

SURVEYS OF THE FISH RESOURCES OF ANGOLA

Survey of the pelagic resources 20 July – 19 August 2003

Including observations of marine seabirds and mammals

Institute of Marine Research IMR Bergen Instituto Investigação Marinha IIM Luanda

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by

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Including observations of marine seabirds and mammals

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> Institute of Marine Research Bergen, 2003

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CHAPTER 1 INTRODUCTION

1.1 Objectives

This survey is one of a series aimed at monitoring the pelagic fish resources of Angola, as agreed between the Nansen program and the Instituto de Investigação Marinha (IIM), Luanda.

The main objectives of the survey were the following:

- To estimate the abundance and to map the distribution of the main commercially important pelagic and semi-pelagic fish species in Angolan waters, including the two sardinella species *Sardinella aurita* and *S. maderensis*, the Cunene horse mackerel *Trachurus trecae*, the Cape horse mackerel *T. trachurus capensis*, the pilchard *Sardinops ocellatus* and other pelagic species, mainly carangids.
- To study the biological condition of the main species, including length-weight relationships, reproductive stages and stomach fullness. The refined method for determination of gonad maturity stages in *T. trecae* developed during the 2001 survey was applied.
- To collect gonads, stomachs and otoliths from both horse mackerel species and to collect depth stratified samples of zoo- and phytoplankton in order to continue the studies of horse mackerel feeding biology, relating stomach contents to estimated zooplankton compositions and densities. The distribution and aggregation patterns of sardinella will be correlated with phytoplankton distributions and hydrographical and meteorological conditions.
- To map the general meteorological, hydrographical and biological conditions in the survey area by means of continuous recordings of weather data, CTD-casts (Temperature, Salinity and Oxygen), ADCP measurements (Acoustic Doppler Current Profiler) and plankton sampling along acoustical and hydrographical transect lines. Higher sampling efforts will be allocated in the Benguela front area and in the main horse mackerel and sardinella distribution areas.
- On-the-job training for the Angolan participants on the main survey routines, including using the NAN-SIS and Hydrobase software, scrutinizing acoustical data (BEI) and producing acoustic biomass estimates. Dr. Marek Ostrowski (IMR) will instruct in database management and analysis of hydrographical data.
- When not in conflict with the other survey objectives, the survey should map the distribution of marine mammals and seabirds along the survey transects. Tamara Ron (UNDP) will look at distribution of marine mammals during the first leg, while Jean Paul Roux (MFMR) will look at marine mammals and sea birds during the second leg.

The aim of the time series that this survey is part of is to map fluctuations in stock levels in the main pelagic species and to improve the understanding of these fluctuations in terms of the biology of the main species in relation to the environment.

1.2 Participation

The scientific staff consisted of:

From IIM, Luanda:

N'Kosi LUYEYE (Team Leader, 20/7 - 1/8), Filomena VAZ-VELHO (Team Leader, 1/8 - 7/8), Francisco De ALMEIDA (20/7 - 19/8 Team Leader 7/8 - 19/8), António BARRADAS (20/7 - 19/8), Bomba BASIKA (20/7 - 19/8), Miguel ANDRE (20/7 - 19/8), Domingos AZEVEDO (1/8 - 19/8), and Andom LUSSEVSKUENO (20/7 - 1/8).

From Ministry of Environment, Luanda: Albertina NZUZLUZI (20/7 – 1/8).

From UNDP, Luanda: Tamara RON (20/7 - 1/8).

From MFMR, Lüderitz: Jean-Paul ROUX (1/8 – 19/8).

From IMR, Bergen:

Jens-Otto KRAKSTAD (20/7 - 19/8, Cruise Leader 1/8 - 19/8), Bjørn Erik AXELSEN (Cruise leader, 20/7 - 1/8), Diana ZAERA (1/8 – 19/8), Marek OSTROWSKI (20/7 - 19/8), Tor Egil JOHANSSON (20/7 - 19/8), Jan Frode WILHELMSEN (20/7 - 19/8).

1.3 Narrative

The vessel departed Luanda 20 July at 10:00 UTC and steamed north towards the Congo River and the border between Angola and The Democratic Republic of the Congo (DRC), where it arrived on 21 August at 02:20 UTC. Following established practice, the surveyed area was divided into three regions: Congo River - north of Pta. das Palmerinhas (6° - 9°S) -ANGOLA NORTH, the region between 9°S and 13°S - ANGOLA CENTRAL, and the region limited by the parallel of 13°S and Cunene River (17°15'S) - ANGOLA SOUTH. The Northern region was completed on the 28 July at 17:00 UTC, and the Central region was started immediately after this. The coverage of the central region was temporarily interrupted on the 31 July 18:30 UTC for a change of scientific personnel in Luanda. The ship called on Luanda on 1 August at 07:50 UTC and departed 16:30 UTC the same day. The survey was resumed on the 2 August at 03:20 UTC. The last transect before the break off was repeated for the purpose of continuity. The coverage of the Central region was completed on the 7 August 23:35 and the vessel reached the end of the Southern region and the survey grid at the Cunene River outlet on 15 August at 20:20 UTC, The transducer keel was lowered on the 14 August 07:00 UTC because of rough weather, and subtracted after the end of the survey. The vessel docked in Walvis Bay 18 August at 11:00.

The sampling trawls, including the small pelagic trawl, the mid-sized (15 m vertical opening) pelagic trawl fitted with the codend multisampler and the demersal trawl (5 m vertical opening), were used during the survey. The acoustic transducers, 18, 38 and 120 kHz (split beam, EK500 1) and 200 kHz (single beam, EK500 2), were calibrated on the 8 August in Baía dos Elephantes. A second calibration was conducted at Pelican Point outside Walvis Bay in Namibia on the 17 August starting 08:30 in the morning, to reassure that all frequencies

was correctly calibrated after some discrepancy between the calibration at Baía dos Elephantes and previous calibrations, Note however that this discrepancy did not in any way affect the biomass calculations. The previous calibration of the 18 kHz and 200 kHz transducers was carried out 7 September 2002 in Baía dos Elephantes while the 38 kHz and 120 kHz was calibrated inside Pelican Point, Walvis Bay on the 22 April 2003.

Throughout the time series of the pelagic survey of Angola, different survey strategies have been applied regarding survey design, sampling intensity and degree of coverage. The choice of strategy has primarily been dependent on the available ship time and prior knowledge of the spatial distribution of the target species. A standardized survey strategy is now tried implemented, and this year, as in 2002, a systematic survey track with equally spaced transect lines (6 NM) perpendicular to the coast was followed as recommended in the survey report 2002. Although largely similar to surveys prior to 2002, this represents a modification from the prior survey design with parallel longitudinal acoustic transect lines with 5 NM (nautical miles) spacing. By applying the design with lines that are perpendicular to the coast the steamed distance can be reduced by 20 - 30% with little loss of sampling intensity, gaining time required for targeted trawling, hydrographical sampling and *ad-hoc* experiments such as collection of zoo- and phytoplankton samples. Besides, in 2001 it was experienced that although the longitudinal design largely was applicable, there were certain areas where the angle of the coastline deviated too much from the latitudinal direction, giving a near parallel design locally. Although semi-parallel, the perpendicular design is often recommended (e.g. McLennan and Simmonds 1992), and will be followed consequently in future surveys.

The acoustic transects generally cover a depth range of 20 - 500 m, but some lines extended to about 1 000 m depth to check for deeper distributions of midwater concentrations of horse mackerel. In certain areas in the central region surveying is stopped at about 50 m depth due to extreme steepness of the shelf. The shallowest part of the shelf between N'zeto and the Congo River is partly inaccessible for trawling due to oil platforms and wells, and was prior to 2001 not adequately covered. In 2001 and 2002 this section has been covered acoustically, but only small amounts of fish (sardinella) were recorded. This year this region was only partly covered.

CTD sections that have been covered routinely over the past few years are included in the new, standardized survey grid. ADCP (Acoustic Doppler Current Profiler) recordings were logged continuously along specific transects of the survey track, and on CTD stations. Additional CTD and ADCP stations were added on an *ad hoc* basis in areas were horse mackerel and sardinella were abundant. In these areas, zooplankton samples were obtained using *Hydrobios Multinet* plankton sampler.

1.4 Survey effort

Figures 1a - c show the cruise tracks with fishing and hydrographic stations for the northern, central and southern regions respectively. Table 1 summarizes the survey effort by regions.

 Table 1. Summary of survey effort by regions, including number of demersal (BT) and pelagic (PT) trawl hauls, CTD casts, Multinet stations (2 - 5 zooplankton samples per station) and distance surveyed (log), disregarding the steaming from Luanda to Congo River.

Area	BT	PT	Total	CTD	Multinet	Log (NM)		
			trawls	casts	stations			
Pta. Palmerinhas - Congo River	7	14	21	79	3	1 452		
Benguela - Pta. Palmerinhas	17	15	32	165	9	1 853		
Cunene River - Benguela	19	10	29	104	7	1 091		
Total	43	39	82	348	19	4 396		



 $\frac{12}{13}$ Figure 1a. Course track with fishing, plankton and hydrographic stations, Pta. das Palmerinhas - Congo River.



 $\frac{13}{14}$ Figure 1b. Course track with fishing, plankton and hydrographic stations, Benguela - Pta. das Palmerinhas.



Figure 1c. Course track with fishing, plankton and hydrographic stations, Cunene - Benguela.

CHAPTER 2 METHODS

2.1 Hydrographic sampling

A Seabird 911+ CTD probe was used to obtain vertical profiles of temperature, salinity and oxygen. Real time logging was carried out using the PC based Seabird Seasave software. CTD casts were conducted along the cruise track in transects at about 20 NM distance, and *ad hoc* as deemed necessary. The casts were stopped a few meters above the bottom, and at a maximum of 500 m depth. Two water samples, one near the surface and one near the bottom, were collected using *Niskin* bottles at stations corresponding to the standard profiles. The samples were analysed for dissolved oxygen using the Winkler method in order to calibrate the oxygen sensor. Salinity of water samples could not be measured, as the Guildline Portasal salinometer was out of order, however, the salinometer has shown to be relatively stable in the past and this was not considered to be a problem.

A total of 77 samples were accepted for oxygen calibration on the 27 July 2003. A linear regression of the Winkler determinations on the CTD values produced the correction:

$$O_{2corrected} = a * O_{2recorded} + b$$
(1)

where a = 0.708 and b = -0.004. A second calibration was conducted during the southern leg and applied before the start of the next survey.

Current measurements were carried out on CTD stations and selected transects only, using the hull-mounted Acoustic Doppler Current Profiler (ADCP). The ADCP was set to ping every 8 seconds, the depth bins were set to 8 m and the number of bins was 40. Data were averaged at 300 seconds intervals and stored on an IBM compatible PC using Transect v. 2.70 software.

Meteorological data logged from the Aanderaa meteorological station included wind direction and speed, air temperature, incident solar intensity and sea surface temperature (SST). All data were averaged by unit distance sailed (1 NM).

2.2 Fish sampling

A brief description of the sampling trawls are provided in Annex I. All trawl catches were sampled for species composition by weights and numbers. Records of catch rates are given in Annex II.

Biological samples were obtained for sardinella and horse mackerel. Total length and body weight were determined to the nearest 1 cm and 1 g below, respectively. Sex and reproductive stages were determined by means of macroscopic examination, scoring each fish according to the five-point classification scale first proposed by Holden and Raitt (1974), with the addition of the refined description for Cunene horse mackerel identified and presented in the 2001 cruise report (Table 2).

Table 2. The five point gonad maturity scale proposed for partial spawners by Holden and Raitt (1974).Additional information specific for Cunene horse mackerel (*Trachurus trecae*) as described by Dr.Isabel Afonso Dias during the 2001 survey are included

Stage	Maturity status	Description
Ι	Immature	Ovary and testis lengths about 1/rd of body cavity length. Ovaries pinkish, translucent; testis whitish. Ova not visible to the naked eye. Ovary and testis quite narrow and have a tubular shape.
II	Maturing virgin and recovering spent	Ovary and testis about ½ length of body cavity length. Ovary pinkish, translucent; testis whitish, more or less symmetrical. Ova not visible to the naked eye. Ovary more opaque; small specks make gonad appear more granular. Testes develop lobules, hence loosing the tubular shape. Some recovering spent ovaries have conspicuous blood vessels.
III	Ripening	Ovary and testis about 2/3rds length of body cavity length. Ovary pinkish- yellow colour with granular appearance, testis whitish to creamy. No transparent ova visible. Milt can be seen inside testes when cut. Ovaries granular due to the presence of opaque oocytes. First time spawners have very swollen gonads. Ovaries that have spawned once lose consistency, but maintain the external appearance typical for this stage.
IV	Ripe	Ovary and testis from 2/3rds to full length of body cavity. Ovary orange- pink in colour with conspicuous superficial blood vessels. Large transparent, ripe ova visible. Testis whitish to creamy, soft. Ovaries jelly-like due to the presence of translucent oocytes. Gonads extrude oocytes or milt when gently pressed.
V	Spent	Ovary and testis shrunken to about ½ length of body cavity. Walls loose. Ovary may contain remnants of disintegrating opaque and ripe ova, darkened or translucent. Testis bloodshot and slack. Testes may have sperm remaining in the seminal duct. Pinkish areas appear in the periphery of the testes. Ovaries bloodshot and slack.

Stomach samples of sardinella and horse mackerel were collected for further analysis at IIM, Luanda. Feeding biology will be investigated in more detail at a later stage by relating the stomach contents to recorded availability of phytoplankton (sardinella) and zooplankton (horse mackerel). Gonads and otoliths were collected for *ad-hoc* examination.

2.3 Plankton sampling

Zooplankton

The zooplankton communities in the main distribution area of horse mackerel and on selected localities within the sardinella core areas were sampled in order to map the prey availability. The sampling was conducted by means of HYDROBIOS Multinet, enabling up to five depth-specific samples in one deployment. Each net (405 μ m) was fitted with a flowmeter for estimation of sample volume. A SCANMAR depth sensor gave real-time information of the depth. Nets were opened and closed remotely from the bridge of the vessel.

Phytoplankton

Phytoplankton samples were collected using Niskin water samplers mounted in a circular array on the CTD probe.

2.4 Acoustic sampling

Acoustic equipment

The acoustic recordings were conducted using two Simrad EK 500 echosounders (Bodholt *et al.* 1989) running keel mounted transducers at nominal operating frequencies of 18, 38, 120 (EK500 1) and 200 kHz (EK500 2). Few locations along the Angolan coast are favourable for transceiver calibration (essentially Baía dos Tigres and Baía dos Elephantes), and the survey was therefore started without *a priori* calibration. All transceivers were calibrated in Baía dos Elephantes 8 August. However, the conditions during this calibration were not favourable, and only the calibration results from the 38 kHz where acceptable. It was therefore decided to do another calibration was conducted on the 17 August and proved successful for all four frequencies. No changes in the calibration settings were done during the survey, the calibration values from Langstrand where inserted in the EK 500 menu settings after the survey.

The S_V transducer gain at the 38 kHz transceiver was recorded at 27.19 dB at Baía dos Elephantes and 27.04 dB at Langstrand, compared to 27.01 dB on the last calibration (Langstrand, 22.04.03). Since the change in S_V gain was within a 0.2 dB range, which is relatively low compared to the expected experimental error level; no ad-hoc re-computation of the data will be conducted. The TS transducer gain on the same transceiver was recorded at 27.22 dB at Baía dos Elephantes and 27,15 dB at Langstrand, compared to 27,14 dB at the last calibration before the survey.

Acoustic raw-data was logged on two different systems, the Sun - Unix based Bergen Echo Integrator (BEI) (Knudsen 1996) version 2000 and Sonardata Echolog® version 2.20.05. The technical specifications and operational settings of the echosounders used during the survey are given in Annex IV together with the results from the calibration in Baía dos Elephantes and Langstrand.

Allocation of acoustic energy to target taxii

The acoustic data were scrutinized using the post-processing module of the BEI software. Scatterers were displayed at 38 kHz, standardized to 5 NM echograms with 1 000 pings (horizontal) by 500 bins (vertical). The mean 5 NM area backscattering coefficients s_A (m^2/NM^2) was allocated to a predefined set of taxii on the basis established echogram features. Acoustic groups and respective taxi are listed in Table 3. Ground truthing and estimation of mean length and weight were accomplished by means of targeted pelagic and demersal trawling.

Table 3. Allocation of acoustic densities to taxii. Note that for the groups sardinella, horse mackerel, big-eye grunt and pilchard all encountered species are listed, while only examples are listed for the remaining groups.

Group	Taxon	Species			
Sardinella	Sardinella sp	S. aurita			
		S. madarensis			
Horse mackerel	Trachurus sp.	T. trecae			
	_	T. trachurus capensis			
Pilchard	Sardinops	S. ocellatus			
Big-eye grunt		Brachydeuterus auritus			
Pelagic species 1	Clupeiformes ₁	Ilisha africana			
	-	Etrumeus whiteheadi			
		Engraulis encrasicolus			
Pelagic species 2	Carangidae ₂	Selene dorsalis			
	_	Chloroscombrus chrysurus			
		Decapterus rhonchus			
		Seriola carpenteri			
	Scombridae	Auxis thazard			
		Sarda sarda			
		Scomber japonicus			
	Sphyraenidae	Sphyraena guachancho			
	Others	Trichiurus lepturus			
	Others	Lepidopus caudatus			
Other demersal species	Sparidae ₃	Dentex angolensis			
		D. macrophthalmus			
		D. congoensis			
		D. canariensis			
		D. barnardi			
		Pagellus bellottii			
		Sparus caeruleostictus S. pagrus africanus Saurida brasiliensis			
	Other taxii				
		Arioma bondi			
		Pomadasys incisus			
		Galeoides decadactylus			
Mesopelagic species	Myctophidae ₃	Diaphus dumerili			
	Other mesopelagic fish	Trachinocephalus myops			
Plankton	Calanoidae	Calanus sp.			
	Euphausiidae	Meganyctiphanes sp.			
	Other plankton				

1: other than *Sardinops* sp.; 2: other than *Trachurus* sp.; 3: main taxon in group.

The target strength (TS) function used to convert mean area backscattering coefficient s_A (m²/NM²) at 38 kHz to number of fish corresponds to:

$$TS = 20 \log L - 72 (dB)$$
 (2)

or

$$C_{\rm F} = \frac{10^{7.2}}{4\pi} \cdot L^{-2} \tag{3}$$

where C_F is the conversion factor from acoustic density to fish biomass and L is the mean total fish length. This target strength function was originally established for North Sea herring, but has later been attributed to clupeids in general (Foote et al. 1986, Foote 1987). No specific target strength relations are presently available for the species at hand, and equation (3) has therefore been applied consequently for all targeted species in this time series. The biomass was calculated by multiplying the number of fish by the expected length at weight, estimated by regressing the log-length (total) against total weight. Separate length-weight relationships were worked for each region (north, central, south), pooling all data within each region.

The boundaries of encountered fish aggregations (post strata) were determined by means of contouring within the inner and outer zero-value limits of the transect lines. The strata contours were digitised using a CalBoard III digitising board / Atlas Draw v. 2.03 PC based software. Distribution plots and aerial calculations on the strata were carried out using IDL 5.6 for MS Windows. Sub-stratification was used to isolate areas of similar densities, using the following pre-defined, standard categories: 1: $s_A = 0 - 300$; 2: $s_A = 300 - 1000$; 3: $s_A = 1000 - 3000$; 4: $s_A > 3000$.

Mean 5 - NM integrator values (s_A) computed along the transect lines were re-averaged for each stratum. The short spacing between the lines (6 NM) makes it impossible to exclude all between-transect values without removing some on-line contributions, particularly for sardinella on the inner shelf. The potential bias (positive) introduced by including between-line values is likely smaller than the bias (negative) that would have been introduced by excluding high on-line contributions. This bias is also counteracted by the shallow distribution pattern (partly above the integration limit) and vessel avoidance behaviour (Misund and Aglen 1992) of sardinella. All estimates should consequently be considered as relative indices of abundance.

The overall length frequency distributions within strata were estimated by weighting the sample distributions with the nearest valid 5 NM integrator value, or the average of two adjacent values. Target species of the same genus, i.e. *S. aurita / S. maderensis* and *T. trecae / T. trachurus capensis*, are not acoustically distinguishable, and the s_A values were therefore split according to the relative distributions of the two species in each length group. The total number of fish in each length group was estimated as:

$$\rho_{i} = \frac{\langle s_{A} \rangle t_{i,j} \cdot u_{i}}{\sum_{i} \frac{u_{i}}{C_{Fi}}} \cdot A_{s} = \frac{10^{7.2} \cdot t_{i,j} \cdot u_{i} \cdot \langle s_{A} \rangle \cdot A_{s}}{4\pi \sum_{i} u_{i} \cdot (L_{i} + 0.5)^{2}}$$
(4)

where:

ρ_i	=	estimated number of fish in length group i
< _{SA} >	=	mean recorded area backscattering coefficient (m ² /NM ²)
t _{i,j}	=	proportion of species j in length group i
ui	=	proportion of sampled fish in length group i
As	=	horizontal area of stratum s
C _{Fi}	=	conversion factor for length group i
Li	=	length group i (nearest full cm below total length)
L _i +0.5	=	mean length in L _i .

CHAPTER 3 OCEANOGRAPHIC CONDITIONS

The Angolan territory spans the two major geographical climatic zones: the tropics in the north and subtropics in the south. The environmental data collected during this survey clearly reflect this climatologic zonation during winter. The following description provides a summary of the observed features, presented for the each of the three coastal regions separately.

3.1 The Northern Region

The observed wind conditions were calm in the Northern region (Figure 2a). The predominant wind direction was from the south, southeast and southwest. The average wind speed for the entire region was less then 4.5 m/s. A period of stillness was encountered between 24 and 26 July when the ship was surveying the area around Ambriz located between 7°15'S and 8°00'S.

The distribution of sea surface temperature collected underway is depicted in Figure 3a. The dominant pattern seen in this figure is a change in the main isotherm direction from the cross-shelf orientation, observed to the north of N'Zeto, to the alongshore one, observed to the south. The shapes of the isotherms indicate an existence of two frontal zones: a cross-shelf front to the north of N'Zeto and an alongshore front at the shelf break in the south. The distribution also reveals a colder inshore temperature cell located inshore of N'Zeto.

Hydrographic sections

The Moita Seca section (Figure 4a) exhibits the features expected from the proximity of the major World's river. The upper 20 m of the water column were dominated by the Congo runoff water with temperatures of about 24°C and salinities in the range of 31.0 - 33.0 psu. The salinity increased seaward, but the temperature displayed little change across the shelf. Matching this observation with the sea surface temperature distribution (Figure 3a), one can conclude that the entire region to the north of the cross-shelf surface thermal front was dominated by the Congo River plume. The river plume appeared to have reached the more southerly locations offshore than inshore. The additional hydrographic stations taken along the 200 and 50 m isobaths, further conformed this by showing salinities 34.5 psu reaching the latitude 6°57'S offshore but only the latitude 6°32'S on the inshore end.

The Ambriz section (Figure 4b) is dominated by the proximity of the open tropical Atlantic water masses on its offshore end. The top 120 m of the water column are dominated by Tropical Surface Water, characterized by temperatures above 22 °C, oxygen values above 4 ml/l and generally poor in nutrients. A shallow thermocline at a depth about 20 m separates the surface layer from the underlying it South Atlantic Central water, characterized by temperatures and salinities slowly decreasing with depth, low oxygen concentrations (<2 ml/l) and rich in nutrients. The interface between the surface and subsurface water masses is not distinguishable in salinity, which remains in the same range of 35.7 - 35.8 psu on both sides of the thermocline.

The open ocean stratification reaches station 758. Between stations 758 and 759, there is an evidence of a surface thermal front, separating the oceanic surface water from the slightly colder surface water on the shelf. The alongshore position of this front along the shelf-break is

well manifested by the 22 °C isotherm on the sea surface temperature distribution map (Figure 3a). Except for this surface, the thermal front and a slow shoreward decrease in the sea temperature at the surface, the vertical structure of the water column on the shelf resemble the open ocean profile. The thermocline at approximately 20 m depth remains sharp across the entire shelf and the low in oxygen (and probably rich in nutrients) subsurface water reaches the inshore areas below a depth of about 25 m. Note that such inshore presence of the subsurface, nutrient-rich waters near the coast, in the subtropics and high latitudes would have only been possible in the presence of an alongshore wind, driving upwelling. In this case, the wind conditions were calm and this section clearly demonstrates an important feature of the tropical coastal ocean, in which supply of subsurface nutrients to the inshore regions is not related to the wind driven upwelling and takes place during calm weather conditions.

3.2 The Central Region

The wind conditions observed in the Central Region are depicted in Figure 2b. The average wind speed for the entire Central region did not exceed 4 m/s. The predominant wind direction was from the southern sectors (southwest, south and southeast), constituting the 75% of all 1 NM averaged observations. Thus, one can conclude that on average the wind conditions observed off the Central Region were even calmer than those observed the Northern Region.

The surface temperature distribution for the Central region is depicted in Figure 3b. The distributional patterns in this Figure may be divided into two major provinces. The first province occupied the northern part of the region, located between Pta. das Palmerinhas in the north and Pta. do Morro in the south. The temperature distribution was there characterized by alongshore orientation of isotherms, the presence of a surface waterfront at the shelf-break and pockets a colder water, confined to inshore. In many respects, the distributional patterns observed in this region match those observed south of N'Zeto in the northern region (Section 3). The second province in Figure 3b may be identified between Novo Redondo (11°15'S) in the north and Benguela in the south (12°30'S). Temperature in this province decreases uniformly towards the south with latitude but shows little variation across the shelf with the exception of a narrow colder band in the first two-three NM nearest to the shoreline. The two provinces are separated by a transitional located between 10°45'S (Pta. Moita Seca) in the north and 11°20'S (Quicombo) in the south.

Hydrographic sections

The northernmost hydrographic line in the central region was taken off Pta. das Palmerinhas, south of Luanda. Figure 4c depicts the result. The most evident feature is the presence of fresh water layer seen on the salinity distribution. This layer was originated northward outflow of the nearby Kwanza River. The mouth of the Kwanza River is located at 09°21'S, approximately 20 NM to the south to the Pta. das Palmerinhas section. The additional hydrographic stations had been taken between in the vicinity of the mouth (stations 788-795, not included into this report) and these have shown that the Kwanza river plume transformed from a narrow and thick plume of fresh water near the river mouth to a broad 2 m thick surface layer of brackish water spread across the entire shelf off Palmerinhas section.

