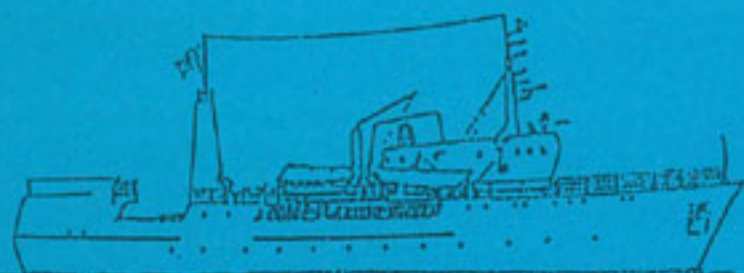


CRUISE REPORTS "DR FRIDTJOF NANSEN"



SURVEYS OF THE FISH RESOURCES OF ANGOLA

Preliminary Report Cruise No 1, 4 May - 19 June 1991

The "DR. FRIDTJOF NANSEN" research programme is sponsored by the Norwegian Agency for Development Assistance, NORAD, the Food and Agriculture Organization of the United Nations, FAO and the United Nations Development Programme, UNDP. The programme in Angola which has comprised nine previous surveys in the period 1985-1989 is being conducted and planned under agreements between NORAD, Angolan authorities, Centro de Investigacao Pesqueira, CIP, Luanda and the Institute of Marine Research, Bergen.

The programme in 1991 will comprise two surveys, the timing of which is foreseen as follows:

Survey 1 4 May - 19 June

" 2 3 August - 20 September

This preliminary cruise report describes the work and some of the results of the first survey of 1991. When referring to previous results, use has been made of the summary report "Surveys of the Fish Resources of Angola 1985-1989", CIP Luanda, IMR Bergen, 1991.

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1 INTRODUCTION

1.1 OBJECTIVES

Under the same programme six seasonal surveys were made of the continental shelf of Angola between January 1985 and June 1986 with the general objective of investigating the composition, distribution and abundance of the coastal fish resources. The methods included acoustic integration technique to study the small pelagic schooling fish and a bottom trawling programme to investigate the demersal resources using the swept area method.

In order to provide further data on the stocks and time series to study their possible changes under exploitation, the programme was repeated in 1989 with three surveys covering the first half and the last part of the year.

The objectives of the new 1991 surveys were discussed with the director and other representatives of CIP at meetings in Norway and in Luanda. The main purpose of the programme will be the same as that of the previous surveys, to provide as much information as possible about the composition, distribution and abundance of the components of resources covered by the survey methodology. The main emphasis should be given to the task of providing the best possible estimates of the biomass of the small pelagic fish in the various regions by individual stocks and assess the exploitable parts of the populations. The findings should be compared with results of the previous surveys and the current state of the stocks should be evaluated. As it became apparent that the time set aside for the survey would also permit further work it was agreed that the second priority would be a swept area trawl survey for demersal species to be conducted by depth strata. Since the deep slope is being covered by an annual survey programme of deep water shrimp, in cooperation between CIP and the Spanish Institute of Oceanography, the work with "DR. FRIDTJOF NANSEN" in this area should be limited to some test hauls for hake down to about 400 m of depth. The hydrographic programme comprising surface temperature distribution and profiles in standard positions should be worked as before.

1.2 PARTICIPATION

The scientific staff from CIP, Luanda was:

Antonio Fontes Pereira, and until 20 May: Bomba Bazika,
Guilherme Camarada, Isaac Sebastiao, Mario Fortunado
Rafael, Manuel Domingos. From 20 May: Fernando Gombo,
Pedro Panzo, Beryl Makondekwa and Kumbi Nsingi.

The scientific staff from IMR was:

Tore Strømme (until 20 May), Gunnar Sætersdal (from
20 May), Else Torstensen, Oddgeir Alvheim, Martin Dahl,
Kenneth Sivertsen (until 20 May) and Magnar Mjanger
(from 20 May).

1.3 NARRATIVE

The vessel called on Luanda 3-4 May for planning of the survey. Leaving Luanda in the morning of 4 May the vessel steamed northwards to Cabinda. The sampling programme commenced in the north with acoustic transects approximately 10 nm apart, and with semi-random swept area hauls carried out during daylight hours. Due to a breakdown in the meter wheel of the hydrographic winch, the planned hydrographical transect off Pta da Moita Seca had to be cancelled.

The vessel called on Luanda on 16 May for change of crew and refuelling. The hydrographic profile off Luanda was worked on 21 May and survey work southwards started on 22 May. The Palmeirinhas profile was completed on 23 May. Daylight trawl stations were worked in a grid 10 nm apart with most intensive coverage in the depth zones 15-50 m and 50-100 m. The nights were spent on detailed acoustic surveying and sampling with mid water trawl. Young horse mackerel was found to be present over the mid shelf at about 100 m of depth from Cape Ledo southwards past Pta do Morro. The fish was close to the bottom during the day, but lifted at night. A programme of sampling with bottom trawl in daytime and acoustic coverage during the night was adopted. Sardinella schools appeared mostly at 50-60 m depth. The hydrographic profile off N'sumbe was completed on 30 May. The survey was continued southwards to Benguela with daylight swept area trawling lines every 10' of latitude and acoustic coverage during the night with mid water trawling for sampling. The hydrographic profile off Lobito was worked on 4 June and the shelf completed to Benguela on 5 June. 6 June was spent steaming along the coast to Namibe. The shelf Namibe to Tombua was covered on June 7. The hydrographic profile off Baia dos Tigres was started, but had to be broken off on June 8 in adverse weather conditions and the day was spent in Baia dos Tigres in a meeting with R/V "BENGUELA" from Namibia. The profile was worked on June 9 and the swept area trawl cum acoustic survey was started at the border on June 10 and continued northwards over the shelf until June 15 in favourable weather. 16 June was spent in Baia dos Tigres calibrating the acoustic instruments. The vessel arrived in Walvis Bay on 19 June.

1.4 SURVEY EFFORT

The cruise track with fishing stations and hydrographic sections are shown in Figure 1a-c. The survey effort can be summarized as follows:

	Swept-area hauls		Other hauls	Distance surveyed
	0-200 m	200-600 m		
Cabinda-Luanda	56	20	5	2 300 nm
Luanda-Benguela	62	22	16	2 100 nm
Benguela-Cunene	36	4	10	1 500 nm

2 HYDROGRAPHY

Five hydrographic sections were worked during the cruise. Their position is shown in Figure 1a-c. In addition, surface temperature was recorded by the vessel's thermograph at 4 m depth (Figure 2a-c). No transect was worked in the northern region due to a breakdown in the meter wheel of the hydrographic winch.

The surface temperatures do not differ very much from those found at about the same period during previous cruises, although close to the coast they are some 1-2 C lower. Some pockets of relative cold water (23-24°C) are located in Ambriz, Luanda, Cabo Ledo and off Lobito. This indicates some limited upwelling, though weak, taking place at those locations. There is an increase of temperature oceanwards.

The hydrographical situation off Baia dos Tigres presents the features characteristic to this frontal region, with tongue formations of relatively warm and cold waters of the Angola and Benguela currents respectively, the former flowing southwards and the latter flowing in a north-northwest direction. Close to the shore there exists a coastal current flowing towards north, probably a inshore branch of the Benguela current.

The profiles show a stratified surface layer, with the seasonal thermocline located between 25 and 50 m depth, Figure 3a-b. There is a slight lifting of the thermocline towards the surface near the coast, as an indication of a relatively slow rise of subsurface waters. The Baia dos Tigres profile shows active upwelling taking place. The warmer waters seen in this profile close to the shore are probably formed by the intensive mixing with the surface waters, caused by strong winds at the time of the observations. There is a gradual decrease of the water temperature towards deeper layers in all the profiles.

The hydrographic profiles off Luanda, Palmeirinhas and N'Sumbe show a relatively thin layer of about 20 m of low salinity. This low saline water is advected from the Congo River by the southward flowing surface current, forming a surface core of about 33.5 ‰ located some 20-30 nm from the coast. The inshore core of low salinity seen in the Palmeirinhas transect is advected northward by the coastal current, from the Kuanza River mouth, located a few miles south.

The oxygen values over the shelf are relatively high, and not likely to limit the distribution of fish.

3 DISTRIBUTION AND ABUNDANCE OF PELAGIC FISH FROM THE ACOUSTIC SYSTEM

The units of acoustic reflection is $0.1 \text{ m}^2/\text{nm}^2$ reflecting surface. An arbitrary scale has been used to illustrate different levels of density. The integrator values were allocated to the standard groups Pelagic fish type 1, clupeids and anchovies and Pelagic fish type 2 carangids, scombrids, barracudas and trichiurids.

3.1 CABINDA - LUANDA

Figure 4 shows the distribution of the Pelagic fish type 1 in this region. Some smaller low density school areas of sardinella were located in the Cabinda region with integrator readings mostly in the range 11-50 units per 5 nm. The nearshore areas in the 20-50 m bottom depth zone probably extended into Congo.

There were no sardinellas detected between the Congo River and N'Zeto. From latitude $6^{\circ}40'S$ and southwards, off the coast from Ambriz to Luanda school areas of flat and round sardinella were common to within 15-20 nm from the shore. Integrator units up to 820 per 5 nm were obtained, which signifies bigger schools. Readings around 80 units were more typical figures. Smaller schools could frequently be observed by eye at the surface, without any accompanying schools detected by the acoustic system. Part of the less dense registrations of Pelagic type 1 in shallow waters is from Ilisha.

This coastwise distribution with some sardinella off Cabinda, but most of the stock in the southern half of the shelf was a characteristic feature of nearly all the previous surveys and especially those from the same season May-June.

The size compositions of the pooled samples of the two sardinella species from the area of main distribution, Ambriz to Luanda, show adult fish, see Annex II. Juvenile sardinella appeared in small quantities in a few hauls further north, but representing an insignificant biomass.

Biomass estimates based on judged integrator readings and assuming a target strength similar to that of North Sea herring ($TS = 20 \log l - 72$) gives the following results:

Off Cabinda-Zaire River	16 000 tonnes
School area off Ambriz	66 000 "
Two school areas off Luanda	43 000 "
Total	125 000 tonnes

This is somewhat higher than the mean of the three 1989 surveys of 80 000 tonnes and about the same level as the 130 000 tonnes mean of the six 1985-86 surveys.

Pelagic fish type 2 were only found very scattered in the Cabinda region, Figure 4. Some horse mackerel was located off N'Zeto, between 50 and 200 m bottom depth with low densities. From Ambriz southwards towards Luanda the pelagic 2 group was common, both in bottom trawl and as records of the acoustic system. Horse mackerel was found generally between 50 m bottom depth and the shelf edge, while the lookdown and the hairtail, the other two important species of the group, were caught from the shallow waters to the shelf edge. The lookdown generally had a more semi-demersal distribution with smaller schools, while the horse mackerel also could be found more clearly off the bottom.

Biomass estimates from the integrator readings gives a total of 44 000 tonnes of which 32 000 tonnes is from the area outside and north of Luanda. These species are semi-demersal, mostly pelagic at night and partly at the bottom during the day forming part of bottom trawl catches. Estimates of their biomass from the swept area survey were as follows:

Horse mackerel	14 500 tonnes
Other carangids	14 000 "
Hairtails	8 200 "
Barracudas	700 "
Total	37 400 tonnes

The "other carangids" are lookdown with some bumper. The swept area method will give an underestimate because some of the fish, particularly horse mackerel will remain in mid water also during the day. Also the acoustic method as used here with both day and night observations will underestimate the true total biomass. Approximate total biomass levels taking into account a somewhat higher proportion of horse mackerel than that of the bottom trawl catches can be indicated as shown in Table 1.

Table 1 Cabinda-Luanda. Total biomass estimates of Pelagic fish type 2 by species. Data from acoustic and swept area surveys.

Horse mackerel	20 000 tonnes
Other carangids	18 000 "
Hairtails	11 000 "
Barracudas	1 000 "
Total	50 000 tonnes

This is somewhat lower than the average of 80 000 tonnes of each of the survey periods 1985/86 and 1989.

The pooled size samples of the horse mackerel, see Annex II, show a predominance of fish of 16-19 cm of length. Also the 1989 surveys were dominated by young fish below 20 cm of length, but all of the 1985/86 surveys had also components of larger fish up to about 30 cm. The dominating size of the lookdown is about 25 cm.

3.2 LUANDA - BENGUELA

Figure 5 shows the distribution of pelagic fish type 1, nearly all sardinella, from Luanda to Benguela. Most of the sardinella was found over the depth range of 30 to about 60 m.

Sampling indicated a predominance of flat sardinella in most of the region. There was a more or less continuous school area from Cabo Ledo to Cabo Tres Pontas with integrator readings exceeding 200 and up to 400 indicating large schools. A similar distributional area was found from north of Cabeça da Baleia to Benguela with readings up to 200, also indicating a fair level of concentration. School formation was maintained during night time, but with reduced densities. Co-occurrence with barracudas, hairtails, bonitos and carangids at times complicated identification. The coastwise pattern of distribution is similar to that found in many previous surveys, in particular that for the southern area where sardinella has been located in nearly all coverages.

The size sampling, see Annex II, shows for both species exclusively large sized fish between 25 and 35 cm of length. Most of the previous surveys have shown a mixture of sizes in this region, at times with strong juvenile components. This may indicate a lack of recruiting fish at present.

The biomass estimates give 111 000 tonnes between Pta das Palmeirinhas and Cabo Tres Pontas and 66 000 tonnes for the southern area of distribution, a total of 178 000 tonnes for the region. This is an increase from the mean of the three 1989 surveys which was 113 000 tonnes.

Figure 5 shows the distribution of the Pelagic type 2 fish. The distributional area on the outer bank from Pta Palmeirinhas to about Cabo Tres Pontas was young horse mackerel of a quite narrow size range found at the bottom between 90 and 100 m of depth during the day, but lifting at night although not always above 10-20 m off the bottom. The acoustic densities are here based on the night surveys of these areas. The pelagic 2 fish in the shallower parts of the shelf was a mixture of hairtails, barracudas, bonitos, bumper and lookdown with horse mackerel in some parts.

The size composition of the horse mackerels is shown in Annex II for the shelf north and south of Pta do Morro separately. The fish in the north which represent the main biomass is mainly 15-20 cm while that in the south also include some fish between 20 and 25 cm. There is very little fish of larger size which was also the case in the 1989 surveys.

Biomass estimates give 60 000 tonnes for the northern offshore young horse mackerel. There was an estimated additional quantity of 20 000 tonnes of horse mackerel in the rest of the region giving a total of 80 000 tonnes of horse mackerel and 50 000 tonnes of other P2 type of fish. This is approximately twice the level of the horse mackerel biomass found in the 1989 surveys. Judging from the predominant sizes there must have been a fairly successful spawning of this species in early 1990 or late 1989.

The allocation of the 50 000 tonnes of other P2 type of fish to species is complicated by the contribution to the corresponding integrator readings of some high values deriving from very small surface layer schools. These were not successfully identified, but a likely identity is bonito which was caught in small numbers in many hauls. Using catch rates from the 0-50 m zone for the other species give the composition of P2 type of fish shown in Table 2.

The group "other carangids" is considerably lower than in previous surveys, while hairtails and barracudas are at a similar level.

Table 2 Luanda-Benguela. Total biomass estimates of Pelagic fish type 2 by species. Data from acoustic and swept area surveys.

Horse mackerel	80 000	tonnes
Other carangids	7 400	"
Hairtails	26 000	"
Barracudas	6 600	"
Bonitos	10 000	"
Total	130 000	tonnes

3.3 BENGUELA - CUNENE

Figure 6 shows that the distribution of pelagic fish type 1 in this region was mainly restricted to the Baia dos Tigres. A survey of this bay at night showed a school area over the deeper parts and the entrance with numerous schools of sardine. Conditions were very good for acoustic assessment and sampling. The biomass was estimated at 26 000 tonnes. Sardine has been found in six of the nine previous surveys with estimates from 5 to 120 000 tonnes. The present finding is similar to the situation in survey 1/89 when the bay held an estimated 50 000 tonnes of sardine. The size composition with a modal length of 25 cm, see Annex II, indicates the presence of only one yearclass.

An echo recording off Tombua was evaluated to be of sardinella, but further observations and sampling was not possible.

The pelagic fish type 2 species are as shown in Figure 6 widely distributed over the shelf to about 200 m of depth. The main species are the Cape and Cunene horse mackerels. As shown by the swept area estimates by depth ranges, see Annex I, the two species are separated in their distribution with the Cunene species found nearly only out to 100 m of depth and the Cape species from 100 to 200 m. The distribution of the Cape horse mackerel with very high densities offshore seems closely related to the thermal front between the Benguela and the Angola Currents which was located over the northern part of the Baia dos Tigres Bank at this season, as described under part 2 above.

In several areas along the inshore coast some other fish forming small dense schools during the day was recorded, but not identified. Bonito and Atlantic ruby fish were caught in various hauls at this depth range.

The size composition of pooled samples of the two horse mackerel species are shown in Annex II. The Cape horse mackerel consisted of medium sized and larger fish while there was also a component of juvenile fish of the Cunene species present. This latter species is as previously noted likely to form a self contained stock in the area.

Biomass estimates from the acoustic observations gave a total of 410 000 tonnes, 310 000 for the Cape, and 100 000 tonnes for the Cunene species. Table 3 shows the time series of these estimates by surveys since 1985. The Cape horse mackerel is part of the Benguela Current ecosystem and retreats southwards with the movement of the front in summer-autumn. Therefore the previous autumn surveys which are from late April-early May usually show low

biomasses of this species. In the present survey in June, the front has already moved north and the estimate is high. It seems probable that the amount of Cape horse mackerel will increase in late winter and spring. The abundance of Cape horse mackerel in Namibia was known to be high in 1990-1991.

Table 3. Cunene-Benguela. Estimates of the biomass of Cape- and Cunene horse mackerels by surveys. 1 000 tonnes.

Survey		Cape h.m.	Cunene h.m.	Total
1/85		170	30	200
"	2/85	75	55	130
"	3/85	220	50	270
"	4/85	270	70	340
"	1/86	40	130	170
"	2/86	10	30	40
"	1/89	125	35	160
"	2/89	135	25	160
"	3/89	240	170	410
"	1/91	310	100	410

4 RESULTS FROM THE TRAWL SURVEY, CATCH COMPOSITIONS AND SWEEPED AREA BIOMASS ESTIMATES OF DEMERSAL FISH

4.1 THE SHELF BETWEEN CABINDA AND LUANDA

56 swept area stations were successfully carried out. These were distributed as follows: 0-20 m 7 hauls, 20-50 m 11 hauls, 50-100 m 26 hauls and 100-200 m 12 hauls.

During the survey it became evident that catch rates in the bottom trawl increased considerably south of Ambriz. Since sampling intensity was higher in the south it was decided to process the data by area stratification in addition to that of depth.

The swept area estimates are shown in Annex I. Table 4 shows the mean densities by main groups weighted by the areal extensions of the two sub-regions. Red pandora and Angola dentex were most common among the seabreams and African weakfish and Cassava croaker among the croakers. One should note the high abundance of the big-eye grunt.

Table 4. Cabinda-Luanda. Mean densities of main groups weighted by area of sub-regions and biomass estimates.

	Density t/nm	Biomass 1 000 tonnes
Seabreams	0.86	6 700
Grunts*	0.08	620
Croakers	1.00	7 800
Groupers	0.10	780
Sum demersal val.	2.04	15 900
Big eye grunt	2.20	17 160
Horse mackerel	1.60	12 480
Other carangids	1.10	8 580
Barracudas	0.10	780
Hairtail	1.01	7 880

* excluding big-eye grunt

The total biomass of the 'high value demersal' is estimated to 16 000 tonnes. During the previous Nansen surveys from the same season, May-June, the corresponding estimates provide the following time series:

Surveys	2, 1985:	32 000 tonnes
Surveys	2, 1986:	45 000 "
Surveys	2, 1989:	22 000 "

The present level of 16 000 tonnes thus indicates a decline and it also represents the lowest estimate obtained in any of the total of 10 surveys.

Figure 7 shows the size compositions of pooled samples of two of the commercial species, red pandora and Angola dentex from the present survey and from combined samples of the surveys in 1985/86 and in 1989. There is no apparent decline in large sized fish in any of the series.

There was an estimated total biomass of 15 000 tonnes of big eye grunt in this region, 4/5 of which was from the 50-100 m depth range between Ambriz and Luanda. The size composition of the pooled samples of this species is shown in Annex II.

4.2 THE SHELF FROM LUANDA TO BENGUELA

The shelf down to 200 m was covered with a total of 62 swept area hauls: 22 in 15-50 m, 25 in 50-100 m and 15 in 100-200 m. These are in reasonable proportion to the extensions of the depth ranges so it is assumed that there is no need of weighing catch rates by depth strata. The shelf is also evenly covered along the coast so the region will be analyzed as a unit area.

The swept area calculations are shown in Annex I and gives the density estimates by species. Table 5 shows the densities and biomass estimates by main groups. The main seabream species were red pandora, large eye dentex and Angola dentex. The main croakers were African weakfish and Cassava croaker.

Table 5. Luanda-Benguela. Mean densities of main groups and biomass estimates over the shelf to 200 m.

	Density t/nm	Biomass 1 000 tonnes
Seabreams	2.19	10 580
Grunts*	0.13	628
Croakers	0.71	3 430
Groupers	0.04	190
Snappers	0.03	145
Sum demersal val.	3.10	15 000
Big eye grunt	6.48	31 300
Horse mackerel	15.52	75 000
Other carangids	0.34	1 640
Barracudas	0.15	725
Hairtail	2.07	10 000

* excluding big-eye grunt

The corresponding mean estimates from previous surveys were:

Survey 1/86 and 2/86	21 200 tonnes
Survey 1/89 and 2/89	17 900 tonnes

The present estimate of 15 000 tonnes is thus only slightly lower than the previous levels.

Figure 8 shows the size composition of the three main species of seabreams: red pandora, Angola dentex and large eye dentex. There is no clear sign of reduction of large sized fish, except perhaps for the large eye dentex. These simply pooled samples may not, however, represent the true size compositions of the stocks and a more elaborate analysis should be made.

The high biomass estimate of the big eye grunt of 31 000 tonnes should be noted. This is similar to that obtained in previous surveys. There is also a high estimate of horse mackerel biomass, 75 000 tonnes which corresponds well with that obtained from acoustic, principally night surveys, of 80 000 tonnes.

4.3 TOMBUA - CUNENE

The coverage down to 200 m depth, was worked by 37 swept area hauls, distributed as follows: 0-50 m 10 hauls, 50-100 m 15 hauls and 100-200 m 12 hauls. In addition 3 hauls were made on the slope down to 370 m in the south where it is possible to trawl. The allocation by depth is roughly related to the areal extension of the depth ranges. The swept area estimates for all species are shown in Annex I. Table 6 shows the mean densities of the main groups. The seabreams are mainly large eye dentex with some red pandora and black

seabream and pink and barnard dentex. The croakers are African weakfish and southern meagre with some Canary drum. The hakes were a mixture of the Benguela and Cape species. The Cape and Cunene horse mackerels have about the same densities in the swept area hauls. However, their abundance as estimated by the acoustic method are, as shown in part 3 above, much higher than indicated by their presence in the bottom trawl because they tend to be in mid water also during daytime.

	Density t/nm	Biomass 1 000 tonnes
Seabreams	13.65	20 700
Croakers	1.03	1 700
Hakes		4 000
Sum demersal val.		26 400
Cape horse mck	13.96	21 300
Cunene hrs.mck.	13.86	20 800

Estimates from 1986 and 1989 surveys of commercial demersal fish in this region have ranged from 10 to 39 000 tonnes with a mean of about 22 000 tonnes. The present estimate is thus higher than the mean, but below the 39 000 tonnes level from survey 2/89.

Figure 9 shows a comparison of the size distributions of pooled samples of large sized dentex and red pandora from the present survey with those from the survey periods 1985/86 and 1989. The modal length of adult large eye dentex has increased from about 15 cm in 1989 to 20 cm at present. There is no trend of relative decrease of large sized red pandora over this period of time.

5 RESULTS OF THE FISHING EXPERIMENTS ON THE SLOPE, CABINDA TO BENGUELA

The swept area hauls on the slope were distributed by depth as follows:

	Cabinda-Luanda	Luanda-Benguela
100-200 m	14	15
200-300 m	4	8
300-400 m	7	7
400-500 m	8	7

The swept area estimates of all the main species caught at these depth ranges are shown in Annex I.

5.1 BENGUELA HAKE

Table 7 shows the mean catch rates of hake for the two regions by depth ranges. For the depth range of main distribution, 300-500 m, the catch rates of this survey are considerably higher than those obtained in the three 1989 surveys. The rates in the shallower ranges are lower which may indicate less smaller sized recruiting fish.

	Cabinda-Luanda	Luanda-Benguela
100-200 m	1	-
200-300 m	11	37
300-400 m	372	374
400-500 m	525	377

The biomass is estimated at 29 000 tonnes, 18 000 tonnes for the northern and 11 000 tonnes for the southern region. The total for the survey period 1985/86 was 42 000 tonnes and for the 1989 surveys 23 000 tonnes. There seems then to have been some recovery of the hake stock since 1989.

5.2 DEEP SEA SHRIMPS

Table 8 shows the mean catch rates for the two commercial species, rose shrimp and striped red shrimp and for the abundant, but small sized spider shrimp. The catch rates for the rose shrimp are lower than those of the 1989 surveys while that for the striped red shrimp is somewhat higher in the Luanda-Benguela region.

	Cabinda-Luanda	Luanda-Benguela
Rose shrimp		
100-200 m	-	-
200-300 m	9	17
300-400 m	2	2
Striped red shr.		
300-400 m	-	2
400-500 m	4	22
Spider shrimp		
300-400 m	221	116
400-500 m	128	180

6 REVIEW OF THE RESULTS BY MAIN STOCKS

Sardine

A dense school area of sardine with an estimated biomass of 26 000 tonnes was found near and inside Baia dos Tigres. Table 9 shows the occurrence of sardine over the survey period.

Survey	1/85	25	1/86	0	1/89	50		
"	2/85	0	2/86	0	2/89	10	1/91	26
"	3/85	120						
"	4/85	10			3/89	5		

Sardinellas

Round and flat sardinellas were found in appreciable densities in several main school areas usually at 50-60 m depth between Ambriz and Benguela. The fish was large sized, hardly any juvenile sardinellas occurred in the samples. A few sardinella schools were located in the south off Cape Sta. Marta and Tombua.

The biomass estimate of 300 000 tonnes obtained for the Benguela-Cabinda shelf (Table 10) indicates that there may have been some recovery of the stock since 1989 perhaps as an effect of the reduced quotas. The results of the next survey should be awaited before firm conclusions regarding the recovery are drawn. With the absence of juvenile fish a decline of stock abundance may be expected, and this should be considered when setting allowable catches for the coming season.

Survey	Cunene Benguela	Benguela Luanda	Luanda Cabinda	Benguela Cabinda	Total
1/85	25	220	80	300	325
2/85	110	190	180	370	480
3/85	0	70	190	260	260
4/85	0	200	110	310	310
1/86	10	140	110	250	260
2/86	10	130	130	260	270
1/89	40	200	60	260	300
2/89	20	40	130	170	190
3/89	40	100	60	160	200
1/91	+	180	120	300	300

Cape horse mackerel

As part of the Benguela Current ecosystem this species follows the seasonal displacements of the front between this system and the Angola Current system. This frontal area was found to be located over the Baia dos Tigres Bank during the survey and Cape horse mackerel appeared in high densities over the outer parts of the bank. The biomass was estimated at 310 000 tonnes and is likely to increase in the winter-spring season. The stock is reported to be in high abundance in Namibia. Table 11, presenting the data from all surveys since 1985, shows that the latest estimate is the highest so far.

Feb 1985	170	Jan 1986	40	Feb 1989	125		
Apr "	75	Apr "	10	Apr "	135	June 1991	310
Aug "	220						
Nov "	270			Nov "	240		

Cunene horse mackerel and related pelagic fish

Cunene horse mackerel was found in low abundance north of Benguela and in high abundance in the southern region. Table 12 shows the biomass estimates of surveys since 1985.

Survey	Cunene Benguela	Benguela Luanda	Luanda Cabinda	Benguela Cabinda	Total
1/85	30	195	40	235	265
3/85	50	90	40	130	180
4/85-1/86	100	125	20	145	245
1/89	35	55	40	95	130
3/89	170	40	35	75	245
1/91	100	80	20	100	200

The Benguela-Cabinda stock consisted of juvenile fish which may increase the stock size if fishing is restricted. The density in the Cunene-Tombua stock is high with both juvenile and adult components.

The other types of pelagic fish associated with horse mackerels have their main distribution to the north of Benguela.

There seems to have been a decline in "other carangids", mainly bumper and lookdown, in both regions and in hairtails in the Luanda-Cabinda region, but the precision of these estimates is low. Table 13.

Table 13. Biomass estimates of groups of pelagic fish associated with horse mackerel by regions and survey periods. 1 000 tonnes.

	Other carangids	Hairtails	Barracudas	Total
Benguela-Luanda				
1985/86	16	32	8	56
1989	26	26	12	64
1/1991	7	26	7	40
Luanda-Cabinda				
1985/86	60	29	7	96
1989	9	24	5	38
1/1991	18	11	1	30

Demersal fish

On the shelf from Luanda-Cabinda and to some extent also Benguela-Luanda the high value demersal fish, seabreams, croakers, grunts etc. were found in somewhat lower densities than in previous surveys. Table 14 shows the biomass estimates for the various regions by survey periods including the results of a GOA survey in November 1989 which refers to seabreams only. It is uncertain whether the 1991 data represent survey variability or a true reduction of the stocks north of Benguela and further information should be obtained.

Table 14. High value commercial fish. Mean biomass estimates by surveys and regions. 1 000 tonnes.

Survey	Cunene Benguela	Benguela Luanda	Luanda Cabinda	Total
1/85- 4/85	N.S.	N.S.	48.8	-
1/86- 2/86	15.6	21.2	38.3	78.4
1/89- 2/89	28.2	17.9	25.5	75.1
3/89	N.S.	N.S.	31.7	
Nov/89				68.0*
1/91	26.4	15.0	15.9	57.3

* From GOA survey, seabreams only

A fairly high biomass was observed for the Cunene-Tombua region. This includes 4 000 tonnes of a mixture of Cape and Benguela hakes in deeper waters in the south. The main part is, however, large eye dentex which was found in relatively high densities.

In addition to the high value demersal fish the small sized big eye grunt was found in high densities in many locations from Benguela to Ambriz and its total biomass was estimated at 47 000 tonnes, a level similar to previous findings.

Slope Benguela-Cabinda

Some recovery of the Benguela hake may have occurred since 1989 as a total biomass of 29 000 tonnes was found compared with 23 000 tonnes in 1989.

The deep sea shrimps were insufficiently covered by the survey. Rose shrimp gave lower catch rates than in 1989, but the striped red shrimp somewhat higher rates in the Benguela-Luanda region.

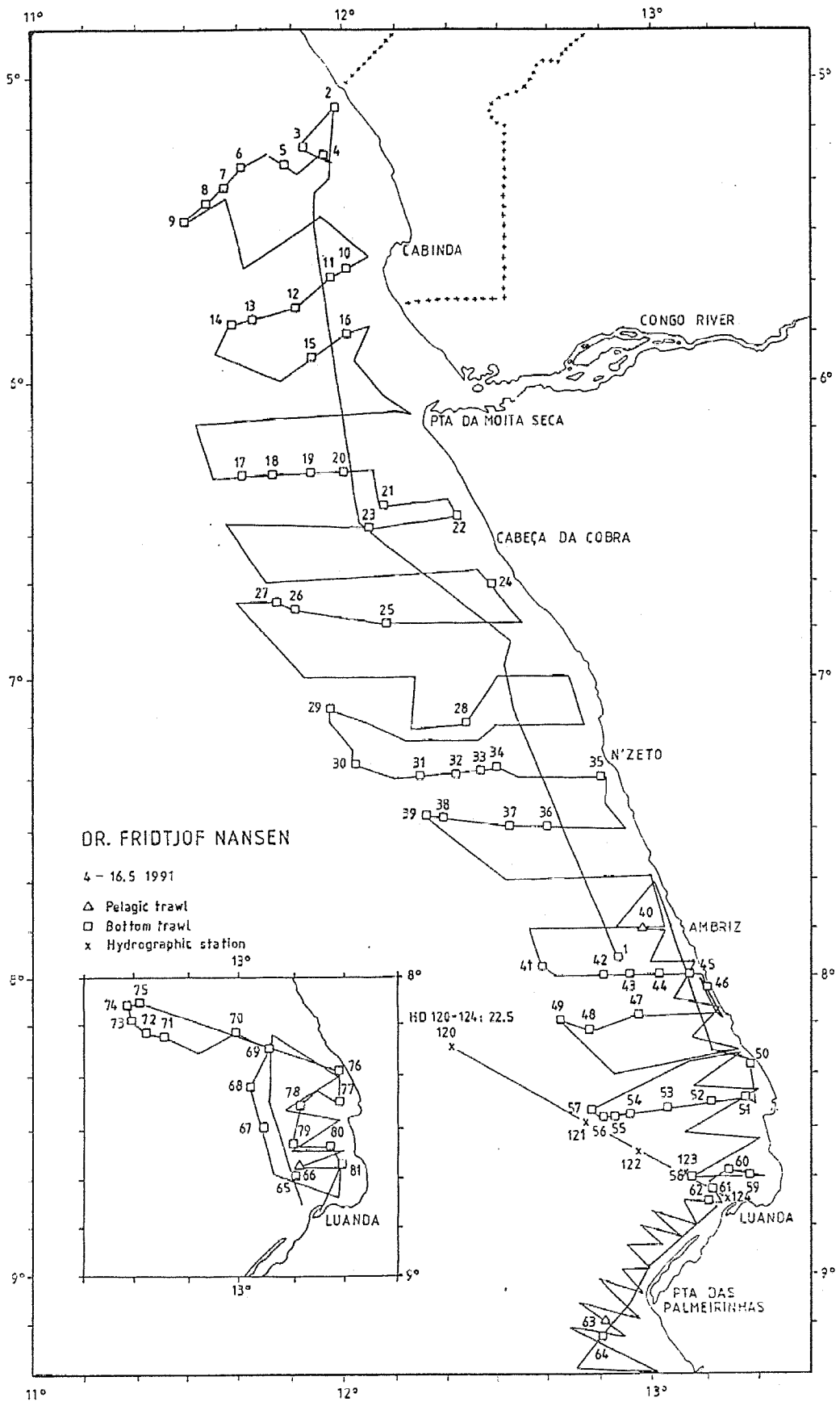


Figure 1a Course tracks with fishing stations and hydrographic profiles, Cabinda-Luanda.

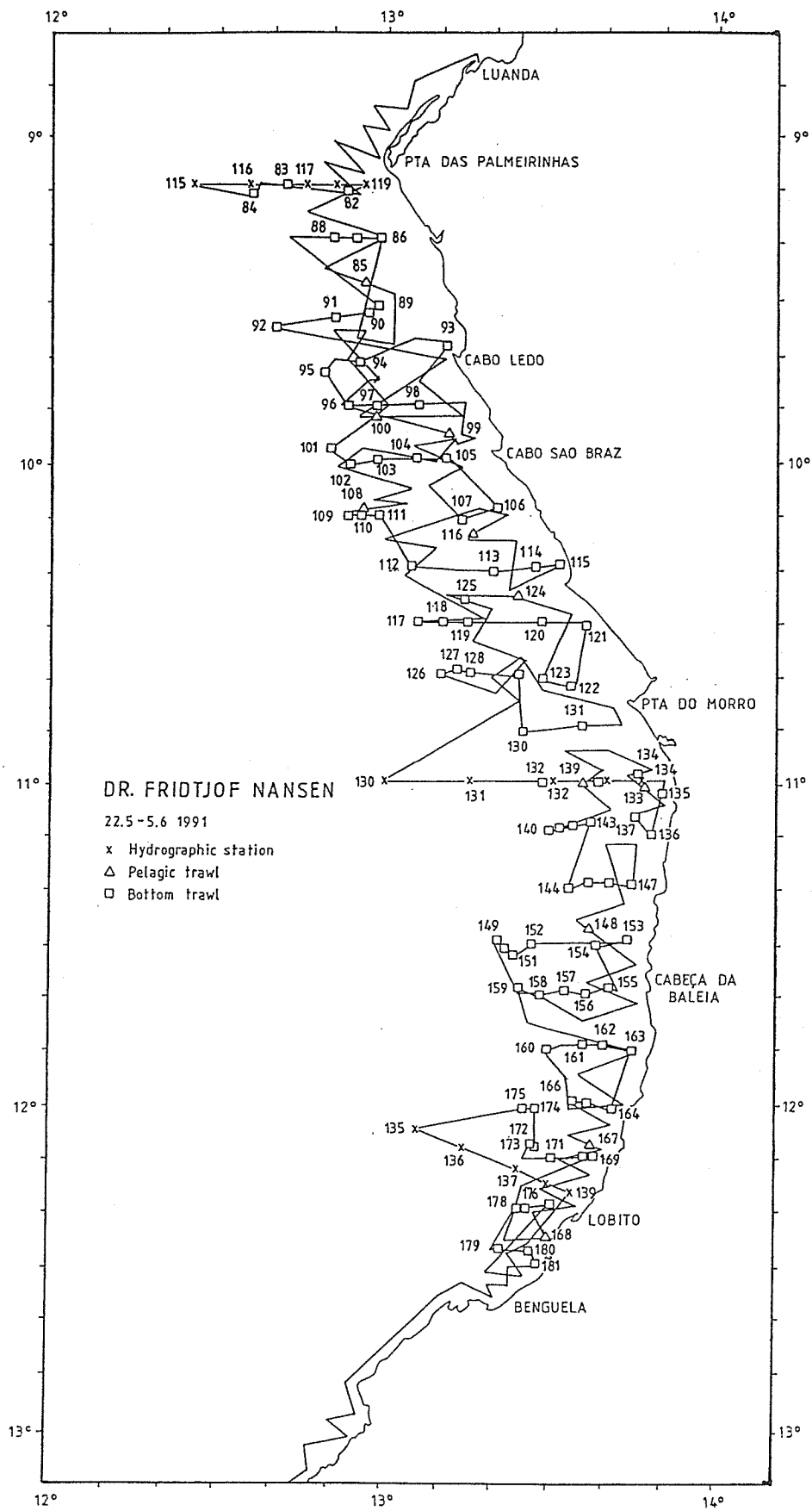


Figure 1b Course tracks with fishing stations and hydrographic profiles, Luanda-Benguela.

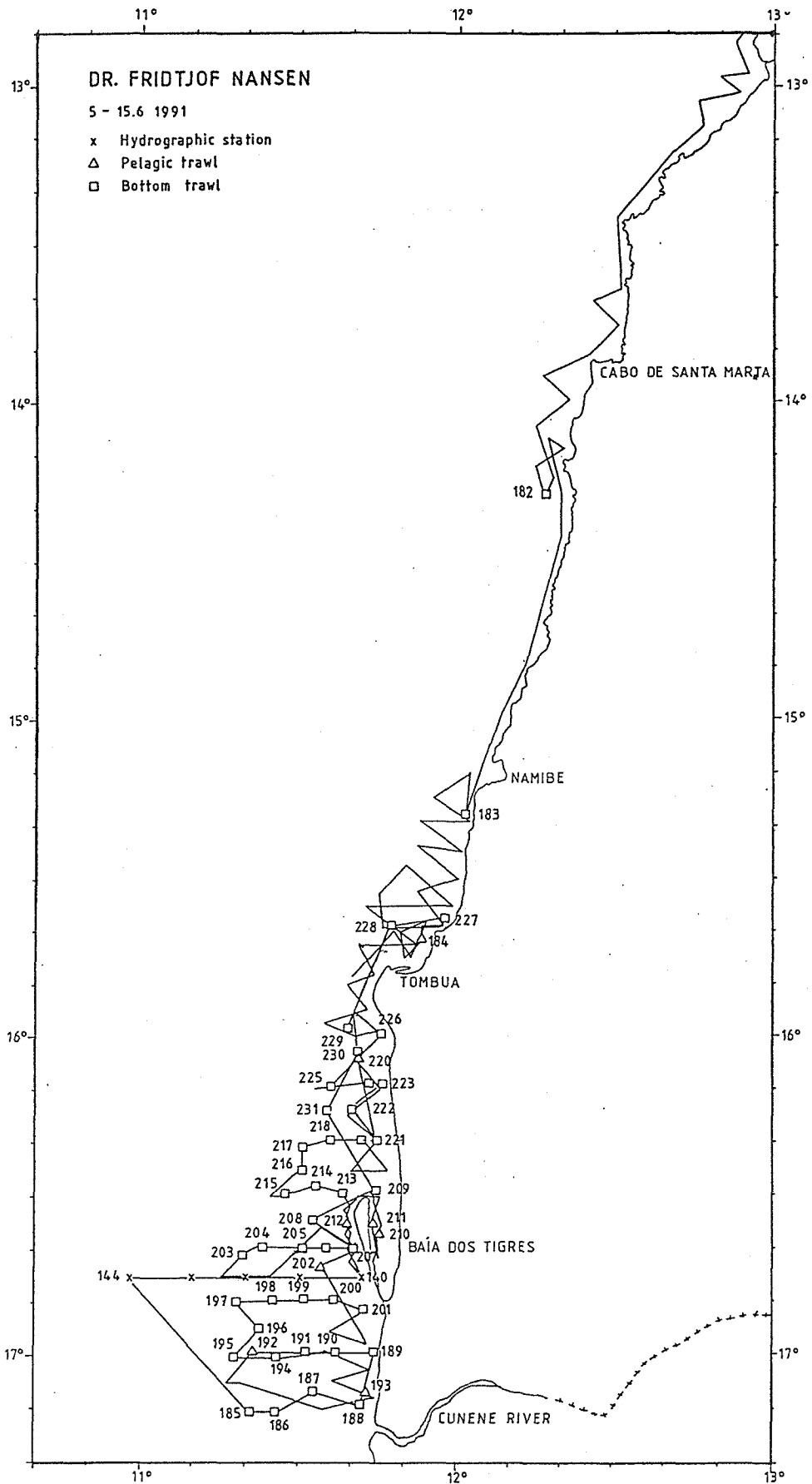


Figure 1c Course tracks with fishing stations and hydrographic profiles, Benguela-Cunene.

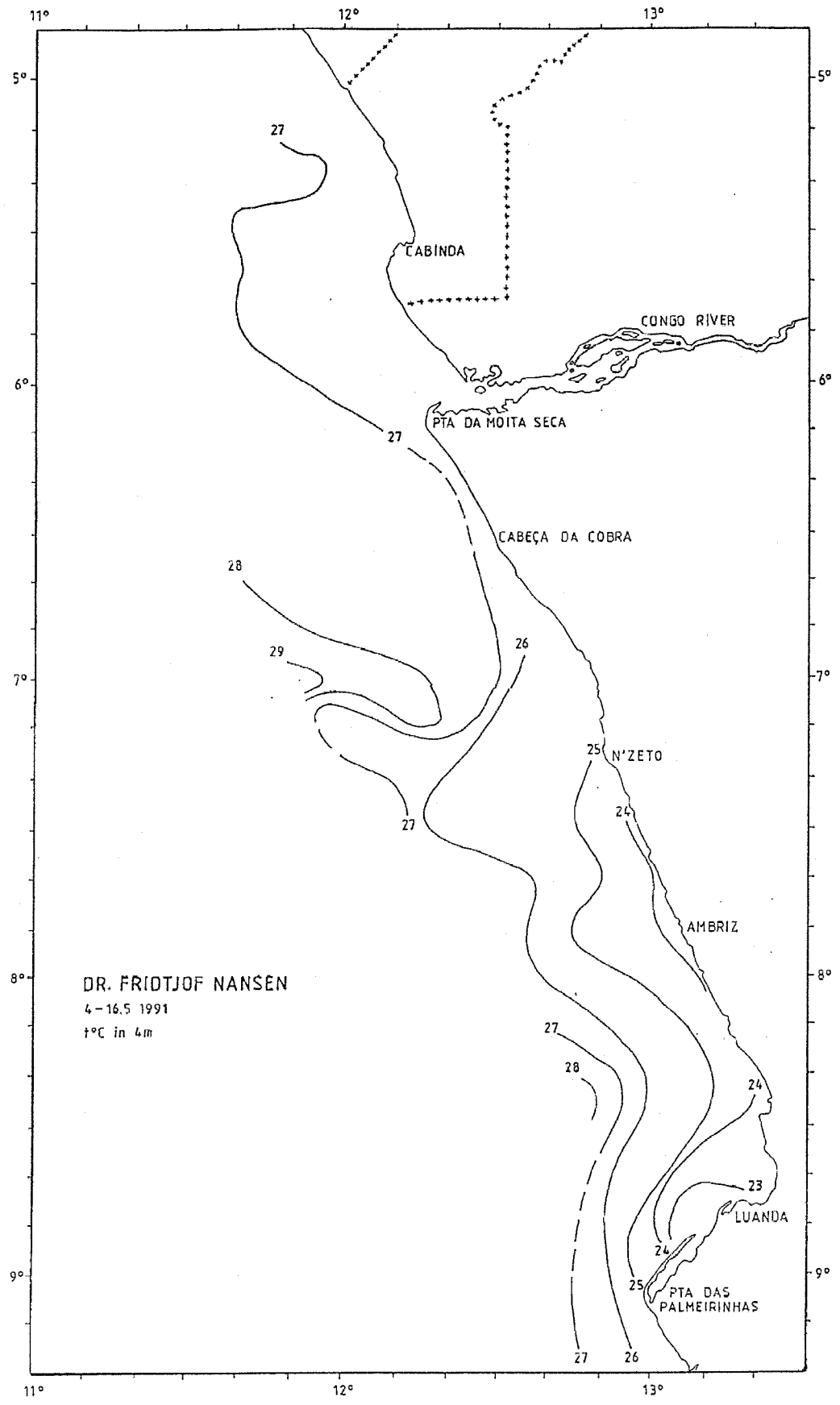


Figure 2a Temperature at sea surface, Cabinda-Luanda.

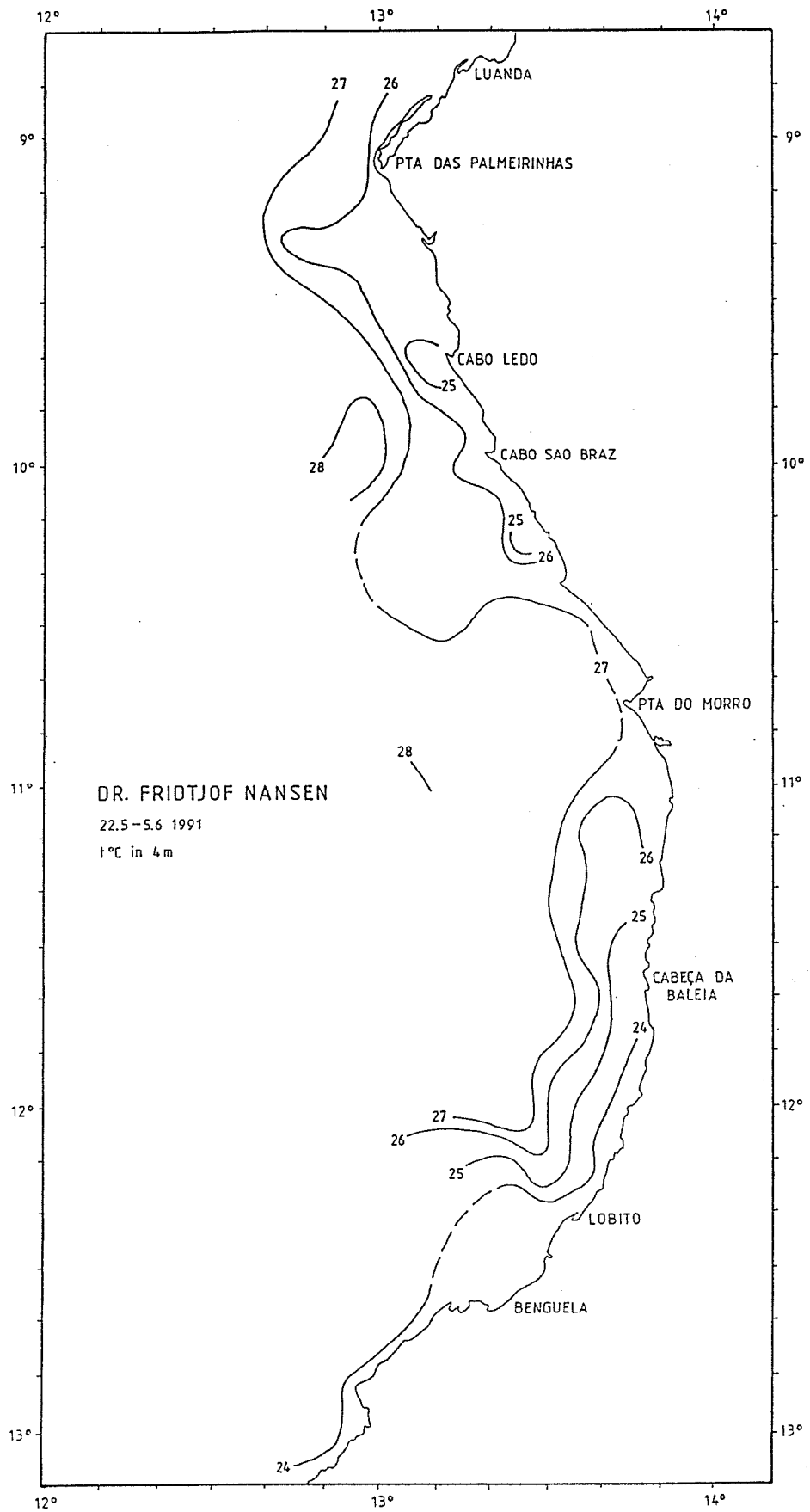


Figure 2b Temperature at sea surface, Luanda-Benguela.

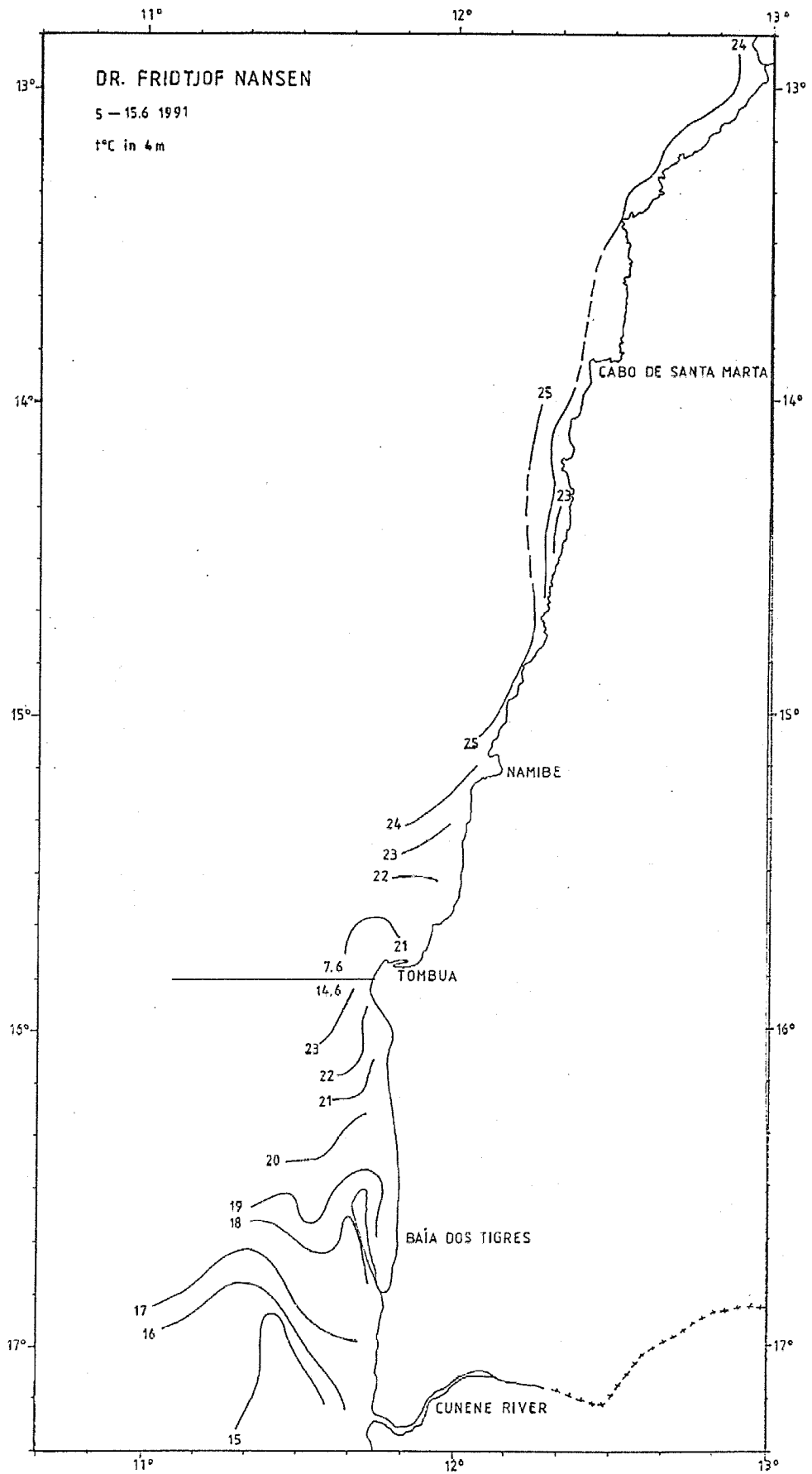


Figure 2c Temperature at sea surface, Benguela-Cunene.

