



Discards of the trawl and long line Spanish fleets in ICES Subarea VII in 1994

by

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Abstract

Within the framework of a European Union (UE) contract and with voluntary participation of commercial fishing vessels, a discard sampling programme based on stratified random sampling by fisheries covered the activities of trawl and long line Spanish fleets fishing in ICES Subarea VII in 1994.

Discards of commercial and non-commercial species, including species of pinnipeds, cetaceans, sea turtles and sea birds, caught incidentally were estimated in kg per fishing hour by ICES rectangle and depth stratum in 1994.

The sampling programme was carried out by observers on board commercial fishing vessels during normal fishing activity. A total of 238 species caught by trawlers and 76 by long liners were determined.

The comparison of the two fleets regarding their ratios of discards in 1994 shows that the larger percentages of discards relative to total catches are found in the trawl fisheries (48%) and around 50% are primarily due to the discards of three species of fish and one of crustacea. Seasonal variation in the case of discards of the two main species (Great Silver Smelt and Horse Mackerel) was observed. The depth at which discards were high lies between 200 and 400m.

Conversely, long line fishing in Subarea VII shows a lower discard rate than that of trawlers (10%). Approximately 60% of discards primarily comprise two species of fish, Blue Whiting and Great Silver Smelt, both of which show the highest discard value per f.h. in the 3rd quarter. No differences were observed by depth strata.

Introduction

Saila (1983) estimated a minimum world discard of fish and shellfish of about 6.72 million t. More recently, Andrew and Pepperell (1992) estimated a global bycatch in world shrimp fisheries as high as 16.7 million t. Alverson *et al.* (1994) estimate a global discard range of 17.9 to 39.5 million t. The growing importance of bycatch in world fishery management is further reflected in the increased attention paid to this topic by international research organizations throughout the 1980's and continuing into this decade. During this period, bycatch and discards also became the subject of discussion at a variety of national workshops and conferences in North America, Europe, Asia and Australia, (Alverson *et al.*, 1994).

The main reason for the poor information on discards is the large amount of research effort needed to sample these data. Obtaining adequate discard information requires an intensive discard sampling programme. These factors make it very difficult and expensive to estimate the number of fish of a certain species discarded on a yearly basis. An estimate of the total number of fish discarded by a fleet in a year would require a sampling scheme taking at least the spatial and temporal distribution of the fleet into account.

The field of bio-economic analysis in support of the common EU fisheries policy emphasizes the protection of juvenile fish, and the need to find the causes and consequences of bycatches and discarding practices. The field of protection of marine species gives priority to the quantification and mapping of by-catches and discards by conventional fishing gears of all taxa of low or non-commercial interest, as well as of marine mammals, marine turtles and sea birds.

A discard sampling programme of Spanish trawlers has already been carried out in (Moguedet and Pérez, 1989; and Pérez and Moguedet, 1989) but only on species of commercial interest. This study has been carried out with financial assistance from the Commission of the European Communities and covers the activities of some of the most important Spanish fleets, trawlers and long liners in ICES Divisions VIIIc,h,j,k in 1994.

It will provide not only the necessary knowledge of the discarded biomass of commercial species, necessary in stock assessment, but also of the impact of fishing activity on the marine ecosystem. In this sense, estimates should be made of the catch corresponding to all levels of the marine organism available to the gears in the sampled area, and the proportion of the catch that is returned to the ecosystem .

It is necessary to mention that, in this study, the estimated discard/catch ratios were obtained from the value of the total capture of all animal species independently of their commercial value.

Material and methods

This study was made possible by the cooperation of the owners of the vessels involved. Observers have no right to sail on board a commercial ship, and depend on the cooperation of owners and crews.

Concerning the terminology used, it was decided that the terminology used should be according to the definitions proposed at a Workshop held in Newport (USA) (Alverson *et. al.*, 1994) as operational definitions in this report.

The sampling programme was carried out in 1994. In all fisheries, the catch was sampled by one observer on board a commercial fishing vessel during normal fishing activity. The scheme was based on voluntary participation of fishing vessels. Catches and discard sampling of all taxa, including target species and species of low or non-commercial interest, including bycatches of marine mammals, marine turtles and sea birds by trawlers and long liners registered in the Spanish fleet in Subarea VII (Divisions VIIIc,h,j,k. Figure 1) were quantified.

The discard sampling programme was based on stratified random sampling per Fishery Unit (fleet by ICES Division). Situation and duration of hauls were obtained for all vessels during day and night. In each sampling trip, vessel characteristics (such as horse power, ship speed, etc.) and environmental parameters were recorded. Number of trips, fishing days, fishing hours (f.h.) and hauls sampled, are presented in Table 1. The number of hauls per gear and by ICES rectangle is shown in Figure 1.

After hauling a catch on board, it was classified in two categories by the crew; retained catch, and discards. Retained commercial species were sorted by the crew. A separate raising factor was applied for retained catch and discards. The retained catch and discards from a number of hauls were sampled in the following standard way: observers recorded the total quantity discarded and the quantity retained by species. Samples of the retained catches were recorded by species and the length composition of some of the fish and *Nephrops* were taken. When retained catches had been sorted into length categories, sampling of landings was stratified.

Total discard weight was estimated depending on the discarding method used, i.e., boxes, shovels, etc. From the discarded part of the catch, one or more boxes (13 kg), depending on the size and diversity of discards, were collected. All discards in this sample were sorted and weighed by species and raised to the total volume of discards. In the case of small weights, bad weather or insufficient time, estimates of the discard weight were calculated from length distributions using length/weight relationships (if available) provided by different authors, as shown in Table 2. As processing procedures on board differ between vessels, it was not always possible to follow the standard procedure.

Data were standardized to 100 fishing hours. In this work, fishing hours for all gears refers to the time the nets spent in the water actively fishing.

For the analysis of discards by depth stratum, hauls were grouped in three strata: 100-199m, 200-399m and > 400m and data of retentions and discards of the main species are presented.

Total discard estimation of commercial and non-commercial species, produced by the Spanish fleets (tonnes per year) by area and gear was estimated by raising the sampled values by fishing trip, catches and discards, by gear and quarter, to the total trips carried out by commercial fleets by gear and quarter. Subareas VI and VII were

combined, as separate data of each Subarea were not available.

Data referring to the presence of marine mammals, marine reptiles and sea birds were also collected by observers onboard fishing vessels, according to the general sampling scheme described previously. The observers were specifically asked to record every single event of the presence of specimens of these taxonomic groups in the gears after hauling and bringing on deck.

In some cases the specimens found in the gears were not alive previous to the actual fishing operation in which they were caught. They probably correspond to already dead animals that appeared in the water column or near the sea floor. This was estimated by the observers from the state of decay of the carcasses. These were not included as by-catches.

In addition, opportunistic cetacean sightings were made by some observers while travelling between ports and fishing grounds, trawling or hauling up the nets.

Results

The amount of discards greatly depends, among other factors, on the gear and also on the fishing area. In this study, information on gear, area and time period was used to estimate separately discard per unit effort produced by the Spanish fleets in 1994.

Table 3 shows the Spanish, scientific and English names of all species caught and classified, based on Anon 1995.

1 Trawl in ICES Divisions VIIc,h,j,k

1.1 Discards per 100 fishing hours

The mean depth of hauls in this area was 323 m. Figure 2 shows the total discards estimated per 100 f.h. and rectangle. Table 4 shows the total catch and discards by species, estimated in kg per 100 f.h., and the values of the different indices estimated. The total discards/total catch ratio estimated was 48%, the total discards/total retained catch ratio obtained was 92% and the total discard/first retained species ratio was 251%. The total discards/total catch ratio by quarter were very close, oscillating between 45% and 51%.

Table 5 shows a summary of the main species caught, retained and discarded, in weight. The main species caught were: Hake and Megrim, both making up 31% of the total caught. The first retained was Hake, 37% in weight, only 3% of which was discarded. Megrim also represented a high percentage of the retained species (21%). Discards mainly consisted of Greater Silver Smelt (15% in weight), Horse Mackerel (12% in weight), Blue Whiting (11%) and the other major discarded species was a Crustacean, *Geryon longipes* (10% in weight). These four species represent 48% in weight of the total discarded species.

Boar Fish was the first discarded species in number, (due to its low commercial value) similar to values given by Greater Silver Smelt and Blue Whiting (Table 6).

1.2 Discards by depth stratum

Table 7 shows the percentage of total catch, retained and discarded species by depth strata. Megrim is the most important species caught and retained by trawlers under 200 m making up 58% of retained species. At greater depth Hake is the most important species caught.

The composition of discarded species also varies with depth. At less than 200m the main discarded species is Horse Mackerel, which makes up 17% of discards. In the 200-399m stratum this species is still the most important of those discarded and the percentage discarded is 24% of the total. At more than 400m the most commonly discarded species are: Greater Silver Smelt (30%) and the crustacean *Geryon longipes* (23%), Horse Mackerel making up only 2% of discards. The depth stratum in which most discards take place per trawl hour is that of 200-399m, but this only involves 19% of the effort of this fleet.

1.3 Length compositions

Table 8 shows the length distributions, as a percentage of the more important discarded species in the area of the sampling vessels. The length composition of the fish which represent more than 1% in weight of discards is shown. The length of discards of Greater Silver Smelt, (15% in weight of the total discarded species) ranges between 10 and 44 cm.

1.4 Total discards

No estimation of total discards was calculated for this area due to the lack of effort data available. Total discard estimations are presented jointly with the Subarea VI information. Total catch and discard estimation of commercial and non-commercial species are shown in Table 9. Results show a value of 20,486 t of discards produced by trawlers in Subareas VI and VII, 14% corresponding to Horse Mackerel and 13% to Greater Silver Smelt. Species such as Blue Whiting and a Crustacean, *Geryon longipes* also account for over 5% in the discards. Discards of Horse Mackerel represent 7% of the total caught. The total discard/catch ratio estimated was 46%. The volume of discards is very similar throughout the period. Results by quarter (Table 9) show values of between 4 and 6 thousand tonnes of total discards by quarter, the 2nd quarter having the highest value for the period.

2 Long Line in ICES Division VIc,h,j,k

2.1 Discards per 100 fishing hours

The mean depth of hauls in this zone was 357 m. Figure 2 shows total discards estimated per 100 f.h. and rectangle. Table 10 shows the total catch and discards by species, estimated in kg per 100 f.h., and the values of the different indices estimated. The total discard/catch ratio estimated was 10%, the discard/total retained catch ratio was 11% and the total discard/first retained species ratio was 13%. The total discard/catch ratio by quarter ranged between 3% and 19%, the 3rd quarter presenting the highest value in discard ratio.

Table 11 shows a summary of the main species caught, retained and discarded, in weight. The main species caught was Hake representing 79% of the total catch, and it is the most important retained species, 88% in weight of the total with no discards. Discards on board the sampling vessels mostly comprise Blue Whiting which represents 37% in weight of total discards. Greater Silver Smelt also represents a significant percentage of discards (23%).

Blue Whiting and Greater Silver Smelt are the most important discarded species in number in this fishery. Discarded species in number are shown in Table 12.

2.2 Discards by depth stratum

Table 13 shows the percentage of total catch, retained and discarded species by depth stratum of long liners. Hake is the first caught and retained species for long liners in all the depth strata making up around 90% of retained species. The composition of species discarded varies with depth and at less than 200m depth the main discarded species is Mackerel, which makes up 50% of discards. In the 200-399m stratum the most commonly discarded species are Blue Whiting (38%) and Greater Silver Smelt (21%). Similarly, at more than 400m the most commonly discarded species is Blue Whiting (42%) followed by Greater Silver Smelt (33%). In all depth strata the same volume of discards is found per trawl hour, and the highest percentage of effort is found in the intermediate stratum (200-399m).

2.3 Length compositions

Table 14 shows the length distributions, as a percentage, of the most important discarded species in the area of sampling vessels. The length composition of the fish species which represent more than 1% in weight in discards is shown. The length of discarded of Blue Whiting discards (37% in weight of the total discarded species) ranges between 14 and 50 cm.

2.4 Total discards

No estimation of total discards is presented for this area due to the lack of total effort data available. Total discard estimations are presented jointly with those of Subarea VI. Total catch and discard estimation of commercial and non-commercial species are shown in Table 15. Results show a value of 1,131 t of discards produced by long liners

in Subareas VI and VII, 39% corresponding to Blue Whiting and 23% to Greater Silver Smelt. Species such as Mackerel and Dogfish also have a percentage of over 5% of discards. Discards of Blue Whiting represent 4% of the total caught. The total discard/catch ratio estimated was 11%. The volume of discards varies greatly throughout the period, the 3rd quarter showing the highest values for the period and the 1st showing the lowest. Results per quarter (Table 15) show values of between 54 and 530 tonnes of total discards per quarter.

3 By-catches of marine mammals, marine reptiles and sea birds

From the records taken by observers, no cetaceans, pinnipeds or marine reptiles were by-caught in any of the fishing operations monitored, in any of the ICES Divisions. Two observations of specimens found in the gears which were not alive prior to the actual fishing operation were made. In both cases they were rotten bodies of unidentified dolphins, caught in two different trawling operations. These were not included as by-catches.

Sea birds were the only species recorded as incidentally caught in the fishing gears. Three different species were identified: The Northern Gannet (*Sula basana*), the Northern Fulmar (*Fulmarus glacialis*) and the Manx Shearwater (*Puffinus puffinus*) (Tables 4 and 10).

One Northern Gannet was caught by a trawler in ICES Division VII. A long line boat operating in ICES Division VI caught a Northern Fulmar. Another long liner fishing in ICES Division VII by-caught two Manx Shearwaters in one fishing operation and one Northern Fulmar in another operation, both in the same fishing trip.

The opportunistic cetacean sightings were made by some observers while travelling between ports and fishing grounds, trawling or hauling up the nets. Although these observations were not systematic, they give a general idea of the relative presence of the different species of cetaceans in the areas and at times at which observations were made.

The most common cetacean species sighted was the common dolphin (*Delphinus delphis*), making up more than half of the total observations. Other species sighted were the bottlenose dolphin, the pilot whale, the striped dolphin and the harbour porpoise. An unidentified big orca and a grey seal were also sighted, but only on one occasion. Sporadic observations on the behaviour of sea birds around the fishing boats were also made, describing the predation of sea gulls on baited hooks.

Conclusions

1 Trawl in Divisions VIIc,h,j,k

The trawl fishery in Divisions VIIc,h,j,k, is a multispecies fishery unit with Hake, Megrin, Anglerfish and Nephrops as target species representing 84% of all retained species. Two clearly defined areas of fleet activity are present which are marked by the two most important home ports.

Discards in this fishery represent 48% of the total catch and approximately 50% are primarily due to the discard of three species of fish and one of crustacea. There is a seasonal variation in the case of the discards of the two main species, and so Great Silver Smelt presents high discard values per 100 f.h. in the 3rd and 4th quarters, whereas in the case of Horse Mackerel, high values are produced in the 1st and 2nd quarters. 15% of total discards are composed of 226 species, each having a discard/catch ratio lower than 1%.