Two more coastal rivers were encountered by the survey on its way south in the Central Region: Rio Longa at 10°15'S and Rio Cuvo at 10°53'S. In the first case, no traces of a

brackish river were found; in the later case, the plume was clearly observed in the perimeter of approximately 10 NM inshore the Pta do Morro section.

Hydrographic conditions along the Pta. do Morro section are depicted in Figure d. The hydrographic patterns observed there were very similar to those observed on the Ambriz line in the northern region (Section 3.1). The main features consisted of (1) surface thermal front at the shelf break, (2) a mid-shelf depression of near-surface isotherms followed by an upward tilt towards the shore and (3) presence of the low-oxygen South Atlantic Central Water close inshore despite absence of wind. Similarly to the Ambriz section (Section 3.1) the upward shoreward tilt of isotherms suggested a northbound current near the coast. The acoustic current profiles taken in this region had conformed such a premise, by revealing a northward flow inshore of the 100 m depth contour and the opposite current seaward of this depth.

Crossing the latitude of 11°S, the survey entered the region where a significant indentation in the Angolan coastline takes place, and forms a deep depression in the topography of the shelf. Approaching this area from the north, one observes the slope falling gently and reaching the deepest point at approximately 11°15'S. To the south of the deepest point, the bottom rises sharply and forms an underwater cliff perpendicular to the coast, which culminates at about 50 m below the sea surface with a broad shallow bank with a flat bottom. As we have been unable to find standardized names for these two morphological features, in the subsequent discussion we will use the terms the Novo Redondo Depression and the Quicombo Bank, to denote the depression and the bank regions, respectively; based on the names of the coastal settlements located in their vicinity.

Additional hydrographic sections were made in this area and these evidenced on an eddy-like or a meandering surface circulation feature, developing over the Novo Redondo Depression and probably coupled to the northward coastal current, which was observed in the north. The two important features of a coastally trapped warm eddy were identified from the data: the warm core at its center and topographically controlled upwelling at the lateral boundaries.

Figure 4e displays the results from the Lobito section. This section is located to the south of the Quicombo Bank, in the region where the shelf becomes very narrow. The major change in the hydrographic regime in this area the absence of the shallow thermal front at the shelf break, which in the north separated the oceanic waters with temperatures above 22°C from the colder water on the shelf. On the Lobito section, the temperature of the offshore surface water is 20°C, the same as the inshore water. The observed drop in the offshore temperatures appears to have resulted in a shallower thermocline and a generally downward tilt of isotherms towards the coast. With the isotherms now tilted downward shoreward, the direction of the coastal current was expected to change from the north to the south. Indeed, the observations made with the acoustic current profiler in this region indicated a predominantly southward flow.

3.3 The Southern Region

After leaving Benguela, located in the southernmost extremity of the central Angolan shelf, the survey entered the southern region of the Angola's coast. Underwater topography in this region changes dramatically: the shelf narrows to less than a mile and, in many locations, there is no shelf zone at all whereby cliffs on the coast extend directly to the continental slope underwater. The only broader coastal offset between Benguela (12°30'S) and Namibe (15° S),

located between the mouths of two rivers: the Carunjamba (13°56'S) and Bentiaba (14°56'S), has alongshore extend of approximately 34 NM. This extremely narrow shelf, pierced with numerous underwater canyons and gullies, extends to the latitude (15°54'S); to the south of which it gradually broadens and eventually transforms to a broad shelf, typical to the northern Benguela.

Figure 2c demonstrates distribution of winds in the southern region. The main observed tendency is a step-wise increase in the wind speed as the survey progressed to the south. The first jump occurred as soon as the vessel left the Lobito Benguela shelf, whereby from almost no wind condition the survey was entered the region subjected to the 5 - 6 m/s wind from the south and southwest. The wind speed in that range was encountered more or less persistently along the survey track until the survey reached the Ponta Albina section at 15°56'S. Further south, the survey become exposed to a strong southerly gale, apparently connected to the intensification of the subtropical trade winds over the northern Benguela in winter. The wind speed increased to about 8 - 10 m/s and persisted at that level until the termination of the survey off the Cunene River (17°15'S). Our observations in this region appear to indicate that the wind in this region was dependent on the distance offshore, with stronger winds occurring deeper than the 100 m isobath. However, our observation may have been aliased by a daynight effect, a common occurrence on the Namibian shelf, manifested by a lower speed and direction reversals in the morning and intensification of the southerly wind in the afternoon.

Hydrographic sections

The Ponta Salinas section, located in the northern extremity of this survey area (Figure 4f) exhibits the structure of the water column characteristic for the tropics: a shallow surface layer with temperature above 20°C, a sharp thermocline about 15 - 20 meters of depth and low-oxygen layer immediately below the thermocline.

The Carunjaba section is shown in Figure 4g. This section is located on the northern edge of the aforementioned coastal offset, approximately one and half degree south of Ponta Salinas. The warm surface layer and strong thermocline, so characteristic to the tropics are evidently absent from this section. The 19° and 18° isotherms, consistently tilted downward in the tropics, on this section upslope shoreward, indicating for a typical coastal upwelling process.

The Ponta Albina section (15°56 S, Figure 4h) depicts transitional patterns between the narrow shelf region in the north and the northern closure of the Benguela type of shelf in the south. The distribution maps of seawater properties along this section bear no resemblance to the tropics. The top 50 m of the water column are occupied by a well-mixed upper layer with temperature 16°C and salinity 35.6 psu. A weak thermocline and halocline is developing below a depth of 50 m. From this structure, it is evident that the upper layer of the water column is strongly affected by the wind mixing.

The Baía dos Tigres section (Figure 4i) is located on a broad portion of the shelf and exposed to the southerly, upwelling-favourable wind. The signature of upwelling, however, is not distinct in the temperature and salinity distributions, because of strong wind mixing on the surface and, probably the current shear at the bottom, which destroy the vertical stratification. Nevertheless, the effect of upwelling is identifiable from the oxygen distribution in terms of near-bottom oxygen layer displaying concentrations less than 1 ml/l.

The southernmost section, located off Cunene River (Figure 4j), exhibits the water masses further transformed by an intense wind-driven vertical mixing and an increasing influence of

the Benguela current in the south. On this section, well-mixed water masses with temperatures between 13° C - 14° C, and salinities between 35.3 and 35.4 psu, occupy the whole length of the section, including the offshore stations, which on the Baía dos Tigres section still displayed traces of a vertically stratified water column.

3.4 Summary

With respect to hydrography, the survey documented a sharp change in hydrographic conditions along the coast, characterizing the winter pattern in the Angola's EEZ. The main coastal hydrographic boundaries of the system and their principal features are summarized in the table below:

#	Hydrographic regime	Latitudinal extend	Main features
1	The Congo River outflow area	6°00'S - 6°30'S	Presence of the Congo river outflow in the surface waters and mesoscale eddies formed at the edge of the river plume.
2	The Northern Tropical Shelf	6°30'S - 9°05'S	Warm upper water layer; thermocline at 15 – 20 m; low- oxygen subsurface inshore. Northward current inshore; thermal front offshore
3	The Central Tropical Shelf	9°05'S - 10°45'S	As above, but a separate circulation cell separated by the bottom topography off Pta. das Palmerinhas.
	The Novo Redondo Depression	10°45'S - 11°15'S	Topographically trapped high pressure cell, causing upwelling at the edges.
4	The Southern Tropical Shelf	11°15'S - 12°30'S	As 2 and 3 but no thermal fronts offshore, southward current inshore.
5	The Subtropical transformation zone	12°30'S - 15°50'S	Transition zone between the well stratified waters and geostrophic circulation in the tropics in the north to the well-mixed waters, and wind-driven circulation in the south.
6	The Northern Benguela extension.	15°50'S - 17°15'S	Seasonal coastal upwelling, driven by the south easterly trade winds.



Figure 2a. Distribution of wind velocities along the survey track for the northern region



Figure 2b. Distribution of wind velocities along the survey track for the central region



Figure 2c. Distribution of wind velocities along the survey track for the southern region



Figure 3a. Distribution of water temperatures at 5m depth in the northern region



Figure 3b. Distribution of water temperatures at 5m depth in the central region



Figure 4a Vertical sections of temperature salinity and oxygen off Moita Seca.



Figure 4b. Vertical sections of temperature, salinity, and oxygen off Ambriz.



Figure 4d. Vertical sections of temperature salinity and oxygen off Pta. do Morro







Figure 4f. Vertical sections of temperature salinity and oxygen off Ponta Salinas



Figure 4g Vertical sections of temperature salinity and oxygen off Carunjamba



Figure 4h Vertical sections of temperature salinity and oxygen off Pta. Albina



Figure 4i. Vertical sections of temperature salinity and oxygen off Baía dos Tigres



Figure 4j. Vertical sections of temperature salinity and oxygen off Cunene

CHAPTER 4 SEABIRDS AND MARINE MAMMALS

4.1 Aims

Make an inventory of seabird and marine mammal species present in the survey area Analyse patterns of distribution and abundance in relation to oceanographic features and fish distribution.

4.2 Methods

Counts of seabirds were made during daylight hours from the top-deck of the vessel, which offers excellent viewing conditions. The viewing height above sea level, measured in Luanda harbour, was 14.96 m at mid-deck.

When possible, standard "10-minute counts" of the birds present around the vessel were affected while the vessel was steaming at constant speed and heading. During each count period, all birds detected were counted, discriminating between birds seen actively following the vessel (within an arc of 60° aft), birds flying and birds sitting or feeding. During the counts, scans with binoculars were effected at least once every 2 min to detect inconspicuous species. Care was taken to count individual birds only once, particularly for species prone to follow or circle the vessel, and not to conduct 10 min counts soon after a station or a trawl that had attracted birds to the vessel.

Additional "incidental observations" were made, between counts when scarce or unusual species were observed and while the vessel was on station or during trawling. The time and duration of each observation and count was recorded with watches synchronized to the vessel's in order to match them with the data recorded by the electronic log (position, speed, depth, heading, sea temperature etc.) as well as environmental and biological parameters recorded during the survey. Sightings of marine mammals (Cape fur seals, whales and dolphins) and turtles were recorded following the same format.

4.3 Seabirds

A total of 225 "10-minute counts" were effected between 2 and 15 August 2003. In addition, 49 counts were effected during CTD stations, 18 during trawling and 47 incidental observations were logged. Additional information on the age classes of some species was noted (albatrosses, gannets, gulls). The summary of the species and numbers identified during the above is given in Table 4 for birds and seals, and in Table 5 for cetaceans The distribution of some of the species encountered has been illustrated in latitude-depth plots (Figure 5 to 9).

Species	10' obs	total	species	10' obs	total
Diomedea cauta	1	2	Stercorarius sp	0	2
Diomedea melanophris	7	8	Catharacta antarctica	27	47
Diomedea chlororhynchos	98	154			
			Larus dominicanus	1068	2143
Daption capense	0	5	Larus cirrocephalus	5	7
Procellaria aequinoctialis	771	1296			
Puffinus griseus	59	114	Sterna hirundo	235	313
Puffinus puffinus	4	5	Sterna paradisea	3	3
			Sterna hirundo/paradisea	196	238
Oceanites oceanicus	2524	3156	Sterna maxima	4	15
			Sterna sandvicensis	1	2
Phalacrocorax capensis	95	182	Chlidonias niger	5	10
Phalacrocorax carbo	29	64			
			Arctocephalus pusillus	127	259
Morus capensis	4564	6449	-		

 Table 4. Seabird species and numbers of individuals identified during the 10' observation periods and in total (including CTD, Trawl and incidental sightings). Cape fur seal numbers are also given.

Diomedeidae, Albatrosses:

Three species of albatrosses were encountered, all migrants from the southern ocean. Most individuals seen at close rage were immature birds except four individual Yellow-nosed albatrosses (out of 154) which were adults. All birds of this species were from the Atlantic race *D. c. chlororhynchos* which breeds at Gough Island and Tristan da Cunha group. All sightings of albatrosses were made in the southern part of the region, south of $14^{\circ}30^{\circ}$ S, but becoming regular and more abundant only south of 16° S. Black-browed (*D. melanophris*) and Shy (*D. cauta*) albatrosses were very scarce and present only south of 16° S.

Procellariidae, Petrels and Shearwaters:

Out of four species of this group sighted during the survey, only the Manx shearwater (*Puffinus puffinus*) is a northern hemisphere visitor, all the others coming from the subantarctic region of the southern ocean. Only 5 sightings (of single birds) were made of the Manx shearwater, one at $12^{\circ}30$ 'S and all the others south of 16° S. The White-chinned petrel (*Procellaria aequinoctialis*) was found at low densities and only offshore between $10^{\circ}30$ 'S, $14^{\circ}00$ 'S, then became regular to abundant south of 14° S. All individuals sighed were from the nominal race and not the spectacled form (*P. a. conspicillata*) breeding at Inaccessible Island (Tristan da Cunha Group). The Cape petrel, *Daption capense*, was very scarce, only 4 sightings all south of $15^{\circ}36$ 'S. The Sooty shearwater was scarce between 11° S and $15^{\circ}30$ 'S (12 sightings of single birds) becoming more frequent further south. This species was restricted to deep waters beyond the shelf break in the northern half of the survey area, becoming more widespread onto the shelf south of 14° S.

Hydrobatidae, Storm-petrels:

Only one species of this group was recorded: the Wilson's storm petrel (*Oceanites oceanicus*), a migrant from the southern ocean. This species was widespread and abundant but with marked variations in densities. It was most abundant at the shelf break and offshore between 10°50'S and 12°45'S, and south of 17°00'S, while far less common between 13°00'S and 16°30'S. This species is a zooplankton surface feeder and its association with frontal zones and surface slicks is an indication of areas of zooplankton concentration at the surface.

Sulidae, Gannets:

The Cape gannet, *Morus capensis*, proved to be the most abundant and widespread seabird during the survey. Interestingly, of the 1593 individuals that were aged, 60,4% were in adult plumage, 30,1% were immature or sub adults and 9.5% were juveniles. This proves that Angolan waters are an important feeding and wintering area for all age classes of this vulnerable southern African endemic species. The proportion of adults was slightly higher than during the 2002 survey (50%, N = 1197) this difference being most probably linked to the fact that the 2002 survey occurred one month later and that breeding adults start arriving at their breeding islands in Namibia during September. The highest densities of this species were observed primarily offshore between 11° 10'S and 12° 10'S as well as south of 16°S, while between 12° 30' and 16°S, numbers were generally much lower.

Phalacrocoracidae, Cormorants:

Only two cormorant species were recorded during the survey, and only in coastal waters. *Phalacrocorax carbo* is suspected to breed at several locations in the southern region from $13^{\circ}15$ 'S to Baía dos Tigres. The Cape cormorant *P. capensis*, an endemic species from the Benguela Current region, was observed only in the south (from about 15° S). This species is most probably breeding at Baía dos Tigres. A third species, the Reed cormorant, *Phalacrocorax africanus*, more associated with fresh inland waters, was observed in Luanda bay but not included in the survey.

Stercoraridae, Skuas:

Only one *Stercorarius* species (probably *Stercorarius parasiticus*) was recorded in extremely low numbers (only 2 individuals). This contrasts greatly with the 2002 results when 60 individuals of 3 species were sighted. This difference being certainly due to the earlier dates of the 2003 survey before the arrival of the bulk of these Palaearctic migrants in the region. The subantarctic skua, *Catharacta antarctica* on the other hand, a visitor from the southern ocean, was slightly more frequent than in 2002 (47 sightings versus 32 in 2002) and geographically distributed in the same widely separated areas as last year: with a concentration in the Quicombo region $(11^{\circ}08^{\circ}S - 11^{\circ}16^{\circ}S)$ and south of $16^{\circ}S$.

Laridae, Gulls:

Of the four species of gulls recorded in 2002, two species, both palearctic migrants, were not sighted this year (*Larus fuscus* and *L. sabini*). The Grey-headed gull (*Larus cirrocephalus*), is a resident associated with coastal and inland waters which was sighted in the vicinity of estuaries. The Kelp gull (*L. dominicanus vetula*), is endemic from Southern Africa and was widespread throughout the survey area with a marked increase in abundance south of 16°S.

Sternidae, Terns:

Five of the six species recorded, are palearctic migrants (*Sterna hirundo, S. paradisaea, S. sandvicensis, and Chlidonias niger*). *S. hirundo* was widespread throughout the area but in much lower numbers than during the 2002 survey; again probably the effect of an earlier date on the abundance of palearctic migrants. *C. niger* was very scarce with only 3 sightings totaling only 10 individuals (more than 300 were sighted in September 2002).

The tropical *Sterna maxima* was observed on only four occasions (totalling 15 individuals) between 10°30'S and 12°42'S. Despite its scarcity, this matches well the distribution observed

during the 2002 survey when 85 individuals were sighted between 9° S and $13^{\circ}25^{\circ}$ S, with most of the sightings made north of $10^{\circ}30^{\circ}$ S (area not surveyed during this leg in 2003).

4.4 Marine mammals

Cape fur seal Arctocephalus pusillus:

Fur seals were present in small numbers north of $12^{\circ}30$ 'S, absent between $12^{\circ}30$ 'S and 14° S, and becoming regular and abundant south of 16° S. It is generally restricted to the shelf in waters of less than 200 m depth except between 14° S and 15° S were the shelf is extremely narrow.

Cetaceans:

The summary of the cetacean sightings made during this part of the survey is given in Table 5 and Figure 9.

Most of the rorqual sightings are believed to be of the Bryde's whale, *Balaenoptera edeni*, although only one individual could be positively identified at close range. Several rorquals including that of a *B. edeni* cow-calf pair were sighted in the same area during the September 2002 survey. These observations possibly indicate a regular breeding/feeding ground for this species in winter and spring in Angolan waters between 10°S and 12°S.

Four sightings of Humpback whales, *Megaptera novaeangliae*, were made during this survey, all between 100 and 200 m depth. The sighting of Killer whales, *Orcinus orca*, is believed to be only the second sighting of this species in Angolan waters (one sighting was made during the 2002 survey). The presence of the Heaviside's dolphin, endemic to the Benguela, in the Baía dos Tigres area is a confirmation of the suspected northern limit of distribution of this species and of its presence in the extreme south of Angolan waters.

Turtles:

Marine turtles were encountered during 15 sightings for a total of 24 individuals. From the shape of the carapace they were identified as either loggerhead (*Caretta caretta*) or Olive Ridley (*Lepidochelis olivacea*) turtles. The sightings were concentrated between 10° 23'S and $11^{\circ}08$ 'S and depths ranging from 85 m to 700 m. In addition, in the same area ($11^{\circ}03$ 'S, 13° 30'E), during a night pelagic trawl over depths of 240 - 330 m, a turtle was caught, together with myctophids, and released alive. It was identified as *L. olivacea* (D. Zaera) and it is likely that the other sightings in this region are from the same species.

Tuble 5. Summary of concount signification										
Species	number	date	time	log	depth	Wtemp	lat	long	est. distance	remarks
			local		m		decimal	decimal	km	
Balaenoptera sp	1	2-aug-03	16:26	6076.0	20.6	21.6	-10.395	13.516		probable Bryde's whale
Balaenoptera sp	2	3-aug-03	07:02	6185.0	99.4	22	-10.756	13.522	1.8	Sei or Bryde's whale 1 mile apart
M. novaeangliae	2	3-aug-03	07:05	6186.0	106.2	22.1	-10.764	13.507		sounding in synchrony 5m apart
Stenella sp	60 - 80	3-aug-03	08:35	6199.2	502.2	21.9	-10.855	13.305	1	tight school
large baleen whale	1	3-aug-03	16:31	6247.0	35.6	21.3	-10.808	13.718	3.5	Only blow visible
Balaenoptera sp	1	3-aug-03	16:46	6248.9	42.6	21.2	-10.837	13.713	0.5	Sei or Bryde's whale
O. orca	2	4-aug-03	11:00	6379.0	153.4	21.8	-11.134	13.598	1.8	travelling West
M. novaeangliae	1	5-aug-03	08:35	6540.0	140.7	20.6	-11.635	13.405	1.8	travelling North
M. novaeangliae	2	5-aug-03	09:05	6545.8	113.5	20.9	-11.637	13.503		20 m apart
Balaenoptera sp	1	6-aug-03	12:50	6747.9	298	20.7	-12.115	13.427	3.5	Sei or Bryde's whale
Balaenoptera sp	1	6-aug-03	14:16	6755.2	109.6	20.6	-12.127	13.454	7.5	possibly same as previous
Balaenoptera sp	1	6-aug-03	14:55	6759.0	474.9	20.6	-12.108	13.408	7.5	
Balaenoptera sp	2	6-aug-03	15:00	6761.0	621.9	20.9	-12.098	13.376	1.8	Sei or Bryde's whales, 200m apart
Balaenoptera sp	1	6-aug-03	15:30	6765.1	771.4	20.7	-12.114	13.329		Sei or Bryde's whale
Balaenoptera edeni	1	6-aug-03	15:34	6766.9	808.4	20.8	-12.142	13.318	0.03	ridges on rostrum visible
Balaenoptera sp	1	6-aug-03	16:40	6778.0	98.6	20.7	-12.229	13.458	3.5	same blow as Bryde's
T. truncatus	17 - 20	7-aug-03	14:57	6917.0	454.7	20.8	-12.629	13.068	0.6	travelling north
M. novaeangliae	3	12-aug-03	15:40	7560.4	195.6	16.4	-15.810	11.677	0.05	
C. heavisidii	4 - 6	14-aug-03	10:55	7836	38.3	15.5	-16.609	11.656		2 then 4 individuals 3 minutes apart
L. obscurus	6 -10	15-aug-03	09:15	8013.3	119.6	13.8	-17.105	11.504		one individual with barnacle on dorsal fin

 Table 5. Summary of cetacean sightings

4.5 Patterns of abundance:

On a broad scale and according to seabird and marine mammal distribution observed during the 2002 and 2003 surveys, southern Angolan waters can be divided in 4 distinct zones (the latitudinal limits given below are approximate and the description of the patterns only for late winter and spring).

a) $9^{\circ}30$ 'S to $12^{\circ}30$ 'S

This area is characterized by:

- Presence of the tropical Royal tern Sterna maxima inshore
- Presence of the Sooty shearwater *P. griseus* at low densities in deep waters only
- Presence of White-chinned petrel at low density at the shelf break and beyond
- Absence of Albatrosses, Cape Petrel, Cape cormorant
- Concentration of turtles (probably *Lepidochelis olivacea*) around the shelf break
- Low densities of the Cape fur seal *A. pusillus*, on the shelf
- Presence of *Balaenoptera sp* (probably *B. edeni*)

In the southern half of this zone, a small area stands out at around $11^{\circ}10$ 'S - $11^{\circ}15$ 'S (the "Quicombo area"). In this area exceptionally dense aggregations of Wilson's storm petrels can be found marking the steep shelf break (indicating concentrations of zooplankton along a frontal zone). Also associated with this feature is the unexpected presence of the Subantarctic skua (*C. antarctica*) noted during the 2002 and 2003 surveys. This species is otherwise found only south of the Angola - Benguela Front.

b) 12°30'S to 14°30'S

This area is noticeable because of the general low densities of all seabird species and is characterized by

- Absence of the tropical Royal tern
- Lowest density of the four most abundant and widespread species, Wilson's Storm petrel, White-chinned petrel, Kelp gull and Cape Gannet
- Absence of *Balaenoptera* sp and Turtles
- Absence of Cape fur seal to 14°S, and very low abundance to 14°30'S

c) $14^{\circ}30$ 'S to $16^{\circ}00$ 'S

This area seems to constitute a transition zone with the appearance at low density of some species more common further south such as Yellow-nosed albatross *Diomedea chlororhynchos*, Cape cormorant *Phalacrocorax capensis* and Cape petrel *Daption capense* and a slight increase in fur seal abundance.

d) $16^{\circ}00$ 'S to $17^{\circ}15$ 'S

South of 16°S, the avifauna changes dramatically and is marked by a large increase in density of many subantarctic species (Yellow-nosed albatross, Cape petrel, Sooty shearwater, Subantarctic skua, White-chinned petrel) as well as Benguela current region endemics (Cape gannet, Cape cormorant, Kelp gull). The density of Cape fur seal increases dramatically as well at around 16°S.

New sub-antarctic species more common in Namibian waters at this time of the year appear in this area (Black-browed albatross, Shy albatross) and marine mammals characteristic to the Benguela upwelling region are also present (Heaviside's dolphin, Dusky dolphin).

The following figures give examples of distribution of the main species using all records (Figure 5 to Figure 7) and of the highest densities of the most common and widespread species, using the 10-minute counts only (Figure 8). These data are plotted according to Latitude and depth (on a log scale). Figure 9 displays in the same format the sightings of cetaceans and turtles.


Figure 5. Distribution (presence/absence using all records) of Wilson's storm petrel, White-chinned petrel, Kelp gull and Cape gannet



Figure 6. Distribution (presence/absence using all records) Yellow-nosed albatross, Cape cormorant, Cape petrel and Sooty shearwater



Figure 7. Distribution (presence/absence using all records) of Common/Arctic tern, Cape fur seal, Royal tern and Subantactic skua

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Latitude depth *M. capensis* N > 40

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-15.5

-16.5

-17.5

10





Latitude depth L dominic N > 25



10000

Figure 8. Distribution of high densities of Wilson's storm petrel, White-chinned petrel, Kelp gull and Cape gannet (data from 10 minute counts only)



Figure 9. a) distribution of cetacean sightings: Balaenoptera sp. (open circles), Balaenoptera edeni (full circle), Megaptera novaeangliae (triangles), Orcinus orca (X), Stenella sp (*), Tursiops truncatus (square), Cephalorhynchus heavisidii (+) and Lagenorhynchus obscurus (diamond), b) distribution of turtle sightings (open circles) and catch position of Lepidochelis olivacea (full circle)

Storm petrel distribution and frontal zones

Throughout the survey Wilson's storm petrels were found associated with surface slicks (and the wake of the ship). It is thought that some of the visible slicks correspond to local zones of increased density of zooplankton near the surface. A finer analysis of the patterns of distribution of this species and its association with frontal zones (using oceanographic data, acoustic data and bird counts) will probably demonstrate the linkages between those oceanographic features, plankton distribution and bird density and behaviour. One of the most dramatic examples of the affinity of the Wilson's storm petrel for such features was observed in the Quicombo area as illustrated in Figure 10.



