grenadier, American plaice, Witch flounder and Redfish. Analyzing the data on a monthly basis, however, reveals the presence of higher values of yield than other species. Some species show a stational pattern, such as Grenadiers, Skate and American plaice, particularly in Division 3N. An other hand, other species have increased yields in recent years.

In this fishery, the characteristic species of the demersal fisheries (Skate, American plaice) showed a wider bathymetric distribution than that considered typical in each case.

The transfer of effort southwards (Divs.3NO) in recent years, mainly in the case of small vessels, has meant variation in the composition and relative abundance of by-catch in this fleet.

INTRODUCTION

The Spanish deep waters fishery started in 1990, as described by Junquera and Iglesias (1992) and Cárdenas et al. (1993). The fleet targeting Greenland halibut since 1992 comprises two types of freezer vessels: large and small.

The deep range in this fishery, from 800 m to 1,500 m., generally avoids catching the traditionally exploited demersal species on the platform, such as Cod, American plaice, Yellowtail flounder, Witch flounder, Redfish, etc., although on occasions, concentrations of some of these species have been found in unusual bottoms (Iglesias, et. al., 1994). Furthermore, other species considered to be bottom living, such as Grenadiers, have been caught in significant proportions (Paz and Iglesias, 1994).

The incidence of fishing activity on species other than the target species is a vitally important issue in fish management (Saila, 1983). Incidental catches and discards may comprise a considerable fraction of the biomass caught, besides being a source of mortality not considered in the evaluations.

By-catch interactions have been and continue to be the most frustrating, difficult and time-consuming problems faced in fisheries management areas throughout the world (Hobson and Lenarz, 1977; Mercer, 1982). Although by-catch has always been an integral part of fishing with non-discriminatory gear, efforts to manage by-catch effectively have intensified (Murawski, 1991; Daan and Sissenwine, 1991). Recently, Alverson et al. (1994) have reviewed the importance and the state of this issue.

This paper describes for the first time the presence by depth strata and division of a group of 17 accompanying species, and their seasonal variations in the period 1991-1994. Analysis is also made of the possible trends in yield for these species throughout the study period.

Further studies and statistical analyses are required to determine the influence of various factors, such as the type of vessel, depth, season, year, position, etc., in the catch of the various species, and the possible associations between the species.

MATERIAL AND METHODS

Analysis of Spanish deep-sea fishery sampling data was made. The data used for the study were derived from a directed sea sampling program initiated by the I.E.O. in 1991 (Junquera and Iglesias, *op.cit.*). This program involved an intense coverage of the two fleets: small and large vessels. Mesh size and target species were the same in both cases.

The main problem in estimating the volume and importance of the by-catch and discards in a deep sea fishery is the difficulty in sampling on board. The fact that some species are not used and are discarded directly may hinder sampling. On other occasions, it is the type of processing which makes it difficult to estimate its importance, e.g. when making fish sausage from two or more species which are processed together (grenadiers and blue antimora).

In our case, the intensity and coverage of sampling was very high. A total of 23,517 hauls were considered on the large vessels, in the period 1991-94, and 9,157 hauls in the small vessels between 1992 and 1994, all performed at depths greater than 800 m. The monthly distribution by division of the hauls sampled in each type of vessels is shown in Tables 1a and 1b, and their distribution by strata, month and division in Table 4.

The species caught in each haul were identified estimating their total weight. Table 2 shows a list of the main fish species.

To estimate the live weight of the processed species, various conversion factors were periodically calculated for each of the species in their different types of processing. For this purpose, 20 different sized individuals were separated out, were weighed prior to and following processing, the conversion factor being calculated as the quotient of both weight values. With the conversion factor values, hauls were estimated based on the weight of each species retained and processed. Table 3 shows the estimated average values and their standard deviation in each type of processing.

When the haul of accompanying species was not large, the total catch of each species was

weighed before being discarded or used. Weight estimate of the hauls of the relatively abundant yet unused accompanying species was less precise. The procedure was as follows: the time taken to be filled, from the discard conveyor belt, one or more boxes of known average weight, then in order to obtain the total discarded weight, this was multiplied by the total operational time of the belt. Furthermore, the proportion of the discarded species, in each box, based on a sample, generally 3 or 4 boxes weighing 40 kg each, and then the total weight of discards was shared out between them. In this manner, an estimate of the weight caught of each species not used in each haul was obtained.

The weights of each species were used to calculate yield (Kg/h) which is the index used.

A depth strata analysis was performed, establishing 8 strata of 100 m in a range between 801 m and over 1,500 m. The presence or absence of each species caught in each stratum per month, division, each year and each fleet were considered.

In the seasonality study, those species with a monthly yield no greater than 5 Kg/h were not considered.

Sampling cod data were not available. This species is not included in the analysis.

RESULTS

Monthly and annual yields of the by catch species in the study period showed a wide range of variation. Two groups of species were distinguished, according to their annual yield: the most abundant with a yield value equal to or greater than 5 kg/h (Figure 1), and the least abundant.

Roundnose grenadier and Roughhead grenadier and Skate were the most important species in both fleets. A marked increase of Skate is apparent in the last two years, with American plaice also increasing in yield in the two fleets last year.

Comparing the yields for the two fleets, some differences appear in the yield species catches composition. Roundnose grenadier was more important in the large vessels and American plaice in the small. Roundnose grenadier is the most important species in the large vessels but its presence decreases in the last year. Witch flounder and Redfish catches were higher in the small vessels.

Presence by month and stratum

The effort pattern was different in both fleets (Tables 4 and 5). In the small vessels, the deep range was minor, in Divs.3LM, only to 1,300 m, and effort was more intensive and deeper in Divs.3NO.

Tables 6 to 22 show the presences by stratum of each species, by month and division throughout the study period, and the range covered by the hauls in each month and stratum is shaded for both fleets.

In the large vessels, Roughhead grenadier, a typically bottom living species, reached the maximum range (>1,500 m), except in Divisions 3L in 1991. Also in the small vessels, this species appeared in all months and strata except one (Table 6). This distribution corresponds with its characterization as deep water species (Scott and Scott, 1988).

Roundnose grenadier made no appearance in the last stratum in 1993 and 1994 in Divs.3LM. Conversely, in Divisions 3NO, its appearance range increased in the same years (Table

7). This species appeared less frequently and more southern distribution than Roughhead grenadier in both fleets.

Common grenadier is a benthic species, it has been caught as deep as 2285m (Scott and Scott, 1998). In our data the depth range of common grenadier hauls increased over the years, but in no clearly marked manner, and only in 37% of cases (months) did it reach the last stratum. In the small vessels, its presence decreased in Div.3NO in 1994, despite the intensity of the sampling (Table 8).

Blue antimora is a benthopelagic species, living close the bottom (1600m) (Werner and Musik, 1997). In an experimental longline fishing, it has been taken as deep as 2377m (Scott and Scott, 1988). Appears to decrease its presence and depth range over the study period in both fleets, mainly in 1994 in Divs.3NO (Table 9).

Witch flounder is an offshore, moderately deep water species, and have caught as deep as 1570m. It is often associated with deep holes and channels between banks (Scott and Scott, 1988). This species is more abundant in Divisions 3LN (Bowering et al., 1995). In Spanish deep water fishery reached greater depths in Div.3L than in 3M, where only the one year class reaches 1,500 metres. In both divisions, the species predominated in the first six months. Further south, its presence and depth range increased over the study period, and its presence was more regular over the year. A similar pattern emerged in the small vessels in Divs.3NO (Table 10).

Skate (Thorny skate mainly). Thorny skate is a benthic species, from coastal waters to about 1000m (Stehman and Bürkel, 1986), after Scott and Scott living at depths of about 18-996m. In this fishery skate reached maximum depth (>1500m) in 50% of cases. In Divs.3NO, its presence and depth increased year by year. In hauls from small vessels, the depth range was broader towards the south (Divs.3NO).

American plaice appeared, almost exclusively, in the first six months in Div.3M in both fleets. In Div.3L, a trend to increase depth was noted, particularly in winter. In Divs.3NO, its presence and depth also increased in 1994 in both fleets. The deep range reported in this paper (until 1500m) is very more large than the habitual range noted in the literature, being the maximum 713m (Scott and Scott, 1988), although recently has been found in continental slope as deep as 1400m in winter (Bowering, 1995).

Clear differences between fleets appear in the distribution of redfish. In the large vessels, redfish appears to be more present to the north (3L) than to the south (3NO). In general terms, its presence was greater in winter and only in Divs.3NO did it appear in the deeper stratum, although it reached 1,500 m in all divisions. In the small vessels, its presence was greater in the first six months to the north (Divs.3LM). No clear seasonal or bathymetric pattern appears in the 3NO divisions. Recently has been found in deep waters (1653m) in div 3L (Bowering, 1995), but generally occurs at depths 350-1100m (Scott and Scott, 1988).

Wolffishes. *Anarhichas lupus* occurs at depths of 101-350m in Newfoundland area and *Anarhichas minor* inhabits deep waters of 475 or more, although has been found at 600 m (Scott and Scott, 1988). Wolffishes appeared in the last stratum in Divisions 3L and 3NO. The species was hardly caught in September and October in Div.3M in 1992 and 1993 in the large vessels. In the small vessels, its absence was noted in November and December in Divs.3NO, particularly in the deeper strata.

Eelpouts are benthic species and occurs in litoral zones to considerable depths (Andrishev, 1986). The range of presence of eelpout was very restricted. In Divs.3M, it was less in the last two years. The species only reached 1,500 m on once occasion. Its presence decreased in 1994 in both fleets.

The presence of Atlantic halibut was scarce, this being mainly in Divs.3LM, only on a few occasions venturing below 1,200 m. To the south (3NO), its presence increased in 1993 and 1994. Similar patterns show their catches in two fleets.

Spiny eel appeared at a greater depth in the first six months in Div.3L and, more frequently, in Div.3M. Its maximum depth seems to be approximately 1,300 metres. This corresponds with its benthic habitat in deep water of 125-2500 m (Sulak, 1986). In small vessels, their presence decreased in 1994 for all divisions. In this fleet, presence was smaller in general.

Black dogfish is a deep water shark occurring on or off bottom at depths from 275 to 1600 m (Scott and Scott, 1988). Appeared on more occasions in the first six months in Div.3M and in Divs.3NO. In general, its presence increased over the study period in the large vessels. Its presence in Divs.3LM was less in the small vessels.

Boreal shark is a deepwater species occurring to depths at least 1300m, benthic to pelagic (McEachran and Brangletter, 1986). Appeared on fewer occasions and in a lesser depth range, its presence was greater to the north (3LM) in the large vessels, and less in the small vessels.

Rockling (*Gaidropsarus ensis*) is an offshore deepwater species occurring to depths of 400-1600m (Svetovidov, 1986). Reached its greatest depth in Div.3L. And the least in 3M. The species was only caught three times at depths of over 1,500 m in both fleets. In the small vessels, its presence was greater in 1993 in all divisions, almost disappearing in 1994. Clear differences appear between both fleets.

Chimaera. Pelagic to benthopelagic in the upper continental slope area, occasionally to 1000m (Stehmann and Bürkle, 1986). Chimeara had an irregular presence, being the least caught species in the shallower stratum. In general terms, it begins to be present in hauls in the 1001-1100 m hauls.

White hake appeared more in the north zone (3LM) and seldom at depths of over 1,300 m. It is more present in hauls from the large vessels. In the south, it was not abundant in the two fleets. It is a demersal continental-shelf and upper continental-slope species occurring of 200-1000m (Scott and Scott, 1988).

Generally, almost all the species were caught within a very wide range, reaching enormous depths (1,500 m). The species typical of the demersal fisheries (American plaice, wolffish, skate, ...) appeared outside the limits considered as typical in each case. No clear differences are shown between the appearance range of the species considered to be typical of the bottom and those typically demersal.

Some species appeared on more occasions in the north (Divs.3LM), such as White hake, eelpout. Others were more abundant in the south (Divs.3NO), such as black dogfish, chimaera, witch flounder.

Considering only its presence in the haul, no on-going seasonal behaviour was detected in the hauls over the years.

Yield variations in the period

Figures 2 and 8 show monthly yield, by division, throughout the period of the species considered in the two types of vessels. This makes it possible to observe the possible seasonal fluctuations of accessibility for each species in each division.

Roughhead grenadier shows maximum yield in May-June, 1993, in both fleets, and in Division 3N. In the small vessels, a maximum also appeared in the same months in 1994. Roundnose grenadier reaches a maximum in the same season, but in Division 3M in the large vessels it attained a high yield (Figure 2). Skate has its maximum at the close of spring (April-June), and American plaice in March. Both species reached their maximum yields in 1993 and 1994 in Div.3N (Figure 3). In these four species, the large vessels obtained absolute maximum yields.