The main reasons for these discards in this area are the lack of commercial interest in many of the species, such as Great Silver Smelt, low commercial interest and the distance to the landing port in the case of the other species, which does not permit the catch to be kept on board, as is the case with Horse Mackerel or Blue Whiting. Discards of species of commercial interest also occur, as is the case with Megrin or Hake, due to the size of the individuals caught, and in other cases, large individuals since they deteriorate during trawling. In this area, average trawling time is 5.3 hours per haul, which causes the retention of small sizes and the deterioration of some individuals which, due to their size, would be of commercial interest. The 2nd quarter is the period with the highest value of discard estimation both per 100 f.h. and per total catch. This is particularly due to the amount of Horse Mackerel caught.

The area with maximum discards lies in the area in which fishing effort is lowest.

2 Long line VIIc,h, j, k

The long line fishery in Subarea VII is a fishery unit targeting Hake, which represents 88% of all retained species.

Discards in this fishery represent 10% of the total catch. Approximately 60% of discards primarily comprise two species of fish: Blue Whiting and Great Silver Smelt. Both species show the highest discard values per 100 f.h. in the 3rd quarter.

The main reasons for these discards in this area are the lack of commercial interest of many of the species, such as Great Silver Smelt, and the distance to the landing port in the case of the other commercial species which does not permit the catch to be kept on board, as is the case with Blue Whiting. Discards of species of commercial interest also occur, as is the case with Whiting or Saithe, since Spain lacks a fishing quota in this ICES area. No discards of the target species occur, a fact which, combined with a highly hake orientated fishery unit, means that this fishery presents a very low value of the total discard/first retained species rate (13%). The effort of this fleet is concentrated on the intermediate stratum, in which 66% of fishing hours take place without any increase in the number of discards per hour with respect to the other strata.

3 By-catches of marine mammals, marine reptiles and sea birds

Previous knowledge about the level of interactions of marine mammals in local fisheries was based on anecdotal information obtained through interviews with fishermen and on informal scientific observations made during fishing surveys. There were also some attempts to estimate the level of incidental catches in the local fisheries (García-Castrillo et al., 1992; Nores et al, 1992). None of this information showed the existence of a particular marine mammal by-catch problem in the fisheries involved.

Only 5 specimens, belonging to three different species of sea birds were reported in the total by-catch. No specimens from other taxonomic groups were by-caught during the fishing operations monitored, in any of the areas or during the sampling period. Cetaceans and sea birds were sighted in the fishing grounds and during fishing activities. Sea turtles and pinnipeds were not observed, as they are more scarce in areas where fishing activities occur.

The lack of observations about of entanglement or incidental catches cannot be interpreted as if those events did not happen at all in the different fisheries monitored. The fact is, however, that these events are not detectable with the level of coverage given. The figures relevant to sea bird by-catches are also very low in comparison with other types of fauna present in the catches.

It can be assumed, therefore, that by-catches of marine mammals, sea turtles and sea birds are rare events in these fisheries.

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Table 1. Sampling level by gears and zones, (f.h.= fishing hours).

Gear	Trawl			Long line			Total			Trawl	Long line
	VII	Null	Total	VII	Null	Total	VII	Null			
f. h.	3894		3894	3638		3638	7532				
Hauls	730	152	882	370		370	1100	152	Mean Days/Trips	17	18
Ships	15		15	9		9	24		Mean f.h./Hauls	5.3	9.8
Days	301	11	312	165	7	172	466	18	Mean Hauls/days	2.4	2.2
Trips	18	2	20	9	7	16	27	9	Mean Hauls/Trip	40.6	41.1

Table 2. Weight/length relationship parameters used.

Scientific Name	a	b	Reference
<i>Alosa alosa</i>	0.0096	2.9810	K.A. Cull et al.
<i>Alosa fallax</i>	0.0013	3.5448	K.A. Cull et al.
<i>Antonogadus macrophthalmus</i>	0.0049	3.1129	Pereda and Pérez (In press)
<i>Argentina sphyraena</i>	0.0700	2.9694	Pereda and Pérez (In press)
<i>Arnoglossus laterna</i>	0.0098	2.9397	Pereda and Pérez (In press)
<i>Arnoglossus imperialis</i>	0.0070	3.0372	Pereda and Pérez (In press)
<i>Aspitrygla cuculus</i>	0.0078	3.0801	Pereda and Pérez (In press)
<i>Aspitrygla obscura</i>	0.0083	3.0210	Pereda and Pérez (In press)
<i>Balistes carolinensis</i>	0.0124	3.0890	K.A. Cull et al.
<i>Blennius ocellaris</i>	0.0605	2.3670	Pereda and Pérez (In press)
<i>Buglossidium luteum</i>	0.0226	2.7208	Pereda and Pérez (In press)
<i>Callyonimus lyra</i>	0.0177	2.7235	Pereda and Pérez (In press)
<i>Callyonimus maculatus</i>	0.0017	2.5736	Pereda and Pérez (In press)
<i>Capros aper</i>	0.0652	2.5556	Pereda and Pérez (In press)
<i>Chimaera monstrosa</i>	0.0822	2.9674	Pereda and Pérez (In press)
<i>Conger conger</i>	0.0004	3.3548	Pereda and Pérez (In press)
<i>Eutrigla gurnardus</i>	0.0105	2.9143	Pereda and Pérez (In press)
<i>Gadiculus argenteus</i>	0.0100	2.9507	Pereda and Pérez (In press)
<i>Gadus morhua</i>	0.0080	3.0400	Cárdenas, E. com. pers.
<i>Gaidropsarus vulgaris</i>	0.0108	2.9590	K.A. Cull et al.
<i>Galeus melastomus</i>	0.0023	3.0625	Pereda and Pérez (In press)
<i>Glyptocephalus cynoglossus</i>	0.0040	3.2400	Cárdenas, E. com. pers.
<i>Helicolenus dactylopterus</i>	0.0151	3.0557	Pereda and Pérez (In press)
<i>Lepidion eques</i>	0.0027	3.1955	Pereda and Pérez (In press)
<i>Lepidopus caudatus</i>	0.0020	3.2460	Pereda and Pérez (In press)
<i>Lepidorhombus boscii</i>	0.0065	3.0645	Pereda and Pérez (In press)
<i>Lepidorhombus whiffiagonis</i>	0.0071	3.0059	Pereda and Pérez (In press)
<i>Lophius budegassa</i>	0.0257	2.8866	Pereda and Pérez (In press)
<i>Lophius piscatorius</i>	0.0620	2.5469	Pereda and Pérez (In press)
<i>Melanogrammus aeglefinus</i>	0.0157	2.8300	K.A. Cull et al.
<i>Merlangius merlangus</i>	0.0097	2.9456	K.A. Cull et al.
<i>Merluccius merluccius</i>	0.0051	3.1008	Pereda and Pérez (In press)
<i>Microchirus variegatus</i>	0.0341	2.5969	Pereda and Pérez (In press)
<i>Micromesistius poutassou</i>	0.0066	2.9993	Meixide M. com. pers.
<i>Molva dipterygia</i>	0.0019	3.0307	Pereda and Pérez (In press)
<i>Molva molva</i>	0.0010	3.4362	K.A. Cull et al.
<i>Nephrops norvegicus</i>	0.0004	3.1577	Fariña C. com. pers.
<i>Nezumia sclerorhynchus</i>	0.2500	3.3900	Cárdenas, E. com. pers.
<i>Pagellus bogaraveo</i>	0.0110	3.0790	Sánchez, F.
<i>Pagellus erithrynus</i>	0.0202	2.8700	Pereda and Pérez (In press)
<i>Phycis blennoides</i>	0.0044	3.1636	Pereda and Pérez (In press)
<i>Pollachius pollachius</i>	0.0041	3.2105	Dorel, D.
<i>Pollachius virens</i>	0.0238	2.7374	Dorel, D.
<i>Prionace glauca (Kg)</i>	0.0008	3.1313	Casey J. com. pers
<i>Psetta maxima</i>	0.0040	3.3860	K.A. Cull.
<i>Raja clavata</i>	0.0025	3.2489	Pereda and Pérez (In press)
<i>Raja montagui</i>	0.0036	3.1382	Pereda and Pérez (In press)
<i>Raja naevus</i>	0.0026	3.2157	Pereda and Pérez (In press)
<i>Scomber scombrus</i>	0.0077	2.9817	Villamor, B. com. pers.
<i>Scyliorhinus canicula</i>	0.0023	3.0993	De La Gándara, F. et al.
<i>Solea vulgaris</i>	0.0048	3.1912	Pereda and Pérez (In press)
<i>Squalus acanthias (Male)</i>	0.0058	2.8900	K.A. Cull et al.
<i>Trachurus trachurus</i>	0.0129	2.8545	Abaunza P. com. pers.
<i>Trachyrhynchus trachyrhynchus</i>	0.0010	3.2876	Pereda and Pérez (In press)
<i>Trigla lucerna</i>	0.0080	3.0610	K.A. Cull et al.
<i>Trisopterus luscus</i>	0.0091	3.1165	Pereda and Pérez (In press)
<i>Trisopterus minutus</i>	0.0093	3.0501	Pereda and Pérez (In press)
<i>Zeus faber</i>	0.0335	2.7661	Pereda and Pérez (In press)

Table 3. Spanish, Scientific and English name of the identified species.

Spanish Name	Scientific Name	English Name
PISCES		
ALEPOCÉFALO	<i>Alepocephalus bairdii</i>	BAIRD'S SMOOTH HEAD
	<i>Alepocephalus rostratus</i>	RISSOIS SMOOTH HEAD
SABALO COMUN	<i>Alosa alosa</i>	ALLIS SHAD
ALOSA	<i>Alosa fallax</i>	TWAITE SHAD
MADREANGUILA TRES BARBAS	<i>Antonogadus macrophthalmus</i>	BIGEYE ROCKLING
SABLE NEGRO	<i>Aphanopus carbo</i>	BLACK SCABBARDFISH
ARGENTINA GRANDE	<i>Argentina silus</i>	GREATER SILVER SMELT
PEZ PLATA	<i>Argentina sphyraena</i>	LESSER SILVER SMELT
PEZ HACHA	<i>Argyropelecus hemigymnus</i>	HATCHET FISH
PEZ HACHA	<i>Argyropelecus olfersi</i>	HATCHET FISH
SERRANDEL IMPERIAL	<i>Arnoglossus imperialis</i>	SCALDFISH
PELUDA	<i>Arnoglossus laterna</i>	SCALDFISH
ARETE	<i>Aspitrigla cuculus</i>	RED GURNARD
PEZ BALLESTA	<i>Balistes carolinensis</i>	GREY TRIGGER-FISH
AGUJA	<i>Belone belone</i>	GARFISH
PALOMETA ROJA	<i>Beryx decadactylus</i>	READ BREAM
PALOMETA MACHO	<i>Beryx splendens</i>	SCARLET BREAM
TORILLO	<i>Blennius ocellaris</i>	BUTTERFLY BLENNY
JAPUTA	<i>Brama brama</i>	RAY'S BREAM
BROSMIO	<i>Brosme brosme</i>	TORSK
TAMBOR	<i>Buglossidium luteum</i>	SOLENETTE
LAGARTO	<i>Callionymus lyra</i>	DRAGONET
LAGARTO MANCHADO	<i>Callionymus maculatus</i>	SPOTTED DRAGONET
DRAGONCILLO	<i>Callionymus reticulatus</i>	RETICULATE DRAGONET
OCHAVO	<i>Capros aper</i>	BOAR FISH
PAILONA	<i>Centroscyminus coelolepis</i>	PORTUGUESE SHARK
GRANADERO GLOBOSO	<i>Cetonus globiceps</i>	GLOBEHEAD GRENADIER
PEREGRINO	<i>Cetorhinus maximus</i>	BASKING SHARK
BORRICO	<i>Chimaera monstrosa</i>	RATFISH
ARENQUE	<i>Clupea harengus</i>	ATLANTIC HERRING
PEZ RATA	<i>Coelorthynchus coelorthynchus</i>	BLACKSPOT GRENADIER
CONGRIO	<i>Conger conger</i>	EUROPEAN CONGER
GRANADERO	<i>Coryphaenoides rupestris</i>	ROUND NOSE GRENADIER
TOLLO	<i>Deania calceus</i>	BIRD BEAK DOGFISH
	<i>Diaphus rafinesquei</i>	LANTERNFISH
ACEDIA	<i>Dicologlossa cuneata</i>	THICKBACK SOLE
RUBIOCA	<i>Echiodon drummondii</i>	PEARL FISH
BOCA NEGRA	<i>Epigonus telescopus</i>	BLACK CARDINAL FISH
NEGRITO	<i>Etmopterus spinax</i>	VELVET BELLY
BORRACHO	<i>Eutrigla gurnardus</i>	GREY GURNARD
FANECA PLATEADA	<i>Gadiculus argenteus</i>	SILVER POUT
BACALAO	<i>Gadus morhua</i>	ATLANTIC COD
BERTORELLA	<i>Gaidropsarus mediterraneus</i>	SHORE ROCKLING
LOTA	<i>Gaidropsarus vulgaris</i>	THREE-BEARDEN ROCKLING
CAZON	<i>Galeorhinus galeus</i>	TOPE SHARK
PINTARROJA BOCANEGRA	<i>Galeus melastomus</i>	BLACK-MOUTHED DOGFISH
MENDO	<i>Glyptocephalus cynoglossus</i>	WITCH
	<i>Halargyreus johnsonii</i>	
GALLINETA	<i>Helicolenus dactylopterus</i>	BLUE-MOUTH
CAÑABOTA	<i>Hexanchus griseus</i>	SIX-GILLED SHARK
PLATJA AMERICANA	<i>Hippoglossoides platessoides</i>	LONG ROUGH DAB
FLETAN	<i>Hippoglossus hippoglossus</i>	ATLANTIC HALIBUT
RELOJ	<i>Hoplostethus mediterraneus</i>	ROSY SOLDIERFISH
LUNA REAL	<i>Lampris guttatus</i>	OPAH
	<i>Lepidion eques</i>	
PEZ CINTO	<i>Lepidopus caudatus</i>	SCABBARD-FISH
GALLO	<i>Lepidorhombus boscii</i>	FOUR SPOTS MEGRIM
GALLO	<i>Lepidorhombus whiffiagonis</i>	MEGRIM
CABETE	<i>Lepidotrigla cavillone</i>	LARGE-SCALED GURNARD
LIMANDA	<i>Limanda limanda</i>	COMMON DAB
RAPE NEGRO	<i>Lophius budegassa</i>	BLACK-BELLIED ANGLER
RAPE BLANCO	<i>Lophius piscatorius</i>	ANGLERFISH
TROMPETERO	<i>Macroramphosus scolopax</i>	SNIFE-FISH
GRANADERO	<i>Malacocephalus laevis</i>	SOFT HEAD GRANADIER
EGLIFINO	<i>Melanogrammus aeglefinus</i>	HADDOCK
MERLAN	<i>Merlangius merlangus</i>	WHITING
MERLUZA EUROPEA	<i>Merluccius merluccius</i>	HAKE EUROPEAN
ACEDIA	<i>Microchirus variegatus</i>	WEDGE SOLE
BACALADILLA	<i>Micromesistius poutassou</i>	BLUE WHITING
FALSA LIMANDA	<i>Microstomus kitt</i>	LEMON SOLE
MARUCA AZUL	<i>Molva dipterygia</i>	BLUE LING
MARUCA	<i>Molva molva</i>	LING
MORA MOLLERA	<i>Mora moro</i>	COMMON MORA

Table 3. Spanish, Scientific and English name of the identified species.