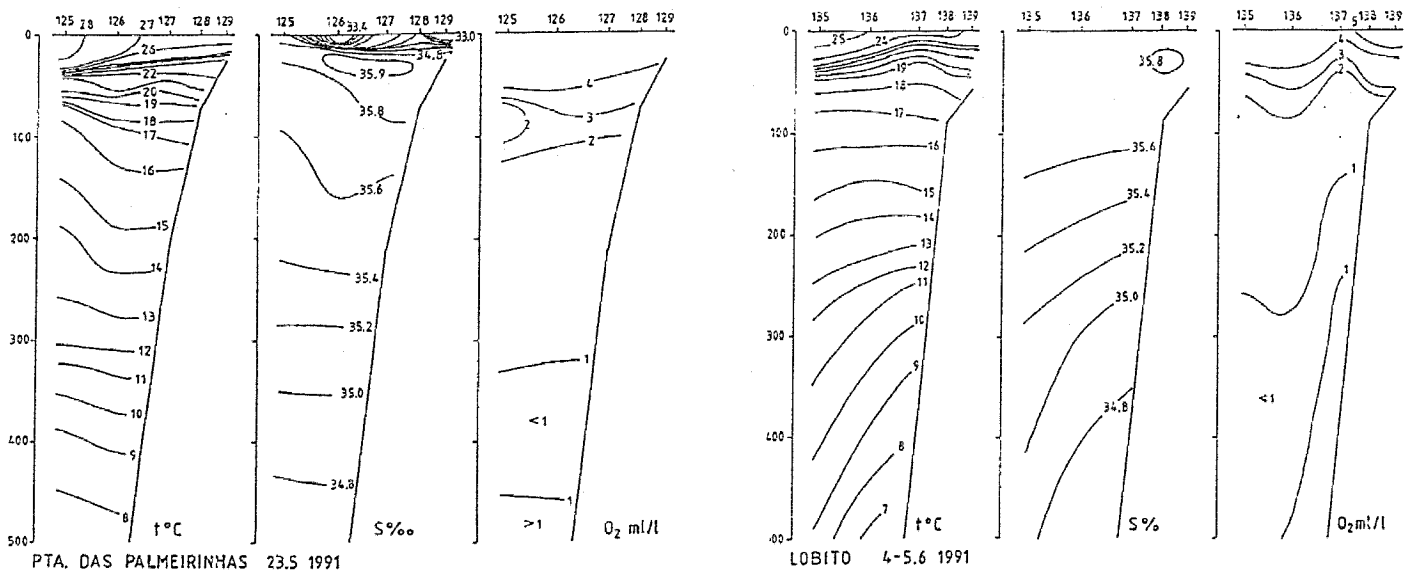
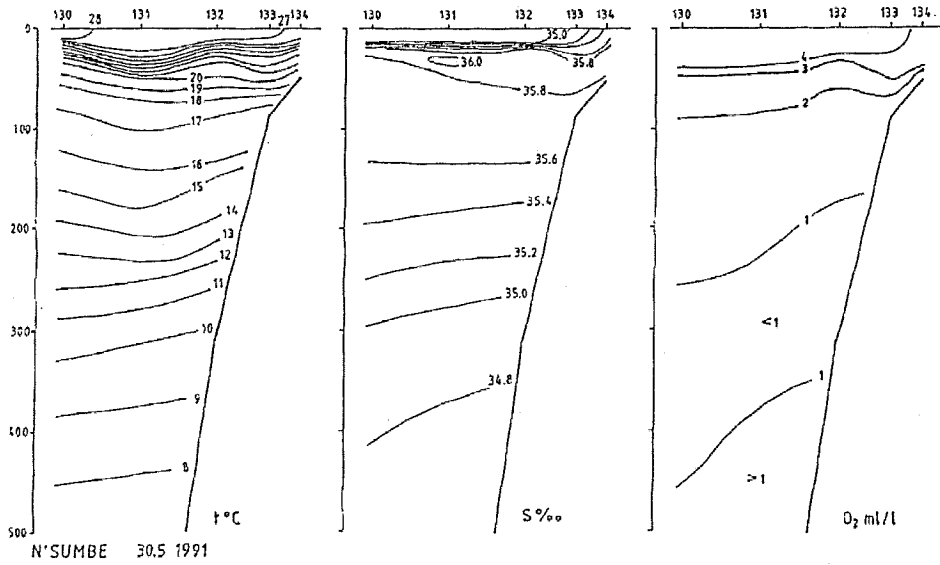
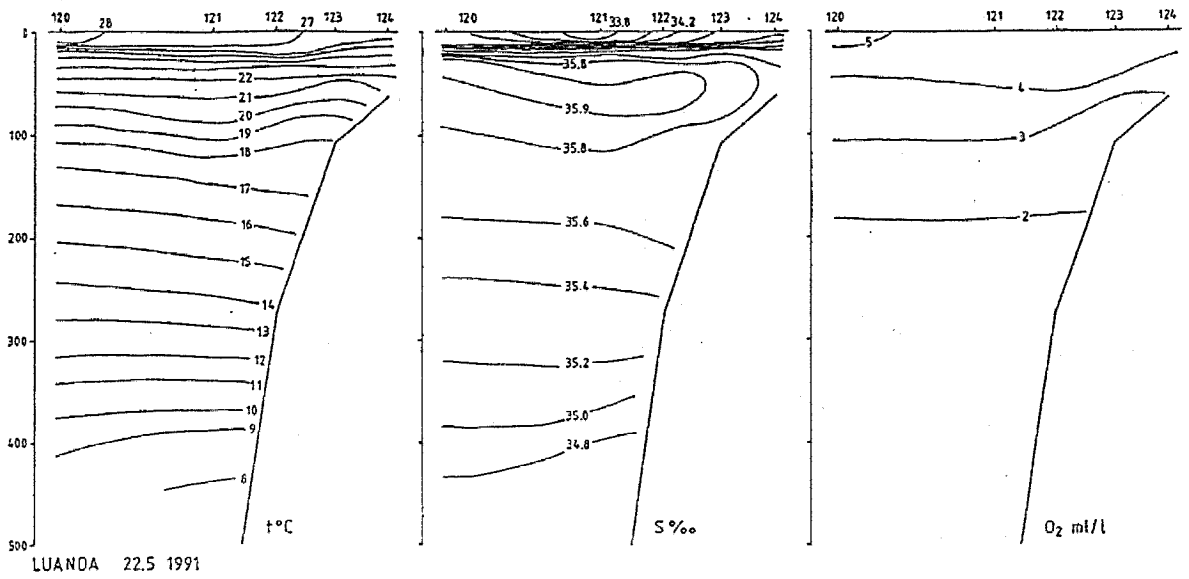


Figure 3a Hydrographic profiles, Luanda-Benguela.

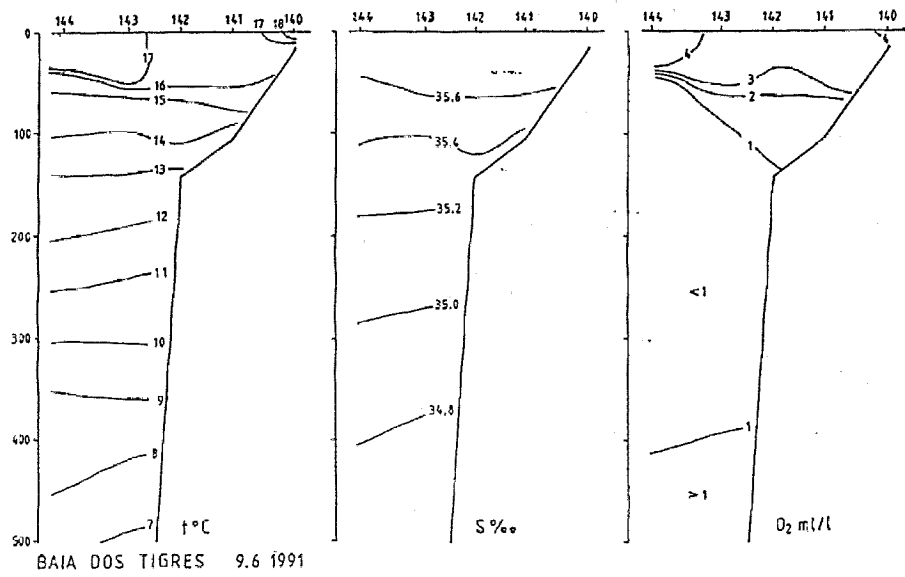


Figure 3b Hydrographic profiles, Baia dos Tigres.

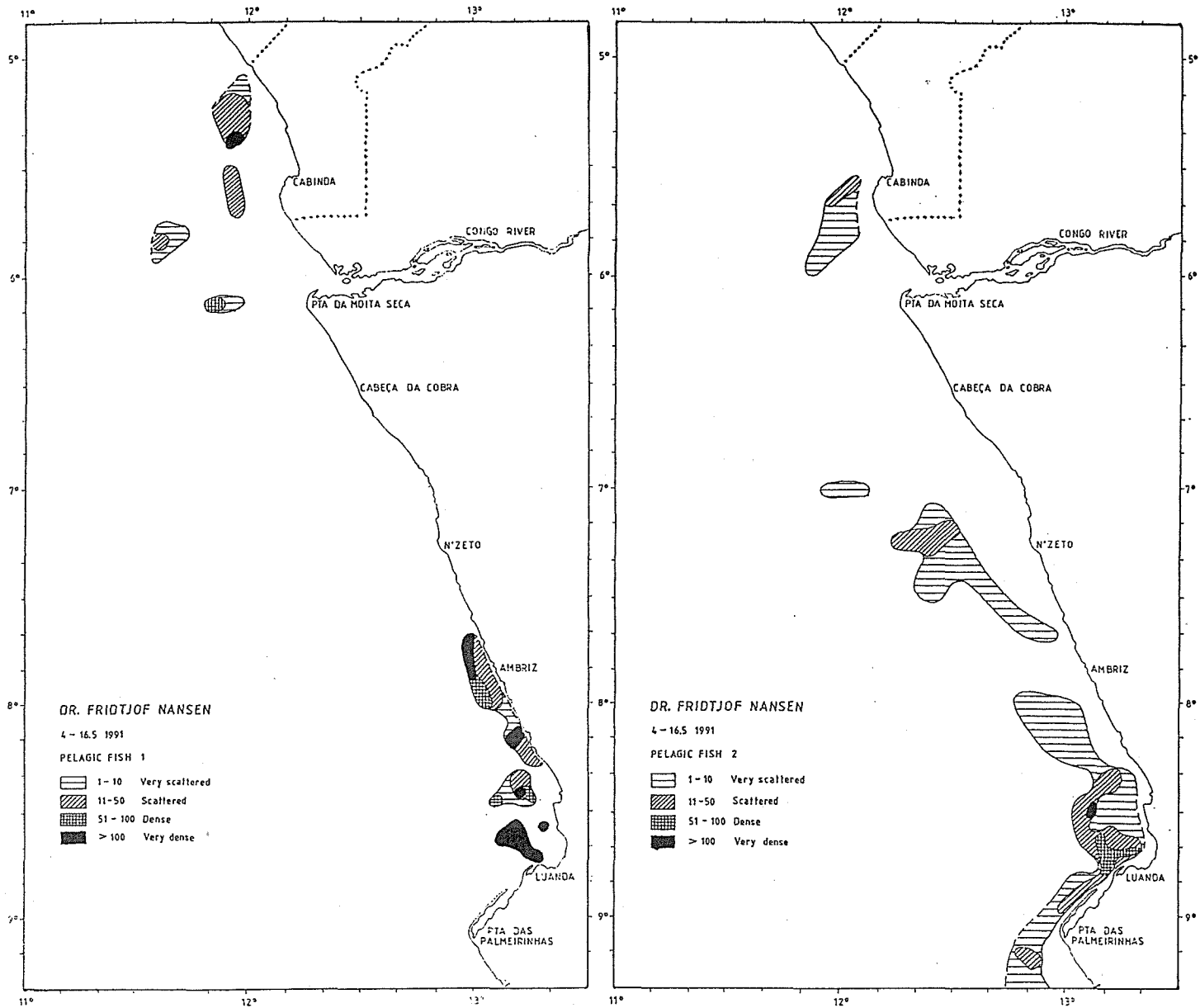


Figure 4 Cabinda-Luanda. Distribution of Pelagic fish type 1 and Pelagic fish type 2.

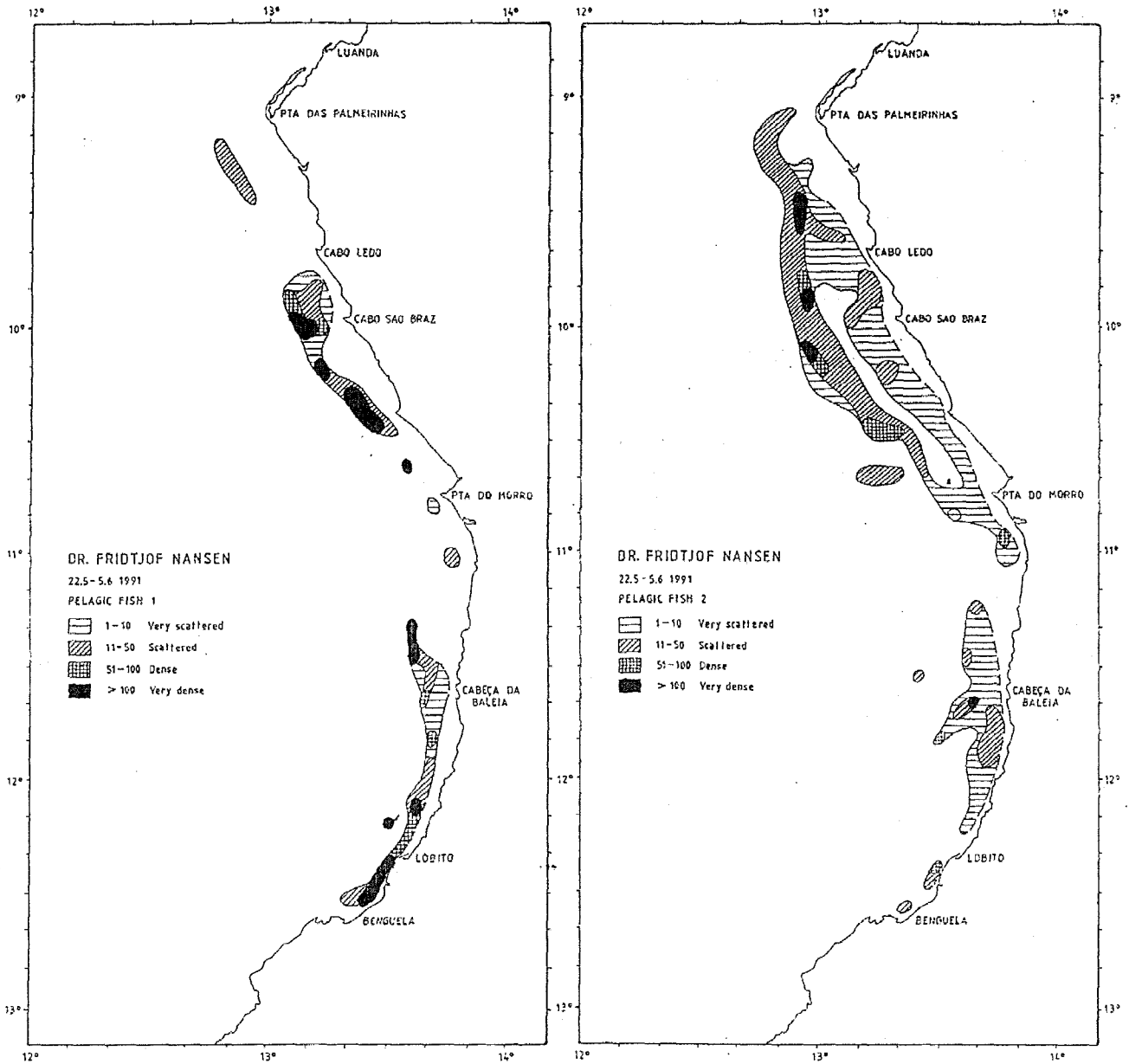


Figure 5 Luanda-Benguela. Distribution of Pelagic fish type 1 and Pelagic fish type 2.

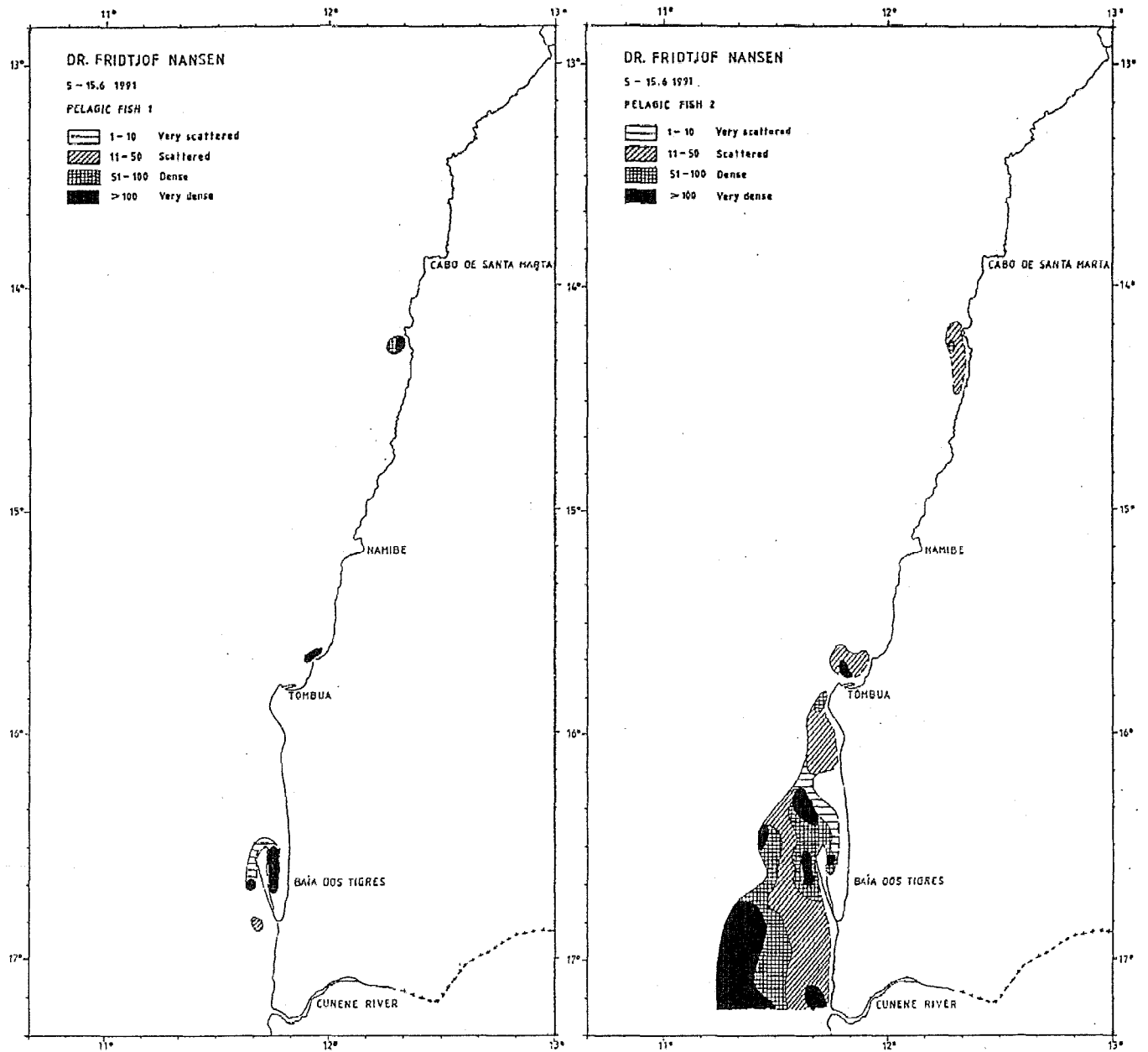
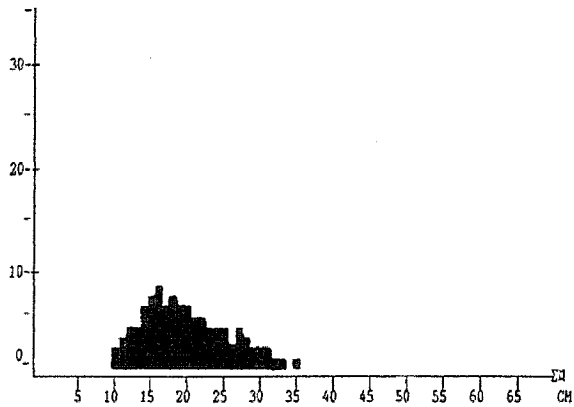
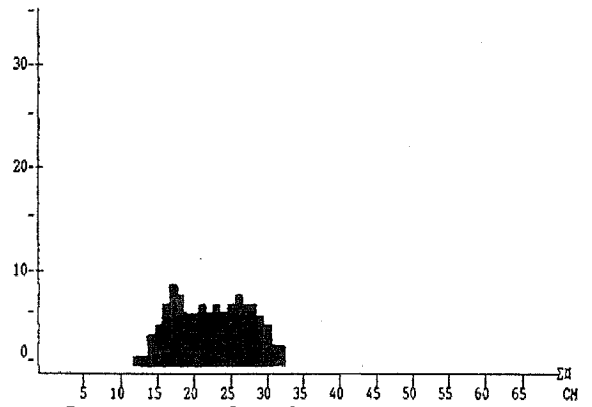


Figure 6 Benguela-Cunene. Distribution of Pelagic fish type 1 and Pelagic fish type 2.



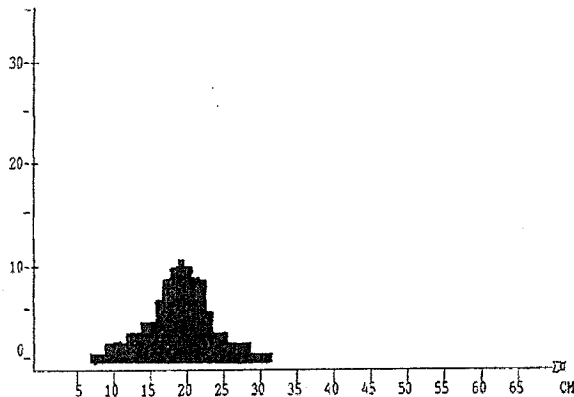
Pagellus bellottii
Cabinda-Luanda, 1985-86.

Pooled sample (simple adding)
MEAN LENGTH = 19.94cm N= 3915
NUMBER OF SUBSAMPLES : 60



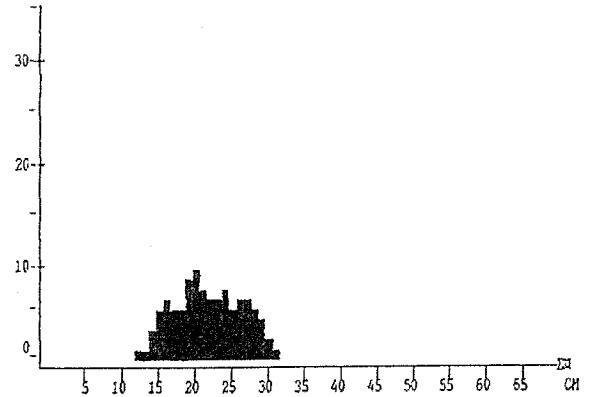
Dentex angolensis
Cabinda-Luanda, 1985-86.

Pooled sample (simple adding)
MEAN LENGTH = 22.25cm N= 2144
NUMBER OF SUBSAMPLES : 48



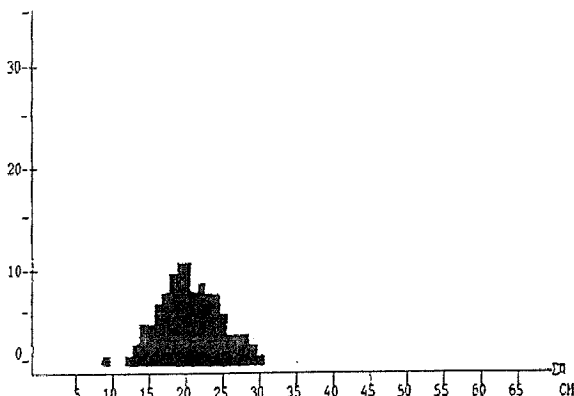
Pagellus bellottii
Cabinda-Luanda, 1989

Pooled sample (simple adding)
MEAN LENGTH = 18.64cm N= 2773
NUMBER OF SUBSAMPLES : 45



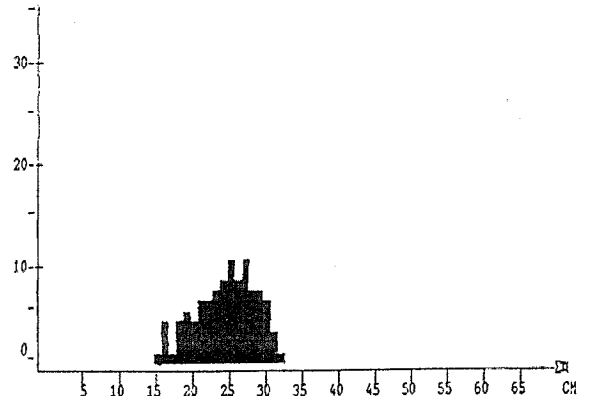
Dentex angolensis
Cabinda-Luanda, 1989

Pooled sample (simple adding)
MEAN LENGTH = 21.75cm N= 1705
NUMBER OF SUBSAMPLES : 37



Pagellus bellottii
Cabinda-Luanda, 1-91

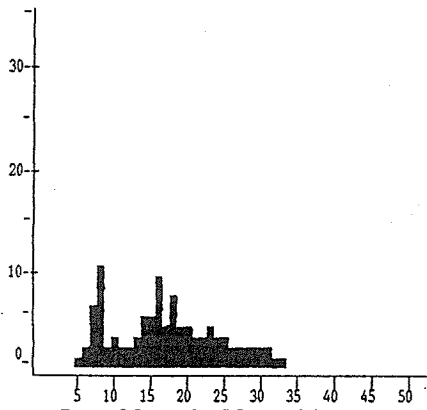
Pooled sample (simple adding)
MEAN LENGTH = 20.27cm N= 1465
NUMBER OF SUBSAMPLES : 16



Dentex angolensis
Cabinda-Luanda, 1-91

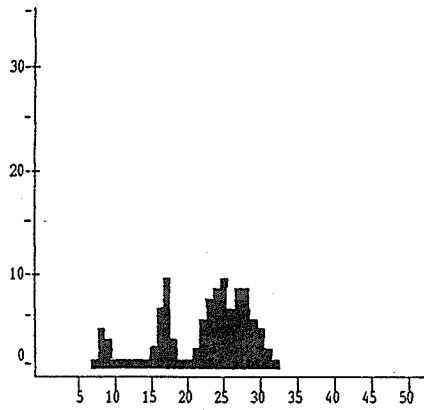
Pooled sample (simple adding)
MEAN LENGTH = 24.31cm N= 390
NUMBER OF SUBSAMPLES : 13

Figure 7 Cabinda-Luanda. Size compositions of pooled samples of red pandora and Angola dentex, totals from 1985/86 and 1989 surveys and from present survey.



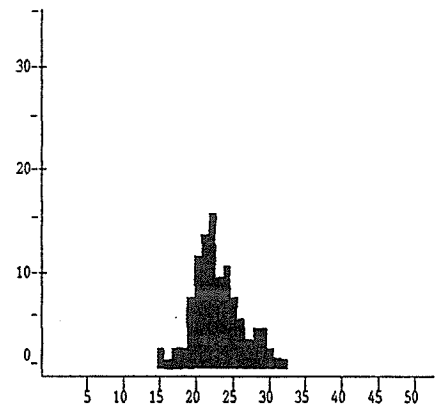
Pagellus bellottii
Luanda-Benguela, 1985-86.

Pooled sample (simple adding)
MEAN LENGTH = 17.23cm N= 1556
NUMBER OF SUBSAMPLES : 32



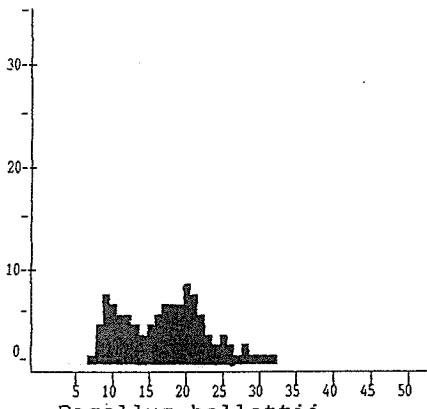
Dentex angolensis
Luanda-Benguela, 1985-86.

Pooled sample (simple adding)
MEAN LENGTH = 22.03cm N= 729
NUMBER OF SUBSAMPLES : 17



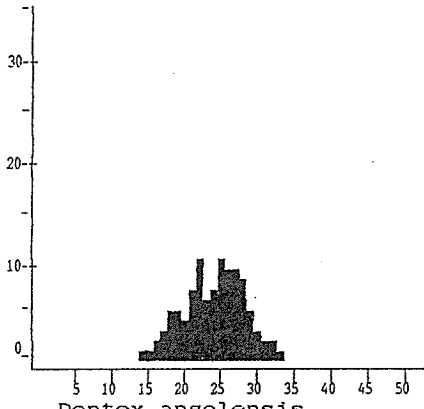
Dentex macrophthalmus
Luanda-Benguela, 1985-86.

Pooled sample (simple adding)
MEAN LENGTH = 22.84cm N= 670
NUMBER OF SUBSAMPLES : 14



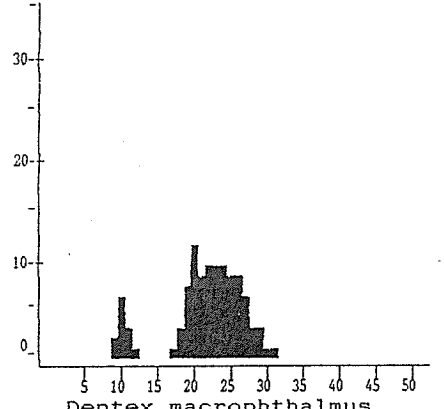
Pagellus bellottii
Luanda-Benguela, 1989

Pooled sample (simple adding)
MEAN LENGTH = 17.16cm N= 2171
NUMBER OF SUBSAMPLES : 36



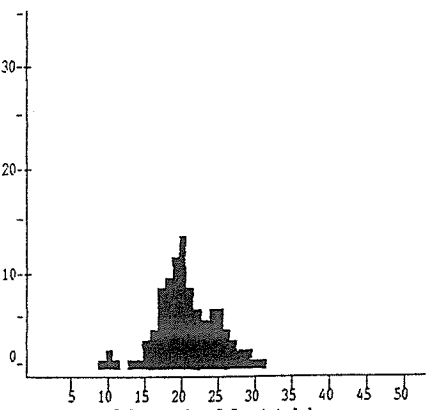
Dentex angolensis
Luanda-Benguela, 1989

Pooled sample (simple adding)
MEAN LENGTH = 23.93cm N= 997
NUMBER OF SUBSAMPLES : 27



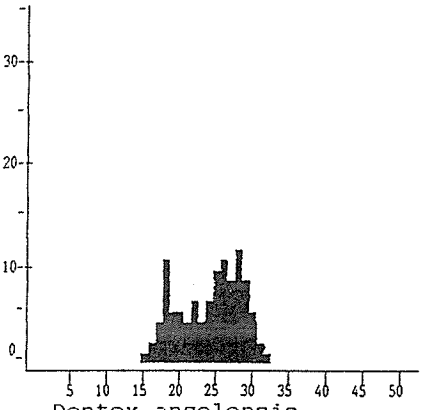
Dentex macrophthalmus
Luanda-Benguela, 1989

Pooled sample (simple adding)
MEAN LENGTH = 21.49cm N= 871
NUMBER OF SUBSAMPLES : 20



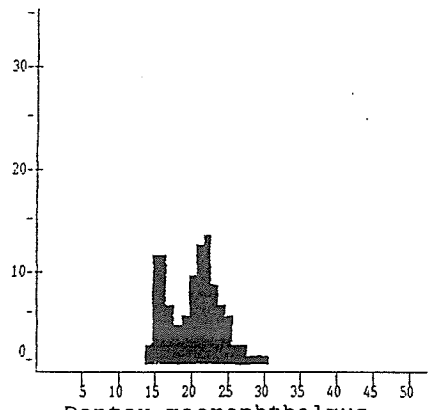
Pagellus bellottii
Luanda-Benguela, 1-91

Pooled sample (simple adding)
MEAN LENGTH = 20.80cm N= 1809
NUMBER OF SUBSAMPLES : 26



Dentex angolensis
Luanda-Benguela, 1-91

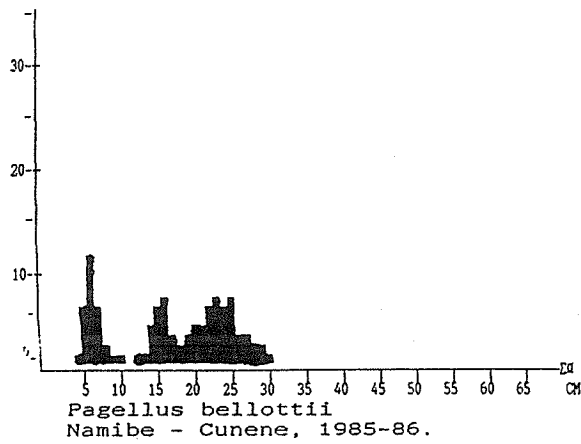
Pooled sample (simple adding)
MEAN LENGTH = 24.04cm N= 478
NUMBER OF SUBSAMPLES : 14



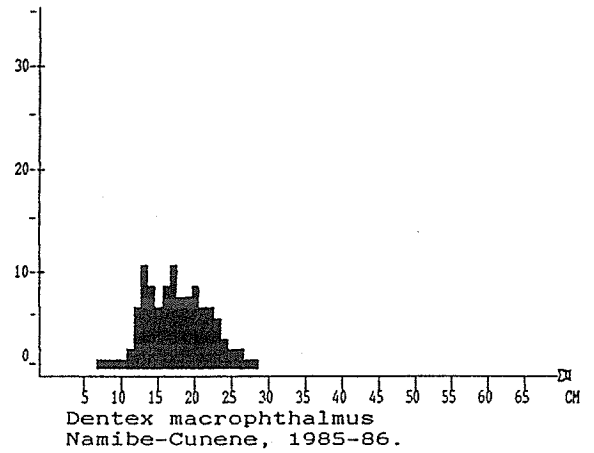
Dentex macrophthalmus
Luanda-Benguela, 1-91

Pooled sample (simple adding)
MEAN LENGTH = 20.24cm N= 765
NUMBER OF SUBSAMPLES : 11

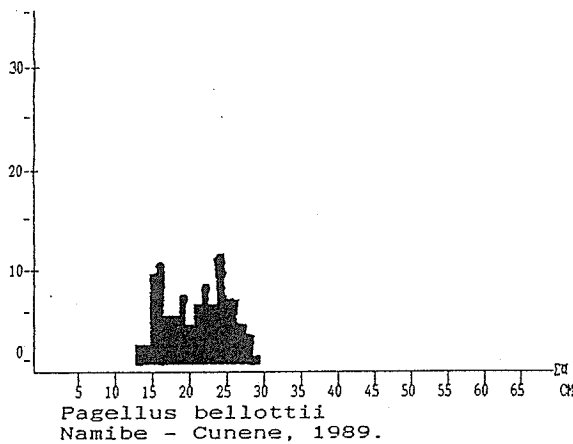
Figure 8 Luanda-Benguela. Size compositions of pooled samples of red pandora, Angola dentex and large-eye dentex, totals from 1985/86 and 1989 surveys and from present



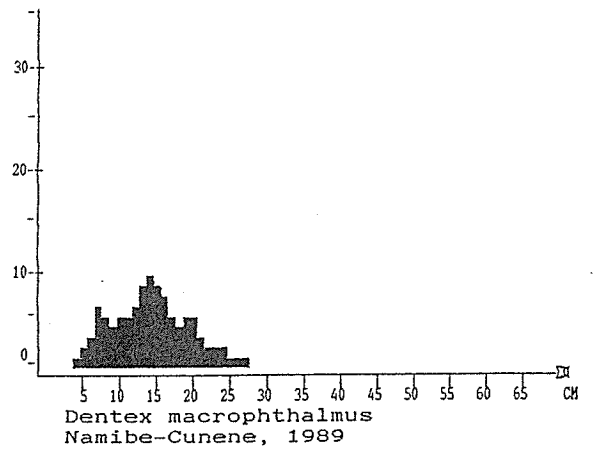
Pooled sample (simple adding)
MEAN LENGTH = 16.91cm N= 783
NUMBER OF SUBSAMPLES : 12



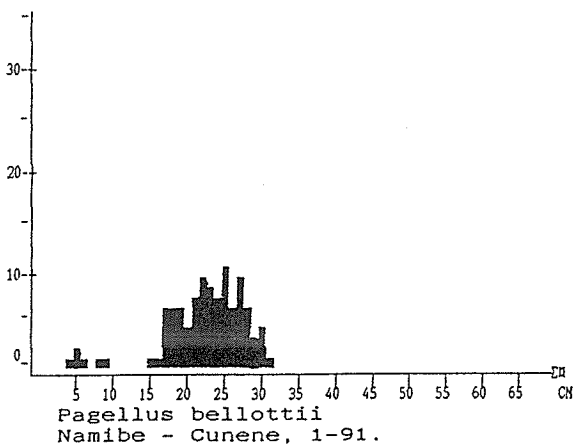
Pooled sample (simple adding)
MEAN LENGTH = 17.58cm N= 2626
NUMBER OF SUBSAMPLES : 36



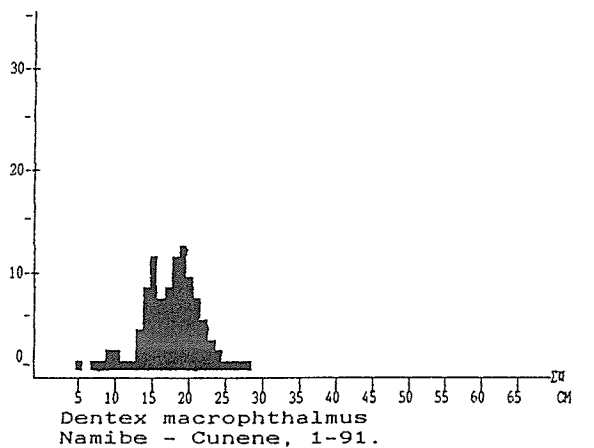
Pooled sample (simple adding)
MEAN LENGTH = 20.80cm N= 201
NUMBER OF SUBSAMPLES : 6



Pooled sample (simple adding)
MEAN LENGTH = 14.15cm N= 2627
NUMBER OF SUBSAMPLES : 32



Pooled sample (simple adding)
MEAN LENGTH = 22.57cm N= 309
NUMBER OF SUBSAMPLES : 4



Pooled sample (simple adding)
MEAN LENGTH = 17.48cm N= 2343
NUMBER OF SUBSAMPLES : 20

Figure 9 Namibe-Cunene. Size compositions of pooled samples of red pandora and large-eye dentex, totals from 1985/86 and 1989 surveys and from present survey.

ANNEX I. Swept area estimates.

SWEPT AREA ANALYSIS FROM STATION 1 THROUGH STATION 81
Luanda - Ambriz, 1.91.

THE ANALYSIS HAVE BEEN RESTRICTED TO THE FOLLOWING GEOGRAPHICAL LIMITS: NORTHERN : -746 SOUTHERN: -900
WESTERN : 1000EASTERN: 2000

PELAGIC SPECIES HAVE NOT BEEN INCLUDED IN THE ANALYSIS.

SPECIES NAME	CATCH DISTRIBUTION BY KG/NM GROUPS						% inci- dence	Mean dens. t/nm ²	Mean densities by bottom depth strata t/nm ²			
	<10	10-30	30-100	100-300	300-1000	>1000			- 50m	50-100m	100-200m	200-200
Brachydeuterus auritus	8	3	4	3	2	1	78	9.89	2.29	18.97		
Trachurus trecae	8	4	5	3	1		74	5.67		8.02	9.77	
Selene dorsalis	11	2		1	2		59	4.51	0.12	2.26	18.25	
Trichiurus lepturus	13	4	4	1	1		78	2.97	0.45	2.88	7.73	
Sphyræna guachancho	10	1		1			44	0.57	1.50	0.14		
Ilisha africana	3	2	2				26	0.47	1.39	0.01		
Chloroscombrus chrysurus	9	2	1				33	0.46	0.27	0.76		
Pteroscion peli	4	2	1				26	0.38	0.93	0.14		
Trachurus Juveniles			1				4	0.33			1.76	
Pagellus bellottii	16	3					70	0.32	0.03	0.63	0.06	
Pomadasys jubelini	4	1	1				22	0.24	0.22	0.35		
Galeoides decadactylus	8	1					33	0.22	0.53	0.09		
Dentex angolensis	9	2					37	0.20		0.18	0.60	
Atractoscion aequidens	9	1					37	0.19		0.29	0.25	
Pseudotolithus senegalensis	8	1					26	0.16	0.41	0.04		
Dentex barnardi	15						56	0.10	0.04	0.14	0.13	
Dentex gibbosus	4	1					19	0.10		0.15	0.15	
Umbrina canariensis	4	1					19	0.10		0.09	0.31	
Brotula barbata	2	1					11	0.09		0.14	0.13	
Zeus faber	8	1					33	0.08		0.04	0.30	
Stromateus fiatola	5						19	0.06	0.18			
Boops boops	4	1					19	0.06		0.02	0.29	
Drepane africana	2	1					11	0.06	0.17			
Pterothrissus belloci	5	1					22	0.06		0.02	0.27	
Epinephelus aeneus	3	1					11	0.05	0.01	0.01	0.21	
Citharus linguatula	1	1					7	0.05		0.09	0.03	
Synagrops microlepis		1					4	0.05			0.29	
Parapenaeopsis atlantica	3						11	0.04	0.12			
Penaeus notialis	5						19	0.03	0.09			
Parapenaeus longirostris	1						4				0.01	
Shrimps, small, non comm.	1						4					
Other fish								0.97	1.42	0.69	1.13	
Sum all species								28.48	10.17	36.15	41.67	
Sum Snappers												
Sum Groupers								0.08	0.01	0.01	0.39	
Sum Grunts								10.18	2.58	19.38		
Sum Croakers								0.89	1.47	0.60	0.56	
Sum Seabreams								0.83	0.08	1.15	1.43	
Sum Sharks								0.12	0.14	0.10	0.15	
Sum Rays								0.07	0.08	0.10	0.07	
Sum Squids								0.07	0.01	0.09	0.17	
Sum												
Sum shrimps (excl. SHRAA01)								0.07	0.21		0.01	
Number of stations included in analysis, total and by depth strata								27	9	13	5	

SWEPT AREA ANALYSIS FROM STATION 1 THROUGH STATION 81
Ambriz - Cabinda, 1-91.

THE ANALYSIS HAVE BEEN RESTRICTED TO THE FOLLOWING GEOGRAPHICAL LIMITS: NORTHERN : -500 SOUTHERN: -745
WESTERN : 1000 EASTERN: 2000

PELAGIC SPECIES HAVE NOT BEEN INCLUDED IN THE ANALYSIS.

SPECIES NAME	CATCH DISTRIBUTION BY KG/NM GROUPS					% inci- dence	Mean dens. t/nm ²	Mean densities by bottom depth strata t/nm ²			
	<10	10-30	30-100	100-300	300-1000			>1000	- 50m	50-100m	100-200m
Trachurus trecae	12	2			1	56	0.65		1.31	0.08	
Trichiurus lepturus	13	4	1			59	0.53	0.43	0.79	0.14	
Brachydeuterus auritus	10		2			44	0.39	0.22	0.69		
Pteroscion peli	5		1			22	0.29	0.22	0.49		
Pagellus bellottii	7	2				33	0.27	0.01	0.56		
Pseudolithus typus	3	2				19	0.21	0.74	0.04		
Pseudolithus senegalensis	4	2				22	0.21	0.44	0.19		
Dentex congoensis	9	1				37	0.15		0.13	0.32	
Pentheroscion mbizi	1		1			7	0.15		0.31		
Ilisha africana	6	1				26	0.14	0.49	0.02		
Dentex angolensis	15					56	0.13		0.08	0.37	
Umbrina canariensis	6	1				26	0.13		0.13	0.24	
Epinephelus aeneus	5	1				22	0.12	0.07	0.03	0.33	
Arius parkii	3	2				19	0.12	0.44	0.01		
Chaetodipterus lippei	1	1				7	0.10	0.37			
Selene dorsalis	8	1				33	0.10	0.31	0.03	0.01	
Lepidotrigla carolae			1				0.08		0.16		
Stromateus fiatola	6					22	0.08	0.31			
Dentex barnardi	8					30	0.08	0.04	0.14		
Dentex gibbosus	7					26	0.08	0.05	0.09	0.07	
Galeoides decadactylus	2	1				11	0.08	0.31			
Chloroscombrus chrysurus	7	1				30	0.08	0.30	0.01		
Mustelus mustelus	4					15	0.07		0.08	0.11	
Alloteuthis africana	5					19	0.06		0.12		
Dentex canariensis	2	1				11	0.06		0.12		
Illex coindetii	14					52	0.05		0.02	0.17	
Cynoglossus canariensis	4					15	0.05	0.08	0.05		
Shrimps, small, non comm.	1	1				7	0.04	0.17			
Parapenaeopsis atlantica	6					22	0.01	0.02	0.02		
Penaeus notialis	3					11					
Parapenaeus longirostris	1					4					
PENAEIDAE	1					4					
Other fish							0.85	1.59	0.51	0.80	
Sum all species							5.36	6.61	6.13	2.64	
Sum Snappers							0.03	0.12			
Sum Groupers							0.12	0.07	0.03	0.33	
Sum Grunts							0.44	0.42	0.69		
Sum Croakers							1.06	1.49	1.18	0.41	
Sum Seabreams							0.87	0.19	1.21	0.84	
Sum Sharks							0.13	0.09	0.14	0.15	
Sum Rays							0.05	0.07	0.02	0.01	
Sum Squids							0.18		0.27	0.22	
Sum											
Sum shrimps (excl. SHRAA01)							0.01	0.02	0.02		
Number of stations included in analysis, total and by depth strata							27	7	13	7	

SWEPT AREA ANALYSIS FROM STATION 1 THROUGH STATION 81
Cabinda - Luanda, 1-91. Slope hauls.

SPECIES NAME	CATCH DISTRIBUTION BY KG/M GROUPS					% inci- dence	Mean dens. t/nm ²	Mean densities by bottom depth strata t/nm ²			
	<10	10-30	30-100	100-300	300-1000			>1000	200-300m	300-400m	400-500m
<i>Nematocarcinus africanus</i>	3	2	3	4		60	4.29		7.38	4.52	2.61
<i>Merluccius polli</i> , male	1	1	2	4		40	4.10		4.59	7.12	
<i>Merluccius polli</i> , female	2	1	1	4		40	4.08		5.69	5.95	
<i>Merluccius polli</i>	6	3	2	1	1	55	3.25	0.33	2.13	6.80	0.87
<i>Chlorophthalmus atlanticus</i>	6	2	3	2		65	2.25	3.78	2.71	0.02	
<i>Synagrops microlepis</i>	4	5	1	1		55	1.53	3.51	1.84	0.02	0.01
<i>Pterothrissus bellocci</i>	9	2		1		60	0.85	0.59	1.90	0.11	
<i>Centrophorus uyato</i>	1		1			10	0.28	0.07	0.74		
<i>Laemonema laureysi</i>	13	2				75	0.27		0.49	0.27	0.05
<i>Alopias superciliosus</i>			1			5	0.25		0.71		
<i>Trichiurus lepturus</i>	7	1				40	0.15	0.39	0.14	0.02	
<i>Etmopterus spinax</i>	7	1				40	0.15		0.09	0.33	0.02
OPHIDIIDAE	1	1				10	0.14	0.01			2.74
<i>Hymenocephalus italicus</i>	7	1				40	0.14		0.36	0.03	
<i>Lophius vaillanti</i>	7	1				40	0.14		0.28	0.10	0.14
<i>Chaunax pictus</i>	9					45	0.12		0.25	0.09	
<i>Squatina oculata</i>	1	1				10	0.10	0.39			
<i>Galeorhinus galeus</i>		1				5	0.09		0.25		
<i>Centrophorus granulosus</i>	2	1				15	0.09			0.25	
<i>Miracorvina angolensis</i>	1	1				10	0.09	0.36			
<i>Parapenaeus longirostris</i>	10					50	0.08	0.24	0.05		
<i>Triplophos</i> sp.	1	1				10	0.08			0.23	
<i>Zenopsis conchifer</i>	5					25	0.07	0.19	0.06		
Shrimps, small, non comm.	6					30	0.07	0.10	0.07	0.06	
<i>Helicolenus dactylopterus</i>	3	1				20	0.07		0.02	0.19	
<i>Paromola cuvieri</i>		1				5	0.06	0.24			
<i>Illex coindetii</i>	11					55	0.05	0.09	0.04	0.03	
<i>Aristeus varidens</i>	8					35	0.05			0.13	0.03
<i>Brosniculus imberbis</i>	9					45	0.05		0.03	0.10	
<i>Plesionenaeus edwardsianus</i>	4					20	0.03			0.07	
<i>Solenocera africana</i>	10					50	0.02	0.03	0.02		
<i>Plesionika martia</i>	4					20	0.01		0.02		
<i>Nematopalaemon hastatus</i>	1					5					
PENAEIDAE	2					10				0.01	
Other fish							0.77	1.07	0.42	0.93	0.79
Sum all species							23.77	11.39	31.28	27.38	7.26
Sum Snappers											
Sum Groupers											
Sum Grunts											
Sum Creakers							0.09	0.36			
Sum Seabreams							0.02	0.07			
Sum Sharks							1.05	0.66	1.79	0.70	0.02
Sum Rays							0.05	0.08		0.08	
Sum Squids							0.07	0.15	0.05	0.04	0.01
Sum											
Sum shrimps (excl. SHRAA01)							4.48	0.27	7.47	4.73	2.64
Number of stations included in analysis, total and by depth strata							20	5	7	7	1

SWEPT AREA ANALYSIS FROM STATION 82 THROUGH STATION 181
Luanda - Benguela, 1-91.