The maximum yield for redfish occurred in winter in Divisions 3LM, in the large vessels (Figure 4). Wolffish was caught more in winter, in Division 3N, in both fleets (Figure 4). In the small vessels, the maximum corresponded to Div.3M. In previous years large quantities of Wolffishes were caught in August-September. A weak shift occurs in Newfoundland area to deeper waters in autumn. Mature wolffish migration inshore during spring (Templeman, 1986).

Witch flounder reached maximum yields in spring, in Division 3N, in both fleets. Maxima for white hake occurred in September in Divisions 3LM (Figure 5).

Blue antimora had two peaks: large vessels in 3M in 1994, and small vessels in 3O in 1993, both in November (Figure 6). Eel pout maximum yield occurs in spring. For the large vessels in Division 3L and for the small vessels in Division 3M (Figure 6).

Sharks were more abundant in the catches of the small vessels (Figure 7). The maximum yield occurs in Divisions 3NO for the two shark species.

Halibut yield was very small. Maximum 8 kg/h in Division 3N in 1994 (Figure 8).

Conclusions

At depths of between 800 and 1,500 m, by-catch basically comprised two deep living species (grenadiers and skate). Only 6 species were over 5 kg/h annually: Skate and Roundnose and Roughhead grenadier, American plaice, Witch flounder and Redfish.

American plaice was the only demersal species, characteristic of the platform, which increased its yield significantly in both fleets in the last year. This may indicate a change in the distribution of this species. Redfish also increased its yield, particularly in the small vessels.

Witch flounder and Black dogfish have risen to 5 kg/h in recent years and only in small vessels, the development of catch throughout this period being highly variable.

The differences in composition of the hauls from both fleets may, at least partially, be explained by the difference in effort made by each of these in each division. So, the small vessels intensified their activity on the deep stratum of Divisions 3NO, to the south, in the last year.

A degree of seasonality is observed. In spring, the yield of the more important species

increases, particularly in Divisions 3NO, except in the case of grenadiers which are more abundant in autumn.

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Table 1.- Monthly distribution by Division and year of the sampled hauls. Spanish deep sea fishery. A: Large vessels 1991-94; B: Small vessels 1992-94.

Month	DIV. 3L				DIV. 3M				DIV. 3N0				TOTAL			
	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994	1991	1992	1993	1994
Jan	62	178	256	137	24	231	23	71				1	86	409	279	209
Feb	6	468	382	197	15	752	61	202				24	21	1220	443	423
Mar		463	334	52		1021	200	283	3	23	163		1487	557	498	
Apr		1006	269	121		498	190	182			28	200	1504	487	503	
May		1398	205	191		370	54	163			78	239	1768	337	593	
Jun		799	98	110		299	54	112			15	164	1098	167	386	
Jul	81	286	2	65	324	79		30		9	149	75	405	374	151	170
Aug	477	320	78	137	695	114	21	30		190	348	97	1172	624	447	259
Sep	432	285	139	118	709	30	22	39	2	129	121	95	1143	444	282	254
Oct	415	201	71	159	763	14	39	70	17	73	129	105	1195	288	239	334
Nov	322	246	191	268	826	24	2	29	1	12	147	53	1149	282	340	350
Dec	229	148	214	230	230	19	17	2			51		459	167	282	232
Total	2024	5798	2239	1785	3586	3451	683	1213	20	416	1089	1213	5630	9665	4011	4211
Total 3L :		11846		Total 3M :		8933		Total 3N0 :		2738		Total hauls :		23517		
Total sampled hauls:		23517		Total towed hours:		124032		Mean tow time :		5h 16 min						

A

Month	DIV. 3L			DIV. 3M			DIV. 3N0			TOTAL						
	1992	1993	1994	1992	1993	1994	1992	1993	1994	1992	1993	1994				
Jan	49	78	33	14	19	32				63	97	65				
Feb	10	339	8	14	108	4			2	119	24	449				
Mar		414	16		201	13			83	165	698	194				
Apr		325	12		179	7			309	185	813	204				
May		473	7		58	4			240	185	771	196				
Jun		249	33		44	8			252	72	545	113				
Jul	100	146	7	40	26	1			342	2	140	514				
Aug	113	178	20	35	4	1			44	272	90	192				
Sep	139	179	31	22	1	6			282	213	117	443				
Oct	60	59		17					320	406	150	397				
Nov	10	1		6	3	6			250	436	192	266				
Dec	98	89	10	26	24				11	115	94	135				
Total	579	2530	177	174	667	82			907	2670	1371	1660				
Total 3L:		3286		Total 3M:		923		Total 3N0:		4948		Total hauls:		9157		
Total sampled hauls:		9157		Total towed hours:		44703		Mean tow time :		4h 53min						

B

Table 2.- Main fishes species caught in Spanish deep sea fishery in NAFO Regulatory Area. Years 1991 to 1994.

FAMILIES	SCIENTIFIC NAME	COMMON NAME
Anarhichidae	<i>Anarhichas sp</i>	Wolffish
Chimaeridae	<i>Chimaera sp</i>	Chimera
Escorpenidae	<i>Sebastes sp</i>	Redfish
Gadidae	<i>Gaidropsarus ensis</i> <i>Urophycis sp</i>	Rockling White hake
Macrouridae	<i>Coryphaenoides rupestris</i> <i>Macrourus berglax</i> <i>Nezumia bairdi</i>	Roundnose grenadier Roughhead grenadier Common grenadier
Moridae	<i>Antimora rostrata</i>	Blue antimora
Notacanthidae	<i>Notacanthus nasus</i>	Spiny eel
Pleuronectidae	<i>Glyptocephalus cynoglossus</i> <i>Hippoglossoides platessoides</i> <i>Hippoglossus hippoglossus</i>	Witch flounder American plaice Atlantic halibut
Rajidae	<i>Raja sp</i>	Skate
Squalidae	<i>Centroscyllium fabricii</i> <i>Somniosus microcephalus</i>	Black dogfish Boreal shark
Zoarcidae	<i>Lycodes sp</i>	Eelpout

Table 3.- Average values of the conversion factors for the various types of dressing stimated on board.
n: number of estimations.

SPECIES	DRESSING TYPES					
	A	B	C	D	E	F
<i>Anarhichas sp</i>	1.61 ± 0.13 n = 6			3.43 ± 0.38 n = 6		
<i>Sebastes sp</i>			1.96 ± 0.10 n = 24			
<i>Gaidropsarus ensis</i>	1.55 ± 0.11 n = 5					
<i>Urophycis sp</i>	1.66 ± 0.04 n = 4		1.39 ± 0.05 n = 3			
<i>Coryphaenoides rupestris</i>					3.14 ± 0.15 n = 7	
<i>Macrourus berglax</i>					3.7 ± 0.52 n = 34	
<i>Antimora rostrata</i>					2.98 ± 0.54 n = 9	
<i>Glyptocephalus cynoglossus</i>	1.39 ± 1.10 n = 24	1.43 ± 0.15 n = 19	1.31 ± 0.04 n = 6			
<i>Hippoglossoides platessoides</i>	1.4 ± 0.07 n = 36	1.53 ± 0.08 n = 22				
<i>Raja sp</i>						3.59 ± 0.42 n = 24

CODES OF DRESSING TYPES:

A: Head off, gutted, tail off, unskinned; B: Head off, gutted, tail off, skinned; C: Head off, gutted, with tail, unskinned;
D: Fillet by hand, skinned; E: Fish sausage; F: Wings, skinned.

Table 4.- Hauls sampled in the large vessels: 1991-1994. Number by stratum, month, year and Division.

Depth (m)	Year 1991												Year 1992											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900						9	176	107	13	43	30		103	126	188	223	250	188	124	92	109	45	42	62
901-1000						14	70	45	760	63	48		34	85	111	172	224	131	73	77	31	35	65	22
1001-1100						45	128	133	180	131	64		62	143	112	249	337	189	62	86	54	74	70	18
1101-1200						13	102	107	129	87	26		27	60	108	141	234	119	27	39	136	27	38	10
1201-1300						83	37	22	34	35			18	27	40	161	234	148	8	16	62	20	30	88
1301-1400						1	7	2	4	3	20		4	10	7	39	76	29	2	2	3			
1401-1500																	17	33	6					
> 1501																1	3	10	1					

Depth (m)	Year 1993												Year 1994											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	59	88	41	43	27	37	39	108	41	35	83		38	16	16	22	61	37	31	73	75	63	81	100
901-1000	45	70	63	55	24	14	27	19	13	38	32		43	48	10	14	27	24	41	38	28	18	39	60
1001-1100	67	89	50	58	64	18	12	8	15	37	34		43	44	49	25	29	23	10	19	13	23	52	48
1101-1200	50	53	78	89	52	17	2	2	2	31	24		6	31	9	30	33	16	9	5	2	2	7	21
1201-1300	18	47	44	38	38	12				17	23		4	28	37	24	37	20	4	2	3	31	38	7
1301-1400	17	41	28	6						1	8		2	2	20	11	6	11	2			1	8	8
1401-1500																	1	1						
> 1501																	2							

Depth (m)	Year 1991												Year 1992											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900						4	3	14	8	4	23	42		8	4	2	6	4	1	2	1		4	7
901-1000						12	85	150	8	6	9		18	89	89	138	48	35	16	21	1	1	7	
1001-1100						69	149	155	108	64	24		110	214	248	122	88	69	36	62	4	2	8	6
1101-1200						181	348	310	316	301	88		110	316	386	214	118	114	20	38	13	4	5	5
1201-1300						47	95	110	182	208	61		141	121	187	78	64	63	6	1	8	2	1	
1301-1400						1	27	43	83	174	32		2	17	45	35	38	33		9	4			
1401-1500						7	130	62	41	10			7	24	111	9	11							
> 1501						2	22	22	9	5														

Depth (m)	Year 1993												Year 1994											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	11	10	16				27	64	12				24	3	3	2	1	1		3	2	14	1	
901-1000	10	17	13	39	1	9	8	9	6	1	1		15	20	30	32	14	6	17	8	11	7	12	
1001-1100	9	20	81	72	3	5	6	7	6		9		22	72	64	75	81	31	8	13	14	14	11	
1101-1200	3	21	72	54	16	22	3	3	3	14	13	7	21	85	127	80	38	44	9	4	8	18	8	
1201-1300	3	21	4	15	18								6	20	47	14	38	27	6	1	4	2	1	
1301-1400			3	5	16	8							2	2	14	8	10	3						
1401-1500						3											1	1						
> 1501																								

Depth (m)	Year 1991												Year 1992											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900									19	2							2	64	62	13	2			
901-1000									9	9							4	70	32	20	2			
1001-1100									11	3	1						1	39	28	27	14			
1101-1200									2	2								1	12	12	16	8	3	
1201-1300																			5	1				
1301-1400																								
1401-1500																								
> 1501																								

Depth (m)	Year 1993												Year 1994											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	3	5	4	4	146	125	63	57	30	2			5	43	65	34	68	13	31	78	55	17		
901-1000	19	14	25	17	39	132	26	28	45	3			1	8	144	30	28	41	12	33	20	19	8	
1001-1100	10	7	22	2	31	747	25	19	29	5			3	39	38	35	23	21	20	3	9	11		
1101-1200	1	1	12	27	1	17	41	9	17	24	10		3	19	34	48	18	19	8	3	6	11		
1201-1300													2	11	30	56	13	9	13	11	8	14		
1301-1400															1	32	2	1			3	2		
1401-1500																								
> 1501																								

Division 3L

Division 3M

Division 3NO

Table 5.- Hauls sampled in the small vessels : 1992-1994. Number by stratum, month , year and Division.