Spanish Name	Scientific Name	English Name
MUSOLA DENTUDA	<i>Mustelus asterias</i>	STARRY SMOOTH HOUND
AGUILA MARINA	<i>Myliobatis aquila</i>	EAGLE RAY
PEZ AGAZADICHA	<i>Nemichthys scolopaceus</i>	SNIPE EEL
NEZUMIA	<i>Nezumia aequalis</i>	SMOOTH RATTAIL
GRANADERO	<i>Nezumia sclerorhynchus</i>	ROUGHTIP GRENADIER
BESUGO	<i>Notacanthus bonapartei</i>	SHORTFIN SPINY EEL
BRECA	<i>Pagellus bogaraveo</i>	RED SEA BREAM
BROTOLA DE FANGO	<i>Pagellus erythrinus</i>	PANDORA
BROTOLA DE ROCA	<i>Phycis blennoides</i>	GREATER FORK BEARD
SOLLA	<i>Phycis phycis</i>	FORK BEARD
ABADEJO	<i>Pleuronectes platessa</i>	PLAICE
CARBONERO	<i>Pollachius pollachius</i>	POLLACK LYTHER
CHERNA	<i>Pollachius virens</i>	SAITHE
CABUCHINO	<i>Polyprion americanus</i>	STONE BASS
TINTORERA	<i>Pomatoschistus minutus</i>	SAND GOBY
RODABALLO DEL MAR NEGRO	<i>Prionace glauca</i>	BLUE SHARK
NORIEGA	<i>Psetta maxima</i>	BLACK SEA TURBOT
RAYA BOCA DE ROSA	<i>Raja batis</i>	SKATE
RAYA FALSA VELA	<i>Raja brachyura</i>	BLOND RAY
RAYA COMÚN	<i>Raja circularis</i>	SANDY RAY
RAYA CARDADORA	<i>Raja clavata</i>	THORNBACK RAY
RAYA CIMBREIRA	<i>Raja fullonica</i>	SHAGREEN RAY
RAYA PINTADA	<i>Raja microcellata</i>	PAINTED RAY
RAYA SANTIAGUESA	<i>Raja montagui</i>	SPOTTED RAY
PICON	<i>Raja naevus</i>	CUCKOO RAY
BARBUDA CUATRO BARBILLAS	<i>Raja oxyrinchus</i>	LONG NOSE SKATE
CABALLA	<i>Rhinonemus cimbricus</i>	FOUR-BEARDED ROCKLING
PINTARROJA	<i>Scomber scombrus</i>	MACKEREL ATLANTIC
ALITAN	<i>Scyllorhinus canicula</i>	DOGFISH
BRUJA	<i>Scyllorhinus stellaris</i>	NURSEHOUND
QUELVACHO NEGRO	<i>Scymnodon ringens</i>	KNIFETOOTH DOGFISH
LENGUADO COMÚN	<i>Scymnorhinus licha</i>	LEAF-SCALE GULPER SHARK
MIELGA	<i>Solea vulgaris</i>	SOLE
CHICHARRO	<i>Squalus acanthias</i>	SPURDOG
JUREL	<i>Synaphobranchus kaupi</i>	CUT-THROAT EEL
PEZ RATA	<i>Trachurus picturatus</i>	OFFSHORE JACK MACKEREL
BEJEL	<i>Trachurus trachurus</i>	HORSE MACKEREL
GARNEO	<i>Trachyrhynchus trachyrhynchus</i>	ROUGHNOSE RATTAIL
FANEA NORUEGA	<i>Trigla lucerna</i>	TUB GURNARD
FANEA	<i>Trigla lyra</i>	PIPER
CAPELLAN	<i>Trisopterus esmarkii</i>	NORWAY POUT
PEZ ESPADA	<i>Trisopterus luscus</i>	POUT
PEZ DE SAN PEDRO	<i>Trisopterus minutus</i>	POOR COD
CRUSTACEA	<i>Xenodermichthys copei</i>	BLUNTSNOUT SMOOTH-HEAD
CANGREJO PILOSO	<i>Xiphias gladius</i>	SWORDFISH
CANGREJO CON ESPINAS	<i>Zeus faber</i>	JOHN DORY ATLANTIC
CANGREJO REAL CALAPA	<i>Atelecyclus rotundatus</i>	
BUEY DE PROFUNDIDAD	<i>Bathynectes maravigna</i>	CRAB
BUEY	<i>Calappa granulata</i>	SHEM FACE CRAB
GAMBA VERDE	<i>Cancer bellianus</i>	TOTHED CRAB
CORISTES	<i>Cancer pagurus</i>	EDIBLE CRAB
GAMBA	<i>Chlorotocus crassicomis</i>	GREEN SHRIMP
CANGREJO MEDITERRANEO	<i>Corystes cassivelaunus</i>	
CANGREJO CUADRADO	<i>Dichelopandalus bonnier</i>	WHIP SHRIMP
INACHUS DORSETTENSIS	<i>Geryon longipes</i>	
INACHUS	<i>Goneplax rhomboides</i>	
PERCEBE BRAVO	<i>Inachus dorsettensis</i>	CRAB
FALSA NECORA	<i>Inachus leptochirus</i>	
LIOCARCINUS MARMOREU	<i>Lepas anatifera</i>	GOOSE BARNACLE
NECORA NUDOSA	<i>Liocarcinus depurator</i>	BLUE-LEG SWIMCRAB
MACROPODIA LONGIPES	<i>Liocarcinus marmoreus</i>	SWIMMING CRAB
CENTOLLA	<i>Macropipus tuberculatus</i>	KNOBBY SWIMCRAB
CIGALA	<i>Macropodia longipes</i>	
ERMITAÑO	<i>Maja squinado</i>	SEA SPIDER
ERMITAÑO COMUN	<i>Nephrops norvegicus</i>	NORWAY LOBSTER
LANGOSTA COMÚN	<i>Pagurus alatus</i>	HERMITCRAB
GAMBA BLANCA	<i>Pagurus prideauxi</i>	HERMIT CRAB
PARAMOLA	<i>Palinurus elephas</i>	COMMON SPINY LOBSTER
CAMARON CRISTAL	<i>Parapaeneus longirostris</i>	DEEP-WATER PINK SHRIMP
CAMARON BLANCO	<i>Paromola cuvieri</i>	PAROMOLA
CAMARON FLECHA	<i>Pasiphaea multidentata</i>	PINK GLASS SHRIMP
	<i>Pasiphaea sivado</i>	WHITE GLASS SHRIMP
	<i>Plesionika heterocarpus</i>	ARROW SHRIMP

Table 3. Spanish, Scientific and English name of the identified species.

Spanish Name	Scientific Name		English Name
PATESO	<i>Polybius</i>	<i>henslowii</i>	
POLYCHELES TYPHLOPS	<i>Polycheles</i>	<i>typhlops</i>	
PICNOGONIDO	<i>Pycnogonum</i>	<i>littorale</i>	
SCALPELLUM	<i>Scalpellum</i>	<i>scalpellum</i>	
GAMBA ATLANTICA	<i>Solenocera</i>	<i>membranacea</i>	MUD SHRIMP
MOLLUSCA			
GLOBITO	<i>Allorossia</i>	<i>glaucopsis</i>	
PIE DE GANSO	<i>Aporthais</i>	<i>serreseanus</i>	SERREIS PELICA-FOOT
BOCINA	<i>Argobuccinum</i>	<i>olearium</i>	OIL-VESSEL TRITON
PULPO MORADO	<i>Bathypolipus</i>	<i>sponsalis</i>	GLOBOSE OCTOPUS
PEONZA GRANULADA	<i>Calliostoma</i>	<i>granulatum</i>	GRANULAR TOP-SHELL
CASCO TIRRENO	<i>Cassidaria</i>	<i>thirrhena</i>	RUGOSE BONNET
CORNO	<i>Charonia</i>	<i>rubicunda</i>	COMMON SCALLOP
CABEZÓN	<i>Eledone</i>	<i>cirrhosa</i>	CURLED CTOPUS
CORAZON DE BUEY	<i>Glossus</i>	<i>humanus</i>	OXHEART COCKLE
POTA VOLADORA	<i>Illex</i>	<i>coindetii</i>	BROADTAIL SHORTFIN SQUID
CALAMAR VETEDO	<i>Loligo</i>	<i>forbesi</i>	VEINED SQUID
CALAMAR	<i>Loligo</i>	<i>vulgaris</i>	COMMON SQUID
GLOBITO CORALINO	<i>Neorossia</i>	<i>caroli</i>	CAROL BOBTAIL
PULPO COMUN	<i>Octopus</i>	<i>vulgaris</i>	COMMON OCTOPUS
	<i>Opisthoteuthis</i>	<i>agassizi</i>	
VIEIRA	<i>Pecten</i>	<i>maximus</i>	GREAT ATLANTIC SCALLOP
MEJILLO GIGANTE	<i>Pinna</i>	<i>pectinata</i>	PEN SHELL
GLOBITO PEQUEÑO	<i>Rondeletiola</i>	<i>minor</i>	LENTIL BOBTAIL
SEPIOLA	<i>Rossia</i>	<i>macrosoma</i>	ROSS' CUTTLE
SCAPHANDER LIGNARIUS	<i>Scaphander</i>	<i>lignarius</i>	CANVE BUBBLE-SHELL
	<i>Semicassis</i>	<i>saburon</i>	
CHOQUITO	<i>Sepia</i>	<i>elegans</i>	ELEGANT CUTTLE FISH
CHOQUITO PICUDO	<i>Sepia</i>	<i>orbignyana</i>	PINK CUTTLE FISH
POTA EUROPEA	<i>Todarodes</i>	<i>sagittatus</i>	FLYING SQUID
POTA COSTERA	<i>Todaropsis</i>	<i>eblanae</i>	LESSER FLYING SQUID
VENUS VERRUCOSA	<i>Venus</i>	<i>verrucosa</i>	WARTY VENUS
ECHINODERMATA			
ESTRELLA PALMIPEDA	<i>Anseropoda</i>	<i>membranacea</i>	GOOSE-PIED STARFISH
OFIURA	<i>Asteronyx</i>	<i>loventi</i>	
ESTRELLA	<i>Astropecten</i>	<i>auranticus</i>	STARFISH
ESTRELLA DE ARENA	<i>Astropecten</i>	<i>irregularis</i>	STARFISH
ERIZO DE PUAS GRUASAS	<i>Cidaris</i>	<i>cidaris</i>	SEA URCHIN
ERIZO DE HONDURA	<i>Echinus</i>	<i>acutus</i>	SEA URCHIN
ERIZO	<i>Echinus</i>	<i>esculentus</i>	SEA URCHIN
ERIZO	<i>Echinus</i>	<i>melo</i>	SEA URCHIN
COHOMBRO NEGRO	<i>Holothuria</i>	<i>forskali</i>	SEA-CUCUMBER
CLAVELINA DE HONDURA	<i>Leptometra</i>	<i>celtica</i>	
ESTRELLA DE SIETE BRAZOS	<i>Luidia</i>	<i>ciliaris</i>	SEVEN RAYED STARFISH
LUIDIA SANSI	<i>Luidia</i>	<i>sarsi</i>	
ESTRELLA	<i>Nymphaster</i>	<i>arenatus</i>	
ERIZO IRREGULAR	<i>Ophiothrix</i>	<i>fragilis</i>	SPINY BRITTLE-STAR
OFIURA DE ESCAMAS	<i>Ophiura</i>	<i>texturata</i>	
ERIZO PLANO	<i>Phormosoma</i>	<i>placenta</i>	
ESTRELLA DE MAR	<i>Porania</i>	<i>pulvillus</i>	
ESTRELLA	<i>Psilaster</i>	<i>andromeda</i>	
	<i>Spatangus</i>	<i>purpureus</i>	
ESTRELLA	<i>Stichastrella</i>	<i>rosea</i>	STARFISH
COHOMBRO DE MAR REAL	<i>Stichopus</i>	<i>regalis</i>	ROYAL CUCUMBER
AVES			
FULMAR	<i>Fulmarus</i>	<i>glacialis</i>	FULMAR NORTHERN
PARDELA PICHONETA	<i>Puffinus</i>	<i>puffinus</i>	MANY SHEARWATER
ALCATRAZ COMUN	<i>Sula</i>	<i>bassana</i>	NORTHERN GANNET
OTHER GROUPS			
ACTINIA	<i>Actinauge</i>	<i>richardi</i>	
RATON DE MAR	<i>Aphroditae</i>	<i>aculeata</i>	
	<i>Aurelia</i>	<i>aurita</i>	COMMON JELLYFISH
	<i>Caryophyllia</i>	<i>smithi</i>	
	<i>Epizoantus</i>	<i>paguriphilus</i>	INCRUSTING SEA ANEMONE
POLIQUETO ERRANTE	<i>Hyalinoecia</i>	<i>tubicola</i>	
ESPIROGRAFO	<i>Sabella</i>	<i>pavonia</i>	PEACOK WORM

Table 4. Catches and discards (kg) per 100 f.h. (approx. 19 hauls) in the Spanish TRAWLER fleet in ICES Subarea VII in 1994.