SPECIES NAME	CATCH DISTRIBUTION BY KG/M GROUPS					% incidence	Mean dens. t/nm ²	Mean densities by bottom depth strata t/nm ²			
	<10	10-30	30-100	100-300	300-1000			>1000	- 50m	50-100m	100-200m
Trachurus trecae	18	9	7	2	2	4	68	15.52	0.43	6.72	52.33
Brachydeuterus auritus	8	4	9	7	3		50	6.48	10.58	6.75	
Trichiurus lepturus	23	7	5		2		60	2.07	1.41	3.89	0.01
Pagellus bellottii	37	4	5	1			76	0.85	0.56	1.53	0.14
Dentex macrophthalmus	10	4	1	1			26	0.42		0.33	1.18
Galeoides decadactylus	9	5	1				24	0.30	0.84		
Pteroscion peii	4	4	2				16	0.28	0.78		
Spicara aita	2	1		1			6	0.27			1.10
Dentex angolensis	19	5					39	0.23		0.21	0.62
Uabrina canariensis	10			1			18	0.21	0.05	0.07	0.69
Dentex barnardi	31	5					58	0.20	0.19	0.29	0.05
Dentex gibbosus	7	1	1				15	0.18		0.05	0.66
Boops boops	8		1				15	0.17			0.71
Selene dorsalis	19	1	1				34	0.17	0.08	0.36	
Sphyræna guachancho	12	3					24	0.15	0.37	0.05	
Alopias superciliosus			1				2	0.12		0.30	
Chloroscombrus chrysurus	8	3					18	0.12	0.33		
Lithognathus morayrus	6	1	1				13	0.10	0.26		
Ilisha africana	2	4					10	0.10	0.27		
Zeus faber	29						47	0.07	0.02	0.08	0.13
Pseudolithus senegalensis	12	1					21	0.07	0.21		
Atractoscion aequidens	12	2					23	0.07	0.12	0.08	0.01
Stromateus fiatola	11	1					19	0.06	0.14	0.03	
Sepia officinalis hierredda	22						35	0.06	0.06	0.06	0.05
Sarda sarda	10	1					18	0.06	0.02	0.10	0.05
Zenopsis conchifer	7	1					13	0.05			0.22
Lagocephalus laevigatus	13						21	0.05	0.10	0.03	
Illex coindetii	16						26	0.05		0.02	0.17
Alloteuthis africana	20						32	0.05		0.12	
Pseudolithus typus	5	1					10	0.05	0.14	0.01	
Pomadasy s incisus	11	1					19	0.05	0.15		
Pomadasy s jubelini	12						19	0.05	0.13	0.02	
Engraulis encrasicolus	2		1				5	0.05	0.15		
Alectis alexandrinus	2	1					5	0.05	0.13		
Pterothrissus belloci	7	1					13	0.05		0.10	0.05
Parapenaeopsis atlantica	3	1					6	0.03	0.08		
Shrimps, small, non comm.	1						2	0.01	0.03		
Penaeus notialis, female	1								0.01		
Penaeus notialis, male	1						2		0.01		
Penaeus kerathurus, female	1										
Penaeus kerathurus, male	1						2				
Penaeus notialis	4						6				
Parapenaeus longirostris	5						8			0.01	
Other fish								0.79	1.16	0.46	0.81
Sum all species								29.66	18.83	21.67	58.98
Sum Snappers								0.03	0.08		
Sum Groupers								0.04	0.08	0.01	0.04
Sum Grunts								6.61	10.94	6.77	
Sum Croakers								0.71	1.39	0.16	0.70
Sum Seabreams								2.19	1.05	2.41	3.46
Sum Sharks								0.19	0.08	0.37	0.09
Sum Rays								0.10	0.26	0.04	0.03
Sum Squids								0.19	0.07	0.23	0.29
Sum											
Sum shrimps (excl. SHRAA01)								0.03	0.10	0.01	
Number of stations included in analysis, total and by depth strata								62	22	25	15

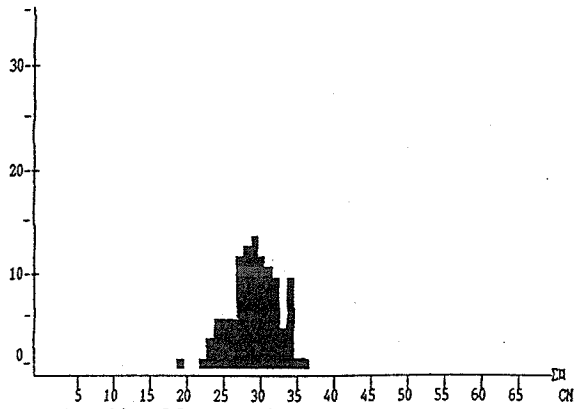
SWEPT AREA ANALYSIS FROM STATION 82THROUGH STATION 181
Luanda - Benguela, 1-91. Slope hauls.

SPECIES NAME	CATCH DISTRIBUTION BY KG/NM GROUPS						% inci- dence	Mean dens. t/nm ²	Mean densities by bottom depth strata t/nm ²				
	<10	10-30	30-100	100-300	300-1000	>1000			100-200m	200-300m	300-400m	400-500	
Trachurus trecae	5			1	2	3	30	21.22	52.33				
Chlorophthalmus atlanticus	11	1	1	1	3		46	6.19		24.40	1.31	0.04	
Synagrops microlepis	9	3	2	2	2		49	5.68	0.10	23.09	0.09	0.06	
Merluccius polli, female		2	6	4			32	3.04			6.50	11.16	
Nematocarcinus africanus			9	1			27	1.88			3.86	7.11	
Merluccius polli, male	1	4	6	1			32	1.52			5.95	2.44	
Trichiurus lepturus	5	2			1		22	1.32	0.01		6.78	0.19	
Dentex macrophthalmus	9	3		2			38	0.95	1.18	1.93			
Spicara alta	2	1	1	1			14	0.60	1.10	0.62			
Pterothrissus bellocci	12	2	2				43	0.57	0.05	0.09	2.69	0.14	
Zenopsis conchifer	10	5	1				43	0.39	0.22	1.07	0.24		
Laemonema laureysi	11	5					43	0.31		0.21	0.69	0.78	
Dentex angolensis	10	5					41	0.30	0.62	0.20			
Boops boops	3		1				11	0.29	0.71				
Umbrina canariensis				1			3	0.28	0.69				
Dentex gibbosus	2	1	1				11	0.27	0.66				
Merluccius polli	5	3	1				24	0.27		1.09	0.01		
MYCTOPHIDAE	12		1				35	0.15	0.01	0.51	0.06	0.08	
Etmopterus spinax	11	2					35	0.14			0.61	0.17	
GONOSTOMATIDAE	4	2					16	0.14			0.07	0.78	
Epigonus telescopus	4		1				14	0.11		0.44			
Illex coindetii	18						49	0.10	0.17	0.09	0.05	0.01	
Todaropsis eblanae	14						38	0.09	0.05	0.21		0.09	
Parapenaeus longirostris, fem.	8	1					24	0.08		0.31	0.04		
Plesionika martia	6	1					19	0.08			0.17	0.32	
Aristeus varidens, female	8						22	0.08			0.05	0.42	
Centrophorus granulosus	3	1					11	0.08			0.12	0.37	
Gephyroberyx darwini	1	1					5	0.07	0.16	0.03			
Deepwater fish mixture	5	1					16	0.07			0.22	0.15	
Coelorinchus coelorhincus	11						30	0.07		0.22		0.08	
Zeus faber	10						27	0.06	0.13		0.05		
Pagellus bellottii	9						24	0.06	0.14				
Aristeus varidens, male	8						22	0.05			0.03	0.25	
Carcharhinus signatus		1					3	0.05			0.25		
Parapenaeus longirostris, male	9						24	0.04		0.16	0.02		
Parapenaeus longirostris	4						11	0.01		0.03			
Plesiopenaeus edwardsianus, f.	1							0.01				0.05	
Shrimps, small, non comm.	3						8	0.01				0.05	
Solenocera africana	4						11						
Parapenaeus sp.	1						3						
Parapandalus narval	1						3						
Plesiopenaeus edwardsianus, m.	1						3					0.01	
Plesiopenaeus edwardsianus	2						5					0.01	
Other fish								0.55	0.65	0.35	0.44	0.70	
Sum all species								47.18	58.98	55.05	30.30	25.46	
Sum Snappers													
Sum Groupers								0.02	0.04				
Sum Grunts													
Sum Croakers								0.28	0.70				
Sum Seabreams								1.94	3.46	2.13			
Sum Sharks								0.31	0.09		0.98	0.59	
Sum Rays								0.02	0.03		0.04	0.01	
Sum Squids								0.23	0.29	0.35	0.05	0.10	
Sum													
Sum shrimps (excl. SHRAA01)								2.23		0.50	4.17	8.17	
Number of stations included in analysis, total and by depth strata								37	15	9	7	6	

SWEPT AREA ANALYSIS FROM STATION 182 THROUGH STATION 231
 Benguela - Cunene, 1-91.

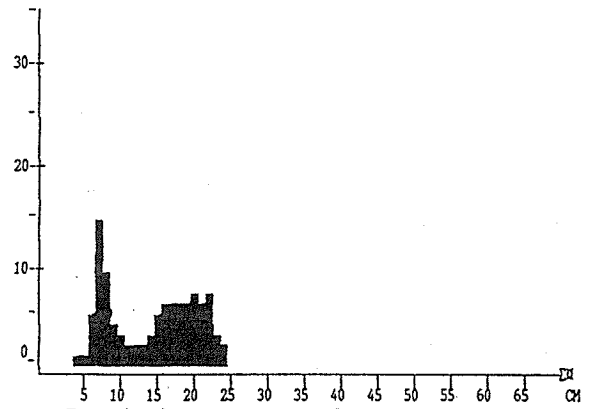
SPECIES NAME	CATCH DISTRIBUTION BY KG/NM GROUPS					% inci- dence	Mean dens. t/nm ²	Mean densities by bottom depth strata t/nm ²			
	<10	10-30	30-100	100-300	300-1000			>1000	50m	50-100m	100-200m
Trachurus capensis	9	1	1	3	3	2	50	13.60	0.07	5.95	35.07
Trachurus trecae	9	3	4	7	3	2	71	13.50	4.84	28.63	0.54
Dentex macrophthalmus	4		4	11	4		61	12.16	0.30	11.86	22.45
Squalus blainvillei	4	1			1		16	0.95	3.46	0.10	
Merluccius capensis, female	3	1	1	1			16	0.81		0.07	2.45
Atractoscion aequidens	13	6	2				55	0.62	0.71	0.52	0.68
Trichurus lepturus	17	1	4				58	0.59	1.22	0.22	0.56
Mustelus mustelus	10	1	2				34	0.42	1.38	0.13	
Galeichthys feliceps	3			1			11	0.39	1.43	0.03	
Merluccius capensis, male	5			1			16	0.38		0.03	1.15
Pterothrissus belloci	5	3	1				24	0.37		0.14	0.98
Loligo vulgaris	21	3	1				66	0.36	0.45	0.53	0.05
Zenopsis conchifer	3	2	2				18	0.35		0.08	0.99
Zeus faber	7	5	1				34	0.35	0.39	0.36	0.30
Spondyliosoma cantharus	18	2	1				55	0.33	0.06	0.74	0.02
Argyrosomus hololepidotus	7	2	1				24	0.32	1.09	0.09	
Lithognathus mormyrus	5	1	1				18	0.31	1.06	0.08	
Synagrops microlepis	8		1				24	0.27		0.44	0.27
Pagellus bellottii	9	4					34	0.23	0.14	0.47	
Dentex barnardi	13	1					37	0.16	0.12	0.30	0.01
Dentex gibbosus	2	2					11	0.13		0.30	0.03
Sphyrna lewini		2					5	0.11	0.42		
Pomatomus saltatrix	5	1					16	0.10	0.36		
Merluccius polli	7	1					21	0.10		0.05	0.23
Myliobatis aquila	6	1					18	0.09	0.30	0.02	
Squatina oculata			1				3	0.08		0.19	
Helicolenus dactylopterus	2	1					8	0.07			0.23
Sarda sarda	5	1					16	0.07	0.22	0.03	
Stromateus fiatola	2	1					8	0.06	0.21		
Umbrina canariensis	12						32	0.06	0.07	0.03	0.08
Diplodus sargus capensis	2	1					8	0.05	0.18		
Plectorhinchus mediterraneus		1					3	0.05		0.11	
Penaeus notialis	1						3				
Other fish								0.53	0.89	0.44	0.43
Sum all species								47.97	19.37	51.94	66.52
Sum Snappers											
Sum Groupers											
Sum Grunts								0.06	0.03	0.11	
Sum Croakers								1.00	1.87	0.64	0.76
Sum Seabreams								13.41	1.86	13.79	22.60
Sum Sharks								1.62	5.36	0.48	
Sum Rays								0.17	0.56	0.03	0.05
Sum Squids								0.41	0.50	0.59	0.08
Sum											
Sum shrimps (excl. SHRAA01)											
Number of stations included in analysis, total and by depth strata								38	10	16	12

ANNEX II. Size compositions of main species.



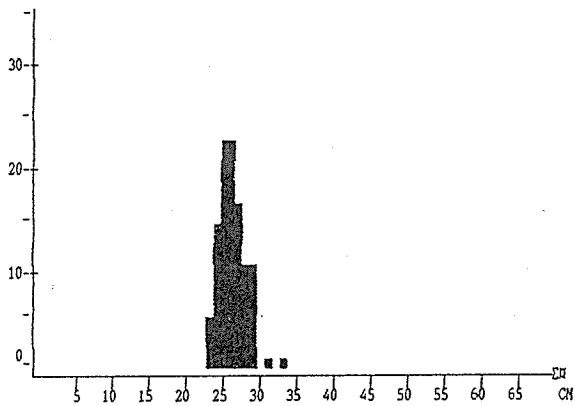
Sardinella aurita
Ambriz - Luanda, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 29.11cm N= 170
NUMBER OF SUBSAMPLES : 2



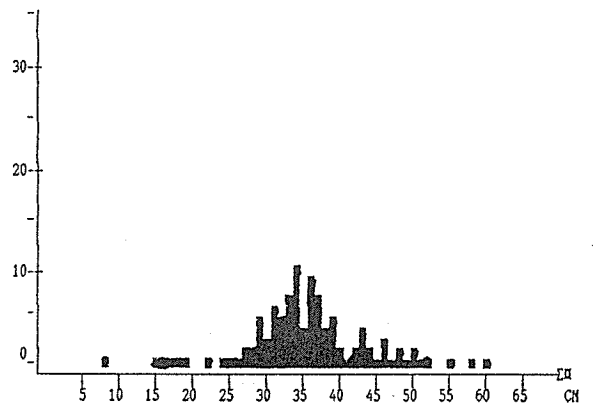
Brachydeuterus auritus
Cabinda - Luanda, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 14.17cm N= 1436
NUMBER OF SUBSAMPLES : 14



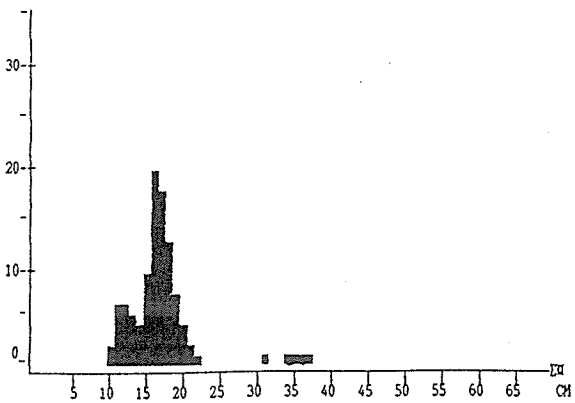
Sardinella maderensis
Ambriz - Luanda, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 26.13cm N= 83
NUMBER OF SUBSAMPLES : 4



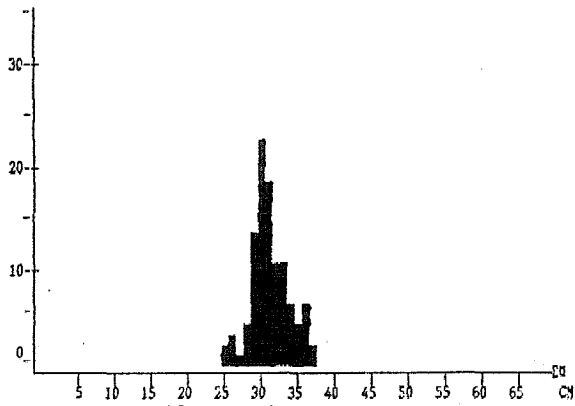
Pseudotolithus senegalensis
Cabinda - Luanda, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 35.01cm N= 188
NUMBER OF SUBSAMPLES : 8



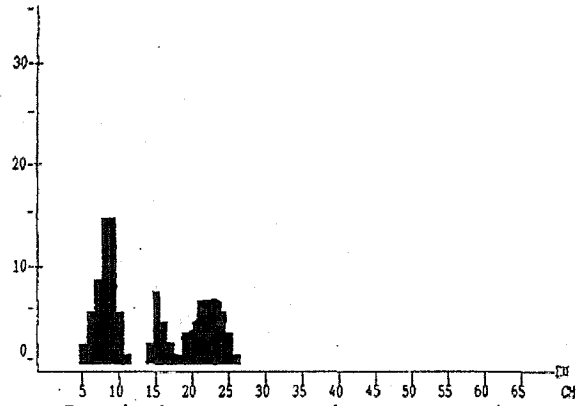
Trachurus trecae
Cabinda - Luanda, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 16.95cm N= 2550
NUMBER OF SUBSAMPLES : 28



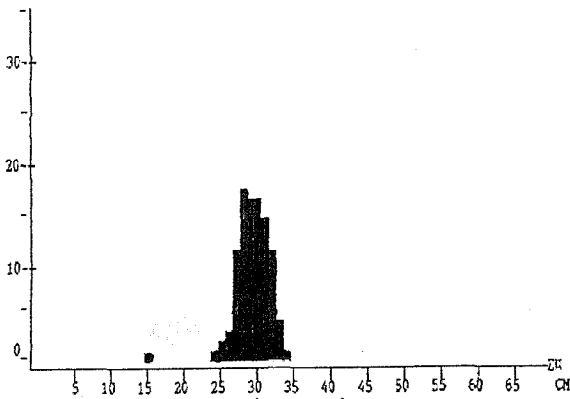
Sardinella aurita
Benguela - Luanda, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 31.22cm N= 184
NUMBER OF SUBSAMPLES : 7



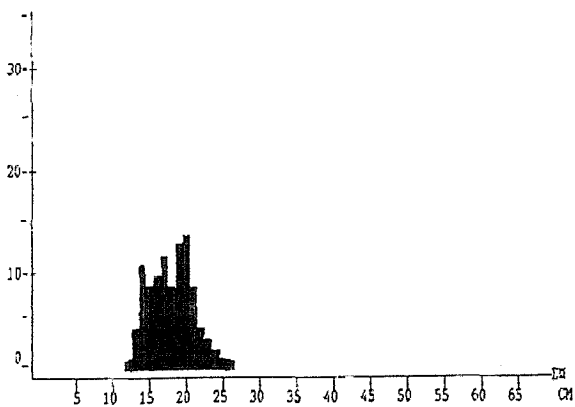
Brachydeuterus auritus
Benguela - Luanda, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 14.12cm N= 2101
NUMBER OF SUBSAMPLES : 25



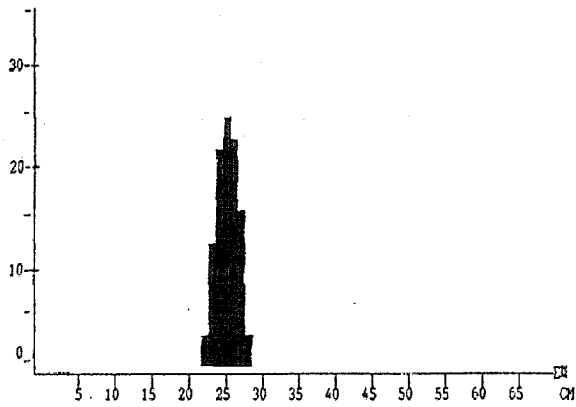
Sardinella maderensis
Benguela - Luanda, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 27.25cm N= 469
NUMBER OF SUBSAMPLES : 8



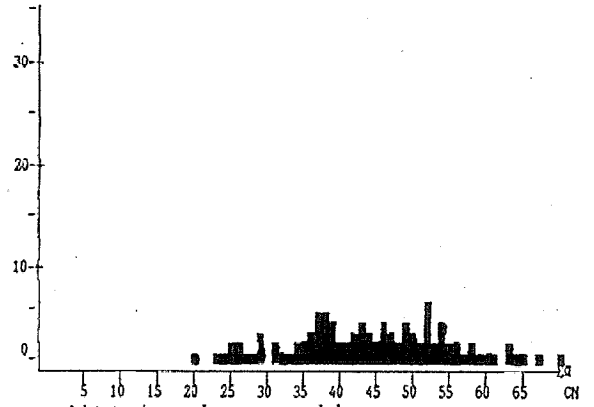
Trachurus trecae
Benguela - Luanda, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 18.33cm N= 2626
NUMBER OF SUBSAMPLES : 31



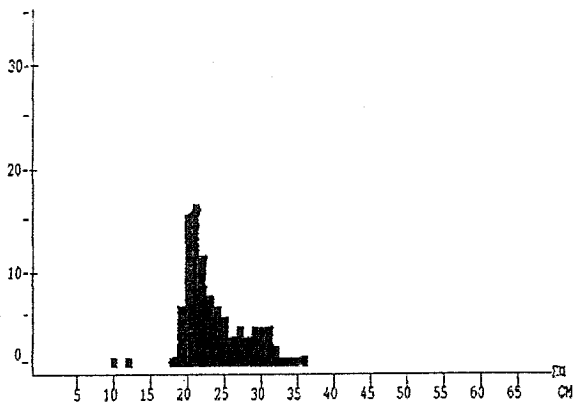
Sardinops ocellata
Namibe - Cunene, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 25.10cm N= 234
NUMBER OF SUBSAMPLES : 2



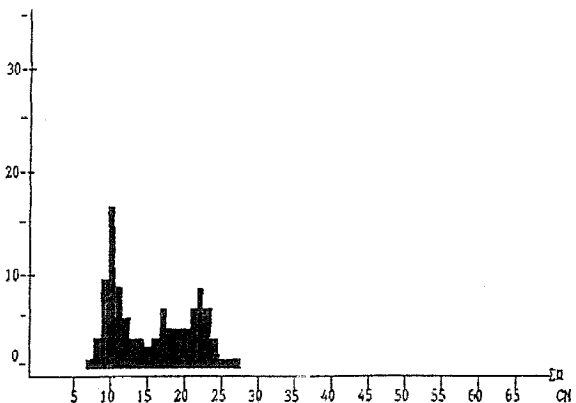
Atractoscion aequidens
Namibe - Cunene, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 43.88cm N= 339
NUMBER OF SUBSAMPLES : 16



Trachurus capensis
Namibe - Cunene, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 23.66cm N= 1260
NUMBER OF SUBSAMPLES : 14



Trachurus trecae
Namibe - Cunene, 1-91.

Pooled sample (simple adding)
MEAN LENGTH = 15.45cm N= 3239
NUMBER OF SUBSAMPLES : 32

ANNEX III Instruments and fishing gear used.

Acoustic instruments

The SIMRAD EK500/38 KHz scientific sounder, was used during survey for estimation of fish density. The EK500 has a built-in digital echo integrator. The details of the instrument settings are as follows:

Transceiver settings:

Bandwith	Wide (3.8 KHz)
Pulse length	Medium (1 ms)
Max Power	2000 Watt
Sv Transducer gain	28.0 dB
Ts Transducer gain	28.0 dB

Integrator settings:

6 Surface referred layers covering the area from 4 to 500 meter depth. Sv Threshold -80 dB.

1 Bottom referred layer covering from 0.5 to 10 meter above bottom. Sv Treshold -80 dB.

1 Surface layer covering the total area from 4 to 200 meters. Sv Treshold -57 dB.

1 Surface layer covering the total area from 4 to 200 meters. Sv Treshold -54 dB.

Printer settings:

Range	0 - 100 or 0 - 250 meter
TVG	20 log R
TS Color min	-50 dB
Sv Color min	-57 dB

A ES38B with a 6.9° -3dB beamwidth trasducer was used for integration.

A calibration experiment using a standard copper sphere, performed in Baia Dos Tigres 28/4 1991 gave the following results: Sv Transducer gain 28.0 dB, TS Transducer gain 28.0 dB, which is the same performance as that obtained in the previous calibration (24/2 - 91).

Another calibration experiment was made in Baia dos Tigres on 16/6 1991. The performance was the same as that measured the previous times.

Glossary:

- Sv Transducer gain: Peak transducer gain assumed during computation of volum backscattering strength.
- Ts Transducer gain: Peak transducer gain assumed during computation of target strength.
- Ts Color min : Lower limit of color scale relative to target strength.
- Sv Color min : Lower limit of color scale relative to Volume back scattering.

Hydrography

Temperature, salinity and oxygen were sampled at standard depths with Nansen bottles. Oxygen was measured with the Winkler method and salinity determined with an inductive salinometer. Surface temperature was recorded at 4 m depth with a thermograph.

Fishing gear

Bottom trawl: High opening shrimp and fish trawl with net headline 31 m (floatline), footrope 47 m, 40 m sweeps, estimated headline hight 6 m and distance between wings during towing 18 m.

Pelagic trawl: Type "Harstad-trawl", width about 30 m and vertical opening 10-15 m.

Cod ends of trawls with fine inner lining.

ANNEX IV. Records of fishing stations.

PROJECT STATION: 1
 DATE: 4/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 757
 start stop duration Long E 1254
 TIME :17:16:00 17:46:00 30 (min) Purpose code: 3
 LOG :4013.00 4013.90 0.90 Area code : 2
 FDEPTH: 83 83 GearCond.code:
 BDEPTH: 83 83 Validity code:
 Towing dir: 337° Wire out: 400 m Speed: 32 kn*10
 Sorted: 63 Kg Total catch: 566.35 CATCH/HOUR: 1132.70

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	1085.40	31114	95.82	1
Pagellus bellottii	28.40	218	2.51	
Dentex angolensis	21.60	198	1.91	
Mustelus mustelus	4.00	2	0.35	
Sarda sarda	1.80	2	0.16	
Fistularia petimba	1.00	2	0.09	
Illex coindetii	0.90	36	0.08	
Alloteuthis africana	0.00	288		
Boops boops	0.00	18		
Total	1143.10		100.92	

PROJECT STATION: 2
 DATE: 5/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 506
 start stop duration Long E 1158
 TIME :10:12:00 10:42:00 30 (min) Purpose code: 3
 LOG :4196.10 4197.70 1.60 Area code : 2
 FDEPTH: 20 20 GearCond.code:
 BDEPTH: 20 20 Validity code:
 Towing dir: 150° Wire out: 100 m Speed: 30 kn*10
 Sorted: 187 Kg Total catch: 187.65 CATCH/HOUR: 375.30

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Pseudotolithus typus	71.00	46	18.92	3
Arius parkii	38.00	70	10.13	
Galeoides decadactylus	37.20	186	9.91	
Drepane africana	30.00	112	7.99	
Chaetodipterus lippei	28.00	72	7.46	
Pomadasys jubelini	24.40	6	6.50	
Pseudotolithus senegalensis	21.00	32	5.60	2
Epinephelus aeneus	15.90	2	4.24	
Stromateus fiatola	15.80	26	4.21	
Selene dorsalis	13.40	116	3.57	
Paralichthys regius	12.00	34	3.20	
Ilisha africana	8.80	734	2.34	
Pomadasys incisus	7.60	40	2.03	
Plectorhynchus mediterraneus	7.20	6	1.92	
Pseudotolithus brachygnathus	7.00	6	1.87	
Pseudotolithus epiperucus	6.60	24	1.76	
Paragaleus pectoralis	6.00	4	1.60	
Dentex gibbosus	4.80	4	1.28	
Chloroscombrus chrysurus	4.00	50	1.07	
Sardinella maderensis	3.71	20	0.99	
Brachydeuterus auritus	3.60	88	0.96	
Dasyatis margarita	2.40	4	0.64	
Pentanemus quinquarius	2.40	40	0.64	
Dentex barnardi	2.00	4	0.53	
Trichiurus lepturus	1.40	76	0.37	
Lutjanus goreensis	1.20	2	0.32	
Parapenaeopsis atlantica	0.80	90	0.21	
Dentex canariensis	0.60	2	0.16	
Scyllarides herklotsii	0.60	2	0.16	
Alectis alexandrinus	0.60	4	0.16	
Penaeus notialis	0.40	12	0.11	
Pteroscion pelli	0.30	8	0.08	
Chaetodon hoefleri	0.20	2	0.05	
Sphyræna guachancho	0.00	2		
Pseudupeneus prayensis	0.00	2		
Total	378.91		100.98	

PROJECT STATION: 3
 DATE: 5/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 513
 start stop duration Long E 1202
 TIME :10:43:00 11:00:00 17 (min) Purpose code: 3
 LOG :4205.30 4206.20 0.90 Area code : 2
 FDEPTH: 13 13 GearCond.code:
 BDEPTH: 13 13 Validity code:
 Towing dir: 14° Wire out: 100 m Speed: 32 kn*10
 Sorted: 12 Kg Total catch: 11.95 CATCH/HOUR: 42.18

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Cynoglossus browni	8.82	92	20.91	
Brachydeuterus auritus	7.06	229	16.74	
Ilisha africana	4.94	173	11.71	
Pomadasys jubelini	3.53	14	8.37	
Galeoides decadactylus	3.53	49	8.37	
Chloroscombrus chrysurus	2.82	39	6.69	
Pseudotolithus typus	2.12	32	5.03	
Stromateus fiatola	1.76	11	4.17	
Dasyatis margarita	1.76	4	4.17	
Selene dorsalis	1.76	32	4.17	
Pentanemus quinquarius	1.76	49	4.17	
HETERENCHELYIDAE	0.71	21	1.68	
Torpedo nobiliana	0.71	4	1.68	
Penaeus notialis	0.35	11	0.83	
Pteroscion pelli	0.35	21	0.83	
Parapenaeopsis atlantica	0.18	35	0.43	
Syacium micrurum	0.00	4		
Dicologlossa cuneata	0.00	4		
Arius parkii	0.00	4		
Sphyræna guachancho	0.00	4		
Chloroscombrus chrysurus	0.00	46		
Total	42.16		99.95	

PROJECT STATION: 4
 DATE: 5/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 515
 start stop duration Long E 1156
 TIME :11:59:00 12:30:00 31 (min) Purpose code: 3
 LOG :4213.20 4214.70 1.50 Area code : 2
 FDEPTH: 31 33 GearCond.code:
 BDEPTH: 31 33 Validity code:
 Towing dir: 150° Wire out: 150 m Speed: 34 kn*10
 Sorted: 46 Kg Total catch: 167.31 CATCH/HOUR: 323.83

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Chloroscombrus chrysurus	162.58	3523	50.21	5
Brachydeuterus auritus	63.87	1405	19.72	
Sphyræna guachancho	36.58	120	11.30	4
Galeoides decadactylus	14.52	110	4.48	
Rhizoprionodon acutus	10.65	4	3.29	
Pomadasys peroteti	7.55	12	2.93	
Drepane africana	6.97	17	2.15	
Paragaleus pectoralis	5.81	2	1.79	
Pomadasys incisus	3.48	6	1.07	
Selene dorsalis	2.90	46	0.90	
Ilisha africana	2.90	110	0.90	
Pseudotolithus senegalensis	1.74	6	0.54	
Pteroscion pelli	1.16	17	0.36	
Dasyatis margarita	0.77	4	0.24	
Pagellus bellottii	0.77	6	0.24	
Trichiurus lepturus	0.58	35	0.18	
Dentex canariensis	0.58	2	0.18	
Penaeus notialis	0.29	12	0.09	
Sardinella maderensis	0.12	6	0.04	
Total	323.82		100.01	

PROJECT STATION: 5
 DATE: 5/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 518
 start stop duration Long E 1149
 TIME :13:34:00 14:05:00 31 (min) Purpose code: 3
 LOG :4223.20 4224.60 1.40 Area code : 2
 FDEPTH: 52 56 GearCond.code:
 BDEPTH: 52 56 Validity code:
 Towing dir: 310° Wire out: 200 m Speed: 32 kn*10
 Sorted: 78 Kg Total catch: 77.50 CATCH/HOUR: 150.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Pagellus bellottii	74.13	356	49.42	6
Dentex barnardi	18.00	37	12.00	7
Trachurus trecae	13.35	170	8.90	9
Umbrina canariensis	12.58	39	8.39	8
Epinephelus aeneus	9.29	2	6.19	
Paragaleus pectoralis	9.10	2	6.07	
Chloroscombrus chrysurus	2.90	33	1.93	
Argyrosomus hololepidotus	2.71	2	1.81	
Sparus caeruleostictus	1.74	2	1.13	
Stromateus fiatola	1.55	2	1.06	
Selene dorsalis	1.55	21	1.03	
Sphyræna sphyraena	1.35	12	0.90	
Decapterus punctatus	0.58	37	0.39	
Lagocephalus laevigatus	0.39	2	0.26	
Sphyræna guachancho	0.39	2	0.26	
Brachydeuterus auritus	0.19	4	0.13	
Chaetodon hoefleri	0.19	2	0.13	
Total	149.99		100.00	

PROJECT STATION: 6
 DATE: 5/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 516
 start stop duration Long E 1141
 TIME :15:10:00 15:27:00 17 (min) Purpose code: 3
 LOG :4233.80 4234.50 0.70 Area code : 2
 FDEPTH: 96 98 GearCond.code:
 BDEPTH: 96 98 Validity code:
 Towing dir: 237° Wire out: 450 m Speed: 35 kn*10
 Sorted: Kg Total catch: CATCH/HOUR:

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
N O C A T C H	0.00			
Total				

PROJECT STATION: 7
 DATE: 5/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 521
 start stop duration Long E 1134
 TIME :17:33:00 18:05:00 32 (min) Purpose code: 3
 LOG :4242.30 4244.10 1.80 Area code : 2
 FDEPTH: 216 248 GearCond.code:
 BDEPTH: 216 248 Validity code:
 Towing dir: 165° Wire out: 800 m Speed: 34 kn*10

Sorted: 31 Kg Total catch: 154.20 CATCH/HOUR: 289.13

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Miracorvina angolensis	59.91	737	20.72	
Synagrops microlepis	54.00	5761	18.68	
Trichiurus lepturus	52.31	516	18.09	
Pterothrissus belloci	44.72	330	15.47	
Parapenaeus longirostris	27.00	4320	9.34	
Centrophorus uyato	12.38	2	4.28	
Merluccius polli	6.75	203	2.33	
Hexanchus griseus	6.19	2	2.14	
Squatina oculata	6.00	2	2.08	
Solenocera africana	4.22	296	1.46	
Illex coindetii	4.22	26	1.46	
Diaphus dumerili	4.22	2828	1.46	
Sphyræna sphyræna	2.53	9	0.88	
Chlorophthalmus atlanticus	2.53	229	0.88	
Promethichthys prometheus	1.69	9	0.06	
MORIDAE	0.17	9	0.06	
Brosmiculus imberbis *	0.17	9	0.06	
Peristedion cataphractum	0.09	9	0.03	
Total	289.10		100.00	

PROJECT STATION: 8
 DATE: 5/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 524
 start stop duration Long E 1134
 TIME :18:47:00 19:20:00 33 (min) Purpose code: 3
 LOG :4246.40 4247.80 1.40 Area code : 2
 FDEPTH: 290 312 GearCond.code:
 BDEPTH: 290 312 Validity code:
 Towing dir: 180° Wire out:1000 m Speed: 28 kn*10

Sorted: 36 Kg Total catch: 289.06 CATCH/HOUR: 525.56

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Pterothrissus belloci	283.64	1822	53.97	
Centrophorus uyato	132.18	22	25.15	
Nematoscarinus africanus	36.00	158400	6.85	
Merluccius polli	29.45	207	5.60	
Trichiurus lepturus	24.00	33	4.57	
Illex coindetii	4.36	33	0.83	
Chlorophthalmus atlanticus	4.36	131	0.83	
Helicolenus dactylopterus	2.18	11	0.41	
Peristedion cataphractum	2.18	65	0.41	
Solenocera africana	2.18	65	0.41	
PORTUNIDAE	1.09	11	0.21	
Laemonema laureysi	1.09	11	0.21	
Parapenaeus longirostris	1.09	44	0.21	
Dasyatis margarita	0.55	11	0.10	
Brosmiculus imberbis *	0.55	44	0.10	
Lophius vaillanti	0.55	33	0.10	
Plesionika martia	0.11	11	0.02	
Total	525.56		99.98	

PROJECT STATION: 9
 DATE: 5/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 528
 start stop duration Long E 1130
 TIME :20:16:00 20:46:00 30 (min) Purpose code: 3
 LOG :4252.00 4253.70 1.70 Area code : 2
 FDEPTH: 402 407 GearCond.code:
 BDEPTH: 402 407 Validity code:
 Towing dir: 180° Wire out:1200 m Speed: 30 kn*10

Sorted: 28 Kg Total catch: 76.88 CATCH/HOUR: 153.76

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Merluccius polli	69.50	180	45.20	18
Deania profundorum	13.00	20	8.45	
Laemonema laureysi	12.50	434	8.13	
MORIDAE	12.00	56	7.80	
Centrophorus granulosus	8.80	2	5.72	
Nematoscarinus africanus	7.50	1144	4.88	
Plesionenaeus edwardsianus	6.00	144	3.90	
Aristeus varidens	5.00	576	3.25	
Epigonus telescopus	4.50	64	2.93	
Pterothrissus belloci	3.50	30	2.28	
Galeus polli	2.50	110	1.63	
Brosmiculus imberbis *	2.50	60	1.63	
Trichiurus lepturus	2.50	74	1.63	
Illex coindetii	1.00	4	0.65	
Stereomastis sculpta	1.00	70	0.65	
Todaropsis eblanae	0.74	4	0.48	
Halosaurus ovenii	0.50	24	0.33	
Helicolenus dactylopterus	0.24	10	0.16	
Chaunax pictus	0.24	34	0.16	
Lophius vaillanti	0.24	20	0.16	
Total	153.76		100.02	

PROJECT STATION: 10
 DATE: 6/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 538
 start stop duration Long E 1201
 TIME :06:08:00 06:43:00 35 (min) Purpose code: 3
 LOG :4326.20 4327.80 1.70 Area code : 2
 FDEPTH: 25 30 GearCond.code:
 BDEPTH: 25 30 Validity code:
 Towing dir: 230° Wire out: 100 m Speed: 30 kn*10

Sorted: Kg Total catch: 30.31 CATCH/HOUR: 51.96

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Chloroscombrus chrysurus	44.57	789	85.78	11
Sphyræna guanchancho	1.09	3	3.64	
Illisha africana	1.71	75	2.29	12
Sardinella maderensis	1.37	36	2.64	10
Dasyatis margarita	1.20	5	2.31	
Stromateus fiatola	0.34	3	0.65	
Brachydeuterus auritus	0.34	19	0.65	
Scelene dorsalis	0.34	7	0.65	
Lophius vaillanti	0.17	21	0.33	
Helicolenus dactylopterus	0.02	2	0.04	

PROJECT STATION: 11
 DATE: 6/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 540
 start stop duration Long E 1158
 TIME :07:30:00 08:00:00 30 (min) Purpose code: 3
 LOG :4332.60 4334.10 1.70 Area code : 2
 FDEPTH: 36 39 GearCond.code:
 BDEPTH: 36 39 Validity code:
 Towing dir: 340° Wire out: 150 m Speed: 32 kn*10

Sorted: 6 Kg Total catch: 5.71 CATCH/HOUR: 11.42

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Sardinella maderensis	5.70	56	49.91	19
Sphyræna guanchancho	5.50	4	48.16	
Chloroscombrus chrysurus	0.20	2	1.75	
Lophius vaillanti	0.02	4	0.18	
Total	11.42		100.00	

PROJECT STATION: 12
 DATE: 6/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 545
 start stop duration Long E 1151
 TIME :09:08:00 09:38:00 30 (min) Purpose code: 3
 LOG :4343.10 4344.40 1.50 Area code : 2
 FDEPTH: 57 60 GearCond.code:
 BDEPTH: 57 60 Validity code:
 Towing dir: 250° Wire out: 300 m Speed: 33 kn*10

Sorted: 25 Kg Total catch: 116.80 CATCH/HOUR: 233.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	98.40	1928	42.12	16
Trichiurus lepturus	56.00	960	23.97	14
Pteroscion pelli	24.00	448	10.27	15
Pseudotolithus senegalensis	22.00	184	9.42	
Selene dorsalis	9.20	56	3.94	
Illisha africana	6.80	96	2.91	
Dasyatis sp.	4.00	2	1.71	
Pseudotolithus typus	3.30	2	1.41	
Cynoglossus canariensis	3.00	14	1.28	
Cynoponticus ferox	3.00	4	1.28	
Sardinella maderensis	1.60	8	0.68	
Trachurus trecae	0.60	4	0.26	
Sphyræna guanchancho	0.60	2	0.26	
Dicologlossa cuneata	0.40	6	0.17	
Sepia bertheloti	0.40	120	0.17	
Penaeus notialis	0.20	20	0.09	
Helicolenus dactylopterus	0.02	2	0.01	
Parapenaeopsis atlantica	0.02	14	0.01	
PENAEIDAE	0.00	2		
Lophius vaillanti	0.00	24		
Total	233.54		99.96	

PROJECT STATION: 13
 DATE: 6/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 548
 start stop duration Long E 1143
 TIME :10:32:00 11:02:00 30 (min) Purpose code: 3
 LOG :4351.70 4352.90 1.70 Area code : 2
 FDEPTH: 90 98 GearCond.code:
 BDEPTH: 90 98 Validity code:
 Towing dir: 255° Wire out: 450 m Speed: 31 kn*10

Sorted: 27 Kg Total catch: 87.30 CATCH/HOUR: 174.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichiurus lepturus	147.90	1374	84.71	
Pentheroscion mbizi	10.20	174	5.84	
Mustelus mustelus	7.00	2	4.01	
Brachydeuterus auritus	2.40	30	1.37	
Squatina oculata	2.00	2	1.15	
Dentex angolensis	1.40	6	0.80	
Miracorvina angolensis	1.20	12	0.69	
Uranoscopus cadenati	1.20	12	0.69	
Todarodes sagittatus	0.90	2	0.52	
Trachurus trecae	0.30	12	0.17	
Parapenaeopsis atlantica	0.12	66	0.07	
Total	174.62		100.02	

PROJECT STATION: 14
 DATE: 6/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 549
 start stop duration Long E 1139
 TIME :11:58:00 12:28:00 30 (min) Purpose code: 3
 LOG :4359.50 4360.90 1.46 Area code : 2
 FDEPTH: 116 119 GearCond.code:
 BDEPTH: 116 119 Validity code:
 Towing dir: 20° Wire out: 600 m Speed: 32 kn*10

Sorted: 81 Kg Total catch: 81.47 CATCH/HOUR: 162.94

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Umbrina canariensis	49.20	139	30.20	19
Miracorvina angolensis	28.80	100	17.68	20
Trichiurus lepturus	23.40	38	14.36	
Epinephelus aeneus	23.00	4	14.12	
Dentex gibbosus	11.80	2	7.24	
Pterothrissus belloci	7.80	56	4.79	
Spicara alta	6.40	56	3.93	
Synagrops microlepis	5.00	362	3.07	
Sparus pagrus africanus	2.40	2	1.47	
Dentex angolensis	1.80	6	1.10	
Octopus vulgaris	1.00	2	0.61	
Trichiurus lepturus	1.00	34	0.61	
Trachurus trecae	0.60	4	0.37	
Illex coindetii	0.20	8	0.12	
Parapenaeus longirostris	0.10	30	0.06	
Uranoscopus polli	0.10	12	0.06	
Trigla lyra	0.10	2	0.06	
Zeus faber	0.10	2	0.06	
Saurida brasiliensis	0.10	32	0.06	
Todaropsis eblanae	0.04	4	0.02	
Dibranchius atlanticus	0.00	2		
Boops boops	0.00	2		
Pontinus kuhlii	0.00	2		
Total	162.94		99.99	

PROJECT STATION: 15
 DATE: 6/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 556 Long E 1152
 start stop duration
 TIME :15:35:00 16:06:00 31 (min) Purpose code: 3
 LOG :4388.60 4390.70 1.60 Area code : 2
 FDEPTH: 60 54 GearCond.code:
 BDEPTH: 60 54 Validity code:
 Towing dir: 50° Wire out: 300 m Speed: 32 kn*10
 Sorted: 22 Kg Total catch: 272.20 CATCH/HOUR: 526.84

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Pteroscion peli	170.71	2880	32.40	
Pentheroscion mbizi	114.97	1783	21.82	
Pseudotolithus senegalensis	54.19	135	10.29	22
Trichiurus lepturus	43.55	105	8.27	
Trichiurus lepturus	31.95	1916	5.95	
Mustelus mustelus	27.10	12	5.14	
Cynoglossus canariensis	18.19	72	3.45	
Brachydeuterus auritus	17.42	331	3.31	
Cynopoticus ferox	11.61	12	2.20	
Pseudotolithus typus	11.61	8	2.20	21
Parapenaeopsis atlantica	6.97	1916	1.32	
Brotula barbata	4.65	8	0.88	
Umbrina canariensis	3.87	14	0.73	
Raja miraletus	3.48	10	0.66	
Arius parkii	3.10	2	0.59	
Sepia officinalis hierredda	1.16	2	0.22	
Grammolites gruvelli	0.87	17	0.17	
Miracorvina angolensis	0.77	2	0.15	
Dentex barnardi	0.58	4	0.11	
Dentex angolensis	0.39	2	0.07	
Pegusa lascaris	0.19	4	0.04	
Ilisha africana	0.10	2	0.02	
Penaeus notialis	0.06	4	0.01	
Total	526.89		100.00	

PROJECT STATION: 16
 DATE: 6/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 551 Long E 1200
 start stop duration
 TIME :17:10:00 17:40:00 30 (min) Purpose code: 3
 LOG :4399.50 4401.10 1.60 Area code : 2
 FDEPTH: 30 27 GearCond.code:
 BDEPTH: 30 27 Validity code:
 Towing dir: 50° Wire out: 150 m Speed: 30 kn*10
 Sorted: 32 Kg Total catch: 170.25 CATCH/HOUR: 340.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Pseudotolithus typus	78.00	370	22.91	25
Pseudotolithus senegalensis	65.50	340	19.24	23
Shrimps, small, non comm.	37.00		10.87	
Pentaneus quinquarius	28.00	370	8.22	
Pteroscion peli	22.00	410	6.46	
Trichiurus lepturus	20.00	970	5.87	
Ilisha africana	19.00	370	5.58	
Arius parkii	17.00	30	4.99	
Brachydeuterus auritus	17.00	450	4.99	
Cynoglossus canariensis	15.40	54	4.52	24
Chloroscombrus chrysurus	10.00	220	2.94	
Dasyatis margarita	4.00	10	1.17	
Selene dorsalis	4.00	40	1.17	
Parapenaeopsis atlantica	2.00	560	0.59	
Portunus validus	1.20	10	0.35	
Dicologlossa cuneata	0.20	10	0.06	
Cynoglossus browni	0.20	2	0.06	
Total	340.50		99.99	

PROJECT STATION: 17
 DATE: 7/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 619 Long E 1140
 start stop duration
 TIME :06:12:00 06:42:00 30 (min) Purpose code: 3
 LOG :4489.00 4490.90 1.70 Area code : 2
 FDEPTH: 117 112 GearCond.code:
 BDEPTH: 117 112 Validity code:
 Towing dir: 90° Wire out: 550 m Speed: 31 kn*10
 Sorted: 57 Kg Total catch: 56.86 CATCH/HOUR: 113.72

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex congoensis	52.00	308	45.73	27
Dentex angolensis	18.00	132	15.83	26
Epinephelus aeneus	13.00	2	11.43	
Mustelus mustelus	8.80	4	7.74	
Trachurus trecae	5.40	140	4.75	28
Illex coindetii	3.20	144	2.81	29
Dentex gibbosus	3.20	2	2.81	
Zeus faber	2.20	4	1.93	
Selene dorsalis	1.80	6	1.58	
Trichiurus lepturus	1.40	4	1.23	
Torpedo torpedo	1.40	2	1.23	
Ariomma bondi	1.20	26	1.06	
Fistularia petimba	1.20	2	1.06	
Pagellus bellottii	0.80	8	0.70	
Chloroscombrus chrysurus	0.04	4	0.04	
Boops boops	0.04	4	0.04	
Spicara alta	0.02	2	0.02	
Saurida brasiliensis	0.00	4		
Total	113.70		99.99	

PROJECT STATION: 18
 DATE: 7/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 619 Long E 1145
 start stop duration
 TIME :07:27:00 07:57:00 30 (min) Purpose code: 3
 LOG :4495.20 4497.00 1.70 Area code : 2
 FDEPTH: 105 103 GearCond.code:
 BDEPTH: 105 103 Validity code:
 Towing dir: 90° Wire out: 550 m Speed: 30 kn*10
 Sorted: 34 Kg Total catch: 34.34 CATCH/HOUR: 68.68

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex congoensis	22.80	194	33.20	31
Dentex angolensis	20.00	96	29.12	32
Ariomma bondi	14.00	280	20.38	
Trachurus trecae	4.00	126	5.82	30
Epinephelus aeneus	3.60	2	5.24	
Illex coindetii	3.00	178	4.37	33
Dentex canariensis	0.60	2	0.87	
Fistularia petimba	0.60	2	0.87	
Boops boops	0.04	2	0.06	
Trichiurus lepturus	0.04	2	0.06	
Saurida brasiliensis	0.00	2		
Total	68.68		99.99	

PROJECT STATION: 19
 DATE: 7/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 619 Long E 1153
 start stop duration
 TIME :08:55:00 09:25:00 30 (min) Purpose code: 3
 LOG :4503.30 4504.80 1.50 Area code : 2
 FDEPTH: 86 81 GearCond.code:
 BDEPTH: 86 81 Validity code:
 Towing dir: 90° Wire out: 450 m Speed: 30 kn*10
 Sorted: 34 Kg Total catch: 34.21 CATCH/HOUR: 68.42

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trichiurus lepturus	28.00	52	40.92	
Umbrina canariensis	16.80	48	24.55	
Dentex angolensis	3.60	12	5.26	
C E P H A L O P O D A	3.40	1504	4.97	
Priacanthus arenatus	3.20	8	4.68	
Trachurus trecae	2.60	92	3.90	
Dentex congoensis	2.40	32	3.51	
Zeus faber	2.20	4	3.22	
Torpedo torpedo	1.30	2	1.90	
Octopus vulgaris	1.20	2	1.75	
Saurida brasiliensis	1.20	304	1.75	
Pagellus bellottii	1.10	16	1.61	
Raja miraletus	0.50	2	0.73	
Illex coindetii	0.30	8	0.44	
Dentex barnardi	0.20	4	0.29	
Fistularia petimba	0.20	2	0.29	
Ariomma bondi	0.20	8	0.29	
Spicara alta	0.02	2	0.03	
Citharus linguatula	0.00	2		
Total	68.42		99.99	

PROJECT STATION: 20
 DATE: 7/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 619 Long E 1201
 start stop duration
 TIME :10:25:00 10:55:00 30 (min) Purpose code: 3
 LOG :4512.90 4514.70 1.70 Area code : 2
 FDEPTH: 63 67 GearCond.code:
 BDEPTH: 63 67 Validity code:
 Towing dir: 270° Wire out: 300 m Speed: 30 kn*10
 Sorted: 33 Kg Total catch: 132.24 CATCH/HOUR: 264.48

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Brachydeuterus auritus	160.00	1728	60.50	36
Pagellus bellottii	31.20	280	11.80	34
Trachurus trecae	28.00	360	10.59	35
Trichiurus lepturus	24.80	120	9.38	
Octopus vulgaris	8.40	8	3.18	
Dentex angolensis	4.80	16	1.81	
C E P H A L O P O D A	3.20	904	1.21	
Dentex congoensis	2.40	16	0.91	
Umbrina canariensis	1.60	8	0.60	
Illex coindetii	0.08	8	0.03	
Saurida brasiliensis	0.00	24		
Total	264.48		100.01	

PROJECT STATION: 21
 DATE: 7/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 624
 start stop duration Long E 1206
 TIME :12:16:00 12:46:00 30 (min) Purpose code: 3
 LOG :4529.30 4530.90 1.60 Area code : 2
 FDEPTH: 43 37 GearCond.code:
 BDEPTH: 43 37 Validity code:
 Towing dir: 90° Wire out: 150 m Speed: 32 km*10
 Sorted: 31 Kg Total catch: 30.82 CATCH/HOUR: 61.64

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Stromateus fiatola	30.00	30	48.67	
Trichiurus lepturus	16.00	42	25.96	
Lagocephalus laevigatus	5.00	14	8.11	
Selene dorsalis	4.60	14	7.46	
Sparus caeruleostictus	2.60	6	4.22	
Fistularia petimba	2.00	12	3.24	
Pagellus bellottii	1.40	4	2.27	
Decapterus punctatus	0.04	2	0.06	
Alloteuthis africana	0.00	6		
Total	61.64		99.99	

PROJECT STATION: 22
 DATE: 7/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 625
 start stop duration Long E 1221
 TIME :15:26:00 15:53:00 28 (min) Purpose code: 3
 LOG :4546.20 4547.70 1.26 Area code : 2
 FDEPTH: 11 11 GearCond.code:
 BDEPTH: 11 11 Validity code:
 Towing dir: 160° Wire out: 50 m Speed: 27 km*10
 Sorted: 24 Kg Total catch: 122.50 CATCH/HOUR: 262.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichiurus lepturus	44.25	1770	16.86	
Ilisha africana	40.50	1776	15.43	
Galeoides decadactylus	24.75	270	9.43	
Pteroscion pelli	21.75	1044	8.29	
Brachydeuterus auritus	21.00	474	8.00	
Pseudotolithus typus	14.57	26	5.55	40
Polydactylus quadrifilis	13.50	339	5.14	
Stromateus fiatola	13.50	28	5.14	
Sphyræna guanchancho	11.79	34	4.49	38
Selene dorsalis	11.36	114	4.33	
Pseudotolithus senegalensis	7.50	17	2.86	39
Dentex barrardi	6.43	21	2.45	37
Rhizoprionodon acutus	5.36	4	2.04	
Arius parkii	5.36	4	2.04	
Scomberomorus tritor	4.29	4	1.63	
Rhinobatos albomaculatus	4.07	2	1.55	
Hemicarax bicolor	3.00	45	1.14	
Pomadasys jubelini	1.71	4	0.65	
Chloroscombrus chrysurus	1.50	15	0.57	
Cynoglossus canariensis	1.29	4	0.49	
Parapenaeopsis atlantica	1.07	411	0.41	
Elops lacerta	1.07	2	0.41	
Lagocephalus laevigatus	1.07	2	0.41	
Rhinobatos rhinobatos	0.64	2	0.24	
Sardinella maderensis	0.43	120	0.16	
Sardinella maderensis	0.43	2	0.16	
Fistularia petimba	0.21	2	0.08	
Pegusa lascaris	0.11	2	0.04	
Total	262.51		99.99	