Figure. 10: Track of the vessel on 4 August 2003 in the Quicombo area. The circles show the position of the mid point of the 10 minute counts, the numbers of Wilson's storm petrels counted are indicated. The crossing of the "Quicombo divergence" occurred during the count indicated by the full circle

4.6 Conservation concern

A number of seabirds present in Angolan waters in winter and spring are susceptible to bycatch by longline fisheries (as well as direct catch from small crafts). These include particularly all species of albatrosses, petrels and shearwaters as well as the Cape gannet. Bycatch by long-line fisheries in the southern hemisphere has impacted widely on many species of seabirds and, despite major international efforts to limit the problem, is threatening the survival of several species of albatrosses and petrels. In Namibia, the Cape gannet continuing population decline and the deterioration of its conservation status (the population declined by half in the past decade) has been attributed to trophic factors (and particularly the decline in the pilchard stock) as well as increased bycatch by the long-line fishery that have developed in Namibia since the early 1990s.

The sightings during the 2002 survey of small vessels using floating lines to catch seabirds in the southern part of the area (and targeting both White-chinned petrels and gannets, together

with the realization of the importance of Angolan waters for all age classes of gannets at this time of the year causes some concern. The high incidence of Cape gannets sighted in southern Angola during this survey (particularly south of Tombua) with remnants of lines and hooks in their beaks attests to the reality of this potential threat which might be impacting negatively on the threatened Namibian gannet population.

CHAPTER 5 DISTRIBUTION, SIZE COMPOSITION AND BIOMASS ESTIMATES

5.1 Pta. das Palmerinhas - Congo River

Sardinella

Both sardinellas, *Sardinella maderensis* and *S. aurita*, were, as in previous surveys, found along the northern region between N'zeto and Luanda (Figure 11). Additionally patchy distributions of both species were found around the oilfields off Cabeça de Cobras, north of N'zeto, and south of Luanda in relatively deep water (>100 m depth). *S. maderensis* dominates in most of the distribution area. The acoustic densities in the northern region were generally low but with some high-density spots inshore. As observed in previous surveys, the sardinella was usually schooling near the surface during the day, while forming loose aggregations at night. Sardinella is hard to sample during dense schooling and most samples are therefore obtained at night. The area around Cabeça de Cobra was only partly surveyed because of the oil installations and some sardinella might have been missed inshore in this area.

Figure 12 shows the length frequency distribution of *S. maderensis* and *S. aurita*. This year relatively large juvenile cohorts are visible for both species. The *S. maderensis* ranged from 5 cm to 35 cm total length, with several modal peaks representing different year classes. The length distribution of *S. aurita* shows a juvenile cohort at 8 cm. No clear modal peak is apparent for the adult part of the stock. The high prevalence of fish <10 cm in the region suggest that these have been spawned in this area earlier this year as it is unlikely that they have migrated across the Congo river from the larger spawning areas there.

The biomass of sardinella was estimated at 153 000 tons, which is lower than the last two year's estimates, 178 000 tons in 2002 and 177 000 tons in 2001. Of this, about 117 000 tons was *S. maderensis*, compared to 99 000 tons last year, while 36 000 tons was *S. aurita*. This is half of last year estimate of 78 000 tons.

The splitting between species is, however, very sensitive to sampling intensity while the total estimate should be more robust. Figure 13 shows the cumulative distribution of the biomass for both species. For *S. maderensis*, the bulk of the biomass (90%) consisted of individuals >23 cm (2002: 26 cm), while most of the *S. aurita* was juveniles >10 cm compared to last year when 90% of the biomass was >24 cm.







b) Sardinella aurita



Figure 12. Total length distribution of *Sardinella maderensis* (a) and *S. aurita* (b), Pta. das Palmerinhas - Congo River

a) Sardinella maderensis



b) Sardinella aurita



Figure 13. Relative cumulative biomass *Sardinella maderensis* (a) and *S. aurita* (b), Pta. das Palmerinhas - Congo River

Cunene horse mackerel

The Cunene horse mackerel, *T. trecae*, was found scattered in seven relatively small, low density ($s_A < 300 \text{ m}^2 / \text{NM}^2$) areas (Figure 14) along the shelf break between 100 and 200 m depth. The distribution pattern was similar to that during the survey in 2002.

Figure 15 shows the length frequency distribution of horse mackerel for the region. The modal peaks are visible in the size distribution with one mode around 7 cm representing fish spawned this year, one mode around 13 cm and one mode at about 30 cm.

The estimated biomass of *T. trecae* was 12 000 tons compared with 31 000 tons in 2002 and 3 000 tons in 2001. Most of the biomass (90%) was comprised of fish >12 cm total length (Figure 16), this is similar to last year (13 cm).



Figure 14. Distribution of Cunene horse mackerel (Trachurus trecae), Pta. das Palmerinhas - Congo River



Figure 15. Total length distribution of Cunene horse mackerel (*Trachurus trecae*), Pta. das Palmerinhas - Congo River



Figure 16. Cumulative percentage biomass by length group, *Trachurus trecae*. Pta. das Palmerinhas - Congo River

Pelagic species Group 1

Pelagic species group 1 was not abundant enough to be estimated in the northern region.

Pelagic species Group 2

This category, which includes members of the family Carangidae (other than *Trachurus* sp.), Scombridae, Sphyraenidae and *Trichiurus lepturus*, was found in four main areas throughout

the region (Figure 17). The hairtail (*T. lepturus*), *Decapterus rhonchus* and *Selene dorsalis* were the dominant species groups (Table 6).

The biomass of pelagic fish group 2 was estimated at 23 000 tons, based on an average length of 30 cm and a condition factor equal to 0.01. This is considerably more than the 1 600 tons estimated in 2002 but lower than the estimated 45 000 tons in 2001.



Station No.	Depth	Clupeids	Carangids	Scombrids	Hairtails	Barracudas	Other
3196	119		74.60				518.44
3197	110						
3198	88						
3199	40	0.41	1.66		0.04		1.99
3200	230		0.06	7.68			17.10
3201	23			11.74			0.20
3202	122		3.20				421.40
3203	123		229.30		1.62		307.26
3204	30						
3205	20		1.64				0.42
3206	30		13.95		35.70		56.55
3207	5	23.20	17.08			1.68	20.08
3208	45				6.88		0.46
3209	21	3.94	0.54		0.34		83.78
3210	10	1350.25	10.50		14.50	8.25	232.00
3211	48				4.95		0.40
3212	64		221.40	2.64	43.50		645.60
3213	15	13.80	6.76		2.40	7.10	30.50
3214	15	0.94					2.30
3215	126		126.86		14.70		276.36
3216	15	142.72	1.84	28.76	40.00		24.44
3217	185				1.24		17.96
3218	20	1.77	19.86		122.25		17.25
MEAN		66.83	31.71	2.21	12.53	0.74	116.28

Table 6. Catch rates (kg/h) of the main groups of pelagic fish, Pta. das Palmerinhas - Congo River

5.2 Benguela - Pta. das Palmerinhas

Sardinella

Sardinella was, as last year, found throughout the region, primarily on the inner part of the continental shelf from the coast to the 50 m isobath. The distribution was continuous from north of Cabo Ledo to Cabeça da Baleia, and this area contained the main part of the biomass. Small patchy concentrations were found north and south of this area (Figure 18). High-density areas $(1000 > s_A < 3000 \text{ m}^2 / \text{NM}^2)$ were found at Cabo São Braz and at Pta. do Morro. *S. maderensis* dominated the two species also in the central area but smaller concentrations of *S. aurita* was caught in the northern part of the main distribution area to Pta. de Morro. The distribution pattern coincided with the inner mixing zone on the shelf and the fish was, especially during the day, confined in dense schools on the inside of this, while at night often dispersed in less defined shoals outside of this zone. The distribution also coincided with observations of northwards flowing nutrient-rich water on the inner shelf from north of Lobito.

The length distribution for sardinella is presented in Figures 19a and b for *S. maderensis* and *S. aurita*, respectively. The size distributions of *S. maderensis* showed a dominating distributional mode at 25 - 35 cm total length, peaking at 28 cm and a less defined mode between 10 and 20 cm with a peak around 15 cm. These modes are probably composed of several year classes of fish. *S. aurita* showed two modal peaks, the first around 10 - 15 cm,

and the other around 30 - 33 cm. Very little fish was found in the size range between 15 and 30 cm. Individuals <32 cm comprised most of the total biomass (90%) in *S. maderensis* (Figure 20).

The biomass for sardinella was estimated at a total of 276 000 tonnes, this is higher than the 165 000 tons found last year, and slightly higher than the 257 000 tons found in 2001. The biomass consisted of 216 000 tons *S. maderensis*, compared to 146 000 tons last year, and 60 000 tons of *S. aurita* comparable to the 19 000 tons found last year.

The avoidance reaction and changes in schooling pattern for sardinella oppose a problem for identification of sardinella schools especially in this area during this year's survey.







b) Sardinella aurita



Figure 19. Total length distribution of *Sardinella maderensis* (a) and S. *aurita* (b). Benguela - Pta. das Palmerinhas

a) Sardinella maderensis



b) Sardinella aurita



Figure 20. Relative cumulative biomass *Sardinella maderensis* (a) and *S. aurita* (b), Benguela - Pta. das Palmerinhas

Horse mackerel

Only *T. trecae* was encountered in this region. The distribution was patchy, with relatively low densities, $s_A < 300 \text{ m}^2 / \text{NM}^2$. Some small patches with medium, $301 < s_A < 1000 \text{ m}^2 / \text{NM}^2$, and high, $1001 < s_A < 3000 \text{ m}^2 / \text{NM}^2$, densities where found throughout the region (Figure 21). In general the fish was found either on the shelf break at 90 - 150 m of water often in areas with hard bottom, or in shallow water close inshore. These two areas of distribution seem associated with the two observed mixing zones, at the shelf break, and at around 50 m depth.

Figure 22 shows the total length distribution of this species. The total length ranged from 5 to 48 cm, with the main modal peak at 13 cm corresponding to one year old fish. Additionally one peak at 18 cm and one at 24 cm can be observed. The relatively large, relatively to the total biomass, cohort of 15 cm fish observed during the survey last year should be around 20 cm this year. However few fish of this size group is left in the area. The mode of fish <10 cm is most likely under-sampled because of the design of the trawl gear.

The biomass of Cunene horse mackerel was estimated at 34 000 tons. This is higher than last years estimate of 13 000 tons. The 2002 estimate was however the lowest in this area during the time series, followed by the 22 000 tons estimated in 2001.

The bulk of the biomass (~90%) consisted of individuals <32 cm (Figure 23). Equivalently, 90% of the population in numbers were <22 cm.



Figure 21. Distribution of horse mackerel (Trachurus trecae), Benguela - Pta. das Palmerinhas



Figure 22. Total length distribution of horse mackerel (T. trecae), Benguela - Pta. das Palmerinhas



Figure 23. Relative cumulative biomass of horse mackerel (T.trecae), Benguela - Pta. das Palmerinhas

Pelagic species Group 1

No fish in pelagic species, group 1, were encountered in the region.

Pelagic species Group 2

Pelagic fish type 2 was encountered in several, low-density, $s_A <300 \text{ m}^2 / \text{NM}^2$, areas from Luanda to Benguela (Figure 24). The most common species was hairtail (*Trichiurus lepturus*)

and *Selene dorsalis*. An overview of the main groups of pelagic fish in the central region is given in Table 7.

The biomass estimate, based on an average length of 30 cm and a condition factor equal to 0.01, was 35 000 tons compared with 75 000 tons in 2002 and 46 000 tons in 2001.



 $\frac{13}{14}$ Figure 24. Distribution of other pelagic species, group 2. Benguela - Pta. das Palmerinhas

Station No.	Depth	Clupeids	Carangids	Scombrids	Hairtails	Barracudas	Other
3219	20	14.26	2.14		25.50		79.40
3220	121	0.68	30.70		6.00		113.46
3221	10	2238.17	17.14		2.06	0.69	93.95
3222	26	1.18	4.52				131.56
3223	113		26.71		152.14		219.40
3224							
3225	41		136.24		19.74		218.10
3226	16	468.19	43.10		27.19		750.75
3227	1		0.88		144.88		9.90
3228	23	242.77	409.06		60.77	26.29	1462.08
3229	10	47.84	68.91	0.80	3.93	0.96	39.12
3230	20		1.00				
3231	19	11.44	11.62		8.60		801.76
3232	41	0.68	1.45		1.45		2734.96
3233	28	5.10	2.96		13.00		295.84
3234	71		0.70		292.00		202.20
3235	18	18.80	9.12	0.02	1.92	1.88	33.98
3236	10	744.23	33.02		158.93		3208.20
3237	5						518.20
3238	110		0.23		16.17		13.90
3239	70		0.14		1.28		20.52
3240	19	24.56	2.84		13.76		668.40
3241	24	13.44	2251.20		17.64	7.56	3167.44
3242	120		306.25				1671.72
3243	26		2248.93		6.94		1558.19
3244	110		207.20				768.46
3245	53				22.11		501.15
3246	1						
3247	5		1.20			11.45	546.37
3248	77		0.49		1.96		1503.16
3249	148		36				401.76
MEAN		127.71	195.13	0.03	33.27	1.63	724.46

 Table 7. Catch rates (kg/h) of the main groups of pelagic fish, Benguela - Pta. das Palmerinhas

5.3 Benguela - Cunene

Sardinella

Only four small patchy areas of *Sardinella maderensis* was found in this region without any apparent distribution pattern, no *S*. aurita was found (Figure 25). The biomass was estimated at 2 000 tons. Sardinella are rarely found in this region and both last year and in 2001 no sardinella was found.

The size distribution of the fish show three cohorts of sardinella, the larger ones occurred in the northern part of the region while the juvenile cohort was found outside Baía dos Tigres schooling together with pilchard, *Sardinops ocellatus*.



Figure 25. Distribution of Sardinella maderensis Cunene – Benguela

Horse mackerel

Like in previous years, both species of horse mackerel were found in the southern region. The fish occurred in two areas north of Cabo de Santa Maria and south of Cabo de Santa Marta to Praya do Calunga and in a continuous layer from north of Namibe (15°00'S) to the Cunene River (17°15'S, Figure 26). The density varied throughout the area, generally with denser concentrations further south, and with the highest recordings (s_A >3000 m² /NM²) between Cunene River and north of Baía dos Tigres. The two horse mackerel species were mixed in the frontal area. The *T. trachurus capensis* gradually increased in density in the main density area from Baía dos Tigres and southwards, replacing *T. trecae*, first in the deeper areas. The distribution of juvenile *T. trecae* (<20 cm) continued inshore towards Cunene River, stopping short off the river mouth. The distribution of the two horse mackerel species in the border area between Namibia and Angola corresponds with changes in water masses, especially the intrusion of colder water from the Benguela current.

Figure 27 shows the size distributions of horse mackerels. The cohorts of *T. trecae* are overlapping, but a modal peak at 18 cm can be seen. There is also an indication of an adult cohort with modal peak at 22 cm. The *T. trachurus capensis* cohorts also overlap but show a modal peak at 17 cm, few fish above 20 cm were recorded. Last year, the southern area was completely dominated by juveniles of both species (6 - 15 cm total length), and *T. trecae* showed a modal peak at 14 and 17 cm.

The estimated biomass for horse mackerels in the southern region was 253 000 tons, The contribution from the two species was 120 000 tons of *T. trecae* and 133 000 tons of *T. trachurus capensis* respectively. Last year the estimated biomass in this region was 118 000 tons of *T. trecae* and 45 000 tons of *T. trachurus capensis*, while in 2001 the abundance of *T. trecae* and *T. trachurus capensis* respectively was 64 000 tons and 187 000 tons.

Figure 28 shows that 90% of the biomass of the *T. trecae* population in this area was <28 cm, the part of the horse mackerel stock found in this area was mainly comprised of juveniles, and

90% of the stock was <21 cm in numbers. The *T. trachurus capensis* population in the area was entirely comprised of juveniles, 100% was <20 cm.



Figure 26 Distribution of horse mackerel. Cunene - Benguela a) *Trachurus trachurus capensis*



b) Trachurus trecae



Figure 27. Total length distributions of Trachurus trachurus capensis (a) and T. trecae (b), Benguela - Tombua



Figure 28. Relative cumulative biomass of *T. trachurus capensis* (a) and *T. trecae* (b)

Pelagic species Group 1

Pelagic fish, Group 1, was found in two aggregations, extending offshore from 500 m depth south of Tombua (16°00'S) to shallow water outside Baía dos Tigres and Cunene River (Figure 29). The acoustic densities were low ($s_A < 300 \text{ m}^2/\text{NM}^2$), but with a high-density area (1000< $s_A < 3000 \text{ m}^2/\text{NM}^2$) off Cunene River. Round herring, *Etrumeus whiteheadi*, and anchovy dominated the catches, *Engraulus encracicolus*, with anchovy dominating in the high-density areas. An overview of the main groups of pelagic fish in the southern region is given in Table 8.

The biomass was estimated at 66 000 tons based on an average length of 30 cm and a condition factor equal to 0.01. No biomass estimate was made in 2002 while in 2001 36 000 tons was found in this area

Pelagic species Group 2

Pelagic fish, group 2, was found in all together nine different patchy aggregations from north of Cabo de Santa Maria (13°00'S, Figure 30) to the Cunene River. The acoustic densities were low ($s_A < 300 \text{ m}^2/\text{NM}^2$, see Table 8).

The biomass was estimated at 9 000 tons based on an average length of 30 cm and a condition factor equal to 0.01. No estimate was made in 2002 while the biomass in 2001 was 3 000 tons. The dominant species in the area were *Trichiurus lepturus* and *Decapterus rhonchus* (Table 8).

			, ii) or eiie iiie	m Broups or p	enagie mom v	eunene Beng	aera
Station No.	Depth	Clupeids	Carangids	Scombrids	Hairtails	Barracudas	Other
3250	130		743.79		20.38		219.72
3251	31	1.56	195.06				677.36
3252	25		11.11	0.82	28.39		8.26
3253	30		3550.14				
3254	48		1328.16			8.16	1777.74
3255	138		202.7				1377.29
3256	100						
3257	275						
3258	25		7.47				20.24
3259	33		7465.05		62.4		28.05
3260	72		282.96				2631.45
3261	22		660		2.68		387.4
3262	43	29.8	0.36				
3263	45	1.37	263.17		3.29		133.48
3264	17	30.02	1678.73				105.73
3265	82	105.06	7.08				106.76
3266	95						34.4
3267	82	113.2	5959.2				2054.08
3268	17		6268.2				212.04
3269	14	48.08	25.38				5.68
3270	48		4421.25				
3271	32	27	156.8		7.2		33.9
3272	97		3283.51		15.97		2346.01
3273	10	27997.2					
3274	100		765.6				9.84
3275	21	101.12	259.52		37.6		185.6
3276	124	40.07	377.71		4.29		276.65
3277	25	0.11	94.77				27.25
MEAN		1017.66	1357.42	0.03	6.51	0.29	452.10

 Table 8. Catch rates (kg/h) of the main groups of pelagic fish. Cunene - Benguela



Figure 29. Distribution of other pelagic species group 1. Benguela - Pta. das Palmerinhas



Figure 30. Distribution of other pelagic species group 2. Benguela - Pta. das Palmerinhas

CHAPTER 6 SUMMARY OF SURVEY RESULTS

6.1 Sardinella

The total biomass estimate for sardinellas (432 000 tons) is higher than last year (343 000 tons) but similar to the estimate in 2001 (Table 9). However this relatively high biomass can mainly be attributed to a large biomass of *S. maderensis* (354 000 tons), while the biomass of *S. aurita* still is at a low level (76 000 tons). The major concentrations of sardinella (2/3 of the biomass) were found in the central area while 1/3 of the biomass was found in the north of Angola. The major part of the southern area is considered to cold for sardinella during this time of the year. However, a few schools were found scattered all the way to Baía dos Tigres, probably trapped in warm water cells.

Figure 31 shows the overall length frequency distribution and the cumulative biomass of *S. maderensis* recorded during the survey, while Figure 32 shows the same data for the *S. aurita* population. A strong cohort of juvenile *S. maderensis* is seen in Figure 31. It is expected that these will be a large contributor to the biomass next year. The main part of the biomass this year was fish between 25 - 35 cm.







Figure 31. Overall length distribution (a) and relative cumulative biomass (b) of S. maderensis.

The length frequency data for S. aurita show a modal peak at 7 cm. However, few trawl samples makes difficult to draw any conclusions about the size distribution of S. aurita from this year's survey.



a) Overall length distribution of S. aurita by numbers



Figure 32. Overall length distribution (a) and relative cumulative biomass (b) of S. aurita

Sardinella has as previously mentioned a strong horizontal and vertical avoidance reaction both to the vessel and the trawl gear and biomass estimates are therefore particularly susceptible to bias. Therefore, care should be taken when interpreting the results. This has been reported from routine acoustic biomass surveys and experimental surveys over a period of several years. Their behavioural patterns is probably largely depend on the prevailing environmental conditions, such as intrusion of freshwater from the Congo River and other rivers into coastal waters as well as other inter-annual variation in the environment. It is therefore likely that the Dr. Fridtjof Nansen surveys are underestimating the size of the sardinella biomass considerably but it is still believed that the estimates provide an index of abundance showing the stock trends. It is probably time to evaluate the current knowledge on the sardinella species in Angola, and dependent on how accurate information is needed on the size of the sardinella biomass, in particular the S. aurita stock which is the commercially more important of the two species, to evaluate the survey strategy, and suggest new approaches. Several approaches could be considered including a combination of aerial and acoustic surveys similar to what has been suggested for the Namibian sardine stock or introduction of a long range fishery sonar to map the distribution of fish on the side of the vessel.
Survey	Cunene -	Benguela - Pta.	Pta Palm -	Cabinda -	Cunene -
2	Benguela	Palm.	Cabinda	Benguela	Cabinda
	C			C	
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
2/91	?	68	154	222	222
1/92	?	119	161	280	280
1/94	*	410	100	510	
2/94	*	245	290	535	
1/95	*	140	24	164	
2/95	?	277	297	574	574
1/96	49	175	70	245	294
2/96	0	130	233	363	363
1/97	0	195	300†	495	495
1/98	75	389	79†	468	543
3/98	0	233	159†	392	392
2/99	0	228	135†	363	363
2/2000	0	179	174†	353	353
2/2001	0	257	177†	434	434
9/2002	0	165	178	343	343
8/2003	2	277	153†	430	432

Table 9. Biomass estimates of sardinellas by regions and surveys (1 000 tons)

	* not surveyed	
† surveyed from	Congo River - Pta	das Palmerinhas

6.2 Cunene horse mackerel

The total biomass estimate for *T. trecae* (166 000 tons) has been stable since 2002 when it was estimated to be 160 000 tons, but although higher than the 89 000 recorded in 2001, which was the lowest biomass ever recorded during the time series, it has declined drastically from 2000 (333 000 tons). It is evident from Figure 32 that the juveniles (<20 cm total length) comprises the major part of the stock, 86% of the total stock estimate in numbers and 64% by weight respectively. From a geographical point of view most of the stock (>70%) was distributed in the southern part of Angola, south of 13° S - $17^{\circ}15^{\circ}$ S. The fish in this region comprised mainly of juveniles, 90% of the Cunene horse mackerel found in this area was <28 cm by weight, or <21 cm by numbers.



Figure 33. Overall length distribution in numbers (a) and relative cumulative biomass (b) of T. trecae

Figure 33 shows that the biomass estimate for *T. trecae* has been at historically low levels during the past three years, the stock is far from the level in 1997 when 427 000 tons where estimated.

Survey	Cunene - Benguela	Benguela - Pta Palm.	Pta Palm - Cabinda	Benguela - Cabinda	Cunene - Cabinda
1/85	30	195	40	235	
3/85	50	90	40	130	265
4/85/86	100	125	20	145	180
1/89	35	55	40	95	245
3/89	170	40	35	75	130
1/91	100	80	20	100	245
2/91	100	70	30	100	200
1/92	98	86	80	166	200
1/94	*	238	1	239	264
2/94	*	130	120	250	
1/95	*	?	84	84	
2/95	70	160	110	270	340
1/96	286	214	6	220	506
2/96	140	157	63	220	360
1/97	234	55	138†	193	427
1/98	163	58	18†	76	239
3/98	118	112	37†	149	267
2/99	124	129	68†	197	321
2/2000	92	178	63†	241	333
2/2001	64	22	3†	25	89
9/2002	118	13	31†	44	162
8/2003	120	34	12†	46	166

 Table 10. Biomass estimates of Cunene horse mackerel by regions and surveys (1 000 tons)

* not surveyed

† surveyed from Congo River- Pta. das Palmerinhas

6.3 Conclusions

The present biomass of sardinellas show a stable level. It should be emphasized that the biomass estimates of sardinellas may only be considered as relative indices rather than absolute estimates, and that the separation between the two species are considered very difficult. Therefore, it is extremely important that urgent steps are taken to evaluate present survey methods in order to improve the accuracy of the estimates.

The Cunene horse mackerel stock was estimated at a total of 166 000 tons. This is about 6 000 tons more than last years estimate, and corresponds well with this. The findings correspond well with previous years studies and underline the fact that the adult part of the stock harvested for human consumption is severely reduced.

However, there are signs of good recruitment both from last year and this year, with a strong cohort with a modal peak of 13 cm coming trough and indications of another around 5 - 6 cm spawned this year. These cohorts can, if managed carefully, contribute to a recovery of the stock. The cohort of 1-year-old fish noted last year is now around 18 - 19 cm and has reached the size when it is caught commercially by midwater trawlers.

The recovery of the cape horse mackerel stock in Angolan waters requires strong management measures. From a biological perspective an effort reduction will be the main tool to achieve this goal.

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ANNEX I FISHING GEAR

The vessel has three different sized four-panel 'Åkrahamn' pelagic trawls and one 'Gisund super bottom trawl'. The two smallest pelagic trawls and the demersal trawl were used during the survey. The smallest pelagic trawl has 10-12 m vertical opening under normal operation, whereas the intermediate sized trawl has 15-18 m opening. The intermediate trawl was fitted with codend Multisampler for obtaining depth-specific samples.

The bottom trawl has a 31 m headline and a 47 m footrope fitted with a 12" rubber bobbins gear. The codend has 20 mm meshes and inner net with a 10 mm net mesh. The vertical opening is about 5.5 m. The distance between the wing tips is about 18 m during towing. The sweeps are 40 m long. The trawl doors are 'Thyborøen' combi, 8 m² and weigh 2000 kg. The door spreading is about 45 m when using restraining rope.

The SCANMAR system was used on all trawl hauls. This equipment consists of sensors, a hydrophone, a receiver, a display unit and a battery charger. Communication between sensors and ship is based on acoustic transmission. The doors are fitted with sensors to provide information on their distance and a height sensor is fitted on the bottom trawl to measure the trawl opening and provide information on clearance and bottom contact.