Species	Quarters												Total Ratio				
	1			2			3			4			Total		Discard	Discard	Discard
	Catch	Discard	%	Catch	Discard	%	Catch	Discard	%	Catch	Discard	%	Catch	Discard	1 so Ret.	Ret Cat	1 so Ret.
AVES																	
<i>Sula bassana</i>			100	1	1	100							1	1	100		0.1
PISCES																	
<i>Argentina silus</i>	260	260	100	669	669	100	1144	1144	100	1536	1536	100	996	996	100		38.2
<i>Trachurus trachurus</i>	1018	1018	100	2324	2324	100	108	108	100	73	73	100	756	756	100		29.0
<i>Micromesistius poutassou</i>	670	670	100	291	291	100	915	913	100	917	917	100	732	731	100	142419	28.1
<i>Capros aper</i>	333	333	100	566	566	100	108	108	100	100	100	100	249	249	100		9.6
<i>Scyliorhinus canicula</i>	230	188	82	244	238	97	488	487	100	112	112	100	254	244	96	2438	9.4
<i>Scomber scombrus</i>	591	591	100	183	183	100	2	2	100	7	7	100	163	163	100		6.2
<i>Eutrigla gurnardus</i>	35	35	100	42	42	100	350	302	87	214	198	92	173	156	90	928	6.0
<i>Lepidorhombus whiffiagonis</i>	1143	88	8	1834	158	9	2006	165	8	1505	112	7	1621	130	8	9	5.0
<i>Hippoglossoides platessoides</i>	74	42	57	27	27	100	126	126	100	152	144	94	103	94	91	998	3.6
<i>Raja naevus</i>	53	53	100	211	211	100	90	90	100	83	46	55	106	93	88	740	3.6
<i>Helicolenus dactylopterus</i>	101	99	99	70	51	74	143	75	53	98	94	96	103	81	79	379	3.1
<i>Merluccius merluccius</i>	3053	69	2	1940	235	12	2041	47	2	3389	14	0	2687	86	3	3	3.1
<i>Trisopterus minutus</i>	27	27	100	69	69	100	121	104	86	89	89	100	80	76	95	1856	2.9
<i>Raja microocellata</i>	8	8	100				267	209	78	102	46	45	100	67	67	203	2.6
<i>Gadiculus argenteus</i>	9	9	100	12	12	100	16	16	100	168	168	100	66	66	100		2.5
<i>Lepidorhombus boscii</i>	252	34	13	390	66	17	235	49	21	302	89	29	294	63	21	27	2.4
<i>Argentina sphyraena</i>				84	84	100	39	39	100	85	85	100	56	56	100		2.2
<i>Raja fullonica</i>				194	194	100				8	8	100	44	44	100		1.7
<i>Trachyrhynchus trachyrhynchus</i>	163	163	100	1	1	100	13	13	100	15	15	100	42	42	100		1.6
<i>Lepidon eques</i>	49	49	100	4	4	100	9	9	100	44	44	100	28	28	100		1.1
<i>Aspitrigla cuculus</i>	24	24	100	18	18	100	58	58	100	15	15	100	28	28	100		1.1
<i>Cetorhinus maximus</i>										68	68	100	23	23	100		0.9
<i>Hoplostethus mediterraneus</i>	1	1	100	1	1	100	62	62	100	15	15	100	20	20	100		0.8
<i>Chimaera monstrosa</i>	2	2	100	2	2	100	4	4	100	52	52	100	20	20	100		0.8
<i>Merlangius merlangus</i>	4	4	100	3	3	100	57	56	99	95	12	13	48	19	40	67	0.7
<i>Malacocephalus laevis</i>	8	8	100	29	29	100	9	9	100	26	26	100	19	19	100		0.7
<i>Phycis blennoides</i>	253	13	5	89	17	19	231	15	6	221	25	11	202	18	9	10	0.7
<i>Hexanchus griseus</i>	1	1	100				3	3	100	48	48	100	17	17	100		0.7
<i>Etmopterus spinax</i>	8	8	100	7	7	100	0	0	100	34	34	100	15	15	100		0.6
<i>Cetonus globiceps</i>										41	41	100	14	14	100		0.5
<i>Arnoglossus imperialis</i>	17	17	100	26	26	100	2	2	100	8	8	100	12	12	100		0.5
<i>Glyptocephalus cynoglossus</i>	133	7	5	105	7	6	164	7	4	178	17	9	150	10	7	7	0.4
<i>Raja batis</i>	24	19	79	16	16	100				7	7	100	11	10	90	941	0.4
<i>Alepocephalus bairdii</i>				4	4	100				25	25	100	10	10	100		0.4
<i>Deania calceus</i>	0	0	100	0	0	100	0	0	100	27	27	100	9	9	100		0.4
<i>Trigla lucerna</i>							17	17	100	12	12	100	8	8	100		0.3
<i>Lophius budegassa</i>	406	4	1	541	11	2	157	5	3	294	8	3	337	7	2	2	0.3
<i>Lophius piscatorius</i>	967	12	1	832	5	1	619	6	1	745	5	1	779	7	1	1	0.3
<i>Galeus melastomus</i>	35	5	14	7	3	37	63	5	9	11	11	99	27	6	24	31	0.2
<i>Molva dipterygia</i>	6	3	42	76	5	6	7	4	55	24	11	48	27	6	23	30	0.2
<i>Raja spp.</i>	31	2	6	6			107	20	18	103	4	4	69	7	10	11	0.3
<i>Trigla lyra</i>	1	1	100				2	2	100	13	13	100	5	5	100		0.2
<i>Coelorhynchus coelorhynchus</i>	2	2	100	1	1	100	2	2	100	10	10	100	5	5	100		0.2
<i>Melanogrammus aeglefinus</i>	26	13	50	12	7	60	1	0	67	3	0	6	9	4	49	95	0.2
<i>Centroscymnus coelolepis</i>	0	0	100	2	2	100	0	0	100	10	10	100	4	4	100		0.2
<i>Squalidae</i>							0			11	11	100	4	4	98	4432	0.1
<i>Gadropsarus vulgaris</i>				0	0	100	1	1	69	9	9	97	3	3	95	1965	0.1
<i>Raja circularis</i>	0	0	100	0			1	1	100	8	8	100	3	3	98	3927	0.1
<i>Scymnorhinus licha</i>	7	7	100	2	2	100				3	3	100	3	3	100		0.1
<i>Nezumia aequalis</i>	10	10	100	3	3	100	1	1	100				3	3	100		0.1
<i>Macrouridae undetermined</i>							5	5	100	4	4	100	3	3	100		0.1
<i>Microchirus variegatus</i>	3	3	100	6	6	100				1	1	100	2	2	100		0.1
<i>Arnoglossus laterna</i>							9	9	100	0	0	100	2	2	100		0.1
<i>Etmopterus spp.</i>							9	9	100				2	2	100		0.1
<i>Callionymus reticulatus</i>							2	2	100	4	4	100	2	2	100		0.1
<i>Microstomus kitt</i>	21	2	11	2	2	100	1	0	60	2	2	89	6	2	28	39	0.1
<i>Pleuronectes platessa</i>	0						6	6	100	4			3	1	52	109	0.1
<i>Myctophoidae undetermined</i>										4	4	100	1	1	100		0.0
<i>Scymnodom ringens</i>										4	4	100	1	1	100		0.0
<i>Synphobranchius kaupii</i>	1	1	100				1	1	100	2	2	100	1	1	100		0.0
<i>Callionymus maculatus</i>	0	0	100	4	4	100	0	0	100	0	0	100	1	1	100		0.0
<i>Raja montagui</i>	0	0	100	5	5	100							1	1	100		0.0
<i>Buglossidium luteum</i>							4	4	100				1	1	100		0.0
<i>Gadus morhua</i>	7			28	4	13	103			130			77	1	1	1	0.0
<i>Beryx decadactylus</i>	5						0			7	2	32	3	1	22	29	0.0
<i>Pollachius virens</i>	97	3	3	10			33			44	0	0	45	1	2	2	0.0
<i>Callionymus lyra</i>	0	0	100	1	1	100	0	0	100	0	0	100	0	0	100		0.0
<i>Balistes carolinensis</i>										1	1	100	0	0	100		0.0
<i>Trisopterus esmarkii</i>				1	1	100				1	1	100	0	0	100		0.0
<i>Phycis phycis</i>	0	0	100				1	0	28	25	1	3	9	0	4	4	0.0
<i>Microchirus spp.</i>				1	1	100							0	0	100		0.0
<i>Monidae undetermined</i>										1	1	100	0	0	100		0.0
<i>Solea vulgaris</i>	0						1	1	100	0	0	100	0	0	80	413	0.0
<i>Nemichthys scolopacea</i>										1	1	100	0	0	100		0.0
<i>Halargyreus johnsonii</i>										1	1	100	0	0	100		0.0
<i>Nolacanthus bonapartei</i>				0	0	100				0	0	100	0	0	100		0.0
<i>Alosa alosa</i>				1	1	100							0	0	100		0.0
<i>Zeus faber</i>	0	0	100	0	0	100	1			2	0	5	1	0	16	19	0.0
<i>Coryphaenoides rupestris</i>										0	0	100	0	0	100		0.0
<i>Trachurus picturatus</i>										0	0	100	0	0	100		0.0
<i>Antonogadus macrophthalmus</i>	0	0	100	0	0	100							0	0	100		0.0
<i>Macroramphosus scolopax</i>							1	1	100				0	0	100		0.0
<i>Mustelus asterias</i>	1	1	50										0	0	50	100	0.0
<i>Xenodermichthys copei</i>	1	1	100										0	0	100		0.0
<i>Raja oxyrinchus</i>				0	0	100							0	0	100		0.0

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Table 4. Catches and discards (kg) per 100 f.h. (approx. 19 hauls) in the Spanish TRAWLER fleet in ICES Subarea VII in 1994.

Species	Quarters												Total			Total Ratio		
	1			2			3			4			Total		Discard	Discard	Discard	
	Catch	Discard	%	Catch	Discard	%	Catch	Discard	%	Catch	Discard	%	Catch	Discard	Ret Cat	Ret Cat	1 sp Ret	
<i>Dicologlossa cuneata</i>							0	0	100				0	0	0	100	0.0	
<i>Blennius ocellaris</i>	0	0	100	0	0	100							0	0	100	0.0		
<i>Molva molva</i>	56	0	1	56	0	100	67			88			70	0	0	0.0		
<i>Limanda limanda</i>				0	0	100							0	0	100	0.0		
<i>Echiodon drummondii</i>				0	0	100							0	0	100	0.0		
<i>Gaidropsarus mediterraneus</i>				0	0	100							0	0	100	0.0		
Pisces undetermined	85			143						29			58					
<i>Conger conger</i>	8			14			52			19			24					
<i>Galeorhinus galeus</i>	24			13						5			9					
<i>Squalus acanthias</i>	8			24			5						8					
<i>Aphanopus carbo</i>							0			12			4					
<i>Lampris guttatus</i>							4						1					
<i>Hippoglossus hippoglossus</i>										1			0					
<i>Mora moro</i>	2												0					
<i>Psetta maxima</i>							1						0					
<i>Myliobatis aquila</i>	1												0					
<i>Brosme brosme</i>										0			0					
<i>Lepidopus caudatus</i>							0						0					
<i>Alosa fallax</i>							0						0					
<i>Pagellus bogaraveo</i>							0						0					
<i>Alepocephalus rostratus</i>													+	+	100			
<i>Argyroteleus daucus</i>													+	+	100			
<i>Clupea harengus</i>													+	+	100			
<i>Diaphus rafinesquei</i>													+	+	100			
<i>Lampadena</i> spp.													+	+	100			
<i>Lepidotrygla cavillone</i>													+	+	100			
<i>Pomatoschistus</i> spp.													+	+	100			
<i>Rhinonemus cimbrius</i>													+	+	100			
<i>Solea</i> spp.													+	+	100			
Pisces undetermined										0	0	100	0	0	100	0.0		
CRUSTACEA																		
<i>Geryon longipes</i>	611	611	100	104	104	100	1366	1364	100	556	556	100	664	664	100	152096	25.5	
<i>Munida</i> spp.	143	143	100	212	212	100	64	64	100	344	344	100	208	208	100		8.0	
<i>Nephrops norvegicus</i>	198	17	9	1488	15	1	506	47	9	338	26	8	596	27	5	5	1.0	
<i>Macropipus tuberculatus</i>	8	8	100	12	12	100	43	43	100	7	7	100	17	17	100		0.6	
Paguroidea	3	3	100	12	12	100	19	19	100	12	12	100	12	12	100		0.5	
<i>Pagurus prideauxi</i>	20	20	100	16	16	100	4	4	100				8	8	100		0.3	
<i>Pagurus alatus</i>				23	23	100				4	4	100	6	6	100		0.2	
<i>Liocarcinus depurator</i>	5	5	100	18	18	100	2	2	100	1	1	100	6	6	100		0.2	
<i>Dichelopandalus bonnieri</i>	0	0	100				6	5	84	8	8	100	4	4	95	1776	0.2	
<i>Macropodia longipes</i>	13	13	100	0	0	100							3	3	100		0.1	
<i>Bathynectes maravigna</i>	0	0	100	1	1	100	7	7	100	2	2	100	3	3	100		0.1	
<i>Solenocera membranacea</i>	2	2	100	2	2	100	0	0	100	0	0	100	1	1	100		0.0	
<i>Cancer bellianus</i>				0	0	100	2	2	100				1	1	100		0.0	
<i>Paromola cuvieri</i>							2	2	100	0	0	100	0	0	100		0.0	
Crustacea undetermined							2	2	100	0	0	100	1	0	86	607	0.0	
<i>Maja squinado</i>	1	1	100										0	0	100		0.0	
<i>Polybius henslowii</i>	1	1	100										0	0	100		0.0	
<i>Plesionika heterocarpus</i>				0	0	100				0	0	100	0	0	100		0.0	
<i>Pasiphaea multidentata</i>										0	0	100	0	0	100		0.0	
<i>Polycheles typhlops</i>							0	0	100	0	0	100	0	0	100		0.0	
<i>Atelecyclus rotundatus</i>	0	0	100	0	0	100							0	0	100		0.0	
Penaeidea										0	0	100	0	0	100		0.0	
<i>Pasiphaea sivado</i>				0	0	100	0	0	100				0	0	100		0.0	
<i>Galathea</i> spp.				0	0	100							0	0	100		0.0	
<i>Callinectes</i> spp.										0	0	100	0	0	100		0.0	
<i>Chlorotocus crassicornis</i>										0	0	100	0	0	100		0.0	
<i>Inachus leptochirus</i>							0	0	100				0	0	100		0.0	
<i>Scalpellum scalpellum</i>				0	0	100							0	0	100		0.0	
<i>Macropodia</i> spp.							0	0	100				0	0	100		0.0	
<i>Parapaeneus longirostris</i>	0	0	100										0	0	100		0.0	
<i>Goneplax rhomboides</i>							0	0	100				0	0	100		0.0	
<i>Inachus</i> spp.							0	0	100				0	0	100		0.0	
<i>Cancer pagurus</i>							1						0					
<i>Palinurus elephas</i>										0			0					
<i>Corystes cassivelaunus</i>													+	+	100			
Crangonidae													+	+	100			
<i>Inachus dorsettensis</i>													+	+	100			
<i>Lepas anatifera</i>													+	+	100			
<i>Liocarcinus marmoreus</i>													+	+	100			
Picnogonida													+	+	100			
<i>Processa</i> spp.													+	+	100			
<i>Pycnogonum littorale</i>													+	+	100			
Xanthidae													+	+	100			
MOLLUSCA																		
<i>Illex coindetii</i>	1279	750	59	497	350	70	1	1	100	26	26	100	377	237	63	170	9.1	
<i>Todaropsis eblanae</i>	356	336	94	71	69	97	10	10	100	20	20	100	97	92	95	1944	3.5	
<i>Eledone cirrhosa</i>	80	78	98	61	23	37	30	14	45	77	38	50	63	37	59	144	1.4	
<i>Opistholeuthis agassizi</i>	0	0	100				1	1	100	46	46	100	16	16	100		0.6	
<i>Todarodes sagittatus</i>	158						9	8	94	43	40	95	49	16	32	48	0.6	
<i>Loligo vulgaris</i>	41	19	47	22	16	73	0			3	3	88	14	8	59	143	0.3	
Gasteropoda				0	0	100	5	5	100	9	9	100	4	4	100		0.2	
<i>Octopus vulgaris</i>	13	13	100	7	7	100				0	0	100	4	4	100		0.2	
<i>Bathypolipus</i> spp.										9	9	100	3	3	100		0.1	
<i>Sepia orbignyana</i>	3	3	100	4	4	100	1	1	100	1	1	100	2	2	100		0.1	
<i>Coralliophila</i> spp.				1	1	100	3	3	100	3	3	100	2	2	100		0.1	
<i>Turritella</i> spp.	4	4	100	2	2	100				2	2	100	2	2	100		0.1	
<i>Rossia macrosoma</i>				5	5	100	0	0	100	1	1	100	2	2	100		0.1	
<i>Scaphander lignarius</i>	3	3	100	5	5	100	0	0	100				2	2	100		0.1	

Table 4. Catches and discards (kg) per 100 f.h. (approx. 19 hauls) in the Spanish TRAWLER fleet in ICES Subarea VII in 1994.