Depth (m)	Months													
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
801-900									15	25	67	22	5	72
901-1000									48	25	39	10		17
1001-1100									34	30	8	10	34	44
1101-1200									5	30	23	18	3	11
1201-1300									33	19	22	33	4	
1301-1400														
1401-1500														
> 1501														

Depth (m)	Months													
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
801-900	58	109	135	55	101	47	22	34	17					38
901-1000	39	126	121	84	113	63	46	60	54	14				28
1001-1100	19	87	123	81	105	82	65	73	60	33				17
1101-1200	13	25	29	84	87	44	13	9	38	7	21	3		
1201-1300		2	6	41	67	13	10	2	9	6				1
1301-1400														
1401-1500														
> 1501														

Year 1993

Division 3L

Depth (m)	Months													
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
801-900									8	11	6	3		14
901-1000									7	11	20	4		20
1001-1100									15	11	15	24	2	24
1101-1200									13	22	58	7	4	
1201-1300														
1301-1400														
1401-1500														
> 1501														

Year 1992

Year 1994

Depth (m)	Months												
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
801-900	4	5	24	26	10	2	3	17					11
901-1000	15	38	64	38	13	10	6	1					7
1001-1100	9	48	78	68	20	18	6	3					3
1101-1200	4	25	44	47	15	16	11						3
1201-1300	1	2	13										
1301-1400													4
1401-1500													
> 1501													

Year 1993

Division 3M

Depth (m)	Months												
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
801-900									28	70	87	162	22
901-1000									77	118	101	82	55
1001-1100									9	61	190	94	45
1101-1200										128	68	39	
1201-1300										6	19	5	
1301-1400													
1401-1500													
> 1501													

Year 1992

Year 1994

Depth (m)	Months												
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
801-900			16	74	29	91	88	48	43	69	48	3	
901-1000			39	131	100	81	113	81	48	89	47	2	
1001-1100			2	20	62	79	63	70	82	47	89	61	13
1101-1200				30	29	30	49	57	46	83	91	38	
1201-1300				10	33	6	11	24	24	70	182	42	
1301-1400				1		1		2	8	16	29	18	
1401-1500				1									
> 1501													

Year 1993

Division 3NO

Depth (m)	Months													
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
801-900			7	27	17	13	12		16	26	67	7	23	
901-1000			32	37	38	38	27		18	38	28	19	27	
1001-1100			39	13	51	38	13	22	16	20	22	38	10	
1101-1200				21	38	30	33	8		9	22	18	50	18
1201-1300				12	32	30	33	4		16	8	23	41	13
1301-1400				6	16	20	20	1		19	15	22	27	10
1401-1500				3	1	1	1	10	7					
> 1501										1	2	17	3	

Year 1992

Year 1994

Table 6.- Presence of roughhead grenadier in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900							LM	LM	LM	LM	LM	L
901-1000							LM	LM	LM	LM	LM	LM
1001-1100							LM	LM	LM	LM	LMO	LM
1101-1200							LM	LM	LM	LM	LM	LM
1201-1300							LM	LM	LM	LM	LM	LM
1301-1400							LM	M	M	LM	LM	LM
1401-1500								M	M	M	LM	
> 1501										LM	LM	M

Year 1991

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	LM	LM	LMO	LM	LM	LM	LMO	LMO	LMO	LO	LMO	LM
901-1000	LM	LM	LMO	LM	LM	LM	LMO	LMO	LO	LMO	LMO	LM
1001-1100	LM	LM	LMO	LM	LM	LM	LMO	LMO	LMO	LMO	LMO	LM
1101-1200	LM	LM	LMO	LM	LM	LM	LMO	LMO	LMO	LMO	LMO	LM
1201-1300	LM	LM	LM	LM	LM	LM	LM	LMO	LMO	LM	L	LM
1301-1400	LM	LM	LM	LM	LM	LM	L			LM	MO	
1401-1500	M	M	LM	LM	M					MO		
> 1501	M	L	LM	L	LM	L				O	O	

Year 1992

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	LM	L	LMO	LMO	LO	LO	O	LMO	LMO	LMO	LO	LO
901-1000	LM	LM	LMO	LMO	LO	LMO	O	LMO	LMO	LMO	LMO	LMO
1001-1100	LM	LM	LMO	LMO	LMO	LMO	O	LMO	LMO	LMO	LO	LMO
1101-1200	LM	LM	LMO	LMO	LMO	LMO	LO	MO	LMO	LMO	LMO	LMO
1201-1300	L	LM	LM	LM	LM	LMO	O	MO	O	LMO	LO	LO
1301-1400	L	L	LM	LM	M	M	O	O	O	O	LO	LO
1401-1500		L	L					O	O	L	M	O
> 1501		L	L					O				O

Year 1993

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	LM	LO	LMO	LMO	LMO	LMO	LO	LMO	LMO	LMO	LMO	L
901-1000	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LM
1001-1100	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	L
1101-1200	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	MO	LMO	LMO	L
1201-1300	LM	LMO	LMO	LMO	LMO	LMO	LMO	LO	LMO	LMO	LMO	L
1301-1400	L	LM	LMO	LMO	LMO	LMO	O				LMO	LO
1401-1500	L	L	O	MO	LMO	LO					M	LM
> 1501		L		O	O	O				O		

Year 1994

LARGE VESSELS

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900							LM	LMO	LMO	LMO	LO	LMO
901-1000							LM	LMO	LMO	LMO	O	LMO
1001-1100							LM	LMO	LMO	LMO	LMO	LMO
1101-1200							LM	LM	LMO	LMO	LMO	L
1201-1300									L	LMO	LO	L
1301-1400												
1401-1500												
> 1501												

Year 1992

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	L	LM	LMO	LMO	LMO	LO	LMO	LO	LMO	O	MO	LMO
901-1000	LM	LM	LMO	LMO	LMO	LMO	LMO	LO	LO	O	LMO	
1001-1100	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LO	LO	MO	LMO
1101-1200	LM	LM	LMO	LMO	LMO	LMO	LMO	LO	LO	LO	LO	LMO
1201-1300		L	LM	LO	LO	LO	LMO	LO	LO	LO	O	O
1301-1400							O	O	O	O	MO	O
1401-1500										O	O	O
> 1501										O	O	O

Year 1993

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	LM	O	MO	O	O	LO		LMO	LO	O	O	LO
901-1000	LM	O	O	LMO	O	LMO	L	LO	LMO	O	MO	LO
1001-1100	LM	LMO	LMO	LMO	LO	LMO	MO	LO	LMO	O	MO	LO
1101-1200	M	LMO	LMO	LO	LO	LMO	L	LO	LMO	O	MO	LO
1201-1300		LO	O	O	LMO	LMO		LO	O	O	O	LO
1301-1400		O	O	O	MO	O		O	O	O	O	O
1401-1500		O	O	O	O	O						O
> 1501		O	O	O	L					O	O	O

Year 1994

SMALL VESSELS

Table 7.- Presence of roundnose grenadier in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900							LM	L	LM	L	L	L	L	LM	LMO	L	LM	LM	LO	LM	LMO	L	LM	LM
901-1000							LM	LM	LM	LM	LM	LM	LM	LM	LMO	LM	LM	LM	LM	LM	LO	LMO	LM	L
1001-1100							LM	LM	LM	LM	LM	LM	LM	LM	LMO	LM	LM	LM	LM	LM	LMO	LMO	LMO	LM
1101-1200							LM	LM	LM	LM	LM	LM	LM	LM	LMO	LM	LM	LM	LM	LM	LM	LMO	LMO	LM
1201-1300							M	M	M	M	M	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	L	LM
1301-1400							M	M	M	M	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	L	LM
1401-1500										M	M	M	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	L	LM
> 1501										L	M	M	LM	M	L	M	L	LM	L					

Year 1991

Year 1992

Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900	L	L	M	L			O	LMO	LMO	LMO	LO	LO	LM	LM	LO	LMO	LO	LO	LMO	LMO	LMO	LMO	L	
901-1000		LM	LM	LM			MO	O	LMO	LMO	LMO	LMO	LO	LM	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	L
1001-1100	L	LM	LM	LM	LM	LMO	O	LMO	LMO	LMO	LO	LMO	LM	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	L	
1101-1200	M	LM	LM	LM	LMO	LMO	O	MO	O	LMO	LO	LO	LM	LM	LMO	LMO	LMO	LMO	LMO	LMO	LM	LMO	LMO	L
1201-1300	L	L	LM	LM	M	M	O	O	LO	O	LO	O	M	M	MO	LMO	LMO	LMO	O			LMO	LO	L
1301-1400					M		O	O	L	M	O	O	M	L	O	MO	LMO	LO				M	LM	
1401-1500																								
> 1501																								

Year 1993

Year 1994

LARGE VESSELS

Depth (m)	Months														
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII			
801-900										LM	LMO	LMO	LMO	LO	LO
901-1000										LM	LMO	LMO	LMO	O	LMO
1001-1100										LM	LMO	LMO	LMO	LMO	LMO
1101-1200										LM	LM	LMO	LMO	MO	L
1201-1300										L	LMO	LO	LO	L	
1301-1400															
1401-1500															
> 1501															L

Year 1992

Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900	L	LM	LMO	LMO	LMO	LO	LMO	LO	LMO	O	O	LO	L	O	O	LO	O	LO		O	O	O	O	LO
901-1000	LM	LM	LMO	LMO	LMO	LMO	LMO	LMO	LO	LO	O	LMO	LM	O	MO	LMO	O	LMO	LO	MO	O	MO	LO	
1001-1100	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LO	LO	MO	LO	M	MO	MO	LO	LO	LMO	LO	MO	O	MO	LO	
1101-1200	LM	LM	LMO	LMO	LMO	LMO	LMO	LO	LO	LO	LO	LO		MO	LMO	O	O	LMO	LO	MO	O	MO	LO	
1201-1300														LO	O	O	LMO	LMO		O	O	O	O	LO
1301-1400														O	O	O	MO			O		O	O	O
1401-1500														O	O	O	O	O					O	O
> 1501																							O	O

Year 1993

Year 1994

SMALL VESSELS

Table 8.- Presence of common grenadier in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900																						
901-1000																						
1001-1100																						
1101-1200																						
1201-1300																						
1301-1400																						
1401-1500																						
> 1501																						

Year 1991

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900																						
901-1000																						
1001-1100																						
1101-1200																						
1201-1300																						
1301-1400																						
1401-1500																						
> 1501																						

Year 1992

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900																						
901-1000																						
1001-1100																						
1101-1200																						
1201-1300																						
1301-1400																						
1401-1500																						
> 1501																						

Year 1993

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900																						
901-1000																						
1001-1100																						
1101-1200																						
1201-1300																						
1301-1400																						
1401-1500																						
> 1501																						

Year 1994

LARGE VESSELS

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900																						
901-1000																						
1001-1100																						
1101-1200																						
1201-1300																						
1301-1400																						
1401-1500																						
> 1501																						

Year 1992

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900																						
901-1000																						
1001-1100																						
1101-1200																						
1201-1300																						
1301-1400																						
1401-1500																						
> 1501																						

Year 1993

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900																						
901-1000																						
1001-1100																						
1101-1200																						
1201-1300																						
1301-1400																						
1401-1500																						
> 1501																						

Year 1994

SMALL VESSELS

Table 9.- Presence of blue antimora in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900												
901-1000												
1001-1100												
1101-1200												
1201-1300												
1301-1400												
1401-1500												
> 1501												

Year 1991

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900												
901-1000												
1001-1100												
1101-1200												
1201-1300												
1301-1400												
1401-1500												
> 1501												

Year 1992

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900												
901-1000												
1001-1100												
1101-1200												
1201-1300												
1301-1400												
1401-1500												
> 1501												

Year 1993

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900												
901-1000												
1001-1100												
1101-1200												
1201-1300												
1301-1400												
1401-1500												
> 1501												

Year 1994

LARGE VESSELS

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900												
901-1000												
1001-1100												
1101-1200												
1201-1300												
1301-1400												
1401-1500												
> 1501												

Year 1992

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900												
901-1000												
1001-1100												
1101-1200												
1201-1300												
1301-1400												
1401-1500												
> 1501												

Year 1993

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900												
901-1000												
1001-1100												
1101-1200												
1201-1300												
1301-1400												
1401-1500												
> 1501												

Year 1994

SMALL VESSELS

Table 10.- Presence of witch flounder in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months												Year
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
801-900													1991
901-1000													1992
1001-1100													1993
1101-1200													1994
1201-1300													
1301-1400													
1401-1500													
> 1501													

LARGE VESSELS

Depth (m)	Months												Year
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
801-900													1992
901-1000													1993
1001-1100													1994
1101-1200													
1201-1300													
1301-1400													
1401-1500													
> 1501													

SMALL VESSELS

Table 11.- Presence of skate in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900								LM	LM	L	L	M	LM	LM	LMO	LM	L	LM	LO	LMO	LO	LO	LMO	LM
901-1000								LM	LM	LM	LM	LM	LM	LM	LMO	LM	LM	LM	LMO	LMO	LO	L	LMO	L
1001-1100								LM	LM	LM	LM	LM	L	LM	LM	LM	LM	LM	LM	LO	LO	LO	LMO	LM
1101-1200								M	LM	LM	LM	LM	LM	LM	LM	LMO	LM	LM	LM	L	LO	LO	LMO	L
1201-1300								M	M	LM	LM	M	LM	L	LM	LM	LM	LM	LM	L	L	L	L	LM
1301-1400										M	M	M	LM	L	LM	LM	LM	LM	L		L			
1401-1500										M	M	M	LM		M	LM	LM	M						
> 1501										M	M	M				L	L				O	O		

Year 1991

Year 1992

Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900	LM	L	LMO	LMO	LO	LO	O	LO	LMO	LMO	LO	LO	LM	LMO	LMO	LMO	LMO	LO	LO	LMO	LMO	LO	L	
901-1000	LM	LM	LMO	LMO	LO	LMO	O	LMO	LMO	LO	LO	LMO	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	L	
1001-1100	LM	LM	LMO	LMO	LMO	LO	O	LMO	LMO	LMO	LO	LMO	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	L	
1101-1200	L	LM	LMO	LMO	LMO	LMO	O	NO	M	LMO	LO	LMO	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	L	
1201-1300	L	L	LM	LM	LM	LMO	O	O	O	M	LO	LO	LM	LMO	LMO	LMO	LMO	LMO	O		LMO	LO	L	
1301-1400		L	L			M							LM	L	O	O	LO				M	L	L	
1401-1500		L	L											L	O	O	LO						L	L
> 1501		L	L											L	O	O						O		