The pelagic trawls are equipped with a trawl eye that provides information about the trawl opening and the distance of the footrope to the bottom. A pressure sensor is used to show the depth on the headline.

ANNEX II RECORDS OF FISHING STATIONS

DATE:21/ 7/03 GEAR TY	PE: BT No: 2 POS	ROJECT STATION:3196
start stop duration) Burnose code:	Long E 1142
LOG :3790.41 3791.95 1.51	Area code :	3
FDEPTH: 120 118 BDEPTH: 120 118	GearCond.code: Validity code:	3
Towing dir: 72ø Wire out:	380 m Speed: 30	kn*10
Sorted: 130 Kg Total catch:	296.52 CAT	CH/HOUR: 593.04
CDFCTFC	CATCH / HOUR	SOF TOT C SAME
SPECIES	weight numbers	S OF IOI. C SAMP
Dentex congoensis Dentex angolensis	362.40 3732 79.20 436	61.11
Trachurus trecae	74.60 2674	12.58 6742
Spicara alta Epinephelus goreensis	27.40 452 11.20 4	4.62
Todarodes sagittatus	10.68 260	1.80
Umbrina canariensis Ariomma bondi	6.40 4 4.52 72	0.76
Zeus faber	4.44 4	0.75
Zenopsis conchifer Pterothrissus belloci	4.32 12 4.04 36	0.73
Chelidonichthys gabonensis	1.40 16	0.24
Raja miraletus Uranoscopus polli	1.04 4	0.18
Sepia orbignyana	0.48 4	0.08
Citharus linguatula	0.08 4	0.05
Total	593.04	100.00
	F	PROTECT STATION: 3197
DATE:21/ 7/03 GEAR TY	PE: PT No: 7 POS	SITION:Lat S 627
start stop duration TIME :22:44:12 22:59:14 15 (min) Purpose code:	Long E 1147 1
LOG :3851.57 3852.38 0.81	Area code :	3
FDEPTH: 110 110 BDEPTH: 121 121	GearCond.code: Validity code:	
Towing dir: 160ø Wire out:	280 m Speed: 30	kn*10
Sorted: Kg Total catch:	CAT	CH/HOUR:
SPECIES	CATCH/HOUR weight numbers	% OF TOT. C SAMP
NO CATCH	0.00	
Total		
	F	ROJECT STATION:3198
DATE:21/ 7/03 GEAR TY	PE: PT No: 1 POS	ITION:Lat S 628
TIME :23:03:52 23:18:15 14 (min) Purpose code:	1 LONG E 1148
LOG :3852.66 3853.48 0.82	Area code :	3
FDEPTH: 90 85	GearCond.code:	
BDEPTH: 121 121	Validity code:	
BDEPTH: 121 121 Towing dir: 160ø Wire out:	Validity code: 220 m Speed: 40	kn*10
BDEPTH: 121 121 Towing dir: 160ø Wire out: Sorted: Kg Total catch:	Validity code: 220 m Speed: 40 CAT	cH/HOUR:
BDEPTH: 121 121 Towing dir: 160ø Wire out: Sorted: Kg Total catch:	Validity code: 220 m Speed: 40 CAT	'kn*10 'CH/HOUR:
BDEPTH: 121 121 Towing dir: 160ø Wire out: Sorted: Kg Total catch: SPECIES	Validity code: 220 m Speed: 40 CAT CATCH/HOUR	kn*10 CCH/HOUR: % OF TOT. C SAMP
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EDEPTH: 121 121 Towing dir: 160ø Wire out: Sorted: Kg Total catch: SPECIES N 0 C A T C H Total DATE:21/ 7/03 GEAR TY start stop duration TIME :23:24:33 23:40:39 16 (min LOG :3653.82 3854.87 1.04 FDEPTH: 40 40 EDEPTH: 122 123 Towing dir: 160ø Wire out: Sorted: Kg Total catch: SPECIES J E L L Y F I S H Trachurus trecae Engraulis encrasicolus Caranx crysos Selene dorsalis Solea senegalensis Brotula barbata Trichiurus lepturus Total DATE:22/ 7/03 GEAR TY: start stop duration TIME :05:51:17 06:10:55 20 (min LOG :3909.07 3909.97 0.88 FDEPTH: 230 230 EDEPTH: 278 299 Towing dir: 235ø Wire out: Sorted: Kg Total catch:	Validity code: 220 m Speed: 40 CATCH/HOUR weight numbers 0.00 PE: PT No: 1 POS PE: PT No: 1 POS Area code : GearCond.code: Validity code: 1.09 CAT CATCH/HOUR weight numbers 1.09 CAT CATCH/HOUR weight numbers 1.09 CAT CATCH/HOUR weight numbers 1.09 CAT 0.15 11 0.08 66 0.04 4 0.04 15 0.04 4 0.04 4 0.04 15 0.04 4 0.04 15 0.04 4 0.04 15 0.04 4 0.04 15 0.04 5 0.05 10 0.05 100	* kn*10 * OF TOT. C SAMP * OF TOT. C SAMP PROJECT STATION: 3199 ITTION:Lat S 629 Long E 1148 1 3 * kn*10 * OF TOT. C SAMP * OF T
EDEPTH: 121 121 Towing dir: 160ø Wire out: Sorted: Kg Total catch: SPECIES N 0 C A T C H Total DATE:21/ 7/03 GEAR TY: start stop duration TIME :23:24:33 23:40:39 16 (min LOG :3453.82 3854.87 1.04 EDEPTH: 40 40 EDEPTH: 122 123 Towing dir: 160ø Wire out: Sorted: Kg Total catch: SPECIES J E L L Y F I S H Trachurus trecae Engraulis encrasicolus Caranx crysos Selene dorsalis Solea senegalensis Brotula barbata Trichiurus lepturus Total DATE:22/ 7/03 GEAR TY: start stop duration TIME :05:51:17 06:10:55 20 (min LOG :3909.07 3909.97 0.88 FDEPTH: 230 230 EDEPTH: 278 299 Towing dir: 235ø Wire out: Sorted: Kg Total catch:	Validity code: 220 m Speed: 40 CATCH/HOUR weight numbers 0.00 PE: PT No: 1 POS Area code : GearCond.code: Validity code: 160 m Speed: 35 1.09 CAT CATCH/HOUR weight numbers 1.91 855 1.43 66 0.41 90 0.15 11 0.08 66 0.41 90 0.15 11 0.08 66 0.04 15 0.04 4 0.04 15 0.04 4 4.10 PE: PT No: 3 POS) Purpose code: Area code : GearCond.code: Validity code: 350 m Speed: 30 8.28 CAT	* OF TOT. C SAMP * OF TOT. C SAMP * OF TOT. C SAMP Long E 1148 1 3 * OF TOT. C SAMP * OF TOT. C SAMP * OF TOT. C SAMP * OF TOT. C SAMP * OF TOT. C SAMP 10.02 3.67 1.96 0.98 0.98 0.98 100.25 * OF STATION: 3200 * OF STATION: 3200 * OF STATION: 3200 * OF STATION: 24.84 * OF TOT. C SAMP
EDEPTH: 121 121 Towing dir: 160ø Wire out: Sorted: Kg Total catch: SPECIES N 0 C A T C H DATE:21/ 7/03 GEAR TY: start stop duration TIME :23:24:33 23:40:39 16 (min LOG :3853.82 3854.87 1.04 FDEPTH: 40 40 BDEPTH: 122 123 Towing dir: 160ø Wire out: Sorted: Kg Total catch: SPECIES J E L L Y F I S H Trachurus trecae Engraulis encrasicolus Caranx crysos Selene dorsalis Solea senegalensis Brotula barbata Trichiurus lepturus Total DATE:22/ 7/03 GEAR TY: start stop duration TIME :05:51:17 06:10:55 20 (min LOG :3309.07 3909.97 0.88 FDEPTH: 230 230 EDEPTH: 278 299 Towing dir: 235ø Wire out: Sorted: Kg Total catch: SPECIES	Validity code: 220 m Speed: 40 CATCH/HOUR weight numbers 0.00 PE: PT No: 1 POS) Purpose code: Area code : GearCond.code: Validity code: 160 m Speed: 35 1.09 CAT CATCH/HOUR weight numbers 1.91 855 1.43 66 0.41 30 0.15 11 0.08 66 0.41 30 0.15 11 0.08 66 0.04 4 0.04 15 0.04 4 0.04 15 0.04 4 0.04 15 0.04 4 0.04 15 0.04 4 0.04 15 0.04 4 0.04 5 0.04 4 0.04 15 0.04 15 0.05 15 0.	* OF TOT. C SAMP * OF TOT. C SAMP
EDEPTH: 121 121 Towing dir: 160ø Wire out: Sorted: Kg Total catch: SPECIES N 0 C A T C H Total DATE:21/ 7/03 GEAR TY: Start stop duration TIME :23:24:33 23:40:39 16 (min LOG :355.82 355.87 1.04 FDEPTH: 40 40 BDEPTH: 122 123 Towing dir: 160ø Wire out: Sorted: Kg Total catch: SPECIES J E L L Y F I S H Trachurus trecae Engraulis encrasicolus Caranx crysos Soleae dorsalis Solea senegalensis Brotula barbata Trichiurus lepturus Total DATE:22/ 7/03 GEAR TY: start stop duration TIME :05:51:17 06:10:55 20 (min LOG :3909.07 3909.97 0.88 FDEPTH: 278 299 Towing dir: 235ø Wire out: Sorted: Kg Total catch: SPECIES MYCTOPHIDAE Nuxis thazard	Validity code: 220 m Speed: 40 CATCH/HOUR weight numbers 0.00 PE: PT No: 1 POS) Purpose code: Area code : GearCond.code Validity code: 160 m Speed: 35 1.09 CAT CATCH/HOUR weight numbers 1.01 855 1.43 68 0.41 90 0.15 11 0.08 68 0.41 90 0.15 11 0.08 68 0.41 90 0.15 11 0.08 68 0.44 90 0.15 11 0.08 68 0.44 90 0.15 11 0.08 68 0.04 4 4.10 PE: PT No: 3 POS) Purpose code: Area code : GearCond.code Validity code: 550 m Speed: 30 8.28 CAT CATCH/HOUR weight numbers 16.86 1379 0.01 2000	* OF TOT. C SAMP * OF TOT. C SAMP * OF TOT. C SAMP COLLECT STATION: 3199 ITITON: Lat S 629 Long E 1148 1 3 * Nn*10 * OF TOT. C SAMP * OF TOT. C SAMP * OF TOT. C SAMP 100.25 * OF TOT. S 6743 100.25 * OF TOT. C SAMP 100.25 * OF TOT. S 639 Long E 1143 1 3 * Nn*10 * OF TOT. C SAMP * OF TOT. C SAMP
EDEPTH: 121 121 Towing dir: 160ø Wire out: Sorted: Kg Total catch: SPECIES N 0 C A T C H Total DATE:21/ 7/03 GEAR TY. gtart stop duration TIME :23:24:33 23:40:39 16 (min LOG :3653.82 3654.87 1.04 FDEPTH: 40 40 EDEPTH: 122 123 Towing dir: 160ø Wire out: Sorted: Kg Total catch: SPECIES J E L L Y F I S H Trachurus trecae Engraulis encrasicolus Caranx crysos Selene dorsalis Solea senegalensis Brotula barbata Trichiurus lepturus Total DATE:22/ 7/03 GEAR TY. start stop duration TIME :05:51:17 06:10:55 20 (min LOG :3909.07 3909.97 0.88 FDEPTH: 230 230 EDEFTH: 278 299 Towing dir: 235ø Wire out: Sorted: Kg Total catch: SPECIES	Validity code: 220 m Speed: 40 CATCH/HOUR weight numbers 0.00 PE: PT No: 1 POS) Purpose code: Area code : GearCond.code: 160 m Speed: 35 1.09 CAT CATCH/HOUR weight numbers 1.43 68 0.15 11 0.08 65 0.0.4 4 0.04 15 0.04 4 4.10 PE: PT No: 3 POS break and a state (CATCH/HOUR PE: PT No: 3 POS break and a state (CATCH/HOUR Weight numbers 550 m Speed: 30 8.28 CAT CATCH/HOUR weight numbers 16.86 1379 7.68 36 0.21 33 0.06 24	* OF TOT. C SAMP * OF TOT. C SAMP * OF TOT. C SAMP COJECT STATION: 3199 HITION: Lat S 629 Long E 1148 1 3 * Kn*10 CCH/HOUR: 4.09 * OF TOT. C SAMP 46.70 34.96 6743 10.02 3.67 1.96 0.98 0.98 100.25 * COJECT STATION: 3200 HITION: Lat S 639 Long E 1143 1 3 * Kn*10 * OF TOT. C SAMP * OF TOT. C SAMP
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DATE:22/ 7/03 GEAR TY	PE: PT No: 1	POSITIC	ON:Lat S	630
start stop duration) Durnogo g	odo: 1	Long E	1212
LOG :3954.54 3955.87 1.32	Area code	: 3		
FDEPTH: 20 25 BDEPTH: 43 43	GearCond.	code:		
Towing dir: 345ø Wire out:	100 m Spee	d: 40 kn'	*10	
Sorted: Kg Total catch:	4.18	CATCH/H	HOUR:	11.94
SPECIES	CATCH/HO	UR % (OF TOT. C	SAMP
	weight nu	mbers		
Sarda sarda MYCTOPHIDAE	0.20	9 149	98.32 1.68	
	11.04	-	100.00	
IOLAI	11.94		100.00	
		DROTE	20T 0TATIO	
DATE:22/ 7/03 GEAR TY	PE: BT No: 2	POSITIC	DN:Lat S	648
start stop duration TTME :20:47:38 21:17:42 30 (min) Purpose c	ode: 1	Long E	1154
LOG :4042.26 4044.06 1.80	Area code	: 3		
FDEPTH: 122 121	GearCond.	code:		
Towing dir: 360ø Wire out:	360 m Spee	d: 35 kn*	*10	
Sorted: 61 Kg Total catch:	212.30	CATCH/H	HOUR: 42	24.60
SPECIES	CATCH/HO	UR % (OF TOT. C	SAMP
	weight nu	mbers	20.00	
Umbrina canariensis Dentex congoensis	82.60	462 994	39.90 19.45	
Dentex angolensis	81.80	350	19.27	
Brotula barbata Chelidonichthys gabonensis	22.40 21.80	20 538	5.28	
Citharus linguatula	8.40	308	1.98	
Spicara alta	8.20	140	1.93	
Pterothrissus belloci	5.80	42	1.37	
Mystriophis rostellatus	3.60	34	0.85	
Microchirus frechkopi	3.60	182	0.85	
Caranx crysos	3.20	6	0.75	
Erythrocles monodi Todarodes sagittatus	1.60	20	0.38	
Arnoglossus imperialis	0.40	63	0.09	
Total	424.60	-	100.01	
		PROJE	ECT STATION	1:3203
DATE:23/ 7/03 GEAR TY	PE: BT No: 2	POSITIC	ON:Lat S	704
start stop duration TIME :11:55:36 12:25:18 30 (min) Purpose c	ode: 1	Long E	1205
LOG :4186.17 4187.58 1.39	Area code	: 3		
FDEPTH: 125 120 BDEPTH: 125 120	GearCond. Validity	code: code: 3		
Towing dir: 58ø Wire out:	400 m Spee	d: 30 kn'	*10	
Sorted: Kg Total catch:	269.09	CATCH/F	HOUR: 5	38.18
bortea. Ng Totar catch.	2001.00			50.10
SPECIES	CATCH/HO	UR %	OF TOT. C	SAMP
SPECIES	CATCH/HO weight nu	UR %(mbers	OF TOT. C	SAMP
SPECIES Trachurus trecae Umbrina canariensis	CATCH/HO weight nu 229.30 160.60	UR % (mbers 9074 552	OF TOT. C 42.61 29.84	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis	CATCH/HO weight nu 229.30 160.60 91.60	UR % (mbers 9074 552 688	DF TOT. C 42.61 29.84 17.02	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Dentex congoensis Raia miraletus	CATCH/HO weight num 229.30 160.60 91.60 35.60 6.20	UR % C mbers 9074 552 688 430 10	DF TOT. C 42.61 29.84 17.02 6.61 1.15	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Dentex congoensis Raja miraletus Brotula barbata	CATCH/HO weight nu 229.30 160.60 91.60 35.60 6.20 4.06	UR % 0 mbers 9074 552 688 430 10 4	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Raja miraletus Brotula barbata Todarodes sagittatus Trichiurus lepturus	CATCH/HO weight num 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62	UR % C mbers 9074 552 688 430 10 4 90 2	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.30	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Dentex congoensis Raja miraletus Brotula barbata Todanodes sagittatus Trichiurus lepturus Pterothrissus belloci	CATCH/HO weight num 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54	UR % C mbers 9074 552 688 430 10 4 90 2 10	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.30 0.29	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Dentex congoensis Raja miraletus Brotula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Senia so	CATCH/HO weight num 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04	UR % C mbers 9074 552 688 430 10 4 90 2 10 4 8	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.30 0.29 0.20 0.19	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Raja miraletus Brotula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta	CATCH/HO weight num 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04 1.02	UR % (mbers 9074 552 688 430 10 4 90 2 10 4 8 30	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.30 0.29 0.20 0.19 0.19	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Pentex congoensis Raja miraletus Brotula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus Lisematuba	CATCH/HO weight num 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04 1.02 0.80 0.54	UR % (mbers 9074 552 688 430 10 4 90 2 10 4 8 30 2 16	CF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.30 0.29 0.20 0.19 0.15	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Dentex congoensis Raja miraletus Brotula barbata Todarodes sagittatus Trichirus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis	CATCH/HO weight num 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04 1.02 0.80 0.54 0.26	UR % 0 mbers 9074 552 688 430 10 4 90 2 10 4 8 30 2 16 12	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.30 0.29 0.20 0.19 0.15 0.10 0.05	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Dentex congoensis Raja miraletus Brotula barbata Todarodes sagittatus Trichirus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis	CATCH/HO weight num 229.30 160.60 91.60 35.60 4.06 2.78 1.54 1.62 1.54 1.04 1.02 0.80 0.54 0.26 0.12	UR % 0 mbers 9074 552 688 430 10 4 90 2 10 4 8 30 2 16 12 20	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.30 0.29 0.20 0.19 0.15 0.10 0.05 0.02	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex congoensis Raja miraletus Brotula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis	CATCH/HO weight num 229,30 160.60 91.60 35.60 6.20 4.06 2.78 1.54 1.54 1.04 1.04 1.02 0.80 0.54 0.54 0.12 538.18	UR % 0 mbers 9074 552 688 430 10 4 90 2 10 4 8 30 2 16 12 20 -	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.52 0.20 0.20 0.19 0.15 0.05 0.02 99.99	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Raja miraletus Brotula barbata Todarodes sagittatus Trichirus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis	CATCH/HO weight num 229,30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04 1.02 0.80 0.54 0.12 538.18	UR % 0 mberss 9074 552 688 430 10 4 90 2 10 4 8 30 2 12 20 -	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.52 0.30 0.29 0.20 0.20 0.20 0.19 0.19 0.19 0.15 0.10 0.02 99.99	SAMP 6744 6745
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Dentex congoensis Raja miraletus Brotula barbata Todarodes asgittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis Total	CATCH/HO weight num 229,30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04 1.02 0.80 0.54 0.26 0.12	UR % 0 mbers 9074 552 688 430 10 4 90 2 10 4 8 30 2 16 12 20 	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.52 0.30 0.29 0.20 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.20 0.20 0.20 0.20 0.20 0.20 0.19 0.19 0.19 0.19 0.10 0.52 0.52 0.52 0.52 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.52 0.52 0.52 0.52 0.19 0.10 0.22 0.20 0.19 0.19 0.19 0.10 0.19 0.19 0.19 0.10 0.19	SAMP 6744 6745
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SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Pentex angolensis Potrex congoensis Brotula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia ap. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis Total DATE:23/ 7/03 GEAR TY start stop duration TIME :18:54:24 19:09:29 15 (min LOG :4238.59 4239.53 0.92 FDEPTH: 120 120 Towing dir: 127s Wire out: Sorted: Kg Total catch: SPECIES N O C A T C H Total DATE:24/ 7/03 GEAR TY start stop duration TIME :01:40:54 01:10:40 30 (min LOG :4288.54 01:20:40 30 (min LOG :4288.54 01:20:40 30 (min LOG :4288.54 01:20:40 30 (min LOG :4288.54 01:20:40 30 (min LOG :4288.54 1290.65 1.87 FDEPTH: 15 117 meridia tree to many start stop	CATCH/HO weight num 229.30 160.60 91.60 2.78 1.52 1.54 1.62 1.54 1.04 1.02 0.80 0.54 0.12 538.18 PE: PT No: 1) Purpose c Area code GearCond. Validity 145 m Speet CATCH/HO weight num 0.00 PE: PT No: 1) Purpose c Area code GearCond. Validity 145 m Speet	UR % C mbers 9074 9074 9074 410 430 430 4 90 2 10 4 8 30 2 10 4 8 30 2 10 4 8 30 2 10 12 20 	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.20 0.20 0.20 0.20 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.20 99.99 ECT STATION NN:Lat S Long E *10 MOUR: ECT STATION NN:Lat S Long E	SAMP 6744 6745 1210 SAMP N: 3205 1210
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Dentex congoensis Raja miraletus Brotula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis Total DATE:23/ 7/03 GEAR TY start stop duration TIME :18:54:24 19:09:29 15 (min LOG :4238.59 4239.53 0.92 FDEPTH: 120 120 Towing dir: 127s Wire out: Sorted: Kg Total catch: SPECIES N 0 C A T C H Total DATE:24/ 7/03 GEAR TY start stop duration TIME :00:40:54 01:10:40 30 (min LOG :4288.64 4290.65 1.87 FDEPTH: 120 20 BDEPTH: 120 120 Towing dir: 150s Wire out:	CATCH/HO weight nu 229.30 160.60 91.60 91.60 2.78 1.62 1.54 1.10 1.02 0.80 0.54 0.26 0.12 538.18 PE: PT No: 1) Purpose c Area code GearCond. Validity nu 0.00 PE: PT No: 1) Purpose c Area code GearCond. Validity 0.00 PE: PT No: 1) Purpose c Area code GearCond. No: 1 Area code GearCond. Area Code GearCond.	UR % C mbers 9074 552 688 430 10 4 90 2 10 4 8 30 2 2 10 4 8 30 2 2 10 4 8 30 2 2 10 4 8 30 2 2 10 4 8 30 2 2 10 4 8 30 2 2 10 4 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 4 8 8 30 2 2 10 10 4 8 8 30 2 2 10 10 4 8 8 30 2 2 10 10 4 8 8 30 2 2 10 10 4 8 8 30 2 2 10 10 4 8 8 30 2 2 10 10 12 20 7 7 8 7 8 7 8 7 8 8 8 8 8 8 8 8 8 9 9 9 9	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.30 0.20 0.19 0.19 0.19 0.19 0.19 0.15 0.02 99.99 ECT STATION NN'LAT S Long E *10 *10	SAMP 6744 6745 1210 SAMP N: 3204 1210
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Pentex congoensis Brotula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis Total DATE:23/ 7/03 GEAR TY start stop duration TIME :18:54:24 19:09:29 15 (min LOG :4238.59 4239.53 0.92 FDEPTH: 120 120 Towing dir: 1270 Wire out: Sorted: Kg Total catch: SPECIES N O C A T C H Total DATE:24/ 7/03 GEAR TY start stop duration TIME :00:40:54 01:10:40 30 (min LOG :4288.54 4290.65 1.87 FDEPTH: 120 20 BDEPTH: 115 117 Towing dir: 1500 Wire out: Sorted: Kg Total catch:	CATCH/HO weight nu 229.30 160.60 91.60 2.78 1.62 1.54 1.62 1.54 1.10 1.04 1.02 0.80 0.12 0.54 0.26 0.12 538.18 PE: PT No: 1) Purpose cr Area code GearCond. Validity 145 m Spee PE: PT No: 1) Purpose cr Area code GearCond. Validity 145 m Spee CATCH/HO	UR % C mberss 9074 552 688 430 10 4 90 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 12 2 0 0 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 12 2 0 0 2 10 10 12 2 0 0 2 10 12 2 0 0 12 12 2 0 0 12 12 2 0 0 12 12 2 0 0 12 12 2 0 0 12 12 2 0 0 12 12 2 0 0 12 1 2 0 0 12 1 2 0 0 12 1 2 0 0 12 1 0 0 10 1 1 0 0 10 1 1 0 0 10 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 1 0	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.30 0.20 0.19 0.19 0.19 0.19 0.19 0.15 0.02 99.99 ECT STATION HOUR: CT STATION CDN:Lat S Long E *10 HOUR:	SAMP 6744 6745 7745 8745 8745 7745 7745 712 1210 8800 713 1220 2.06
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Pentex congoensis Raja miraletus Brotula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis Total DATE:23/ 7/03 GEAR TY start stop duration LOG :4238.59 4239.53 0.92 FDEPTH: 30 30 BDEPTH: 120 120 Towing dir: 127e Wire out: Species N O C A T C H Total DATE:24/ 7/03 GEAR TY start stop duration TOTA DATE:24/ 7/03 GEAR TY start stop duration TIME :00:40:54 01:10:40 30 (min LOG :4288.54 4290.65 1.87 FDEPTH: 20 20 BDEPTH: 115 117 Towing dir: 150% Wire out: Sorted: Kg Total catch:	CATCH/HO weight nu 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04 1.02 0.80 0.54 0.26 0.12 538.18 PE: PT No: 1) Purpose c Area code GearCond. Validity (145 m Speed CATCH/HO weight nu 0.00 PE: PT No: 1) Purpose c Area code GearCond. Validity (1.03	UR % C mberss 9074 552 688 430 10 4 90 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 4 8 0 2 2 10 4 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 4 8 0 2 2 10 10 12 20 0 0 2 12 20 0 0 12 0 13 5 8 1 1 0 0 0 12 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 1 0 0 1 0 0 1 0 0 0 1 0 0 0 1 0	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.52 0.30 0.29 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.20 99.99 ECT STATION NN:Lat S Long E *10 HOUR: *10 HOUR:	SAMP 6744 6745 7745 8745 8745 8745 1210 8847 706 1210 8847 706 1210 8847 706 1210 8205 713 1220 2.06
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Pentex angolensis Portula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis Total DATE:23/ 7/03 GEAR TY start stop duration TIME :18:54:24 19:09:29 15 (min LOG :4238.59 4239.53 0.92 FDEPTH: 30 30 DEPTH: 120 120 Toving dir: 1270 Wire out: Sorted: Kg Total catch: SPECIES N O C A T C H Total DATE:24/ 7/03 GEAR TY start stop duration TIME :00:40:54 01:10:40 30 (min LOG :4288.84 4290.65 1.87 FDEPTH: 20 20 DEPTH: 115 117 Toving dir: 1500 Wire out: Sorted: Kg Total catch: SPECIES	CATCH/HO weight num 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04 1.02 0.80 0.54 0.26 0.12 538.18 PE: PT No: 1) Purpose C Area code GearCond. Validity ' 145 m Speed CATCH/HO weight num 0.00 PE: PT No: 1) Purpose C Area code GearCond. Validity ' 80 m Speed 1.03 CATCH/HO	UR % C mberss 9074 552 688 430 10 4 90 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 12 20 	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.52 0.30 0.29 0.19 0.19 0.19 0.19 0.19 0.15 0.00 299.99 SCT STATION N:Lat S Long E *10 HOUR: DF TOT. C PF TOT. C	SAMP 6744 6745 706 1210 SAMP N: 3205 713 1220 2.06 SAMP
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Paja miraletus Brotula barbata Todardes sagittatus Trichirus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis Total DATE:23/ 7/03 GEAR TY start stop duration TIME :18:54:24 19:09:29 15 (min LOG :4238.59 4239.53 0.92 FPEDFTH: 30 30 BDEPTH: 120 120 Towing dir: 127e Wire out: Sorted: Kg Total catch: SPECIES N O C A T C H Total DATE:24/ 7/03 GEAR TY start stop duration TIME :01:40:54 01:10:40 30 (min LOG :4288.84 4290.65 1.87 FPEDFTH: 115 117 Towing dir: 150e Wire out: Sorted: Kg Total catch: SPECIES Sorted: Kg Total catch: SPECIES	CATCH/HO weight num 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04 1.02 0.80 0.54 0.26 0.12 538.18 PE: PT No: 1) Purpose c Area code GearCond. Validity / 145 m Speed CATCH/HO weight num 0.00 PE: PT No: 1) Purpose c Area code GearCond. Validity / 1.03 CATCH/HO weight num 1.03 CATCH/HO	UR % C mbers 9074 552 688 430 10 4 90 2 16 8 30 2 16 4 8 30 2 16 12 20 	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.52 0.30 0.29 0.19 0.19 0.19 0.19 0.19 0.15 0.02 99.99 SCT STATION DN:Lat S Long E *10 HOUR: DF TOT. C 78.64	SAMP 6744 6745 1210 SAMP N: 3205 713 1220 2.06 SAMP 6746
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Dentex congoensis Protula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Githarus linguatula Arnoglossus imperialis Saurida brasiliensis Total DATE:23/ 7/03 GEAR TY start stop duration TIME :18:54:24 19:09:29 15 (min LOG :4238.59 4239.53 0.92 FDEPTH: 120 120 Towing dir: 1270 Wire out: Sorted: Kg Total catch: SPECIES N 0 C A T C H Total DATE:24/ 7/03 GEAR TY start stop duration TIME :0:40:50 11:01:40 30 (min LOG :4288.64 4290.65 1.87 FDEPTH: 120 20 BDETH: 121 117 Towing dir: 1500 Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Saurida brasiliensis Data: Kg Total catch: SPECIES	CATCH/HO weight num 229.30 160.60 91.60 91.60 2.78 1.62 1.54 1.10 1.02 0.80 0.12 538.18 PE: PT No: 1) Purpose c Area code GearCond. validity 145 m Speed CATCH/HO weight num 0.00 PE: PT No: 1) Purpose c Area code GearCond. validity 80 m Speed 1.03 CATCH/HO weight num 0.00 PE: PT No: 1) Purpose c Area code GearCond. validity 0.00	UR % C mberss 9074 552 688 430 10 4 90 2 10 4 8 30 2 2 10 10 4 8 30 2 2 10 10 4 8 30 2 2 10 10 4 8 30 2 2 10 10 4 8 30 2 2 10 10 4 8 30 2 2 10 10 4 8 30 2 2 10 10 10 12 20 7 10 10 12 20 7 10 10 12 20 7 10 10 12 20 7 10 10 12 20 7 10 10 12 20 7 10 10 12 20 7 10 10 12 20 7 10 10 12 20 7 10 10 12 20 7 10 10 12 20 7 10 10 12 20 7 10 10 10 12 20 7 10 10 10 12 20 10 10 12 20 10 10 12 20 10 10 12 20 10 10 12 20 10 10 12 20 10 10 10 12 20 10 10 10 10 10 10 10 10 10 10 10 10 10	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.30 0.20 0.20 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.20 99.99 ECT STATION NNILAT S Long E *10 HOUR: DF TOT. C *10 HOUR: DF TOT. C 78.64 14.55 1.55 	SAMP 6744 6745 1210 SAMP 2.06 SAMP 2.06 SAMP 6746
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Dentex congoensis Raja miraletus Brotula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis Total DATE:23/ 7/03 GEAR TY start stop duration TIME :18:54:24 19:09:29 15 (min LOG :4238.59 4239.53 0.92 FDEPTH: 120 120 Towing dir: 127ø Wire out: Sorted: Kg Total catch: SPECIES N O C A T C H Total DATE:24/ 7/03 GEAR TY start stop duration TIME :00:40:54 01:10:40 30 (min LOG :4288.54 4290.65 1.87 FDEPTH: 20 20 BDEPTH: 115 117 Towing dir: 150ø Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Saurida brasiliensis Alloteuthis africana	CATCH/HO weight nu 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04 1.02 0.80 0.26 0.12 538.18 PE: PT No: 1) Purpose cr Area code GearCond. Validity 145 m Speed CATCH/HO weight nu 0.00 PE: PT No: 1) Purpose cr Area code GearCond. Validity 1.03 CATCH/HO weight nu 0.00 No 1.03 CATCH/HO No No No No No No No No No No	UR % C mberss 9074 552 688 430 10 4 90 2 10 4 8 0 2 2 10 4 8 0 2 2 10 4 8 0 2 2 0 4 8 0 2 2 16 16 12 20 	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.75 0.52 0.30 0.29 0.19 0.19 0.19 0.19 0.19 0.15 0.05 0.02 99.99 ECT STATION HOUR: DF TOT. C *10 HOUR: DF TOT. C 78.64 14.56 1.94 0	SAMP 6744 6745 7745 8745 8744 706 1210 8800 8800 1210 8800 1220 2.06 8800 6746
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Pentex congoensis Raja miraletus Brotula barbata Todarodes sagittatus Trichirus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis Total DATE:23/ 7/03 GEAR TY start stop duration TME :18:54:24 19:09:29 15 (min LOG :4238.59 4239.53 0.92 FDEPTH: 30 30 BDEPTH: 120 120 Towing dir: 127e Wire out: Sorted: Kg Total catch: SPECIES N O C A T C H Total DATE:24/ 7/03 GEAR TY start stop duration TIME :00:40:54 01:10:40 30 (min LOG :4288.54 4290.65 1.87 FDEPTH: 20 20 BDEPTH: 115 117 Towing dir: 150e Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Saurida brasiliensis Alloteuthis africana MYCTOPHIDAE Lagocephalus Levigatus Lagocephalus Levigatus	CATCH/HO weight nu 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04 1.02 0.80 0.12 538.18 PE: PT No: 1) Purpose co Area code GearCond. Validity (145 m Speed CATCH/HO weight num 0.00 PE: PT No: 1) Purpose co Area code GearCond. Validity (80 m Speed 1.03 CATCH/HO weight num 0.30 0.30 0.30 0.22 0.30 0.32 0.30 0.30 0.30 0.32	UR % C mberss 9074 552 688 430 10 4 90 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 12 20 	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.52 0.30 0.29 0.19 0.19 0.19 0.19 0.19 0.15 0.00 0.02 99.99 ECT STATION NN:Lat S Long E *10 HOUR: DF TOT. C *10 HOUR: DF TOT. C 78.64 1.4.56 1.94 0.97 0	SAMP 6744 6745 7745 713 1210 2.06 SAMP 6746
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Paja miraletus Brotula barbata Todarodes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis Total DATE:23/ 7/03 GEAR TY start stop duration TIME :18:54:24 19:09:29 15 (min LOG :4238.59 4239.53 0.92 FDEPTH: 30 30 BDEPTH: 120 120 Towing dir: 1270 Wire out: Sorted: Kg Total catch: SPECIES N O C A T C H Total DATE:24/ 7/03 GEAR TY start stop duration TIME :00:40:54 01:10:40 30 (min LOG :4288.44 4290.65 1.87 FDEPTH: 20 20 BDEPTH: 115 117 Towing dir: 1500 Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Saurida brasiliensis Alloteuthis africana MYCTOPHIDAE Lagocephalus laevigatus Hypoclydonia bella ? Selene dorsalis, juveniles	CATCH/HO weight num 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.54 1.10 1.04 1.02 0.80 0.54 0.26 0.12 538.18 PE: PT No: 1) Purpose C Area code GearCond. Validity ' 145 m Speed CATCH/HO weight num 0.00 	UR % C mberss 9074 552 688 430 10 4 90 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 12 20 	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.52 0.30 0.29 0.19 0.19 0.19 0.19 0.19 0.15 0.00 299.99 SCT STATION N:Lat S Long E *10 HOUR: DF TOT. C 78.64 1.94 0.97 0.	SAMP 6744 6745 7745 8745 8745 713 1210 88AMP 1210 88AMP 1220 2.06 88AMP 6746
SPECIES Trachurus trecae Umbrina canariensis Dentex angolensis Paja miraletus Brotula barbata Todardes sagittatus Trichiurus lepturus Pterothrissus belloci Zeus faber Sepia sp. Spicara alta Dentex gibbosus Citharus linguatula Arnoglossus imperialis Saurida brasiliensis Total DATE:23/ 7/03 GEAR TY start stop duration TIME :18:54:24 19:09:29 15 (min LOG :4238.59 4239.53 0.92 FDEFTH: 30 30 BDEPTH: 120 120 Towing dir: 127e Wire out: Sorted: Kg Total catch: SPECIES N O C A T C H Total DATE:24/ 7/03 GEAR TY start stop duration TIME :00:40:54 01:10:40 30 (min LOG :4288.84 4290.65 1.87 FDEPTH: 115 117 Towing dir: 1500 Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Saurida brasiliensis Alloteuthis africana MYCTOPHIDAE Lagocephalus laevigatus Hypoclydonia bella ? Selene dorsalis, juveniles Brotula barbata	CATCH/HO weight num 229.30 160.60 91.60 35.60 6.20 4.06 2.78 1.62 1.54 1.10 1.04 1.02 0.80 0.54 0.26 0.12 538.18 PE: PT No: 1) Purpose c Area code GearCond. Validity 1 45 m Speed CATCH/HO weight num 0.00 PE: PT No: 1) Purpose c Area code GearCond. Validity 1 1.03 CATCH/HO weight num 0.00 PE: PT No: 1) Purpose c Area code GearCond. Validity 1 80 m Speed 1.03 CATCH/HO weight num 1.03 CATCH/HO weight num 1.03 CATCH/HO	UR % C mbers 9074 552 688 430 10 4 90 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 4 8 0 2 10 12 20 	DF TOT. C 42.61 29.84 17.02 6.61 1.15 0.52 0.30 0.29 0.19 0.19 0.19 0.19 0.19 0.15 0.02 99.99 SCT STATION N:Lat S Long E *10 HOUR: DF TOT. C 78.64 1.56 1.97 0.9	SAMP 6744 6745 706 1210 SAMP N: 3205 713 1220 2.06 SAMP 6746