Species	Quarters												Total			Total Ratio		
	1			2			3			4			Total		Discard Ret.Cat	Discard 1 sp Ret		
	Catch	Discard	%	Catch	Discard	%	Catch	Discard	%	Catch	Discard	%	Catch	Discard				
<i>Neorossia caroll</i>				2	2	100	3	3	100	0	0	100	1	1	100		0.0	
<i>Charonia rubicunda</i>	4	4	100										1	1	100		0.0	
<i>Argobuccinum olearium</i>	1	1	100	2	2	100	0	0	100	0	0	100	1	1	100		0.0	
Octopidae							3	3	100				1	1	100		0.0	
<i>Pinna</i> spp.	3	3	100										1	1	100		0.0	
Cephalopoda eegs							1	1	100	0	0	100	0	0	100		0.0	
<i>Loligo</i> spp.										7	1	12	2	0	12	14	0.0	
<i>Sepiolo</i> spp.				0	0	100				0	0	100	0	0	100		0.0	
<i>Glossus humanus</i>	1	1	100										0	0	100		0.0	
<i>Pinna pectinata</i>				1	1	100							0	0	100		0.0	
<i>Bathypolipus sponsalis</i>	0	0	100	0	0	100							0	0	100		0.0	
<i>Venus verrucosa</i>	0	0	100	0	0	100							0	0	100		0.0	
<i>Ostrea</i> spp.	0	0	100										0	0	100		0.0	
<i>Allorossia glaucopsis</i>	0	0	100										0	0	100		0.0	
<i>Buccinum</i> spp.	0	0	100										0	0	100		0.0	
<i>Aporrhais serreseanus</i>	0	0	100										0	0	100		0.0	
<i>Cassidaria tithena</i>							0	0	100				0	0	100		0.0	
Ommastrephidae				117									25					
<i>Loligo forbesi</i>	2												0					
<i>Pecten maximus</i>	1												0					
<i>Calliostoma granulatum</i>													+	+	100			
Pectinidae													+	+	100			
<i>Rondeletiola minor</i>													+	+	100			
<i>Sepia elegans</i>													+	+	100			
<i>Venus</i> spp.													+	+	100			
Mollusca undetermined	2												0					
ECHINODERMATA																		
<i>Stichopus</i> spp.	177	177	100	23	23	100	7	7	100	46	46	100	58	58	100		2.2	
<i>Molpadonus</i> spp.							215	215	100				52	52	100		2.0	
<i>Stichopus regalis</i>	48	48	100	72	72	100	20	20	100	44	44	100	45	45	100		1.7	
<i>Echinus acutus</i>	36	36	100	102	102	100	3	3	100	7	7	100	32	32	100		1.2	
<i>Spatangus purpureus</i>	99	99	100	4	4	100	3	3	100	21	21	100	29	29	100		1.1	
<i>Ophiothrix fragilis</i>	4	4	100	57	57	100	3	3	100	1	1	100	14	14	100		0.5	
<i>Astropecten irregularis</i>	6	6	100	28	28	100	9	9	100	14	14	100	14	14	100		0.5	
Holothuroidea undetermined							25	25	100				6	6	100		0.2	
Asteroidea undetermined	1	1	100	10	10	100	1	1	100	3	3	100	4	4	100		0.1	
Echinoidea undetermined							0	0	100	7	7	100	2	2	100		0.1	
<i>Porania pulvillus</i>	1	1	100	4	4	100	0	0	100	2	2	100	2	2	100		0.1	
<i>Psilaster andromeda</i>	3	3	100	1	1	100	0	0	100	2	2	100	1	1	100		0.1	
<i>Leptometra celtica</i>				2	2	100				1	1	100	1	1	100		0.0	
<i>Echinus esculentus</i>							1	1	100	1	1	100	1	1	100		0.0	
<i>Stichastrella rosea</i>	2	2	100	1	1	100	0	0	100				1	1	100		0.0	
<i>Holothuria forskali</i>	3	3	100	0	0	100							1	1	100		0.0	
<i>Luidia sarsi</i>	2	2	100										0	0	100		0.0	
<i>Luidia</i> spp.							0	0	100	1	1	100	0	0	100		0.0	
<i>Phormosoma placentia</i>										1	1	100	0	0	100		0.0	
<i>Nymphaster arenatus</i>							0	0	100	0	0	100	0	0	100		0.0	
<i>Anseropoda membranacea</i>	0	0	100	0	0	100				0	0	100	0	0	100		0.0	
<i>Ophiura texturata</i>	2	2	100	4	4	100							0	0	100		0.0	
<i>Asteronyx loveni</i>				0	0	100	0	0	100				0	0	100		0.0	
<i>Cidaris cidaris</i>				1	1	100	0	0	100				0	0	100		0.0	
<i>Astropecten auranticus</i>	0	0	100										0	0	100		0.0	
<i>Echinus melo</i>													+	+	100			
<i>Luidia ciliaris</i>													+	+	100			
OTHER GROUPS																		
<i>Actinauger richardi</i>	718	718	100	245	245	100	172	172	100	173	173	100	300	300	100		11.5	
Invertebrata undetermined	9	9	100	8	8	100	7	7	100	24	24	100	13	13	100		0.5	
Hydrozoa undetermined	0	0	100	2	2	100	2	2	100	6	6	100	3	3	100		0.1	
<i>Aphroditae aculeata</i>	3	3	100	3	3	100	2	2	100	2	2	100	2	2	100		0.1	
Salpidae							1	1	100	5	5	100	2	2	100		0.1	
Actiniaria undetermined	1	1	100	0	0	100				2	2	100	1	1	100		0.0	
Algae	1	1	100	0	0	100	1	1	100				0	0	100		0.0	
<i>Hyalinoecia tubicola</i>				2	2	100							0	0	100		0.0	
Anthozoa							0	0	100	1	1	100	0	0	100		0.0	
Pelecypoda	0	0	100							1	1	100	0	0	100		0.0	
<i>Epizoantus paguriphilus</i>										0	0	100	0	0	100		0.0	
Porifera				0	0	100	0	0	100				0	0	100		0.0	
<i>Sabella pavonia</i>							0	0	100				0	0	100		0.0	
Briozoa				0	0	100							0	0	100		0.0	
<i>Aurelia aurita</i>							0	0	100				0	0	100		0.0	
<i>Plumularia</i> spp.										0	0	100	0	0	100		0.0	
Ascididae undetermined				0	0	100							0	0	100		0.0	
<i>Caryophyllia smithi</i>													+	+	100			
Invertebrata undetermined							3	3	100	23	23	100	8	8	100		0.3	
TOTAL	14431	7070	49	14505	7095	49	12659	6410	51	13389	5984	45	13666	6545	48	92	251.1	

+ less than 1 kg per month in the sampling.

0 less than 0.1 kg per 100 f.h.

Table 5. Principal species caught and discarded in weight per 100 f.h. by TRAWLERS in Subarea VII in 1994.

Total Catch	%	Retained Catch	%	Discard	%
<i>Merluccius merluccius</i>	19.6	<i>Merluccius merluccius</i>	36.6	<i>Argentina silus</i>	15.2
<i>Lepidorhombus whiffiagonis</i>	11.8	<i>Lepidorhombus whiffiagonis</i>	20.9	<i>Trachurus trachurus</i>	11.6
<i>Argentina silus</i>	7.3	<i>Lophius piscatorius</i>	10.9	<i>Micromesistius poutassou</i>	11.2
<i>Lophius piscatorius</i>	5.7	<i>Nephrops norvegicus</i>	8.0	<i>Geryon longipes</i>	10.2
<i>Trachurus trachurus</i>	5.5	<i>Lophius budegassa</i>	4.6	<i>Actinauger richardi</i>	4.6
<i>Micromesistius poutassou</i>	5.4	<i>Lepidorhombus boscii</i>	3.2	<i>Capros aper</i>	3.8
<i>Geryon longipes</i>	4.9	<i>Phycis blennoides</i>	2.6	<i>Scyliorhinus canicula</i>	3.7
<i>Nephrops norvegicus</i>	4.4	<i>Illex coindetii</i>	2.0	<i>Illex coindetii</i>	3.6
<i>Illex coindetii</i>	2.8	<i>Glyptocephalus cynoglossus</i>	2.0	<i>Munida spp.</i>	3.2
<i>Lophius budegassa</i>	2.4	<i>Gadus morhua</i>	1.1	<i>Scomber scombrus</i>	2.5
<i>Actinauger richardi</i>	2.2	<i>Molva molva</i>	1.0	<i>Eutrigla gurnardus</i>	2.4
<i>Lepidorhombus boscii</i>	2.2	<i>Other fish species</i>	0.8	<i>Lepidorhombus whiffiagonis</i>	2.0
<i>Scyliorhinus canicula</i>	1.9	<i>Pollachius virens</i>	0.6	<i>Hippoglossoides platessoides</i>	1.4
<i>Capros aper</i>	1.8	<i>Raja spp.</i>	0.6	<i>Raja naevus</i>	1.4
<i>Munida spp.</i>	1.5	<i>Raja microocellata</i>	0.5	<i>Todaropsis eblanae</i>	1.41
<i>Phycis blennoides</i>	1.5	<i>Todarodes sagittatus</i>	0.5	<i>Helicolenus dactylopterus</i>	1.25
<i>Eutrigla gurnardus</i>	1.3	<i>Merlangius merlangus</i>	0.4	<i>Merluccius merluccius</i>	1.23
<i>Scomber scombrus</i>	1.2	<i>Eledone cirrhosa</i>	0.4	<i>Trisopterus minutus</i>	1.16
<i>Glyptocephalus cynoglossus</i>	1.1	<i>Onmatrostephidae</i>	0.4	<i>Raja microocellata</i>	1.0
<i>Raja naevus</i>	0.8	<i>Molva dipterygia</i>	0.3	<i>Gadiculus argenteus</i>	1.0
<i>Hippoglossoides platessoides</i>	0.8	<i>Conger conger</i>	0.3	<i>Lepidorhombus boscii</i>	1.0
Other species	14.1	Other species	2.6	Other species	15.2

Table 6. Number of the principal fish species discarded by TRAWLERS by 100 f.h. in Subarea VII in 1994.

Species	N°
<i>Capros aper</i>	5270
<i>Argentina silus</i>	4924
<i>Micromesistius poutassou</i>	4624
<i>Trachurus trachurus</i>	3451
<i>Gadiculus argenteus</i>	2974
<i>Lepidorhombus whiffiagonis</i>	2357
<i>Eutrigla gurnardus</i>	1906
<i>Scyliorhinus canicula</i>	1600
<i>Lepidorhombus boscii</i>	1180
<i>Hippoglossoides platessoides</i>	1127
<i>Merluccius merluccius</i>	1094
<i>Trisopterus minutus</i>	977
<i>Scomber scombrus</i>	738
<i>Helicolenus dactylopterus</i>	597
<i>Raja naevus</i>	331
<i>Raja microocellata</i>	96

Table 7. Percentage of the principal species caught, retained and discarded per depth stratum by TRAWLERS in Subarea VII.

Total Caught Species	100-199 m	Total Caught Species	200-399 m	Total Caught Species	> 400 m
<i>Lepidorhombus whiffiagonis</i>	32.2	<i>Merluccius merluccius</i>	16.5	<i>Merluccius merluccius</i>	30.9
<i>Trachurus trachurus</i>	6.6	<i>Trachurus trachurus</i>	11.9	<i>Argentina silus</i>	13.9
<i>Merluccius merluccius</i>	6.6	<i>Lophius piscatorius</i>	7.8	<i>Geryon longipes</i>	10.8
<i>Lophius budegassa</i>	4.7	<i>Ilex coindetti</i>	7.1	<i>Micromesistius poutassou</i>	8.5
<i>Scyliorhinus canicula</i>	4.5	<i>Actinauge richardi</i>	5.5	<i>Nephrops norvegicus</i>	7.2
<i>Capros aper</i>	4.4	<i>Lepidorhombus whiffiagonis</i>	5.1	<i>Lophius piscatorius</i>	6.8
<i>Eutrigla gumardus</i>	3.3	<i>Lepidorhombus boscii</i>	4.8	<i>Phycis blennoides</i>	3.3
<i>Lophius piscatorius</i>	2.3	<i>Lophius budegassa</i>	4.0	<i>Ilex coindetti</i>	1.6
<i>Raja microocellata</i>	2.3	<i>Nephrops norvegicus</i>	3.5	<i>Munida sp.</i>	1.6
<i>Raja naevus</i>	2.2	<i>Scomber scombrus</i>	3.2	<i>Helicolenus dactylopterus</i>	1.1
Other species	33.1	Other species	30.6	Other species	14.3
k / f. h.	116.5		176.4		122.5
% of effort	33.9		19.3		46.8

Total Retained Species	100-199 m	Total Retained Species	200-399 m	Total Retained Species	> 400 m
<i>Lepidorhombus whiffiagonis</i>	58.3	<i>Merluccius merluccius</i>	32.4	<i>Merluccius merluccius</i>	58.2
<i>Merluccius merluccius</i>	9.9	<i>Lophius piscatorius</i>	15.6	<i>Nephrops norvegicus</i>	13.1
<i>Lophius budegassa</i>	8.8	<i>Lepidorhombus whiffiagonis</i>	7.9	<i>Lophius piscatorius</i>	12.7
<i>Lophius piscatorius</i>	4.4	<i>Lophius budegassa</i>	7.0	<i>Phycis blennoides</i>	5.7
<i>Lepidorhombus boscii</i>	3.8	<i>Ilex coindetti</i>	6.9	<i>Glyptocephalus cynoglossus</i>	1.4
<i>Gadus morhua</i>	3.3	<i>Nephrops norvegicus</i>	6.2	<i>Lepidorhombus boscii</i>	1.2
<i>Raja microocellata</i>	1.5	<i>Lepidorhombus boscii</i>	6.1	<i>Molva molva</i>	0.7
<i>Merlangius merlangus</i>	1.3	<i>Glyptocephalus cynoglossus</i>	5.0	<i>Lepidorhombus whiffiagonis</i>	0.7
<i>Raja spp.</i>	1.1	<i>Pollachius virens</i>	2.5	<i>Galeus melastomus</i>	0.6
<i>Raja asterias</i>	0.7	<i>Molva molva</i>	2.4	<i>Eutrigla gumardus</i>	0.5
Other species	9.2	Other species	7.9	Other species	5.2
k / f. h.	65.7		87.1		64.9

Discarded Species	100-199 m	Discarded Species	200-399 m	Discarded Species	> 400 m
<i>Trachurus trachurus</i>	16.5	<i>Trachurus trachurus</i>	23.6	<i>Argentina silus</i>	29.6
<i>Capros aper</i>	11.0	<i>Actinauge richardi</i>	10.8	<i>Geryon longipes</i>	23.0
<i>Scyliorhinus canicula</i>	10.8	<i>Micromesistius poutassou</i>	10.1	<i>Micromesistius poutassou</i>	18.1
<i>Eutrigla gumardus</i>	7.6	<i>Ilex coindetti</i>	7.2	<i>Munida sp.</i>	3.3
<i>Actinauge richardi</i>	4.8	<i>Scomber scombrus</i>	6.3	<i>Ilex coindetti</i>	3.0
<i>Raja naevus</i>	4.7	<i>Argentina silus</i>	6.3	<i>Helicolenus dactylopterus</i>	1.9
<i>Lepidorhombus whiffiagonis</i>	4.6	<i>Munida spp.</i>	5.6	<i>Molpadonus sp.</i>	1.9
<i>Hippoglossoides platessoides</i>	4.4	<i>Capros aper</i>	3.0	<i>Trachurus trachurus</i>	1.6
<i>Trisopterus minutus</i>	3.9	<i>Scyliorhinus canicula</i>	2.7	<i>Trachyrhynchus trachyrhynchus</i>	1.5
<i>Raja microocellata</i>	3.7	<i>Lepidorhombus whiffiagonis</i>	2.0	<i>Todaropsis eblanae</i>	1.4
Other species	28.1	Other species	22.4	Other species	14.7
k / f. h.	50.7		89.2		57.6

Table 8. Length compositions of discard species by TRAWLERS by 100 f.h. in Subarea VII. (Total hauls 795). Values as a percentage.