Year 1993

Year 1994

LARGE VESSELS

Depth (m)	Months														
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII			
801-900										L	LMO	LO	LMO	O	L
901-1000										LM	LO	LMO	LO	O	L
1001-1100										LM	LMO	LO	LMO	LMO	
1101-1200										LM	LM	LO	LMO	MO	L
1201-1300											L	LO	O	O	L
1301-1400															
1401-1500															
> 1501															

Year 1992

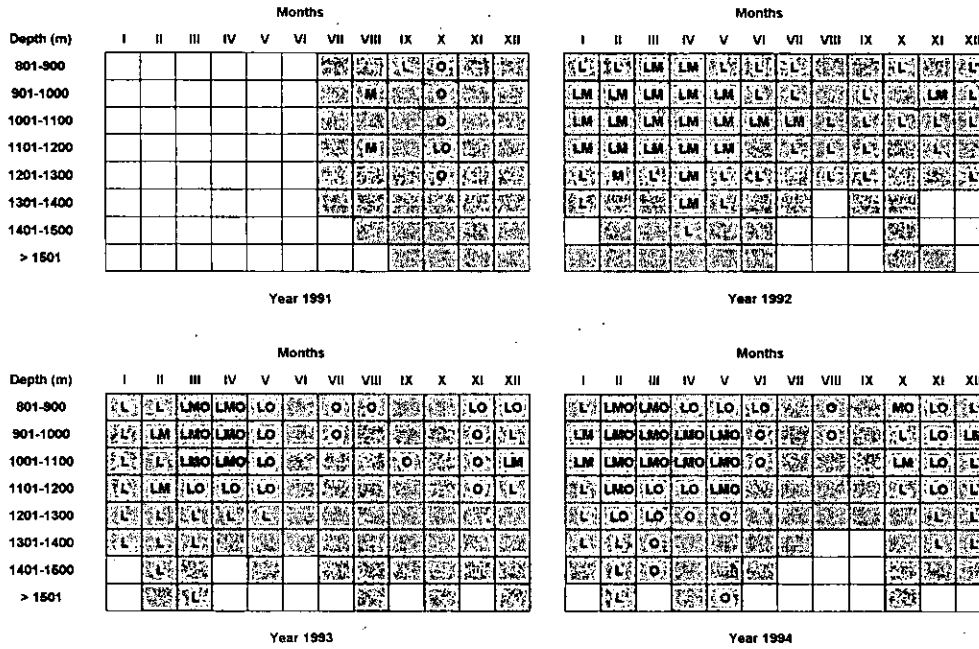
Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900	LM	LM	LMO	LMO	LMO	LO	LMO	LO	LO	O	O	LMO	L	O	MO	O	O	LO		LO	O	O	O	O
901-1000	L	LM	LMO	LMO	LMO	LMO	LMO	LMO	LO	LO	O	LMO	LM	LO	O	O	O	LMO		O	O	O	O	O
1001-1100	L	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LO	LO	O	LMO	LM	LO	LMO	O	LO	MO	LO	O	O	MO	O	O
1101-1200	LM	LM	LMO	LMO	LMO	LMO	LMO	LO	LO	LO	O	MO	M	MO	LMO	O	O	LO	L	LO	O	O	MO	LO
1201-1300		L	L	LO	LO	LO	LMO	LO	LO	O	O	O		LO	O	O	LMO	LMO		O	O	O	O	O
1301-1400														O	O	O	O	O				O	O	O
1401-1500														O	O	O	O	O					O	O
> 1501														O	O	O	O	O					O	O

Year 1993

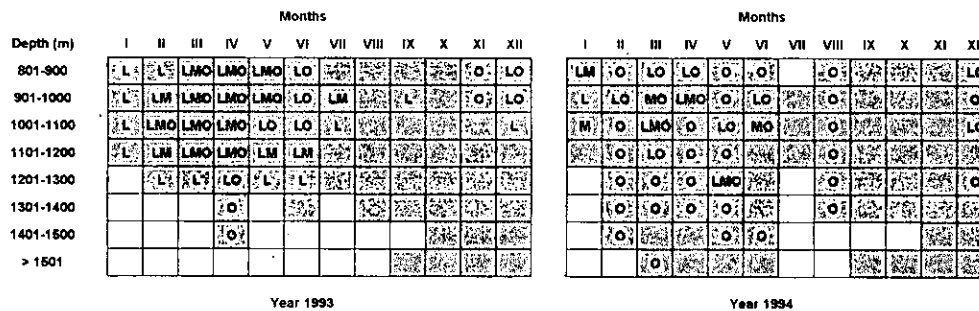
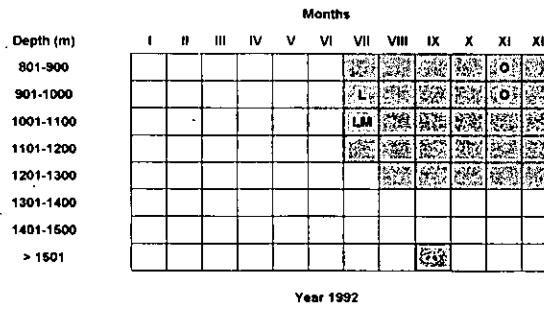
Year 1994

SMALL VESSELS

Table 12.- Presence of american plaice in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.



LARGE VESSELS



SMALL VESSELS

Table 13.- Presence of redfish in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900							LM	LM	L		LM	M
901-1000								LM	LM			
1001-1100									O	L		
1101-1200							LM	LM				
1201-1300								M				
1301-1400												
1401-1500												
> 1501												

Year 1991

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	L	LM	LMO	LM	L	LM	L	LM	LO	L	L	LM
901-1000	LM	LM	LM	LM	LM	LM	L	LM	LO	L	LM	
1001-1100	LM	LM	LM	LM	LM	LM	LM	LM	L	L	L	L
1101-1200	LM	LM	LM	LM	LM	LM	LM	LM	LM	L	L	L
1201-1300		M	LM	LM	M	L	L					
1301-1400	L		M	M	LM				L			
1401-1500			M									
> 1501												

Year 1992

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	L	L	LM	LMO	LO	LO	O	O	LMO	LO	LO	LO
901-1000	LM	LM	LM	LM	L	L	O	O	LO	LO	LO	L
1001-1100	LM	LM	LM	LMO	LM		O	O	O	O	LO	LMO
1101-1200	LM	L	LM	LM	L		O	O		O	O	LMO
1201-1300	L	LM	L	L	LM		O	O	O			L
1301-1400		L					O	O				
1401-1500										O		
> 1501							O					

Year 1993

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	LM	LMO	LO	LMO	LO	LO	LO	LO	LO	LMO	LO	L
901-1000	LM	LMO	LMO	LMO	LMO	LMO	L	O	LO	MO	LO	L
1001-1100	LM	LMO	LMO	LMO	LMO	O	LO	O	LMO	LMO	L	L
1101-1200	LM	LM		LO	L		O			M	LO	L
1201-1300			LO		O		O			O	LO	
1301-1400										O	L	L
1401-1500											L	
> 1501										O		

Year 1994

LARGE VESSELS

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900							L	L	LO	LO	O	LO
901-1000							L	L	LMO	O	O	LMO
1001-1100							L	LM	LO	O	O	O
1101-1200							L	L	L	O	O	O
1201-1300									O	O	O	
1301-1400												
1401-1500												
> 1501												

Year 1992

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	LM	LM	LMO	LMO	LMO	LO	O	LO	LO	O	O	LMO
901-1000	LM	LM	LMO	LMO	LMO	LMO	O	O	O	O	O	LMO
1001-1100	LM	LM	LM	LMO	LMO	LO	LO	O	O	O	O	LM
1101-1200	L	LM	M	LMO	L	LMO	O	O	O	O	O	L
1201-1300				LO	LO	LO		O		O	O	
1301-1400				O						O		
1401-1500				O								
> 1501												

Year 1993

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	LM	O	LO	LO	O	LO		LO	LO	O	O	O
901-1000	M	LO	MO	O	O	O		LO	LO	O	O	O
1001-1100		O	M	O	L	M				O		
1101-1200				O	O			O				
1201-1300					O	LO						
1301-1400												
1401-1500					O	O						
> 1501												

Year 1994

SMALL VESSELS

Table 14.- Presence of wolffish in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900							LM	LM	LM	L	LM	
901-1000							LM	LM	LM	LM	LM	LM
1001-1100							LM	LM	LM	LM	LMO	LM
1101-1200							LM	LM	LM	LM	LM	LM
1201-1300							M	M	M	LM	LM	LM
1301-1400								M	M	M	LM	LM
1401-1500										M	M	
> 1501												

Year 1991

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	L	L	LMO	L	L	LM	LO	LMO	LO	LO	LMO	LM
901-1000	LM	LM	LM	LM	LM	LM	LMO	LMO	LO	LMO	LMO	L
1001-1100	LM	LM	LM	LM	LM	LM	LMO	LMO	LO	LO	LMO	LM
1101-1200	LM	LM	LM	LM	LM	LM	LMO	LMO	LO	LO	LMO	M
1201-1300	M	LM	LM	LM	LM	LM	LMO	LO	L	L	L	M
1301-1400	LM	LM	LM	LM	LM							
1401-1500	M	M	L	LM	M							
> 1501				L								O

Year 1992

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	L	L	LMO	LM	LO	LO	O	LO	LMO	LO	LO	LO
901-1000	LM	LM	LMO	LM	LO	LMO	O	LMO	LO	LO	LO	LMO
1001-1100	LM	LM	LMO	LMO	LMO	LMO	O	LO	O	LO	LO	LM
1101-1200	LM	LM	LMO	LMO	LMO	LMO	O	O	O	O	LMO	LMO
1201-1300	L	LM	LM	LM	L	LMO	O	MO	O	O	LO	LO
1301-1400	L	L	L			M		O			LO	LO
1401-1500		L	L				O				O	
> 1501							O					

Year 1993

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	LM	L	LO	LM	LO	LMO	LO	LMO	LMO	LMO	LO	L
901-1000	LMO	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LM
1001-1100	LM	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LMO	L
1101-1200	LM	LM	LMO	LMO	LMO	LMO	LMO	LM	MO	LMO	LMO	L
1201-1300	LM	LM	M	LMO	LMO	LMO	LMO	LO	LM	LMO	LO	L
1301-1400	L	LM	M	LM	LMO	M	O			MO	L	L
1401-1500	L	L	O	M	O					M	LM	
> 1501		L			O					O		

Year 1994

LARGE VESSELS

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900							LM	LM	LMO	LMO	LO	L
901-1000							LM	L	LMO	LMO	O	LMO
1001-1100							LM	LMO	LO	LO	LMO	LM
1101-1200							LM	LM	LMO	LMO	LMO	
1201-1300								L	LMO	O	LO	L
1301-1400												
1401-1500												
> 1501										L		

Year 1992

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	L	LM	LMO	LMO	LMO	LO	LMO	LO	LO	O	O	L
901-1000	LM	LM	LMO	LMO	LMO	LMO	LMO	LMO	LO	LO	O	LM
1001-1100	LM	LMO	LMO	LMO	LMO	LMO	LMO	LMO	LO	LO	O	LO
1101-1200	LM	LM	LMO	LMO	LMO	LMO	LMO	LO	LO	LO	O	O
1201-1300		L	L	LO	LO	LO	LMO	LO	LO	O	O	O
1301-1400				O		D		O	O	O	O	O
1401-1500				O						O		
> 1501											O	

Year 1993

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900					O	LO		LMO	LO	O	O	O
901-1000		O	O	LO	O	LMO	L	LO	MO	O	O	O
1001-1100		MO	MO	MO	LO	LMO	MO	LO	MO	O	MO	L
1101-1200			LMO	O	LO	LMO	L	LO	MO	O	MO	O
1201-1300		LO	O	O	LMO	LMO		O	O	O	O	O
1301-1400		O	O	O	O			O			O	
1401-1500				O							O	
> 1501					L					D		

Year 1994

SMALL VESSELS

Table 15.- Presence of eelpout in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900								L	L			
901-1000								L	L			
1001-1100								L	M	L		
1101-1200								M	L	M	LM	L
1201-1300								M			L	L
1301-1400								M			LM	L
1401-1500												
> 1501												

Year 1991

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	L	L	LMO	L	L	LM	L	LM	LM	LM	LO	L
901-1000	M	LM	LM	LM	LM	LM	LM	LM	LM	LO	L	LM
1001-1100	M	LM	LM	LM	LM	LM	LM	LM	LM	LO	L	LM
1101-1200	LM	LM	LMO	LM	LM	LM	LM	LM	L	L	L	L
1201-1300	M	LM	LM	LM	LM	LM			L	L		L
1301-1400	LM	LM	LM	LM	LM	LM						
1401-1500			M	LM	LM	M						
> 1501												