PROJECT STATION: 23
 DATE: 7/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 628
 start stop duration Long E 1205
 TIME :17:45:00 18:15:00 30 (min) Purpose code: 3
 LOG :4564.70 4566.10 1.50 Area code : 2
 FDEPTH: 50 65 GearCond.code:
 BDEPTH: 50 65 Validity code:
 Towing dir: 265° Wire out: 150 m Speed: 32 km*10
 Sorted: 1 Kg Total catch: 0.53 CATCH/HOUR: 1.06

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Sphyræna guanchancho	0.60	2	56.60	
Trichiurus lepturus	0.40	4	37.74	
Brachydeuterus auritus	0.06	2	5.66	
Total	1.06		100.00	

PROJECT STATION: 24
 DATE: 8/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 641
 start stop duration Long E 1228
 TIME :06:18:00 06:42:00 24 (min) Purpose code: 3
 LOG :4657.30 4658.50 1.20 Area code : 2
 FDEPTH: 8 7 GearCond.code:
 BDEPTH: 8 7 Validity code:
 Towing dir: 150° Wire out: 100 m Speed: 27 km*10
 Sorted: 11 Kg Total catch: 121.00 CATCH/HOUR: 302.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Chaetodipterus lippei	52.13	103	17.23	44
Arius parkii	35.38	35	11.72	
Selene dorsalis	32.00	290	10.59	
Ilisha africana	30.00	693	9.92	43
Lutjanus dentatus	23.75	3	7.85	
Sparus caeruleostictus	17.00	33	5.62	
Sardinella maderensis	17.00	2110	5.62	41
Elops lacerta	10.00	25	3.31	
Stromateus fiatola	7.50	13	2.48	
Pentanezum quinquevatus	6.00	90	1.98	
Trichiurus lepturus	6.00	250	1.98	
Drepane africana	6.00	15	1.98	
Dentex gibbosus	5.75	8	1.90	
Leptocharias smithii	5.25	3	1.74	
Pseudotolithus brachygnathus	4.50	3	1.49	
Sphyræna guanchancho	4.00	10	1.32	
Brachydeuterus auritus	4.00	720	1.32	
Decapterus rhonchus	4.00	1040	1.32	42
Lagocephalus laevigatus	3.50	3	1.16	
Scomberomorus tritor	3.25	3	1.07	
Plectorhynchus mediterraneus	3.00	3	0.99	
Dasyatis margarita	3.00	3	0.99	
Alectis alexandrinus	3.00	10	0.99	
Bodianus speciosus	2.50	3	0.83	
Galeoides decadactylus	2.50	8	0.83	
Acanthurus monroviae	2.26	4	0.75	
Pteroscion pelli	2.00	40	0.66	
Pseudotolithus senegalensis	2.00	10	0.66	
Chloroscombrus chrysurus	2.00	1050	0.66	
Pseudotolithus epipecterus	1.75	3	0.58	
Balistes punctatus	1.50	3	0.50	
Total	302.52		100.01	

PROJECT STATION: 25
 DATE: 8/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 649
 start stop duration Long E 1209
 TIME :10:20:00 10:50:00 30 (min) Purpose code: 3
 LOG :4694.10 4695.40 1.70 Area code : 2
 FDEPTH: 73 76 GearCond.code:
 BDEPTH: 73 76 Validity code:
 Towing dir: 270° Wire out: 400 m Speed: 31 km*10
 Sorted: 32 Kg Total catch: 31.86 CATCH/HOUR: 63.72

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus tracas	20.86	536	32.64	46
Pagellus bellottii	18.00	232	28.75	47
Alloteuthis africana	18.00	522	37.11	
Sardinella aurita	16.00	212	10.36	45
Balistes punctatus	2.00	2	3.14	
Dentex congoensis	1.80	46	2.82	4E
Fistularia petimba	1.80	6	2.82	
Ilex coindetii	0.80	12	1.26	
Decapterus punctatus	0.80	14	1.26	
Sparus auriga	0.20	2	0.31	
Ariomma bondi	0.02	2	0.03	
Saurida brasiliensis	0.00	2		
Total	63.72		100.00	

PROJECT STATION: 25
 DATE: 8/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 647
 start stop duration Long E 1150
 TIME :12:45:00 13:15:00 31 (min) Purpose code: 3
 LOG :4712.00 4713.80 1.65 Area code : 2
 FDEPTH: 180 173 GearCond.code:
 BDEPTH: 180 173 Validity code:
 Towing dir: * Wire out: 800 m Speed: 32 km*10
 Sorted: 26 Kg Total catch: 25.96 CATCH/HOUR: 50.25

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Ilex coindetii	22.84	435	45.45	49
Spicara alta	7.16	93	14.25	
Zenopsis conchifer	6.00	23	11.94	
Dentex angolensis	5.42	21	10.79	50
Squatina oculata	4.26	2	8.48	
Ariomma bondi	2.32	46	4.62	
Trichiurus lepturus	1.35	4	2.69	
Miracorvina angolensis	0.48	2	0.96	
Pterothrissus belloci	0.39	2	0.78	
Saurida brasiliensis	0.02	8	0.04	
Total	50.24		100.00	

PROJECT STATION: 27
 DATE: 8/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 645
 start stop duration Long E 1147
 TIME :14:15:00 14:47:00 32 (min) Purpose code: 3
 LOG :4720.30 4722.00 2.00 Area code : 2
 FDEPTH: 245 230 GearCond.code:
 BDEPTH: 245 230 Validity code:
 Towing dir: * Wire out: 900 m Speed: 30 km*10
 Sorted: 29 Kg Total catch: 191.75 CATCH/HOUR: 359.53

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Chlorophthalmus atlanticus	241.31		67.12	
Synagrops microlepis	65.81		18.30	
Zenopsis conchifer	28.69	135	7.98	
Dentex angolensis	9.38	24	2.61	51
Trichiurus lepturus	6.09	24	1.69	
Ophichthus omeriti	5.44	3193	1.51	
Ilex coindetii	1.22	48	0.34	
Ariomma bondi	1.22	48	0.34	
Hondlène microstoma	0.19	13	0.05	
Parapenaeus longirostris	0.19	38	0.05	
Total	359.54		99.99	

PROJECT STATION: 28
 DATE: 8/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 710 Long E 1223
 start stop duration
 TIME :22:25:00 22:55:00 30 (min) Purpose code: 3
 LOG :4797.70 4799.40 1.70 Area code : 2
 FDEPTH: 83 76 GearCond.code:
 BDEPTH: 83 76 Validity code:
 Towing dir: 90° Wire out: 450 m Speed: 28 km*10
 Sorted: 29 Kg Total catch: 119.60 CATCH/HOUR: 239.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Lepidotrigla carolae	72.00		30.10	
Pagellus bellottii	53.60	1204	22.41	54
Trachurus trecae	36.00	848	15.05	53
Sepia officinalis hierredda	20.00	40	8.36	
Dentex congoensis	16.00	352	6.69	52
Umrina canariensis	9.60	16	4.01	
Dentex angolensis	8.00	168	3.34	
Citharus linguatula	6.40	936	2.68	
Hoplunnis punctata	6.00	496	2.51	
Squatina oculata	5.20	2	2.17	
Spicara alta	2.40	328	1.00	
Arnoglossus imperialis	2.40	208	1.00	
Boops boops	0.80	56	0.33	
Illex coindetii	0.80	24	0.39	
Chaetodon hoefleri	0.00	8		
Saurida brasiliensis	0.00	8		
Trachinus lineolatus	0.00	8		
Uranoscopus cadenati	0.00	8		
Total	239.20		99.98	

PROJECT STATION: 29
 DATE: 9/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 707 Long E 1157
 start stop duration
 TIME :07:40:00 08:10:00 30 (min) Purpose code: 3
 LOG :4889.90 4891.30 1.70 Area code : 2
 FDEPTH: 313 260 GearCond.code:
 BDEPTH: 313 260 Validity code:
 Towing dir: 50° Wire out: 1100 m Speed: 3 km*10
 Sorted: 31 Kg Total catch: 546.60 CATCH/HOUR: 1093.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Synagrops microlepis	430.40	4384	39.37	55
Chlorophthalmus atlanticus	361.60	6368	33.08	
Squatina oculata	59.60	4	5.45	
Merluccius polli	41.60	256	3.81	
Paromola cuvieri	40.00	32	3.66	
Carcharinus falciformis	27.40	2	2.51	
Shrimps, small, non comm.	16.00	1312	1.46	
GALATHEIDAE	16.00	1312	1.46	
Parasudis sp.	16.00	320	1.46	
Arionna bondi	16.00	268	1.46	
Reja sp.	12.80	64	1.17	
Todaropsis eblanae	9.60	128	0.88	
Illex coindetii	9.60	96	0.88	
Pterothrissus belloci	9.60	96	0.88	
Ceelorhynchus caelorrhynchus	9.60	32	0.88	
Zenopsis conchifer	6.40	32	0.59	
Peristadion cataphractum	3.20	96	0.29	
Parapenaeus longirostris	3.20	768	0.29	
Laemonema laureysi	0.64	128	0.06	
Gadella maraldi	0.64	224	0.06	
Hymenocephalus italicus	0.64	96	0.06	
Arnoglossus imperialis	0.64	96	0.06	
Solenocera africana	0.64	160	0.06	
Sepia officinalis hierredda	0.64	256	0.06	
Diplodus dumerilii	0.32	256	0.03	
Hemipoliphaea hastatus	0.32	192	0.03	
Plesionika maritima	0.06	224	0.01	
Lophius vaillantii	0.06	64	0.01	
Total	1093.20		100.02	

PROJECT STATION: 30
 DATE: 9/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 718 Long E 2002
 start stop duration
 TIME :10:25:30 10:55:00 30 (min) Purpose code: 3
 LOG :4909.30 4911.40 1.30 Area code : 2
 FDEPTH: 414 402 GearCond.code:
 BDEPTH: 414 402 Validity code:
 Towing dir: 135° Wire out: 1200 m Speed: 24 km*10
 Sorted: 23 Kg Total catch: 520.31 CATCH/HOUR: 1040.62

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Merluccius polli	809.60	3168	77.80	57
Etmopterus spinax	44.00	1012	4.23	
Helicolenus dactylopterus	35.20	44	3.38	
Laemonema laureysi	30.60	396	2.96	
Stereomastix sculpita	18.80	748	1.90	
Epigonus telescopus	13.20	44	1.27	
Pterothrissus belloci	13.20	44	1.27	
Torpedo nobiliana	13.00	2	1.25	
Aristeus varidensis	12.80	2264	1.23	
Shrimps, small, non comm.	8.80		0.85	
Brosmiculus imberbis *	8.80	308	0.85	
Chaunax pictus	6.60	264	0.63	
Plesionema edwardsianus	5.00	76	0.48	
Beryx splendens	4.40	44	0.42	
Hymenocephalus italicus	4.40	660	0.42	
Diplodus dumerilii	2.20	616	0.21	
Yarellia blackfordi	2.20	132	0.21	
Synagrops microlepis	2.20	132	0.21	
Illex coindetii	2.20	132	0.21	
GALATHEIDAE	1.32	352	0.19	
Todaropsis eblanae	0.88	44	0.08	
Solenocera africana	0.08	2		
Borostomatias sp.	0.00	88		
Stomias affinis	0.00	88		
Nezumia aequalis	0.00	88		
Total	1040.62		99.99	

PROJECT STATION: 31
 DATE: 9/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 712 Long E 1215
 start stop duration
 TIME :11:57:00 12:29:00 32 (min) Purpose code: 3
 LOG :4928.10 4929.20 1.76 Area code : 2
 FDEPTH: 196 189 GearCond.code:
 BDEPTH: 196 189 Validity code:
 Towing dir: 320° Wire out: 800 m Speed: 33 km*10
 Sorted: 23 Kg Total catch: 23.20 CATCH/HOUR: 43.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex angolensis	27.56	79	63.36	58
Squatina oculata	4.50	2	10.34	
Illex coindetii	3.38	53	7.77	
Todaropsis eblanae	2.81	84	6.46	
Zenopsis conchifer	2.25	11	5.17	
Arionna bondi	1.69	28	3.89	
Pterothrissus belloci	0.75	6	1.72	
Spicara alta	0.38	4	0.87	
Boops boops	0.09	2	0.21	
Sepia officinalis hierredda	0.06	2	0.14	
Dibranchius atlanticus	0.04	6	0.09	
Total	43.51		100.02	

PROJECT STATION: 32
 DATE: 9/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 719 Long E 1221
 start stop duration
 TIME :13:44:00 14:15:00 31 (min) Purpose code: 3
 LOG :4938.20 4940.90 1.58 Area code : 2
 FDEPTH: 156 127 GearCond.code:
 BDEPTH: 156 127 Validity code:
 Towing dir: 90° Wire out: 700 m Speed: 30 km*10
 Sorted: 40 Kg Total catch: 40.42 CATCH/HOUR: 78.23

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Spicara alta	17.42	221	22.27	
Mustelus mustelus	16.45	4	21.63	
Dentex angolensis	11.61	45	14.84	59
Fistularia petimba	9.32	14	10.64	
Todaropsis eblanae	5.81	393	7.43	
Illex coindetii	3.68	112	4.70	
Zenopsis conchifer	2.29	6	4.21	
Trachurus trecae	2.42	34	3.39	60
Trichurus lepturus	1.74	2	2.22	
Arionna bondi	1.74	23	2.22	
Torpedo torpedo	1.35	2	1.73	
Sphoeroides sp.	1.16	2	1.48	
Octopus vulgaris	0.77	2	0.98	
Zeus faber	0.77	2	0.98	
Raja miraletus	0.58	2	0.74	
Pterothrissus belloci	0.58	8	0.74	
Bembrops heterurus	0.39	2	0.50	
Uranoscopus cadenati	0.10	2	0.13	
Monolele microstoma	0.02	2	0.03	
Saurida brasiliensis	0.02	2	0.03	
Total	78.22		99.99	

PROJECT STATION: 33
 DATE: 9/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 719 Long E 1227
 start stop duration
 TIME :16:10:00 16:40:00 30 (min) Purpose code: 3
 LOG :4946.30 4947.50 1.57 Area code : 2
 FDEPTH: 100 100 GearCond.code:
 BDEPTH: 100 100 Validity code:
 Towing dir: 320° Wire out: 500 m Speed: 32 km*10
 Sorted: 32 Kg Total catch: 228.40 CATCH/HOUR: 456.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus trecae	346.00	128	76.18	
Dentex congoensis	22.40	292	4.90	61
Alloteuthis africana	16.30	4704	3.68	
Pagellus bellottii	16.40	94	3.59	63
Dentex angolensis	13.60	56	2.98	
Brachydeuterus auritus	10.80	96	2.36	
Fistularia petimba	10.00	18	2.19	
Illex coindetii	6.00	84	1.31	
Dentex barnardi	5.00	24	1.09	65
Dentex gibbosus	4.00	10	0.88	
Sparus pagrus africanus	3.80	4	0.83	
Total	456.80		99.99	

PROJECT STATION: 34
 DATE: 9/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 718 Long E 1230
 start stop duration
 TIME :17:33:00 18:08:00 35 (min) Purpose code: 3
 LOG :4953.80 4955.30 1.90 Area code : 2
 FDEPTH: 80 80 GearCond.code:
 BDEPTH: 80 80 Validity code:
 Towing dir: 320° Wire out: 400 m Speed: 30 km*10
 Sorted: 18 Kg Total catch: 130.89 CATCH/HOUR: 224.38

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus trecae	89.14	2301	39.73	70
Pagellus bellottii	30.51	213	13.60	69
Dentex gibbosus	26.57	46	11.84	66
Alloteuthis africana	20.57	8208	9.17	
Sepia officinalis hierredda	18.00	14	8.02	
Dentex barnardi	14.06	65	6.27	68
Umrina canariensis	6.86	14	3.06	
Dentex congoensis	5.51	101	2.63	67
Fistularia petimba	3.43	7	1.53	
Boops boops	2.74	82	1.22	
Sparus caeruleostictus	2.06	2	0.52	
Todaropsis eblanae	1.37	34	0.61	
Sparus pagrus africanus	0.86	2	0.38	
Spicara alta	0.69	89	0.31	
Sardinella aurita	0.69	55	0.31	
Dentex angolensis	0.51	2	0.23	
Illex coindetii	0.34	14	0.15	
Shrimps, small, non comm.	0.07	110	0.03	
Saurida brasiliensis	0.00	14		
Total	224.38		100.01	

PROJECT STATION: 35
 DATE: 9/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 720
 start stop duration Long E 1249
 TIME :06:14:00 06:34:00 20 (min) Purpose code: 3
 LOG :4977.80 4978.00 1.00 Area code : 2
 FDEPTH: 17 10 GearCond.code: 8
 BDEPTH: 17 10 Validity code: 9
 Towing dir: 90° Wire out: 100 m Speed: kn*10
 Sorted: Kg Total catch: 73.25 CATCH/HOUR: 219.75

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Chaetodipterus lippei	71.85	165	32.70	
Lutjanus agennes	25.20	39	11.47	
Paragaleus pectoralis	19.20	3	8.74	
Lutjanus dentatus	18.00	3	8.19	
Mycteroperca rubra	17.40	3	7.92	
Galeus melastomus	12.00	3	5.46	
Sparus caeruleostictus	9.90	24	4.51	
Sphyræna guachancho	9.00	9	4.10	
Dentex barnardi	8.40	24	3.82	
Pomadourus inclusus	4.50	39	2.05	
Bodianus speciosus	4.50	6	2.05	
Lutjanus goreensis	4.20	3	1.91	
Centrarchops chapini	3.60	3	1.64	
Alloteuthis africana	2.70	678	1.23	
Scomberomorus tritor	2.55	3	1.16	
Chromis sp.	2.10	150	0.96	
Parakuhlia macrophthalms	2.10	30	0.96	
Acanthurus monroviae	1.50	0	0.68	
Fistularia petimba	0.90	3	0.41	
Chaetodon hoefleri	0.06	3	0.03	
Decapterus punctatus	0.03	6	0.01	
Sardinella aurita	0.03	6	0.01	
Boops boops	0.03	3	0.01	
Total	219.75		100.02	

PROJECT STATION: 38
 DATE: 10/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 728
 start stop duration Long E 1219
 TIME :15:39:00 16:09:00 30 (min) Purpose code: 3
 LOG :5024.50 5025.70 1.20 Area code : 2
 FDEPTH: 488 407 GearCond.code: 2
 BDEPTH: 488 407 Validity code:
 Towing dir: 320° Wire out: 1400 m Speed: 31 kn*10
 Sorted: 84 Kg Total catch: 435.90 CATCH/HOUR: 871.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Merluccius pollii, male	484.00	2100	55.52	79
Merluccius pollii, female	320.00	800	36.71	80
Centroporus granulatus	25.80	4	2.96	
Etmopterus spinax	11.00	560	1.26	
Aristeus varidens	6.00	450	0.69	
Pterothrissus bellioi	4.00	10	0.46	
Yarella blackfordi	3.00	210	0.34	
Plesiopeneus edwardsianus	3.00	46	0.34	81
Bathygadus macrops	2.00	10	0.23	
Scorpaena sp.	2.00	30	0.23	
Brosmiculus imberbis *	2.00	60	0.23	
Shrimps, small, non comm.	2.00	0	0.23	
Leptostomias gracilis	1.00	10	0.11	
Malacocephalus laevis	1.00	10	0.11	
Stereomastis sculpta	1.00	40	0.11	
Illex coindetii	1.00	20	0.11	
Synagrops microlepis	0.50	20	0.06	
Laemonema laureysi	0.50	30	0.06	
Hoplostethus mediterraneus	0.50	30	0.06	
Coelorhynchus coelorhincus	0.50	10	0.06	
Melanostomias sp.	0.50	20	0.06	
Chaunax pictus	0.50	30	0.06	
Nezumia aequalis	0.00	10		
Total	871.80		100.00	

PROJECT STATION: 36
 DATE: 9/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 730
 start stop duration Long E 1241
 TIME :11:37:00 12:09:00 32 (min) Purpose code: 3
 LOG :5004.00 5005.30 1.30 Area code : 2
 FDEPTH: 78 79 GearCond.code: 2
 BDEPTH: 78 79 Validity code:
 Towing dir: 270° Wire out: 400 m Speed: 30 kn*10
 Sorted: 49 Kg Total catch: 49.80 CATCH/HOUR: 93.98

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex canariensis	39.00	225	41.76	74
Boops boops	16.50	330	17.67	
Dentex barnardi	12.19	51	13.05	71
Dentex gibbosus	6.19	11	6.63	72
Fistularia petimba	4.50	11	4.82	
Dentex congoensis	3.75	79	4.02	73
Squatina oculata	2.81	2	3.01	
Trachurus trecae	2.81	68	3.01	75
Sparus pagrus africanus	2.81	6	3.01	77
Alloteuthis africana	0.94	1	1.01	
Sardinella aurita	0.56	17	0.60	76
Illex coindetii	0.38	11	0.41	
Chaetodon hoefleri	0.38	2	0.41	
Dentex angolensis	0.38	2	0.41	
Ariomma bondi	0.19	2	0.20	
Total	93.98		100.02	

PROJECT STATION: 39
 DATE: 10/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 725
 start stop duration Long E 1215
 TIME :17:13:00 17:43:00 30 (min) Purpose code: 3
 LOG :5030.20 5032.20 2.00 Area code : 2
 FDEPTH: 345 347 GearCond.code: 2
 BDEPTH: 345 347 Validity code:
 Towing dir: 90° Wire out: 1100 m Speed: 30 kn*10
 Sorted: 30 Kg Total catch: 438.70 CATCH/HOUR: 877.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Chlorophthalmus atlanticus	314.00	650	35.79	
Alopias superciliosus	200.00	2	22.79	
Merluccius pollii, male	100.00	680	11.40	82
Synagrops microlepis	80.00	4200	9.12	
Galeorhinus galeus	70.00	2	7.98	
Merluccius pollii, female	44.00	100	5.01	83
Nematocarcinus africanus	32.00	14720	3.65	
Laemonema laureysi	9.00	80	1.03	
Brosmiculus imberbis *	6.00	120	0.68	
MYCTOPHIDAE	6.00	820	0.68	
Nezumia aequalis	5.00	40	0.57	
Pterothrissus bellioi	5.00	40	0.57	
CHLOROPHTHALMIDAE	2.80	40	0.32	
Helicolenus dactylopterus	1.00	60	0.11	
Coelorhynchus coelorhincus	1.00	20	0.11	
Parapeneus longirostris	0.60	140	0.07	
Total	876.40		99.88	

PROJECT STATION: 37
 DATE: 10/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 729
 start stop duration Long E 1232
 TIME :13:03:00 13:23:00 20 (min) Purpose code: 3
 LOG :5011.10 5012.10 1.00 Area code : 2
 FDEPTH: 102 100 GearCond.code: 2
 BDEPTH: 102 100 Validity code:
 Towing dir: 320° Wire out: 500 m Speed: 31 kn*10
 Sorted: 21 Kg Total catch: 21.57 CATCH/HOUR: 64.71

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Epinephelus aeneus	31.20	3	48.22	
Atractoscion aequidens	5.70	4	8.81	
Sparus caeruleostictus	5.40	6	8.34	
Trachurus trecae	5.10	219	7.88	78
Sparus auriga	4.50	6	6.95	
Sparus pagrus africanus	3.60	6	5.56	
Brotula barbata	2.70	3	4.17	
Fistularia petimba	1.50	3	2.32	
Illex coindetii	1.20	63	1.85	
Anthias anthias	1.20	18	1.85	
Todaropsis eblanae	0.90	36	1.39	
Dentex angolensis	0.90	12	1.39	
Dentex congoensis	0.60	15	0.93	
Boops boops	0.15	6	0.23	
Spicara alta	0.06	6	0.09	
Total	64.71		99.98	

PROJECT STATION: 40
 DATE: 11/ 5/91 GEAR TYPE: PT No:2 POSITION:Lat S 750
 start stop duration Long E 1258
 TIME :00:40:00 01:10:00 30 (min) Purpose code: 3
 LOG :5098.80 5100.30 1.50 Area code : 2
 FDEPTH: 20 20 GearCond.code: 2
 BDEPTH: 50 45 Validity code:
 Towing dir: 90° Wire out: 50 m Speed: 30 kn*10
 Sorted: 29 Kg Total catch: 28.80 CATCH/HOUR: 57.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sardinella aurita	27.00	146	46.88	84
Brachydeuterus auritus	19.20	252	33.33	87
Sardinella maderensis	7.80	62	13.54	85
Decapterus rhonchus	3.00	26	5.21	86
Sphyræna guachancho	0.40	8	0.69	
Alloteuthis africana	0.10	0	0.17	
Saurida brasiliensis	0.10	0	0.17	
Total	57.60		99.99	

PROJECT STATION: 41
 DATE: 11/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 758
 start stop duration Long E 1239
 TIME :04:45:00 05:15:00 30 (min) Purpose code: 3
 LOG :5135.20 5136.40 1.70 Area code : 2
 FDEPTH: 410 412 GearCond.code: 2
 BDEPTH: 410 412 Validity code:
 Towing dir: 345° Wire out: 1200 m Speed: 31 kn*10
 Sorted: 64 Kg Total catch: 386.84 CATCH/HOUR: 773.68

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Merluccius pollii	489.60		63.28	
Nematocarcinus africanus	252.00		32.57	
Lophius vaillanti	12.00	696	1.55	
SQUALIDAE	8.80	2	1.14	
Chaunax pictus	3.60	144	0.47	
Stomias affinis	1.20	24	0.16	
PENAEIDAE	1.20	48	0.16	
Hymenocephalus italicus	1.20	144	0.16	
Malacocephalus laevis	1.00	12	0.13	
Plesiopeneus edwardsianus	0.60	10	0.08	
Brosmiculus imberbis *	0.60	36	0.08	
Coelorhynchus coelorhincus	0.60	60	0.08	
Melanostomias sp.	0.36	36	0.05	
Laemonema laureysi	0.36	48	0.05	
Trichiurus lepturus	0.24	120	0.03	
Chlorophthalmus atlanticus	0.12	48	0.02	
Merluccius pollii	0.00			89
Merluccius pollii	0.00			88
POLYCHAELIDAE	0.00	12		
MYCTOPHIDAE	0.00	12		
Yarella blackfordi	0.00	36		

PROJECT STATION: 42
 DATE: 11/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 800 Long E 1250
 start stop duration
 TIME :06:56:00 07:10:00 14 (min) Purpose code: 3
 LOG :5149.10 5149.60 0.60 Area code : 2
 FDEPTH: 106 105 GearCond.code:
 BDEPTH: 106 105 Validity code:
 Towing dir: 90° Wire out: 500 m Speed: 26 km*10

Sorted: Kg Total catch: 57.37 CATCH/HOUR: 245.87

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Dentex angolensis	45.00	150	18.30	90
Boops boops	37.25		15.17	
Epinephelus aeneus	27.43	4	11.16	
Epinephelus goreensis	21.43	9	8.72	
Mustelus mustelus	18.64	4	7.58	
Dentex macrophthalmus	15.00	64	6.10	
Sepia officinalis hierredda	12.00	34	4.88	
Anthias anthias	8.57	111	3.49	
Torpedo torpedo	7.50	4	3.05	
Dentex barnardi	7.29	26	2.96	
Brotula barbata	6.43	4	2.62	
Trigla lyra	6.21	94	2.53	
Pagellus bellottii	4.93	86	2.01	
Sparus pagrus pagrus	4.07	13	1.66	
Citharus linguatula	3.85	159	1.57	
Sepia juveniles	3.00	60	1.22	
Trachurus trecae	2.79	77	1.13	
Dentex gibbosus	2.57	9	1.05	
Fistularia petimba	2.14	4	0.87	
Scorpaena angolensis	2.14	4	0.87	
Lophius vaillanti	1.50	116	0.61	
Todaropsis eblanae	0.43	4	0.17	
Chaetodon boefferi	0.43	4	0.17	
Cynoponiticus ferox	0.43	4	0.17	
Dentex angolensis	0.21	73	0.09	
Saurida brasiliensis	0.21	73	0.09	
Calappa pelii	0.13	4	0.05	
Trichiurus lepturus	0.04	4	0.02	
Arnoglossus imperialis	0.04	9	0.02	
Uranoscopus cadonati	0.04	4	0.02	
Euglossidium sp.	0.04	4	0.02	
Illex coindetii	0.00	4		
Total	241.79		98.37	

PROJECT STATION: 43
 DATE: 11/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 759 Long E 1255
 start stop duration
 TIME :08:01:00 08:25:00 24 (min) Purpose code: 3
 LOG :5155.00 5156.20 1.10 Area code : 2
 FDEPTH: E5 80 GearCond.code:
 BDEPTH: E5 80 Validity code:
 Towing dir: 90° Wire out: 400 m Speed: 27 km*10

Sorted: 30 Kg Total catch: 79.93 CATCH/HOUR: 199.83

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	124.50	2715	62.30	91
Squatina oculata	19.38	3	9.70	
Brachydeuterus auritus	13.25	165	6.63	
Sepia officinalis hierredda	6.13	13	4.07	
Sphyraena sphyraena	6.00	33	4.00	
Alloteuthis africana	7.05	2538	3.53	
Dentex angolensis	6.25	25	3.13	
Dentex congouensis	4.50	55	2.25	
Illex coindetii	2.50	95	1.25	
Sarda sarda	2.25	3	1.13	
Zeus faber	1.75	10	0.88	
Pagellus bellottii	1.25	13	0.63	
Fistularia petimba	0.88	3	0.44	
Dibranchius atlanticus	0.10	40	0.05	
Boops boops	0.05	5	0.03	
Total	199.84		100.02	

PROJECT STATION: 44
 DATE: 11/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 800 Long E 1301
 start stop duration
 TIME :09:07:00 09:37:00 30 (min) Purpose code: 3
 LOG :5161.00 5162.70 1.54 Area code : 2
 FDEPTH: 65 59 GearCond.code:
 BDEPTH: 65 59 Validity code:
 Towing dir: 90° Wire out: 350 m Speed: 29 km*10

Sorted: Kg Total catch: 47.73 CATCH/HOUR: 95.46

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	36.20	795	37.92	93
Pagellus bellottii	21.50	186	22.52	94
Trachurus trecae	12.10	732	12.68	92
Fistularia petimba	6.00	14	6.29	
Trichiurus lepturus	5.70	18	5.97	
Trachurus trecae	3.90	34	4.09	95
Sarda sarda	2.00	2	2.10	
Epinephelus aeneus	1.50	2	1.57	
Alloteuthis africana	1.40	304	1.47	
Lagocephalus laevigatus	1.20	2	1.26	
Dentex barnardi	1.00	8	1.05	
Sphyraena sphyraena	0.50	4	0.54	
Selene dorsalis	0.60	6	0.64	
Zeus faber	0.60	4	0.64	
Dentex congouensis	0.30	2	0.31	
Sardinella aurita	0.08	8	0.08	
Illex coindetii	0.06	2	0.06	
Dibranchius atlanticus	0.02	4	0.02	
Total	95.46		100.01	

PROJECT STATION: 45
 DATE: 11/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 760 Long E 1306
 start stop duration
 TIME :10:20:00 10:53:00 33 (min) Purpose code: 3
 LOG :5166.50 5168.40 1.70 Area code : 2
 FDEPTH: 35 25 GearCond.code:
 BDEPTH: 35 25 Validity code:
 Towing dir: 90° Wire out: 200 m Speed: 30 km*10

Sorted: Kg Total catch: 26.97 CATCH/HOUR: 49.04

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	38.36	5771	78.22	96
Sphyraena guanchancho	7.27	15	14.82	
Sphyraena juveniles	0.91	7	1.86	
Zeus faber	0.82	2	1.67	
Alloteuthis africana	0.82	171	1.67	
Trachurus trecae	0.36	35	0.73	
Engraulis encrasicolus	0.18	20	0.37	
Decapterus rhonchus	0.18	2	0.37	
Selene dorsalis	0.04	2	0.08	
Todaropsis eblanae	0.04	2	0.08	
Trichiurus lepturus	0.04	4	0.08	
Sardinella aurita	0.02	2	0.04	
Pagellus bellottii	0.00	64		
Total	49.04		99.99	

PROJECT STATION: 46
 DATE: 11/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 803 Long E 1311
 start stop duration
 TIME :11:37:00 11:42:00 5 (min) Purpose code: 3
 LOG :5173.90 5174.10 0.20 Area code : 2
 FDEPTH: 14 14 GearCond.code:
 BDEPTH: 14 14 Validity code:
 Towing dir: 150° Wire out: 100 m Speed: 25 km*10

Sorted: 13 Kg Total catch: 13.38 CATCH/HOUR: 160.56

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Drepane africana	32.40	72	20.18	
Pomadasyd jubelini	24.00	84	14.95	
Chaetodipterus lippel	15.60	36	9.72	
Pseudotolithus typus	15.60	12	9.72	
Stromateus fiatola	14.40	12	8.97	
Chloroscombrus chrysurus	10.80	3120	6.72	
Alectis ciliaris	10.80	48	6.72	
Galeodes decadactylus	10.80	36	6.72	
Cynoglossus browni	9.60	12	5.98	
Arius parkii	8.40	24	5.23	
Brachydeuterus auritus	3.60	648	2.24	
Sphyraena guanchancho	2.40	36	1.49	
Trichiurus lepturus	1.20	216	0.75	
Selene dorsalis	0.60	120	0.37	
Sardinella maderensis	0.24	84	0.15	
Engraulis encrasicolus	0.12	24	0.07	
Trachurus trecae	0.00	12		
Ilisa africana	0.00	12		
Total	160.56		100.01	

PROJECT STATION: 47
 DATE: 11/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 809 Long E 1257
 start stop duration
 TIME :16:30:00 17:00:00 30 (min) Purpose code: 3
 LOG :5216.10 5217.10 1.56 Area code : 2
 FDEPTH: 100 99 GearCond.code:
 BDEPTH: 100 99 Validity code:
 Towing dir: 330° Wire out: 500 m Speed: 31 km*10

Sorted: 28 Kg Total catch: 176.50 CATCH/HOUR: 353.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	289.00	8564	76.20	100
Dentex gibbosus	48.00	22	13.60	97
Dentex angolensis	16.00	48	4.53	98
Dentex barnardi	8.00	22	2.27	99
Zeus faber	7.00	20	1.98	
Boops boops	2.00	143	0.57	
Sphyraena sphyraena	0.80	2	0.23	
Uranoscopus cadonati	0.60	2	0.17	
Fistularia petimba	0.60	2	0.17	
Brachydeuterus auritus	0.40	40	0.11	
Anthias anthias	0.40	2	0.11	
Illex coindetii	0.20	10	0.06	
Total	353.00		100.00	

PROJECT STATION: 48
 DATE: 11/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 811 Long E 1247
 start stop duration
 TIME :18:37:00 19:07:00 30 (min) Purpose code: 3
 LOG :5230.00 5231.90 1.90 Area code : 2
 FDEPTH: 239 234 GearCond.code:
 BDEPTH: 239 234 Validity code:
 Towing dir: 160° Wire out: 900 m Speed: 25 km*10

Sorted: Kg Total catch: 29.88 CATCH/HOUR: 59.76

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Chlorophthalmus atlanticus	43.80	5152	73.29	
Parapaneus longirostris	6.90	2956	11.55	102
Synagrops microlepis	3.00	172	5.02	
Trichiurus lepturus	0.90	4	1.51	
OPHIIDIAE	0.80	50	1.34	
Diaphus dumerilii	0.80	320	1.34	
CHLOROPHTHALMIDAE	0.80	76	1.34	
Trachurus trecae	0.70	18	1.17	
Solenocera africana	0.60	84	1.00	101
Merluccius polli	0.40	6	0.67	
Brotula barbata	0.30	2	0.50	
Illex coindetii	0.20	8	0.33	
Todaropsis eblanae	0.16	4	0.27	
NETTASTONATIDAE	0.10	2	0.17	
Coeleorhynchus coeleorhynchus	0.10	8	0.17	
Neomerinthe folgeri	0.06	6	0.13	
OPHICHTHIDAE	0.04	4	0.07	
Shrimps, small, non comm.	0.04	60	0.07	
APOGONIDAE	0.02	14	0.03	
Peristedion cataphractum	0.02	6	0.03	
Zeus faber	0.02	6	0.03	
Total	59.76		100.00	

PROJECT STATION: 49
 DATE:11/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 810
 start stop duration Long E 1243
 TIME :20:05:00 20:35:00 30 (min) Purpose code: 3
 LOG :5237.30 5237.90 1.30 Area code : 2
 FDEPTH: 362 359 GearCond.code:
 BDEPTH: 362 359 Validity code:
 Towing dir: 340° Wire out:1200 m Speed: 25 kn*10

Sorted: Kg Total catch: 326.69 CATCH/HOUR: 653.39

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP.NO.
Nematocarcinus africanus	305.50 64134	46.76	
Merluccius polli	208.00	31.83	
Chlorophthalmus atlanticus	39.00	5.97	
Pterothrissus belloci	26.00	3.98	
Hymenocephalus italicus	22.10	3.38	
OGCOCEPHALIDAE	11.70	1.79	
Laemonema laureysi	10.40	1.59	
Chaunax pictus	9.10	1.39	
OPHICHTHIDAE	5.20	0.80	
Nezumia aequalis	5.20	0.80	
Etmopterus spinax	3.38	0.52	
Todaropsis eblanae	2.60	0.40	
Plesionika martia	2.60	0.40	
NETTASTOMATIDAE	1.30	0.20	
Parapenaeus longirostris	0.52	0.08	
Peristedion cataphractum	0.26	0.04	
Diaphus dumerilli	0.26	0.04	
PENAEIDAE	0.26	0.04	
Total	653.39	100.01	

PROJECT STATION: 50
 DATE:11/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 818
 start stop duration Long E 1318
 TIME :11:55:00 12:25:00 30 (min) Purpose code: 3
 LOG :5385.20 5396.90 1.60 Area code : 2
 FDEPTH: 18 20 GearCond.code:
 BDEPTH: 18 20 Validity code:
 Towing dir: 175° Wire out: 100 m Speed: 31 kn*10

Sorted: 20 Kg Total catch: 126.00 CATCH/HOUR: 252.00

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP.NO.
L.isha africana	122.40 11204	48.57	
Stromateus fiatola	25.00	9.92	105
Sphyrasma guachancho	18.40	7.30	106
Trichurus lepturus	16.00	6.35	
Alectis alexandrinus	14.60	5.79	
Pseudotolithus senegalensis	6.60	2.62	
Pteroscion peli	6.40	2.54	
Sardinella maderensis	6.00	2.38	107
Selene dorsalis	5.60	2.22	
Galeoides decadactylus	5.00	1.98	
Scomberomorus tritor	4.60	1.83	
Brachydeuterus auritus	4.00	1.59	
Orcpane africana	3.40	1.35	
Chloroscombrus chrysurus	3.20	1.27	
Chloroscombrus chrysurus	2.40	0.95	
Pseudotolithus typus	2.20	0.87	
Trichurus lepturus	1.80	0.71	
Sepia officinalis hierredda	1.60	0.63	
Pteromylaeus bovinus	1.40	0.56	
Panulirus regius	1.00	0.40	
Sardinella maderensis	0.40	0.16	
Total	252.00	99.99	

PROJECT STATION: 51
 DATE:11/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 825
 start stop duration Long E 1316
 TIME :13:26:00 13:57:00 31 (min) Purpose code: 3
 LOG :5405.70 5407.00 1.57 Area code : 2
 FDEPTH: 33 31 GearCond.code:
 BDEPTH: 33 31 Validity code:
 Towing dir: ° Wire out: 150 m Speed: 30 kn*10

Sorted: 39 Kg Total catch: 39.39 CATCH/HOUR: 76.24

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP.NO.
Sphyrasma guachancho	15.48 62	20.30	
Dentex barnardi	11.61 29	15.23	109
Brachydeuterus auritus	8.13 783	10.66	
Pseudotolithus senegalensis	7.74 4	10.15	
Pomadasys jubelini	7.35 10	9.64	
Galeoides decadactylus	4.84 37	6.35	
Pomadasys perolei	4.84 12	6.35	
Rhizoprionodon acutus	3.87 2	5.08	
Selene dorsalis	3.68 141	4.83	111
Trichurus lepturus	1.94 213	2.54	
L.isha africana	1.35 50	1.77	
Sparus caeruleostictus	1.35 4	1.77	
Stromateus fiatola	1.16 6	1.52	
Lithognathus mornyus	0.77 2	1.01	
Pagellus bellottii	0.77 4	1.01	
Engraulis encrasicolus	0.58 108	0.76	
Sardinella maderensis	0.58 48	0.76	
Chloroscombrus chrysurus	0.10 2	0.13	
Trachurus trecae	0.04 4	0.05	
Decapterus rhonchus	0.04 2	0.05	
Total	76.22	99.96	

PROJECT STATION: 52
 DATE:11/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 826
 start stop duration Long E 1311
 TIME :14:51:00 15:21:00 30 (min) Purpose code: 3
 LOG :5414.20 5415.50 1.53 Area code : 2
 FDEPTH: 62 60 GearCond.code:
 BDEPTH: 62 60 Validity code:
 Towing dir: ° Wire out: 300 m Speed: 32 kn*10

Sorted: 57 Kg Total catch: 743.70 CATCH/HOUR: 1487.40

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP.NO.
Brachydeuterus auritus	1240.00 11958	83.87	115
Trachurus trecae	75.00 1150	5.04	116
Pagellus bellottii	56.30 396	3.76	112
Chloroscombrus chrysurus	32.50	2.19	
Trichurus lepturus	30.00	2.02	
Fistularia petimba	15.00	1.01	
Sphyrasma guachancho	11.00	0.74	114
Lagocephalus laevigatus	10.00	0.67	
Selene dorsalis	10.00	0.67	
Dentex barnardi	4.00	0.27	113
Zeus faber	2.50	0.17	
Pterothrissus belloci	1.00	0.07	
Sparus caeruleostictus	0.40	0.03	
Total	1487.40	100.01	

PROJECT STATION: 53
 DATE:11/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 827
 start stop duration Long E 1303
 TIME :16:31:00 17:01:00 30 (min) Purpose code: 3
 LOG :5425.20 5426.20 1.59 Area code : 2
 FDEPTH: 102 104 GearCond.code:
 BDEPTH: 102 104 Validity code:
 Towing dir: ° Wire out: 500 m Speed: 31 kn*10

Sorted: 29 Kg Total catch: 204.80 CATCH/HOUR: 409.20

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP.NO.
Trachurus trecae	938.40 9768	82.70	120
Umbra canariensis	25.00	6.11	119
Trichurus lepturus	12.00	2.49	
Dentex angolensis	11.00	2.69	117
Dentex barnardi	5.00	1.22	121
Dentex macrophthalmus	4.00	0.98	118
Branchiostegus semifasciatus	3.40	0.83	
Fistularia petimba	2.60	0.68	
Illex coindetii	2.40	0.59	
Attractoscopus aequidens	1.60	0.44	
Pterothrissus belloci	1.20	0.29	
Torpedo torpedo	1.00	0.24	
Pagellus bellottii	0.30	0.20	
Zeus faber	0.40	0.10	
Total	409.20	100.00	

PROJECT STATION: 54
 DATE:11/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 828
 start stop duration Long E 1256
 TIME :18:37:00 19:07:00 30 (min) Purpose code: 3
 LOG :5438.70 5439.60 1.50 Area code : 2
 FDEPTH: 201 199 GearCond.code:
 BDEPTH: 201 199 Validity code:
 Towing dir: 330° Wire out: 800 m Speed: 26 kn*10

Sorted: Kg Total catch: 64.55 CATCH/HOUR: 129.10

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP.NO.
Synagrops microlepis	42.80 1546	33.15	
Pterothrissus belloci	40.00	30.98	
Brotula barbata	12.20	9.45	
OPHICHTHIDAE	7.40 248	5.73	
Merluccius polli	6.60 80	5.11	
Trichurus lepturus	6.00 40	4.65	
Chelidomichthys capensis	4.00 44	3.10	
Dentex angolensis	2.20 8	1.70	
Parapenaeus longirostris	1.66 182	1.29	
Chlorophthalmus atlanticus	1.60 112	1.24	
Syacium micrurum	1.40 55	1.03	
NETTASTOMATIDAE	1.00 16	0.77	
Nezumia aequalis	0.80 32	0.62	
Miracarvina angolensis	0.60 4	0.46	
Todaropsis eblanae	0.40 16	0.31	
Zenopsis conchifer	0.12 8	0.09	
Shrimps, small, non comm.	0.08 124	0.06	
MORIDAE	0.08 24	0.06	
Trachurus trecae	0.08 4	0.06	
Illex coindetii	0.08 4	0.06	
Total	129.10	99.97	

PROJECT STATION: 55
 DATE:11/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 828
 start stop duration Long E 1253
 TIME :20:00:00 20:30:00 30 (min) Purpose code: 3
 LOG :5444.60 5445.40 1.50 Area code : 2
 FDEPTH: 310 299 GearCond.code:
 BDEPTH: 310 299 Validity code:
 Towing dir: 340° Wire out:1000 m Speed: 29 kn*10

Sorted: Kg Total catch: 211.19 CATCH/HOUR: 422.38

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP.NO.
Merluccius polli	172.20 798	40.77	
Chlorophthalmus atlanticus	155.40 3274	36.79	
Synagrops microlepis	42.00 1448	9.94	
Shrimps, small, non comm.	14.00 6720	3.31	
Pterothrissus belloci	14.00 84	3.31	
Parapenaeus longirostris	6.30 602	1.48	
Diaphus dumerilli	6.30 3150	1.49	
Zenopsis conchifer	5.60 28	1.33	
Laemonema laureysi	4.20 42	0.99	
Solenocera africana	1.40 210	0.33	
Lophius willantii	0.28 14	0.07	
Hymenocephalus italicus	0.28 70	0.07	
Peristedion cataphractum	0.14 28	0.03	
Homierinthe folgori	0.14 14	0.03	
APOGONIDAE	0.14 14	0.03	
Total	422.38	99.98	

PROJECT STATION: 56
 DATE:12/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 829 Long E 1252
 start stop duration
 TIME :21:40:00 22:10:00 30 (min) Purpose code: 3
 LOG :5452.00 5452.90 1.60 Area code : 2
 FDEPTH: 393 381 GearCond.code:
 BDEPTH: 393 381 Validity code:
 Towing dir: 339° Wire out:1200 m Speed: 27 km*10

Sorted: 35 Kg Total catch: 770.44 CATCH/HOUR: 1540.88

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Merluccius polli, female	644.40	2024	41.82	126
Nematocarcinus africanus	457.60	128960	29.70	
Merluccius polli, male	352.00	1964	22.84	125
Chaunax pictus	22.00	396	1.43	
Dibranchius atlanticus	22.00	2244	1.43	
Laemonema laureysi	13.20	88	0.86	
Deepwater fish mixture	4.40	792	0.29	
Etmopterus spinax	4.40	308	0.29	
Hymnocephalus italicus	0.44	44	0.03	
Chlorophthalmus atlanticus	0.44	44	0.03	
Total	1520.88		98.72	

PROJECT STATION: 57
 DATE:12/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 827 Long E 1248
 start stop duration
 TIME :23:10:00 23:45:00 35 (min) Purpose code: 3
 LOG :5457.90 5458.40 1.50 Area code : 2
 FDEPTH: 502 466 GearCond.code:
 BDEPTH: 502 466 Validity code:
 Towing dir: 330° Wire out:1450 m Speed: 25 km*10

Sorted: 26 Kg Total catch: 138.25 CATCH/HOUR: 237.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Nematocarcinus africanus	137.14	30477	57.86	
Triplophos sp.	38.57	6991	16.27	
MELANOSTOMIATIDAE	18.00	351	7.59	
Merluccius polli, female	12.69	29	5.35	128
Lamprogrammus exultans	6.00	334	2.53	
Merluccius polli, male	4.80	12	2.09	127
Xenodermichthys socialis	4.20	197	1.81	
Chlorophthalmus atlanticus	3.43	60	1.45	
Dibranchius atlanticus	3.43	577	1.45	
Hoplostethus mediterraneus	1.71	77	0.72	
Brosimolus imberbis *	1.71	94	0.72	
Aristeus varidens	0.86	129	0.36	
Xenomystax sp.	0.86	43	0.36	
Trichiurus lepturus	0.86	17	0.36	
Etmopterus spinax	0.86	34	0.36	
Chaunax pictus	0.43	9	0.18	
Varela blackfordi	0.43	9	0.18	
Menichthys scolopacea	0.43	17	0.18	
Malacocephalus occidentalis	0.34	2	0.14	
Laemonema laureysi	0.17	2	0.07	
Ebinania costaecanarie	0.00	9		
Solenocera africana	0.00	9		
Stereomastis sculpta	0.00	17		
Total	237.01		99.97	

PROJECT STATION: 58
 DATE:13/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 840 Long E 1307
 start stop duration
 TIME :10:00:00 10:30:00 30 (min) Purpose code: 1
 LOG :5562.50 5564.10 1.60 Area code : 2
 FDEPTH: 88 97 GearCond.code:
 BDEPTH: 88 97 Validity code:
 Towing dir: 270° Wire out: 400 m Speed: 29 km*10

Sorted: 38 Kg Total catch: 1601.80 CATCH/HOUR: 3203.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Selene dorsalis	962.80	4346	30.05	131
Brachydeuterus auritus	792.40	4942	24.73	130
Trichiurus lepturus	681.60	2386	21.28	
Trachurus trecae	409.00	6985	12.77	129
Decapterus rhonchus	357.80	512	11.17	
Total	3203.60		100.00	

PROJECT STATION: 59
 DATE:13/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 839 Long E 1318
 start stop duration
 TIME :12:27:00 12:57:00 30 (min) Purpose code: 3
 LOG :5581.50 5583.00 1.50 Area code : 2
 FDEPTH: 30 39 GearCond.code:
 BDEPTH: 30 39 Validity code:
 Towing dir: 280° Wire out: 150 m Speed: 31 km*10

Sorted: 24 Kg Total catch: 202.81 CATCH/HOUR: 405.62

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	329.00	32666	81.11	
Sphyræna guachancho	26.00	74	6.41	132
Galeoides decadactylus	12.00	22	2.96	
Scomberomorus tritor	10.00	4	2.47	
Sardinella maderensis	7.40	40	1.82	134
Pagellus bellottii	7.00	44	1.73	133
Trichiurus lepturus	2.00	42	0.69	
Pseudotolithus senegalensis	2.00	14	0.69	
Pteroscion peli	2.00	126	0.69	
Epinephelus aeneus	1.60	2	0.39	
Selene dorsalis	1.40	56	0.35	
Chloroscombrus chrysurus	1.40	56	0.35	
Sepia officinalis hierredda	1.00	2	0.25	
Penaeus notialis	0.28	28	0.07	
Pegusa lascaris	0.14	14	0.03	
Total	405.62		100.01	

PROJECT STATION: 60
 DATE:13/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 839 Long E 1314
 start stop duration
 TIME :13:33:00 14:03:00 30 (min) Purpose code: 3
 LOG :5586.50 5588.00 1.50 Area code : 2
 FDEPTH: 56 56 GearCond.code:
 BDEPTH: 56 56 Validity code:
 Towing dir: * Wire out: 300 m Speed: 30 km*10

Sorted: 28 Kg Total catch: 1204.00 CATCH/HOUR: 2408.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	1596.00	19850	66.28	139
Trachurus trecae	266.00	6460	11.05	140
Chloroscombrus chrysurus	243.20	3192	10.10	141
Pomadoury jubelini	101.60	176	4.22	135
Sphyræna guachancho	42.00	90	1.74	136
Trichiurus lepturus	40.40	78	1.68	
Pagellus bellottii	30.60	146	1.28	137
Selene dorsalis	30.40	456	1.26	
Galeoides decadactylus	29.80	50	1.24	138
Pomadoury incisus	15.20	76	0.63	
Atractoscion aequidens	6.60	10	0.27	
Pseudotolithus senegalensis	2.20	2	0.09	
Argyrosomus hololepidotus	1.40	2	0.06	
Raja miraletus	1.40	2	0.06	
Dentex barnardi	1.00	4	0.04	
Total	2408.00		100.00	

PROJECT STATION: 61
 DATE:13/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 842 Long E 1311
 start stop duration
 TIME :15:25:00 15:56:00 31 (min) Purpose code: 3
 LOG :5597.30 5599.10 1.56 Area code : 2
 FDEPTH: 70 73 GearCond.code:
 BDEPTH: 70 73 Validity code:
 Towing dir: 325° Wire out: 350 m Speed: 30 km*10