Length cm	<i>Argentina silus</i>	<i>Trechus trechurus</i>	<i>Micromesistius poutassou</i>	<i>Capros aper</i>	<i>Scyliorhinus canicula</i>	<i>Scomber scombus</i>	<i>Eutrigla gumardus</i>	<i>Lepidorhombus whiffagonis</i>	<i>Hippoglossoides pleurostictus</i>	<i>Raja naseus</i>	<i>Helicolenus decyptopterus</i>	<i>Merluccius merluccius</i>	<i>Trisopterus minutus</i>	<i>Raja microcellata</i>	<i>Gadiculus argenteus</i>	<i>Lepidorhombus bosci</i>
5				0.1	0.03											
6				0.3												
7				0.7					0.0							
8				0.9				0.1	0.1		0.6				0.0	0.3
9				2.1				0.2	0.0						0.5	0.3
10	0.02			6.0			0.1	0.6	0.1		0.7				2.6	1.1
11	0.02		0.0	13.0			0.4	0.4	1.0		0.9		0.2		4.1	0.5
12		0.0	0.0	21.4			0.2	0.6	0.9		1.6	0.0	0.3		9.6	0.2
13	0.01		0.3	23.3	0.03		0.6	1.5	2.1	0.2	4.2	0.6	4.2		23.3	2.2
14	0.1	0.0	0.9	20.4		0.2	1.1	3.9	4.9	0.4	5.9	2.1	5.5		19.9	3.9
15	0.2		2.7	11.2		0.6	4.8	6.0	7.3		8.7	4.8	7.0		11.3	9.1
16	0.7	0.0	5.8	0.8	0.5	1.2	9.9	8.7	8.5	0.3	8.2	8.0	7.5	0.3	6.6	10.7
17	0.9	0.0	7.3	0.1	0.2	2.2	12.1	9.4	10.3	1.5	10.0	9.3	11.2		1.8	12.7
18	0.8	0.2	5.3		0.5	1.5	7.8	12.4	9.9	0.5	10.1	13.6	11.8		0.2	12.1
19	1.2	0.1	2.7		0.3	3.4	7.8	13.8	9.9	0.3	9.5	11.5	19.0		0.0	10.7
20	0.6	0.1	0.7	0.1	2.0	9.4	10.1	11.6	10.7	1.8	10.2	10.7	12.1			9.1
21	0.7	0.1	0.1		1.9	6.6	9.8	9.3	11.1	3.5	6.2	10.6	7.4			11.1
22	1.4	0.0	0.1		2.1	1.6	7.3	6.6	7.7	2.9	7.0	8.5	5.1	0.1		5.5
23	2.5	0.1	0.7		3.3	0.1	6.3	4.6	5.3	2.3	4.4	5.9	3.8	0.6		4.7
24	3.9	0.2	1.3		3.2	0.1	4.5	3.4	3.1	3.0	3.0	4.2	1.5	1.8		1.6
25	6.7	0.4	3.8		4.9	0.7	2.3	2.5	2.5	3.9	4.0	2.5	1.3	1.5		1.3
26	10.2	2.2	7.3		5.4	2.5	3.7	1.3	1.5	4.6	1.9	1.7	0.8	0.4		0.7
27	11.2	12.5	10.9		5.9	3.5	2.3	0.9	1.0	0.7	1.6	1.2	0.3	3.1		0.0
28	9.2	23.6	10.8		5.2	3.5	3.1	0.8	1.1	0.3	0.3	0.7	0.2	1.2		0.4
29	6.9	19.0	9.9		4.9	3.8	1.3	0.9	0.6	3.0	0.4	1.2	0.3	0.6		
30	9.7	13.2	8.3		8.4	2.9	1.3	0.2	0.2	3.2	0.1	0.9	0.1	1.2		
31	8.6	6.1	6.2		5.9	4.7	1.3	0.1	0.1	1.8	0.2	0.2	0.0	1.9		
32	7.7	4.8	4.9		6.9	5.5	0.8	0.0	0.1	4.7	0.1	0.3	0.2	4.4		
33	6.3	4.6	2.8		5.8	8.3	0.7	0.2		5.2		0.5	0.0	2.7		
34	4.1	4.6	2.5		4.5	10.7	0.4	0.0		2.8		0.3		2.0		
35	1.9	3.1	1.5		3.2	7.4	0.1	0.0		3.2	0.1	0.1		4.2		
36	1.6	2.4	1.3		3.2	4.8	0.2	0.0		4.2		0.3		7.4		
37	0.9	1.6	1.2		2.1	5.6	0.1			4.0	0.1	0.0		1.5		
38	1.1	0.7	0.5		2.5	2.8				3.0		0.2		5.0		
39	0.5	0.2	0.3		2.0	2.6	0.1			5.0				4.6		
40	0.2	0.1	0.1		1.2	1.2				2.2		0.1		2.4		
41	0.1	0.1	0.0		1.4	0.5				2.6		0.0		4.8		
42	0.2		0.0		0.9	1.6				1.7	0.1	0.0		5.2		
43	0.0		0.1		1.3	0.1				1.6				4.1		
44	0.1		0.0		0.9	0.0				4.2		0.0		6.1		
45			0.0		0.7	0.1				1.7		0.0		6.1		
46			0.0		0.6	0.1				2.7				4.0		
47					0.8					1.8				4.8		
48					1.0					3.3				2.2		
49					0.3					2.4				1.2		
50					0.6					0.8				2.1		
51					0.2					0.7				1.2		
52					0.2					0.8		0.0		1.1		
53					0.3					0.4						
54					0.7					0.6		0.0				
55					0.3					0.7				3.0		
56					0.2					0.7				0.5		
57					0.3					1.8				1.0		
58					0.6					0.7				0.3		
59					0.5					0.5				0.4		
60					0.0					0.6						
61					0.3									3.3		
62					0.4					0.7						
63					0.0											
64					0.1					0.6						
65					0.1											
66					0.0					0.1				1.1		
67					0.2					0.1						
68					0.2											
69					0.1									0.6		
70					0.0											
71					0.2											
72					0.1											
73					0.2											
74					0.1											
75																
76																
77					0.1											
78					0.1											
79																
80																
N° sampled	545	2213	5502	3150	1144	1085	1511	3605	2047	410	667	1997	1351	197	2197	1361
Samples	55	220	387	162	201	124	139	394	180	26	225	220	137	71	140	239

Table 9. Summary of Spanish estimated discards and catches in weight (t) in 1994.
Trawlers in Subareas VI and VII

	Quarters				Total		Ratio	
	1	2	3	4			Discard	Discard
	Discard Weight				Catch	Discard	Total Discard	Total Catch
<i>Trachurus trachurus</i>	789	2024	49	57	2920	2920	14.3	6.6
<i>Argentina silus</i>	202	583	621	1198	2604	2604	12.7	5.9
<i>Micromesistius poutassou</i>	519	253	415	715	1904	1903	9.3	4.3
<i>Geryon longipes</i>	474	91	610	434	1610	1609	7.9	3.6
<i>Actinauge richardi</i>	557	214	91	135	996	996	4.9	2.3
<i>Illex coindetti</i>	582	305	2	20	1447	908	4.4	2.1
<i>Capros aper</i>	258	493	48	78	878	878	4.3	2.0
<i>Scyliorhinus canicula</i>	146	207	218	87	697	658	3.2	1.5
<i>Scomber scombrus</i>	458	159	1	6	623	623	3.0	1.4
<i>Munida spp.</i>	111	184	28	269	592	592	2.9	1.3
<i>Melanogrammus aeglefinus</i>	10	6	570	0	612	587	2.9	1.3
<i>Eutrigla gurnardus</i>	27	37	239	154	501	456	2.2	1.0
<i>H. platessoides</i>	33	24	245	112	445	414	2.0	0.9
<i>Lepidorhombus whiffiagonis</i>	68	138	79	87	5076	373	1.8	0.8
<i>Todaropsis eblanae</i>	260	60	4	15	358	340	1.7	0.8
<i>Raja naevus</i>	41	184	40	36	329	301	1.5	0.7
<i>Merluccius merluccius</i>	53	205	21	11	7944	290	1.4	0.7
<i>Chimaera monstrosa</i>	1	2	246	41	290	290	1.4	0.7
<i>Helicolenus dactylopterus</i>	77	45	42	73	310	237	1.2	0.5
<i>Trisopterus minutus</i>	21	60	46	70	207	197	1.0	0.4
Other species	757	858	758	939	13820	3311	16.2	7.5
Total	5445	6131	4374	4536	44162	20486		46.4

Table 10. Catches and discards (kg) per 100 f.h. (approx. 10 hauls) in the Spanish LONG LINER fleet in Subarea VII in 1994.

Species	Quarters												Total			Total Ratio			
	1			2			3			4			Catch	Discard	%	Discard	Ret.Catch	Discard	1 sp Ret
AVES																			
<i>Puffinus puffinus</i>										0	0	100	0	0	100				0.0
<i>Fulmarus glacialis</i>										0	0	100	0	0	100				0.0
PISCES																			
<i>Micromesistius poutassou</i>	16	16	100	15	15	100	209	209	100	55	55	100	85	85	100				4.8
<i>Argentina silus</i>	4	4	100	12	12	100	78	78	100	67	67	100	52	52	100				2.9
<i>Scyllorhinus canicula</i>	0.3	0.3	100	41	41	100	22	22	100	10	10	100	19	19	100				1.0
<i>Scomber scombrus</i>	6	6	100	64	64	100							14	14	100				0.8
<i>Pronace glauca</i>							24	24	100	16	16	100	13	13	100				0.7
<i>Raja naevus</i>				47	44	95	1	1	100				10	9	95	1805			0.5
<i>Galeus melastomus</i>							12	12	100	6	6	100	6	6	100				0.3
<i>Raja fullonica</i>				16	16	100	5	5	100				5	5	100				0.3
<i>Merlangius merlangus</i>				20	20	100							4	4	100				0.2
<i>Trachurus trachurus</i>	30	30	100	3	3	100	0.3	0.3	100				4	4	100				0.2
<i>Pollachius virens</i>	21	21	100	4	4	100	0.1	0.1	100				3	3	100				0.2
<i>Squalus acanthias</i>	7	7	100	2	2	100	3	3	100	2	2	100	3	3	100				0.1
<i>Raja circularis</i>							3	3	100	4	4	100	2	2	100				0.1
<i>Eulrigia gumardus</i>				10	10	100							2	2	100				0.1
<i>Etmopterus spinax</i>							4	4	100	1	1	100	1	1	100				0.1
<i>Aspitrigla cuculus</i>				7	7	100							1	1	100				0.1
<i>Deania calceus</i>	10	10	100	0.3	0.3	100				0.3	0.3	100	1	1	100				0.1
<i>Melanogrammus aeglefinus</i>				3	3	100				0.1	0.1	100	1	1	100				0.0
<i>Chimaera monstrosa</i>	1	1	100				1	1	100	0.5	0.5	100	0.5	0.5	100				0.0
<i>Malacocephalus laevis</i>	1	1	100				1	1	100	0.1	0.1	100	0.3	0.3	100				0.0
<i>Gadus morhua</i>	2	2	100	34			1			0.1	0.1	100	7	0.2	3	3			0.0
<i>Belone belone</i>	2	2	100	0.1	0.1	100							0.2	0.2	100				0.0
<i>Raja clavata</i>	2	2	100	0.3	0.3	100							0.2	0.2	100				0.0
<i>Beryx decadactylus</i>	40	1	1	11	1	6	34			4			18	0.2	1	1			0.0
<i>Aphanopus carbo</i>	1	1	100				0.2	0.2	100				0.2	0.2	100				0.0
<i>Nezumia sclerorhynchus</i>										0.4	0.4	100	0.2	0.2	100				0.0
<i>Polyprion americanus</i>	4	1	25				15			16			11	0.1	1	1			0.0
<i>Pollachius pollachius</i>				2	0.4	23				0.1	0.1	100	0.4	0.1	29	40			0.0
<i>Raja spp.</i>	1	1	100							0.3	0.1	40	0.2	0.1	57	133			0.0
<i>Epigonus telescopus</i>	0.3	0.3	100				0.3	0.3	100				0.1	0.1	100				0.0
<i>Scyllorhinus stellaris</i>	1	1	100										0.1	0.1	100				0.0
<i>Trachyrhynchus trachyrhynchus</i>	1	1	100							0.1	0.1	100	0.1	0.1	100				0.0
<i>Mustelus asterias</i>				0.4	0.4	100							0.1	0.1	100				0.0
<i>Pisces undetermined</i>							0.3	0.3	100				0.1	0.1	100				0.0
<i>Raja montagui</i>				0.4	0.4	100							0.1	0.1	100				0.0
<i>Raja brachyura</i>				0.3	0.3	100							0.1	0.1	100				0.0
<i>Helicolenus dactylopterus</i>	121			0.3	0.1	50	139			30			64	0.03	0.04	0.04			0.0
<i>Trisopterus minutus</i>	0.3	0.3	100										0.03	0.03	100				0.0
<i>Merluccius merluccius</i>	3737			1985			1192			1585			1783						
<i>Molva molva</i>	87			42			69			44			55						
<i>Phycis blennoides</i>	45			3			16			52			31						
<i>Lophius piscatorius</i>				136			0.3			1			28						
<i>Conger conger</i>	22			20			10			11			14						
<i>Pagellus bogaraveo</i>							30			5			10						
<i>Lepidorhombus whiffagonis</i>	1			36			0.5			0.3			8						
<i>Xiphias gladius</i>							10						3						
<i>Molva dipterygia</i>	1						2			1			1						
<i>Beryx splendens</i>							4			0.4			1						
<i>Psetta maxima</i>				2									0.4						
<i>Lophius budegasse</i>				1									0.2						
<i>Brama brama</i>							0.1			0.3			0.1						
<i>Hippoglossus hippoglossus</i>							0.4						0.1						
<i>Pagellus erythrinus</i>							0.2						0.1						
<i>Zeus faber</i>													0.1						
<i>Pomatoschistus minutus</i>				0.1									0.03						
<i>Gaidropsarus vulgaris</i>													+	+	100				
<i>Lepidorhombus boscil</i>													+	+	100				
<i>Trisopterus luscus</i>													+	+	100				
CRUSTACEA																			
<i>Paromola cuvieri</i>	1	1	100				0.2	0.2	100	0.3	0.2	60	0.3	0.2	82	450			0.0
<i>Cancer pagurus</i>	1	1	100	0.3			0.1	0.1	100	0.1	0.1	50	0.2	0.1	57	133			0.0
<i>Calappa granulata</i>										0.3	0.3	100	0.1	0.1	100				0.0
<i>Palinurus elephas</i>	1	1	100				1						0.2	0.1	22	29			0.0
<i>Cancer bellianus</i>	0.3	0.3	100				0.1			0.1	0.1	100	0.1	0.1	67	200			0.0
<i>Garyon longipes</i>													+		100				
<i>Nephrops norvegicus</i>													+		100				
MOLLUSCA																			
<i>Todarodes sagittatus</i>	8	8	100	0	0	100	0	0	100	0.5	0.3	50	1.2	1.0	90	950			0.1
<i>Eledone cirrhosa</i>	1	1	100							0.4	0.3	83	0.3	0.2	90	900			0.0
<i>Pecten maximus</i>				0	0	100							0.0	0.0	100				0.0
<i>Argobuccinum olearium</i>													+	+	100				
<i>Pinna spp.</i>													+	+	100				
OTHER GROUPS																			
<i>Acunauger richardi</i>				0.1	0.1	100							0.03	0.03	100				0.0
<i>Aphroditeae aculeata</i>													+	+	100				
<i>Ophiuroidea undetermined</i>													+	+	100				
<i>Sichopus regalis</i>													+	+	100				
<i>Sichopus spp.</i>													+	+	100				
TOTAL	4175	119	2.8	2517	244	9.7	1889	366	19.4	1914	163	8.5	2287	231	10.2	11.3		12.9	