Year 1992

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	L	L	LM	LM	LO	O	O	O	LO	O	O	O
901-1000	L	L	LM	LM	LO	LMO	O	O	LO	LO	LO	LO
1001-1100	L	LM	LM	LM	LO	LMO	O	O	O	LO	LO	LO
1101-1200		LM	LM	LM	LMO	L	O	O	LO	O	LO	O
1201-1300		L	L	LM	LM	LO	O	O	O	LO	LO	O
1301-1400		L	L			O	O		O	LO		O
1401-1500			L							O		
> 1501												

Year 1993

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900			L	L	LO	LMO	LO	LO	LO	LO	LO	L
901-1000			LM	LM	LO	LMO	MO	LO	LMO	LMO	LO	L
1001-1100			M	M	LMO	LMO	MO	O	LMO	LMO	LO	L
1101-1200				LMO	LMO	MO	LMO			LMO	LO	L
1201-1300			L	LO	LMO	MO	MO			LO	LO	
1301-1400					O							
1401-1500										LO		
> 1501											L	

Year 1994

LARGE VESSELS

Depth (m)	Months												
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
801-900								LM	LM	LMO	LMO	O	L
901-1000								LM	L	LMO	MO	O	LM
1001-1100								LM	LM	LMO	LO	O	L
1101-1200								LM	LM	LMO	LMO	LO	L
1201-1300										L	LO	LO	L
1301-1400													
1401-1500													
> 1501													

Year 1992

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900	LM	LM	LMO	LMO	LMO	LO	LMO	LO	LO	O	O	L
901-1000	L	LM	LMO	LMO	LMO	LMO	LMO	LO	LO	LO	O	LM
1001-1100	LM	LMO	LMO	LMO	LMO	LMO	LMO	LO	LO	LO	O	LO
1101-1200	LM	LM	LMO	LMO	LMO	LMO	LMO	LO	LO	LO	O	O
1201-1300		L		LO	LO	LO	LO	LO	L	O	O	O
1301-1400				O	O				O	O		O
1401-1500				O								
> 1501										O		

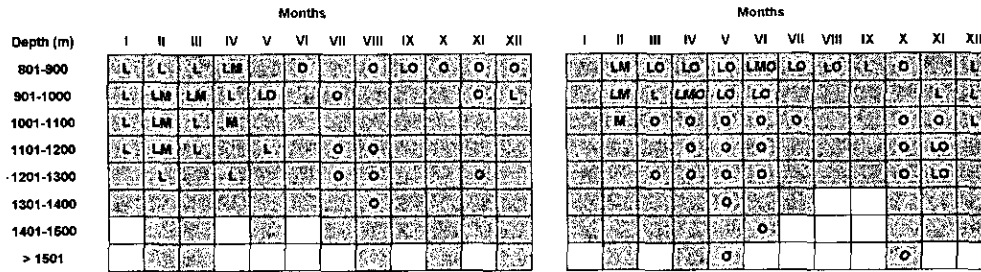
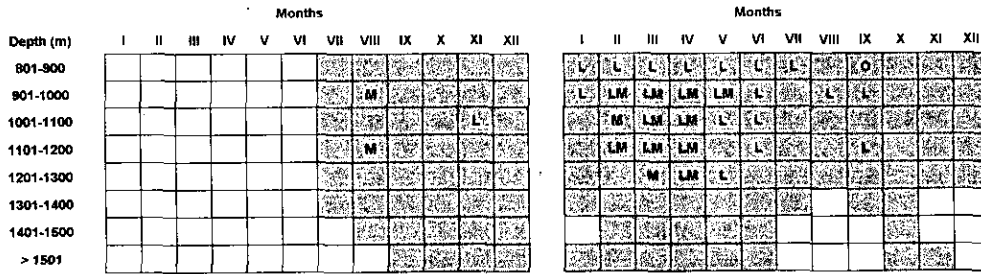
Year 1993

Depth (m)	Months											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
801-900								O		O	O	O
901-1000								L			O	O
1001-1100										LO		M
1101-1200												M
1201-1300		L			L	MO						
1301-1400						O						
1401-1500												
> 1501										O		

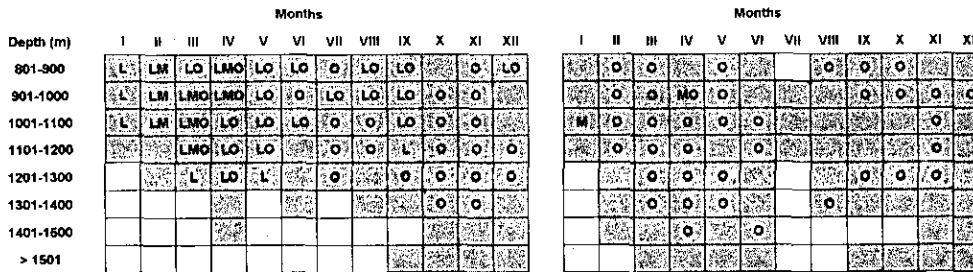
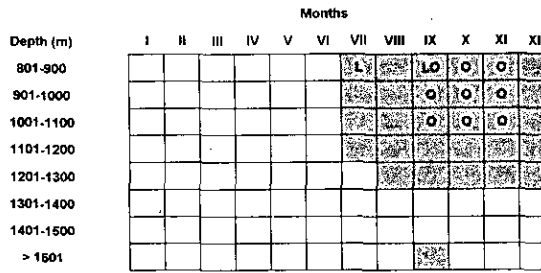
Year 1994

SMALL VESSELS

Table 16.- Presence of atlantic halibut in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

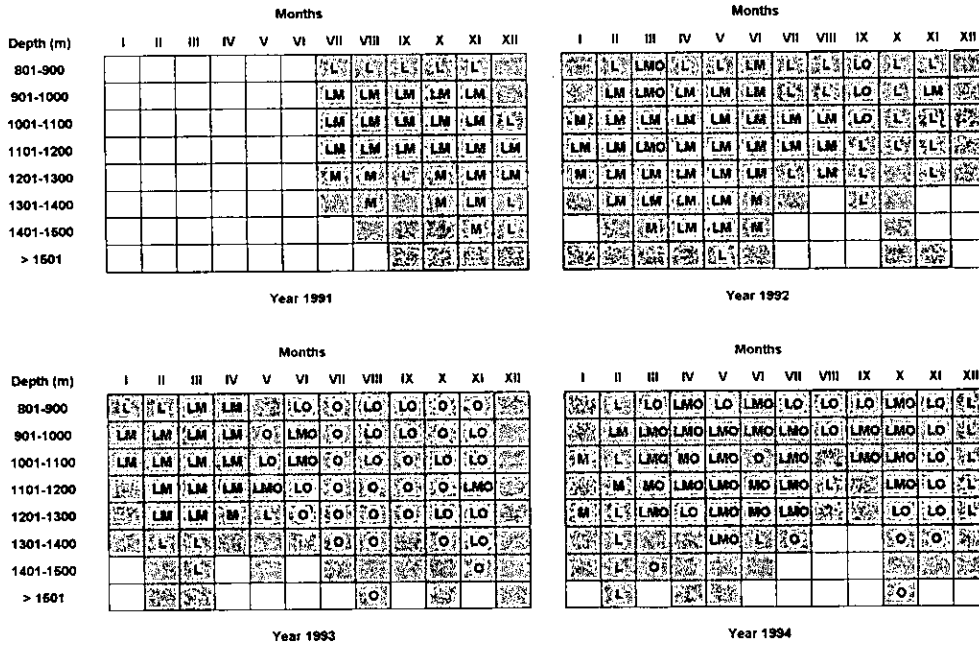


LARGE VESSELS

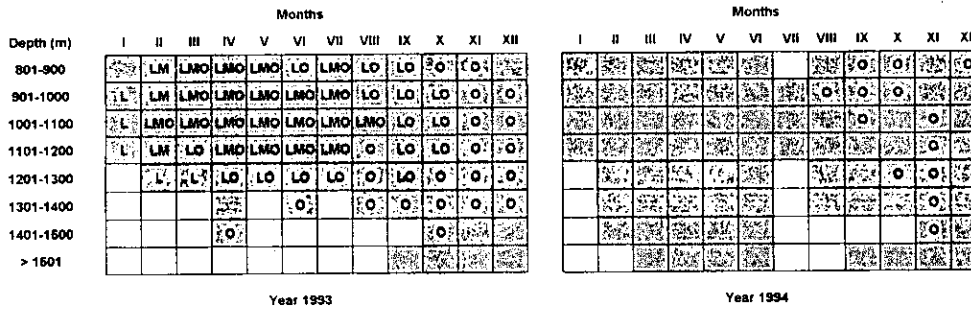
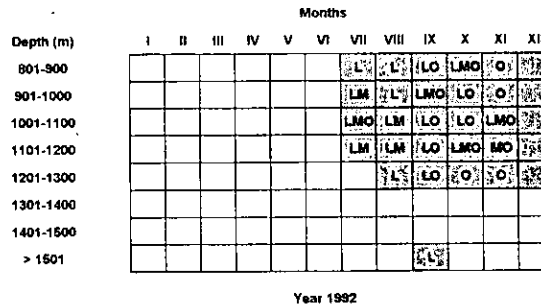


SMALL VESSELS

Table 17.- Presence of spiny eel in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.



LARGE VESSELS



SMALL VESSELS

Table 18.- Presence of black dogfish in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000																							
1001-1100																							
1101-1200																							
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1991

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000																							
1001-1100																							
1101-1200																							
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1992

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000																							
1001-1100																							
1101-1200																							
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1993

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000																							
1001-1100																							
1101-1200																							
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1994

LARGE VESSELS

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000																							
1001-1100																							
1101-1200																							
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1992

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000																							
1001-1100																							
1101-1200																							
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1993

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000																							
1001-1100																							
1101-1200																							
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1994

SMALL VESSELS

Table 19.- Presence of boreal shark in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L division; M = 3M division; O = 3NO divisions.

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000								MO	LO					LM	LM	LM	L						
1001-1100								LMO	MO	LO	LMO		LM	LM	LM	M	LM	LM					
1101-1200								LMO	MO	LO	MO	LO	L	LM	LM	LM	LM	LM					L
1201-1300								O	MO	MO	MO		L	LM	LM	LM	LM	L					
1301-1400											MO		L	L	M	LM	M	M					
1401-1500										MO	MO				M		M	M					
> 1501																							

Year 1991

Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900															LO	L							L	
901-1000	L									O			LM				O					L	L	
1001-1100	L									L			L	LM	O	L	M	O				L	L	
1101-1200		L	L		L					O	L	O	L	M	O	L						L	L	
1201-1300		LM								O			L	MO	L							L	LO	L
1301-1400												O												
1401-1500													L											
> 1501																								

Year 1992

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000										O													
1001-1100																							
1101-1200																							
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1993

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000																							
1001-1100																							
1101-1200																							
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1994

LARGE VESSELS

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							L
901-1000																							L
1001-1100																							O
1101-1200																							O
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1992

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000																							
1001-1100																							
1101-1200																							
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1993

Depth (m)	Months																						
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII											
801-900																							
901-1000																							
1001-1100																							
1101-1200																							
1201-1300																							
1301-1400																							
1401-1500																							
> 1501																							

Year 1994

SMALL VESSELS

Table 20.- Presence of rockling in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900							L	L	L	L	L											
901-1000							LM	LM	LM	LM	LM											
1001-1100							LM	LM	LM	LM	LM											
1101-1200							LM	LM	LM	LM	LM											
1201-1300							M	M		M	LM	LM										
1301-1400								M		M	L	L										
1401-1500												L										
> 1501																						

Year 1991

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900		L	M	L	L	L	L	LM	O	L	L											
901-1000		LM	LM	LM	LM	LM	LM	LM	LM	LO	L	M										
1001-1100		LM	LM	LM	LM	LM	LM	LM	LM	LM	LO	L										
1101-1200		LM	LM	LM	LM	LM	LM	LM	LM	LM	LO	L										
1201-1300		LM	LM	LM	LM	LM	LM	LM	LM	LM	LO	L										
1301-1400		LM	LM	LM	LM	LM	LM	LM	LM	LM	LO	L										
1401-1500			M	L	M	M																
> 1501																						

Year 1992

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900			M	M		L	O	O	LMO	LO	LO	L										
901-1000	M	LM	L	M	O	LM	O		LO	LO	LO	L										
1001-1100	LM	LM	LM	LM	L	LMO	O	O	LO	O	LO	LO										
1101-1200	M	M	LM	LM	LO	L	O	O	LO	O	LMO	LMO										
1201-1300		M		L	L		O	O	O	O	L	LO										
1301-1400				L			O	O		O	LO	LO										
1401-1500												O										
> 1501								O														