Sorted: 61 Kg Total catch: 2504.60 CATCH/HOUR: 4947.61

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	2383.20	25221	69.79	145
Selene dorsalis	779.61	4339	16.08	146
Trichiurus lepturus	323.61	557	6.68	
Trachurus trecae	290.32	1086	5.99	144
Atractoscion aequidens	38.71	21	0.80	143
Pagellus bellottii	18.19	134	0.38	142
Sepia officinalis hierredda	3.87	2	0.08	
Pterothrissus belloci	3.69	74	0.08	
Decapterus rhonchus	2.93	4	0.06	
Dentex barnardi	2.52	8	0.05	
Lithognathus mormyrus	0.97	2	0.02	
Total	4947.61		100.01	

PROJECT STATION: 62
 DATE:13/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 845 Long E 1309
 start stop duration
 TIME :17:11:00 17:41:00 30 (min) Purpose code: 3
 LOG :5608.90 5610.20 1.50 Area code : 2
 FDEPTH: 76 75 GearCond.code:
 BDEPTH: 76 75 Validity code:
 Towing dir: * Wire out: 350 m Speed: 29 km*10

Sorted: 32 Kg Total catch: 271.26 CATCH/HOUR: 542.52

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	324.00	3712	59.72	148
Trichiurus lepturus	128.00	224	23.59	
Trachurus trecae	64.80	1104	11.94	147
Squatina oculata	10.90	2	2.01	
Sepia officinalis hierredda	4.30	2	0.79	
Dentex canariensis	3.30	2	0.61	
Epinephelus aeneus	2.00	2	0.37	
Pterothrissus belloci	1.60	32	0.29	
Pagellus bellottii	1.60	8	0.29	
Umbra canariensis	1.00	2	0.18	
Dentex barnardi	1.70	2	0.13	
Alloteuthis africana	3.16	224	0.03	
Saurida brasiliensis	3.16	48	0.03	
Total	542.52		99.98	

PROJECT STATION: 63
 DATE:14/ 5/91 GEAR TYPE: PT No:2 POSITION:Lat S 910 Long E 1251
 start stop duration
 TIME :05:26:00 05:47:00 21 (min) Purpose code: 1
 LOG :5726.10 5727.10 1.00 Area code : 2
 FDEPTH: 20 66 GearCond.code:
 BDEPTH: 20 70 Validity code:
 Towing dir: 320° Wire out: 50 m Speed: 31 km*10

Sorted: 4 Kg Total catch: 4.10 CATCH/HOUR: 11.71

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Sphyræna guachancho	5.14	6	43.89	152
Sardinella maderensis	3.71	20	31.68	
Sardinella aurita	1.43	6	12.21	150
Selene dorsalis	1.43	9	12.21	151
Sardinella maderensis	0.00			
Total	11.71		95.99	

PROJECT STATION: 64
 DATE: 14/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 912 Long E 1251
 start stop duration
 TIME :07:25:00 07:57:00 32 (min) Purpose code: 1
 LOG :5740.80 5742.50 1.70 Area code : 2
 FDEPTH: 70 62 GearCond.code:
 BDEPTH: 70 62 Validity code:
 Towing dir: 154° Wire out: 350 m Speed: 28 kn*10
 Sorted: 65 Kg Total catch: 659.50 CATCH/HOUR: 1236.56

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	626.25	10800	50.64	155
Brachydeuterus auritus	337.50	6131	27.29	156
Pagellus bellottii	223.13	1931	18.04	154
Selene dorsalis	41.25	281	3.34	153
Trichiurus lepturus	5.63	94	0.46	
Atractoscion aequidens	2.25	2	0.18	
Boops boops	0.38	19	0.03	
Alloteuthis africana	0.19	394	0.02	
Total	1236.58		100.00	

PROJECT STATION: 65
 DATE: 14/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 838 Long E 1310
 start stop duration
 TIME :16:58:00 17:28:00 30 (min) Purpose code: 3
 LOG :5834.20 5835.90 1.60 Area code : 2
 FDEPTH: 76 74 GearCond.code:
 BDEPTH: 76 74 Validity code:
 Towing dir: 10° Wire out: 400 m Speed: 32 kn*10
 Sorted: 60 Kg Total catch: 303.60 CATCH/HOUR: 607.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichiurus lepturus	300.00	700	49.37	
Brachydeuterus auritus	185.00	1536	30.45	157
Trachurus trecae	97.00	720	15.96	158
Selene dorsalis	12.00	50	1.97	
Lagodon rhomboides	7.20	10	1.18	
Atractoscion aequidens	3.60	2	0.59	
Pagellus bellottii	3.00	10	0.49	
Total	607.80		100.01	

PROJECT STATION: 66
 DATE: 15/ 5/91 GEAR TYPE: PT No:4 POSITION: Lat S 833 Long E 1310
 start stop duration
 TIME :02:27:00 03:26:00 59 (min) Purpose code: 1
 LOG :5928.50 5931.30 2.80 Area code : 2
 FDEPTH: 70 20 GearCond.code:
 BDEPTH: 73 63 Validity code:
 Towing dir: 60° Wire out: 100 m Speed: 28 kn*10
 Sorted: 58 Kg Total catch: 1018.10 CATCH/HOUR: 1035.35

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Sardinella aurita	381.36	1480	36.83	160
Chloroscombrus chrysurus	343.22	4228	39.15	162
Euthynnus alletteratus	153.66	67	14.84	159
Trichiurus lepturus	67.12	153	6.48	
Selene dorsalis	34.58	473	3.34	
Brachydeuterus auritus	21.36	214	2.06	
Sardinella maderensis	21.36	153	2.06	161
Trachurus trecae	12.20	61	1.18	
Total	1034.86		99.54	

PROJECT STATION: 67
 DATE: 15/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 830 Long E 1304
 start stop duration
 TIME :07:30:00 08:04:00 34 (min) Purpose code: 3
 LOG :5969.80 5970.90 1.60 Area code : 2
 FDEPTH: 102 102 GearCond.code:
 BDEPTH: 102 102 Validity code:
 Towing dir: 350° Wire out: 500 m Speed: 30 kn*10
 Sorted: 62 Kg Total catch: 2002.00 CATCH/HOUR: 3532.94

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Selene dorsalis	1671.53	7906	47.31	165
Trichiurus lepturus	954.35	3411	27.91	
Trachurus trecae	564.71	1864	15.98	166
Trachurus juveniles	248.47	9092	7.93	164
Zeus faber	42.35	56	1.20	
Atractoscion aequidens	28.24	56	0.46	
Dentex angolensis	16.41	51	0.09	163
Dentex gibbosus	3.18	2	0.09	
Dentex macrophthalmus	1.41	5	0.04	
Dentex barnardi	1.41	5	0.04	
Pagellus bellottii	0.88	2	0.02	
Total	3532.94		99.98	

PROJECT STATION: 68
 DATE: 15/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 822 Long E 1302
 start stop duration
 TIME :09:08:00 09:38:00 30 (min) Purpose code: 3
 LOG :5977.10 5978.50 1.40 Area code : 2
 FDEPTH: 106 105 GearCond.code:
 BDEPTH: 106 105 Validity code:
 Towing dir: 350° Wire out: 500 m Speed: 23 kn*10
 Sorted: 33 Kg Total catch: 792.65 CATCH/HOUR: 1585.70

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Selene dorsalis	697.00	4462	56.57	167
Trachurus trecae	506.00	9338	31.91	168
Trichiurus lepturus	119.60	276	7.54	
Ubrina canariensis	21.80	36	1.37	169
Dentex gibbosus	14.80	6	0.93	
Dentex angolensis	7.00	42	0.44	170
Atractoscion aequidens	5.10	10	0.32	
Illex coindetii	4.60	92	0.29	
Dentex barnardi	4.00	12	0.25	
Dentex macrophthalmus	2.70	16	0.17	
Epinephelus goreensis	2.30	2	0.15	
Pagellus bellottii	0.80	4	0.05	
Alloteuthis africana	0.00	46		

PROJECT STATION: 69
 DATE: 15/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 815 Long E 1306
 start stop duration
 TIME :10:45:00 11:15:00 30 (min) Purpose code: 3
 LOG :5986.70 5988.60 1.60 Area code : 2
 FDEPTH: 70 63 GearCond.code:
 BDEPTH: 70 63 Validity code:
 Towing dir: 40° Wire out: 350 m Speed: 27 kn*10
 Sorted: 24 Kg Total catch: 263.00 CATCH/HOUR: 526.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichiurus lepturus	232.00	1200	44.11	
Brachydeuterus auritus	147.00	2900	27.95	172
Trachurus trecae	52.00	920	9.89	173
Selene dorsalis	50.00	500	9.51	174
Pagellus bellottii	28.40	218	5.40	4
Atractoscion aequidens	3.40	2	0.65	
Zeus faber	3.40	2	0.65	
Raja miraletus	2.30	4	0.44	
Dentex barnardi	2.20	8	0.42	
Dentex angolensis	1.90	8	0.36	
Sepia officinalis hierredda	1.20	2	0.23	
Engraulis encrasicolus	1.00	60	0.19	
Alloteuthis africana	1.00	200	0.19	
Illex coindetii	0.20	20	0.04	
Total	526.00		100.03	

PROJECT STATION: 70
 DATE: 15/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 812 Long E 1259
 start stop duration
 TIME :12:28:10 12:57:00 29 (min) Purpose code: 3
 LOG :5997.40 5999.30 1.59 Area code : 2
 FDEPTH: 100 96 GearCond.code:
 BDEPTH: 100 96 Validity code:
 Towing dir: 10° Wire out: 500 m Speed: 30 kn*10
 Sorted: 15 Kg Total catch: 94.55 CATCH/HOUR: 195.62

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	83.17	2065	42.52	180
Dentex barnardi	30.62	72	15.65	177
Atractoscion aequidens	25.66	25	13.12	175
Dentex gibbosus	14.90	19	7.62	176
Pagellus bellottii	11.38	112	5.82	179
Dentex angolensis	9.10	41	4.65	178
Boops boops	4.97	217	2.54	
Brachydeuterus auritus	4.34	31	2.22	
Fistularia petimba	4.14	12	2.12	
Ubrina canariensis	2.69	6	1.38	
Dentex macrophthalmus	2.48	12	1.27	
Alloteuthis africana	0.62	310	0.32	
Illex coindetii	0.62	37	0.32	
Zeus faber	0.62	6	0.32	
Sardinella aurita	0.31	6	0.16	
Total	195.52		100.03	

PROJECT STATION: 71
 DATE: 15/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 813 Long E 1246
 start stop duration
 TIME :14:56:00 15:26:00 30 (min) Purpose code: 3
 LOG :6015.80 6017.00 1.60 Area code : 2
 FDEPTH: 323 322 GearCond.code:
 BDEPTH: 323 322 Validity code:
 Towing dir: 340° Wire out: 1050 m Speed: 31 kn*10
 Sorted: 41 Kg Total catch: 424.50 CATCH/HOUR: 849.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Chlorophthalmus atlanticus	360.00	7470	42.40	
Synagrops microlepis	302.40	15482	35.62	
Merluccius polli, male	120.00	696	14.13	181
Nematocarcinus africanus	24.00	6720	2.83	
Leomonema laureysi	9.60	108	1.13	
Pterothrissus belloci	7.20	24	0.85	
Zenopsis conchifer	7.20	48	0.85	
MYCTOPHIDAE	4.80	2496	0.57	
Illex coindetii	3.60	48	0.42	
Merluccius polli, female	3.00	24	0.35	182
Hymenocephalus italicus	2.40	240	0.28	
Malacocephalus occidentalis	2.40	264	0.26	
Parapanaeus longirostris	0.96	216	0.11	
Solenocera africana	0.72	168	0.08	
Benthodesmus tenuis	0.72	52	0.08	
Plesionika martia	0.00	24		
Total	849.00		99.93	

PROJECT STATION: 72
 DATE: 15/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 812 Long E 1242
 start stop duration
 TIME :16:18:00 16:48:00 30 (min) Purpose code: 3
 LOG :6021.10 6022.30 1.60 Area code : 2
 FDEPTH: 421 427 GearCond.code:
 BDEPTH: 421 427 Validity code:
 Towing dir: 42° Wire out: 1200 m Speed: 33 kn*10
 Sorted: 82 Kg Total catch: 582.60 CATCH/HOUR: 1965.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Merluccius polli, female	732.00	2328	37.25	184
Merluccius polli, male	732.00	3264	37.25	183
Nematocarcinus africanus	456.00	90060	23.20	
Scorpaena sp.	9.60	216	0.49	
Chauliognathus	7.20	180	0.37	
Brosimiculus timberbis *	4.80	120	0.24	
Etmopterus spinax	4.80	144	0.24	
Coelionchus coelionchus	4.80	24	0.12	
Halosaurus oventis	2.40	72	0.12	
Varela blackfordi	2.40	72	0.12	
Triplophos sp.	2.40	216	0.12	
Galeus polli	2.40	24	0.12	
Malacocephalus occidentalis	2.40	24	0.12	
Raja sp.	2.00	2	0.10	
Illex coindetii	1.20	24	0.06	
Dibranchius atlanticus	0.96	216	0.05	
Xenodermichthys socialis	0.24	96	0.01	
Solenocera africana	0.00	48		
Total	1967.60		100.10	

PROJECT STATION: 73
 DATE: 15/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 810 Long E 1239
 start stop duration
 TIME :17:42:00 18:14:00 32 (min) Purpose code: 3
 LOG :6025.60 6027.10 1.70 Area code : 2
 FDEPTH: 520 532 GearCond.code:
 BDEPTH: 520 532 Validity code:
 Towing dir: * Wire out:1500 m Speed: 30 km*10
 Sorted: 31 Kg Total catch: 123.20 CATCH/HOUR: 231.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
OPHIDIIDAE	87.38		37.89	
Nematocarcinus africanus	83.25		36.04	
Merluccius polli	27.75	68	12.01	
GONOSTOMATIDAE	13.88		6.01	
Hoplostethus cadenati	9.00	270	3.90	
Lophius vaillanti	4.50	53	1.95	
UNIDENTIFIED FISH	1.50	590	0.65	
Laemonema laureysi	1.50	30	0.65	
Aristeus varidens	0.75	135	0.32	
Etmopterus spinax	0.75	8	0.32	
Aristeus varidens	0.15	15	0.05	
Loligo sp.	0.15	15	0.05	
Ariomma bondi	0.15	3	0.06	
Synagrops microlepis	0.15	3	0.05	
C E P H A L O P O D A	0.08	8	0.03	
Pontinus kuhlii	0.08	3	0.03	
Total	231.02		99.98	

PROJECT STATION: 74
 DATE: 15/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 307 Long E 1239
 start stop duration
 TIME :19:05:00 19:35:00 30 (min) Purpose code: 3
 LOG :6029.70 6031.00 1.30 Area code : 2
 FDEPTH: 470 478 GearCond.code:
 BDEPTH: 470 478 Validity code:
 Towing dir: 35d* Wire out:1300 m Speed: 22 km*10
 Sorted: 27 Kg Total catch: 222.06 CATCH/HOUR: 444.12

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Merluccius polli, male	171.20	624	38.55	183
Merluccius polli, female	128.80	460	25.00	
Nematocarcinus africanus	115.20	36480	25.94	
Centrotherus granulosus	10.20	2	2.30	
Lophius vaillanti	8.00	16	1.80	
Laemonema laureysi	7.20	592	1.62	
UNIDENTIFIED FISH	3.20	448	0.72	
Aristeus varidens	0.32	96	0.07	
Total	444.12		100.00	

PROJECT STATION: 75
 DATE: 15/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 805 Long E 1239
 start stop duration
 TIME :20:35:00 21:07:00 32 (min) Purpose code: 3
 LOG :6035.20 6036.50 1.60 Area code : 2
 FDEPTH: 375 375 GearCond.code:
 BDEPTH: 375 375 Validity code:
 Towing dir: 165* Wire out:1100 m Speed: 27 km*10
 Sorted: 56 Kg Total catch: 1008.72 CATCH/HOUR: 1891.35

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Nematocarcinus africanus	878.38	123803	35.87	
Merluccius polli, female	555.19	2228	29.35	106
Merluccius polli, male	445.50	2194	23.55	185
Laemonema laureysi	57.38	776	3.03	
Lophius vaillanti	57.38	6407	3.03	
Hymenocephalus italicus	47.93	4108	2.53	
Chaunax pictus	21.94	371	1.16	
Pterothrissus belloci	10.13	34	0.54	
Etmopterus spinax	10.13	236	0.54	
PORTUNIDAE	3.38	34	0.16	
UNIDENTIFIED FISH	3.38	1451	0.18	
Solenocera africana	0.34	34	0.02	
Aristeus varidens	0.34	34	0.02	
Total	1891.40		100.00	

PROJECT STATION: 76
 DATE: 16/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 817 Long E 1317
 start stop duration
 TIME :01:08:00 02:10:00 62 (min) Purpose code: 1
 LOG :6072.50 6073.50 1.00 Area code : 2
 FDEPTH: 17 17 GearCond.code:
 BDEPTH: 17 17 Validity code:
 Towing dir: 170* Wire out: 100 m Speed: 30 km*10
 Sorted: 54 Kg Total catch: 242.50 CATCH/HOUR: 234.68

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Galeoides decadactylus	36.00	159	15.34	
Pentaneus quinquarius	31.74		13.52	
Pseudolithus elongatus	23.61		10.08	
Ilisha africana	18.97		8.08	190
Sphyræna guachancho	17.42	66	7.42	191
Pomadasy Juhelini	15.48	70	6.60	189
Pseudolithus typus	14.23	8	6.06	188
Pseudolithus senegalensis	9.00	10	3.84	187
Ephippion guttifer	7.36	4	3.13	
Dasyatis margarita	5.37	12	2.97	
Drepane africana	5.19	4	2.64	
Pomadasy rogeri	5.01	8	2.48	
Pomadasy incisus	5.01	85	2.48	
Torpedo nobiliana	5.42	35	2.31	
Brachydeuterus auritus	5.42	143	2.31	
Cynoglossus canariensis	5.03	35	2.14	
Pseudolithus senegalensis	3.87	58	1.65	
Parakuhlia macrophthalmus	3.87	70	1.65	
Dicologlossa cuneata	2.71	50	1.15	
Lithognathus mormyrus	1.94	8	0.83	
Arius heudeloti	1.55	4	0.66	
Parapeneopsis atlantica	1.55	275	0.66	
Panulirus regius	1.45	4	0.62	
Sparus caeruleostictus	1.16	4	0.49	
Trichiurus lepturus	0.77	15	0.33	
Ubrina canariensis	0.77	4	0.33	
Chloroscombrus chrysurus	0.19	6	0.08	
Pseudupeneus prayensis	0.19	4	0.08	
Portunus validus	0.19	4	0.08	
Engraulis encrasicolus	0.00	4		
Selene corsalis	0.00	19		
Sardinella maderensis	0.00	4		
Total	234.66		99.99	

PROJECT STATION: 77
 DATE: 16/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 824 Long E 1319
 start stop duration
 TIME :06:08:00 06:38:00 30 (min) Purpose code: 3
 LOG :6080.00 6081.30 2.00 Area code : 2
 FDEPTH: 23 29 GearCond.code:
 BDEPTH: 23 29 Validity code:
 Towing dir: 150* Wire out: 100 m Speed: 37 km*10
 Sorted: 17 Kg Total catch: 99.19 CATCH/HOUR: 198.26

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Ilisha africana	54.00	718	27.24	192
Galeoides decadactylus	31.80	130	16.04	194
Sphyræna guachancho	22.30	88	11.25	197
Pteroniscus peli	14.10	532	7.11	
Myliobatis aquila	9.70	2	4.89	
Brachydeuterus auritus	7.50	954	3.78	193
Trichiurus lepturus	7.20	444	3.63	
Pentaneus quinquarius	6.20	92	3.13	
Pomadasy percteti	6.10	22	3.08	
Chloroscombrus chrysurus	5.70	618	2.88	195
Chloroscombrus chrysurus	5.10	66	2.57	
Cynoglossus canariensis	3.40	14	1.71	
Sardinella maderensis	2.70	150	1.36	196
Parapeneopsis atlantica	2.10	540	1.06	
Arius parkii	2.10	4	1.06	
Pisodonophis semicinctus	2.00	4	1.01	
Leptocharias smithii	2.00	2	1.01	
Alectis alexandrinus	2.00	6	1.01	
Pseudolithus typus	1.90	4	0.96	
Lagocephalus laevigatus	1.50	2	0.76	
Drepane africana	1.50	6	0.76	
Eucinostomus melanopterus	1.20	12	0.61	
Pomadasy incisus	1.20	5	0.61	
Panulirus regius	1.00	2	0.50	
Dicologlossa cuneata	0.90	12	0.45	
Dasyatis margarita	0.50	2	0.25	
Penaeus notialis	0.40	10	0.20	
Engraulis encrasicolus	0.06	18	0.03	
Alectis alexandrinus	0.00	18		
Total	198.16		98.95	

PROJECT STATION: 78
 DATE:16/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 824 Long E 1311
 start stop duration
 TIME :07:50:00 08:24:00 34 (min) Purpose code: 3
 LOG :6091.90 6092.80 1.30 Area code : 2
 FDEPTH: 58 63 GearCond.code:
 BDEPTH: 58 63 Validity code:
 Towing dir: 255° Wire out: 250 m Speed: 27 kn*10

Sorted: Kg Total catch: 277.50 CATCH/HOUR: 489.71

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	158.82	7110	32.43	
Brotula barbata	42.35	42	8.65	
Pteroscion pelli	41.29	964	8.43	
Pomadasys jubelini	27.53	42	5.62	
Citharus linguatula	25.94	678	5.30	
Umbriina canariensis	23.29	159	4.76	
Trichiurus lepturus	19.06	64	3.89	
Atractoscion aequidens	18.53	21	3.78	
Raja miraletus	18.53	32	3.78	
Chloroscombrus chrysurus	17.47	265	3.57	
Vanstraelenia chirophthalmus	16.94	201	3.46	
Pageillus bellottii	14.82	64	3.03	
Miracorvina angoliensis	12.71	74	2.60	
Pseudotolithus senegalensis	9.53	11	1.95	
Torpedo torpedo	7.41	53	1.51	
Pomadasys incisus	5.29	21	1.08	
Dentex barnardi	5.29	53	1.08	
Galeoides decadactylus	4.76	127	0.97	
ETERENCHELYDAE	4.24	32	0.87	
GOBIIDAE	4.24	493	0.87	
Ilisha africana	3.71	74	0.76	
Branchiostegus semifasciatus	3.18	11	0.65	
Penaeus notialis	1.06	95	0.22	
Callappa pelli	1.06	21	0.22	
MORIDAE	0.64	42	0.13	
Parapenaeopsis atlantica	0.53	64	0.11	
Grammolites gruvelli	0.53	95	0.11	
Decapterus rhonchus	0.53	11	0.11	
Scuilla cadenati	0.21	11	0.04	
ANTENNAIIDAE	0.11	11	0.02	
Engraulis encrasicolus	0.11	11	0.02	
Total	489.71		100.02	

PROJECT STATION: 79
 DATE:16/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 833 Long E 1310
 start stop duration
 TIME :09:15:00 09:45:00 30 (min) Purpose code: 3
 LOG :6089.00 6099.90 1.70 Area code : 2
 FDEPTH: 73 76 GearCond.code:
 BDEPTH: 73 76 Validity code:
 Towing dir: 182° Wire out: 350 m Speed: 32 kn*10

Sorted: 29 Kg Total catch: 252.19 CATCH/HOUR: 504.38

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	369.60	9294	73.29	199
Trichiurus lepturus	85.60	384	16.97	
Atractoscion aequidens	15.70	12	3.11	
Pageillus bellottii	12.30	60	2.44	199
Selene dorsalis	8.60	112	1.74	
Vanstraelenia chirophthalmus	3.20	32	0.63	
Sarda sarda	2.00	2	0.40	
Sphyræna guanchancho	1.90	4	0.38	
Stromateus fiatola	1.80	4	0.36	
Pterothrissus belloci	1.60	96	0.32	
Trachurus trecae	0.90	10	0.18	
Dentex barnardi	0.50	2	0.10	
BLENNIIDAE	0.16	16	0.03	
Pteroscion pelli	0.16	16	0.03	
Engraulis encrasicolus	0.16	64	0.03	
Total	504.38		100.00	

PROJECT STATION: 80
 DATE:16/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 833 Long E 1317
 start stop duration
 TIME :10:57:00 11:27:00 30 (min) Purpose code: 3
 LOG :6109.20 6110.00 0.80 Area code : 2
 FDEPTH: 34 31 GearCond.code:
 BDEPTH: 34 31 Validity code:
 Towing dir: 150° Wire out: 150 m Speed: 32 kn*10

Sorted: 22 Kg Total catch: 217.00 CATCH/HOUR: 435.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Pteroscion pelli	99.20	3506	22.77	
Brachydeuterus auritus	76.80	4556	17.63	
Ilisha africana	68.80	2326	15.79	
Galeoides decadactylus	39.20	76	7.58	200
Trichiurus lepturus	19.20	768	4.41	
Pseudotolithus senegalensis	16.00	16	3.86	201
Rhizoprionodon acutus	16.20	8	3.72	
Parapenaeopsis atlantica	16.00	6240	3.67	
Cynoglossus tereus	14.80	12	3.40	
Polydactylus quadrifilis	12.80	176	2.94	
Penaeus notialis	11.20	448	2.57	
Pseudotolithus senegalensis	9.60	80	2.20	
Dicologlossa cuneata	8.00	192	1.84	
Pomadasys jubelini	6.80	6	1.56	
Sphyræna guanchancho	4.80	16	1.10	
Lasypis margarita	4.80	32	1.10	
Selene dorsalis	4.80	208	1.10	
Stromateus fiatola	3.20	16	0.73	
Cynoglossus canariensis	3.20	16	0.73	
Chloroscombrus chrysurus	1.60	48	0.37	
Pomadasys incisus	1.60	16	0.37	
Grammolites gruvelli	1.12	32	0.26	
Eucinostomus melanopterus	0.80	16	0.18	
Engraulis encrasicolus	0.48	160	0.11	
Total	435.60		99.99	

PROJECT STATION: 81
 DATE:16/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 834 Long E 1319
 start stop duration
 TIME :12:00:00 13:00:00 60 (min) Purpose code: 3
 LOG :6112.80 6114.10 1.20 Area code : 2
 FDEPTH: 20 22 GearCond.code:
 BDEPTH: 20 22 Validity code:
 Towing dir: 170° Wire out: 100 m Speed: 32 kn*10

Sorted: 36 Kg Total catch: 298.80 CATCH/HOUR: 298.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Sphyræna guanchancho	125.60	438	41.37	204
Ilisha africana	36.00	2057	12.05	
Brachydeuterus auritus	26.40	1320	8.84	
Trichiurus lepturus	22.80	456	7.63	
Pteroscion pelli	18.00	720	6.02	
Chloroscombrus chrysurus	15.80	324	5.28	206
Pseudotolithus senegalensis	9.90	7	3.31	202
Pseudotolithus senegalensis	8.40	60	2.81	
Galeoides decadactylus	8.40	36	2.81	
Dicologlossa cuneata	6.00	192	2.01	
Selene dorsalis	4.80	324	1.61	
Pseudotolithus typus	4.80	4	1.61	203
Pomadasys jubelini	3.60	24	1.20	
Pentastomus quinquefarius	3.60	60	1.20	
Cynoglossus browni	2.40	12	0.80	
Penaeus notialis	1.50	84	0.50	
Pomadasys incisus	1.20	12	0.40	
Sardinella maderensis	0.30	72	0.10	
Panulirus regius	0.30	1	0.10	
Total	298.80		99.99	

PROJECT STATION: 82
 DATE:23/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 911 Long E 1250
 start stop duration
 TIME :06:33:00 07:03:00 30 (min) Purpose code: 3
 LOG :6351.20 6352.30 1.50 Area code : 2
 FDEPTH: 69 74 GearCond.code:
 BDEPTH: 69 74 Validity code:
 Towing dir: 140° Wire out: 350 m Speed: 25 kn*10

Sorted: 41 Kg Total catch: 40.69 CATCH/HOUR: 81.38

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Pageillus bellottii	49.00	454	60.21	207
Dentex angoliensis	12.00	90	14.75	208
Dentex barnardi	4.20	28	5.16	
Umbriina canariensis	3.50	30	4.30	
Alloleutichthys taevigatus	3.40	1700	4.18	
Selene dorsalis	2.70	4	3.32	
Sphyræna sphyraena	1.36	4	1.60	
Atractoscion aequidens	1.20	4	1.47	
Zeus faber	0.90	2	1.11	
Trachurus trecae	0.80	2	0.98	
Chaetodon hoefleri	0.80	6	0.98	
Citharus linguatula	0.50	4	0.61	
Decapterus rhonchus	0.40	4	0.49	
Chelidonichthys gomonensis	0.30	2	0.37	
Ephippion gullifer	0.20	2	0.25	
Saurica brasiliensis	0.08	4	0.10	
Sardinella aurita	0.08	14	0.10	
Sardinella aurita	0.02	2	0.02	
Total	81.38		100.00	

PROJECT STATION: 83
 DATE:23/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 910 Long E 1242
 start stop duration
 TIME :08:23:00 08:45:00 22 (min) Purpose code: 3
 LOG :6361.40 6362.20 0.80 Area code : 2
 FDEPTH: 282 283 GearCond.code:
 BDEPTH: 282 283 Validity code:
 Towing dir: 10° Wire out: 950 m Speed: 24 kn*10

Sorted: 91 Kg Total catch: 1211.26 CATCH/HOUR: 3309.44

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Synagrops microlepis	1643.32	105832	49.75	
Chlorophthalmus atlanticus	1425.27	31803	43.15	
Epigonus telescopus	85.09	638	2.58	
Merluccius polli	42.55	213	1.29	
Zenopsis conchifer	26.59	106	0.80	
Dentex macrophthalmus	19.50	57	0.59	209
MYCTOPHIDAE	10.64	2340	0.32	
Coelorrhinus coelorrhinus	10.64	425	0.32	
Parapenaeus longirostris, fem.	8.18	1047	0.25	211
Gephyroberyx darwini	6.00	19	0.18	
Brotula barbata	5.86	57	0.18	
PARALEPIDIDAE	5.32	106	0.16	
Small squids	5.32	957	0.16	
Laemonema laureysi	3.19	106	0.10	
Parapenaeus longirostris, male	2.73	382	0.08	210
Helicolenus dactylopterus	1.91	3	0.06	
Brosmiculus imberbis *	1.06	106	0.03	
Parapenaeus sp.	0.27	22	0.01	
Total	3309.44		100.01	

PROJECT STATION: 84
 DATE: 23/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 912 Long E 1236
 start stop duration
 TIME :12:23:00 12:53:00 30 (min) Purpose code: 3
 LOG :6371.50 6373.10 1.60 Area code : 2
 FDEPTH: 522 555 GearCond.code:
 BDEPTH: 522 555 Validity code:
 Towing dir: 360° Wire out:1500 m Speed: 27 km*10

Sorted: 43 Kg Total catch: 156.72 CATCH/HOUR: 313.44

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Merluccius polli, female	112.80	276	95.99	213
Merluccius polli, male	67.20	306	21.44	212
Aristeus variidens, female	25.80	2004	8.23	215
Hoplostethus mediterraneus	16.80	588	5.36	
Lamprogrammus exutus	13.20	456	4.21	
OPISTHOTEUTHIDAE	8.40	24	2.68	
Laemonema laureysi	8.40	84	2.68	
Centrohorus granulosis	8.40	2	2.68	
Pterothrissus belloci	6.00	24	1.91	
Bathygadus macrops	6.00	12	1.91	
Aristeus variidens, male	6.00	840	1.91	214
Stereomastis sculpta	4.80	432	1.53	
Yarella blackfordi	4.80	192	1.53	
Triplophos sp.	4.80	888	1.53	
MELANOSTOMIATIDAE	3.60	480	1.15	
Brosmiculus imberbis *	3.60	480	1.15	
Galeus polli	2.40	12	0.77	
HYCTOPHIDAE	2.40		0.77	
Neoharpiotta pinata	2.40	12	0.77	
Illex coindetii	2.40	24	0.77	
Chaunax pictus	1.20	24	0.38	
Lepidopus caudatus	1.20	24	0.38	
NETTASTOMIATIDAE	0.60	24	0.19	
Nezumia aequalis	0.24	48	0.08	
Dibranchius atlanticus	0.00	12		
Xenodermichthys socialis	0.00	24		
Synagrops microlepis	0.00	24		
Total	313.44		100.00	

PROJECT STATION: 85
 DATE: 24/ 5/91 GEAR TYPE: PT No:4 POSITION: Lat S 927 Long E 1236
 start stop duration
 TIME :01:30:00 02:00:00 30 (min) Purpose code: 1
 LOG :6467.30 6468.10 1.20 Area code : 2
 FDEPTH: 10 10 GearCond.code:
 BDEPTH: 58 70 Validity code:
 Towing dir: 302° Wire out: 150 m Speed: 23 km*10

Sorted: 29 Kg Total catch: 202.90 CATCH/HOUR: 405.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Sphyraena guachancho	214.40	204	52.89	218
Sardinella maderensis	79.40	426	19.57	217
Sphyraena afro	77.00	12	18.97	
Selene dorsalis	15.20	64	3.75	219
Sardinella aurita	14.00	64	3.45	216
Stomberomus tritor	2.40	2	0.59	
Caenax hippos	1.80	2	0.44	
Euthynnus alletteratus	1.60	2	0.39	
Total	405.80		99.99	

PROJECT STATION: 86
 DATE: 24/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 926 Long E 1259
 start stop duration
 TIME :06:25:00 06:55:00 30 (min) Purpose code: 3
 LOG :6509.50 6510.60 1.50 Area code : 2
 FDEPTH: 26 24 GearCond.code:
 BDEPTH: 26 24 Validity code:
 Towing dir: 4° Wire out: 180 m Speed: 24 km*10

Sorted: 24 Kg Total catch: 24.08 CATCH/HOUR: 48.16

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Rhizoprionodon acutus	10.00	4	20.76	
Sphyraena guachancho	7.00	22	14.53	
Pomadourus rogeri	6.90	8	14.33	
Aletris ciliaris	4.20	2	8.72	
Galeoides decapactylus	2.80	6	5.01	
Pseudolithus senegalensis	1.80	2	3.74	
Lagocephalus laevigatus	1.80	2	3.74	
Sepia officinalis herredia	1.60	6	3.32	
Stromateus fiatola	1.50	2	3.11	
Pomadourus incisus	1.50	6	3.11	
Pteroscion pelli	1.40	48	2.91	
Trichurus lepturus	1.20	93	2.49	
Trachinus armatus	1.00	15	2.08	
Dentex gibbosus	1.00	2	2.08	
Sphyraena sphyraena	1.00	2	2.08	
Panulirus regius	1.00	2	2.08	
Brachydeuterus auritus	0.60	25	1.66	
Centrarchops chapini	0.60	2	1.25	
Illosha africana	0.60	10	1.25	
Saurida brasiliensis	0.40	8	0.63	
Decapterus rhonchus	0.34	2	0.08	
Sardinella aurita	0.02	2	0.04	
Total	48.16		100.00	

PROJECT STATION: 87
 DATE: 24/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 919 Long E 1255
 start stop duration
 TIME :07:31:00 08:01:00 30 (min) Purpose code: 3
 LOG :6514.00 6515.30 1.60 Area code : 2
 FDEPTH: 48 59 GearCond.code:
 BDEPTH: 48 59 Validity code:
 Towing dir: 240° Wire out: 250 m Speed: 30 km*10

Sorted: 24 Kg Total catch: 222.48 CATCH/HOUR: 444.96

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	310.40	14808	69.76	221
Pagellus bellottii	50.80	2388	11.42	223
Trachurus trecae	22.08	82	4.96	220
Trichurus lepturus	18.24	128	4.10	
Selene dorsalis	14.40	80	3.24	
Raja miraletus	7.20	16	1.62	
Pseudolithus typus	4.32	16	0.97	
Branchiostegus semifasciatus	4.00	4	0.90	
Dentex barnardi	2.90	22	0.65	222
Epinephelus aeneus	2.76	2	0.67	
Citharus linguatula	2.56	54	0.58	
Brotula barbata	1.90	4	0.43	
Pomadourus jubellii	1.80	2	0.40	
Gammoplites gruvelli	0.80	16	0.18	
Parapenaeus longirostris	0.80	192	0.18	
Total	444.96		100.01	

PROJECT STATION: 88
 DATE: 24/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 919 Long E 1251
 start stop duration
 TIME :08:42:00 09:12:00 30 (min) Purpose code: 3
 LOG :6517.70 6518.50 1.40 Area code : 2
 FDEPTH: 85 95 GearCond.code:
 BDEPTH: 85 95 Validity code:
 Towing dir: 285° Wire out: 350 m Speed: 27 km*10

Sorted: 35 Kg Total catch: 114.90 CATCH/HOUR: 229.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	148.20	3425	64.49	224
Trichurus lepturus	31.80	54	13.84	
Brachydeuterus auritus	14.62	84	6.45	
Squatina oculata	13.40	2	5.89	
Zeus faber	3.60	10	1.65	
Sphyraena sphyraena	2.60	12	1.57	
Branchiostegus semifasciatus	3.20	2	1.39	
Selene dorsalis	2.70	18	1.17	
Pagellus bellottii	2.34	18	1.02	
Alloteuthis africana	1.20	312	0.52	
Atractoscion aequidens	1.20	6	0.52	
Boops boops	1.20	6	0.52	
Illex coindetii	1.20	12	0.52	
Citharus linguatula	0.60	12	0.26	
Parapenaeus longirostris	0.30	108	0.13	
Sardinella aurita	0.12	6	0.05	
Saurida brasiliensis	0.12	24	0.05	
Total	229.80		98.98	

PROJECT STATION: 89
 DATE: 24/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 931 Long E 1257
 start stop duration
 TIME :12:22:00 12:52:00 30 (min) Purpose code: 3
 LOG :6543.60 6545.20 1.60 Area code : 2
 FDEPTH: 75 72 GearCond.code:
 BDEPTH: 75 72 Validity code:
 Towing dir: 140° Wire out: 360 m Speed: 30 km*10

Sorted: 115 Kg Total catch: 2643.80 CATCH/HOUR: 5287.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	3115.20	36794	58.92	225
Trichurus lepturus	1513.60	4224	28.63	
Atopias superciliosus	240.00	2	4.54	
Selene dorsalis	206.80	1276	3.91	226
Trachurus trecae	145.20	1804	2.75	227
Pagellus bellottii	22.00	132	0.42	
Sphyraena sphyraena	17.60	44	0.33	
Decapterus rhonchus	17.60	44	0.33	
Sardinella maderensis	0.60	44	0.12	
Octopus vulgaris	3.00	4	0.06	
Total	5287.60		100.01	

PROJECT STATION: 90
 DATE: 24/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 933 Long E 1256
 start stop duration
 TIME :13:57:00 14:17:00 20 (min) Purpose code: 1
 LOG :6550.50 6551.40 0.90 Area code : 2
 FDEPTH: 84 80 GearCond.code:
 BDEPTH: 84 80 Validity code:
 Towing dir: 85° Wire out: 430 m Speed: 28 km*10

Sorted: 114 Kg Total catch: 524.70 CATCH/HOUR: 1574.10

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	635.85	4077	40.39	230
Selene dorsalis	556.20	3147	35.33	229
Pagellus bellottii	143.10	690	9.09	232
Trachurus trecae	128.25	1851	8.15	231
Trichurus lepturus	42.00	105	2.67	
Squatina oculata	15.00	3	0.95	
Branchiostegus semifasciatus	8.70	6	0.55	
Chelidonichthys gabonensis	7.50	45	0.48	
Zeus faber	6.75	27	0.43	
Dentex barnardi	5.40	27	0.34	
Sphyraena guachancho	5.10	5	0.32	
Ubrina canariensis	4.50	15	0.29	
Atractoscion aequidens	3.90	9	0.25	
Uranoscopus pelli	2.70	27	0.17	
Alloteuthis africana	2.10	783	0.13	
Octopus vulgaris	1.80	3	0.11	
Lagocephalus laevigatus	1.50	15	0.10	
Brotula barbata	1.50	3	0.10	
Illex coindetii	0.75	15	0.05	
Saurida brasiliensis	0.75	165	0.05	
Parapenaeus longirostris	0.45	75	0.03	
Boops boops	0.30	15	0.02	
Total	1574.10		100.00	

PROJECT STATION: 91
 DATE: 24/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 934
 start stop duration Long E 1250
 TIME :16:28:00 15:58:00 30 (min) Purpose code: 3
 LCG :6660.60 6552.60 1.40 Area code : 2
 FDEPTH: 115 113 GearCond.code:
 BDEPTH: 115 113 Validity code:
 Towing dir: 340° Wire out: 500 m Speed: 28 kn*10
 Sorted: 15 Kg Total catch: 14.92 CATCH/HOUR: 29.84

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
<i>Illex coindetii</i>	8.20 314	27.48	239
<i>Squatina oculata</i>	5.00 2	16.76	
<i>Torpedo torpedo</i>	4.00 6	13.40	
<i>Dentex angolensis</i>	3.60 20	12.06	234
<i>Zeus faber</i>	2.40 8	11.39	
<i>Fistularia petimba</i>	2.00 4	6.70	
<i>Raja miraletus</i>	1.20 2	4.02	
<i>Ariomma bondi</i>	1.00 14	3.35	
<i>Pterothrissus bellucci</i>	0.60 12	2.01	
<i>Trachurus trercae</i>	0.60 12	2.01	
<i>Merluccius polli</i>	0.10 2	0.34	
<i>Bombrops heterurus</i>	0.10 2	0.34	
<i>Monolepis microstoma</i>	0.04 2	0.13	
Total	29.84	99.99	

PROJECT STATION: 92
 DATE: 24/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 936
 start stop duration Long E 1240
 TIME :17:28:00 17:58:00 30 (min) Purpose code: 3
 LCG :6679.80 6575.60 1.40 Area code : 2
 FDEPTH: 457 461 GearCond.code:
 BDEPTH: 457 461 Validity code:
 Towing dir: 350° Wire out: 1300 m Speed: 26 kn*10
 Sorted: 29 Kg Total catch: 239.50 CATCH/HOUR: 479.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
<i>Merluccius polli, female</i>	257.60 544	59.78	236
<i>Merluccius polli, male</i>	56.00 192	11.69	235
<i>Aristeus varidens, female</i>	19.20 960	4.01	240
<i>Laemonema laureysi</i>	17.60 352	3.67	
POLYCHAELIDAE	16.00 1312	3.34	
<i>Pterothrissus bellucci</i>	16.00 96	3.34	
<i>Centrophorus granulatus</i>	15.00 6	3.13	
<i>Plesiopeneus edwardsianus, f.</i>	8.00 96	1.67	238
<i>Oibranchius atlanticus</i>	8.00 288	1.67	
Shrimps, small, non comm.	8.00 1616	1.67	
<i>Brosimulus imberbis *</i>	8.00 224	1.67	
<i>Aristeus varidens, male</i>	7.20 704	1.50	239
<i>Chaunax pictus</i>	5.60 64	1.17	
<i>Todaropsis eblanae</i>	4.80 80	1.00	
Deepwater fish mixture	4.80 320	1.00	
<i>Coelorhynchus coelorhynchus</i>	4.80 64	1.00	
MYCTOPHIDAE	4.80 1584	1.00	
<i>Galeus polli</i>	3.20 16	0.67	
OPHIURIDAE	3.20 112	0.67	
<i>Etmopterus spinax</i>	3.20 32	0.67	
<i>Chlorophthalmus atlanticus</i>	2.40 32	0.50	
<i>Plesiopeneus edwardsianus, m.</i>	1.60 16	0.33	237
<i>Nozania aequalis</i>	1.60 48	0.33	
<i>Synagrops microlepis</i>	1.60 64	0.33	
PARALEPIDIDAE	0.48 16	0.10	
<i>Hoplostethus cadematii</i>	0.32 32	0.07	
Total	479.00	99.98	

PROJECT STATION: 93
 DATE: 25/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 439
 start stop duration Long E 1310
 TIME :06:20:00 06:45:00 25 (min) Purpose code: 3
 LCG :6666.60 6667.60 1.00 Area code : 2
 FDEPTH: 19 17 GearCond.code:
 BDEPTH: 19 17 Validity code:
 Towing dir: ° Wire out: 100 m Speed: 30 kn*10
 Sorted: 33 Kg Total catch: 151.04 CATCH/HOUR: 362.50

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
<i>Pteroscion peli</i>	85.44	23.57	
<i>Galeoides decadactylus</i>	71.04	19.60	243
<i>Brachydeuterus auritus</i>	33.60	9.27	241
<i>Pentacampus quinquarius</i>	31.68	8.74	
<i>Ilisha africana</i>	25.44	7.02	242
<i>Pseudolithus typus</i>	23.04	6.36	
<i>Pseudolithus senegalensis</i>	22.80	6.30	
<i>Parapenaeopsis atlantica</i>	12.00	3.31	
<i>Pomadysus jubelinii</i>	9.72	2.68	
<i>Gymnura micrura</i>	7.20	1.99	
<i>Septia officinalis hierredda</i>	5.76	1.59	
<i>Pseudolithus brachygnathus</i>	5.16	1.42	
<i>Dicologlossa cuneata</i>	5.09	1.40	
<i>Sphyræna tucschancho</i>	4.80	1.32	
<i>Trichiurus lepturus</i>	4.80	1.32	
<i>Pomadysus rogeri</i>	3.12	0.86	
<i>Eucinostomus melanopterus</i>	2.88	0.79	
<i>Pomadysus incisus</i>	2.88	0.79	
<i>Dasyatris marmorata</i>	2.16	0.60	
<i>Penaeus kerathurus, female</i>	1.92	0.53	249
<i>Penaeus kerathurus, male</i>	1.44	0.40	248
<i>Chloroscombrus chrysurus</i>	0.29	0.08	
<i>Selene dorsalis</i>	0.10	0.03	
<i>Alectis alexandrinus</i>	0.10	0.03	
Total	362.51	100.00	

PROJECT STATION: 94
 DATE: 25/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 941
 start stop duration Long 1255
 TIME :09:38:00 10:08:00 30 (min) Purpose code: 3
 LCG :6683.60 6605.00 1.40 Area code : 2
 FDEPTH: 101 106 GearCond.code:
 BDEPTH: 101 106 Validity code:
 Towing dir: 234° Wire out: 400 m Speed: 29 kn*10
 Sorted: 28 Kg Total catch: 2012.90 CATCH/HOUR: 4025.80

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
<i>Trachurus trercae</i>	3976.00 91700	98.76	244
<i>Seriola carpenteri</i>	15.00 2	0.39	
<i>Dentex angolensis</i>	11.10 110	0.28	245
<i>Pagellus bellottii</i>	8.60 96	0.22	247
<i>Boops boops</i>	4.20 140	0.10	
<i>Sarda sarda</i>	3.50 4	0.09	
<i>Dentex congoensis</i>	2.60 35	0.06	246
<i>Dentex gibbosus</i>	1.90 6	0.05	
<i>Dentex barnardi</i>	1.80 8	0.04	
<i>Dentex macrophthalmus</i>	0.30 5	0.01	
Total	4025.80	100.00	

PROJECT STATION: 95
 DATE: 3/12/14 GEAR TYPE: BT No:1 POSITION: Lat S 943
 start stop duration Long E 1248
 TIME :11:34:00 12:04:00 30 (min) Purpose code: 3
 LCG :6693.80 6695.00 1.45 Area code : 2
 FDEPTH: 224 222 GearCond.code:
 BDEPTH: 224 222 Validity code:
 Towing dir: 330° Wire out: m Speed: 28 kn*10
 Sorted: 28 Kg Total catch: 198.80 CATCH/HOUR: 397.60

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
<i>Synagrops microlepis</i>	186.20 11544	46.83	
<i>Merluccius polli</i>	89.60 1260	22.54	251
<i>Zenopsis conchifer</i>	46.20 350	11.62	
<i>Chlorophthalmus atlanticus</i>	18.20 1526	4.58	
<i>Todaropsis eblanae</i>	14.00 168	3.52	
<i>Dentex angolensis</i>	11.20 36	2.82	250
<i>Parapeneus longirostris, male</i>	8.40 1744	2.11	252
<i>Parasudis sp.</i>	7.00 322	1.76	
<i>Parapeneus longirostris, fem.</i>	7.00 1018	1.76	253
<i>Illex coindetii</i>	5.60 84	1.41	
<i>Coelorhynchus coelorhynchus</i>	2.10 70	0.53	
<i>Ariomma bondi</i>	1.40 42	0.35	
<i>Epigonus telescopus</i>	0.70 70	0.18	
<i>Monolepis microstoma</i>	0.00 14		
Total	397.60	100.01	

PROJECT STATION: 96
 DATE: 25/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 950
 start stop duration Long E 1253
 TIME :13:37:00 13:42:00 5 (min) Purpose code: 3
 LCG :6707.50 6707.70 0.22 Area code : 2
 FDEPTH: 120 120 GearCond.code:
 BDEPTH: 120 120 Validity code:
 Towing dir: 350° Wire out: 550 m Speed: 23 kn*10
 Sorted: 27 Kg Total catch: 80.50 CATCH/HOUR: 966.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
<i>Spicara alta</i>	374.40 7716	98.76	
<i>Umbrija canariensis</i>	272.40 900	28.20	254
<i>Boops boops</i>	264.00 9596	27.33	
<i>Dentex angolensis</i>	43.20 96	4.47	255
<i>Trachurus trercae</i>	7.20 120	0.75	
<i>Anthias anthias</i>	4.80 120	0.50	
<i>Septia elegans</i>	0.00 24		
<i>Todaropsis eblanae</i>	0.00 24		
Total	966.00	109.01	

PROJECT STATION: 97
 DATE: 25/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 951
 start stop duration Long E 1257
 TIME :15:11:00 15:41:00 30 (min) Purpose code: 3
 LCG :6714.20 6715.70 1.56 Area code : 2
 FDEPTH: 104 104 GearCond.code:
 BDEPTH: 104 104 Validity code:
 Towing dir: 350° Wire out: 450 m Speed: 30 kn*10
 Sorted: 30 Kg Total catch: 2930.70 CATCH/HOUR: 4661.40

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
<i>Trachurus trercae</i>	4600.00 109524	98.68	261
<i>Zeus faber</i>	16.00 40	0.34	
<i>Pagellus bellottii</i>	14.60 162	0.31	256
<i>Fistularia petimba</i>	9.20 16	0.20	
<i>Mustelus mustelus</i>	7.40 2	0.16	
<i>Sarda sarda</i>	6.20 4	0.13	
<i>Dentex congoensis</i>	3.00 56	0.06	258
<i>Dentex barnardi</i>	2.00 10	0.04	259
<i>Dentex angolensis</i>	1.20 26	0.03	257
<i>Dentex gibbosus</i>	1.00 6	0.02	260
<i>Sphyræna tucschancho</i>	0.80 2	0.02	
Total	4661.40	99.99	

PROJECT STATION: 98
 DATE: 25/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 950 Long E 1365
 start stop duration
 TIME :16:55:00 17:25:00 30 (min) Purpose code: 3
 LOG :6725.50 6726.80 1.60 Area code : 2
 FDEPTH: 67 67 GearCond.code:
 BDEPTH: 67 67 Validity code:
 Towing dir: 350° Wire out: m Speed: 32 km*10

Sorted: 275 Kg Total catch: 202.60 CATCH/HOUR: 405.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichurus lepturus	283.80	554	89.30	
Chelidonichthys gabonensis	36.00	160	8.00	
Stromateus fiatola	21.60	26	5.33	264
Sphyræna guachancho	21.40	32	5.28	262
Pagellus bellottii	14.20	54	3.50	263
Pomadasy jubelini	7.80	8	1.92	
Selene dorsalis	7.20	48	1.78	
Brachydeuterus auritus	4.80	36	1.18	
Octopus vulgaris	3.00	6	0.74	
Dentex barnardi	2.40	18	0.59	
Sepia officinalis hierredda	2.00	4	0.49	
Balistes capricus	1.80	4	0.44	
Atractoscion aequidens	1.00	2	0.25	
Brotula barbata	0.60	2	0.15	
Decapterus rhonchus	0.60	12	0.15	
Total	405.20		99.98	

PROJECT STATION: 99
 DATE: GEAR TYPE: PT No:4 POSITION: Lat S 955 Long E 1310
 start stop duration
 TIME :20:40:00 21:10:00 30 (min) Purpose code: 1
 LOG :6754.30 6755.40 1.10 Area code : 2
 FDEPTH: 5 5 GearCond.code:
 BDEPTH: 38 31 Validity code:
 Towing dir: 100° Wire out: 100 m Speed: 22 km*10

Sorted: 37 Kg Total catch: 100.90 CATCH/HOUR: 201.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Sphyræna sphyraena	51.00	50	25.27	268
Sphyræna guachancho	34.00	80	16.85	269
Stromateus fiatola	26.00	10	12.83	
Brachydeuterus auritus	24.00	160	11.89	265
Galeoides decadactylus	11.00	126	5.45	
Carcharhinus brevipinna	8.40	2	4.16	
Pagellus bellottii	8.00	30	3.96	
Sardinella maderensis	6.40	64	3.17	260
Trichurus lepturus	6.00	36	2.97	
Ilisha africana	5.50	60	2.79	
Chloroscombrus chrysurus	5.00	56	2.49	
Pomadasy incisus	4.00	10	1.99	
Selene dorsalis	3.50	46	1.73	
Sepia officinalis hierredda	3.20	6	1.59	
Sardinella aurita	2.30	18	1.14	267
Engraulis encrasicolus	1.00	110	0.50	
Eucinostomus melanopterus	1.00	6	0.50	
Decapterus rhonchus	1.00	10	0.50	
Citharus linguatula	0.50	6	0.25	
Total	201.80		100.00	