Damp 24 (7 (2)	DD. DD N 2	PROJ	ECT STATIO	N·3200
DATE:24/ 7/03 GEAR TY start stop duration	PE: PT NO: 3	POSITI	Long E	1229
TIME :21:07:13 21:27:29 20 (min LOG :4443.00 4444.33 1.32) Purpose c Area code	ode: 1		
FDEPTH: 50 10	GearCond.	code:		
BDEPTH: 123 121 Towing dir: 330ø Wire out:	Validity 100 m Spee	code: 3 ed: 40 kn	*10	
Sorted: Kq Total catch:	35.40	CATCH/	HOUR: 1	06.20
-				
		•		
SPECIES	CATCH/HO weight nu	WR %	OF TOT. C	SAMP
MYCTOPHIDAE	55.20	960	51.98	
Trichiurus lepturus Trachurus trecae	35.70 13.95	48 675	33.62 13.14	6747
Synagrops microlepis Somia officinalis biorrodda	0.78	57	0.73	
Saurida brasiliensis	0.38	39	0.34	
Total	106 20		100 01	
Iotai	100.20		100.01	
DATE: 25 / 7 /02 OFAD TV	DE: DT No: 7	PROJ	ECT STATIO	N:3207
start stop duration	PE. PI NO. /	POSIII	Long E	1252
TIME :01:48:54 02:18:31 30 (min) Purpose c	ode: 1		
LOG :4478.87 4481.14 2.24 FDEPTH: 5 5	GearCond.	code:		
BDEPTH: 23 18	Validity	code: 3	+1.0	
Towing dir: 360ø Wire out:	150 m Spee	d: 40 kr	1*10	
Sorted: Kg Total catch:	31.03	CATCH/	HOUR:	62.06
SPECIES	CATCH/HC	UR %	OF TOT. C	SAMP
lectis alexandrinus	weight nu 15.60	mbers 28	25.14	
ardinella aurita - Juveniles	12.80	594	20.63	6751
racnydeuterus auritus Juv. Sardinella maderensis	11.50 6.34	304 24	18.53 10.22	6750
lops lacerta	6.22	10	10.02	
arginella maderensis - Juv. Sphyraena guacharcho	2.04	484 6	3.29	6749
achycentron canadum	1.10	2	1.77	
lisha africana	1.00	16	1.61	
ngraulis encrasicolus	0.54	654	0.87	
rachydeuterus auritus	0.54	6	0.87	
nioroscombrus chrysurus ardinella aurita	0.54	2	0.87	
elene dorsalis	0.44	2	0.71	
rachurus trecae, juvenile Mecanterus rhonchus	0.30	176	0.48	6748
Parapenaeopsis atlantica	0.02	2	0.03	
otal	62.04		99.97	
DATE:25/ 7/03 GEAD TY	DE: DT No: 1	PROJ	ECT STATIO	N:3208 731
DATE:25/ 7/03 GEAR TY start stop duration TIME :04:33:26 04:50:01 17 (min LOG :4500.24 4501.23 0.98 FDEFTH: 35 55	PE: PT No: 1) Purpose c Area code GearCond.	PROJ POSITI code: 1 : 3 code:	ECT STATIO ON:Lat S Long E	N:3208 731 1241
DATE:25/ 7/03 GEAR TY start stop duration TIME :04:33:26 04:50:01 17 (min LOG :4500.24 4501.23 0.98 FDEPTH: 35 55 BDEPTH: 84 79 Towing dir: 55e Wire out:	PE: PT No: 1) Purpose c Area code GearCond. Validity 190 m Spee	PROJ POSITI code: 1 : : 3 code: 3 code: 3 code: 3	ECT STATIO ON:Lat S Long E	N:3208 731 1241
DATE:25/ 7/03 GEAR TY start stop duration TIME :04:33:26 04:50:01 17 (min LOG :4500.24 4501.23 0.98 FDEPTH: 35 55 BDEPTH: 84 79 Towing dir: 656 Wire out: Scarted: Kg Tatlastak	PE: PT No: 1) Purpose c Area code GearCond. Validity 190 m Spee	PROJ POSITI code: 1 : : 3 code: code: 3 cd: 40 km	ECT STATIO ON:Lat S Long E *10	N: 3208 731 1241
DATE:25/ 7/03 GEAR TY start stop duration TIME :04:33:26 04:50:01 17 (min LOG :4500.24 4501.23 0.98 FDEPTH: 35 55 BDEPTH: 84 79 Towing dir: 650 Wire out: Sorted: Kg Total catch:	PE: PT No: 1) Purpose c Area code GearCond. Validity 190 m Spee 2.08	PROJ POSITI code: 1 : 3 code: code: 3 :d: 40 km CATCH/	ECT STATIO ON:Lat S Long E *10 HOUR:	N:3208 731 1241 7.34
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DATE:25/ 7/03 GEAR TY start stop duration TIME :04:33:26 04:50:01 17 (min LOG :4500.24 4501.23 0.98 FDEFTH: 35 55 BDEFTH: 84 79 Towing dir: 65ø Wire out: Sorted: Kg Total catch: Sorted: Kg Total catch: PPECIES DATE:25/ 7/03 GEAR TY start stop duration TIME :18:08:02 18:38:09 30 (min LOG :4620.26 4622.02 1.75 FDEFTH: 22 20 Towing dir: 345ø Wire out: Sorted: 29 Kg Total catch: Sorted: 29 Kg Total catch: PECIES PATAppenaeus longirostris firacorvina angolensis trachydeutrus canariensis iseudotolithus typus fardinella aurita - Juveniles typoglossus canariensis ialeoides decadactylus tromateus fiatola Tachurus trecae, juvenile rius parkii	PE: PT No: 1) Purpose c Area code GearCond. Validity 190 m Spee 2.08 CATCH/HO weight nu 6.88 0.18 7.34 PE: BT No: 2) Purpose c Area code GearCond. Validity 100 m Spee 44.26 CATCH/HC weight nu 27.60 20.86 12.80 6.78 6.48 3.46 3.34 2.20 1.36 0.58 0.54 0.48	PROJ POSITI code: 1 code: 3 code: 3 d: 40 kr CATCH/ DUR * PROJ PROJ PROJ PROJ CATCH/ DUR * CATCH/ DUR *	ECT STATIO ON:Lat S Long E *10 HOUR: OF TOT. C 93.73 3.81 2.45 99.99 ECT STATIO ON:Lat S Long E *10 HOUR: *10 HOUR: 1.18 23.57 14.46 7.66 7.32 3.91 3.77 2.49 1.54 0.66 0.61 0.54	N: 3208 731 1241 7.34 SAMP 742 1301 88.52 SAMP 6753 6754
DATE:25/ 7/03 GEAR TY start stop duration TIME :04:33:26 04:50:01 17 (min LOG :4500.24 4501.23 0.98 FDEFTH: 35 55 BDEFTH: 84 79 Towing dir: 65ø Wire out: Sorted: Kg Total catch: Sorted: Kg Total catch: SPECIES DATE:25/ 7/03 GEAR TY start stop duration TIME :18:08:02 18:38:09 30 (min LOG :4620.26 4622.02 1.75 FDEFTH: 22 20 BDEFTH: 22 20 Towing dir: 345ø Wire out: Sorted: 29 Kg Total catch: Sorted: 29 Kg Total catch: SPECIES Warapenaeus longirostris irracorvina angolensis irracorvina suritus ventanews canariensis ialeoides decadactylus itromatus fiatola Trowhure trecae, juvenile Trus parkii Olea senegalensis	PE: PT No: 1) Purpose c Area code GearCond. Validity 190 m Spee 2.08 CATCH/HO weight nu 6.88 0.18 7.34 PE: BT No: 2) Purpose c Area code GearCond. validity 100 m Spee 44.26 CATCH/HG weight nu 27.60 20.86 12.80 6.48 3.34 2.20 1.36 0.58 0.54 0.48 0.42	PROJ POSITI code: 1 : 3 code: 3 d: 40 km CATCH/ DUR * PROJ : POSITI code: 1 : 3 code: 3 d: 33 km CATCH/ DUR * CATCH/ CATC	*10 N:Lat S Long E *10 HOUR: OF TOT. C 93.73 3.81 2.45 99.99 ECT STATIO ON:Lat S Long E *10 HOUR: *10 HOUR: *10 HOUR: *10 A C S Long E *10 A S C S S C S C S S C S S C S S S C S S S S S S S S S S S S S	N: 3208 731 1241 7.34 SAMP 742 1301 88.52 SAMP 6753 6754
DATE:25/ 7/03 GEAR TY start stop duration TIME :04:33:26 04:50:01 17 (min LOG :4500.24 4501.23 0.98 FDEPTH: 35 55 EDEPTH: 84 79 Towing dir: 65ø Wire out: Sorted: Kg Total catch: Sorted: Kg Total catch: Sorted: Kg Total catch: Sorted: Kg Total catch: Sorted: Lg Total catch: Sorted: Lg Total catch: Sorted: 218:38:09 30 (min LOG :4620.26 4622.02 1.75 FDEFTH: 22 20 EDEPTH: 22 20 Towing dir: 345ø Wire out: Sorted: 29 Kg Total catch: Sorted: 29 Kg Total catch: Sorted: 29 Kg Total catch: SPECIES Sarapenaeus longirostris Siracorvina angolensis trachydeuterus auritus Sorted: 19 Kg Total catch: Sorted: 29 Kg Total catch: Sorted: 29 Kg Total catch: Sorted: 10 Kg Total catch: Sorted: 10 Kg Total catch: Sorted: 10 Kg Total catch: Sorted: 29 Kg Total catch: Sorted: 20 Kg Total cat	PE: PT No: 1) Purpose c Area code GearCond. Validity 190 m Spee 2.08 CATCH/HO weight nu 6.88 0.18 7.34 PE: BT No: 2) Purpose c Area code GearCond. Validity 100 m Spee 44.26 CATCH/HO weight nu 27.60 20.86 12.80 6.78 6.48 3.46 3.34 2.20 1.36 0.58 0.48 0.46 0.58 0.54 0.48 0.44 0.34 0.34 0.34 0.34 0.34 0.34 0.34	PROJ POSITI code: 1 : 3 code: 3 d: 40 kr CATCH/ UUR * POSITI code: 1 : 3 r POSITI code: 1 : 3 code: 1 : 3 code: 1 : 3 code: 1 : 3 code: 3 d: 33 kr CATCH/ UUR * Mubers 7782 480 1064 1082 128 48 48 24 1082 128 48 40 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 48 10 1082 10 10 10 10 10 10 10 10 10 10 10 10 10	ECT STATIO ON:Lat S Long E *10 HOUR: OF TOT. C 93.73 3.81 2.45 99.99 ECT STATIO ON:Lat S Long E *10 HOUR: *10 HOUR: *10 OF TOT. C 93.73 3.87 12.45 .245	N: 3208 731 1241 7.34 SAMP 742 1301 88.52 SAMP 6753 6754 6754
DATE:25/ 7/03 GEAR TY start stop duration TIME :04:33:26 04:50:01 17 (min LOG :4500.24 4501.23 0.98 FDEPTH: 35 55 BDEPTH: 84 79 Towing dir: 65s Wire out: Sorted: Kg Total catch: "FECIES DATE:25/ 7/03 GEAR TY start stop duration TIME :18:08:02 18:38:09 30 (min LOG :4620.26 4622.02 1.75 FDEPTH: 22 20 DEPTH: 22 20 Towing dir: 345s Wire out: Sorted: 29 Kg Total catch: "FECIES "arapenaeus longirostris iiracorvina angolensis "rachydeuterus auritus "entanemus quinquarius omadasys jubelini seudollihus typus ardinella andarensis - Juv. Ystriophis rostellatus	PE: PT No: 1) Purpose c Area code GearCond. Validity 190 m Spee 2.08 CATCH/H0 weight nu 6.88 0.18 7.34 PE: BT No: 2) Purpose c Area code GearCond. Validity 100 m Spee 44.26 CATCH/H0 27.66 20.86 12.80 6.78 6.48 3.46 3.34 2.20 1.36 0.54 0.48 0.42 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34	PROJ POSITI code: 1 code: 3 code: 3 d: 40 kr CATCH/ UR * PROJ POSITI code: 1 64 7 PROJ POSITI code: 3 code: 3 code: 3 code: 3 code: 3 code: 40 kr PROJ POSITI code: 3 code: 3 code: 40 kr 11 64 7 PROJ CATCH/ UR * 12 480 1664 132 24 1382 8 480 1664 132 24 1382 8 48 11 1664 132 124 124 124 124 124 124 124 12	ECT STATIO CON:Lat S Long E *10 HOUR: OF TOT. C 93.73 3.81 2.45 99.99 ECT STATIO CON:Lat S Long E *10 HOUR: 0F TOT. C 31.18 2.35 14.46 7.32 3.91 3.77 2.49 1.57 14.46 7.32 3.91 3.77 2.49 1.57 14.46 7.32 3.91 3.77 2.49 1.57 1.48 0.54 0.54 0.54 0.38 0.38 0.38 0.38	N: 3208 731 1241 7.34 SAMP 742 1301 88.52 SAMP 6753 6754 6754
DATE:25/ 7/03 GEAR TY start stop duration TIME :04:33:26 04:50:01 17 (min LOG :4500.24 4501.23 0.98 FDEPTH: 35 55 BDEPTH: 84 79 Towing dir: 65s Wire out: Sorted: Kg Total catch: Sorted: Kg Total catch: SPECIES DATE:25/ 7/03 GEAR TY start stop duration TIME :18:08:02 18:38:09 30 (min LOG :4620.26 4620.02 1.75 FDEPTH: 22 20 BDEPTH: 22 20 Towing dir: 345s Wire out: Sorted: 29 Kg Total catch: Sorted: 29 Kg Total catch: SPECIES Parapenaeus longirostris firacorvina angolensis Yarapenaeus longirostris firacorvina angolensis Yarapenaeus longirostris firacorvina trecae, juvenile 'mondasy jubelini 'seudotolithus typus iardinella aurita - Juveniles 'ynoglosus canariensis ialeoides decadactylus 'ticnmatus fiatola 'rachurus trecae, juvenile 'richurus lepturus iardinella maderensis - Juv. Yystriophis rostellatus 'orpedo torpedo iepia officinalis bierredda	PE: PT No: 1) Purpose c Area code GearCond. Validity 190 m Spee 2.08 CATCH/H0 weight nu 6.88 0.18 7.34 PE: BT No: 2) Purpose c Area code GearCond. Validity 100 m Spee 44.26 CATCH/H0 weight nu 27.60 20.86 1.2.80 6.78 6.48 3.46 3.34 2.20 1.36 0.58 0.54 0.54 0.54 0.34 0.34 0.30 0.30 0.16	PROJ POSITI code: 1 code: 3 code: 3 d: 40 kr CATCH/ NUR % PROJ PROJ PROJ PROJ PROJ CATCH/ NUR % PROJ CATCH/ NUR % PROJ CATCH/ PROJ CATCH/ PROJ CATCH/ PROJ CATCH/ PROJ	ECT STATIO ON:Lat S Long E *10 HOUR: OF TOT. C 93.73 3.81 2.45 99.99 ECT STATIO ON:Lat S Long E *10 HOUR: 0F TOT. C 31.18 23.57 14.46 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.67 7.3 91 3.71 3.71 3.71 3.71 1.54 4.46 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.67 7.66 7.66 7.66 7.66 7.67 7.73 7.73 7.73 7.73 7.73 7.73 7.73 7.75	N: 3208 731 1241 7.34 SAMP 742 1301 88.52 SAMP 6753 6754 6752
DATE:25/ 7/03 GEAR TY start stop duration TIME:04:33:26 04:50:01 17 (min LOG :4500.24 4501.23 0.98 FDEPTH: 35 55 BDETH: 84 79 Towing dir: 65s Wire out: Sorted: Kg Total catch: Sorted: Kg Total catch: PPECIES DATE:25/ 7/03 GEAR TY start stop duration TIME :18:08:02 18:38:09 30 (min LOG :4620.26 4622.02 1.75 FDEPTH: 22 20 Towing dir: 345s Wire out: Sorted: 29 Kg Total catch: Sorted: 29 Kg Total catch: PECIES Trappenaeus longirostris Hiracorvina angolensis rachydeutrus canariensis aleoides decadactylus tromatus jitelia sudotolithus typus ardinella aurita - Juveniles Typolosus canariensis aleoides decadactylus tromatus fiatola Tachynus treccae, juvenile ritus parkii bolea senegalensis Tichiurus lepturus ardinella madrensis - Juv. tystriophie rostellatus torpedo torpedo epia officinalis hierredda maraulis encasicolus	PE: PT No: 1) Purpose c Area code GearCond. Validity 190 m Spee 2.08 CATCH/HO weight nu 6.88 0.18 7.34 PE: BT No: 2) Purpose 2) Purpose 2 Area code GearCond. Validity 100 m Spee 44.26 CATCH/HO weight nu 27.60 20.86 1.38 6.48 3.34 2.20 1.36 0.58 0.54 0.55 0.54	PROJ POSITI code: 1 code: 3 code: 3 d: 40 kr CATCH/ DUR * PROJ PROJ PROJ PROJ PROJ PROJ CATCH/ DUR * A CATCH/ DUR * CATCH/ DUR * A CATCH/ DUR * A A A A A A A A A A A A A	ECT STATIO ON:Lat S Long E *10 HOUR: OF TOT. C 93.73 3.81 2.45 99.99 ECT STATIO ON:Lat S Long E *10 HOUR: *10 HOUR: 0F TOT. C 31.18 23.57 14.46 7.66 7.32 3.91 3.77 2.49 1.54 0.66 0.61 0.54 0.47 0.38 0.34 0.34 0.18 0.18 0.18	N: 3208 731 1241 7.34 SAMP 742 1301 88.52 SAMP 6753 6754 6752
DATE:25/ 7/03 GEAR TY start stop duration TIME :04:33:26 04:50:01 17 (min LOG :4500.24 4501.23 0.98 FDEPTH: 35 55 BDETH: 84 79 Towing dir: 65ø Wire out: Sorted: Kg Total catch: SPECIES Trichiurus lepturus Jaurida brasiliensis Jepia officinalis hierredda TTME :18:08:02 18:38:09 30 (min LOG :4620.26 4620.02 1.75 FDEPTH: 22 20 Towing dir: 345ø Wire out: Sorted: 29 Kg Total catch: Sorted: 29 Kg Total catch: Sorted: 29 Kg Total catch: SPECIES Trapenaeus longirostris tiracorvina angolensis trachydeutrus carritus Yonglosus canariensis Jaleoides decadactylus tromateus fiatola Yachurus trecae, juveniles Tichurus lepturus Jardinella aurita - Juveniles Trichiurus lepturus Jardinella madrensis - Juv. Mystriophis rostellatus Torpedo torpedo Jepia officinalis hierredda Hograulis encrasicolus	PE: PT No: 1) Purpose c Area code GearCond. Validity 190 m Spee 2.08 CATCH/HO weight nu 6.88 0.18 7.34 PE: BT No: 2) Purpose c Area code GearCond. Validity 100 m Spee 44.26 CATCH/HO weight nu 27.60 20.86 12.80 6.78 6.48 3.34 2.20 1.36 0.54 0.42 0.34 0.30 0.30 0.16 0.10	PROJ POSITI code: 1 code: 3 code: 3 d: 40 kr CATCH/ VUR * PROJ PROJ PROJ PROJ CATCH/ VUR * PROJ CATCH/ VUR * CATCH/ VUR * CATCH/ C	ECT STATIO ON:Lat S Long E *10 HOUR: OF TOT. C 93.73 3.81 2.45 99.99 ECT STATIO ON:Lat S Long E *10 HOUR: *10 HOUR: *10 HOUR: 0F TOT. C 91.18 23.57 14.46 7.66 7.32 3.77 2.49 1.54 0.61 0.61 0.61 0.61 0.61 0.61 0.63 0.61 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.65 0.61 0.64 0.64 0.64 0.64 0.64 0.65 0.61 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.65 0.61 0.64 0.6	N: 3208 731 1241 7.34 SAMP 742 1301 88.52 SAMP 6753 6754 6754