Year 1993

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900		L	LM	LM	L	L	L	L	LO	LMO	LM	L	LM									
901-1000		LM	LM	M	LMO	LMO	L	L	LMO	LM	L	LM										
1001-1100		M	LM	LM	LM	LMO	LMO	LMO	LM	LMO	LMO	L	L									
1101-1200		LM	LM	LMO	LMO	LMO	LO	L	M	LM	LM	L										
1201-1300		M	L	LM	LM	LMO	LMO	LO	L	L	LO	L										
1301-1400		L		L	LMO	LM				L	L	L										
1401-1500		L			L							L										
> 1501		L																				

Year 1994

LARGE VESSELS

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900								L	L	LO	LO	O										
901-1000								LM	L	LMO	LO	O										
1001-1100								LM	LM	LO	LO	LMO										
1101-1200								LM	LM	LO	LMO	LMO										
1201-1300									L	LO	O	O										
1301-1400																						
1401-1500																						
> 1501																						

Year 1992

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900		LM	LMO	LMO	LMO	LO	LMO	L	L													
901-1000		LM	LMO	LMO	LMO	LMO	LMO	LMO	L	L												
1001-1100		L	LMO	LMO	LMO	LMO	LMO	LMO	L	L												
1101-1200		L	LM	LM	LMO	LMO	LMO	LMO	LO	L	L											
1201-1300			L	LO	LO	LO	LMO	LO	L													
1301-1400							O															
1401-1500				O																		
> 1501																						

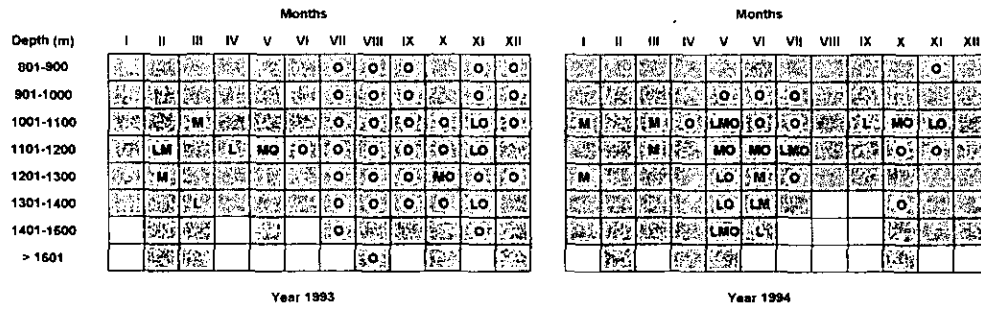
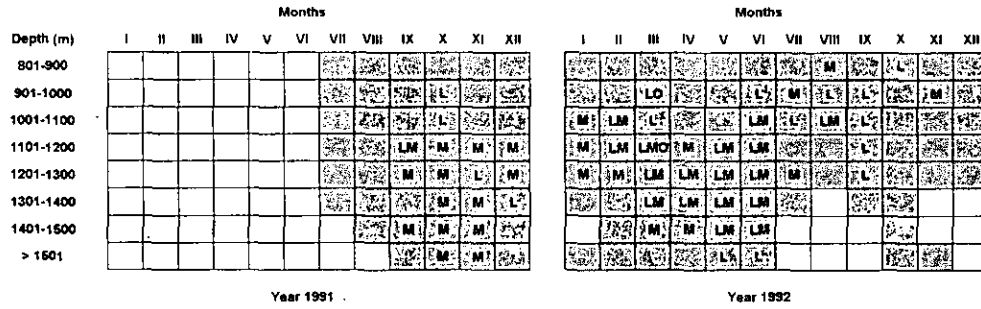
Year 1993

Depth (m)	Months																					
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII										
801-900																						
901-1000																					O	
1001-1100																						
1101-1200																					O	
1201-1300																						O
1301-1400																					O	O
1401-1500																						
> 1501																						O

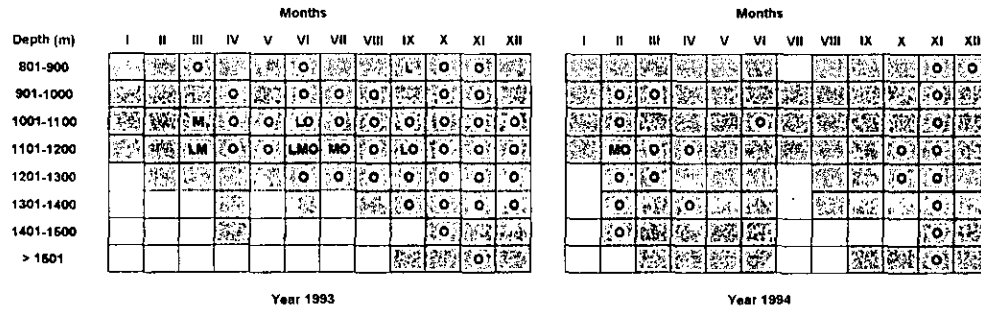
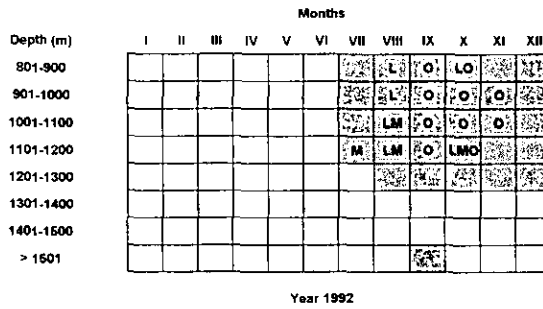
Year 1994

SMALL VESSELS

Table 21.- Presence of chimaera in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.



LARGE VESSELS



SMALL VESSELS

Table 22.- Presence of white hake in the catches by strata, month, Division and year.
 Spanish deep sea fishery: 1991-94. The shaded rectangles show the activity range.
 Codes of presence: L = 3L Division; M = 3M Division; O = 3NO Divisions.

Depth (m)	Months																								
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII													
801-900														L	LNO	L	L	L	L	LM	LM	L	LM	LM	
901-1000													LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM
1001-1100																									
1101-1200																									
1201-1300																									
1301-1400																									
1401-1500																									
> 1501																									

Year 1991

Depth (m)	Months																								
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII													
801-900														L	LNO	L	L	L	L	LM	LM	L	LM	LM	
901-1000													LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM	LM
1001-1100																									
1101-1200																									
1201-1300																									
1301-1400																									
1401-1500																									
> 1501																									

Year 1992

Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
901-1000	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1001-1100	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1101-1200	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1201-1300	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1301-1400	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1401-1500	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
> 1501	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

Year 1993

Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
901-1000	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1001-1100	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1101-1200	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1201-1300	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1301-1400	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1401-1500	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
> 1501	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

Year 1994

LARGE VESSELS

Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900																								
901-1000																								
1001-1100																								
1101-1200																								
1201-1300																								
1301-1400																								
1401-1500																								
> 1501																								

Year 1992

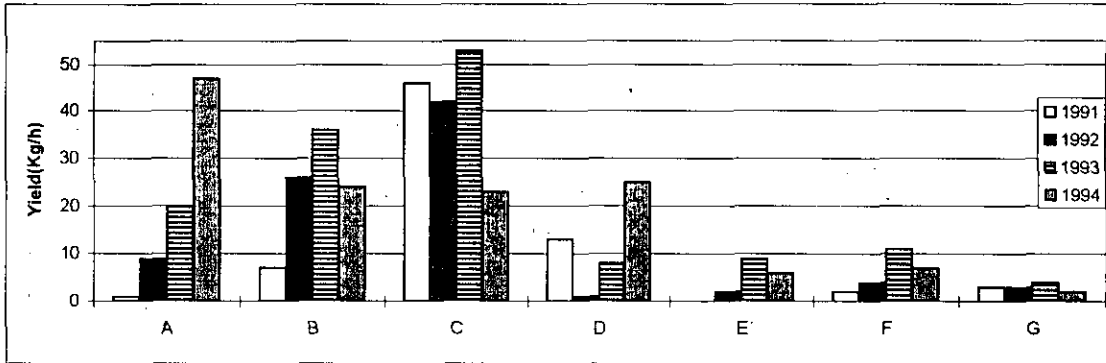
Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900																								
901-1000																								
1001-1100																								
1101-1200																								
1201-1300																								
1301-1400																								
1401-1500																								
> 1501																								

Year 1993

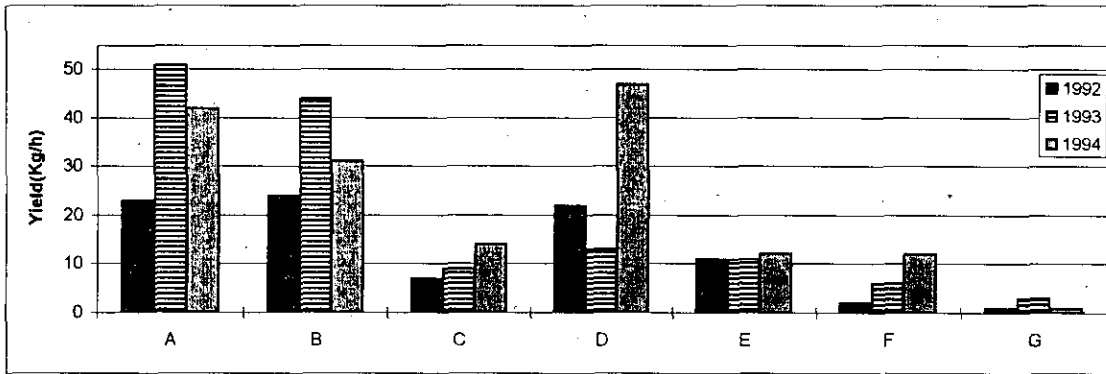
Depth (m)	Months																							
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII												
801-900																								
901-1000																								
1001-1100																								
1101-1200																								
1201-1300																								
1301-1400																								
1401-1500																								
> 1501																								

Year 1994

SMALL VESSELS



Large Vessels. 1991-1994



Small vessels. 1992-1994

A= Skate; B= Roughead grenadier; C= Roundnose grenadier; D=American plaice; E: Witch flounder; F= Redfish; G= Blue antimora

Figure 1.- Annual yield (Kg/h) for main by-catch species. Large vessels and small vessels :1991-94.

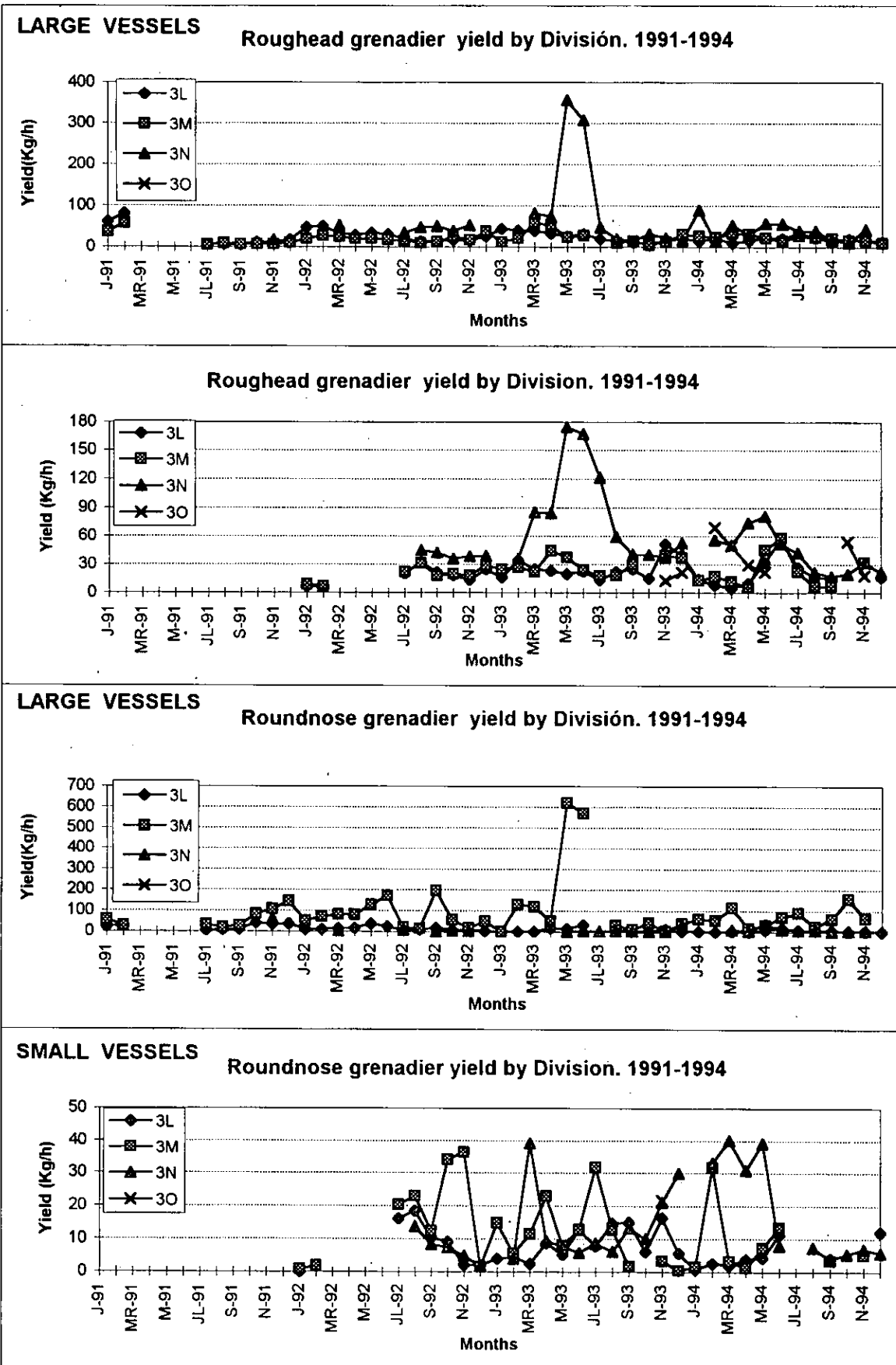


Figure 2 .- Roughhead grenadier and roundnose grenadier yield (Kg/h) by month and División in large vessels and small vessels:1991-1994.