+ less than 1 kg per month in sampling;
0 = less than 0.1 kg per 100 f.h.

Table 11. Principal species caught and discarded in weight per 100 f.h. by LONG LINERS in Subarea VII in 1994.

Total Catch	%	Retained Catch	%	Discard	%
<i>Merluccius merluccius</i>	78.7	<i>Merluccius merluccius</i>	87.6	<i>Micromesistius poutassou</i>	36.9
<i>Micromesistius poutassou</i>	3.8	<i>Helicolenus dactylopterus</i>	3.1	<i>Argentina silus</i>	22.5
<i>Helicolenus dactylopterus</i>	2.8	<i>Molva molva</i>	2.7	<i>Scyliorhinus canicula</i>	8.1
<i>Molva molva</i>	2.4	<i>Phycis blennoides</i>	1.5	<i>Scomber scombrus</i>	6.0
<i>Argentina silus</i>	2.3	<i>Lophius piscatorius</i>	1.4	<i>Prionace glauca</i>	5.8
<i>Phycis blennoides</i>	1.4	<i>Beryx decadactylus</i>	0.9	<i>Raja naevus</i>	4.1
<i>Lophius piscatorius</i>	1.2	<i>Conger conger</i>	0.7	<i>Galeus melastomus</i>	2.6
<i>Scyliorhinus canicula</i>	0.8	<i>Polyprion americanus</i>	0.5	<i>Raja fullonica</i>	2.0
<i>Beryx decadactylus</i>	0.8	<i>Pagellus bogaraveo</i>	0.5	<i>Merlangius merlangus</i>	1.8
<i>Scomber scombrus</i>	0.6	<i>Lepidorhombus whiffiagonis</i>	0.4	<i>Trachurus trachurus</i>	1.6
<i>Conger conger</i>	0.6	<i>Gadus morhua</i>	0.4	<i>Pollachius virens</i>	1.3
<i>Prionace glauca</i>	0.6	<i>Xiphias gladius</i>	0.1	<i>Squalus acanthias</i>	1.1
<i>Polyprion americanus</i>	0.5	<i>Molva dipterygia</i>	0.1	<i>Raja circularis</i>	1.0
Other species	3.5	Other species	0.2	Other species	5.2

Table 12. Number of the principal fish species discarded by LONG LINERS by 100 f.h. in Subarea VII in 1994.

Species	N°
<i>Micromesistius poutassou</i>	410
<i>Argentina silus</i>	123
<i>Scyliorhinus canicula</i>	54
<i>Scomber scombrus</i>	39
<i>Trachurus trachurus</i>	15
<i>Raja naevus</i>	9
<i>Galeus melastomus</i>	8
<i>Merlangius merlangus</i>	6
<i>Raja fullonica</i>	2
<i>Prionace glauca</i>	2
<i>Squalus acanthias</i>	1
<i>Pollachius virens</i>	1

Table 13. Percentage of the principal species caught, retained and discarded per depth strata by LONG LINERS in Subarea VII.

Total Caught Species	100-199 m	Total Caught Species	200-399 m	Total Caught Species	> 400 m
<i>Merluccius merluccius</i>	79.9	<i>Merluccius merluccius</i>	78.5	<i>Merluccius merluccius</i>	78.8
<i>Scomber scombrus</i>	6.0	<i>Micromesistius poutassou</i>	3.8	<i>Micromesistius poutassou</i>	4.1
<i>Merlangius merlangus</i>	2.7	<i>Molva molva</i>	2.6	<i>Helicolenus dactylopterus</i>	4.0
<i>Molva molva</i>	2.2	<i>Helicolenus dactylopterus</i>	2.4	<i>Argentina silus</i>	3.2
<i>Gadus morhua</i>	1.6	<i>Argentina silus</i>	2.1	<i>Phycis blennoides</i>	2.1
<i>Micromesistius poutassou</i>	1.6	<i>Lophius piscatorius</i>	1.9	<i>Molva molva</i>	2.0
<i>Helicolenus dactylopterus</i>	1.4	<i>Phycis blennoides</i>	1.2	<i>Beryx decadactylus</i>	1.8
<i>Pagellus bogaraveo</i>	1.2	<i>Scyliorhinus canicula</i>	1.2	<i>Pagellus bogaraveo</i>	0.5
<i>Conger conger</i>	0.7	<i>Prionace glauca</i>	0.8	<i>Scomber scombrus</i>	0.5
<i>Raja naevus</i>	0.6	<i>Conger conger</i>	0.7	<i>Conger conger</i>	0.5
Other species	2.7	Other species	4.9	Other species	2.6
k / f. h.	18.2		22.1		25.5
% of effort	7.9		66.4		25.7

Total Retained Species	100-199 m	Total Retained Species	200-399 m	Total Retained Species	> 400 m
<i>Merluccius merluccius</i>	90.8	<i>Merluccius merluccius</i>	87.4	<i>Merluccius merluccius</i>	87.3
<i>Molva molva</i>	2.5	<i>Molva molva</i>	2.9	<i>Helicolenus dactylopterus</i>	4.5
<i>Micromesistius poutassou</i>	1.8	<i>Helicolenus dactylopterus</i>	2.7	<i>Phycis blennoides</i>	2.3
<i>Helicolenus dactylopterus</i>	1.6	<i>Lophius piscatorius</i>	2.1	<i>Molva molva</i>	2.2
<i>Pagellus bogaraveo</i>	1.3	<i>Phycis blennoides</i>	1.3	<i>Beryx decadactylus</i>	1.9
<i>Conger conger</i>	0.7	<i>Conger conger</i>	0.7	<i>Pagellus bogaraveo</i>	0.6
<i>Raja naevus</i>	0.4	<i>Polyprion americanus</i>	0.7	<i>Conger conger</i>	0.5
<i>Phycis blennoides</i>	0.3	<i>Lepidorhombus whiffiagonis</i>	0.6	<i>Polyprion americanus</i>	0.3
<i>Pollachius pollachius</i>	0.2	<i>Beryx decadactylus</i>	0.4	<i>Beryx splendens</i>	0.1
<i>Lepidorhombus whiffiagonis</i>	0.1	<i>Gadus morhua</i>	0.4	<i>Molva dipterygia</i>	0.1
Other species	1.9	Other species	0.8	Other species	0.1
k / f. h.	16.0		19.8		23.0

Discarded Species	100-199 m	Discarded Species	200-399 m	Discarded Species	> 400 m
<i>Scomber scombrus</i>	50.4	<i>Micromesistius poutassou</i>	37.5	<i>Micromesistius poutassou</i>	41.9
<i>Merlangius merlangus</i>	22.3	<i>Argentina silus</i>	20.6	<i>Argentina silus</i>	32.5
<i>Micromesistius poutassou</i>	13.2	<i>Scyliorhinus canicula</i>	11.4	<i>Scomber scombrus</i>	5.2
<i>Scyliorhinus canicula</i>	3.7	<i>Raja naevus</i>	7.4	<i>Prionace glauca</i>	3.5
<i>Argentina silus</i>	2.1	<i>Galeus melastomus</i>	6.0	<i>Galeus melastomus</i>	3.1
<i>Trachurus trachurus</i>	1.9	<i>Raja fullonica</i>	2.6	<i>Squalus acanthias</i>	1.9
<i>Pollachius virens</i>	1.8	<i>Trachurus trachurus</i>	2.5	<i>Raja fullonica</i>	1.6
<i>Melanogrammus aeglefinus</i>	1.8	<i>Eutrigla gurnardus</i>	1.9	<i>Scyliorhinus canicula</i>	1.5
<i>Galeus melastomus</i>	1.1	<i>Pollachius virens</i>	1.4	<i>Pollachius virens</i>	1.3
<i>Raja clavata</i>	0.3	<i>Scomber scombrus</i>	1.2	<i>Etmopterus spinax</i>	1.1
Other species	1.4	Other species	7.6	Other species	6.4
k / f. h.	2.2		2.2		2.5

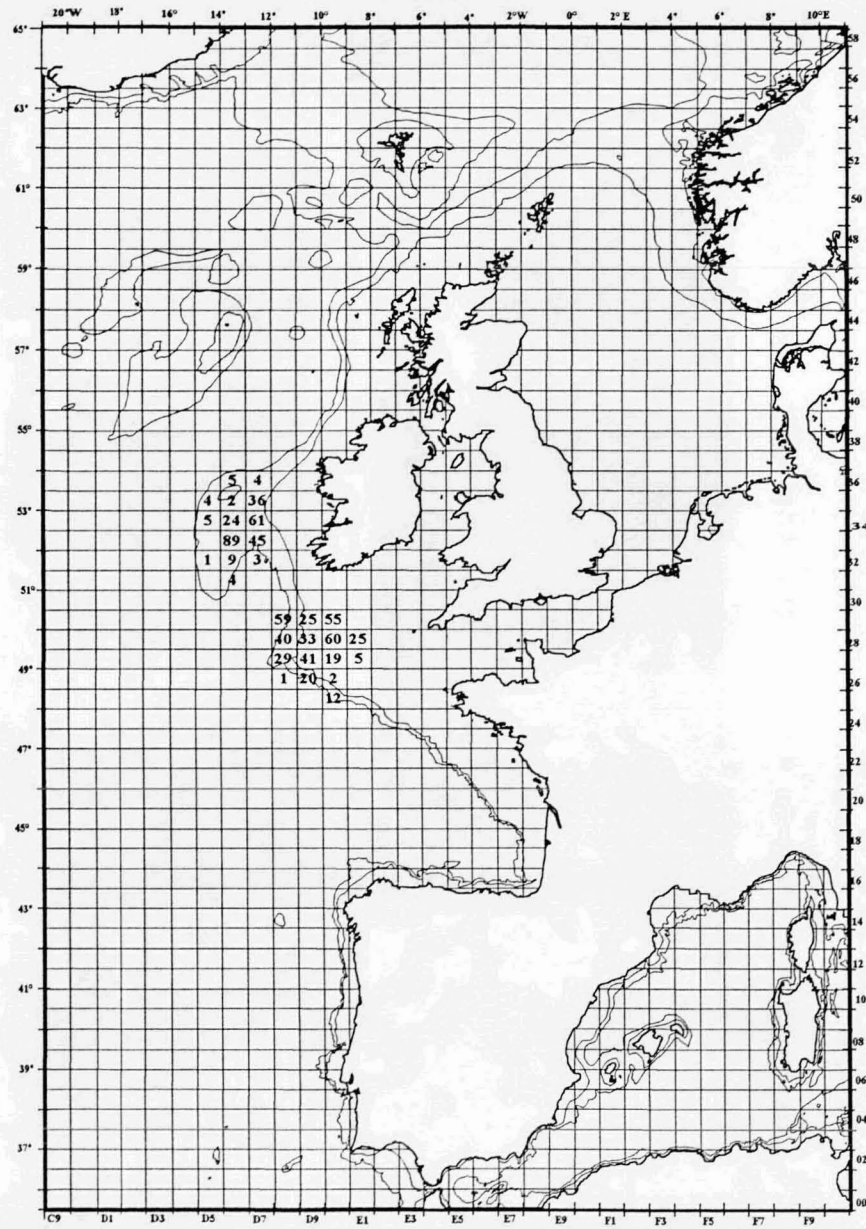
Table 14. Length compositions of discard species by LONG LINERS by 100 f.h. in Subarea VII in 1994 (total hauls 370). Values as a percentage.