DATE:25/ 7/03 GEAR 1	TYPE: PT No:	PROJ 7 POSITI	ECT STATIO ON:Lat S	N:3210 748
start stop duration	n) Purpose	code: 1	Long E	1302
LOG :4631.68 4632.42 0.74	Area cod	e : 3		
BDEPTH: 10 10 BDEPTH: 24 26	GearCond Validity	.code: code: 3		
Towing dir: 245ø Wire out	:: 100 m Spe	ed: 35 kn	*10	
Sorted: Kg Total catch	1: 323.10	CATCH/	HOUR: 16	15.50
SPECIES	CATCH/H	OUR %	OF TOT. C	SAMP
Cardinalla madaranaia	weight n	umbers	00 63	6755
Brachydeuterus auritus	167.75	15275	10.38	0755
Ilisha africana Sepia orbignyana	33.50 26.50	825 25	2.07	
Penaeus notialis	18.50	425	1.15	
Sardinella aurita	12.50	100	0.90	6756
Stromateus fiatola	11.75	25	0.73	
Sphyraena guachancho	8.25	25	0.51	
Galeoides decadactylus Engraulis encrasicolus	3.50	25 125	0.22	
Miracorvina angolensis	1.50	25	0.09	
Raja miraletus Trachurus trecae	1.50	25 50	0.09	
Pentanemus quinquarius	1.00	25	0.06	
Total	1615.50		100.00	
DATE:26/ 7/03 GEAR 1	TYPE: PT No:	PROJ 1 POSITI	CT STATIO	N:3211 755
start stop duration TIME :04:25:54 04:37:59 12 (mi	n) Purpose	code: 1	Long E	1251
LOG :4691.28 4692.03 0.74	Area cod	e : 3		
BDEPTH: 102 98	Validity	.code: code: 3		
Towing dir: 65ø Wire out	:: 180 m Spe	ed: 38 kn	*10	
Sorted: Kg Total catch	1.07	CATCH/	HOUR :	5.35
SPECIES	CATCH/H	OUR %	OF TOT. C	SAMP
Trichiurus lepturus	weight n 4.95	umbers 15	92.52	
Saurida brasiliensis	0.40	150	7.48	
Total	5.35		100.00	
DATE:26/ 7/03 GEAR 1	TYPE: BT No:	PROJ 2 POSITI	ECT STATIO	N:3212 757
start stop duration			Long E	1301
TIME :12:57:04 13:27:08 30 (m) LOG :4747.33 4748.91 1.57	n) Purpose Area cod	code: 1 e : 3		
FDEPTH: 59 68	a a 1			
	GearCond	.coae:		
BDEPTH: 59 68 Towing dir: 245ø Wire out	GearCond Validity : 210 m Spe	.coae: code: 3 ed: 30 kn	*10	
BDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch	Validity 210 m Spe 1: 456.28	.code: code: 3 ed: 30 kn CATCH/	*10 HOUR: 9	12.56
BDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch	GearCond Validity :: 210 m Spe 1: 456.28	.code: code: 3 ed: 30 kn CATCH/	*10 HOUR: 9	12.56
BDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES	GearCond Validity : 210 m Spe 1: 456.28 CATCH/H	.code: 3 code: 3 ed: 30 kn CATCH/ OUR %	*10 HOUR: 9 OF TOT. C	12.56 SAMP
BDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus	GearCond Validity :: 210 m Spe 1: 456.28 CATCH/H weight n 517.80	.code: 3 code: 3 ed: 30 kn CATCH/ OUR % umbers 5340	*10 HOUR: 9 OF TOT. C 56.74	12.56 SAMP
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiuws lantunus	GearCond Validity : 210 m Spe 1: 456.28 CATCH/H weight n 517.80 168.60 43 50	.code: 3 code: 3 ed: 30 kn CATCH/ OUR % umbers 5340 162 132	*10 HOUR: 9 OF TOT. C 56.74 18.48 4 77	12.56 Samp
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii	GearCond Validity :: 210 m Spe 1: 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82	.code: code: 3 ed: 30 kn CATCH/ OUR % umbers 5340 162 132 756	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25	12.56 SAMP
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae	GearCond Validity :: 210 m Spe 1: 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86	.code: code: 3 ed: 30 kn CATCH/ OUR % umbers 5340 162 132 756 264 1068	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.85	12.56 SAMP 6757
BDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fistola	CearCond Validity :: 210 m Spe 1: 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86 15.78	.code: code: 3 ed: 30 kn CATCH/ OUR % umbers 5340 162 132 756 264 1068 24	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.85 1.73	12.56 SAMP 6757
BDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber	<pre>validity validity c: 210 m Spe validity valid validity validi</pre>	.code: code: 3 ed: 30 kn CATCH/ OUR % umbers 5340 162 132 756 162 132 756 264 1068 24 30 60	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.85 1.73 1.65 1.51	12.56 SAMP 6757
BDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana	CearCond Validity : 210 m Spe 1: 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86 15.78 15.06 13.80 11.16	.code: 3 code: 3 ed: 30 km CATCH/ OUR % umbers 5340 162 132 756 264 1068 24 1068 24 0 0 0 2556	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.85 1.73 1.65 1.51 1.22 0.00	12.56 SAMP 6757
BDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus beltottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci	CearCond Validity :: 210 m Spe 1: 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86 15.78 15.06 13.80 11.16 9.06 9.06 4.80	.code: 3 code: 3 ed: 30 km CATCH/ OUR % umbers 5340 162 132 756 264 1068 24 30 60 2556 18 6	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.85 1.73 1.65 1.51 1.22 0.99 0.53	12.56 SAMP 6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichirurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex anolensis	CATCH/H validity CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86 15.78 15.06 13.80 11.16 9.06 4.80 4.08 3.30	.code: 3 code: 3 ed: 30 kn CATCH/ OUR % umbers 5340 162 132 756 264 1068 24 30 60 2556 18 6 6 12 2556 18 2102	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.1.65 1.73 1.65 1.51 1.22 0.99 0.53 0.45 0.36	12.56 SAMP 6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiruws lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex angolensis Scomber japonicus	CATCH/H Validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86 15.78 15.06 13.80 11.16 9.06 4.08 4.08 3.30 2.64 2.64	.code: 3 code: 3 ed: 30 kn CATCH/ OUR * unbers 5340 162 264 1068 24 30 2556 18 6 12 2556 18 6 12 2556	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.1.65 1.51 1.22 0.99 0.53 0.45 0.36 0.36 0.29	12.56 Samp 6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichirurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis	CearCond Validity :: 210 m Spe 1: 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.66 15.78 15.06 13.80 11.16 9.06 4.08 3.20 2.64 2.52 2.40	.code: 3 code: 3 code: 3 cATCH/ OUR * UNDErs 5340 162 132 7566 132 7564 1068 24 30 60 2556 18 6 12 102 102 102 6 6 36 6 6	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.65 1.51 1.22 0.99 0.53 0.45 0.29 0.28	12.56 SAMP 6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solea senealensis	CearCond Validity :: 210 m Spe 1: 456.28 CATCH/H weight n 517.80 168.60 43.50 35.94 16.86 15.78 15.06 13.80 4.68 4.80 4.80 4.80 4.80 4.80 4.80 4.80 1.111 1.15 9.05 4.80 4.80 4.80 4.80 4.80 4.80 4.80 4.80	.code: 3 code: 3 code: 3 code: 3 carcel, ca	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.65 1.65 1.65 1.65 1.65 1.65 1.65 0.45 0.45 0.45 0.26 0.26 0.26 0.20 0.70	12.56 SAMP 6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus beljottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia oficinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscio aequidens Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solea senegalensis Brotula barbata	CearCond Validity : 210 m Spe : 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86 15.78 15.06 13.80 11.16 9.06 4.80 4.80 3.30 2.64 2.52 2.40 1.74 1.84	.code: 3 code: 3 code: 3 code: 3 cATCH/ 0UR * umbers 5340 162 132 732 264 106 2556 264 102 60 2556 18 6 12 102 6 36 6 78 12 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.27 3.94 1.65 1.51 1.22 0.53 0.45 0.36 0.36 0.28 0.28 0.28 0.20 0.19 0.16	12.56 SAMP 6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscio aequidens Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solea senegalensis Brotula barbata Penaeus notialis	Validity 210 m Spe 210 m Spe 211 456.28 CATCH/H weight n 517.80 43.50 43.50 43.50 43.50 168.60 13.80 11.16 9.06 4.80 13.80 11.16 9.06 4.80 1.30 2.64 2.52 2.40 1.74 1.68 1.74 0.96 4.80 1.74 1.74 0.96 1.74 1.7	.code: 3 code: 3 code: 3 code: 3 cATCH/ OUR umbers 5340 162 132 756 264 108 24 30 60 2556 264 102 60 61 2 102 6 36 6 36 6 12 6 36 6 6 8 8 6 8 6	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.27 3.94 1.85 1.51 1.22 0.53 0.45 0.36 0.28 0.28 0.20 0.19 0.10 0.01 0.01	12.56 SAMP 6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscio aequidens Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solea senegalensis Brotula barbata Penaeus notialis	<pre>CearCond Validity : 210 m Spe : 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86 15.78 15.06 13.80 11.16 6.86 15.78 15.06 4.80 4.80 4.80 2.64 2.52 2.40 1.74 1.80 1.74 1.80 1.74 1.80 1.74 1.64 2.52 2.40 3.30 2.64 2.52 2.40 1.60 1.74 1.64 1.65 1.74 1.65 1.66 1.74 1.74 1.74 1.65 1.74 1.74 1.74 1.65 1.74 1.74 1.74 1.74 1.74 1.74 1.74 1.74</pre>	.code: 3 code: 3 code: 3 code: 3 cArtCH/ 0UR umbers 5340 162 132 756 264 1068 24 30 60 2556 264 102 6 6 12 102 6 6 78 12 6 6 12 2 6 12 6 12 2 6	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.27 1.65 1.51 1.22 0.53 0.45 0.26 0.28 0.28 0.20 0.19 0.19 0.11 0.22 0.20 0.19 0.11 0.22 0.20 0.2	22.56 SAMP 6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex Angolensis Scomber japonicus Dentex Angolensis Scomber japonicus Dentex Angolensis Scola senegalensis Brotula brata Penaeus notialis Gramopiltes gruveli Sepia otignyana Seranus accraensis	Validity validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 43.50 16.86 15.78 15.06 13.80 11.16 9.06 4.80 4.80 4.80 4.80 2.64 2.52 2.40 1.74 1.44 0.96 0.48 0.36 0.24	.code: 3 code: 3 ed: 30 kn CATCH/ UUR * umbers 5340 162 132 756 264 1068 24 30 60 2556 264 108 6 12 102 6 36 6 78 12 6 12 6 12 6	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 1.51 1.22 0.45 1.51 1.22 0.36 0.28 0.26 0.20 0.19 0.11 0.05 0.04 0.04 0.03 0.04 0.04 0.03 0.04 0.04 0.03 0.04 0.04 0.03 0.04 0.04 0.03 0.04 0.04 0.03 0.04 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.04 0.04 0.03 0.04 0.05 0.04 0.05 0.0	12.56 SAMP 6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia oficinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscio aequidenss Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solea senegalensis Brotula barbata Penaeus notialis Grammoplites gruveli Sepia orbignyana Serranus accraensis	Validity validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86 15.78 15.06 15.78 15.06 13.80 11.16 9.06 4.80 4.80 2.64 2.52 2.40 1.74 1.68 0.36 0.264 0.36 0.34 0.36 0.24 913.14	.code: 3 code: 3 ed: 30 kn CATCH/ UUR % umbers 5340 162 132 756 264 1068 24 30 60 2556 264 102 6 6 12 102 6 6 78 12 6 8 6 12 6 12 6 12 6	*10 HOUR: 9 OF TOT. C 56.74 1.8.48 4.77 4.25 1.51 1.22 0.53 0.45 0.26 0.28 0.28 0.20 0.19 0.19 0.11 0.04 0.03 100.08	22.56 SAMP 6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloti Atractoscion aequidens Dentex angolensis Scomber japonicus Dentex barnardi Solea senegalensis Gicharus linguatula Solea senegalensis Gramuoplites gruveli Sepia orbignyana Serranus accraensis	Validity validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 43.50 43.50 43.50 168.60 43.50 15.78 15.06 13.80 11.16 9.06 4.80 4.80 3.30 2.64 2.52 2.40 1.74 1.64 0.96 4.80 0.24 913.14	.code: 3 code:	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.4.77 4.73 1.65 1.51 1.22 0.53 0.45 0.36 0.28 0.28 0.20 0.19 0.19 0.101 0.11 0.03 10.05	22.56 SAMP 6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrisus belloci Atractoscion aequidens Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solea senegalensis Brotula barbata Penaeus notialis Grammoplites gruveli Seiranus accraensis Total	CearCond Validity : 210 m Spe : 456.28 CATCH/H weight n 517.80 168.60 43.50 35.94 16.86 15.78 15.06 13.80 11.16 9.06 4.80 4.80 4.80 4.80 3.30 2.64 2.52 2.40 1.80 1.74 1.44 0.96 0.48 0.36 0.24 913.14	.code: 3 code:	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 1.51 1.22 0.99 0.53 0.45 0.36 0.29 0.28 0.28 0.20 0.20 0.10 0.16 0.11 0.01 0.03 0.04 0.20 0.00 0.0	6757
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothriseus belloci Atractoscion aequidens Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solae senegalensis Brotula barbata Penaeus notialis Grammoplites gruveli Seiranus accraensis Total DATE:27/ 7/03 GEAR 1	Validity validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86 15.78 15.06 13.80 11.16 9.06 4.80 4.80 4.80 4.80 3.30 2.64 2.52 2.40 1.80 1.74 1.44 0.96 0.48 0.36 0.24 913.14	Code: 3 code:	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.51 1.22 0.99 0.53 0.45 0.36 0.29 0.28 0.28 0.20 0.16 0.10 0.16 0.11 0.01 0.03 100.08 ECT STATION N:Lat S	12.56 SAMP 6757
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EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selen dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solea senegalensis Bortula barbata Penaeus notialis Grammojlies gruveli Sepia orbignyana Serranus accraensis Total DATE:27/ 7/03 GEAR 1 start stop duration TIME: 06:477:04 30 (mi LOG: 4907.79 4909.26 1.46	CearCond Validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 168.60 43.50 16.66 15.78 15.06 13.80 11.16 9.06 4.80 4.80 1.3.82 2.52 2.40 1.80 1.74 1.84 0.96 0.36 0.24 913.14 TYPE: PT No: n) Purpose Area cod Coroco	.code: 3 code: 3 code: 3 code: 3 umbers 5340 162 132 132 132 132 24 102 6 2556 264 102 6 6 18 6 2256 18 6 12 6 6 12 6 6 12 6 6 7 8 12 6 6 6 12 6 6 7 8 12 6 6 7 8 12 6 6 7 8 12 6 6 7 8 12 6 7 8 12 7 7 9 7 9 8 0 12 12 132 7 7 7 7 9 7 9 7 9 7 9 7 9 7 9 7 9 7 9	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.51 1.22 0.53 0.45 0.36 0.29 0.28 0.28 0.20 0.19 0.10 0.19 0.10 0.10 0.03 10.01 0.03 10.00 ECT STATIO ON:Lat S Long E	12.56 SAMP 6757 N:3213 816 1317
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EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solea senegalensis Brotula barbata Penaeus notialis Grammoplites gruveli Serranus accraensis Total DATE:27/ 7/03 GEAR 1 start stop duration TIME: 06:177:14 06:477:04 30 (mi LOG :4907.79 4909.26 1.46 FDEPTH: 15 15 BDEPTH: 26 25 Towing dir: 155ø Wire out Sorted: Kg Total catch	CearCond Validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 168.60 43.50 16.86 15.78 15.06 13.80 11.16 9.06 4.80 4.80 4.80 4.80 1.3.82 2.52 2.40 1.80 1.74 1.44 0.96 4.80	.code: 3 code: 3 code: 3 code: 3 cATCH/ OUR % Umbers 5340 162 132 264 102 6 0 2556 264 102 6 0 2556 18 6 12 102 6 6 18 6 12 6 6 12 6 6 12 6 6 7 8 12 6 6 7 8 12 6 6 12 6 6 7 8 12 6 6 7 8 12 6 6 7 8 12 6 6 7 8 12 6 6 7 8 12 6 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 1.51 1.22 0.53 0.45 0.36 0.29 0.28 0.28 0.20 0.19 0.16 0.11 0.05 0.04 0.20 0.19 0.16 0.11 0.05 0.04 0.20 0.19 0.10 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.05 0.04 0.04 0.04 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.04 0.04 0.05 0.05 0.0	12.56 SAMP 6757 8757 816 1317
EDEPTH: 59 68 Towing dir: 2450 Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichirurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex angolensis Scomber japonicus Dentex angolensis Scomber japonicus Dentex angolensis Solea senegalensis Brotula barbata Penaeus notialis Grammoplites gruveli Sepia orbingwana Serranus accraensis Total DATE:27/ 7/03 GEAR 1 Start stop duration TIME :06:17:14 06:47:04 30 (mi c 14907.79 4990.26 1.46 FDEPTH: 15 15 DEDETM: 26 125 Towing dir: 1550 Wire out Sorted: Kg Total catch	validity validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86 15.78 16.86 15.78 16.86 15.78 15.78 16.86 15.78 15.78 16.86 15.78 1.80 1.116 9.06 4.80	.code: 3 code: 3 code: 3 code: 3 sad: 30 kn CATCH/ OUR % umbers 5340 162 132 756 264 1068 24 30 60 2556 6 12 1068 24 36 6 12 102 6 6 6 12 10 6 6 6 7 8 6 6 12 10 6 6 6 7 8 6 6 7 8 6 6 7 8 6 6 7 8 6 6 7 8 7 9 8 7 9 8 7 9 8 7 9 7 9 8 7 9 7 9	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 1.73 1.73 1.22 0.99 0.53 0.45 0.36 0.29 0.28 0.28 0.28 0.28 0.28 0.20 0.16 0.20 0.16 0.20 0.16 0.20 0.16 0.03 100.08 ECT STATIO ON:Lat S Long E *10 HOUR:	12.56 SAMP 6757 8757 816 1317 60.56 SAMP
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichirurus lepturus Pagellus bellottii Selene dorsalis Trachurus Irecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoccion aequidens Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solea senegalensis Brotula barbata Penaeus notialis Gramoplites gruveli Sepia orbinyana Serranus accraensis Total DATE:27/ 7/03 GERF 1 start stop duration TIME :06:17:14 06:47:04 30 (mi LOG :4907.79 4909.26 1.46 FPEPTH: 15 15 BDEPTH: 26 25 Towing dir: 155ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus	CearCond Validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 35.94 16.86 15.78 15.06 13.80 4.68 15.78 15.06 13.80 4.08 3.30 2.64 2.52 2.40 1.74 1.44 0.46 0.48 0.36 0.24 913.14 FYPE: PT No: in) Purpose Area cod GearCond Validity :: 30.28 CATCH/H weight n 17.80	.code: 3 code: 3 code: 3 code: 3 sad: 30 km CATCH/ UUR % umbers 5340 162 132 752 264 102 6 6 12 102 6 6 12 102 6 6 7 8 6 6 8 6 12 102 6 6 7 8 6 6 7 8 6 6 7 8 6 6 7 8 6 6 7 8 6 6 7 8 6 6 7 8 6 6 7 8 6 6 7 8 7 8	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.73 1.51 1.22 0.99 0.53 0.45 0.36 0.29 0.28 0.28 0.20 0.28 0.20 0.16 0.05 Long E *10 0.05 Long E *10 0.07 0.05 0.07 0.05 0.03 0.05 0	12.56 SAMP 6757 8757 816 1317 60.56 SAMP
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia oficinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex barnardi Pseudupeneus prayensis Citharus linguatula Sola senegalensis Brotula barbata Penaeus notialis Grammoplites gruveli Seiranus accraensis Total DATE:27/ 7/03 GEAR 1 start stop duration TIME :06:17:14 06:47:04 30 (mi LOG :4907.79 4909.26 1.46 FPEPTH: 15 15 BDEPTH: 26 25 Towing dir: 155ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Sardinella maderensis Sphyraena guachancho	CearCond Validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 38.82 35.94 16.86 15.78 16.86 15.78 16.86 15.78 15.06 13.80 11.16 9.06 4.80 4.80 4.80 4.80 4.80 3.30 2.64 2.52 2.40 1.80 1.74 1.44 0.96 0.26 0.24 913.14 Purpose Area cod GearCond Validity Validity :: 100 m Spe 1.308 CATCH/H weight n 17.80 13.08 7.10	.code: 3 code: 3 code: 3 code: 3 cATCH/ OUR \$ umbers 5340 162 132 264 162 162 162 162 162 162 162 162 162 162	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 1.51 1.22 0.99 0.53 0.45 0.36 0.29 0.28 0.28 0.20 0.28 0.20 0.16 0.10 0.16 0.11 0.05 0.04 SLOR CONSTRUCTION 0.16 0.11 0.05 0.04 0.16 0.11 0.05 0.04 0.16 0.11 0.05 0.04 0.16 0.15 0.04 0.16 0.15 0.04 0.16 0.15 0.04 0.16 0.15 0.04 0.16 0.15 0.04 0.16 0.15 0.04 0.15 0.04 0.16 0.15 0.04 0.16 0.15 0.04 0.15 0.04 0.16 0.15 0.04 0.16 0.15 0.04 0.05 0.04 0.16 0.15 0.04 0.05 0.04 0.16 0.15 0.04 0.16 0.15 0.04 0.05 0.04 0.15 0.04 0.15 0.05 0.04 0.15 0.05 0.04 0.15 0.05 0.04 0.15 0.05 0.04 0.15 0.05 0.04 0.15 0.05 0.04 0.15 0.05 0.04 0.15 0.04 0.15 0.04 0.15 0.05 0.04 0.15 0.04 0.15 0.04 0.15 0.04 0.15 0.04 0.15 0.04 0.15 0.04 0.15 0.04 0.05 0.05 0.05 0.04 0.05 0.5 0.	12.56 SAMP 6757 8757 816 1317 60.56 SAMP 6760
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrisus belloci Atractoscion aequidens Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solea senegalensis Brotula barbata Penaeus notialis Grammoplites gruveli Seiranus accraensis Total DATE:27/ 7/03 GEAR 1 start stop duration TIME: 26 125 Towing dir: 155ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Sardinella maderensis Sphyraena guachancho Stromateus fiatola	CearCond Validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 168.60 43.50 16.86 15.78 15.06 13.80 11.16 9.06 4.80 4.80 4.80 4.80 4.80 1.3.82 2.52 2.40 1.80 1.74 1.44 0.96 4.80	.code: 3 code: 3 code: 3 code: 3 cATCH/ OUR \$ umbers 5340 162 132 264 102 6 0 2556 264 102 6 18 6 12 102 6 6 18 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 12 6 12 6 13 2 7 6 7 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 1.51 1.22 0.53 0.45 0.36 0.28 0.28 0.28 0.28 0.28 0.20 0.19 0.16 0.11 0.05 0.04 5 0.04 0.20 0.19 0.16 0.11 0.05 0.04 0.20 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.04 0.20 0.10 0.10 0.10 0.10 0.04 0.20 0.10 0.10 0.10 0.04 0.20 0.10 0.10 0.04 0.20 0.10 0.10 0.04 0.20 0.10 0.10 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.05 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.05 0.04 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.28 0.28 0.28 0.28 0.28 0.28 0.20 0.16 0.15 0.04 0.04 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.05 0.04 0.04 0.05 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.04 0.03 0.05 0.04 0.03 0.05 0.04 0.03 0.05 0.04 0.03 0.05 0.04 0.03 0.05 0.04 0.03 0.05 0.05 0.04 0.05	12.56 SAMP 6757 8757 6757 816 1317 60.56 SAMP 6760
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex angolensis Scomber japonicus Dentex barnardi Pseudupeneus prayensis Citharus linguatula Solea senegalensis Brotula barbata Penaeus notialis Grammoplites gruveli Serranus accraensis Total DATE:27/ 7/03 GEAR 1 start stop duration TME: 06:17:10 430 (mi LOG :4907.79 4909.26 1.46 FDEPTH: 26 25 Towing dir: 155ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Sardinella maderensis Sphyraena guachancho Stromateus fiatola Sepia orbignyana	CearCond Validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 168.60 43.50 168.60 43.50 16.66 15.78 15.78 16.66 15.78 13.80 11.16 9.06 4.80 4.80 4.80 1.30 2.64 2.52 2.40 1.80 1.74 1.44 0.96 0.36 0.24 913.14 PUPDS: PT No: In) Purpose Area cod GearCond Validity :: 100 m Spe 13.08 7.10 6.28 5.20 4.10	.code: 3 code: 3 code: 3 code: 3 code: 3 cATCH/ 0UR % umbers 5340 162 132 132 132 264 106 2556 264 102 6 6 18 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 12 6 12 6 12 12 6 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 30 10 2 5 5 6 11 8 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 6 12 6 12 6 6 12 6 12 6 6 12 6 12 6 6 12 6 12 6 6 12 6 12 6 6 12 6 12 6 12 6 6 12 6 12 6 12 6 12 6 11 8 12 6 12 6	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.51 1.22 0.53 0.45 0.36 0.29 0.28 0.20 0.19 0.16 0.11 0.03 100.08 ECT STATION MOUR: *10 HOUR: *10 HOUR: *10	12.56 SAMP 6757 816 1317 60.56 SAMP 6760 6758
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selaen dorsalis Trachurus trecce Stromateus fiatola Sepia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex Angolensis Scomber japonicus Dentex Angolensis Sordes enegalensis Brotula barbata Penaeus notialis Gramuopiltes gruveli Sepia orbignyana Serranus accraensis Total DATE:27/ 7/03 GEAR 1 Start stop duration TIME :06:17:14 06:47:04 30 (mi LOG :4907.79 4909.26 1.46 FDEPTH: 15 15 BDETH: 26 25 Towing dir: 155ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Sardinella maderensis Sphynena guachancho Stromateus fiatola Sepia orbignyana Trachurus trecce Selene dorsalis	CearCond Validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 168.60 43.50 16.86 15.78 15.78 15.06 13.80 11.16 9.06 4.80 4.80 4.80 4.80 1.74 1.46 0.96 4.80 1.74 1.44 0.96 0.36 0.24 913.14 PUPDSE PT No: in) Purpose Area cod GearCond Validity :: 100 m Spe 13.08 7.10 6.28 5.20 4.10 2.66 2.40	.code: 3 code: 3 code: 3 code: 3 umbers 5340 162 132 756 264 106 2556 264 102 6 6 18 6 12 102 6 6 18 6 12 102 6 6 18 6 12 6 6 12 6 6 18 6 12 6 6 6 12 6 6 12 6 6 6 12 6 6 6 12 6 6 6 6	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.77 4.73 1.65 1.51 1.22 0.53 0.45 0.36 0.26 0.20 0.19 0.53 0.45 0.20 0.20 0.19 0.28 0.20 0.19 0.28 0.20 0.19 0.10 0.03 10.05 0.04 0.20 0.10 0.03 10.05 0.04 0.05 0.04 0.03 10.05 0.57 0.	12.56 SAMP 6757 816 1317 60.56 SAMP 6760 6758
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichiurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Segia oficinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex Angolensis Scomber japonicus Dentex Angolensis Brotula barbata Penaeus notialis Grammoplites gruveli Sepia orbignyana Serranus accraensis Total DATE:27/ 7/03 GEAR 1 Start stop duration TIME :06:17:14 06:47:04 30 (mm LOG :4907.79 4909.26 1.46 FDEPTH: 15 15 DEDETH: 26 25 Towing dir: 155ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Sardinella maderensis Sphynena guachancho Stromateus fiatola Sepia orbignyana Trachurus trecce Selene dorsalis Trichiurus lepturus Hang Stromateus fiatola Selene dorsalis Trichiurus lepturus	CearCond Validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 43.50 43.50 43.50 43.50 43.50 43.50 43.50 4.08 4.08 4.08 4.08 4.08 4.08 3.30 2.64 2.52 2.40 1.74 1.44 0.96 0.26 2.40 1.74 1.44 913.14 FYPE: PT No: n) Purpose Area cod GearCond Validity :: 100 m Spe 3.20 2.40 2.52 2.40 1.74 1.44 0.48 0.48 0.48 0.48 0.48 0.48 0.26 2.40 1.74 1.44 0.95 0.24 2.52 2.40 1.74 1.44 0.95 0.24 2.52 2.40 1.74 1.44 0.95 0.24 2.52 2.40 1.74 1.44 0.95 0.24 2.52 2.40 1.74 1.44 0.95 0.24 2.52 2.40 1.74 1.44 0.95 0.24 2.52 0.24 0.24 0.24 2.52 0.24 0.24 0.24 0.24 0.24 0.24 0.24 0.2	.code: 3 code: 3 code: 3 code: 3 carcH/ OUR \$ umbers 5340 162 132 756 264 1068 24 30 6 6 2556 264 10 2556 264 10 2556 6 6 6 7 PROJ 7 PROJ 7 PSITI code: 1 e : 3 code: 3 code: 3 code: 3 code: 3 code: 3 code: 4 f f f f f f f f f f f f f f f f f f f	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 1.51 1.22 0.99 0.53 0.45 0.28 0.28 0.28 0.29 0.29 0.10 0.05 0.01 0.05 0.0	12.56 SAMP 6757 816 1317 60.56 SAMP 6760 6758
EDEPTH: 59 68 Towing dir: 245ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Decapterus rhonchus Trichirurus lepturus Pagellus bellottii Selene dorsalis Trachurus trecae Stromateus fiatola Segia officinalis hierredda Zeus faber Alloteuthis africana Raja miraletus Pterothrissus belloci Atractoscion aequidens Dentex angolensis Somber japonicus Dentex angolensis Brotula barbata Penaeus notialis Gramoplites gruveli Sepia orbignyana Serranus accraensis Total DATE:27/ 7/03 GERAT Start stop duration TIME :06:17:14 06:47:04 30 (mi LOG :4907.79 4909.26 1.46 FDEPTH: 15 15 BDEPTH: 26 125 Towing dir: 155ø Wire out Sorted: Kg Total catch SPECIES Brachydeuterus auritus Sardinella maderensis Sphyraena guachancho Stromateus fiatola Selene dorsalis Trichiurus lepturus Raja miraletus	validity validity :: 210 m Spe :: 456.28 CATCH/H weight n 517.80 168.60 43.50 35.94 16.66 15.78 15.06 13.80 11.16 9.06 4.80 4.80 4.80 4.80 3.30 2.64 2.52 2.40 1.74 1.44 0.48 0.48 0.264 2.52 2.40 1.74 1.44 913.14 913.14 ryppE: PT No: in) Purpose Area cod GearCond Validity validity validity i: 30.28 CATCH/H weight n 7.80 1.78 0.24 2.52 2.40 1.74 1.44 0.48 0.26 2.52 2.40 1.74 1.44 0.48 0.26 2.52 2.40 1.74 1.44 0.48 0.26 2.52 2.40 1.74 1.44 0.36 0.24 913.14	.code: 3 code: 3 code: 3 code: 3 cATCH/ OUR CATCH/ OUR	*10 HOUR: 9 OF TOT. C 56.74 18.48 4.77 4.25 3.94 1.73 1.22 0.99 0.53 0.45 0.36 0.26 0.20 0.28 0.28 0.28 0.28 0.20 0.20 0.161 0.01 0.03 100.08 ECT STATIO ON:Lat S Long E *10 HOUR: *10 HOUR: *10 1.72 10.37 1.72 10.72 1.73 1.73 1.73 1.22 1.73 1.22 1.73 1.22 1.73 1.22 1.73 1.22 1.22 1.73 1.22 1.22 1.23 1.73 1.22 1.23 1.22 1.23 1.22 1.23	12.56 SAMP 6757 816 1317 60.56 SAMP 6760 6758 6759