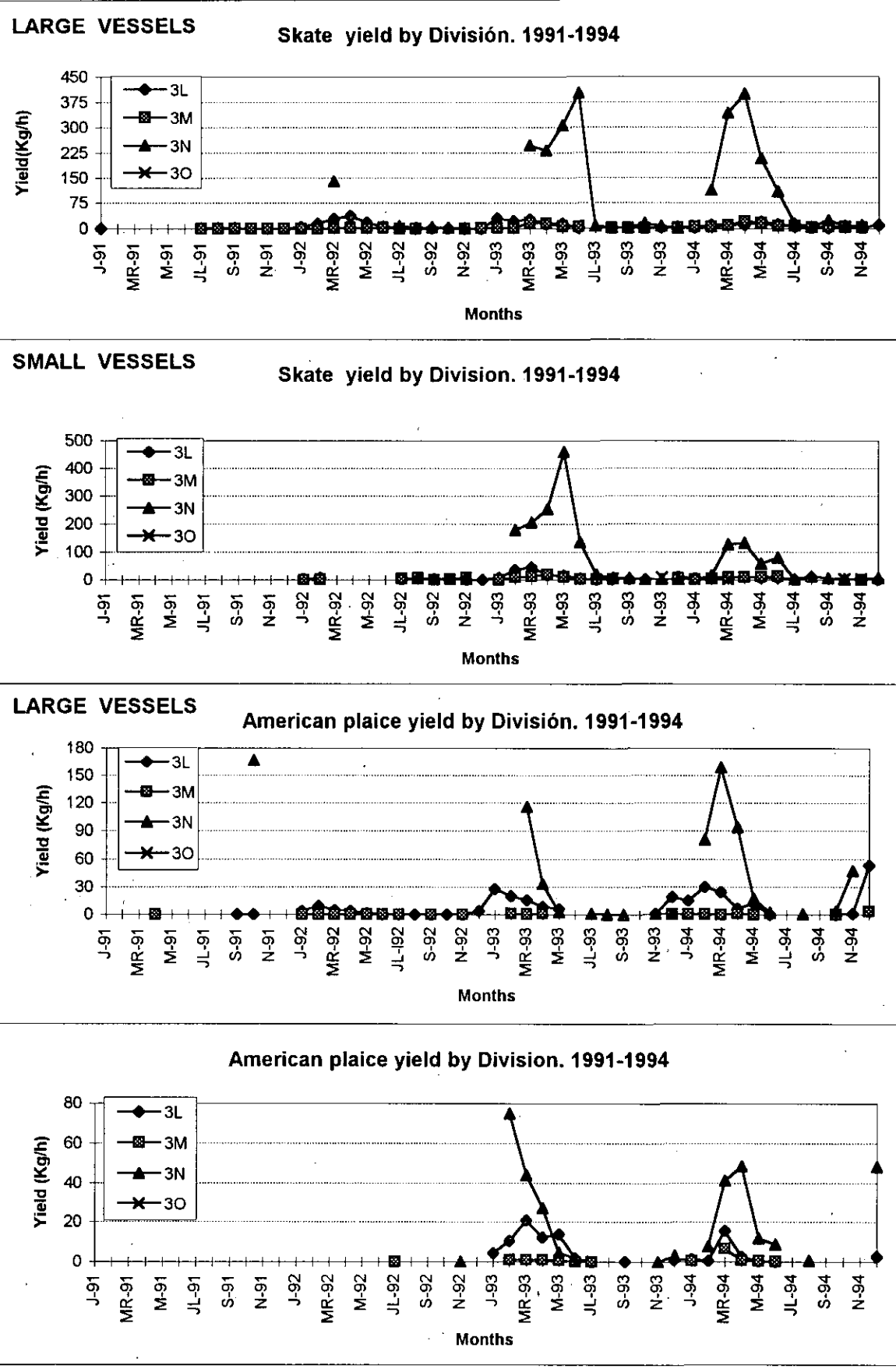


Figure 3.- Skate and american plaice yield (Kg/h) by month and División in large vessels and small vessels:1991-1994.

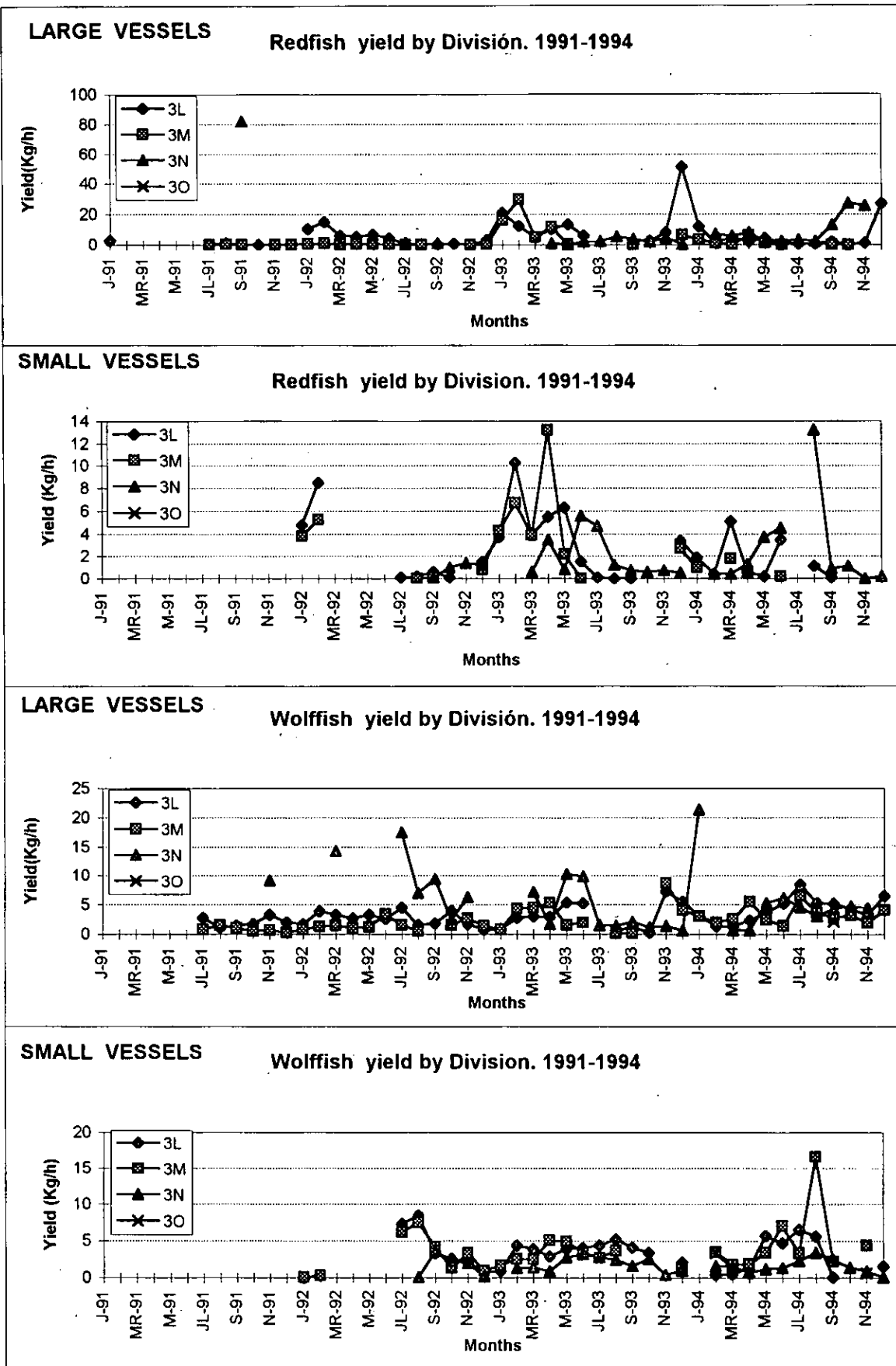


Figure 4.- Redfish and wolffish yield (Kg/h) by month and División in large vessels and small vessels:1991-1994.

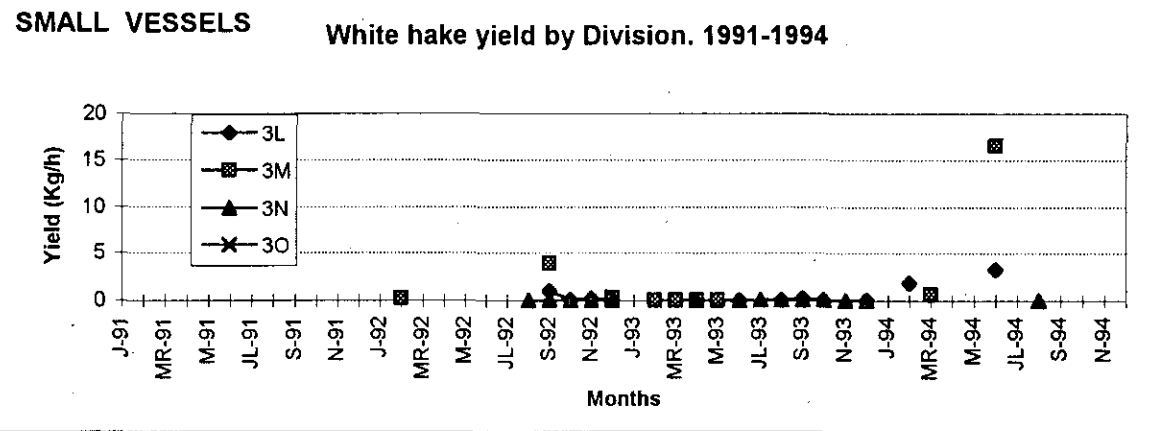
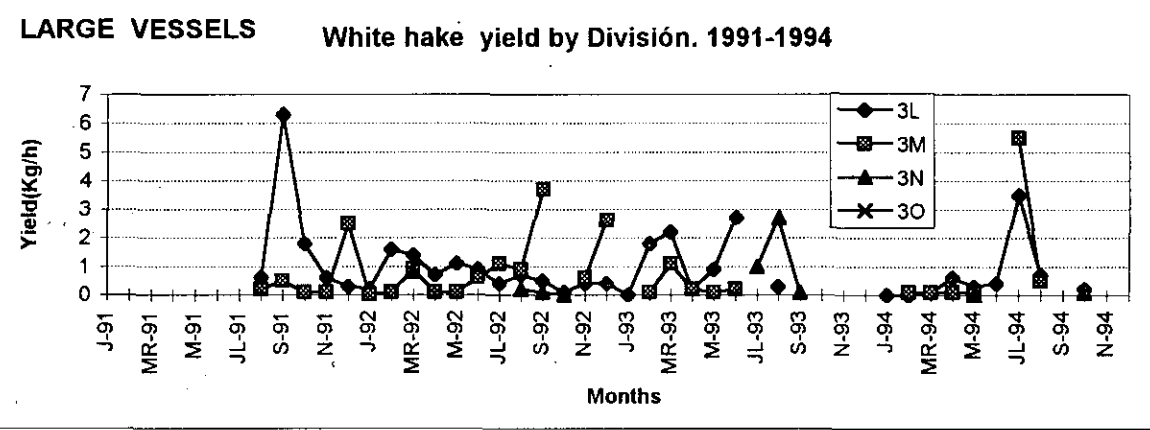
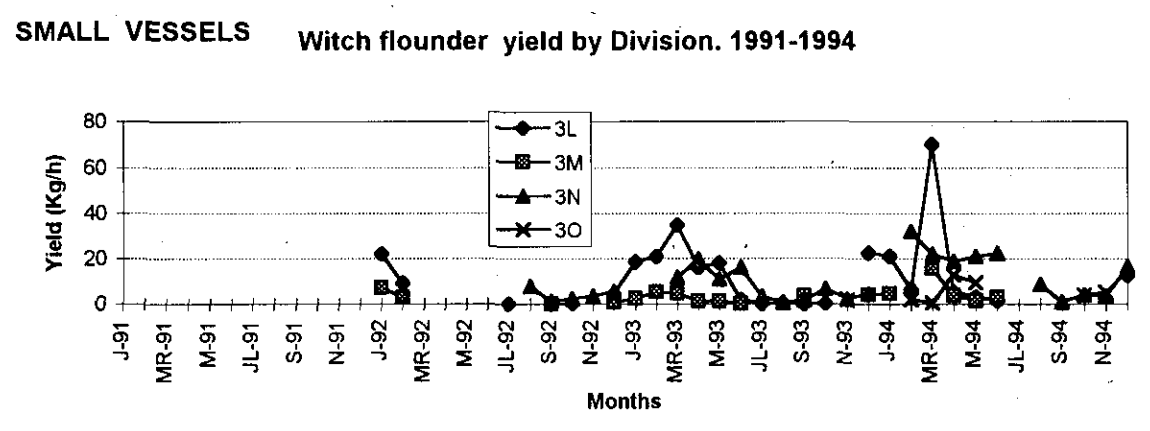
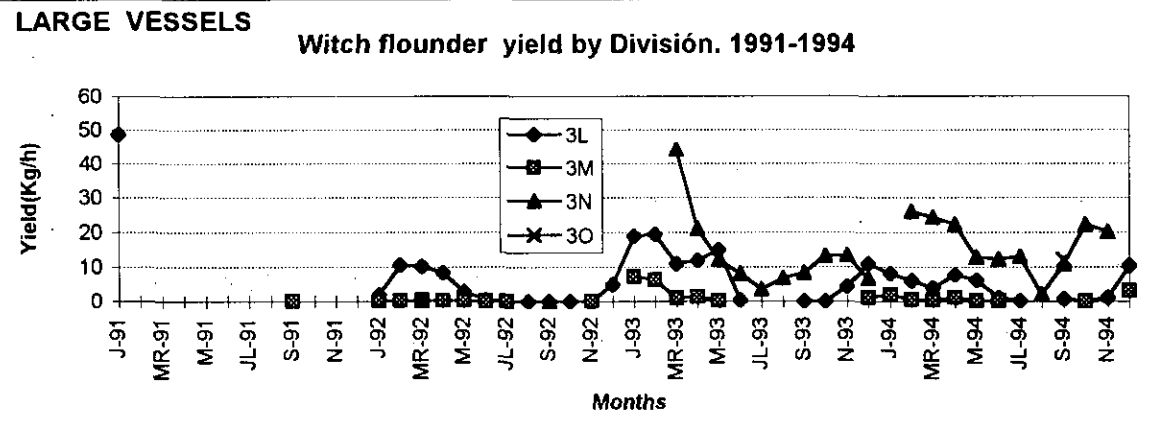