PROJECT STATION: 100
 DATE: 26/ 5/91 GEAR TYPE: PT No:4 POSITION: Lat S 952 Long E 1257
 start stop duration
 TIME :04:54:00 05:15:00 21 (min) Purpose code: 1
 LOG :6826.10 6828.90 0.56 Area code : 2
 FDEPTH: 5 5 GearCond.code:
 BDEPTH: 106 103 Validity code:
 Towing dir: 47° Wire out: 150 m Speed: 26 km*10

Sorted: 44 Xg Total catch: 4.35 CATCH/HOUR: 12.43

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trcaae	3.36	223	71.28	270
Syndus saurus	3.43	600	27.59	
Sepiella ornata	0.14	9	1.13	
Lagocephalus laevigatus	0.00	3		
Total	12.43		100.00	

PROJECT STATION: 101
 DATE: 25/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 958 Long E 1249
 start stop duration
 TIME :07:05:00 07:30:00 25 (min) Purpose code: 3
 LOG :6843.50 6844.50 1.20 Area code : 2
 FDEPTH: 370 350 GearCond.code:
 BDEPTH: 370 350 Validity code:
 Towing dir: 340° Wire out: 1050 m Speed: 25 km*10

Sorted: 29 Kg Total catch: 414.22 CATCH/HOUR: 994.13

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Merluccius pollii, male	337.68	1915	39.97	271
Merluccius pollii, female	220.08	1008	22.14	272
Nematocarcinus africanus	120.96	31104	12.17	
Pterothrissus bellotti	114.24	605	11.49	
Lacnomena laureysi	63.84	907	6.42	
Zenopsis conchifer	45.36	34	4.56	
Hymnocephalus italicus	35.52	1243	3.57	
Trichurus lepturus	16.80	67	1.68	
Malacocephalus occidentalis	8.40	34	0.84	
Chlorophthalmus atlanticus	8.40	101	0.84	
Illex coindetii	6.72	34	0.66	
Etmopterus spinax	5.04	67	0.51	
Malacocephalus laevis	3.36	34	0.34	
Myctophum sp.	3.36	1648	0.34	
Trosomiculus imberbis *	3.36	101	0.34	
Plesionika marila	0.34	67	0.03	
Parapenaeus longirostris	0.34	34	0.03	
Dibranchius atlanticus	0.34	34	0.03	
Total	994.14		99.99	

PROJECT STATION: 102
 DATE: 26/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1001 Long E 1252
 start stop duration
 TIME :08:40:00 09:10:00 30 (min) Purpose code: 3
 LOG :6851.20 6852.40 1.30 Area code : 2
 FDEPTH: 262 255 GearCond.code:
 BDEPTH: 262 255 Validity code:
 Towing dir: 340° Wire out: m Speed: 25 km*10

Sorted: 36 Kg Total catch: 2466.40 CATCH/HOUR: 4972.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Chlorophthalmus atlanticus	2550.00	56000	52.08	
Synagrops microlepis	2240.00	56000	45.05	
Zenopsis conchifer	70.00	280	1.41	
Merluccius pollii	28.00	420	0.56	
Todaropsis eblanae	21.00	280	0.42	
Illex coindetii	14.00	140	0.28	
Parapenaeus longirostris	7.00	1260	0.14	
Coelorhynchus coelorhynchus	2.80	140	0.06	
Total	4972.80		100.00	

PROJECT STATION: 103
 DATE: 26/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1008 Long E 1258
 start stop duration
 TIME :10:30:00 11:00:00 30 (min) Purpose code: 3
 LOG :6861.30 6862.70 1.40 Area code : 2
 FDEPTH: 103 103 GearCond.code:
 BDEPTH: 103 103 Validity code:
 Towing dir: 340° Wire out: 400 m Speed: 28 km*10

Sorted: 35 Kg Total catch: 5522.10 CATCH/HOUR: 11044.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trcaae	10775.69	260574	27.57	273
Dentex gibbosus	237.00	632	2.15	
Dentex angolensis	18.96	316	0.17	
Sardinella aurita	12.64	316	0.11	
Total	11044.20		100.00	

PROJECT STATION: 104
 DATE: 26/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1000 Long E 1305
 start stop duration
 TIME :12:27:00 12:57:00 30 (min) Purpose code: 3
 LOG :6872.20 6873.60 1.40 Area code : 2
 FDEPTH: 78 76 GearCond.code:
 BDEPTH: 78 76 Validity code:
 Towing dir: 350° Wire out: 350 m Speed: 28 km*10

Sorted: 37 Kg Total catch: 36.50 CATCH/HOUR: 73.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trcaae	33.40	1152	45.75	274
Pagellus bellottii	18.00	210	24.66	275
Squatina oculata	8.00	2	10.96	
Fistularia petimba	4.00	12	5.40	
Zeus fabci	2.20	6	3.01	
Sepia officinalis hierredda	2.00	4	2.74	
Alloteuchis africana	1.80	560	2.47	
Octopus vulgaris	1.20	4	1.64	
Dentex barnardi	0.60	4	1.10	
Pseudupeneus prayensis	0.60	12	0.82	
Torpedo torpedo	0.60	2	0.82	
Todaropsis eblanae	0.10	6	0.14	
Lagocephalus laevigatus	0.10	2	0.14	
Boops boops	0.10	4	0.14	
Sphyræna sphyraena	0.10	2	0.14	
Saurida brasiliensis	0.00	2		
Total	73.00		100.01	

PROJECT STATION: 105
 DATE: 26/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat 1000 Long 1310
 start stop duration
 TIME :13:56:00 14:26:00 30 (min) Purpose code: 3
 LOG :6880.80 6882.40 1.60 Area code : 2
 FDEPTH: 54 46 GearCond.code:
 BDEPTH: 54 46 Validity code:
 Towing dir: 300° Wire out: 330 m Speed: 32 km*10

Sorted: 113 Kg Total catch: 1024.50 CATCH/HOUR: 2049.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	1484.00	16136	72.91	276
Trichurus lepturus	237.60	540	11.80	
Pagellus bellottii	131.40	576	6.41	277
Galeoides decadactylus	64.80	486	3.16	279
Trachurus trcaae	61.20	578	2.99	278
Selene dorsalis	14.40	144	0.70	
Pomadasy incisus	12.60	72	0.61	
Sphyræna guachancho	10.80	18	0.53	
Sphyræna sphyraena	5.40	18	0.26	
Sepia officinalis hierredda	4.00	8	0.20	
Atractoscion aequidens	3.60	8	0.18	
Argyrosomus hololepidotus	2.20	4	0.11	
Citharus linguatula	1.80	18	0.09	
Pomadasy jubelini	1.80	2	0.09	
Cynoglossus canariensis	1.60	4	0.08	
Pseudotolithus senegalensis	1.20	2	0.06	
Penaeus notialis	0.40	18	0.02	
Engraulis encrasicolus	0.20	72	0.01	
Total	2049.00		100.01	

PROJECT STATION: 106
 DATE: 26/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 10CR
 start stop duration Long E 1320
 TIME :16:17:00 16:43:00 26 (min) Purpose code: 3
 LOG : 6899.10 6900.40 1.30 Area code : 2
 FDEPTH: 22 28 GearCond.code:
 BDEPTH: 22 28 Validity code:
 Towing dir: 270° Wire out: m Speed: 26 km*10
 Sorted: 24 Kg Total catch: 407.55 CATCH/HOUR: 940.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	603.54	14199	64.38	281
Pteroscion pelli	73.85	3618	7.85	
Trichiurus lepturus	62.77	222	6.67	
Ilisha africana	55.38	1071	5.89	283
Galeoides decadactylus	55.38	97	5.89	
Chloroscombrus chrysurus	29.54	406	3.14	280
Sphyræna guanchancho	19.15	37	2.04	
Arilus latiscutatus	11.77	2	1.25	
Sromateus fletola	10.85	12	1.15	
Sphyræna sphyraena	3.23	5	0.34	
Arilus parkii	3.03	5	0.32	
Cynoglossus canariensis	2.91	9	0.25	
Micrororina angolensis	1.85	37	0.20	
Selene dorsalis	1.85	37	0.20	
Pseudasys peroteli	1.85	?	0.20	
Pseudolithus senegalensis	1.62	5	0.17	
Penæus notialis	0.35	12	0.34	
Pogusa tascaris	0.23	?	0.22	
Total	940.52		100.00	

PROJECT STATION: 107
 DATE: 26/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat 1010
 start stop duration Long 1313
 TIME :17:32:00 18:02:00 30 (min) Purpose code: 3
 LOG : 6906.80 6908.50 1.70 Area code : 2
 FDEPTH: 70 71 GearCond.code:
 BDEPTH: 70 71 Validity code:
 Towing dir: 165° Wire out: 350 m Speed: 34 km*10
 Sorted: 32 Kg Total catch: 287.61 CATCH/HOUR: 575.22

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	492.00	16614	75.10	284
Trichiurus lepturus	47.70	162	8.29	
Pagellus bellottii	32.40	180	5.63	
Trachurus trecae	12.60	216	2.19	
Sphyræna sphyraena	11.70	18	2.03	
Octopus vulgaris	9.00	18	1.56	
Alloteuthis africana	9.00	2970	1.56	
Chelidonichthys gabonensis	8.10	54	1.41	
Pseudupeneus prayensis	7.20	54	1.25	
Umbra canariensis	2.70	18	0.47	
Dentex gibbosus	0.90	18	0.16	
Decapterus rhombus	0.90	18	0.16	
Dicologlossa hexophthalma	0.54	18	0.09	
Sardinella aurita	0.50	4	0.05	
Citharus linguatula	0.18	18	0.03	
Total	575.22		99.98	

PROJECT STATION: 108
 DATE: 27/ 5/91 GEAR TYPE: PT No:4 POSITION: Lat S 1009
 start stop duration Long E 1255
 TIME :03:44:00 04:07:00 23 (min) Purpose code: 1
 LOG : 7003.10 7004.40 1.30 Area code : 2
 FDEPTH: 20 20 GearCond.code:
 BDEPTH: 232 162 Validity code:
 Towing dir: 76° Wire out: 150 m Speed: 34 km*10
 Sorted: 50 Kg Total catch: 49.50 CATCH/HOUR: 129.13

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichiurus lepturus	127.50	584	58.58	
Echeneis naucrates	1.63	3	1.42	
Total	129.13		100.00	

PROJECT STATION: 109
 DATE: 27/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1013
 start stop duration Long E 1253
 TIME :06:20:00 06:50:00 30 (min) Purpose code: 3
 LOG : 7012.50 7013.90 1.40 Area code : 2
 FDEPTH: 454 451 GearCond.code:
 BDEPTH: 454 451 Validity code:
 Towing dir: 340° Wire out: 1300 m Speed: 24 km*10
 Sorted: 28 Kg Total catch: 289.50 CATCH/HOUR: 579.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Nematocarcinus africanus	344.00		59.41	
Merluccius pollii, female	105.00	320	18.13	286
Merluccius pollii, male	46.80	26	7.94	295
Laemonema laureysi	19.80	1340	3.28	
Centrophorus granulosus	17.40	4	3.01	
GONOSTOMATIDAE	9.00	1060	1.55	
Aristeus varidans, male	8.00	1220	1.38	238
Aristeus varidans, female	7.00	360	1.21	257
Malacocephalus occidentalis	4.00	20	0.69	
MYCLOPHIDAE	4.00	1440	0.69	
Elmopterus spinax	4.00	120	0.68	
Coelorrhinus cucullifer	3.00	20	0.52	
Plesionika mertia	3.00	2020	0.52	
Illex coindetii	2.00	20	0.35	
RAJIDAE	1.20	2	0.21	
Hoplostethus caduati	1.00	120	0.17	
Bregmaculus imberbis	0.60	40	0.10	
Synagrops microlepis	0.40	40	0.07	
Ariomma bondi	0.20	20	0.03	
Hymenocephalus italicus	0.20	40	0.03	
Total	579.00		99.98	

PROJECT STATION: 110
 DATE: 27/ 5/91 GEAR TYPE: ET No:1 POSITION: Lat 1009
 start stop duration Long 1254
 TIME :07:44:00 08:14:00 30 (min) Purpose code: 3
 LOG : 7017.70 7019.20 1.50 Area code : 2
 FDEPTH: 302 296 GearCond.code:
 BDEPTH: 302 296 Validity code:
 Towing dir: 240° Wire out: 900 m Speed: 27 km*10
 Sorted: 36 Kg Total catch: 561.88 CATCH/HOUR: 1123.76

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Chlorophthalmus atlanticus	550.40	45866	48.98	
Synagrops microlepis	513.20	12384	45.67	
Merluccius pollii	17.60	160	1.57	
Laemonema laureysi	16.00	352	1.42	
Parapenaeus longirostris, fem.	9.60	1120	0.85	289
Zenopsis conchifer	8.00	64	0.71	
Parapenaeus longirostris, male	4.80	320	0.43	290
Nezumia aequalis	1.92	32	0.14	
Neomerinthe folgori	1.60	32	0.14	
Sepia officinalis hierredda	0.32	64	0.03	
Shrimps, small, non comm.	0.32	576	0.03	
Total	1123.76		100.00	

PROJECT STATION: 111
 DATE: 27/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat 1010
 start stop duration Long 1258
 TIME :09:23:00 09:53:00 30 (min) Purpose code: 3
 LOG : 7027.10 7028.50 1.40 Area code : 2
 FDEPTH: 112 109 GearCond.code:
 BDEPTH: 112 109 Validity code:
 Towing dir: ° Wire out: 400 m Speed: 27 km*10
 Sorted: 24 Kg Total catch: 23.98 CATCH/HOUR: 47.76

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Squatina oculata	15.50	2	32.45	
Loigo vulgaris	8.60	422	18.01	291
Sepia officinalis hierredda	7.00	20	14.66	
Dentex angolensis	5.60	32	11.73	
Zeus faber	5.00	12	10.47	
Dentex congoensis	2.20	18	4.61	
Pagellus bellottii	0.90	14	1.88	
Trachurus trecae	0.70	14	1.47	
Todaropsis eblanae	0.60	32	1.26	
Trigla lyra	0.60	6	1.26	
Octopus vulgaris	0.60	2	1.26	
Trichiurus lepturus	0.40	2	0.84	
Citharus linguatula	0.04	2	0.08	
Saurida brasiliensis	0.02	2	0.04	
Total	47.76		100.02	

PROJECT STATION: 112
 DATE: 27/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1020
 start stop duration Long E 1304
 TIME :11:32:00 12:02:00 30 (min) Purpose code: 3
 LOG : 7042.30 7043.60 1.30 Area code : 2
 FDEPTH: 112 111 GearCond.code:
 BDEPTH: 112 111 Validity code:
 Towing dir: 320° Wire out: 400 m Speed: 31 km*10
 Sorted: 73 Kg Total catch: 72.60 CATCH/HOUR: 145.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Dentex gibbosus	32.80	52	22.59	292
Dentex angolensis	31.20	94	21.49	293
Dentex barrardi	17.20	36	11.85	294
Eptenepelus aeneus	17.00	2	11.71	
Sparus pagrus africanus	14.40	22	8.92	295
Pagellus bellottii	10.40	24	7.16	296
Zeus faber	7.40	8	5.10	
Erythrocles monodi	6.40	10	4.41	
Brachistostegus semifasciatus	3.00	2	2.07	
Torpedo torpedo	2.00	4	1.38	
Parapristipoma octolineatum	1.40	4	0.96	
Illex coindetii	1.00	32	0.69	
Todaropsis eblanae	0.40	14	0.28	
A-tomma bondi	0.40	14	0.28	
Anthias anthias	0.20	4	0.14	
Total	145.20		100.03	

PROJECT STATION: 113
 DATE: 27/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1020
 start stop duration Long E 1319
 TIME :14:45:00 15:15:00 30 (min) Purpose code: 3
 LOG : 7063.50 7065.30 1.80 Area code : 2
 FDEPTH: 70 73 GearCond.code:
 BDEPTH: 70 73 Validity code:
 Towing dir: 180° Wire out: 350 m Speed: 31 km*10
 Sorted: 28 Kg Total catch: 418.30 CATCH/HOUR: 836.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	635.60	4292	75.37	300
Trachurus trecae	86.80	1400	10.38	301
Selene dorsalis	50.40	476	6.02	302
Trichiurus lepturus	36.40	68	4.35	
Sphyræna guanchancho	15.20	20	1.82	297
Dentex barnardi	2.40	10	0.29	299
Pseudupeneus prayensis	2.40	24	0.29	
Pagellus bellottii	2.40	24	0.29	298
Sarda sarda	2.00	2	0.24	
Cynoglossus canariensis	1.40	2	0.17	
Zeus faber	1.40	4	0.17	
Sardinella aurita	0.20	4	0.02	
Total	836.60		100.01	

PROJECT STATION: 114
 DATE: 27/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1020 Long E 1327
 start stop duration
 TIME :16:23:00 16:57:00 34 (min) Purpose code: 3
 LOG :7076.00 7077.10 1.50 Area code : 2
 FDEPTH: 26 23 GearCond.code:
 BDEPTH: 26 23 Validity code:
 Towing dir: 360° Wire out: 200 m Speed: 39 km*10
 Sorted: 29 Kg Total catch: 232.02 CATCH/HOUR: 410.86

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Brachydeuterus auritus	132.18	5675	32.17	305
Trichiurus lepturus	101.29	420	24.65	
Galeoides decadactylus	64.24	272	15.64	306
Ilisha africana	30.89	2291	7.32	
Pteroscion pelli	29.65	1136	7.22	
Sphyrna lewini	10.76	4	2.62	
Pseudotolithus senegalensis	9.35	19	2.28	303
Stromateus fiatola	7.94	14	1.93	
Pseudotolithus typus	6.53	4	1.59	304
Sphyrna guachancho	3.18	7	0.77	
Scomberomorus tritor	3.60	2	0.73	
Parapenaeopsis atlantica	2.47	939	0.60	
Pomadasy peroteti	2.12	5	0.52	
Chloroscombus chrysurus	1.85	12	0.45	
Pomadasy jubelini	1.41	4	0.34	
Sphyrna juveniles	1.24	99	0.30	
Sphyrna sphyrana	1.06	4	0.26	
Pegusa lascaris	0.53	9	0.13	
Cynoglossus canariensis	0.53	4	0.13	
Trachinotus goreensis	0.53	2	0.13	
Penaeus notialis	0.12	2	0.03	
Decapterus rhonchus	0.00	12		
Total	410.86		100.01	

PROJECT STATION: 115
 DATE: 27/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1018 Long E 1330
 start stop duration
 TIME :17:29:00 17:59:00 30 (min) Purpose code: 3
 LOG :7080.30 7081.40 1.50 Area code : 2
 FDEPTH: 14 10 GearCond.code:
 BDEPTH: 14 10 Validity code:
 Towing dir: 150° Wire out: 100 m Speed: 30 km*10
 Sorted: 32 Kg Total catch: 407.55 CATCH/HOUR: 815.10

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Brachydeuterus auritus	224.00	27128	27.48	307
Pteroscion pelli	156.00	10220	19.14	
Pseudotolithus typus	51.40	46	6.31	311
Sphyrna guachancho	51.40	134	6.31	309
Chloroscombus chrysurus	45.00	1040	5.52	303
Galeoides decadactylus	42.00	320	5.15	
Ilisha africana	42.00	2400	5.15	
Parapenaeopsis atlantica	32.00	5120	3.93	
Torpedo marmorata	32.00	60	3.93	
Pseudotolithus senegalensis	31.00	140	3.80	310
Trichiurus lepturus	21.00	740	2.58	
Leptocharias smithii	17.40	12	2.13	
Pentaneus quinquarius	14.00	500	1.72	
Eucinostomus melanopterus	12.00	100	1.47	
Ephippion guttifer	11.00	6	1.35	
Drepane africana	11.00	6	1.35	
Selene dorsalis	6.00	380	0.74	
Pomadasy incisus	4.00	60	0.48	
Lagocephalus laevigatus	4.00	20	0.49	
Stromateus fiatola	3.40	12	0.42	
Cynoglossus senegalensis	1.50	2	0.18	
Pomadasy peroteti	1.40	2	0.17	
Atractoscion aequidens	0.60	2	0.07	
SEPIIDAE	0.60	80	0.07	
Decapterus rhonchus	0.40	20	0.05	
Total	815.10		100.00	

PROJECT STATION: 116
 DATE: 27/ 5/91 GEAR TYPE: PT No:2 POSITION: Lat S 1013 Long E 1316
 start stop duration
 TIME :21:40:00 22:02:00 22 (min) Purpose code: 1
 LOG :7114.60 7115.80 1.20 Area code : 2
 FDEPTH: 20 20 GearCond.code:
 BDEPTH: 58 65 Validity code:
 Towing dir: 250° Wire out: 100 m Speed: 34 km*10
 Sorted: 45 Kg Total catch: 45.29 CATCH/HOUR: 123.52

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sardinella maderensis	44.73	188	36.21	315
Brachydeuterus auritus	23.45	164	18.98	312
Sphyrna guachancho	19.09	25	15.45	313
Sardinella aurita	11.73	49	9.50	314
Trachurus trecae	9.55	128	7.73	316
Sarda sarda	7.50	8	6.07	
Trichiurus lepturus	6.00	14	4.86	
Alloteuthis africana	0.95	215	0.77	
Decapterus rhonchus	0.19	3	0.15	
Ilisha africana	0.14	3	0.11	
Selene dorsalis	0.14	3	0.11	
Engraulis encrasicolus	0.05	19	0.04	
Total	123.52		99.98	

PROJECT STATION: 117
 DATE: 28/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1030 Long E 1305
 start stop duration
 TIME :06:20:00 06:50:00 30 (min) Purpose code: 3
 LOG :7197.90 7199.40 1.60 Area code : 2
 FDEPTH: 310 303 GearCond.code:
 BDEPTH: 310 303 Validity code:
 Towing dir: 330° Wire out: 900 m Speed: 30 km*10
 Sorted: 35 Kg Total catch: 244.86 CATCH/HOUR: 489.72

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Chlorophthalmus atlanticus	224.00	3990	45.74	
Merluccius polli, male	156.80	658	32.02	317
Merluccius polli, female	40.60	154	8.29	318
Pterothrissus belloti	18.20	126	3.72	
Laemonema laureysi	12.60	154	2.57	
Synagrops microlepis	11.20	589	2.29	
MYCTOPHIDAE	9.10	9632	1.88	
Parapenaeus longirostris, fem.	4.20	518	0.86	320
Zenopsis conchifer	3.50	14	0.71	
Parapenaeus longirostris, male	2.80	364	0.57	319
Trigla lra	2.80	14	0.57	
Nezumia aequalis	2.10	14	0.43	
Neomerinthe folgori	1.40	14	0.29	
Shrimps, small, non comm.	0.28	224	0.06	
Solenocera africana	0.14	14	0.03	
Hymenoccephalus italicus	0.00	28		
Saurida brasiliensis	0.00	14		
Total	489.72		100.01	

PROJECT STATION: 118
 DATE: 28/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1031 Long E 1310
 start stop duration
 TIME :08:02:00 08:32:00 30 (min) Purpose code: 3
 LOG :7207.70 7208.90 1.60 Area code : 2
 FDEPTH: 147 158 GearCond.code:
 BDEPTH: 147 158 Validity code:
 Towing dir: 310° Wire out: 500 m Speed: 30 km*10
 Sorted: 69 Kg Total catch: 69.02 CATCH/HOUR: 138.04

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex macrophthalmus	45.00	226	32.63	322
Zenopsis conchifer	31.00	184	22.46	
Illlex coindetii	30.40	206	22.02	324
Dentex angolensis	14.60	38	10.58	321
Todaropsis eblanae	11.60	220	8.43	323
Heptarhynchias perlo	4.60	2	3.33	
Spicara alta	0.50	9	0.36	
Pterothrissus belloti	0.30	2	0.22	
Neomerinthe folgori	0.64	2	0.09	
Deepwater fish mixture	0.00	90		
MYCTOPHIDAE	0.00	30		
Total	138.04		100.00	

PROJECT STATION: 119
 DATE: 28/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1031 Long E 1310
 start stop duration
 TIME :09:40:00 10:10:00 30 (min) Purpose code: 3
 LOG :7217.10 7218.50 1.40 Area code : 2
 FDEPTH: 107 110 GearCond.code:
 BDEPTH: 107 110 Validity code:
 Towing dir: 274° Wire out: 400 m Speed: 30 km*10
 Sorted: 29 Kg Total catch: 213.02 CATCH/HOUR: 426.04

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus trecae	399.00	7082	93.65	326
Illlex coindetii	7.70	448	1.81	
Zenopsis conchifer	5.60	14	1.31	
Todaropsis eblanae	4.20	98	0.99	
Dentex macrophthalmus	2.70	52	0.63	325
Atractoscion aequidens	2.70	2	0.63	
Zeus faber	2.50	6	0.59	
Citharus linguatula	0.70	14	0.16	
Sardinella aurita	0.42	14	0.10	
Artonna bondi	0.28	28	0.07	
Dentex congensis	0.14	4	0.03	
Pagellus bellottii	0.10	2	0.02	
Total	426.04		99.99	

PROJECT STATION: 120
 DATE: 28/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1030 Long E 1328
 start stop duration
 TIME :12:40:00 12:57:00 17 (min) Purpose code: 3
 LOG :7227.20 7228.00 1.16 Area code : 2
 FDEPTH: 48 50 GearCond.code:
 BDEPTH: 48 50 Validity code:
 Towing dir: 270° Wire out: 300 m Speed: 36 km*10
 Sorted: 34 Kg Total catch: 33.99 CATCH/HOUR: 119.65

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Epinephelus aeneus	51.88	7	43.36	
Dentex barnardi	45.53	198	38.05	327
Seriola carpenteri	6.00	4	5.01	
Pagellus bellottii	3.88	18	3.24	
Lagocephalus laevigatus	3.18	4	2.66	
Epinephelus alexandrinus	3.18	4	2.66	
Selene dorsalis	1.76	4	1.47	
Fistularia petimba	1.06	4	0.89	
Parapristipoma humile	1.06	4	0.89	
Alloteuthis africana	0.71	282	0.59	
Chaetodon hoefleri	0.71	7	0.59	
Pseudupeneus prayensis	0.71	4	0.59	
Monolene microstoma	0.00	4		
Total	119.66		100.00	

PROJECT STATION: 121
 DATE: 28/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1030 Long E 1336
 start stop duration
 TIME :14:10:00 14:40:00 30 (min) Purpose code: 3
 LOG :7248.20 7250.20 1.40 Area code : 2
 FDEPTH: 20 21 GearCond.code:
 BDEPTH: 20 21 Validity code:
 Towing dir: 150° Wire out: 150 m Speed: 27 kn*10

Sorted: 27 Kg Total catch: 26.60 CATCH/HOUR: 53.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Chloroscombrus chrysurus	13.20	152	24.81	328
Galeoides decadactylus	10.20	34	19.17	331
Selene dorsalis	9.00	154	16.92	329
Brachydeuterus auritus	7.00	760	13.16	330
Lagocephalus laevis	3.60	6	6.77	
Sphyraena guachancho	3.00	30	5.64	
Sepia officinalis hierredda	2.40	4	4.51	
Stromateus fiatola	2.20	4	4.14	
Parapristigoma humile	1.00	2	1.88	
Alectis alexandrinus	0.80	2	1.50	
Trichiurus lepturus	0.60	30	1.13	
Pegusa lascaris	0.10	2	0.19	
Sardinella maderensis	0.10	6	0.19	
Parapenaeopsis atlantica	0.00	2		
Total	53.20		100.01	

PROJECT STATION: 122
 DATE: 28/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1042 Long E 1333
 start stop duration
 TIME :16:11:00 16:41:00 30 (min) Purpose code: 3
 LOG :7264.30 7266.20 1.42 Area code : 2
 FDEPTH: 71 73 GearCond.code:
 BDEPTH: 71 73 Validity code:
 Towing dir: 150° Wire out: 350 m Speed: 28 kn*10

Sorted: 58 Kg Total catch: 357.30 CATCH/HOUR: 714.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trcae	309.60	5040	43.32	332
Pagellus bellottii	228.00	1032	31.91	333
Brachydeuterus auritus	166.80	564	14.95	334
Trichiurus lepturus	16.80	48	2.35	
Alloteuthis africana	15.60	5054	2.18	
Atractoscion aequidens	11.00	4	1.54	
Dentex barnardi	7.20	36	1.01	
Octopus vulgaris	5.60	6	0.78	
Sepia officinalis hierredda	5.00	2	0.70	
Zeus faber	3.60	12	0.50	
Pomadasys jubelini	3.00	2	0.42	
Selene dorsalis	1.20	12	0.27	
Ubrina canariensis	1.20	12	0.17	
Total	714.60		100.00	

PROJECT STATION: 123
 DATE: 28/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1041 Long E 1328
 start stop duration
 TIME :17:28:00 17:58:00 30 (min) Purpose code: 3
 LOG :7272.10 7273.30 1.85 Area code : 2
 FDEPTH: 99 90 GearCond.code:
 BDEPTH: 99 90 Validity code:
 Towing dir: 330° Wire out: 450 m Speed: 34 kn*10

Sorted: 35 Kg Total catch: 2037.21 CATCH/HOUR: 4074.42

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trcae	3687.40	59736	95.41	335
Pagellus bellottii	99.20	966	2.43	336
Pterothrissus belloci	69.40	1140	1.68	
Illex coindetii	11.40	114	0.28	
Dentex angoliensis	2.60	10	0.06	
Sepia officinalis hierredda	2.28	342	0.06	
Dentex barnardi	1.80	10	0.04	
Citharus linguatula	1.14	114	0.03	
Dentex macropthalmus	0.20	2		
Total	4074.42		99.99	

PROJECT STATION: 124
 DATE: 28/ 5/91 GEAR TYPE: PT No:2 POSITION: Lat 1025 Long 1323
 start stop duration
 TIME :20:13:20 21:03:20 50 (min) Purpose code: 1
 LOG :7296.50 7298.90 2.40 Area code : 2
 FDEPTH: 20 20 GearCond.code:
 BDEPTH: 62 52 Validity code:
 Towing dir: 105° Wire out: 100 m Speed: 40 kn*10

Sorted: 136 Kg Total catch: 135.95 CATCH/HOUR: 163.14

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Selene dorsalis	58.44	1176	35.82	337
Sphyraena guachancho	58.44	56	35.82	341
Sardinella maderensis	22.26	76	13.64	342
Sarda sarda	11.16	5	6.84	
Chloroscombrus chrysurus	4.50	23	2.76	338
Decapterus rhonchus	3.84	16	2.35	339
Trachurus trcae	2.70	42	1.66	340
Sardinella aurita	1.56	5	0.96	
Alloteuthis africana	0.24	59	0.25	
Brachydeuterus auritus	0.00	1		
Engraulis encrasicolus	0.00	2		
Total	163.14		100.00	

PROJECT STATION: 125
 DATE: 28/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1026 Long E 1314
 start stop duration
 TIME :23:45:00 00:15:00 30 (min) Purpose code: 1
 LOG :7320.20 7321.10 1.52 Area code : 2
 FDEPTH: 98 102 GearCond.code:
 BDEPTH: 98 102 Validity code:
 Towing dir: 290° Wire out: 350 m Speed: 30 kn*10

Sorted: 33 Kg Total catch: 494.85 CATCH/HOUR: 989.70

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trcae	585.00	25740	59.11	343
Pagellus bellottii	237.00	7110	23.95	344
Dentex macropthalmus	51.00	960	5.15	345
Lepidotrigla carolae	39.00	2190	3.94	
Pterothrissus belloci	21.00	360	2.32	
Citharus linguatula	12.00	630	1.21	
Sepia bertheloti	9.00	300	0.91	
Lepidotrigla cadmani	9.00	120	0.91	
Saurida brasiliensis	6.00	360	0.61	
Squatina oculata	3.60	2	0.36	
Uranoscopus cadenati	3.00	30	0.30	
Scorpaena normani	3.00	90	0.30	
Boops boops	3.00	150	0.30	
Torpedo torpedo	2.60	6	0.26	
Zeus faber	2.00	4	0.20	
Illex coindetii	1.50	30	0.15	
Ubrina canariensis	1.20	2	0.12	
Raja miraletus	0.80	4	0.08	
Total	989.70		99.98	

PROJECT STATION: 126
 DATE: 29/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1040 Long E 1313
 start stop duration
 TIME :06:22:00 06:52:00 30 (min) Purpose code: 3
 LOG :7369.50 7370.60 1.60 Area code : 2
 FDEPTH: 447 432 GearCond.code:
 BDEPTH: 447 432 Validity code:
 Towing dir: 334° Wire out: 1250 m Speed: 29 kn*10

Sorted: 33 Kg Total catch: 395.32 CATCH/HOUR: 790.64

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Merluccius polli, female	302.40	1056	39.25	347
Nematocarcinus africanus	260.00	44684	32.88	
Merluccius polli, male	57.60	936	7.29	348
Trichiurus lepturus	36.00	192	4.55	
Laemonema laureysi	36.00	432	4.55	
Plesionika marlia	31.20	62400	3.85	
Deepwater fish mixture	19.20		2.43	
Etmopterus spinax	8.40	240	1.06	
Coelionchus coelionchus	6.00	72	0.76	
Brosme brosme	6.00	120	0.76	
MYCTOPHIDAE	4.80	2304	0.61	
Hymenocephalus italicus	4.80	216	0.61	
Aristeus varidens, female	3.84	192	0.49	348
Chlorophthalmus atlanticus	3.60	48	0.46	
Aristeus varidens, male	2.40	360	0.30	349
Hoplostethus cadenati	2.40	96	0.30	
Todaropsis eblanae	2.40	24	0.30	
Nezumia sp.	2.40	24	0.30	
Plesionectes edwardsianus	0.96	24	0.12	
Dibranchius atlanticus	0.24	24	0.03	
Total	790.64		100.00	

PROJECT STATION: 127
 DATE: 20/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1039 Long E 1312
 start stop duration
 TIME :07:50:00 08:20:00 30 (min) Purpose code: 3
 LOG :7375.50 7376.60 1.60 Area code : 2
 FDEPTH: 352 322 GearCond.code:
 BDEPTH: 352 322 Validity code:
 Towing dir: 330° Wire out: 1100 m Speed: 27 kn*10

Sorted: 102 Kg Total catch: 1026.78 CATCH/HOUR: 2053.56

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichiurus lepturus	1418.44	7199	69.07	
Merluccius polli, male	197.00	1044	9.59	351
Nematocarcinus africanus	157.60	38524	7.67	
Pterothrissus belloci	91.62	590	4.46	
Carcharias signatus	55.40	2	2.70	
Merluccius polli, female	59.20	394	2.59	350
Chlorophthalmus atlanticus	41.38	808	2.02	
Laemonema laureysi	17.14	256	0.83	
RAJIDAE	7.88	20	0.38	
Parapenaeus longirostris, fem.	3.54	512	0.19	353
Synagrops microlepis	1.98	139	0.10	
MYCTOPHIDAE	1.98	1504	0.10	
GONOSTOMATIDAE	1.20	100	0.06	
Epigonus telescopus	1.00	20	0.05	
Parapenaeus longirostris, male	0.80	60	0.04	352
Solenocera africana	0.80	160	0.04	
Hymenocephalus italicus	0.60	240	0.04	
Trachurus trcae	0.60	20	0.03	
Todaropsis eblanae	0.40	20	0.02	
Neumerinthe folgori	0.20	20	0.01	
Etmopterus spinax	0.20	20	0.01	
Total	2053.56		100.00	

PROJECT STATION: 128
 DATE: 29/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1040 Long E 1315
 start stop duration
 TIME :09:30:00 10:00:00 30 (min) Purpose code: 3
 LOG :7383.60 7384.70 1.70 Area code : 2
 FDEPTH: 209 196 GearCond.code:
 BDEPTH: 209 196 Validity code:
 Towing dir: 320° Wire out: 600 m Speed: 29 kn*10

Sorted: Kg Total catch: CATCH/HOUR:

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Total	0.00			

PROJECT STATION: 129
 DATE:20/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 1040 Long E 1324
 start stop duration
 TIME :11:38:00 12:08:00 30 (min) Purpose code: 3
 LOG :7397.90 7398.90 1.79 Area code : 2
 FDEPTH: 103 101 GearCond.code:
 BDEPTH: 103 101 Validity code:
 Towing dir: 350° Wire out: 550 m Speed: 29 km*10
 Sorted: 32 Kg Total catch: 810.30 CATCH/HOUR: 1620.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trercae	1595.00	19544	98.42	354
Pterothrissus belloci	10.00	200	0.62	
Dentex macrophthalmus	4.60	74	0.28	355
Zeus faber	3.80	6	0.23	
Illex coindetii	2.50	100	0.15	
Sarda sarda	2.00	2	0.12	
Zenopsis conchifer	1.80	4	0.11	
Dentex barnardi	0.80	2	0.05	
Pagellus bellottii	0.10	2	0.01	
Total	1620.60		99.99	

PROJECT STATION: 130
 DATE:29/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 1050 Long E 1324
 start stop duration
 TIME :13:53:00 14:23:00 30 (min) Purpose code: 3
 LOG :7414.10 7416.00 1.54 Area code : 2
 FDEPTH: 249 251 GearCond.code:
 BDEPTH: 249 251 Validity code:
 Towing dir: 140° Wire out: 850 m Speed: 29 km*10
 Sorted: 61 Kg Total catch: 799.68 CATCH/HOUR: 1599.36

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Chlorophthalmus atlanticus	1086.90	2852	67.95	356
Synagrops microlepis	392.60	25340	24.55	
Laemonema laureysi	36.40	312	2.29	
Zenopsis conchifer	23.40	130	1.46	
Merluccius polli	23.40	260	1.45	
Parapenaeus longirostris, fem.	11.96	1742	0.75	358
Coelorhynchus coelorhynchus	10.40	312	0.65	
Malacocephalus occidentalis	5.20	208	0.33	
Parapenaeus longirostris, male	4.68	984	0.29	357
Dentex macrophthalmus	1.40	4	0.09	
Sepia orbignyana	1.30	104	0.08	
Pontirus accraensis	1.30	26	0.08	
Epigonus telescopus	0.52	26	0.03	
Total	1599.36		100.00	

PROJECT STATION: 131
 DATE:29/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 1558 Long E 1335
 start stop duration
 TIME :15:58:00 16:28:00 30 (min) Purpose code: 3
 LOG :7420.40 7429.50 1.84 Area code : 2
 FDEPTH: 90 88 GearCond.code:
 BDEPTH: 90 88 Validity code:
 Towing dir: 330° Wire out: 400 m Speed: 33 km*10
 Sorted: 31 Kg Total catch: 292.57 CATCH/HOUR: 565.14

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trercae	342.00	4344	58.45	362
Brachydeuterus auritus	180.00	956	30.76	361
Trichiurus lepturus	25.20	162	4.31	
Scutina oculata	11.40	2	1.95	
Alloteuthis africana	5.40	3420	0.92	
Zeus faber	4.90	14	0.82	
Miracorvina angolensis	3.50	18	0.62	
Torpedo torpedo	3.40	2	0.58	
Pagellus bellottii	3.20	18	0.55	359
Dentex angolensis	2.40	10	0.41	360
Dentex barnardi	2.00	10	0.34	
Branchiostegus semifasciatus	1.20	2	0.21	
Illex coindetii	0.54	18	0.09	
Total	585.14		100.01	

PROJECT STATION: 132
 DATE:30/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 1102 Long E 1329
 start stop duration
 TIME :09:35:00 07:05:00 30 (min) Purpose code: 3
 LOG :7537.50 7538.90 1.60 Area code : 2
 FDEPTH: 395 389 GearCond.code:
 BDEPTH: 395 389 Validity code:
 Towing dir: 340° Wire out: 1200 m Speed: 29 km*10
 Sorted: 89 Kg Total catch: 450.80 CATCH/HOUR: 901.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Merluccius polli, female	281.00	950	31.17	364
Merluccius polli, male	253.00	1060	28.06	363
Nematocarcinus africanus	199.00	39800	22.07	
Trichiurus lepturus	81.00	180	8.98	
Laemonema laureysi	21.00	220	2.39	
Etmopterus spinax	17.00	960	1.89	
GONOSTOMATIDAE	14.80	30	1.64	
Aristeus varidens, female	10.00	570	1.11	366
Aristeus varidens, male	4.80	450	0.53	365
Pterothrissus belloci	4.50	20	0.50	
Plesionika martia	4.50	2500	0.50	
MYCTOPHIDAE	3.00	3160	0.33	
Illex coindetii	3.00	20	0.33	
Deepwater fish mixture	2.00		0.22	
Oibranthus atlanticus	1.20	30	0.13	
Nozumia aequalis	1.00	10	0.11	
Chlorophthalmus atlanticus	0.50	10	0.06	
Synagrops microlepis	0.20	30	0.02	
Hymenocephalus italicus	0.10	10	0.01	
Total	901.60		99.99	

PROJECT STATION: 133
 DATE:30/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 1100 Long E 1398
 start stop duration
 TIME :08:37:00 09:07:00 30 (min) Purpose code: 3
 LOG :7548.90 7550.40 1.60 Area code : 2
 FDEPTH: 100 85 GearCond.code:
 BDEPTH: 100 85 Validity code:
 Towing dir: 93° Wire out: 400 m Speed: 31 km*10
 Sorted: 25 Kg Total catch: 97.47 CATCH/HOUR: 194.94

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trercae	149.40	762	76.64	367
Brotula barbata	26.40	34	13.54	
Zeus faber	5.00	12	2.56	
Trichiurus lepturus	2.80	16	1.44	
Brachydeuterus auritus	2.40	24	1.23	
Pagellus bellottii	2.20	6	1.13	
Dentex macrophthalmus	2.20	6	1.13	
Sardinella aurita	2.00	16	1.03	
Synagrops microlepis	1.20	168	0.62	
Dentex barnardi	0.70	2	0.36	
Dentex angolensis	0.40	2	0.21	
Parapenaeus longirostris	0.24	56	0.12	
GONALIAE	0.00	16		
Total	194.94		100.01	

PROJECT STATION: 134
 DATE:30/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 1059 Long E 1345
 start stop duration
 TIME :12:25:00 12:55:00 30 (min) Purpose code: 3
 LOG :7560.60 7561.80 1.64 Area code : 2
 FDEPTH: 49 46 GearCond.code:
 BDEPTH: 49 46 Validity code:
 Towing dir: 340° Wire out: 200 m Speed: 35 km*10
 Sorted: 36 Kg Total catch: 3.60 CATCH/HOUR: 7.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Stromateus fiatola	7.20	12	100.00	
Total	7.20		100.00	

PROJECT STATION: 135
 DATE:30/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat S 1103 Long E 1349
 start stop duration
 TIME :14:33:00 15:03:00 30 (min) Purpose code: 3
 LOG :7573.80 7575.30 1.66 Area code : 2
 FDEPTH: 36 35 GearCond.code:
 BDEPTH: 36 35 Validity code:
 Towing dir: 360° Wire out: 200 m Speed: 33 km*10
 Sorted: 33 Kg Total catch: 371.30 CATCH/HOUR: 742.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichiurus lepturus	204.80	2400	27.58	
Galeoides decadactylus	176.00		23.70	372
Brachydeuterus auritus	118.40	12702	15.64	
Stromateus fiatola	45.00	54	6.06	368
Rhinobates albomaculatus	34.60	16	4.66	
Pseudotolithus senegalensis	24.40	34	3.29	371
Pteroscion peli	24.00	1040	3.29	
Dasyatis margarita	21.80	16	2.94	
Pagellus bellottii	21.20	58	2.85	369
Dentex barnardi	17.20	34	2.32	370
Pomadoury jubelini	16.20	10	2.18	
Lithognathus mormyrus	15.60	18	2.10	
Cymura micrura	8.40	4	0.86	
Sepia officinalis hierredda	5.00	4	0.67	
Pseudotolithus typus	4.00	2	0.54	
Raja miraletus	3.00	4	0.40	
Sphyraena guachancho	2.00	4	0.27	
Atractosteus aequidens	1.40	2	0.19	
Chloroscombrus chrysurus	0.80	16	0.11	
Selene dorsalis	0.80	32	0.11	
Total	742.60		100.00	

PROJECT STATION: 136
 DATE:30/ 5/91 GEAR TYPE: BT No:1 POSITION:Lat 1111 Long 1347
 start stop duration
 TIME :16:25:00 18:50:00 25 (min) Purpose code: 3
 LOG :7587.00 7588.30 1.45 Area code : 2
 FDEPTH: 42 40 GearCond.code:
 BDEPTH: 42 40 Validity code:
 Towing dir: 30° Wire out: 200 m Speed: 33 km*10
 Sorted: 29 Kg Total catch: 239.70 CATCH/HOUR: 575.28

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichiurus lepturus	243.60		42.34	
Brachydeuterus auritus	169.68	16042	29.50	
Pteroscion peli	35.28	210	6.13	
Chloroscombrus chrysurus	20.56	101	4.96	
Pagellus bellottii	25.44	91	4.42	374
Argyrosomus hololepidotus	16.56	17	2.88	376
Umrina canariensis	14.64	103	2.54	373
Stromateus fiatola	13.68	14	2.38	
Dentex barnardi	11.52	41	2.03	375
Pomadoury jubelini	3.56	7	0.58	
Rhinobates albomaculatus	2.68	2	0.50	
Pseudotolithus senegalensis	2.40	2	0.42	
Raja miraletus	2.16	2	0.39	
Sepia officinalis hierredda	1.68	2	0.29	
Lithognathus mormyrus	1.20	2	0.21	
Torpedo torpedo	0.96	2	0.17	
Citharus linguatula	0.84	84	0.15	
Selene dorsalis	0.84	17	0.15	
Total	575.28		100.00	

PROJECT STATION: 137
 DATE: 30/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1108 Long E 1345
 start stop duration
 TIME :17:26:00 17:56:00 30 (min) Purpose code: 3
 LOG :7592.30 7593.60 1.64 Area code : 2
 FDEPTH: 60 60 GearCond.code:
 BDEPTH: 60 60 Validity code:
 Towing dir: 360° Wire out: 300 m Speed: 31 km*10
 Sorted: 33 Kg Total catch: 438.76 CATCH/HOUR: 877.52

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	543.40	12142	61.92	377
Pagellus bellottii	114.40	650	13.04	378
Dentex barnardi	57.20	390	6.52	
Umbriina canariensis	32.50	364	3.70	
Trachurus trecae	28.60	234	3.26	
Sphyrna lewini	24.20	2	2.76	
Trichurus lepturus	20.80	156	2.37	
Pterothrissus belloci	15.60	286	1.78	
Synagrops microlepis	11.70	104	1.33	
Attractoscion aequidens	9.10	52	1.04	
Citharus linguatula	7.80	336	0.89	
Torpedo white spots*	5.20	26	0.59	
Parapenaeus longirostris	3.90	728	0.44	
Gobiidae	1.82	572	0.21	
Thorogobius angolensis	0.78	76	0.09	
Alloteuthis africana	0.52	936	0.06	
Total		877.52	100.00	

PROJECT STATION: 138
 DATE: 30/ 5/91 GEAR TYPE: PT No:2 POSITION: Lat S 1101 Long E 1346
 start stop duration
 TIME :20:10:00 20:25:00 15 (min) Purpose code: 3
 LOG :7605.40 7606.80 1.40 Area code : 2
 FDEPTH: 20 20 GearCond.code:
 BDEPTH: 49 44 Validity code:
 Towing dir: 120° Wire out: 100 m Speed: 35 km*10
 Sorted: 70 Kg Total catch: 1007.72 CATCH/HOUR: 4030.88

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	3789.48	47076	93.52	379
Trachurus trecae	85.80	628	2.13	
Trichurus lepturus	49.64	228	1.21	
Chloroscombrus chrysurus	43.04	572	0.99	
Sardinella maderensis	34.32	288	0.85	
Sphyrna guachancho	28.50	56	0.71	
Sarda sarda	24.00	12	0.63	
Total		4030.88	100.01	

PROJECT STATION: 139
 DATE: 31/ 5/91 GEAR TYPE: PT No:2 POSITION: Lat S 1102 Long E 1336
 start stop duration
 TIME :01:38:00 02:21:00 43 (min) Purpose code: 1
 LOG :7552.90 7554.50 2.43 Area code : 2
 FDEPTH: 10 10 GearCond.code:
 BDEPTH: 119 125 Validity code:
 Towing dir: 302° Wire out: 200 m Speed: 29 km*10
 Sorted: 11 Kg Total catch: 10.80 CATCH/HOUR: 15.07

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichurus lepturus	14.09	113	93.50	
MYCTOPHIDAE	0.70		4.64	
Illex coindetii	0.28	11	1.86	
Total		15.07	100.00	

PROJECT STATION: 140
 DATE: 31/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1110 Long E 1390
 start stop duration
 TIME :06:30:00 07:00:00 30 (min) Purpose code: 3
 LOG :7693.40 7684.40 1.50 Area code : 2
 FDEPTH: 407 413 GearCond.code:
 BDEPTH: 407 413 Validity code:
 Towing dir: 340° Wire out: 1200 m Speed: 29 km*10
 Sorted: 61 Kg Total catch: 446.26 CATCH/HOUR: 892.52

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Merluccius polli, female	390.60	1288	43.76	381
Merluccius polli, male	208.60	840	23.37	380
Nematopcarcinus africanus	170.80	54086	19.14	
Laemonema laureysi	32.60	238	3.76	
Centrophorus granulatus	31.60	6	3.56	
Plesionika murta	22.40	119465	2.51	
Aristeus varidens, female	16.10	910	1.80	383
Deepwater fish mixture	4.20		0.47	
Etmopterus spinax	3.50	336	0.39	
Pterothrissus belloci	3.50	28	0.39	
Aristeus varidens, male	2.10	26	0.24	382
Nezumia aequalis	2.10	28	0.24	
Galeorhinus galeus	1.40	14	0.16	
GONOSTOMATIDAE	0.70	28	0.09	
Ariomma bondi	0.56	14	0.06	
Brosmiculus lamberis *	0.28	14	0.03	
Saurida brasiliensis	0.14	42	0.02	
Dibranchius atlanticus	0.14	14	0.02	
Total		892.52	100.00	

PROJECT STATION: 141
 DATE: 31/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1109 Long E 1391
 start stop duration
 TIME :07:55:00 08:25:00 30 (min) Purpose code: 3
 LOG :7688.40 7689.30 1.60 Area code : 2
 FDEPTH: 315 308 GearCond.code:
 BDEPTH: 315 308 Validity code:
 Towing dir: 355° Wire out: 900 m Speed: 29 km*10
 Sorted: 25 Kg Total catch: 25.12 CATCH/HOUR: 50.24

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Deepwater fish mixture	47.20		93.95	
Merluccius polli	2.50	12	4.98	
Laemonema laureysi	0.40	2	0.80	
Etmopterus spinax	0.10	2	0.20	
Synagrops microlepis	0.02	2	0.04	
Trichurus lepturus	0.02	2	0.04	
Total		50.24	100.01	

PROJECT STATION: 143
 DATE: 31/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1108 Long E 1398
 start stop duration
 TIME :10:50:00 11:20:00 30 (min) Purpose code: 3
 LOG :7701.50 7702.40 1.70 Area code : 2
 FDEPTH: 105 106 GearCond.code:
 BDEPTH: 105 106 Validity code:
 Towing dir: 350° Wire out: 400 m Speed: 32 km*10
 Sorted: 4 Kg Total catch: 3.64 CATCH/HOUR: 7.28

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichurus lepturus	2.80	3	38.46	
Dentex macrophthalmus	1.60	10	24.73	
Dentex angolensis	1.60	4	13.74	
Sarda sarda	1.60	2	13.74	
Zemopsis conchifer	0.30	2	4.12	
Pagellus bellottii	0.20	2	2.75	
Trachurus trecae	0.10	4	1.37	
Momolone microstoma	0.04	2	0.55	
Illex coindetii	0.04	8	0.55	
Total		7.28	100.01	

PROJECT STATION: 144
 DATE: 31/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1121 Long E 1393
 start stop duration
 TIME :13:34:00 13:54:00 20 (min) Purpose code: 3
 LOG :7721.90 7722.80 1.25 Area code : 2
 FDEPTH: 48 123 GearCond.code:
 BDEPTH: 48 123 Validity code:
 Towing dir: 360° Wire out: 400 m Speed: 37 km*10
 Sorted: 30 Kg Total catch: 165.40 CATCH/HOUR: 496.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Pagellus bellottii	382.05	2445	77.00	386
Sarda sarda	77.10	90	15.54	384
Sphyrna sphyraena	8.70	51	1.75	385
Alloteuthis africana	6.75	7965	1.96	
Lagocephalus laevisgatus	6.00	15	1.21	
Caranx crysos	4.20	3	0.85	
Fistularia petimba	3.00	15	1.60	
Balistes caprisacus	3.00	15	0.60	
Seriola carpenteri	2.70	9	0.54	
Chelidonichthys gabonensis	1.50	15	0.30	
Trachurus trecae	1.20	3	0.24	
Total		496.20	99.99	