		PROJE	CT STATIO	N:3214
DATE:27/ 7/03 GEAR TY start stop duration	PE: PT No: 1	POSITIC	N:Lat S Long E	830 1301
TIME :11:15:44 11:45:50 30 (min) Purpose co	ode: 1 : 3		
FDEPTH: 15 15	GearCond.c	code:		
Towing dir: 79ø Wire out:	100 m Speed	1: 40 kn*	10	
Sorted: Kg Total catch:	1.62	CATCH/H	OUR:	3.24
SPECIES	CATCH/HOU weight num	JR %0 nbers	F TOT. C	SAMP
Remora sp. Sardinella maderensis	2.30 0.94	2 4	70.99 29.01	
Total	3 24	-	100 00	
DATE:27/ 7/03 GEAR TY	PE: BT No: 2	PROJE	CT STATIC N:Lat S	N:3215 830
start stop duration TIME :12:37:32 13:07:22 30 (min) Purpose co	ode: 1	Long E	: 1300
LOG :4950.95 4952.50 1.54 FDEPTH: 134 117	Area code GearCond.c	: 3 code:		
BDEPTH: 134 117 Towing dir: 79ø Wire out:	Validity of 410 m Speed	code: 3 1: 30 kn*	10	
Sorted: Kg Total astab:	209 06	ChTCU/U		17 02
Sorted. Kg Total Catch.	208.96	CAICH/H	OUR: 4	17.92
SPECIES	CATCH/HOU	JR % C	F TOT. C	SAMP
Spicara alta	weight num 115.90	nbers 620	27.73	
Irachurus trecae Denter angolensis	95.20	194 218	22.78	6762
frachurus trecae, juvenile	31.50	1072	7.54	6761
Jentex barnardi Jmbrina canariensis	25.70 18.10	8 46	6.15 4.33	
frichiurus lepturus Dentex macrophthalmus	14.70	16 38	3.52	
Atractoscion aequidens	6.70	8	1.60	
senopsis concnifer Brotula barbata	5.70	6 8	1.36 1.20	
)ctopus vulgaris Scorpaena angolensis	4.80	8 6	1.15	
Boops boops	4.00	132	0.96	
frigla lyra	3.90	16 32	0.93	
?terothrissus belloci Dentex congoensis	3.10 2.76	28 20	0.74 0.66	
Loligo vulgaris Dentex canariersis	1.86	48	0.45	
Pentheroscion mbizi	1.60	2	0.39	
rorpedo torpedo Chaetodon hoefleri	1.30 1.26	2 10	0.31 0.30	
Anthias anthias Spinephelus aeneus	1.24	108 2	0.30	
Pontinus accraensis	0.34	2	0.08	
Alloteuthis atricana Perulibatrachus elminensis	U.32 0.26	⊥6 2	0.08	
Thelidonichthys capensis Titharus linguatula	0.22	2 6	0.05	
Selene dorsalis	0.16	2	0.04	
Jranoscopus albesca Arnoglossus imperialis	0.02	2 4		
Schedophilus pemarco	0.02	2		
Total	417.92	_	99.99	
DATE:28/ 7/03 GEAR TY	PE: PT No: 1	PROJE POSITIC	CT STATIO N:Lat S	N:3216 848
start stop duration TIME :02:47:07 03:17:11 30 (min) Purpose co	ode: 1	Long E	1305
LOG :5068.16 5070.26 2.09	Area code	: 3		
BDEPTH: 107 130	Validity o	code: 3	10	
Towing dir: 283ø Wire out:	100 m Speed	1: 40 kn*	τU	
Sorted: Kg Total catch:	118.88	CATCH/H	OUR: 2	37.76
SPECIES	CATCH/HOT	JR %n	F TOT. C	SAMP
Sardinella maderensis	weight num	nbers	50 60	6767
frichiurus lepturus	40.00	92	16.82	0/03
Sarda sarda Pterothrissus belloci	26.10 24.30	22 2920	10.98 10.22	
Scomber japonicus Frachurus trecae	2.66	6	1.12	
Lachardo LICCAC	1.02	4	0.43	
ardinella aurita	0	8	0.04	
Sardinella aurita Soligo vulgaris MYCTOPHIDAE	0.10 0.02	16	0.01	
ardinella aurita oligo vulgaris NYCTOPHIDAE epiella ornata	0.10 0.02 0.02	16 2	0.01 0.01	
ardinella aurita oligo vulgaris NCTOPHIDAE epiella ornata — 'otal	0.10 0.02 0.02 237.76	16 2	0.01 0.01 100.00	
ardinella aurita Joligo vulgaris NCTOPHIDAE Jepiella ornata	0.10 0.02 0.02 237.76	16 2 -	0.01 0.01	
Jardinella aurita Joligo vulgaris MCTOPHIDAE Sepiella ornata Total	0.10 0.02 0.02 237.76	16 2 -	0.01 0.01	
Sardinella aurita Joligo vulgaris MYCTOPHIDAE Sepiella ornata Total	0.10 0.02 0.02	16 2 PROJE	0.01 0.01 100.00	DN:3217
Sardinella aurita Loligo vulgaris MYCTOPHIDAE Sepiella ornata Total DATE:28/ 7/03 GEAR TY start stop duration	0.10 0.02 0.02 237.76	16 2 – PROJE POSITIC	0.01 0.01 100.00 CT STATIO N:Lat S Long E	N:3217 853 1256
Sardinella aurita Loligo vulgaris WYCTOPHIDAE Sepiella ornata Total DATE:28/ 7/03 GEAR TY start stop duration TIME :07:36:56 07:51:50 15 (min LOG :5106 25 0.50 5.0 70	0.10 0.02 0.02 237.76 PE: PT No: 1) Purpose cc	16 2 PROJE POSITIC pode: 1	0.01 0.01 100.00 CT STATIO N:Lat S Long E	NN:3217 853 1256
Sardinella aurita Loligo vulgaris WYCTOPHIDAE Sepiella ornata Total DATE:28/ 7/03 GEAR TY start stop duration TIME :07:36:56 07:51:50 15 (min LOG :5104.26 5105.05 0.79 FDEPTH: 170 200 TEPETH: 170 200	0.10 0.02 0.02 237.76 PE: PT No: 1) Purpose cc Area code GearCond.c	16 2 PROJE POSITIO ode: 1 : 3 code:	0.01 0.01 100.00 CT STATIO N:Lat S Long E	NN:3217 853 1256
Sardinella aurita Loligo vulgaris WYCTOPHIDAE Sepiella ornata Total DATE:28/ 7/03 GEAR TY start stop duration TIME :07:36:56 07:51:50 15 (min LOG :5104.26 5105.05 0.79 FDEPTH: 170 200 BDEPTH: 265 263 Towing dir: 220 Wire out:	0.10 0.02 0.02 237.76 PE: PT No: 1) Purpose cc Area code GearCond.c Validity c 450 m Speet	16 2 PROJE POSITIC ode: 1 : 3 code: 2 code: 3 d: 30 kn*	0.01 0.01 100.00 CT STATIO N:Lat S Long E	N:3217 853 1256
Sardinella aurita Loligo vulgaris WYCTOPHIDAE Sepiella ornata Total DATE:28/ 7/03 GEAR TY start stop duration TIME :07:36:56 07:51:50 15 (min LOG :5104.26 5105.05 0.79 PDEPTH: 170 200 BDEPTH: 265 263 Towing dir: 220 Wire out: Sorted: Kg Total catch:	0.10 0.02 0.02 237.76 PE: PT No: 1) Purpose oc Area code GearCond.c Validity 450 m Spec 4.80	16 2 PROJE POSITIO ode: 1 : 3 code: 1 : 30 kn*	0.01 0.01 100.00 CT STATIO N:Lat S Long E 10 OUR:	NN: 3217 853 1256 19.20
Jardinella aurita Joligo vulgaris MYCTOPHIDAE Sepiella ornata Total DATE:28/ 7/03 GEAR TY start stop duration TIME :07:36:56 07:51:50 15 (min LOG :5104.26 5105.05 0.79 FDEPTH: 170 200 BDEPTH: 265 263 Towing dir: 22ø Wire out: Sorted: Kg Total catch:	0.10 0.02 0.02 237.76 PE: PT No: 1) Purpose coc Area code GearCond.c Validity o 450 m Speec 4.80	16 2 PROJE POSITIO ode: 1 : 3 rode: code: 3 1: 30 kn*	0.01 0.01 100.00 CT STATIO N:Lat S Long E 10 OUR:	NN:3217 853 1256 19.20
Jardinella aurita Joligo vulgaris MYCTOPHIDAE Sepiella ornata Total DATE:28/ 7/03 GEAR TY start stop duration TIME :07:36:56 07:51:50 15 (min LOG :5104.26 5105.05 0.79 FDEPTH: 170 200 BDEPTH: 265 263 Towing dir: 22ø Wire out: Sorted: Kg Total catch: :PECIES	0.10 0.02 0.02 237.76 PE: PT No: 1) Purpose coc Area code GearCond.c Validity Sec 450 m Spec 4.80	16 2 PROJE POSITIO ode: 1 : 3 code: 3 1: 30 kn* CATCH/H JR % 0	0.01 0.01 100.00 CT STATIO N:Lat S Long E 10 OUR: F TOT. C	NN: 3217 853 1256 19.20 SAMP
ardinella aurita Joligo vulgaris IVCTOPHIDAE Repiella ornata Total DATE:28/ 7/03 GEAR TY Start stop duration TIME :07:36:56 07:51:50 15 (min LOG :5104.26 5105.05 0.79 FDEPTH: 170 200 BDEPTH: 265 263 Towing dir: 220 Wire out: Sorted: Kg Total catch: PECIES IVCTOPHIDAE	0.10 0.02 0.02 237.76 PE: PT No: 1) Purpose cc Area code GearCond.c Validity c 450 m Speec 4.80 cATCH/HOU weight num 17.96 1	16 2 PROJE POSITIO ode: 1 : 3 code: 3 1: 30 kn* CATCH/H JR % C abers 4624	0.01 0.01 100.00 N:Lat S Long E 10 OUR: F TOT. C 93.54	NN:3217 853 1256 19.20 SAMP
ardinella aurita Joligo vulgaris MCTOPHIDAE Sepiella ornata Total DATE:28/ 7/03 Start stop duration TIME :07:36:56 07:51:50 15 (min LOG :5104.26 5105.05 0.79 FDEFTH: 170 200 BDEPTH: 265 263 Towing dir: 220 Wire out: Sorted: Kg Total catch: SPECIES MCTOPHIDAE Yichiurus lepturus	0.10 0.02 0.02 237.76 PE: PT No: 1) Purpose cc Area code GearCond.c Validity c 450 m Speec 4.80 CATCH/HOU weight num 17.96 I 1.24	16 2 PROJE POSITIO ode: 1 : 30 kn* CATCH/H IR % 0 abers 44624 16	0.01 0.01 100.00 N:Lat S Long E 10 0UR: F TOT. C 93.54 6.46	NN:3217 853 1256 19.20 SAMP