Length cm	<i>Micromesistius</i> <i>poutassou</i>	<i>Argentine</i> <i>silus</i>	<i>Scyliorhinus</i> <i>canicula</i>	<i>Scomber</i> <i>scombrus</i>	<i>Prionace</i> <i>glauca</i>	<i>Reja</i> <i>naevus</i>	<i>Galeus</i> <i>melastomus</i>	<i>Raja</i> <i>fulonica</i>	<i>Merlangius</i> <i>merlangus</i>	<i>Trachurus</i> <i>trachurus</i>	<i>Pollechiuss</i> <i>virens</i>	<i>Squalius</i> <i>acanthias</i>
14	0.1											
15	0.4											
16	1.0											
17	1.7											
18	1.3									0.2		
19	0.5											
20	0.2	0.0							0.4			
21	0.0											
22	0.2	0.0										
23	0.8	0.0										
24	2.4	0.4								0.8		
25	5.1	0.9								1.8		
26	8.2	1.9		0.7					0.4	5.5		
27	9.6	2.5		1.2						6.8		
28	10.9	2.8	0.1	1.2						13.5		
29	8.3	3.1	0.3	1.1					1.7	9.0		
30	8.9	7.2	0.1	2.3					3.4	10.1		
31	6.5	9.8	0.5	4.2					0.9	7.4		
32	7.4	14.0	0.1	5.2					2.6	9.7		
33	5.9	15.5	0.4	7.5			0.4		3.9	8.4		
34	8.7	16.0	0.8	11.6					6.0	9.2	5.6	
35	4.8	12.2	1.2	14.2		0.4			4.3	6.8		
36	4.0	7.5	0.8	13.9					5.2	6.8		
37	2.4	4.0	0.9	9.6					5.2	1.6		
38	1.8	1.4	1.1	8.6					7.3	1.4		
39	0.7	0.6	1.5	4.8			0.4		7.8	0.2		
40	0.4	0.2	2.2	4.8			0.9		7.3	0.4		
41	0.1	0.0	2.5	3.6			0.4		3.9			
42	0.2	0.0	1.7	2.2					5.2			
43	0.1	0.0	1.5	1.8		0.8			8.2			
44	0.0	0.0	3.0	1.2			0.4		5.2		8.3	
45	0.0	0.0	2.9	0.1			0.4		2.6			
46			2.9	0.4		0.4	0.9		4.7	0.2	2.8	
47	0.0		2.3			1.2	1.7		2.2		5.6	
48			2.1			1.2	0.9	2.5	2.2			
49			1.7				0.4	1.3	2.6			
50	0.0		3.2			1.2	1.7	2.5	0.4		13.9	
51			1.1			0.8		1.3	0.4			
52			3.0			2.0	3.5	3.8	1.3		8.3	
53			3.1			1.2	2.6	1.3	1.7		2.8	
54			4.0			2.0	4.3		1.3		8.3	
55			4.3			2.4	3.0		0.4			
56			3.2			3.7	5.2		0.4			
57			5.9			3.3	3.0	1.3	0.4		8.3	
58			5.3			6.5	4.3		0.4		2.8	
59			4.7			8.2	6.5	1.3			2.8	
60			6.4			9.0	7.8	5.1				
61			4.4		1.2	11.8	9.6	1.3				
62			4.7			15.5	5.7	3.8				
63			3.4			8.8	6.5	3.8				
64			2.4			4.5	10.9	1.3				3.4
65			3.1		1.2	5.3	3.5	2.5				
66			1.4		2.5	4.5	5.2	1.3				
67			0.7		2.5	2.4	2.2	5.1		2.8	3.0	
68			1.3		1.2	0.8	3.9	6.3			6.5	
69			0.6		0.8	0.8	0.9	7.6				
70			1.5		1.2	0.8	1.7	5.1				6.1
71			0.7				0.9	1.3				
72			0.3		2.5	0.4		2.5		2.8	3.0	
73					1.2			2.5			13.1	
74			0.4					3.8				
75					9.9			5.1				10.0
76					1.2			1.3				
77					4.9			2.5				6.6
78			0.1		1.2			1.3				13.1
79					1.2			3.8				
80					6.2			3.8			5.6	16.6
81					6.2							3.4
82											5.6	3.4
83					4.9							3.0
84					2.5							3.0
85					4.9							6.5
86					4.9			2.5				3.4
87					1.2			6.3				6.5
88					1.2			3.8				3.4
89					1.2			1.3				
90					2.5							3.0
91												
92					1.2							
93					1.2							
94												
95												6.9
96					2.5						2.8	
97												
98											5.6	
99												
100					1.2							
101												
102					1.2						5.6	
103												
104					1.2							
105					2.5							
===					=====							
110					4.9							
115					1.2							
120					2.5							
125					1.2							
130					3.7							
140					1.2							
150					3.7							
175					1.2							
180					1.2							
NP sampled	9721	4073	702	1022	78	255	224	79	231	410	25	13
Samples	193	165	87	61	53	43	47	38	17	26	15	8

Table 15. Summary of Spanish estimated discards and catches in weight (t) in 1994.
Long liners in Subareas VI and VII.

	Quarters				Total		Ratio	
	1	2	3	4			Discard	Discard
	Discard Weight				Catch	Discard	Total Discard	Total Catch
<i>Micromesistius poutassou</i>	7	47	304	78	437	437	38.6	4.3
<i>Argentina silus</i>	2	52	113	96	262	262	23.2	2.6
<i>Scomber scombrus</i>	3	78	0	0	81	81	7.2	0.8
<i>Scyliorhinus canicula</i>	0	29	32	14	76	76	6.7	0.7
<i>Prionace glauca</i>	0	0	35	23	58	58	5.1	0.6
<i>Raja naevus</i>	0	32	2	0	35	34	3.0	0.3
<i>Galeus melastomus</i>	0	4	18	9	31	31	2.7	0.3
<i>Pollachius virens</i>	10	13	0	0	23	22	2.0	0.2
<i>Raja fullonica</i>	0	12	8	0	19	19	1.7	0.2
<i>Trachurus trachurus</i>	14	2	0	0	16	16	1.4	0.2
<i>Merlangius merlangus</i>	0	14	0	0	14	14	1.3	0.1
<i>Squalus acanthias</i>	3	4	5	2	14	14	1.2	0.1
Other species	15	25	15	11	9082	66	5.8	0.7
Total	54	312	530	234	10149	1131		11.1

TRAWL



LONG LINE

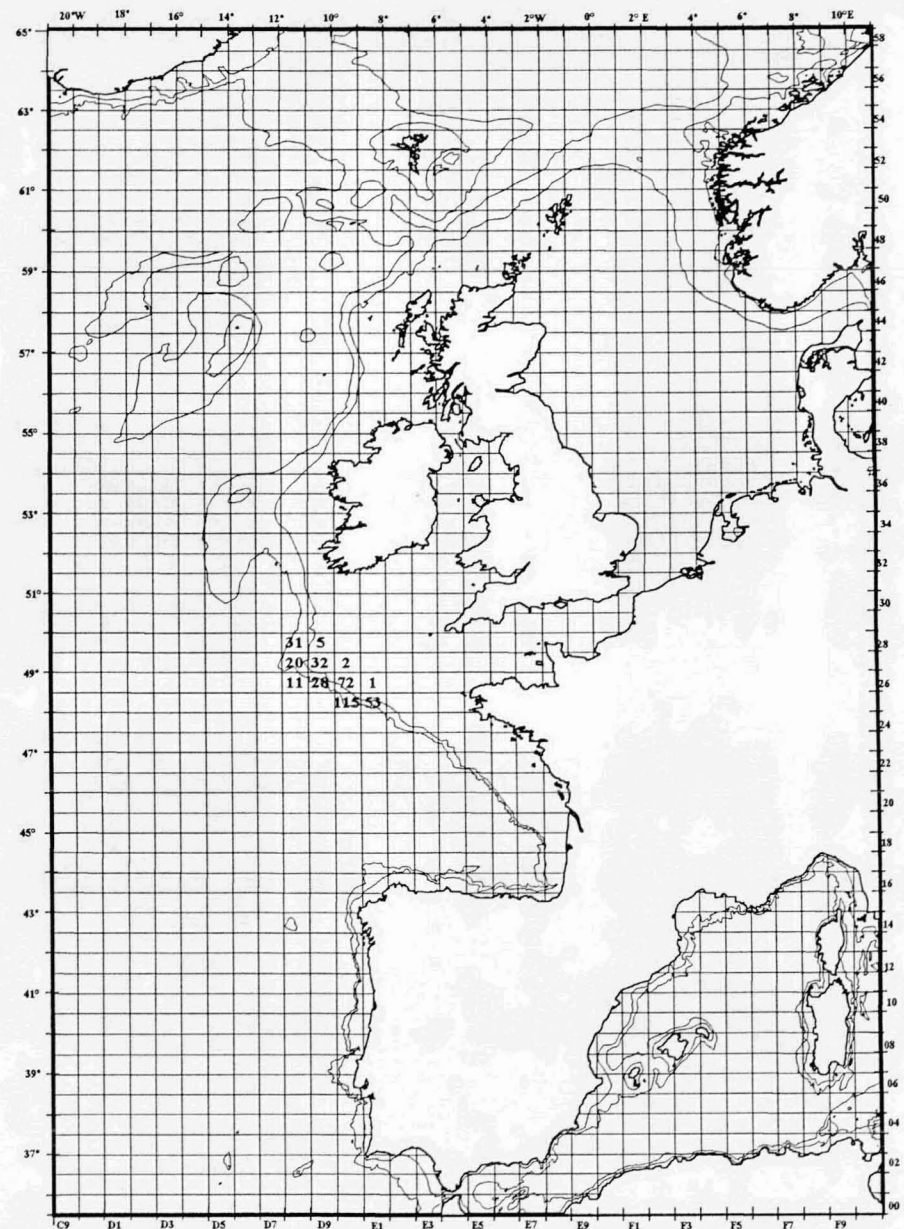
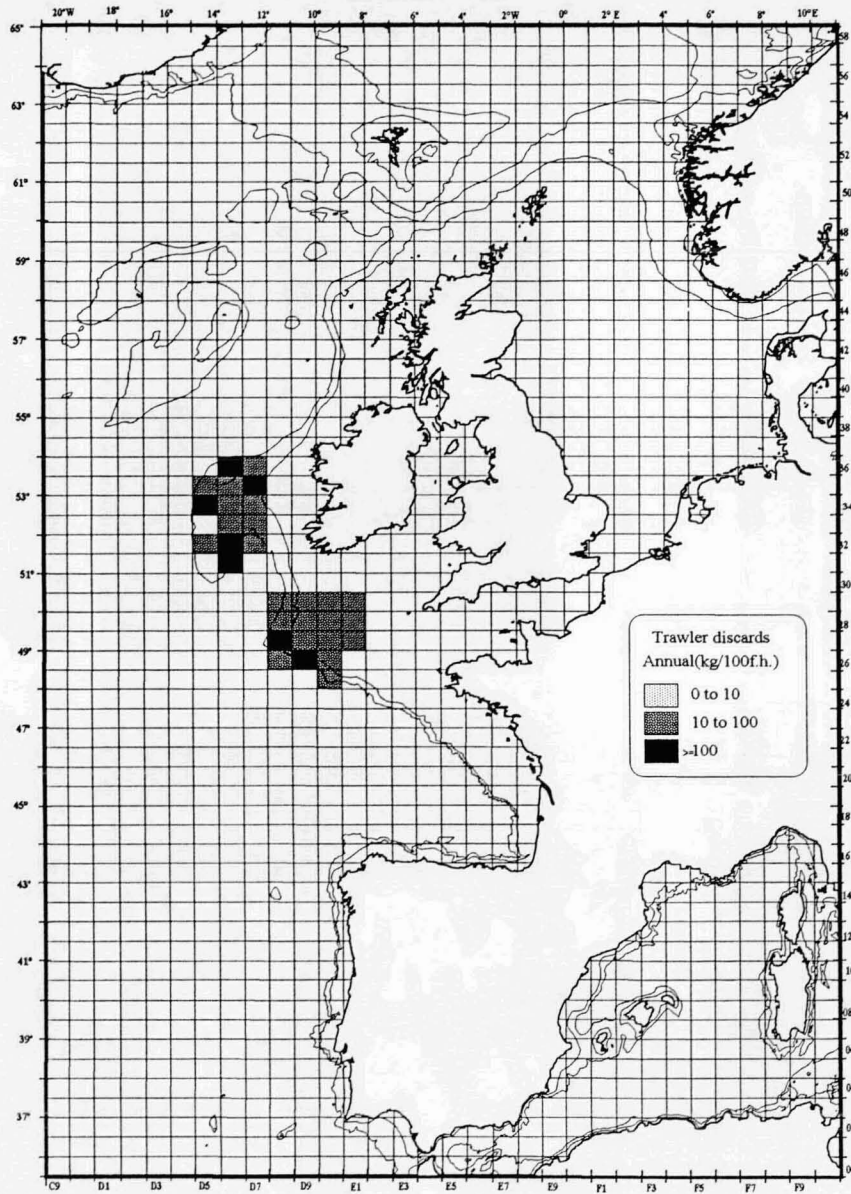


Figure 1. Number of hauls per ICES rectangle and gears.

TRAWL



LONG LINE

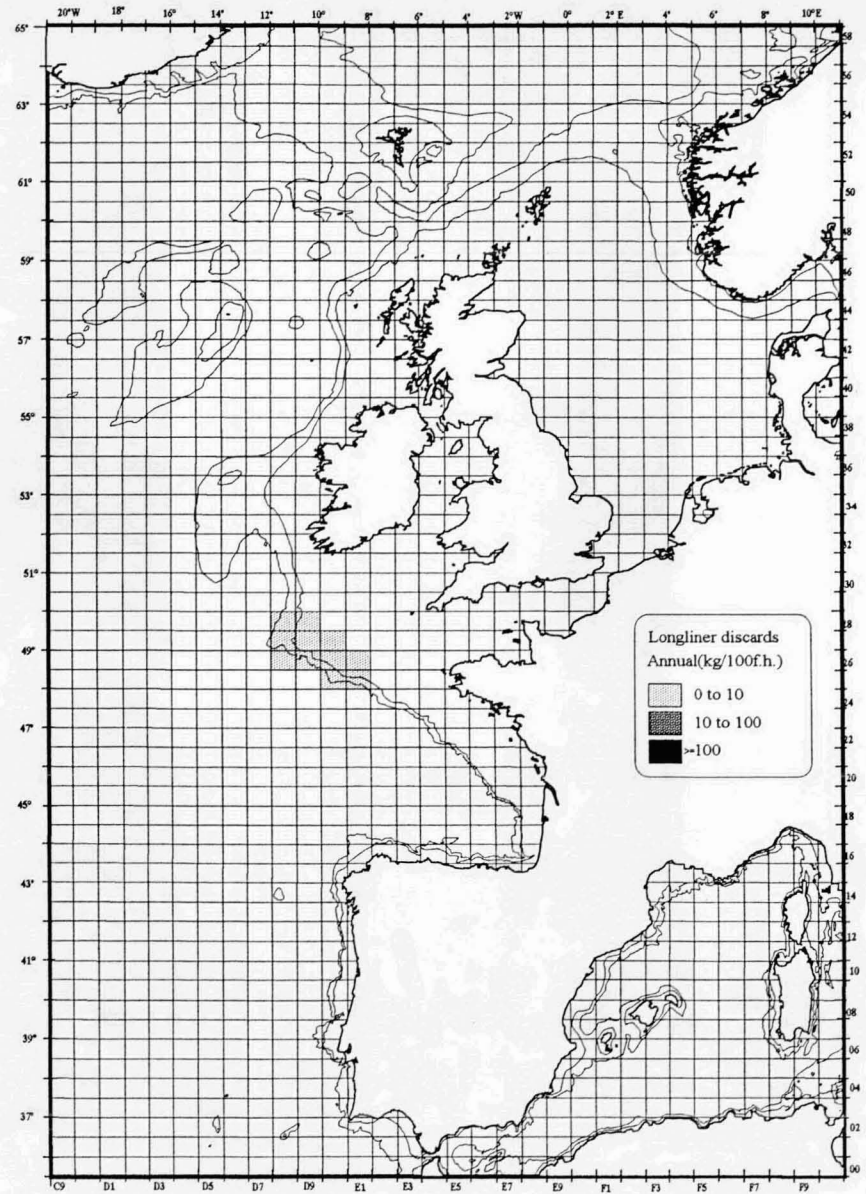


Figure 2. Discards per square and 100 fishing hours for trawl and longline. Annual total.