PROJECT STATION: 145
 DATE: 31/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1120 Long E 1337
 start stop duration
 TIME :14:50:00 15:20:00 30 (min) Purpose code: 3
 LOG :7729.40 7730.40 1.83 Area code : 2
 FDEPTH: 42 46 GearCond.code:
 BDEPTH: 42 46 Validity code:
 Towing dir: 360° Wire out: 200 m Speed: 32 km*10
 Sorted: 54 Kg Total catch: 138.05 CATCH/HOUR: 276.10

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Pagellus bellottii	125.50	720	45.82	387
Brachydeuterus auritus	80.50	330	29.16	388
Lagocephalus laevisgatus	29.50	50	10.68	
Balistes caprisacus	10.00	40	3.62	
Fistularia petimba	9.60	26	3.48	
Selene dorsalis	5.40	6	1.96	
Zeus faber	5.00	10	1.81	
Scomberomorus tritor	3.40	2	1.23	
Caranx crysos	2.00	2	0.72	
Trichurus lepturus	1.60	2	0.58	
Dentex barnardi	1.00	10	0.36	
Seriola carpenteri	0.60	6	0.22	
Raja miraletus	0.42	2	0.14	
Trachurus trecae	0.30	6	0.11	
Citharus linguatula	0.30	6	0.11	
Total		276.10	100.00	

PROJECT STATION: 146
 DATE: 31/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1120
 start stop duration Long E 1340
 TIME :16:00:00 16:30:00 30 (min) Purpose code: 3
 LOG :7734.80 7736.20 1.46 Area code : 2
 FDEPTH: 28 21 GearCond.code:
 BDEPTH: 28 21 Validity code:
 Towing dir: 90° Wire out: 150 m Speed: 28 km*10
 Sorted: 196 Kg Total catch: 196.45 CATCH/HOUR: 392.90

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Engraulis encrasicolus	95.60	39902	24.33	393
Alectis alexandrinus	82.20	108	20.92	389
Sphyræna guachancho	78.40	104	19.95	390
Lithognathus mormyrus	39.00	50	9.93	391
Pagellus bellottii	15.40	26	3.92	392
Arius latiscutatus	15.40	4	3.92	
Pseudolithus senegalensis	13.20	8	3.36	
Selene dorsalis	11.80	12	3.00	
Argyrosomus hololepidotus	11.80	8	3.00	
Scomberomus tritor	11.20	6	2.85	
Elops lacerta	10.00	6	2.55	
Sardinella aurita	4.00	200	1.02	
Sepia officinalis hierredda	2.80	6	0.71	
Galeoides decadactylus	1.60	4	0.41	
Raja miraletus	0.40	2	0.10	
Decapterus rhonchus	0.10	2	0.03	
Total	392.90		100.00	

PROJECT STATION: 147
 DATE: 31/ 5/91 GEAR TYPE: BT No:1 POSITION: Lat S 1121
 start stop duration Long E 1344
 TIME :17:15:00 17:45:00 30 (min) Purpose code: 3
 LOG :7741.80 7742.90 1.76 Area code : 2
 FDEPTH: 16 15 GearCond.code:
 BDEPTH: 16 15 Validity code:
 Towing dir: 5° Wire out: 100 m Speed: 34 km*10
 Sorted: 29 Kg Total catch: 230.15 CATCH/HOUR: 460.30

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Brachydeuterus auritus	128.80	5106	27.98	394
Pteroscion pelli	102.20	2852	22.20	
Trichiurus lepturus	58.80	1918	12.77	
Shrimps, small, non comm.	25.20	16800	5.47	
Pseudolithus senegalensis	19.40	18	4.21	
Argyrosomus hololepidotus	17.70	12	3.85	
Pentanemus quinquarius	17.50	196	3.80	
Pomadasy jubelini	16.80	28	3.65	
Ilisha africana	16.10	1792	3.50	
Pomadasy peroteti	11.90	14	2.59	
Lagocephalus laevigatus	10.50	28	2.28	
Epinephelus aeneus	6.40	4	1.39	
Galeoides decadactylus	5.70	90	1.24	
Stromateus fiatola	4.20	14	0.91	
Lithognathus mormyrus	4.20	14	0.91	
Pseudolithus typus	3.40	2	0.74	
Chloroscombrus chrysurus	2.80	28	0.61	
Dasyatis margarita	2.10	14	0.46	
Ubrina canariensis	2.10	14	0.46	
Epinephelus goreensis	1.70	2	0.37	
Pegusa lascaris	0.70	14	0.15	
Pomadasy incisus	0.70	14	0.15	
Sepiella ornata	0.70	266	0.15	
Engraulis encrasicolus	0.42	224	0.09	
Selene dorsalis	0.28	126	0.06	
Total	460.30		99.99	

PROJECT STATION: 148
 DATE: 31/ 5/91 GEAR TYPE: PT No:2 POSITION: Lat S 1128
 start stop duration Long E 1338
 TIME :22:44:00 23:12:00 28 (min) Purpose code: 1
 LOG :7785.40 7786.90 1.50 Area code : 2
 FDEPTH: 15 15 GearCond.code:
 BDEPTH: 36 41 Validity code:
 Towing dir: 205° Wire out: 100 m Speed: 42 km*10
 Sorted: 26 Kg Total catch: 165.05 CATCH/HOUR: 353.68

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sardinella aurita	257.14	793	72.70	398
Trachurus trecae	24.21	62	6.85	396
Scomber japonicus	22.71	26	6.42	397
Sphyræna guachancho	19.93	26	5.64	395
Sardinella maderensis	19.29	86	5.45	399
Selene dorsalis	3.64	9	1.03	
Brachydeuterus auritus	2.14	26	0.61	
Trachinotus ovatus	1.93	6	0.55	
Sphyræna sphyraena	1.50	13	0.42	
Decapterus rhonchus	0.64	6	0.18	
Engraulis encrasicolus	0.54	214	0.15	
Total	353.67		100.00	

PROJECT STATION: 149
 DATE: 1/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1130
 start stop duration Long E 1320
 TIME :06:22:00 06:52:00 30 (min) Purpose code: 3
 LOG :7856.40 7857.80 1.30 Area code : 2
 FDEPTH: 464 456 GearCond.code:
 BDEPTH: 464 456 Validity code:
 Towing dir: 20° Wire out: 1300 m Speed: 26 km*10
 Sorted: 60 Kg Total catch: 222.15 CATCH/HOUR: 444.30

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Nematocarcinus africanus	205.80	62900	46.32	
Merluccius polli, female	105.00	210	23.63	401
Merluccius polli, male	51.80	132	11.66	400
GONOSTOMATIDAE	42.50	2150	9.57	
Aristeus varidens, female	8.40	482	1.89	403
Bromniculus imberbis *	7.70	300	1.73	
Hoplostethus cadenati	6.30	622	1.42	
Aristeus varidens, male	4.90	546	1.10	402
Laemonema laureysi	2.80	300	0.63	
Plesionika martia	2.80	1288	0.63	
Malacocephalus occidentalis	1.74	6	0.39	
Chlorophthalmus atlanticus	1.40	28	0.32	
Etmopterus spinax	1.40	286	0.32	
Coelorinchus coelorhincus	0.70	42	0.16	
Lophius vaillanti	0.28	6	0.06	
PARALEPIDIDAE	0.22	6	0.05	
MYCTOPHIDAE	0.22	272	0.05	
POLYCHAELIDAE	0.14	28	0.03	
Plesionema edwardsianus	0.14	6	0.03	
Nezumia aequalis	0.08	14	0.02	
Total	444.32		100.01	

PROJECT STATION: 150
 DATE: 1/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1131
 start stop duration Long E 1322
 TIME :07:40:00 08:10:00 30 (min) Purpose code: 3
 LOG :7860.90 7862.40 1.60 Area code : 2
 FDEPTH: 343 367 GearCond.code:
 BDEPTH: 343 367 Validity code:
 Towing dir: 215° Wire out: 1100 m Speed: 30 km*10
 Sorted: 74 Kg Total catch: 679.73 CATCH/HOUR: 1359.46

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Merluccius polli, female	473.40	1692	34.82	405
Pterothrissus bellocci	300.60	1670	22.11	
Nematocarcinus africanus	257.40	48048	18.93	
Merluccius polli, male	151.20	414	11.12	404
Etmopterus spinax	64.80	3358	4.77	
Plesionika martia	32.40	20694	2.38	
Centroprorus granulosus	27.60	4	2.03	
Laemonema laureysi	19.80	378	1.46	
Chlorophthalmus atlanticus	10.80	180	0.79	
Malacocephalus occidentalis	9.00	72	0.66	
Synagrops microlepis	3.60	144	0.26	
Aristeus varidens, female	1.62	144	0.12	409
Aristeus varidens, male	1.44	288	0.11	408
Neomerinthe folgori	1.44	36	0.11	
Illex coindetii	1.44	18	0.11	
Helicolenus dactylopterus	0.90	36	0.07	
Chaunax pictus	0.90	36	0.07	
Hymenocephalus italicus	0.90	540	0.07	
Parapanaeus longirostris, fem.	0.18	234	0.01	407
Parapanaeus longirostris, male	0.04	36		
Solenocera africana	0.00	4		410
Total	1359.46		100.00	

PROJECT STATION: 151
 DATE: 1/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1132
 start stop duration Long E 1323
 TIME :09:02:00 09:32:00 30 (min) Purpose code: 3
 LOG :7866.60 7867.90 1.40 Area code : 2
 FDEPTH: 238 240 GearCond.code: 8
 BDEPTH: 238 240 Validity code: 1
 Towing dir: 210° Wire out: 900 m Speed: 28 km*10
 Sorted: 39 Kg Total catch: 196.05 CATCH/HOUR: 392.10

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Synagrops microlepis	167.00	686	42.59	
MYCTOPHIDAE	114.00	12000	29.07	
Parapanaeus longirostris, fem.	33.30	9656	8.49	412
Coelorinchus coelorhincus	22.50	710	5.74	
Parapanaeus longirostris, male	16.00	10240	4.08	411
Pterothrissus bellocci	15.00	100	3.83	
Bembrops heterurus	7.00	130	1.79	
Chlorophthalmus atlanticus	5.00	50	1.28	
Dentex macrophthalmus	4.50	10	1.15	
Malacocephalus occidentalis	3.00	90	0.77	
Neomerinthe folgori	2.00	110	0.51	
Sepia juveniles	1.00	80	0.26	
Etmopterus spinax	0.50	30	0.13	
Saurida brasiliensis	0.50	240	0.13	
Monolene microstoma	0.40	40	0.10	
Trichiurus lepturus	0.20	10	0.05	
CYNOGLOSSIDAE	0.20	30	0.05	
Total	392.10		100.02	

PROJECT STATION: 152
 DATE: 1/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1130 Long E 1920
 start stop duration
 TIME :14:14:00 14:44:00 30 (min) Purpose code: 1
 LOG :7876.50 7877.80 1.55 Area code : 2
 FDEPTH: 107 105 GearCond.code:
 BDEPTH: 107 105 Validity code:
 Towing dir: 90° Wire out: 450 m Speed: 30 kn*10
 Sorted: 125 Kg Total catch: 897.90 CATCH/HOUR: 1795.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Erythrocles monodi	1095.90	2432	61.03	415
Boops boops	222.30	3993	12.38	416
Dentex macrophthalmus	195.00	872	10.86	417
Sarda sarda	85.20	90	4.74	414
Atractoscion aequidens	79.40	76	4.42	413
Parapristipoma octolineatum	35.10	78	1.95	
Dentex gibbosus	23.40	65	1.30	
Torpedo torpedo	19.50	26	1.09	
Dentex angolensis	11.70	66	0.65	
Pageillus bellottii	10.40	92	0.58	
Sparus pagrus africanus	9.10	14	0.51	
Sepia officinalis hierredda	4.80	2	0.27	
Dentex congoensis	2.60	14	0.14	
Scomber japonicus	0.60	2	0.04	
Cheilodichthys gabonensis	0.60	12	0.03	
Total	1795.80		99.99	

PROJECT STATION: 156
 DATE: 2/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1139 Long E 1336
 start stop duration
 TIME :12:39:00 13:09:00 30 (min) Purpose code: 3
 LOG :7928.70 7930.60 1.40 Area code : 2
 FDEPTH: 74 73 GearCond.code:
 BDEPTH: 74 73 Validity code:
 Towing dir: 170° Wire out: 350 m Speed: 26 kn*10
 Sorted: 26 Kg Total catch: 227.70 CATCH/HOUR: 455.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	196.00	3454	43.21	423
Pageillus bellottii	139.20	1488	30.57	424
Brachydeuterus auritus	33.60	208	7.38	425
Dentex barnardi	20.80	96	4.57	
Dentex gibbosus	17.60	64	3.86	
Alloteuthis africana	14.40	2560	3.16	
Dentex angolensis	12.80	80	2.81	
Sepia officinalis hierredda	9.80	6	2.15	
Pseudupeneus prayensis	3.20	16	0.70	
Sarda sarda	2.60	2	0.57	
Torpedo torpedo	2.00	2	0.44	
Raja miraletus	1.00	2	0.22	
Sardinella aurita	0.80	16	0.18	
Boops boops	0.48	16	0.11	
Citharus linguatula	0.32	32	0.07	
Total	455.40		100.00	

PROJECT STATION: 153
 DATE: 2/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1130 Long E 1344
 start stop duration
 TIME :05:53:00 06:44:00 30 (min) Purpose code: 1
 LOG :7897.20 7898.60 1.70 Area code : 2
 FDEPTH: 20 18 GearCond.code:
 BDEPTH: 20 18 Validity code:
 Towing dir: 355° Wire out: 100 m Speed: 31 kn*10
 Sorted: 27 Kg Total catch: 143.75 CATCH/HOUR: 287.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	148.00	10616	51.48	418
Trichurus lepturus	53.00	410	18.43	
Ilisha africana	52.00	950	18.09	419
Stromateus fiatola	7.40	14	2.57	
Galeoides decadactylus	7.00	10	2.43	
Pseudotolithus senegalensis	5.20	6	1.81	
Sphyrna guachancho	5.00	20	1.74	
Pomadasys perotteti	3.20	8	1.11	
Chloroscombrus chrysurus	3.00	20	1.04	
Selene dorsalis	2.00	150	0.70	
Sardinella maderensis	1.50	150	0.52	
Sepiella ornata	0.10	6	0.03	
Engraulis encrasicolus	0.10	20	0.03	
Total	287.50		99.99	

PROJECT STATION: 157
 DATE: 2/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1140 Long E 1351
 start stop duration
 TIME :14:06:00 14:36:00 30 (min) Purpose code: 3
 LOG :7937.50 7938.60 1.60 Area code : 2
 FDEPTH: 103 102 GearCond.code:
 BDEPTH: 103 102 Validity code:
 Towing dir: 350° Wire out: 450 m Speed: 31 kn*10
 Sorted: 88 Kg Total catch: 897.90 CATCH/HOUR: 1795.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	1600.00	34844	89.10	427
Dentex macrophthalmus	66.00	700	3.66	428
Pageillus bellottii	22.00	140	1.23	
Sparus caeruleostictus	18.00	20	1.00	
Dentex angolensis	18.00	80	1.00	
Sepia officinalis hierredda	14.80	12	0.82	
Boops boops	14.00	180	0.78	
Sarda sarda	12.20	14	0.68	426
Zeus faber	12.00	20	0.67	
Illex coindetii	6.00	120	0.33	
Scomber japonicus	5.00	12	0.28	
Branchiostegus semifasciatus	4.20	4	0.23	
Ariomma bondi	2.60	20	0.11	
Torpedo torpedo	1.60	2	0.09	
Total	1795.80		100.00	

PROJECT STATION: 154
 DATE: 2/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1130 Long E 1338
 start stop duration
 TIME :08:53:00 09:23:00 30 (min) Purpose code: 3
 LOG :7905.50 7906.90 1.10 Area code : 2
 FDEPTH: 37 37 GearCond.code:
 BDEPTH: 37 37 Validity code:
 Towing dir: 170° Wire out: 200 m Speed: 26 kn*10
 Sorted: 83 Kg Total catch: 82.52 CATCH/HOUR: 165.04

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Lutjanus fulgens	37.20	72	22.54	420
Dentex barnardi	32.80	136	19.87	421
Ubrina canariensis	13.70	22	8.30	
Lagocephalus laevigatus	10.60	12	6.42	
Plectorhinchus mediterraneus	10.00	14	6.06	
Pageillus bellottii	8.40	50	5.09	
Pomadasys incisus	8.00	34	4.85	
Diplocus cervinus cervinus	7.60	6	4.60	
Acanthurus monroviae	4.60	6	2.79	
Pseudupeneus prayensis	4.60	26	2.79	
Sepia officinalis hierredda	3.20	4	1.94	
Epinephelus alexandrinus	3.00	2	1.82	
Trichurus lepturus	3.00	10	1.82	
Epinephelus aeneus	2.50	2	1.51	
Octopus sp.	2.40	2	1.45	
Ballistes capriscus	2.40	2	1.45	
Pomadasys rogeri	2.30	2	1.39	
Sparus caeruleostictus	2.00	2	1.21	
Bodianus speciosus	2.00	2	1.21	
Ubrina ronchus	1.40	2	0.85	
Raja miraletus	1.40	2	0.85	
Cynoglossus canariensis	1.00	2	0.61	
Fistularia petimba	0.90	2	0.55	
Cnaetodon hoefleri	0.04	2	0.02	
Total	165.04		99.99	

PROJECT STATION: 155
 DATE: 2/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1139 Long E 1327
 start stop duration
 TIME :15:34:00 16:02:00 28 (min) Purpose code: 3
 LOG :7945.60 7947.00 1.45 Area code : 2
 FDEPTH: 131 114 GearCond.code:
 BDEPTH: 131 114 Validity code:
 Towing dir: 80° Wire out: 550 m Speed: 30 kn*10
 Sorted: 55 Kg Total catch: 223.00 CATCH/HOUR: 477.86

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Dentex macrophthalmus	353.14	3191	73.90	429
Dentex angolensis	49.71	180	10.40	430
Ariomma bondi	18.86	634	3.95	
Zenopsis conchifer	14.57	34	3.05	
Spicara alta	11.14	20	2.33	
Pterothrissus belloci	6.86	51	1.44	
Illex coindetii	5.86	163	1.44	
Zeus faber	5.00	9	1.26	
Pageillus bellottii	5.14	26	1.08	
Squatina oculata	4.29	2	0.90	
Cheilodichthys gabonensis	0.43	9	0.09	
Boops boops	0.43	9	0.09	
Sepia bertheloti	0.43	2	0.09	
Monolele microstoma	0.00	9		
Total	477.86		100.02	

PROJECT STATION: 155
 DATE: 2/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1139 Long E 1341
 start stop duration
 TIME :11:23:00 11:48:00 25 (min) Purpose code: 3
 LOG :7921.90 7922.90 1.40 Area code : 2
 FDEPTH: 45 36 GearCond.code:
 BDEPTH: 45 36 Validity code:
 Towing dir: 360° Wire out: 250 m Speed: 33 kn*10
 Sorted: 22 Kg Total catch: 22.30 CATCH/HOUR: 53.52

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Atractoscion aequidens	20.64	10	38.57	
Pomadasys incisus	11.23	60	21.08	422
Lagocephalus laevigatus	4.32	7	8.07	
Pageillus bellottii	3.36	17	6.28	
Raja miraletus	3.12	5	5.83	
Octopus vulgaris	2.88	2	5.38	
Trichurus lepturus	2.16	12	4.04	
Ballistes capriscus	1.68	5	3.14	
Dentex barnardi	1.20	10	2.24	
Zeus faber	0.96	2	1.79	
Cynoglossus canariensis	0.66	2	1.79	
Pseudupeneus prayensis	0.72	2	1.35	
Hemibrops heterurus	0.24	2	0.45	

PROJECT STATION: 159
 DATE: 2/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1129 Long E 1324
 start stop duration
 TIME :17:31:00 18:01:00 30 (min) Purpose code: 3
 LOG :7955.80 7957.20 1.60 Area code : 2
 FDEPTH: 144 169 GearCond.code:
 BDEPTH: 144 169 Validity code:
 Towing dir: 310° Wire out: 550 m Speed: 30 kn*10
 Sorted: 30 Kg Total catch: 134.78 CATCH/HOUR: 268.56

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Dentex macrophthalmus	78.20	712	29.38	431
Spicara alta	63.90	514	23.71	
Synagrops microlepis	46.80	2232	17.36	
Zenopsis conchifer	43.20	550	16.03	
Dentex angolensis	10.80	28	4.01	
Illex coindetii	10.80	360	4.01	432
Pterothrissus belloci	4.50	28	1.67	
MYCTOPHIDAE	3.60	918	1.34	
Sphceroides sp.	3.16	10	1.17	
Todaropsis eblanae	2.70	126	1.00	
Monolele microstoma	0.54	28	0.20	
Saurida brasiliensis	0.18	28	0.07	
Citharus linguatula	0.18	36	0.07	
Parapanaeus longirostris	0.00	18		
Total	268.56		100.02	

PROJECT STATION: 160
 DATE: 3/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1151
 start stop duration Long E 1329
 TIME :06:20:00 06:50:00 30 (min) Purpose code: 3
 LOG :8031.90 8033.10 1.70 Area code : 2
 FDEPTH: 220 220 GearCond.code:
 BDEPTH: 220 220 Validity code:
 Towing dir: 330° Wire out: 750 m Speed: 30 km*10
 Sorted: 27 Kg Total catch: 58.14 CATCH/HOUR: 116.28

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Synagrops microlepis	57.60	5588	49.54	
Merluccius polli	11.60	168	9.98	433
Pterothrissus belloci	8.80	72	7.57	
Parapanaeus longirostris, fcm.	8.40	1208	7.22	435
Parapanaeus longirostris, male	5.60	1072	4.82	434
Dentex macrophthalmus	5.40	24	4.64	
Coelorhynchus coelorhynchus	4.80	340	4.13	
Zenopsis conchifer	3.40	20	2.92	
Brotula barbata	3.20	6	2.75	
Chlorophthalmus atlanticus	2.40	324	2.06	
Monolele microstoma	1.40	100	1.20	
Sebastes juveniles	0.48	48	0.41	
Neomerinthe folgori	0.48	12	0.41	
Malacocephalus occidentalis	0.48	16	0.41	
Bembrops heterurus	0.40	16	0.34	
Illex coindetii	0.40	8	0.34	
CHLOROPHTHALMIDAE	0.40	8	0.34	
Parapandalus narval	0.29	108	0.24	
Solenocera africana	0.29	44	0.24	
Cynoponticus ferox	0.24	4	0.21	
Squilla mantis	0.20	8	0.17	
MYCTOPHIDAE	0.04	20	0.03	
Total	116.28		99.97	

PROJECT STATION: 161
 DATE: 3/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1149
 start stop duration Long E 1336
 TIME :10:30:00 11:00:00 30 (min) Purpose code: 3
 LOG :9046.10 9046.50 1.50 Area code : 2
 FDEPTH: 89 89 GearCond.code:
 BDEPTH: 89 89 Validity code:
 Towing dir: 330° Wire out: 350 m Speed: 31 km*10
 Sorted: 48 Kg Total catch: 45.98 CATCH/HOUR: 91.98

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Dentex angolensis	33.00	124	32.62	439
Dentex barnardi	23.00	90	21.74	438
Pagellus bellottii	14.00	102	15.22	436
Dentex gibbosus	10.80	50	11.74	437
Sebastes officinalis hierredda	10.00	6	10.87	
Zeus faber	2.76	8	3.00	
Illex coindetii	1.20	420	1.30	
Octopus vulgaris	1.20	2	1.30	
Sparus pagrus africanus	0.90	8	0.98	
Branchiostegus semifasciatus	0.70	2	0.76	
Fistularia petimba	0.32	2	0.33	
Trachurus trecae	0.12	2	0.13	
Total	91.98		99.99	

PROJECT STATION: 162
 DATE: 3/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1150
 start stop duration Long E 1340
 TIME :12:14:00 12:44:00 30 (min) Purpose code: 3
 LOG :8053.80 8055.10 1.54 Area code : 2
 FDEPTH: 53 56 GearCond.code:
 BDEPTH: 58 58 Validity code:
 Towing dir: 320° Wire out: 200 m Speed: 30 km*10
 Sorted: 41 Kg Total catch: 40.90 CATCH/HOUR: 81.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichurus lepturus	41.20	64	50.37	
Alloteuthis africana	12.40	4960	15.16	
Trachurus trecae	9.00	210	11.00	440
Lagocephalus laevis	6.60	8	8.07	
Dentex barnardi	3.80	32	4.65	441
Zeus faber	3.80	6	3.67	
Balistes capricus	2.20	8	2.69	
Uraspis secunda	2.20	2	2.69	
Raja miraletus	0.40	2	0.49	
Pagellus bellottii	0.40	8	0.49	
Dentex angolensis	0.40	4	0.49	
Chaetodon hoefleri	0.20	2	0.24	
Saurida brasiliensis	0.00	2		
Brachydeuterus auritus	0.00	2		
Total	81.80		100.01	

PROJECT STATION: 169
 DATE: 3/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1150
 start stop duration Long E 1345
 TIME :13:33:00 14:03:00 30 (min) Purpose code: 3
 LOG :8061.50 8063.20 1.89 Area code : 2
 FDEPTH: 25 26 GearCond.code:
 BDEPTH: 25 26 Validity code:
 Towing dir: 180° Wire out: 150 m Speed: 30 km*10
 Sorted: 26 Kg Total catch: 147.20 CATCH/HOUR: 294.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	210.00	25434	71.33	
Trichurus lepturus	22.00	1620	7.47	
Galeoides decadactylus	12.00	223	4.08	
Sebastes officinalis hierredda	11.80	12	4.01	
Dasyatis marmorata	10.40	2	3.53	
Pomadourus incisus	6.00	88	2.04	
Pteroscion peli	6.00	430	2.04	
Pseudotolithus senegalensis	3.60	4	1.22	
Dentex barnardi	2.00	6	0.68	
Lithognathus murmyrus	1.40	6	0.48	
Dasyatis margarita	1.40	2	0.48	
Selene dorsalis	1.00	100	0.34	
Sphyrna guachancho	1.00	8	0.34	
Epinephelus aeneus	0.80	2	0.27	
Stromateus fiatola	0.80	2	0.27	
Rhinobatos albomaculatus	0.60	2	0.27	
Grammolites gruvelli	0.80	10	0.20	
Balistes capricus	0.60	2	0.20	
Pagellus bellottii	0.60	6	0.20	
Pegusa lascaris	0.40	10	0.14	
Pomadourus juelini	0.40	4	0.14	
Penaeus setiferus	0.40	24	0.14	
Trachurus trecae	0.20	10	0.07	
Sardinella maderensis	0.20	20	0.07	
Alloteuthis africana	0.00	10		
Total	294.40		100.01	

PROJECT STATION: 164
 DATE: 3/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1200
 start stop duration Long E 1341
 TIME :15:08:00 15:38:00 30 (min) Purpose code: 3
 LOG :8072.00 8073.60 1.50 Area code : 2
 FDEPTH: 35 31 GearCond.code:
 BDEPTH: 35 31 Validity code:
 Towing dir: 180° Wire out: 150 m Speed: 29 km*10
 Sorted: 28 Kg Total catch: 372.40 CATCH/HOUR: 744.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Brachydeuterus auritus	475.20	28512	63.80	445
Trachurus trecae	98.40	1176	13.21	446
Pomadourus incisus	43.20	312	5.80	
Chloroscombrus chrysurus	40.80	288	5.48	447
Sardinella aurita	18.80	78	2.52	442
Dentex barnardi	10.40	28	1.40	444
Pagellus bellottii	10.00	96	1.34	443
Galeoides decadactylus	7.20	48	0.97	
Balistes capricus	7.20	24	0.97	
Trichurus lepturus	7.20	48	0.97	
Sphyrna lewini	5.80	2	0.78	
Atractoscion aequidens	5.20	2	0.70	
Pseudotolithus senegalensis	4.80	2	0.64	
Argyrosomus hololepidotus	2.40	2	0.32	
Stromateus fiatola	2.20	4	0.30	
Sphyrna guachancho	2.20	4	0.30	
Zeus faber	1.60	2	0.24	
Pseudupeneus prayensis	1.20	24	0.16	
Torpedo marmorata	0.40	2	0.05	
Sardinella maderensis	0.40	2	0.05	
Total	744.80		100.00	

PROJECT STATION: 165
 DATE: 3/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1230
 start stop duration Long E 1337
 TIME :16:20:00 16:45:00 25 (min) Purpose code: 3
 LOG :8078.40 8079.70 1.46 Area code : 2
 FDEPTH: 64 65 GearCond.code:
 BDEPTH: 64 65 Validity code:
 Towing dir: 5° Wire out: 300 m Speed: 30 km*10
 Sorted: 28 Kg Total catch: 27.60 CATCH/HOUR: 66.24

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	40.32	674	60.87	448
Lagocephalus laevis	6.24	5	9.42	
Trichurus lepturus	4.32	7	6.52	
Alloteuthis africana	3.84	1409	5.80	
Dentex barnardi	2.40	7	3.62	
Zeus faber	1.92	5	2.90	
Sphyrna sphyraena	1.92	5	2.90	
Ubrina canariensis	1.92	2	2.90	
Fistularia petimba	1.20	2	1.81	
Pagellus bellottii	1.20	19	1.81	
Balistes capricus	0.72	2	1.09	
Citharus linguatula	0.12	2	0.18	
Pseudupeneus prayensis	0.12	2	0.18	
Total	66.24		100.00	

PROJECT STATION: 166
 DATE: 3/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1139 Long E 1303
 start stop duration
 TIME :17:25:00 17:39:00 14 (min) Purpose code: 3
 LOG :8093.90 8084.60 0.89 Area code : 2
 FDEPTH: 85 61 GearCond.code:
 BDEPTH: 85 82 Validity code:
 Towing dir: 180° Wire out: 400 m Speed: 28 km*10
 Sorted: 33 Kg Total catch: 85.04 CATCH/HOUR: 364.46

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus trecae	268.93	5636	73.79	452
Dentex barnardi	31.07	150	8.52	449
Dentex angolensis	20.36	129	5.59	450
Pagellus bellottii	19.29	321	5.29	451
Zeus faber	9.13	43	2.51	
Fistularia petimba	6.43	13	1.76	
Sepla officinalis hierredda	4.29	4	1.18	
Dentex gibbosus	3.21	13	0.88	
Illex coindetii	0.99	394	0.27	
Alloteuthis africana	0.77	49	0.21	
Saurida brasiliensis	0.06	13		
Total	364.47		100.00	

PROJECT STATION: 167
 DATE: 3/ 6/91 GEAR TYPE: PT No:2 POSITION: Lat S 1208 Long E 1337
 start stop duration
 TIME :20:50:00 21:10:00 20 (min) Purpose code: 1
 LOG :8100.90 8110.30 1.40 Area code : 2
 FDEPTH: 15 15 GearCond.code:
 BDEPTH: 37 57 Validity code:
 Towing dir: 220° Wire out: 100 m Speed: 32 km*10
 Sorted: 54 Kg Total catch: 53.09 CATCH/HOUR: 161.07

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sardinella maderensis	76.53	306	47.49	455
Brachydeuterus auritus	52.80		32.78	454
Trichurus lepturus	15.15	45	9.41	
Trachurus trecae	10.50	162	6.52	453
Scomber japonicus	4.80	12	2.98	
Chloroscomber chrysurus	0.66	9	0.41	
Alloteuthis africana	0.60	189	0.37	
JUVENILE FISHES	0.06	45	0.04	
Sepiella orrata	0.00	3		
Engraulis encrasicolus	0.00	6		
Selene dorsalis	0.00	18		
Total	161.07		100.00	

PROJECT STATION: 168
 DATE: 4/ 6/91 GEAR TYPE: PT No:1 POSITION: Lat S 1225 Long E 1328
 start stop duration
 TIME :02:36:00 03:06:00 30 (min) Purpose code: 1
 LOG :8159.60 8161.10 1.51 Area code : 2
 FDEPTH: 10 30 GearCond.code:
 BDEPTH: 25 46 Validity code:
 Towing dir: 20° Wire out: 150 m Speed: 30 km*10
 Sorted: 62 Kg Total catch: 61.90 CATCH/HOUR: 123.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus trecae	29.60	215	23.91	458
Brachydeuterus auritus	24.60	156	19.87	460
Chloroscomber chrysurus	21.20	90	17.12	461
Sphyraena guachancho	18.60	34	15.02	459
Sardinella maderensis	12.60	52	11.25	457
Trichurus lepturus	12.60	80	10.18	
Sardinella aurita	2.60	12	2.26	456
Scomber japonicus	0.60	2	0.48	
Total	123.60		99.99	

PROJECT STATION: 169
 DATE: 4/ 6/91 GEAR TYPE: ET No:1 POSITION: Lat S 1210 Long E 1338
 start stop duration
 TIME :06:20:00 06:48:00 28 (min) Purpose code: 3
 LOG :8109.60 8190.70 1.40 Area code : 2
 FDEPTH: 33 34 GearCond.code:
 BDEPTH: 33 34 Validity code:
 Towing dir: 15° Wire out: 150 m Speed: 31 km*10
 Sorted: 26 Kg Total catch: 502.66 CATCH/HOUR: 1205.70

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Brachydeuterus auritus	658.07	119959	71.00	466
Lichognathus moronurus	115.71	437	9.60	464
Pagellus bellottii	49.00	302	3.90	463
Sphyraena guachancho	41.79	81	3.47	462
Trachurus trecae	36.43	474	3.02	
Galeoides cecadactylus	36.43	656	3.02	
Chloroscomber chrysurus	25.60	328	2.11	
Sphyraena sphyraena	22.71	49	1.88	465
Pomadasys rogeri	8.36	19	0.69	
Dentex barnardi	4.29	24	0.36	
Atractoscion aequidens	2.57	6	0.21	
Pteroscion peli	2.55	73	0.21	
Selene dorsalis	1.82	73	0.15	
Pomadasys perotetti	1.39	2	0.12	
Pseudolithus senegalensis	1.29	2	0.11	
Cynoglossus canariensis	0.43	2	0.04	
Alloteuthis africana	0.36	146	0.03	
Total	1205.70		100.00	

PROJECT STATION: 170
 DATE: 4/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1210 Long E 1335
 start stop duration
 TIME :07:32:00 08:02:00 30 (min) Purpose code: 3
 LOG :8195.30 8196.70 1.60 Area code : 2
 FDEPTH: 57 60 GearCond.code:
 BDEPTH: 57 60 Validity code:
 Towing dir: 10° Wire out: 250 m Speed: 32 km*10
 Sorted: 54 Kg Total catch: 539.75 CATCH/HOUR: 1077.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trichurus lepturus	974.00	4040	90.39	
Trachurus trecae	65.00	1260	6.03	467
Brachydeuterus auritus	18.00	680	1.67	
Zeus faber	7.00	20	0.65	
Alloteuthis africana	6.00	900	0.56	
Dentex barnardi	3.50	28	0.32	
Pagellus bellottii	2.20	18	0.20	
Unbrina canariensis	1.00	2	0.17	
Selene dorsalis	0.00	20		
Total	1077.50		99.99	

PROJECT STATION: 171
 DATE: 4/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1211 Long E 1330
 start stop duration
 TIME :09:13:00 09:43:00 30 (min) Purpose code: 3
 LOG :8205.90 8207.30 1.70 Area code : 2
 FDEPTH: 89 90 GearCond.code:
 BDEPTH: 89 90 Validity code:
 Towing dir: 10° Wire cut: 400 m Speed: 32 km*10
 Sorted: 14 Kg Total catch: 14.12 CATCH/HOUR: 28.24

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sarda sarda	5.80	4	20.54	
Zeus faber	5.30	20	18.77	
Sepla officinalis hierredda	4.60	6	16.29	
Trichurus lepturus	3.60	8	12.75	
Dentex barnardi	2.40	14	8.50	
Fistularia petimba	2.10	6	7.44	
Trachurus trecae	1.40	48	4.96	
Todaropsis eblanae	0.80	210	2.33	
Ephippion guttifer	0.80	2	2.83	
Illex coindetii	0.60	144	2.12	
Pagellus bellottii	0.40	6	1.42	
Scomber japonicus	0.40	2	1.42	
Saurida brasiliensis	0.02	2	0.07	
Citharus linguatula	0.02	2	0.07	
Alloteuthis africana	0.00	4		
Total	28.24		100.01	

PROJECT STATION: 172
 DATE: 4/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1207 Long E 1326
 start stop duration
 TIME :11:06:00 11:15:00 9 (min) Purpose code: 3
 LOG :8218.50 8219.10 0.44 Area code : 2
 FDEPTH: 210 209 GearCond.code:
 BDEPTH: 210 208 Validity code:
 Towing dir: 200° Wire out: 750 m Speed: 30 km*10
 Sorted: 56 Kg Total catch: 140.43 CATCH/HOUR: 936.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex macrophthalmus	471.67	2433	50.38	470
Spicara alta	163.23	900	17.45	468
Zenopsis conchifer	88.33	1120	9.43	
Synagrops microlepis	71.67	7527	7.65	
Merluccius polli	60.00	733	6.41	471
Dentex angolensis	41.67	133	4.45	469
Todaropsis eblanae	17.33	233	1.85	
Halaccephalus occidentalis	13.33	1587	1.42	
Chlorophthalmus atlanticus	3.33	300	0.36	
Illex coindetii	1.67	67	0.13	
Sepla orbignyana	1.67	133	0.18	
Lepidotrigla cadmani	1.33	13	0.14	
Epigonus telescopus	0.67	13	0.07	
Monolea microstoma	0.13	20	0.01	
Parapaneus longirostris	0.07	33	0.01	
Total	936.20		100.00	

PROJECT STATION: 173
 DATE: 4/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1209 Long E 1326
 start stop duration
 TIME :12:09:00 12:39:00 30 (min) Purpose code: 3
 LOG :8223.00 8224.50 1.42 Area code : 2
 FDEPTH: 144 147 GearCond.code:
 BDEPTH: 144 147 Validity code:
 Towing dir: 180° Wire out: 500 m Speed: 28 km*10
 Sorted: 74 Kg Total catch: 73.75 CATCH/HOUR: 147.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Gephyroberyx darwini	66.20	46	44.68	472
Dentex angolensis	57.60	174	39.05	473
Zenopsis conchifer	5.80	12	3.93	
Illex coindetii	4.80	108	3.25	
Todaropsis eblanae	2.80	132	1.90	
Torpedo torpedo	2.80	6	1.90	
Dentex macrophthalmus	2.60	40	1.76	474
Zeus faber	2.60	6	1.76	
Sepla officinalis hierredda	0.40	22	0.27	
Lepidotrigla cadmani	0.40	6	0.27	
Pontinus kuhlii	0.40	8	0.27	
Uranoscopus cadenati	0.40	6	0.27	
Citharus linguatula	0.20	4	0.14	
Lepidotrigla carolae	0.20	6	0.14	
Aulopus cadenati	0.20	2	0.14	
Peristedion cataphractum	0.10	2	0.07	
Total	147.50		100.00	

PROJECT STATION: 174
 DATE: 4/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1200
 start stop duration Long E 1327
 TIME :14:19:00 14:49:00 30 (min) Purpose code: 3
 LOG :8298.30 8299.80 1.48 Area code : 2
 FDEPTH: 350 347 GearCond.code:
 BDEPTH: 350 347 Validity code:
 Towing dir: 180° Wire out:1050 m Speed: 28 kn*10
 Sorted: 55 Kg Total catch: 364.65 CATCH/HOUR: 769.30

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Merluccius polli, female	336.00		43.68	475
Merluccius polli, male	184.80		24.02	475
Nematocarcinus africanus	107.80		14.01	
Pterothrissus bellotti	56.00	406	7.28	
Etmopterus spinax	46.20	1498	6.01	
Laemonema laureysi	11.20	140	1.46	
Zeus faber	9.80	14	1.27	
Chlorophthalmus atlanticus	7.00	154	0.91	
Hymenocephalus italicus	2.80	616	0.36	
Synagrops microlepis	2.80	196	0.36	
Lepidopus caudatus	1.40	14	0.18	
Malacocephalus occidentalis	1.40	14	0.18	
Lestrolepis intermedia	0.70	14	0.09	
Halosaurus oventis	0.70	14	0.09	
Coelorrinchus coelorrinchus	0.70	14	0.09	
MYCOPHIDAE	0.00	140		
Total	769.30		99.99	

PROJECT STATION: 175
 DATE: 4/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1201
 start stop duration Long E 1325
 TIME :15:54:00 16:24:00 30 (min) Purpose code: 3
 LOG :8246.50 8248.00 1.41 Area code : 2
 FDEPTH: 449 451 GearCond.code:
 BDEPTH: 449 451 Validity code:
 Towing dir: 180° Wire out:1300 m Speed: 28 kn*10
 Sorted: 66 Kg Total catch: 611.19 CATCH/HOUR: 1222.38

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Merluccius polli, female	775.60	2072	63.45	477
Nematocarcinus africanus	249.60	70310	19.53	
GONOSTOMATIDAE	75.60	11038	6.18	
Laemonema laureysi	29.40	966	2.41	
Aristeus varidens, male	17.64	2310	1.44	476
Aristeus varidens, female	16.80	1260	1.37	479
HLANDSTOMIATIDAE	8.40	64	0.69	
Todaropsis eblanæ	8.40	42	0.69	
Synagrops microlepis	8.40	568	0.69	
Etmopterus spinax	8.40	210	0.69	
Hoplostethus cadenati	8.40	904	0.69	
Merluccius polli, male	7.00	28	0.57	
Galeus polli	4.20	42	0.34	
Pterothrissus bellotti	4.20	42	0.34	
Halosaurus oventis	4.20	252	0.34	
Brosmiculus imoerbis *	2.10	42	0.17	
Hymenocephalus italicus	0.84	126		
Total	1222.38		99.99	

PROJECT STATION: 176
 DATE: 4/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1219
 start stop duration Long E 1330
 TIME :06:20:00 06:50:00 30 (min) Purpose code: 3
 LOG :8339.40 8340.60 1.40 Area code : 2
 FDEPTH: 71 75 GearCond.code:
 BDEPTH: 71 75 Validity code:
 Towing dir: 350° Wire out: 300 m Speed: 32 kn*10
 Sorted: 33 Kg Total catch: 120.65 CATCH/HOUR: 240.10

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trichurus lepturus	53.20	404	22.16	
Brachydeuterus auritus	44.00	196	18.33	482
Dentex barnardi	42.00	212	17.49	483
Atractoscion aequidens	33.00	20	13.74	481
Pagellus bellottii	21.40	170	8.91	480
Umbra canariensis	9.60	60	4.00	
Dentex macrophthalmus	9.20	42	3.83	
Pseudupeneus prayensis	6.80	63	2.83	
Citharus linguatula	5.40	144	2.25	
Trachurus trecae	3.60	72	1.50	
Zeus faber	3.20	12	1.33	
Ballistes capriscus	2.80	12	1.17	
Argyrosomus hololepidotus	1.80	2	0.62	
Spondylosoma cantharus	1.40	12	0.59	
Epinephelus guaza	1.20	2	0.50	
Pomadasy incisus	0.80	8	0.33	
Alloteuthis africana	0.60	352	0.25	
Chaetodon hoefleri	0.40	4	0.17	
Total	240.10		99.99	

PROJECT STATION: 177
 DATE: 5/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1220
 start stop duration Long E 1327
 TIME :07:25:00 07:55:00 30 (min) Purpose code: 3
 LOG :8343.90 8346.20 1.50 Area code : 2
 FDEPTH: 81 84 GearCond.code:
 BDEPTH: 81 84 Validity code:
 Towing dir: 220° Wire out: 350 m Speed: 30 kn*10
 Sorted: 33 Kg Total catch: 38.30 CATCH/HOUR: 76.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus trecae	24.60	384	32.11	484
Trichurus lepturus	15.20	120	19.84	
Sepia officinalis hierredda	6.80	2	8.89	
Alloteuthis africana	5.20	2054	6.79	
Dentex macrophthalmus	4.40	28	5.74	
Torpedo torpedo	3.40	4	4.44	
Ephippion guttifer	2.60	4	3.39	
Pseudupeneus prayensis	2.60	22	3.39	
Zeus faber	2.20	6	2.87	
Dentex barnardi	1.80	10	2.35	
Dentex congoensis	1.80	12	2.35	
Dentex angolensis	1.60	16	2.09	
Pagellus bellottii	1.30	16	1.70	
Fistularia pelimba	0.80	2	1.04	
Scorpaena angolensis	0.60	2	0.76	
Uranoscopus cadenati	0.50	2	0.65	
Citharus linguatula	0.50	16	0.65	
Chaetodon hoefleri	0.40	4	0.52	
Lepidotrigla cadmani	0.30	2	0.39	
Total	76.60		99.97	

PROJECT STATION: 178
 DATE: 5/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1220
 start stop duration Long E 1325
 TIME :08:35:00 09:05:00 20 (min) Purpose code: 3
 LOG :8349.00 8350.20 1.20 Area code : 2
 FDEPTH: 85 85 GearCond.code:
 BDEPTH: 85 85 Validity code:
 Towing dir: 210° Wire out: 400 m Speed: 32 kn*10
 Sorted: 76 Kg Total catch: 75.83 CATCH/HOUR: 227.49

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex angolensis	80.10	309	35.21	485
Trachurus trecae	64.50	1260	28.35	487
Dentex macrophthalmus	57.00	375	25.06	486
Trichurus lepturus	8.10	24	3.56	
Pagellus bellottii	4.05	36	1.78	
Alloteuthis africana	3.30	957	1.45	
Ephippion guttifer	2.85	6	1.25	
Zenopsis conchifer	2.85	9	1.25	
Torpedo torpedo	1.80	3	0.79	
Dentex barnardi	1.50	9	0.66	
Branchiostegus semifasciatus	0.90	3	0.40	
Boops boops	0.90	9	0.19	
Citharus linguatula	0.74	6	0.11	
Total	227.49		100.00	

PROJECT STATION: 179
 DATE: 5/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1228
 start stop duration Long E 1321
 TIME :11:06:00 11:36:00 30 (min) Purpose code: 3
 LOG :8364.60 8366.20 1.50 Area code : 2
 FDEPTH: 88 86 GearCond.code:
 BDEPTH: 88 86 Validity code:
 Towing dir: 60° Wire out: 350 m Speed: 30 kn*10
 Sorted: 55 Kg Total catch: 117.80 CATCH/HOUR: 235.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex macrophthalmus	186.40	1104	79.05	488
Dentex barnardi	10.40	32	4.41	490
Zeus faber	8.00	22	3.29	
Trichurus lepturus	7.60	56	3.22	
Pterothrissus bellotti	6.00	72	2.54	
Dentex angolensis	5.60	32	2.37	489
Pagellus bellottii	4.00	16	1.70	
Torpedo torpedo	2.80	10	1.19	
Raja miraletus	1.60	2	0.68	
Epinephelus aeneus	1.00	2	0.42	
Sphoeroides sp.	0.60	2	0.25	
Branchiostegus semifasciatus	0.60	2	0.25	
Trachurus trecae	0.60	8	0.25	
Cnclidionichthys gabonensis	0.40	4	0.17	
Boops boops	0.20	4	0.08	
Total	235.80		99.97	

PROJECT STATION: 180
 DATE: 5/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1229
 start stop duration Long E 1325
 TIME :12:15:00 12:45:00 30 (min) Purpose code: 3
 LOG :8369.80 8371.50 1.64 Area code : 2
 FDEPTH: 42 45 GearCond.code:
 BDEPTH: 42 45 Validity code:
 Towing dir: 30° Wire out: 200 m Speed: 31 kn*10
 Sorted: 29 Kg Total catch: 396.20 CATCH/HOUR: 792.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Brachydeuterus auritus	639.60	13940	79.95	494
Atractoscion aequidens	49.20	24	6.21	491
Trachurus trecae	45.60	364	5.75	485
Galeoides decadactylus	16.80	24	2.12	
Pomadasy jubelini	10.60	8	1.34	
Zeus faber	10.20	8	1.29	
Pagellus bellottii	6.00		0.86	
Lithognathus mormyrus	6.40	10	0.81	
Pomadasy incisus	4.80	48	0.61	
Sarda sarda	1.80	2	0.23	
Dentex barnardi	1.60	16	0.20	
Brotula barbata	1.40	9	0.18	
Trichurus lepturus	1.20	24	0.15	
Grammolites gruvelli	1.20	24	0.15	
Dentex macrophthalmus	0.80	4	0.10	
Torpedo torpedo	0.40	2	0.05	
Total	792.40		100.01	

PROJECT STATION: 181
 DATE: 5/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1229 Long E 1327
 start stop duration
 TIME :13:29:00 13:44:00 15 (min) Purpose code: 3
 LOG :8376.10 8376.80 0.70 Area code : 2
 FDEPTH: 24 23 GearCond.code:
 BDEPTH: 24 23 Validity code:
 Towing dir: 30° Wire out: 150 m Speed: 26 kn*10
 Sorted: 25 Kg Total catch: 25.10 CATCH/HOUR: 100.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Pomadasys jubelini	26.80	72	26.69	496
Brachydeuterus auritus	22.40	152	22.31	
Torpedo torpedo	7.60	40	7.57	
Peneaus notialis, female	6.40	108	6.37	493
Dicologlossa cuneata	5.20	188	5.18	
Lithognathus mormyrus	5.20	20	5.18	
Grammopistes gruvelli	4.00	60	3.98	
Argyrosomus hololepidotus	3.60	49	3.58	
Citharus linguatula	3.20	109	3.19	
Raja miraletus	2.80	4	2.79	
Peneaus notialis, male	2.80	124	2.79	492
Sepia officinalis hierredda	2.40	4	2.39	
Syacium micrurum	2.00	16	1.99	
Pomadasys incisus	2.00	8	1.99	
Trachurus trecae	1.60	4	1.59	
Dentex barnardi	0.80	12	0.80	
Galeoides decadactylus	0.80	32	0.80	
Pagellus bellottii	0.40	4	0.40	
Cynoglossus canariensis	0.20	4	0.20	
Brotula barbata	0.20	4	0.20	
Total	100.40		100.00	

PROJECT STATION: 182
 DATE: 6/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1418 Long E 1217
 start stop duration
 TIME :07:20:00 07:50:00 30 (min) Purpose code: 1
 LOG :8553.20 8554.40 1.50 Area code : 2
 FDEPTH: 84 81 GearCond.code:
 BDEPTH: 84 81 Validity code:
 Towing dir: * Wire out: 400 m Speed: 33 kn*10
 Sorted: 52 Kg Total catch: 340.30 CATCH/HOUR: 680.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex macrophthalms	318.20	1632	46.90	497
Trachurus trecae	200.40	6192	29.44	498
Atractoscion aequidens	54.80	42	8.05	499
Trichiurus lepturus	38.60	96	4.94	
Dentex angolensis	21.60	144	3.17	
Zeus faber	20.40	72	3.00	
Pagellus bellottii	17.40	108	2.56	
Umbriina canariensis	7.20	36	1.06	
Alloteuthis africana	4.80	2040	0.71	
Lepidotrigla cadmani	1.20	24	0.18	
Total	680.60		100.01	

PROJECT STATION: 183
 DATE: 6/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1519 Long E 1200
 start stop duration
 TIME :17:22:00 17:45:00 23 (min) Purpose code: 3
 LOG :8645.50 8646.60 1.25 Area code : 2
 FDEPTH: 69 57 GearCond.code:
 BDEPTH: 69 57 Validity code:
 Towing dir: 20° Wire out: 350 m Speed: 30 kn*10
 Sorted: 104 Kg Total catch: 104.38 CATCH/HOUR: 272.30

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex barnardi	75.91	230	27.68	501
Pagellus bellottii	66.52	337	24.43	500
Plectorhynchus mediterraneus	58.17	138	21.36	502
Squatina aculeata	18.26	5	6.71	
Spondylisoma cantharus	16.96	23	6.23	
Hyliobatis aquila	9.13	8	3.35	
Sparus pagrus africanus	5.22	10	1.92	
Squalus blainvillei	4.70	5	1.73	
Alloteuthis africana	4.70	1996	1.73	
Trichiurus lepturus	3.65	5	1.34	
Zeus faber	2.87	3	1.05	
Dentex gibbosus	1.57	3	0.58	
Raja miraletus	1.17	3	0.43	
Brotula barbata	1.17	3	0.43	
Chelidonicichthys gabonensis	1.04	8	0.38	
Diplodus cervinus cervinus	0.91	3	0.33	
Serranus cabrilla	0.26	3	0.10	
Fistularia petimba	0.08	3	0.03	
Total	272.29		100.01	