Figure 5 .- Witch flounder and white hake yield (Kg/h) by month and División in large vessels and small vessels:1991-1994.

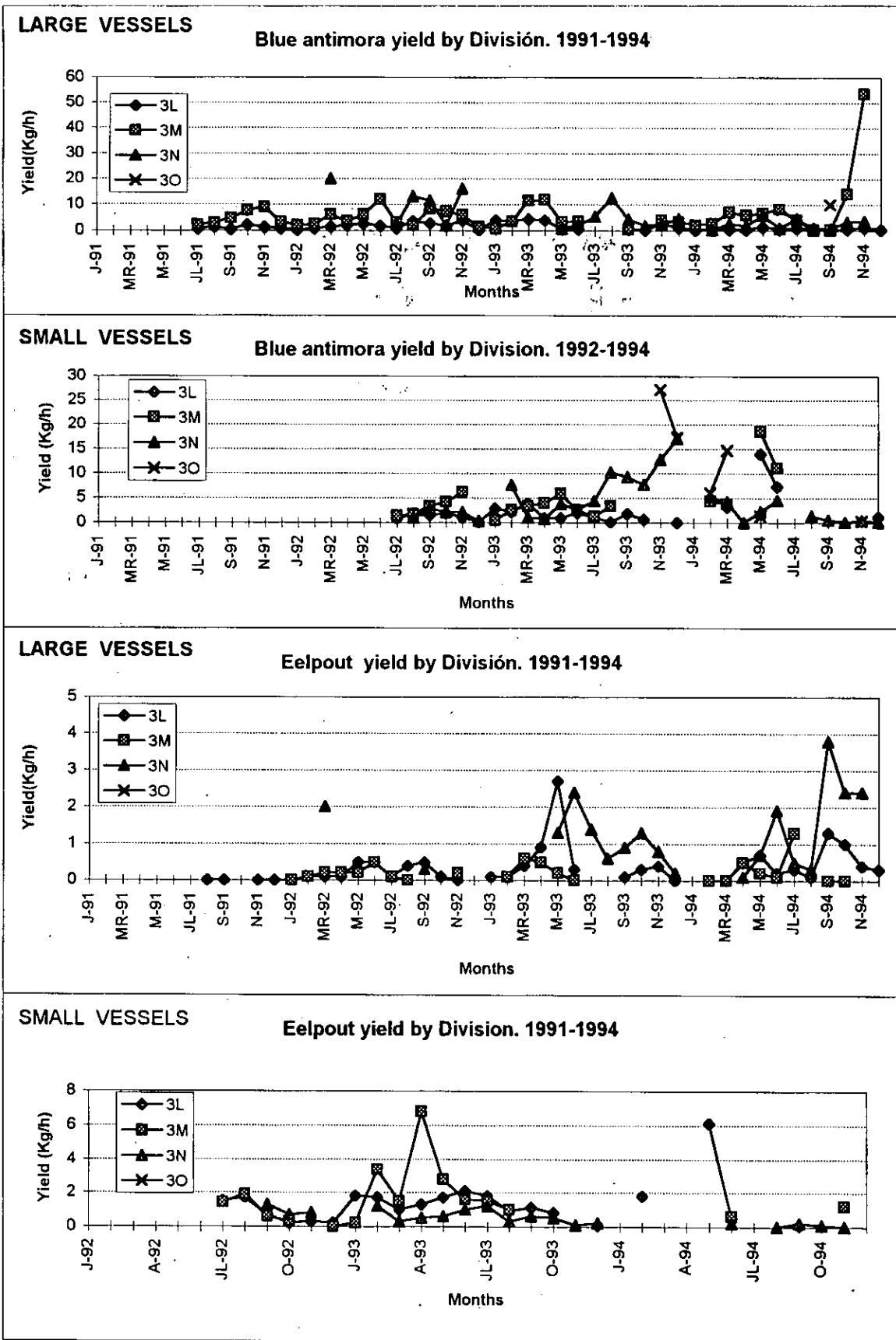


Figure 6 .- Blue antimora and eelpout yield (Kg/h) by month and Division in large vessels and small vessels:1991-1994.

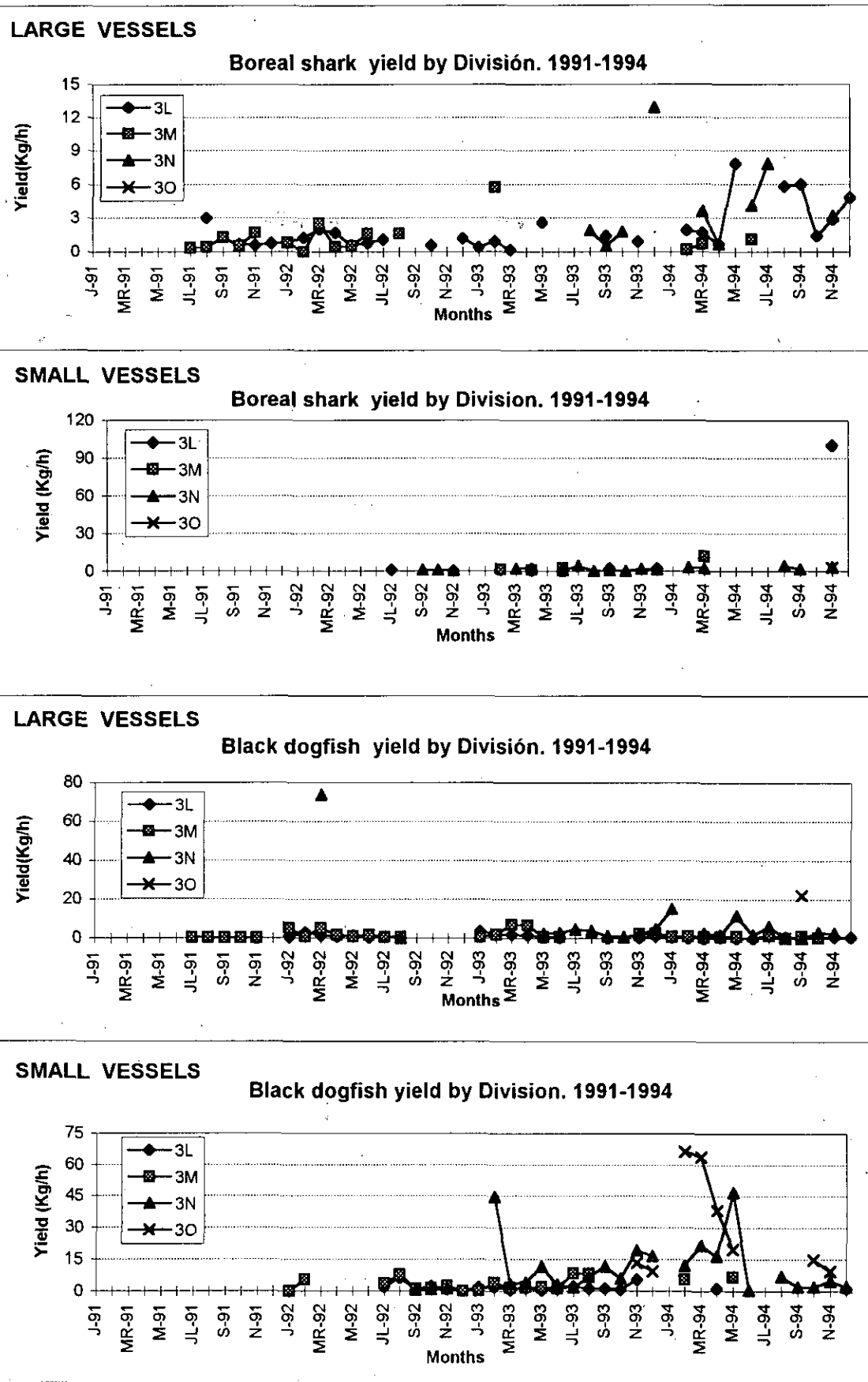


Figure 7 .- Boreal shark and black dogfish yield (Kg/h) by month and División in large vessels and small vessels:1991-1994.

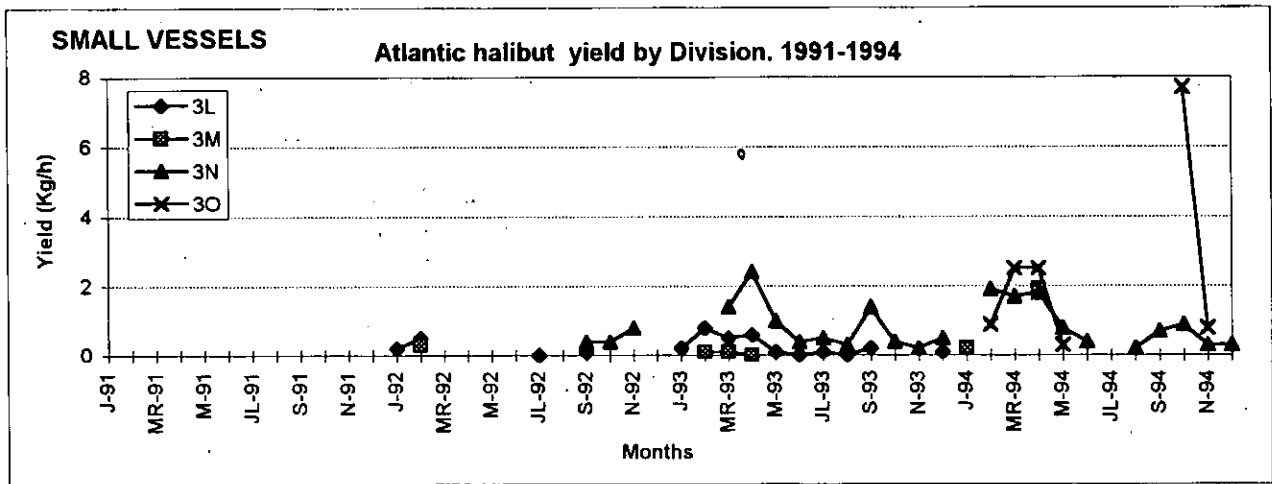


Figure 8 .- Atlantic halibut yield (Kg/h) by month and Division in small vessels :1991-1994.