PROJECT STATION: 184
 DATE: 7/ 6/91 GEAR TYPE: PT No:2 POSITION:Lat S 1542 Long E 1153
 start stop duration
 TIME :03:50:00 04:20:00 30 (min) Purpose code: 1
 LOG :0736.40 0737.90 1.58 Area code : 2
 FDEPTH: 20 20 GearCond.code:
 BDEPTH: 65 81 Validity code:
 Towing dir: 360° Wire out: 75 m Speed: 30 kn*10
 Sorted: 7 Kg Total catch: 7.10 CATCH/HOUR: 14.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trichiurus lepturus	6.20	28	43.66	
Euthynnus alletteratus	6.00	6	42.25	
Trachurus trecae	2.00	12	14.08	
Total	14.20		99.99	

PROJECT STATION: 185
 DATE:10/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1711 Long E 1121
 start stop duration
 TIME :06:45:00 07:15:00 30 (min) Purpose code: 3
 LOG :9032.20 9033.40 1.20 Area code : 2
 FDEPTH: 298 313 GearCond.code:
 BDEPTH: 298 313 Validity code:
 Towing dir: 340° Wire out: 900 m Speed: 26 kn*10
 Sorted: 56 Kg Total catch: 641.61 CATCH/HOUR: 1283.22

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Merluccius polli	256.80	9566	23.13	503
Helicolenus dactylopterus	258.60	2254	20.15	
Merluccius capensis, female	255.42	484	19.90	505
Chlorophthalmus atlanticus	216.20	5406	16.85	
Dentex macrophthalmus	78.20	230	6.08	
Galeus polli	69.00	530	5.38	
Merluccius capensis, male	41.40	300	3.23	504
Synagrops microlepis	16.00	1450	1.25	
Malacocephalus occidentalis	13.80	300	1.08	
Hyperoglyphe moselii	13.80	24	1.08	
Coelorhynchus coelorhincus	6.80	327	0.54	
Laemonema laureysi	5.80	64	0.45	
Trachurus capensis	5.00	24	0.45	
Sepia elegans	4.60	92	0.36	
Parapeneus longirostris	0.92	184	0.07	
Total	1283.22		100.01	

PROJECT STATION: 186
 DATE:10/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1711 Long E 1126
 start stop duration
 TIME :09:07:00 09:37:00 30 (min) Purpose code: 3
 LOG :9040.50 9041.50 1.50 Area code : 2
 FDEPTH: 146 143 GearCond.code:
 BDEPTH: 146 143 Validity code:
 Towing dir: 355° Wire out: 550 m Speed: 30 kn*10
 Sorted: 83 Kg Total catch: 4500.00 CATCH/HOUR: 9000.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus capensis	5978.00	18544	66.42	506
Dentex macrophthalmus	1363.60	11454	15.15	507
Merluccius capensis, female	752.80	982	8.36	508
Merluccius capensis, male	381.80	764	4.24	508
Pterothrissus bellotti	191.00	1528	2.12	
Trichiurus lepturus	147.20	2072	1.64	
Zenopsis conchifer	141.80	546	1.58	
Helicolenus dactylopterus	21.80	110	0.24	
Synagrops microlepis	21.80	4360	0.24	
Total	8998.80		99.99	

PROJECT STATION: 187
 DATE:10/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1707 Long E 1133
 start stop duration
 TIME :10:57:00 11:17:00 20 (min) Purpose code: 3
 LOG :9049.80 9050.70 0.90 Area code : 2
 FDEPTH: 99 102 GearCond.code:
 BDEPTH: 99 102 Validity code:
 Towing dir: * Wire out: 350 m Speed: 29 kn*10
 Sorted: 49 Kg Total catch: 158.55 CATCH/HOUR: 475.65

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex macrophthalmus	340.20	2940	71.52	513
Trachurus capensis	48.60	756	10.22	514
Merluccius capensis, female	21.00	54	4.42	512
Synagrops microlepis	13.50	1566	2.84	
Trichiurus lepturus	11.70	171	2.46	
Merluccius polli	10.20	318	2.14	510
Raja miraletus	9.00	9	1.89	
Loligo vulgaris	5.40	72	1.14	515
Merluccius capensis, male	4.80	15	1.61	511
Umbriina canariensis	3.60	18	0.76	
Pterothrissus bellotti	3.60	45	0.76	
Zenopsis conchifer	2.25	18	0.47	
Todaropsis eblanae	0.90	18	0.19	
Spondylisoma cantharus	0.90	3	0.19	
Total	475.65		100.01	

PROJECT STATION: 188
 DATE:10/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1710 Long E 1142
 start stop duration
 TIME :12:32:00 13:02:00 30 (min) Purpose code: 3
 LOG :9060.80 9062.40 1.29 Area code : 2
 FDEPTH: 38 37 GearCond.code:
 BDEPTH: 38 37 Validity code:
 Towing dir: 10° Wire out: 200 m Speed: 25 kn*10
 Sorted: 24 Kg Total catch: 914.10 CATCH/HOUR: 1828.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Squalus blainvillei	878.40	1872	48.05	517
Galeichthys feliceps	345.60	1656	18.90	518
Mustelus mustelus	136.80	144	7.48	
Trichiurus lepturus	122.40	4104	6.70	
Zeus faber	100.80	144	5.51	
Atractoscion aequidens	93.60	864	5.22	
Argyrosomus hololepidotus	32.20	20	1.76	516
Trachurus trecae	28.80	4248	1.58	
Dasyatis marmorata	24.00	4	1.31	
Raja clavata	22.00	12	1.20	
Loligo vulgaris	14.40	72	0.79	
Myliobatis aquila	8.00	2	0.44	
Rhinobatos albomaculatus	5.00	2	0.27	
Callorhynchus capensis	4.60	2	0.25	
Chelidonicichthys capensis	4.40	4	0.24	
Dicologlossa cuneata	3.60	144	0.20	
Trachurus capensis	3.60	432	0.20	
Merluccius polli	0.60	72		
Total	1828.20		100.00	

PROJECT STATION: 189
 DATE: 10/6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1700
 start stop duration Long E 1144
 TIME :14:13:00 14:43:00 30 (min) Purpose code: 3
 LOG :9071.90 9079.30 1.54 Area code : 2
 FDEPTH: 20 17 GearCond.code:
 BDEPTH: 20 17 Validity code:
 Towing dir: 360° Wire out: 150 m Speed: 30 km*10
 Sorted: 23 Kg Total catch: 515.25 CATCH/HOUR: 1030.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	340.80	7762	33.07	520
Argyrosomus hololepidotus	283.20	34	27.48	521
Mustelus mustelus	180.00	24	17.47	
Trichiurus lepturus	99.60	2520	9.08	
Callorhynchus capensis	24.00	24	2.33	
Galeichthys feliceps	24.00	72	2.33	
Trachurus capensis	16.80	840	1.63	
Squalus blainvilliei	16.80	24	1.63	
Pomatomus saltatrix	12.60	18	1.22	
Engraulis encrasicolus	12.00	10828	1.16	519
Myliobatis aquila	12.00	6	1.16	
Loligo vulgaris	4.80	96	0.47	
Argyrosomus hololepidotus	4.80	24	0.47	
Etrumeus whiteheadi	2.40	96	0.23	
Sardinops ocellata	1.20	240	0.12	
Atractodeson aequidens	1.20	24	0.12	
Sardinops ocellata	0.30	2	0.03	
Total	1030.50		100.00	

PROJECT STATION: 190
 DATE: 10/6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1700
 start stop duration Long E 1138
 TIME :15:42:00 16:12:00 30 (min) Purpose code: 3
 LOG :9080.60 9082.20 1.43 Area code : 2
 FDEPTH: 63 73 GearCond.code:
 BDEPTH: 68 73 Validity code:
 Towing dir: 340° Wire out: 300 m Speed: 27 km*10
 Sorted: 27 Kg Total catch: 126.41 CATCH/HOUR: 252.82

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	58.80	644	23.26	525
Zeus faber	37.80	96	14.95	
Spondyliosa cantharus	36.60	36	14.43	523
Squalus blainvilliei	36.00	126	14.24	524
Argyrosomus hololepidotus	34.00	22	13.45	522
Galeichthys feliceps	14.40	48	5.70	
Mustelus mustelus	10.60	4	4.19	
Chelidonichthys capensis	7.20	12	2.85	
Mustelus palumbes	7.20	6	2.85	
Trichiurus lepturus	6.60	72	2.61	
Raja miraletus	2.00	2	0.79	
Merluccius polli	1.20	150	0.47	526
Dicologlossa cuneata	0.30	5	0.12	
Sufflogobius bibarbus	0.12	30	0.05	
Total	252.82		100.01	

PROJECT STATION: 191
 DATE: 10/6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1700
 start stop duration Long E 1131
 TIME :17:27:00 18:00:00 23 (min) Purpose code: 3
 LOG :9096.50 9092.00 1.30 Area code : 2
 FDEPTH: 103 101 GearCond.code:
 BDEPTH: 103 101 Validity code:
 Towing dir: 330° Wire out: 450 m Speed: 29 km*10
 Sorted: 59 Kg Total catch: 435.10 CATCH/HOUR: 1145.48

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Dentex macrophthalms	477.39	3952	41.68	528
Trachurus capensis	467.74	5392	40.83	527
Merluccius polli	78.26	2134	6.83	529
Zeus faber	35.22	60	3.07	
Synagrops microlepis	33.39	389	2.51	
Trichiurus lepturus	19.83	196	1.21	
Umbra canariensis	11.74	29	1.02	
Pterothrissus belloci	8.87	59	0.77	
Merluccius capensis	8.87	59	0.77	
Raja miraletus	7.83	21	0.68	
Chelidonichthys capensis	1.57	21	0.14	
Dicologlossa cuneata	0.78	21	0.07	
Total	1145.49		99.98	

PROJECT STATION: 192
 DATE: 10/6/91 GEAR TYPE: PT No:4 POSITION: Lat S 1700
 start stop duration Long E 1121
 TIME :20:35:00 21:05:00 30 (min) Purpose code: 1
 LOG :9107.90 9109.60 1.70 Area code : 2
 FDEPTH: 12 12 GearCond.code:
 BDEPTH: 142 136 Validity code:
 Towing dir: 35° Wire out: 150 m Speed: 30 km*10
 Sorted: 30 Kg Total catch: 1501.20 CATCH/HOUR: 3002.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus capensis	3000.00	39878	99.92	530
Sarda sarda	2.40	4	0.08	
MYCTOPHIDAE	0.00	396		
Total	3002.40		100.00	

PROJECT STATION: 193
 DATE: 11/6/91 GEAR TYPE: PT No: POSITION: Lat S 1709
 start stop duration Long E 1145
 TIME :01:38:00 02:08:00 30 (min) Purpose code: 1
 LOG :9151.10 9152.60 1.50 Area code : 2
 FDEPTH: 6 6 GearCond.code:
 BDEPTH: 23 20 Validity code:
 Towing dir: 10° Wire out: 150 m Speed: 28 km*10
 Sorted: 27 Kg Total catch: 191.50 CATCH/HOUR: 383.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	300.00	6586	78.33	532
Argyrosomus hololepidotus	42.40	6	11.07	531
Mustelus mustelus	16.00	8	4.18	
Trichiurus lepturus	12.00	286	3.13	
Galeichthys feliceps	9.60	36	2.51	
Mustelus palumbes	1.80	2	0.47	
Sardinops ocellata	1.20	12	0.31	
Total	383.00		100.00	

PROJECT STATION: 194
 DATE: 11/6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1701
 start stop duration Long E 1126
 TIME :06:25:00 06:55:00 30 (min) Purpose code: 3
 LOG :9189.60 9190.80 1.40 Area code : 2
 FDEPTH: 114 110 GearCond.code:
 BDEPTH: 114 110 Validity code:
 Towing dir: 350° Wire out: 400 m Speed: 28 km*10
 Sorted: 89 Kg Total catch: 89.05 CATCH/HOUR: 178.10

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Dentex macrophthalms	125.20		70.30	533
Anthias anthias	17.80	194	9.99	
Trachurus capensis	12.80	148	7.19	534
Trichiurus lepturus	9.50	130	5.33	
Zeus faber	4.60	8	2.58	
Pterothrissus belloci	4.40	38	2.47	
Merluccius polli	2.60	42	1.46	535
Brotila barbata	0.70	2	0.39	
Todaropsis eblanae	0.38	2	0.21	
Trigla lyra	0.10	2	0.05	
Scyllarides herklotsii	0.00	2		
Sepia officinalis hierredda	0.00	2		
Total	178.08		99.98	

PROJECT STATION: 195
 DATE: 11/6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1701
 start stop duration Long E 1113
 TIME :08:23:00 08:35:00 13 (min) Purpose code: 3
 LOG :9201.70 9202.30 0.60 Area code : 2
 FDEPTH: 350 350 GearCond.code:
 BDEPTH: 350 350 Validity code:
 Towing dir: 10° Wire out: 1000 m Speed: 28 km*10
 Sorted: 64 Kg Total catch: 104.04 CATCH/HOUR: 480.19

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Helicolenus dactylopterus	322.62	2340	67.19	
Merluccius polli	86.54	554	18.02	538
Chlorophthalmus atlanticus	16.62	522	3.46	
Centropristis granulosa	15.23	5	3.17	
Heptanchias parlo	8.21	5	1.73	
Shrimps, small, non comm.	8.21		1.73	
Trachurus capensis	6.23	97	1.30	
Raja sp.	6.23	5	1.25	
MYXASTREPHIDAE	3.23	9	0.67	
Synagrops microlepis	2.08	203	0.43	
Squalus blainvilliei	1.65	5	0.39	
Lucomema laureysii	1.38	56	0.29	
Deepwater fish mixture	0.69	471	0.14	
Coelorrinchus fasciatus	0.51	23	0.11	
Galeus polli	0.37	9	0.08	
MYCTOPHIDAE	0.23	23	0.05	
Aristeus varidens	0.00	14		
Total	480.20		100.01	

PROJECT STATION: 196
 DATE: 11/6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1655
 start stop duration Long E 1122
 TIME :09:47:00 10:07:00 20 (min) Purpose code: 3
 LOG :9210.50 9211.40 1.00 Area code : 2
 FDEPTH: 131 130 GearCond.code:
 BDEPTH: 131 130 Validity code:
 Towing dir: 208° Wire out: 400 m Speed: 28 km*10
 Sorted: 56 Kg Total catch: 394.10 CATCH/HOUR: 1182.30

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus capensis	266.00	12852	81.71	536
Dentex macrophthalms	193.20	1701	16.34	537
Zeus faber	12.60	21	1.07	
Lepidopus caudatus	6.30	21	0.53	
Helicolenus dactylopterus	4.20	63	0.36	
Total	1182.30		100.01	

PROJECT STATION: 197
 DATE: 11/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1651 Long E 1119
 start stop duration
 TIME :11:23:00 11:53:00 30 (min) Purpose code: 3
 LOG :9221.30 9222.60 1.80 Area code : 2
 FDEPTH: 164 162 GearCond.code:
 BDEPTH: 164 162 Validity code:
 Towing dir: ° Wire out: 600 m Speed: 3 kn*10
 Sorted: 59 Kg Total catch: 1570.80 CATCH/HOUR: 3141.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus capensis	1765.00	13910	56.18	541
Dentex macrophthalms	910.00	4100	28.97	542
Merluccius capensis, female	115.00	186	3.66	540
Pterothrissus belloci	90.00	400	2.86	
Helicolenus dactylopterus	70.00	500	2.23	
Zenopsis conchifer	60.00	300	1.91	
Synagrops microlepis	30.00	3450	0.95	
Merluccius capensis, male	30.00	48	0.95	539
Lepidopus caudatus	25.00	100	0.80	
Atractoscion aequidens	24.80	14	0.79	543
Todaropsis eblanae	10.00	100	0.32	
Trichiurus lepturus	10.00	50	0.32	
Sepia elegans	1.00	50	0.03	
Merluccius polli	0.80	4	0.03	
Total	3141.60		100.00	

PROJECT STATION: 201
 DATE: 11/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1652 Long E 1142
 start stop duration
 TIME :17:41:00 18:02:00 21 (min) Purpose code: 3
 LOG :9257.40 9258.60 1.30 Area code : 2
 FDEPTH: 19 17 GearCond.code:
 BDEPTH: 19 17 Validity code:
 Towing dir: 360° Wire out: 100 m Speed: 29 kn*10
 Sorted: 15 Kg Total catch: 70.10 CATCH/HOUR: 200.29

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus trecae	114.29	5303	57.06	558
Engraulis encrasicolus	45.71	11429	22.82	559
Myliobatis aquila	11.43	11	5.71	
Pomadasys incisus	8.00	40	3.99	
Pomadasys saltatrix	7.57	9	3.78	
Loligo vulgaris	4.57	34	2.28	
Trichiurus lepturus	4.00	80	2.00	
Pagellus bellottii	1.86	11	0.93	
Atractoscion aequidens	1.14	23	0.57	
Sardinops ocellata	0.69	11	0.34	
S H A R K S	0.57	3	0.28	
Spondyliosoma cantharus	0.34	23	0.17	
Sardinella aurita	0.11	11	0.05	
Total	200.28		99.98	

PROJECT STATION: 198
 DATE: 11/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1650 Long E 1124
 start stop duration
 TIME :12:59:00 13:29:00 30 (min) Purpose code: 3
 LOG :9230.10 9231.70 1.46 Area code : 2
 FDEPTH: 122 123 GearCond.code:
 BDEPTH: 122 123 Validity code:
 Towing dir: 360° Wire out: 500 m Speed: 28 kn*10
 Sorted: 57 Kg Total catch: 2195.30 CATCH/HOUR: 4390.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus capensis	3587.20	37452	81.70	548
Dentex macrophthalms	623.20	5852	14.19	547
Pterothrissus belloci	68.40	836	1.56	
Zeus faber	45.60	76	1.04	
Atractoscion aequidens	32.80	24	0.75	544
Merluccius capensis, female	9.00	10	0.20	546
Trichiurus lepturus	7.60	76	0.17	
Synagrops microlepis	3.80	608	0.09	
Ubrina canariensis	3.40	12	0.08	
Spondyliosoma cantharus	3.20	2	0.07	
Dentex angolensis	2.80	6	0.06	
Merluccius capensis, male	2.20	4	0.05	545
Squalus blainvillei	1.40	2	0.03	
Total	4390.60		99.99	

PROJECT STATION: 202
 DATE: 11/ 6/91 GEAR TYPE: PT No:4 POSITION: Lat S 1643 Long E 1133
 start stop duration
 TIME :22:50:00 23:22:00 32 (min) Purpose code: 1
 LOG :9297.80 9299.20 1.40 Area code : 2
 FDEPTH: 2 2 GearCond.code:
 BDEPTH: 48 68 Validity code:
 Towing dir: 230° Wire out: 150 m Speed: 29 kn*10
 Sorted: 59 Kg Total catch: 58.60 CATCH/HOUR: 109.88

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Atractoscion aequidens	22.88	11	20.82	561
Diplodus sargus capensis	22.50	47	20.48	560
Trachurus trecae	21.75	534	19.79	562
Trichiurus lepturus	14.81	171	13.48	
Loligo vulgaris	9.38	118	8.54	563
Mustelus mustelus	7.88	17	7.17	
Sepia officinalis hierreda	3.38	9	3.08	
Squalus blainvillei	3.19	6	2.90	
Galeichthys feliceps	2.06	4	1.87	
Engraulis encrasicolus	1.50	810	1.37	564
Sepiella ornata	0.38	6	0.35	
Fistularia petimba	0.19	6	0.17	
Total	109.90		100.02	

PROJECT STATION: 199
 DATE: 11/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1650 Long E 1231
 start stop duration
 TIME :14:40:00 15:10:00 30 (min) Purpose code: 3
 LOG :9239.30 9241.00 1.49 Area code : 2
 FDEPTH: 101 102 GearCond.code:
 BDEPTH: 101 102 Validity code:
 Towing dir: 360° Wire out: 400 m Speed: 28 kn*10
 Sorted: 66 Kg Total catch: 924.00 CATCH/HOUR: 1848.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex macrophthalms	1822.80	35214	98.64	551
Trachurus capensis	8.40	336	0.45	553
Loligo vulgaris	5.60	84	0.30	
Trachurus trecae	5.60	308	0.30	552
Merluccius capensis, female	1.80	8	0.10	550
Ubrina canariensis	1.80	2	0.10	
Todaropsis eblanae	1.40	28	0.08	
Merluccius capensis, male	0.60	2	0.03	549
Total	1848.00		100.00	

PROJECT STATION: 203
 DATE: 12/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1642 Long E 1119
 start stop duration
 TIME :07:35:00 08:05:00 30 (min) Purpose code: 3
 LOG :9353.50 9355.00 1.40 Area code : 2
 FDEPTH: 298 292 GearCond.code:
 BDEPTH: 298 292 Validity code:
 Towing dir: 11° Wire out: 1050 m Speed: 28 kn*10
 Sorted: 56 Kg Total catch: 324.73 CATCH/HOUR: 649.46

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Merluccius polli	264.00	2706	40.65	565
Helicolenus dactylopterus	216.70	1496	33.37	
Chlorophthalmus atlanticus	77.00	1926	11.86	
Heptranchias perlo	33.80	14	5.20	
Laemonema laureysi	12.10	66	1.86	
Dentex macrophthalms	12.10	44	1.86	
Trachurus capensis	6.60	14	1.02	
Galeus polli	4.40	66	0.68	
Parapenaeus longirostris, fem.	3.30	540	0.51	567
Loligo vulgaris	3.30	12	0.51	
Zenopsis conchifer	3.30	22	0.51	
Parapenaeus longirostris, male	2.20	408	0.34	566
Pterothrissus belloci	2.20	12	0.34	
Sepia orbignyana	1.66	34	0.26	
Synagrops microlepis	1.66	176	0.26	
Scyllorhinus stellaris	1.60	2	0.25	
Lepidopus caudatus	1.10	12	0.17	
Trichiurus lepturus	1.10	12	0.17	
SQUALIDAE	0.80	2	0.12	
Halacocephalus laevis	0.56	12	0.09	
Total	649.48		100.03	

PROJECT STATION: 200
 DATE: 11/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1650 Long E 1137
 start stop duration
 TIME :16:14:00 16:44:00 30 (min) Purpose code: 3
 LOG :9248.50 9250.20 1.54 Area code : 2
 FDEPTH: 77 76 GearCond.code:
 BDEPTH: 77 76 Validity code:
 Towing dir: 360° Wire out: 350 m Speed: 29 kn*10
 Sorted: 31 Kg Total catch: 116.56 CATCH/HOUR: 233.12

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus trecae	136.20	1598	58.42	556
Trachurus trecae	22.20	3774	9.52	555
Mustelus mustelus	21.20	12	9.09	
Spondyliosoma cantharus	18.60	16	7.98	554
Squalus blainvillei	5.80	18	2.49	
Zeus faber	5.40	30	2.32	
Trichiurus lepturus	4.20	54	1.80	
Pegusa lascaris	4.20	102	1.80	
Brotula barbata	3.00	24	1.29	
Sufflogobius bibarbatas	2.40	1110	1.03	
Chelidonichthys capensis	2.00	4	0.86	
Sepia bertheloti	1.80	18	0.77	
Ubrina canariensis	1.80	18	0.77	
Loligo vulgaris	1.20	18	0.51	
Pterothrissus belloci	1.20	6	0.51	
Merluccius polli	1.20	108	0.51	557
Raja miraletus	0.60	2	0.26	
Dentex macrophthalms	0.12	36	0.05	
Total	233.12		99.98	

PROJECT STATION: 204
 DATE: 12/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1640 Long E 1122
 start stop duration
 TIME :08:57:00 09:27:00 30 (min) Purpose code: 3
 LOG :9359.50 9360.90 1.40 Area code : 2
 FDEPTH: 117 117 GearCond.code:
 BDEPTH: 117 117 Validity code:
 Towing dir: 350° Wire out: 400 m Speed: 27 kn*10
 Sorted: 53 Kg Total catch: 215.20 CATCH/HOUR: 430.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex macrophthalms	261.60	2360	60.78	568
Zenopsis conchifer	140.00	544	32.53	
Trachurus capensis	12.80	1204	2.97	
Zeus faber	12.00	24	2.79	
Atractoscion aequidens	3.20	2	0.74	
Trachurus trecae	0.80	16	0.19	
Total	430.40		100.00	

PROJECT STATION: 205
 DATE:12/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1640 Long E 1139
 start stop duration
 TIME :10:41:00 11:11:00 30 (min) Purpose code: 3
 LOG :9369.10 9370.50 1.60 Area code : 2
 FDEPTH: 104 97 GearCond.code:
 BDEPTH: 104 97 Validity code:
 Towing dir: 90° Wire out: 350 m Speed: 32 km*10
 Sorted: 19 Kg Total catch: 18.56 CATCH/HOUR: 37.12

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	18.80	1294	50.65	570
Zenopsis conchifer	9.80	16	26.40	
Trachurus capensis	6.20	46	16.70	569
Trichiurus lepturus	1.10	10	2.96	
Loligo vulgaris	1.00	10	2.69	
Todaropsis eblanae	0.20	6	0.54	
Synegrops microlepis	0.02	4	0.05	
Total	37.12		99.99	

PROJECT STATION: 206
 DATE:12/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1641 Long E 1139
 start stop duration
 TIME :12:00:00 12:30:00 30 (min) Purpose code: 3
 LOG :9375.70 9377.30 1.60 Area code : 2
 FDEPTH: 87 88 GearCond.code:
 BDEPTH: 87 88 Validity code:
 Towing dir: 390° Wire out: 350 m Speed: 29 km*10
 Sorted: 62 Kg Total catch: 1122.30 CATCH/HOUR: 2244.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	1285.20	85332	57.26	572
Dentex macrophthalmus	619.20	11954	27.59	573
Synegrops microlepis	187.20	19372	8.34	
Pterothrissus bellotti	46.80	466	2.09	
Loligo vulgaris	39.60	466	1.76	574
Merluccius polli	25.20	466	1.12	
Atractoscion aequidens	12.80	8	0.57	571
Chelidonichthys capensis	8.40	10	0.37	
Sepia bertheloti	7.20	108	0.32	
Trichiurus lepturus	3.60	36	0.16	
Spondyllosoma cantharus	2.80	8	0.12	
Mustelus mustelus	2.40	2	0.11	
Raja miralellus	1.60	2	0.07	
Merluccius capensis	1.60	4	0.07	
Umbra canariensis	1.00	6	0.04	
Total	2244.60		99.99	

PROJECT STATION: 207
 DATE:12/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1641 Long E 1141
 start stop duration
 TIME :13:33:00 14:03:00 30 (min) Purpose code: 3
 LOG :9385.10 9385.70 1.52 Area code : 2
 FDEPTH: 19 16 GearCond.code:
 BDEPTH: 19 16 Validity code:
 Towing dir: 360° Wire out: 100 m Speed: 29 km*10
 Sorted: 51 Kg Total catch: 276.70 CATCH/HOUR: 553.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	310.40	3924	56.09	577
Pomatomus saltatrix	78.20	124	14.13	575
Diplodus sargus capensis	44.80	152	8.10	578
Loligo vulgaris	35.20	208	6.36	579
Lichia amia	26.00	6	4.70	
Mustelus mustelus	18.80	14	3.40	
Atractoscion aequidens	8.60	50	1.55	576
Stromateus fiatola	4.80	8	0.67	
Pagellus bellottii	4.80	136	0.67	
Galeichthys feliceps	4.00	8	0.72	
Gymna natalensis	4.00	2	0.72	
Myliobatis aquila	4.00	6	0.72	
Lithognathus mormyrus	2.40	8	0.43	
Pomadourus incisus	1.60	8	0.29	
Spondyllosoma cantharus	1.60	24	0.29	
Dentex barnardi	1.60	56	0.29	
Sarda sarda	1.40	2	0.25	
Rhinobatos albomaculatus	1.20	2	0.22	
Total	553.40		100.00	

PROJECT STATION: 208
 DATE:12/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1639 Long E 1132
 start stop duration
 TIME :15:28:00 16:58:00 30 (min) Purpose code: 3
 LOG :9397.90 9399.50 1.50 Area code : 2
 FDEPTH: 96 94 GearCond.code:
 BDEPTH: 96 94 Validity code:
 Towing dir: 20° Wire out: 400 m Speed: 28 km*10
 Sorted: 126 Kg Total catch: 2501.60 CATCH/HOUR: 3003.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	4382.00	98296	87.78	580
Dentex macrophthalmus	464.00	9366	9.27	581
Atractoscion aequidens	60.00	50	1.20	
Merluccius capensis	40.00	52	0.80	
Synegrops microlepis	20.00	2400	0.40	
Trichiurus lepturus	16.00	160	0.32	
Trachurus capensis	8.00	40	0.16	
Loligo vulgaris	2.00	40	0.04	
Todaropsis eblanae	0.80	40	0.02	
Dicologlossa hexophthalma	0.40	40	0.01	
Total	5003.20		100.00	

PROJECT STATION: 209
 DATE:12/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1629 Long E 1144
 start stop duration
 TIME :17:39:00 18:09:00 30 (min) Purpose code: 3
 LOG :9412.40 9413.80 1.50 Area code : 2
 FDEPTH: 34 33 GearCond.code:
 BDEPTH: 34 33 Validity code:
 Towing dir: 360° Wire out: 150 m Speed: 30 km*10
 Sorted: 49 Kg Total catch: 134.37 CATCH/HOUR: 268.74

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	110.50	4726	41.12	582
Dentex macrophthalmus	91.00	840	33.86	584
Atractoscion aequidens	23.00	72	8.56	583
Loligo vulgaris	13.00	90	4.84	
Trichiurus lepturus	10.00	90	3.72	
Chelidonichthys capensis	6.26	36	2.33	
Dentex barnardi	4.50	56	1.67	
Sepia orbignyana	3.26	26	1.21	
Pomatomus saltatrix	2.00	4	0.74	
Sardinops ocellata	2.00	20	0.74	
Umbra canariensis	1.50	20	0.56	
Argyrosomus hololepidotus	0.80	2	0.30	
Spondyllosoma cantharus	0.76	5	0.28	
Penaeus notialis	0.10	6	0.04	
Engraulis encrasicolus	0.06	6	0.02	
Total	268.74		99.99	

PROJECT STATION: 210
 DATE:12/ 6/91 GEAR TYPE: PT No: POSITION:Lat S 1638 Long E 1145
 start stop duration
 TIME :19:55:00 20:12:00 17 (min) Purpose code: 1
 LOG :9427.60 9428.40 0.80 Area code : 2
 FDEPTH: 10 10 GearCond.code:
 BDEPTH: 18 18 Validity code:
 Towing dir: 360° Wire out: 100 m Speed: 33 km*10
 Sorted: 62 Kg Total catch: 616.20 CATCH/HOUR: 2174.82

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Sardinops ocellata	2085.88	14188	95.91	585
Trachurus trecae	68.24	2647	4.06	586
Sepia orbignyana	0.35	35	0.02	
Todaropsis eblanae	0.35	35	0.02	
Total	2174.82		100.01	

PROJECT STATION: 211
 DATE:12/ 6/91 GEAR TYPE: PT No: POSITION:Lat S 1634 Long E 1145
 start stop duration
 TIME :22:03:00 22:33:00 30 (min) Purpose code: 1
 LOG :9444.30 9445.60 1.30 Area code : 2
 FDEPTH: 10 10 GearCond.code:
 BDEPTH: 20 21 Validity code:
 Towing dir: 189° Wire out: 100 m Speed: 26 km*10
 Sorted: 65 Kg Total catch: 587.70 CATCH/HOUR: 1175.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Sardinops ocellata	727.20	4680	61.87	587
Trachurus trecae	428.40	12600	36.45	588
Myliobatis aquila	14.40	36	1.23	
Loligo vulgaris	3.60	18	0.31	
Chelidonichthys capensis	1.80	18	0.15	
ANTENNARIIIDAE	0.00	18		
Total	1175.40		100.01	

PROJECT STATION: 212
 DATE:13/ 6/91 GEAR TYPE: PT No:4 POSITION:Lat S 1639 Long E 1139
 start stop duration
 TIME :03:17:00 03:47:00 30 (min) Purpose code: 4
 LOG :9409.00 9409.30 1.00 Area code : 2
 FDEPTH: 10 10 GearCond.code:
 BDEPTH: 50 53 Validity code:
 Towing dir: 355° Wire out: 150 m Speed: 29 km*10
 Sorted: 27 Kg Total catch: 27.00 CATCH/HOUR: 54.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	42.40	810	78.52	589
Trichiurus lepturus	3.20	34	3.93	
Mustelus mustelus	2.40	6	4.44	
Loligo vulgaris	2.00	14	3.70	
Atractoscion aequidens	1.80	4	3.33	
Sarda sarda	1.80	4	3.33	
Sepia bertheloti	0.20	2	0.37	
Sepiella ornata	0.20	6	0.37	
Total	54.00		99.99	

PROJECT STATION: 213
 DATE:13/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1629 Long E 1130
 start stop duration
 TIME :06:37:00 07:07:00 30 (min) Purpose code: 3
 LOG :9499.00 9500.50 1.40 Area code : 2
 FDEPTH: 75 73 GearCond.code:
 BDEPTH: 75 73 Validity code:
 Towing dir: 10° Wire out: 250 m Speed: 26 km*10
 Sorted: 15 Kg Total catch: 14.60 CATCH/HOUR: 29.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	22.20	94	75.00	590
Sarda sarda	6.00	4	20.27	
Atractoscion aequidens	0.80	2	2.70	
Trichiurus lepturus	0.50	4	1.69	
Todaropsis eblanae	0.66	8	0.20	
Loligo vulgaris	0.64	2	0.14	
Selene dorsalis	0.60	2		
Total	29.60		100.00	

PROJECT STATION: 214
 DATE:13/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1620
 start stop duration Long E 1139
 TIME :08:03:00 08:33:00 30 (min) Purpose code: 3
 LOG :9507.10 9508.50 1.30 Area code : 2
 FDEPTH: 861 85 GearCond.code:
 BDEPTH: 861 85 Validity code:
 Towing dir: 360° Wire out: 350 m Speed: 26 km*10
 Sorted: 65 Kg Total catch: 737.80 CATCH/HOUR: 1475.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	895.40	14946	60.68	591
Dentex macrophthalmus	495.00	9158	33.55	592
Atractoscion aequidens	39.00	36	2.64	593
Loligo vulgaris	23.10	198	1.57	
Umrina canariensis	5.60	24	0.38	
Sarda sarda	5.40	4	0.37	
Dentex barnardi	4.40	22	0.30	
Pagellus bellottii	4.40	22	0.30	
Spondylosoma cantharus	2.30	4	0.16	
Merluccius capensis	1.00	2	0.07	
Total	1475.60		100.02	

PROJECT STATION: 219
 DATE:13/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1620
 start stop duration Long E 1141
 TIME :06:49:00 17:19:00 30 (min) Purpose code: 3
 LOG :9560.30 9562.00 1.61 Area code : 2
 FDEPTH: 59 56 GearCond.code:
 BDEPTH: 59 56 Validity code:
 Towing dir: 20° Wire out: 300 m Speed: 31 km*10
 Sorted: 59 Kg Total catch: 278.10 CATCH/HOUR: 556.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	324.00	18576	58.25	615
Pagellus bellottii	87.30	586	15.70	
Lithognathus mormyrus	27.90	108	5.02	
Atractoscion aequidens	24.00	32	4.31	614
Loligo vulgaris	22.50	280	4.05	
Dentex macrophthalmus	19.80	748	3.56	615
Trichurus lepturus	15.30	82	2.75	
Chelidonichthys capensis	12.60	118	2.27	
Dentex barnardi	10.80	90	1.94	
Spondylosoma cantharus	3.60	18	0.65	
Umrina canariensis	3.60	36	0.65	
Mustelus mustelus	3.00	2	0.54	
Arnoglossus imperialis	1.80	118	0.32	
Total	556.20		100.01	

PROJECT STATION: 215
 DATE:13/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1630
 start stop duration Long E 1128
 TIME :09:36:00 10:06:00 30 (min) Purpose code: 3
 LOG :9516.40 9517.90 1.40 Area code : 2
 FDEPTH: 101 96 GearCond.code:
 BDEPTH: 101 96 Validity code:
 Towing dir: 5° Wire out: 400 m Speed: 27 km*10
 Sorted: 58 Kg Total catch: 3034.00 CATCH/HOUR: 6068.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	3535.40	34840	58.26	595
Dentex macrophthalmus	1539.00	14766	25.36	596
Trachurus capensis	774.80	3742	12.77	594
Zeus faber	72.80	205	1.20	
Zenopsis conchifer	36.40	104	0.60	
Merluccius capensis, female	33.00	44	0.54	599
Atractoscion aequidens	23.00	16	0.39	597
Pterothrissus bellotti	20.60	104	0.34	
Merluccius capensis, male	12.00	14	0.20	598
Trigla lyra	10.40	104	0.17	
Loligo vulgaris	10.40	104	0.17	
Total	6068.00		99.99	

PROJECT STATION: 220
 DATE:14/ 6/91 GEAR TYPE: PT No:4 POSITION:Lat S 1604
 start stop duration Long E 1141
 TIME :02:25:00 03:01:00 36 (min) Purpose code: 1
 LOG :9639.00 9640.60 1.60 Area code : 2
 FDEPTH: 20 20 GearCond.code:
 BDEPTH: 45 46 Validity code:
 Towing dir: 360° Wire out: 100 m Speed: 29 km*10
 Sorted: 3 Kg Total catch: 3.46 CATCH/HOUR: 5.75

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichurus lepturus	2.82	7	49.22	
Trachurus trecae	1.33	50	23.13	617
Sarda sarca	1.00	2	17.39	
Loligo vulgaris	0.50	3*	8.70	
Sepiella ornata	0.08	2	1.39	
Selene corsalis	0.00	2		
Total	5.74		99.83	

PROJECT STATION: 216
 DATE:13/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1625
 start stop duration Long E 1131
 TIME :11:45:00 12:15:00 30 (min) Purpose code: 3
 LOG :9531.10 9532.50 1.27 Area code : 2
 FDEPTH: 86 E2 GearCond.code:
 BDEPTH: 86 E2 Validity code:
 Towing dir: 20° Wire out: 350 m Speed: 27 km*10
 Sorted: 89 Kg Total catch: 593.30 CATCH/HOUR: 1186.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus trecae	558.00	4990	47.03	609
Dentex macrophthalmus	445.20	4158	37.52	604
Dentex gibbosus	59.60	16	5.02	600
Spondylosoma cantharus	44.40	60	3.74	601
Pagellus bellottii	20.40	108	1.72	
Anthias anthias	16.80	192	1.42	
Dentex barnardi	16.80	48	1.42	
Zeus faber	15.60	36	1.31	
Atractoscion aequidens	9.80	6	0.83	602
Total	1186.60		100.01	

PROJECT STATION: 221
 DATE:14/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1620
 start stop duration Long E 1141
 TIME :06:40:00 07:10:00 30 (min) Purpose code: 3
 LOG :9661.60 9663.10 1.50 Area code : 2
 FDEPTH: 39 36 GearCond.code:
 BDEPTH: 39 36 Validity code:
 Towing dir: 20° Wire out: 250 m Speed: 29 km*10
 Sorted: 43 Kg Total catch: 294.30 CATCH/HOUR: 588.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Lithognathus mormyrus	203.40	828	34.56	619
Trachurus trecae	81.80	1854	13.90	618
Sphyrna lewini	76.00	8	12.91	
Pagellus bellottii	33.30	280	5.66	
Mustelus mustelus	33.00	30	5.61	
Atractoscion aequidens	32.00	54	5.44	620
Sarda sarda	30.00	34	5.10	621
Loligo vulgaris	22.60	2410	3.84	
Dentex barnardi	20.70	162	3.52	
Umrina canariensis	20.24	162	3.44	
Gymnura altavela	14.60	2	2.51	
Sepia orbignyana	6.00	2	1.02	
Trichurus lepturus	4.60	46	0.68	
Myliobatis aquila	3.00	2	0.51	
Spondylosoma cantharus	2.80	18	0.48	
Argyrosomus hololepidotus	2.60	4	0.44	
Ballistes capricornis	2.24	18	0.38	
Arnoglossus imperialis	0.00	8		
Total	588.40		100.00	

PROJECT STATION: 217
 DATE:13/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1620
 start stop duration Long E 1131
 TIME :13:39:00 14:09:00 30 (min) Purpose code: 3
 LOG :9542.20 9543.50 1.63 Area code : 2
 FDEPTH: 81 83 GearCond.code:
 BDEPTH: 81 83 Validity code:
 Towing dir: 190° Wire out: 350 m Speed: 31 km*10
 Sorted: 344 Kg Total catch: 344.30 CATCH/HOUR: 688.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus capensis	327.60	1189	47.57	609
Spondylosoma cantharus	181.00	244	26.29	605
Dentex gibbosus	74.20	24	10.78	608
Pagellus bellottii	44.60	152	6.51	608
Zeus faber	32.40	48	4.71	
Dentex barnardi	22.20	48	3.22	607
Anthias anthias	2.60	22	0.38	
Scomber japonicus	2.00	10	0.29	
Sparus caeruleostictus	1.40	2	0.20	
Chelidonichthys capensis	0.40	2	0.06	
Total	688.60		100.01	

PROJECT STATION: 222
 DATE:14/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1614
 start stop duration Long E 1140
 TIME :08:12:00 08:42:00 30 (min) Purpose code: 3
 LOG :9670.40 9671.90 1.40 Area code : 2
 FDEPTH: 55 55 GearCond.code:
 BDEPTH: 55 55 Validity code:
 Towing dir: 360° Wire out: 250 m Speed: 30 km*10
 Sorted: 59 Kg Total catch: 58.75 CATCH/HOUR: 117.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trichurus lepturus	39.00	82	33.19	
Atractoscion aequidens	21.60	22	18.36	622
Spondylosoma cantharus	13.60	18	11.57	
Loligo vulgaris	11.70	184	9.96	623
Lithognathus mormyrus	10.20	26	8.68	
Alloteuthis africana	9.00	18000	7.66	
Argyrosomus hololepidotus	4.80	2	4.09	
Mustelus mustelus	2.40	4	2.04	
Thyrskites atur	2.20	2	1.87	
Dentex barnardi	1.90	4	1.62	
Umrina canariensis	0.60	2	0.51	
Dentex macrophthalmus	0.30	2	0.26	
Trachurus trecae	0.20	4	0.17	
Total	117.50		100.00	

PROJECT STATION: 218
 DATE:13/ 6/91 GEAR TYPE: BT No:1 POSITION:Lat S 1620
 start stop duration Long E 1136
 TIME :15:25:00 15:55:00 30 (min) Purpose code: 3
 LOG :9553.30 9555.00 1.52 Area code : 2
 FDEPTH: 76 74 GearCond.code:
 BDEPTH: 76 74 Validity code:
 Towing dir: 20° Wire out: 350 m Speed: 29 km*10
 Sorted: 64 Kg Total catch: 1811.40 CATCH/HOUR: 3622.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP.NO.
	weight	numbers		
Trachurus capensis	1562.40	6608	43.19	611
Trachurus trecae	1422.40	29696	39.26	612
Dentex macrophthalmus	560.00	7504	15.46	613
Atractoscion aequidens	54.40	54	1.50	610
Synagrops microlepis	16.80	1456	0.46	
Spondylosoma cantharus	6.80	10	0.19	

PROJECT STATION: 223
 DATE: 14/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1609 Long E 1146
 start stop duration
 TIME :09:38:00 10:14:00 36 (min) Purpose code: 3
 LOG :9679.10 9680.50 1.70 Area code : 2
 FDEPTH: 30 25 GearCond.code:
 BDEPTH: 30 25 Validity code:
 Towing dir: 360° Wire out: 150 m Speed: 29 km*10
 Sorted: 44 Kg Total catch: 452.10 CATCH/HOUR: 753.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus trecae	452.50	5650	90.85	625
Lithognathus mormyrus	78.75	538	10.45	623
Stromateus fiatola	52.50	53	6.97	627
Myliobatis aquila	50.83	23	6.75	
Sphyrna lewini	46.67	15	6.19	
Atractoscion aequidens	35.00	72	4.64	624
Pomatomus saltatrix	10.00	20	1.33	
Mustelus mustelus	6.50	8	1.13	
Diplodus sargus capensis	7.50	25	1.00	
Argyrosomus hololepidotus	3.33	8	0.44	
Ballistes capriscus	2.50	25	0.33	
Loligo vulgaris	2.50	25	0.33	
Pagellus bellottii	1.88	13	0.25	
Spondylosoma cantharus	0.63	13	0.08	
Dentex barnardi	0.13	13	0.02	
Engraulis encrasicolus	0.13	13	0.02	
Selene dorsalis	0.13	63	0.02	
Total	753.48		100.00	

PROJECT STATION: 227
 DATE: 15/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1538 Long E 1157
 start stop duration
 TIME :06:38:00 07:08:30 30 (min) Purpose code: 3
 LOG :9837.50 9838.90 1.50 Area code : 2
 FDEPTH: 61 61 GearCond.code:
 BDEPTH: 61 61 Validity code:
 Towing dir: 33° Wire out: 300 m Speed: 29 km*10
 Sorted: 109 Kg Total catch: 103.50 CATCH/HOUR: 267.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Squatina oculata	90.20	16	43.57	
Spondylosoma cantharus	28.60	54	13.62	641
Mustelus mustelus	20.00	4	9.66	
Trichurus lepturus	15.50	22	7.54	
Dentex barnardi	14.80	40	7.15	640
Diplodus cervinus cervinus	12.80	28	6.18	
Pagellus bellottii	9.70	78	4.69	639
Trachurus trecae	3.60	24	2.71	638
Loligo vulgaris	2.40	16	1.16	
Lithognathus mormyrus	1.50	6	0.72	
Sparus auriga	1.40	2	0.68	
Argyrosomus hololepidotus	1.30	2	0.63	
Fistularia petimba	1.30	2	0.63	
Ballistes capriscus	0.70	4	0.34	
Pomadasys incisus	0.40	2	0.19	
Dentex macrophthalmus	0.40	2	0.19	
Chelidonichthys capensis	0.30	2	0.14	
Selene dorsalis	0.00	2		
Total	267.00		100.00	

PROJECT STATION: 224
 DATE: 14/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1609 Long E 1143
 start stop duration
 TIME :11:22:00 11:52:00 30 (min) Purpose code: 3
 LOG :9689.00 9690.50 1.50 Area code : 2
 FDEPTH: 46 41 GearCond.code:
 BDEPTH: 46 41 Validity code:
 Towing dir: 68° Wire out: 250 m Speed: 30 km*10
 Sorted: 97 Kg Total catch: 97.30 CATCH/HOUR: 194.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trichurus lepturus	114.20	292	58.68	
Lithognathus mormyrus	23.00	106	14.39	627
Mustelus mustelus	19.80	16	10.17	
Loligo vulgaris	7.40	124	3.40	631
Trachurus trecae	7.00	100	3.60	630
Spondylosoma cantharus	5.20	26	2.67	628
Dentex barnardi	5.00	30	2.57	629
Stromateus fiatola	1.80	2	0.92	
Ballistes capriscus	1.40	8	0.72	
Diplodus sargus capensis	1.40	4	0.72	
Argyrosomus hololepidotus	1.20	2	0.62	
Atractoscion aequidens	1.20	2	0.62	
Pagellus bellottii	0.60	4	0.31	
Trachinus armatus	0.20	2	0.10	
Pomadasys incisus	0.20	2	0.10	
Engraulis encrasicolus	0.00	2		
Sardinella aurita	0.00	2		
Total	194.60		99.99	

PROJECT STATION: 228
 DATE: 15/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1539 Long E 1146
 start stop duration
 TIME :08:43:00 09:19:00 35 (min) Purpose code: 3
 LOG :9852.60 9854.20 1.40 Area code : 2
 FDEPTH: 104 108 GearCond.code:
 BDEPTH: 104 108 Validity code:
 Towing dir: 30° Wire out: 400 m Speed: 23 km*10
 Sorted: 22 Kg Total catch: 22.20 CATCH/HOUR: 38.05

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex angolensis	21.26	58	55.66	642
Dentex gibbosus	9.28	7	24.33	
Dentex barnardi	3.77	12	5.91	
Spondylosoma cantharus	1.20	2	3.15	
Zenopsis conchifer	1.00	2	2.71	
Zeus faber	0.86	2	2.46	
Lagocephalus laevigatus	0.51	2	1.34	
Pagellus bellottii	0.17	2	0.46	
Total	38.06		100.01	

PROJECT STATION: 225
 DATE: 14/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1610 Long E 1136
 start stop duration
 TIME :13:42:00 14:12:00 30 (min) Purpose code: 3
 LOG :9705.50 9707.10 1.33 Area code : 2
 FDEPTH: 67 71 GearCond.code:
 BDEPTH: 67 71 Validity code:
 Towing dir: 360° Wire out: 350 m Speed: 26 km*10
 Sorted: 65 Kg Total catch: 655.60 CATCH/HOUR: 1311.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex macrophthalmus	750.00	8056	57.20	632
Trachurus trecae	323.00	20304	25.02	633
Trachurus capensis	130.00	450	3.91	634
Loligo vulgaris	96.00	500	7.32	635
Mustelus mustelus	2.20	2	0.17	
Sepia officinalis hierredda	2.00	2	0.15	
Sarda sarda	1.20	2	0.09	
Pagellus bellottii	1.00	20	0.06	
Fistularia petimba	0.80	2	0.06	
Total	1311.20		100.00	

PROJECT STATION: 229
 DATE: 15/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1559 Long E 1139
 start stop duration
 TIME :11:41:00 12:11:00 30 (min) Purpose code: 3
 LOG :9875.20 9877.20 1.53 Area code : 2
 FDEPTH: 101 101 GearCond.code:
 BDEPTH: 101 101 Validity code:
 Towing dir: 360° Wire out: 400 m Speed: 27 km*10
 Sorted: 51 Kg Total catch: 1112.80 CATCH/HOUR: 2225.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex macrophthalmus	1840.00	15264	82.67	645
Atractoscion aequidens	166.20	152	7.47	643
Trachurus trecae	152.00	3560	6.83	646
Spicara alta	35.00	760	1.62	
Trachurus capensis	12.00	40	0.54	
Umbria canariensis	9.20	16	0.41	644
Loligo vulgaris	6.00	40	0.27	
Dentex angolensis	3.40	6	0.15	
Illex coindetii	0.80	40	0.04	
Total	2225.60		100.00	

PROJECT STATION: 226
 DATE: 14/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1603 Long E 1145
 start stop duration
 TIME :15:49:00 16:19:00 30 (min) Purpose code: 3
 LOG :9720.40 9722.00 1.74 Area code : 2
 FDEPTH: 21 19 GearCond.code:
 BDEPTH: 21 19 Validity code:
 Towing dir: 350° Wire out: 100 m Speed: 33 km*10
 Sorted: 40 Kg Total catch: 40.10 CATCH/HOUR: 80.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sarda sarda	38.90	72	45.38	636
Ballistes capriscus	32.50	146	40.65	637
Sphyracna sphyracna	4.80	14	5.99	
Pomatomus saltatrix	1.20	2	1.50	
Decapterus rhonchus	1.20	4	1.50	
Pomadasys jubelini	1.00	2	1.25	
Loligo vulgaris	0.60	4	0.75	
Total	80.20		100.02	

PROJECT STATION: 230
 DATE: 15/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1604 Long E 1141
 start stop duration
 TIME :13:17:00 13:47:00 30 (min) Purpose code: 3
 LOG :9884.70 9886.20 1.45 Area code : 2
 FDEPTH: 44 44 GearCond.code:
 BDEPTH: 44 44 Validity code:
 Towing dir: 350° Wire out: 250 m Speed: 26 km*10
 Sorted: 25 Kg Total catch: 25.75 CATCH/HOUR: 51.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Loligo vulgaris	27.40	356	53.20	647
Trachurus trecae	7.80	250	15.15	648
Spondylosoma cantharus	5.80	38	11.26	649
Sepia officinalis hierredda	5.60	4	10.87	
Dentex barnardi	4.20	46	8.16	650
Chelidonichthys capensis	0.40	2	0.78	
Ballistes punctatus	0.20	2	0.39	
Fistularia petimba	0.10	2	0.19	
Total	51.50		100.00	

PROJECT STATION: 231
 DATE: 15/ 6/91 GEAR TYPE: BT No:1 POSITION: Lat S 1614 Long E 1135
 start stop duration
 TIME :15:37:00 16:07:00 30 (min) Purpose code: 3
 LOG :9901.20 9902.90 1.47 Area code : 2
 FDEPTH: 74 70 GearCond.code:
 BDEPTH: 74 70 Validity code:
 Towing dir: 50° Wire out: 350 m Speed: 29 km*10
 Sorted: 49 Kg Total catch: 490.50 CATCH/HOUR: 961.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dentex macrophthalmus	516.30	12578	52.60	652
Trachurus trecae	410.00	18496	41.79	651
Loligo vulgaris	32.00	380	3.26	653
Trachurus capensis	22.00	360	2.74	