		PRO	JECT STATIO	N:3218
DATE:28/ 7/03 GEAR TY start stop duration	PE: PT No:	1 POSIT	ION:Lat S Long E	912 1253
TIME :19:39:07 19:58:59 20 (mir. LOG :5190.21 5191.58 1.36	 Purpose Area cod 	code: 1 e : 3		
FDEPTH: 20 20 PDEPTH: 55 72	GearCond	.code:		
Towing dir: 258ø Wire out:	120 m Spe	ed: 40 k	n*10	
Sorted: Kg Total catch:	53.71	CATCH	/HOUR: 1	61.13
SDECTES	САТСН/Н	IOTIR &	OF TOT C	SAMP
	weight n	umbers	or 101. c	OAM
Trichlurus lepturus Trachinotus ovatus	17.40	48	10.80	
Bregmaceros sp. Brachydeuterus auritus	8.31 8.07	9816 42	5.16 5.01	
Trachurus trecae	2.46	12	1.53	
Alloteuthis africana	0.54	141	0.34	
Saurida brasiliensis	0.33	63	0.20	
Total	161.13		100.01	
DATE:28/ 7/03 GEAR TY	PE: BT No:	PRO 2 POSIT	JECT STATIO ION:Lat S	N:3219 913
start stop duration TIME :23:13:16 23:43:07 30 (mir) Purpose	code: 1	Long E	1256
LOG :5216.42 5217.95 1.52	Area cod	le : 3		
BDEPTH: 20 20 BDEPTH: 20 20	Validity	code: 3		
Towing dir: 147ø Wire out:	100 m Spe	ed: 30 k	n*10	
Sorted: Kg Total catch:	60.65	CATCH	/HOUR: 1	21.30
SPECIES	CATCH/H	IOUR %	OF TOT. C	SAMP
Brachydeuterus auritus	weight n 40.90	umbers 226	33.72	
Trichiurus lepturus Senia orbignyana	25.50	58	21.02	
Ilisha africana	8.76	88	7.22	
Chelidonichthys gabonensis Pomadasys rogeri	5.62 4.92	32 14	4.63 4.06	
Sardinella maderensis Galeoides decadactylus	4.88	24	4.02	
Mycteroperca rubra	3.52	2	2.90	
Arius latiscutatus Trachurus trecae, juvenile	3.28 2.14	4 582	2.70 1.76	6764
Pagellus bellottii Monolene migrostoma	1.92	14	1.58	
Engraulis encrasicolus	0.62	74	0.51	
Total	121.30		99.98	
PDEPTH: 120 121 BDEPTH: 120 121 Towing dir: 337ø Wire out: Sorted: Kg Total catch: SPECIES Dentex angolensis Trachurus trecae Dentex macrophthalmus Loligo vulgaris Chelidonichthys gabonensis Brotula barbata Trichiurus lepturus Zeus faber Raja clavata Umbrina canariensis Dentex barnardi Eranchiodregus semifasciatus Raja clavata Umbrina cinariensis Dentex barnardi Engraulis encrasicolus Pagellus bellotti Dactylopterus volitans Dentex gibbosus Anthias anthias Chaetdon hofleri Monolene microstoma	GearCond Validity 370 m Spe 75.42 CATCH/H weight n 44.60 19.10 16.90 6.40 6.30 6.30 6.30 6.30 6.30 7.70 2.90 2.40 1.80 1.20 0.90 0.78 0.68 0.38 0.32 0.22	Loode: code: 30 k cATCH OUR * 150 1178 50 1256 42 2 6 10 2 2 6 10 2 2 32 12 100 2 2 12 10 0 2 2 12 10 2 12 10 2 12 10 2 12 10 10 10 10 10 10 10 10 10 10	n*10 /HOUR: 1 OF TOT. C 29.57 12.66 11.20 4.24 4.18 3.98 3.12 2.45 1.92 1.59 1.19 0.80 0.52 0.45 0.52 0.45 0.27 0.25 0.21 0.17	50.84 SAMP 6766
	0.20	8	0.13	
DATE:29/ 7/03 GEAR TY start stop duration TIME :19:20:33 19:27:52 7 (mir LOG :5385.52 5385.95 0.43 FDEPTH: 10 10 BDEPTH: 26 24 Towing dir: 20ø Wire out: Sorted: Kg Total catch:	0.20 150.84 YPE: PT No: 1) Purpose Area cod GearCond Validity 100 m Spe 274.40	PRO 7 POSIT code: 1 l.code: 2 l.code: 3 code: 3 ked: 38 k CATCH	0.13 100.00 JECT STATIO ION:Lat S Long E n*10 /HOUR: 23	N:3221 936 1308 52.00
DATE:29/ 7/03 GEAR TY start stop duration TIME :19:20:33 19:27:52 7 (mir LOG :5385.52 5385.95 0.43 FDEPTH: 10 10 BDEPTH: 26 24 Towing dir: 20ø Wire out: Sorted: Kg Total catch: SPECIES	0.20 150.84 PE: PT No: 1) Purpose Area cod GearCond Validity 100 m Spe 274.40 CaTCH/U	PRO 7 POSIT code: 1 le : 2 l.code: 3 code: 3 code: 38 cATCH	0.13 100.00 JECT STATIO ION:Lat S Long E n*10 /HOUR: 23 OF TOT C	N:3221 936 1308 52.00 SAMP
DATE:29/ 7/03 GEAR TY start stop duration TIME :19:20:33 19:27:52 7 (mir LOG :5385.52 5385.95 0.43 FDEPTH: 10 10 BDEPTH: 26 24 Towing dir: 200 Wire out: Sorted: Kg Total catch: SPECIES Sardinalla maderancic	0.20 150.84 PE: PT No: 1) Purpose Area cod GearCond Validity 100 m Spe 274.40 CATCH/H weight n 1973 14	PRO 7 POSIT code: 1 le : 2 l.code: code: 3 led: 38 k CATCH	0.13 100.00 JECT STATIO ION:Lat S Long E n*10 /HOUR: 23 OF TOT. C	N: 3221 936 1308 52.00 SAMP
DATE:29/ 7/03 GEAR TY start stop duration TIME :19:20:33 19:27:52 7 (mir LOG :5385.52 5385.95 0.43 FDEPTH: 10 10 BDEPTH: 26 24 Towing dir: 20ø Wire out: Sorted: Kg Total catch: SPECIES Sardinella maderensis Sardinella aurita	0.20 150.84 PE: PT No: a) Purpose Area cod GearCond Validity 100 m Spe 274.40 CATCH/H weight n 1973.14 245.49 245.49	B PRO 7 POSIT code: 1 i.code: 2 .code: 3 .code: 3 .code: 3 .cATCH CATCH SUUR % 9394 9394	0.13 100.00 JECT STATIO ION:Lat S Long E n*10 /HOUR: 23 OF TOT. C 83.89 10.44	N: 3221 936 1308 52.00 SAMP 6767 6768
DATE:29/ 7/03 GEAR TY start stop duration TIME :19:20:33 19:27:52 7 (mir LOG :5385.52 5385.95 0.43 FDEPTH: 10 10 BDEPTH: 26 24 Towing dir: 20ø Wire out: Sorted: Kg Total catch: SPECIES Sardinella maderensis Sardinella aurita Brachydeuterus auritus Pomdaays incisus	0.20 150.84 27E: PT No: 1) Purpose Area cod GearCond Validity 100 m Spe 274.40 CATCH/H weight n 1973.14 245.49 54.86 33.26	8 PR0 7 POSIT code: 1 icode: 2 i.code: 3 code: 38 CATCH CUR 8 9394 891 343 171	0.13 100.00 JECT STATIO ION:Lat S Long E n*10 /HOUR: 23 OF TOT. C 83.89 10.44 2.33 1.41	N: 3221 936 1308 52.00 SAMP 6767 6768
DATE:29/ 7/03 GEAR TY start stop duration TIME :19:20:33 19:27:52 7 (mir LOG :5385.52 5385.95 0.43 FDEPTH: 10 10 BDEPTH: 26 24 Towing dir: 20ø Wire out: Sorted: Kg Total catch: SPECIES Sardinella maderensis Sardinella aurita Brachydeuterus auritus Pomadasys incisus Decapterus rhonchus Ilisha africana	0.20 150.84 27E: PT No: 1) Purpose Area cod GearCond Validity 100 m Spe 274.40 CATCH/H weight n 1973.14 245.49 54.86 33.26 16.11 10.63	8 PRO 7 POSIT code: 1 1e : 2 .code: 38 k CATCH OUR % unbers 9394 891 343 171 69 137	0.13 100.00 JECT STATIO ION:Lat S Long E n*10 /HOUR: 23 OF TOT. C 83.89 10.44 2.33 1.41 0.68 0.45	N:3221 936 1308 52.00 SAMP 6767 6768
DATE:29/ 7/03 GEAR TY start stop duration TIME :19:20:33 19:27:52 7 (mir LOG :5385.52 5385.95 0.43 FDEPTH: 10 10 BDEPTH: 26 24 Towing dir: 20ø Wire out: Sorted: Kg Total catch: SPECIES Sardinella maderensis Sardinella aurita Brachydeuterus auritus Pomadasys incisus Decapterus rhonchus Tlisha africana Boops boops	0.20 150.84 229E: PT No: 1) Purpose Area cod GearCond Validity 100 m Spe 274.40 CATCH/H weight n 1973.14 245.49 54.86 33.26 16.11 10.63 5.83 5.83	8 PRO 7 POSIT code: 1 ie : 2 .code: 38 k CATCH OUR % unbers 9394 891 343 171 69 137 240 772	0.13 100.00 JECT STATIO ION:Lat S Long E n*10 /HOUR: 23 OF TOT. C 83.89 10.44 2.33 1.41 0.68 0.45 0.25	N:3221 936 1308 52.00 SAMP 6767 6768
DATE:29/ 7/03 GEAR TY start stop duration TIME :19:20:33 19:27:52 7 (mir LOG :5385.52 5385.95 0.43 FDEPTH: 10 10 BDEPTH: 26 24 Towing dir: 200 Wire out: Sorted: Kg Total catch: SPECIES Sardinella maderensis Sardinella aurita Brachydeuterus auritus Pomadaays incisus Decapterus rhonchus Ilisha africana Boops boops Sardinella maderensis - Juv.	0.20 150.84 229E: PT No: 1) Purpose Area cod GearCond Validity 2100 m Spe 274.40 CATCH/H weight n 1973.14 245.49 54.86 33.26 16.11 10.63 5.83 4.46 2.74	8 PRO 7 POSIT code: 1 ie : 2 i.code: 2 code: 3 sed: 38 k CATCH OUR % unbers 9394 891 343 143 69 137 240 789 171	0.13 0.13 100.00 JECT STATIO ION:Lat S Long E n*10 /HOUR: 23 OF TOT. C 83.89 10.44 2.33 0.44 2.33 1.41 0.68 0.45 0.25 0.19 0.12	N:3221 936 1308 52.00 SAMP 6767 6768
DATE:29/ 7/03 GEAR TY start stop duration TIME :19:20:33 19:27:52 7 (mir LOG :5385.52 5385.95 0.43 FDEPTH: 10 10 BDEPTH: 20 24 Towing dir: 20ø Wire out: Sorted: Kg Total catch: SPECIES Sardinella maderensis Sardinella aurita Brachydeuterus auritus Pomadaays incisus Decapterus rhonchus Ilisha africana Boops boops Sardinella maderensis - Juv. Trichiurus lepturus	0.20 150.84 2025: PT No: 1) Purpose Area cod GearCond Validity 100 m Spe 274.40 CATCH/H weight n 1973.14 245.49 54.86 33.26 16.11 10.63 5.83 4.46 2.74 2.06 1.71	8 PRO PRO POST Code: 1 le : 2 l.code: 2 code: 3 code: 3 sed: 38 k CATCH OUR % umbers 9394 891 343 171 69 137 240 789 137 34 446	0.13 0.13 100.00 JECT STATIO ION:Lat S Long E n*10 /HOUR: 23 OF TOT. C 83.89 10.44 2.33 1.41 0.68 0.45 0.25 0.19 0.12 0.09 0.07	N:3221 936 1308 52.00 SAMP 6767 6768
DATE:29/ 7/03 GEAR TY start stop duration TIME :19:20:33 19:27:52 7 (mir LOG :5385.52 5385.95 0.43 FDEPTH: 10 10 BDEPTH: 200 Wire out: Sorted: Kg Total catch: SPECIES Sardinella maderensis Sardinella aurita Brachydeuterus auritus Pomadaays incisus Decapterus rhonchus Ilisha africana Boops boops Sardinella marita - Juveniles Sardinella maderensis - Juv. Trichiurus lepturus Engraulis encrasicolus Trachurus trecae, juvenile	0.20 150.84 22 PE: PT No: 1) Purpose Area cod GearCond Validity 100 m Spe 274.40 CATCH/H weight n 1973.14 245.49 54.86 33.26 16.11 10.63 5.83 4.46 2.74 2.06 1.71 1.03 0.69	8 PRO PRO POST Code: 1 ie : 2 i.code: 2 code: 3 ed: 38 k CATCH OUR % umbers 9394 891 343 171 69 137 240 789 137 240 789 137 34 446 720 34	0.13 0.13 100.00 JECT STATIO ION:Lat S Long E n*10 /HOUR: 23 OF TOT. C 83.89 10.44 2.33 1.41 0.68 0.45 0.25 0.19 0.12 0.09 0.07 0.04 0.25 0.19 0.12 0.09 0.07 0.04 0.25 0.19 0.12 0.09 0.07 0.04 0.02 0.09 0.12 0.09 0.07 0.04 0.02 0.09 0.12 0.09 0.07 0.00 0.07 0.00 0.0	N:3221 936 1308 52.00 SAMP 6767 6768
DATE:29/ 7/03 GEAR TY start stop duration TIME :19:20:33 19:27:52 7 (mir LOG :5385.52 5385.95 0.43 FDEPTH: 10 10 BDEPTH: 26 24 Towing dir: 20ø Wire out: Sorted: Kg Total catch: SpecIES Sardinella maderensis Sardinella aurita Brachydeuterus auritus Pomdaays incisus Decapterus rhonchus Ilisha africana Boops boops Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella maderensis - Juv. Trichiurus lepturus Engraulis encrasicolus Trachurus trecae, juvenile Sphyraena guachancho	0.20 150.84 229E: PT No: 1) Purpose Area cod GearCond Validity 100 m Spe 274.40 CATCH/H weight n 1973.14 245.49 54.86 33.26 16.11 10.63 5.83 4.46 2.74 2.06 1.71 1.03 0.69 2252.01	B PRO 7 POSIT code: 1 ie : 2 .code: 3 code: 3 sed: 38 k CATCH 0UR % sumbers 9394 891 343 171 34 446 720 34	0.13 0.13 100.00 JECT STATIO ION:Lat S Long E n*10 /HOUR: 23 OF TOT. C 83.89 10.44 2.33 0.44 2.33 1.41 0.68 0.45 0.25 0.19 0.12 0.09 0.07 0.04 0.02 0.12 0.09 0.07 0.04 0.12 0.09 0.07 0.04 0.12 0.09 0.07 0.04 0.12 0.09 0.07 0.04 0.12 0.09 0.07 0.04 0.12 0.09 0.07 0.04 0.00 0.12 0.09 0.07 0.04 0.00 0.12 0.00 0.0	N:3221 936 1308 52.00 SAMP 6767 6768

									PI	ROJECI	STAT	ION	:3222
DATE:30	/ 7/03			GE/	AR TYP	E: BT	No:	8	POS:	ITION:	Lat	S	948
	star	t st	op do	lurati	on						Long	Е	1312
TIME :	03:19:	38 03:	49:32	30	(min)	Pur	pose	COC	le:	1			
LOG :	5459.5	7 546	1.14	1.57		Are	a co	de	:	2			
FDEPTH:	2	5	27			Gea	rCon	d.co	ode:				
BDEPTH:	2	5	27			Val	idit	y co	ode:	3			
	Towing	dir:	360ø	Wire	out:	110 m	Sp	eed	30	kn*10)		
Sorte	d:	Kg	Tot	al ca	tch:	6	8.63		CAT	CH/HOU	JR :	137	7.26

SPECIES	CATCH	/HOUR	% OF TOT. C	SAMP
	weight	numbers		
Brachydeuterus auritus	48.40	398	35.26	
Pagellus bellottii	30.72	790	22.38	
Pteroscion peli	17.00	184	12.39	
Pseudotolithus typus	8.70	16	6.34	
Solea senegalensis	8.48	146	6.18	
Cynoglossus senegalensis	5.54	22	4.04	
Trachurus trecae	4.52	404	3.29	
Pomadasys incisus	2.70	4	1.97	
Penaeus notialis	2.44	180	1.78	
Boops boops	1.92	30	1.40	
TORPEDINIDAE	1.36	8	0.99	
Sepia orbignyana	1.06	8	0.77	
Ilisha africana	0.96	10	0.70	
Lepidotrigla carolae	0.74	46	0.54	
Penaeus kerathurus	0.50	12	0.36	
Epinephelus aeneus	0.48	2	0.35	
Brachydeuterus auritus Juv.	0.46	182	0.34	
Citharus linguatula	0.42	6	0.31	
Chaetodon hoefleri	0.22	2	0.16	
Pseudupeneus pravensis	0.22	4	0.16	
Sardinella maderensis	0.22	10	0.16	
Squilla mantis	0.20	6	0.15	
Total	137.26		100.02	

							Pl	ROJECT	STAT	CION	:3223
DATE:3	0/ 7/03		GEA	AR TYP	E: BT No	: 8	POS	ITION:	Lat	S	958
	start	stop	durati	ion					Long	Ε	1257
TIME	:08:27:59	08:48:37	21	(min)	Purpos	e cod	e:	1			
LOG	:5496.23	5497.32	1.08		Area c	ode	:	2			
FDEPTH	: 112	114			GearCo	nd.co	de:				
BDEPTH	: 112	114			Validi	ty co	de:	3			
	Towing d	ir: 350ø	Wire	out:	300 m S	peed:	31	kn*10			

Sorted: Kg Total catch: 139.38 CATCH/HOUR: 398.23

SPECIES	CATCH	/HOUR	% OF TOT. C	SAMP
	weight	numbers		
Trichiurus lepturus	152.14	220	38.20	
Dentex macrophthalmus	92.00	334	23.10	
Umbrina canariensis	53.86	129	13.52	
Trachurus trecae	26.71	843	6.71	6770
Dentex angolensis	18.09	89	4.54	
Loligo vulgaris	17.17	1449	4.31	
Zeus faber	12.57	31	3.16	
Branchiostegus semifasciatus	5.29	3	1.33	
Dentex congoensis	5.06	40	1.27	
Brachydeuterus auritus	3.86	31	0.97	
Dentex barnardi	3.49	14	0.88	
Dentex canariensis	3.29	11	0.83	
Saurida brasiliensis	1.63	331	0.41	
Trigla lyra	1.49	9	0.37	
Monolene microstoma	0.91	11	0.23	
Scorpaena normani	0.40	3	0.10	
Citharus linguatula	0.29	9	0.07	
Total	398.25		100.00	

							PR	OJECT	STAT	ION	:3224
DATE : 3	30/ 7/03		GE	AR TYP	E: PT N	lo: 1	POSI	TION:	Lat	S	956
	star	t stop	durat	ion					Long	Е	1311
TIME	:14:21:	43 14:51	:33 30	(min)	Purpo	ose co	de:	1			
LOG	:5538.3	3 5540.	41 2.05		Area	code	:	2			
FDEPTH	4: 2	0	20		GearC	lond.c	ode:				
BDEPTH	4: 4	2	40		Valid	dity c	ode:	3			
	Towing	dir: 1	.5ø Wire	out:	120 m	Speed	: 40	kn*10			
Sort	ed:	Kg	Total c	atch:			CATC	CH/HOU	R:		
SPECIES					CATC	CH/HOU	R	∜ OF	тот.	С	SAMP

DFECTED	CAICI	/ 110/010	OT.	101.	C	
	weight	numbers				
Total					-	
IULAI						

	1	PROJECT STAT	ION:3225
DATE:30/ 7/03 GEAR TY	PE: BT No: 8 POS	SITION:Lat	S 954
start stop duration		Long	E 1310
TIME :15:31:48 16:01:27 30 (mir	 Purpose code: 	1	
LOG :5543.82 5545.37 1.54	Area code	: 2	
FDEPTH: 41 40	GearCond.code	:	
BDEPTH: 41 40	Validity code	: 3	
Towing dir: 155ø Wire out:	160 m Speed: 30) kn*10	
Sorted: 74 Kg Total catch:	187.04 CA	fCH/HOUR:	374.08
SPECIES	CATCH/HOUR	% OF TOT.	C SAMP
	weight number:	3	
Brachydeuterus auritus	145.50 1014	1 38.90	
Trachurus trecae, juvenile	111.00 4490	5 29.67	6771
Sepia orbignyana	38.74 27	1 10.36	
Trachurus trecae	25.24 120) 6.75	6765
Trichiurus lepturus	19.74 54	1 5.28	
Fistularia tabacaria	11.24 34	1 3.00	
Pagellus bellottii	9.34 280) 2.50	
Zeus faber	7.00 14	1 1.87	
Illex coindetii	3.74 1170) 1.00	
Pseudupeneus prayensis	2.54 34	1 0.68	
Total	374.08	100.01	

DATE:30/ 7/03 GEAR T	ZPE: BT No	PI 8 POS	ROJECT STAT	ION:3226 S 958
start stop duration TIME :19:40:21 20:02:32 22 (min	1) Purpos	e code:	Long 1	E 1316
LOG :5567.26 5568.52 1.27	Area c GearCo	ode :	2	
BDEPTH: 17 15	Validi	ty code:	3 lm #1.0	
Towing dir. 400 wire out	. 100 m S	peeu. 35	KII"IU	
Sortea: 61 Kg Total catch	4/2./	2 CAT	LH/HOUR:	1289.24
SPECIES	CATCH	/HOUR	% OF TOT.	C SAMP
Sardinella maderensis	weight 442.83	numbers 2558	34.35	6769
Brachydeuterus auritus Galeoides decadactylus	365.10 228.05	7505 2782	28.32 17.69	
Pentheroscion mbizi Trachurus trecae	71.59 35.95	4437 265	5.55 2.79	6772
Trichiurus lepturus	27.19	551	2.11	
Penaeus notialis	18.19	2782	1.41	
Pseudotolithus typus Pagellus bellottii	12.05	82	1.28	
Stromateus fiatola Pseudotolithus senegalensis	10.83 9.19	19 19	0.84 0.71	
Selene dorsalis Solea senegalensis	7.15 4.91	265 101	0.55	
Pomadasys incisus Apsilus fuscus	4.69 3.68	41 41	0.36	
Pomadasys rogeri Pentanemus guinguarius	3.27	19 19	0.25	
Sepia officinalis hierredda	1.23	41	0.10	
Total	1289.23		99.99	
		PI	ROJECT STAT	ION:3227
DATE:31/ 7/03 GEAR T start stop duration	ZPE: PT No	: 4 POS	ITION:Lat Long	S 1007 E 1314
TIME :03:39:06 04:12:53 34 (min	1) Purpos	e code:	1	
FDEPTH: 1 1	GearCo	nd.code:	2	
BDEPTH: 55 72 Towing dir: 245ø Wire out	validi 150 m S	peed: 40	3 kn*10	
Sorted: Kg Total catch	88.2	1 CATO	CH/HOUR:	155.66
SPECIES	CATCH weight	/HOUR numbers	% OF TOT.	C SAMP
Trichiurus lepturus Lagocephalus laevigatus	144.88 6.09	349 9	93.07 3.91	
Stromateus fiatola Brachydeuterus auritus	1.06	2	0.68	
Sepia officinalis hierredda	0.97	2	0.62	
Octopus vulgaris	0.88	4	0.37	
Total -	155 66		100.00	
	100.00		100.00	
	100.00		100.00	
	100.00		100.00	
	122.00	P	ROJECT STAT	ION:3228
DATE:31/ 7/03 GEAR T	ISS.00 VPE: BT No	PI 8 POS	ROJECT STAT	ION:3228 S 1007 E 1319
DATE:31/ 7/03 GEAR T start stop duration TIME :05:58:43 06:19:14 21 (min 1000 :564 50 566 60 1 5	ISS.00 (PE: BT No) Purpos	PI : 8 POS: e code:	ROJECT STAT ITION:Lat Long	ION:3228 S 1007 E 1319
DATE:31/ 7/03 GEAR T start stop duration TIME :05:58:43 06:19:14 21 (min LOG :5645.69 5646.66 1.15 FDEPTH: 24 22 PDEPTH: 24 22	155.00 VPE: BT No 1) Purpos Area c GearCo V-144	PI 8 POS e code: ode : nd.code:	ROJECT STAT ITION:Lat Long 1 2	ION:3228 S 1007 E 1319
DATE:31/ 7/03 GEAR T start stop duration TIME:55:58:43 06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 BDEPTH: 24 22 Towing dir: 1120 Wire out	ISS.00 (PE: BT No Area c GarCo Validi : 120 m S	pi : 8 POS e code: ode : nd.code: ty code: peed: 33	ROJECT STAT ITION:Lat Long 1 2 3 kn*10	ION:3228 S 1007 E 1319
DATE:31/ 7/03 GEAR T start stop duration TIME :05:58:43 06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 BDEPTH: 24 22 Towing dir: 1120 Wire out Sorted: 67 Kg Total catch	ISS.00 (PE: BT Nc Area c GearCo Validi : 120 m S : 770.3	Pi 8 POS: ode : nd.code: ty code: peed: 33 4 CATC	ROJECT STAT ITION:Lat Long 1 2 3 kn*10 CH/HOUR:	ION:3228 S 1007 E 1319 2200.97
DATE:31/ 7/03 GEAR T Start stop duration TIME :05:58:43 06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 BDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch	ISS.00 XPE: BT No Area c GearCo Validi : 120 m S : 770.3	Pl 8 POS: e code: ode : nd.code: ty code: ty code: 33 4 CATC	ROJECT STAT ITION:Lat Long 1 2 3 kn*10 CH/HOUR:	ION: 3228 S 1007 E 1319 2200.97
DATE:31/ 7/03 GEAR T Start stop duration TIME :05:58:43 06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 BDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch SPECIES	ISS.00 XPE: BT No Area c GearCo Validi : 120 m S : 770.3 CATCH weight	p) : 8 POS: e code: iode : ty code: ty code: peed: 33 4 CATG //HOUR numbers	ROJECT STAT ITION:Lat Long 1 2 3 kn*10 CH/HOUR: % OF TOT.	ION:3228 S 1007 E 1319 2200.97 C SAMP
DATE:31/ 7/03 GEAR T Start stop duration TIME :05:58:43 06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 BDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus	ISS.60 XPE: BT Nc Area c GearCc Validi : 120 m S : 770.3 CATCH weight 1118.77 351.57	PI * 8 POS: e code: ode : peed: 33 4 CATO //HOUR numbers 13831 3943	ROJECT STAT ITION:Lat 2 3 kn*10 CH/HOUR: \$ OF TOT. 50.83 15.97	ION:3228 S 1007 E 1319 2200.97 C SAMP
DATE:31/ 7/03 GEAR T Start stop duration TIME :05:58:43 06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 EDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadctylus	ISS.60 XPE: BT NG 1) Purpos Area c GearCc Validi : 120 m S : 770.3 CATCH weight 1118.77 351.57 207.97	Pi e code: ode : ty code: ty code: ity code: add A CATC /HOUR numbers 13831 3943 2331 689	ROJECT STAT ITION:Lat 2 3 kn*10 CH/HOUR: \$ OF TOT. 9 50.83 15.97 9.45 7.58	ION:3228 S 1007 E 1319 2200.97 C SAMP
DATE:31/ 7/03 GEAR T Start stop duration TIME: 05:56:43 06:19:14 21 (min LOG:5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiwng larturg	<pre>ISS.60 IPE: BT NG IPUTPOS Area c GearCc Validi 120 m S IPUTPOS IP</pre>	Pi : 8 POS: e code: ind.code: ty code: ipeed: 33 4 CATC /HOUR numbers 13841 3943 2331 689 3286 1971	ROJECT STAT ITION:Lat 2 3 kn*10 CH/HOUR: \$ OF TOT. 50.83 15.97 9.45 7.58 6.61 2.76	ION:3228 S 1007 E 1319 2200.97 C SAMP
DATE:31/ 7/03 GEAR T start stop duration TIME 105:56:43 06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis	<pre>ISS.60 //PE: BT NG // Purpos // Purpos // Area c // GearCc // Validi // 120 m S // CATCH // weight // 1118.77 // 351.57 // 207.97 // 166.91 // 460.77 // 31.20 // 20</pre>	p) = 8 POS; = code: = code:	<pre>ROJECT STAT ITION:Lat 2 3 kn*10 CH/HOUR: \$ OF TOT. 50.83 15.97 9.45 7.58 6.61 2.76 2.76 2.76 2.76</pre>	ION: 3228 S 1007 E 1319 2200.97 C SAMP
DATE:31/ 7/03 GEAR T start stop duration TIME :05:56:43 06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir: 1120 Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecee, juvenile Spbyraema guachancho	<pre>ISS.60 IPE: BT NG IPE: BT NG Area c GearCc Validi 120 m S F T0.3 CATCH weight 1118.77 351.57 207.97 166.91 145.54 65.77 01.20 26.29 26.29 26.29</pre>	p) = 8 POS: = code: = code:	ROJECT STAT ITION:Lat 2 3 kn*10 2H/HOUR: * OF TOT 9.45 7.58 6.61 2.1.97 9.45 7.58 6.61 2.1.91 9.45 7.58 6.61 1.42 1.19	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773
DATE:31/ 7/03 GEAR T start stop duration TIME:05:56:43 06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir: 1120 Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella madrenesis - Juv.	<pre>ISS.60 //PE: BT NG // Purpos //</pre>	p) = 8 POS: = code: = code:	<pre>ROJECT STAT ITION:Lat 2 3 kn*10 CH/HOUR: \$ OF TOT 9 .45 7 .58 6 .61 2 .19 9 .45 7 .58 6 .61 1 .19 9 .79 9 .19 7 .58</pre>	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6775
DATE:31/ 7/03 GEAR T start stop duration TIME:05:56:43.06:19:14.21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir: 1120 Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella madrenesis - Juv. Pomadasys rogeri Paqellus bellottii	<pre>ISS.60 IPE: BT NG IPE: BT NG Area c GearCc Validi 120 m S T010 CATCH weight 1118.77 351.57 207.97 166.91 145.54 60.77 31.20 26.29 17.40 17.40 17.40 15.43</pre>	p) = 8 POS: = code: = code:	<pre>ROJECT STAT ITION:Lat 2 3 kn*10 CH/HOUR: \$ OF TOT \$ OF TOT 9.45 7.58 6.61 1.97 9.45 7.58 6.61 1.99 9.45 7.58 6.61 1.99 9.19 0.79 0.79 0.70</pre>	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774
DATE:31/ 7/03 GEAR T start stop duration TIME:05:56:43.06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 BDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella madrenesis - Juv. Pomadasys rogeri Pagellus bellottii	<pre>ISD.60 IPE: BT NG IPE: BT NG Area c GearCc Validi 120 m S IPE: T70.3 CATCH weight 1118.77 351.57 207.97 166.91 145.54 60.77 31.20 26.29 17.40 15.43 15.43 2200.97</pre>	pp: 8 POS: ode : nd.code: ty code: ipeed: 33 4 CATC //HOUR numbers 13831 3286 1871 460 623 31 854 557 31 31	ROJECT STAT ITION:Lat 2 3 kn*10 CH/HOUR: * OF TOT. 1 50.83 15.97 9.45 7.58 6.61 2.11 2.76 1.42 1.19 0.79 0.79 0.79 0.70 0.70 0.70	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774
DATE:31/ 7/03 GEAR T start stop duration TIME:05:56:43.06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 BDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus tracae, juvenile Sphyraena guachancho Sardinella madrenesis - Juv. Pomadasys rogeri Pagellus bellottii	<pre>ISD.60 IPE: BT NG IPE: BT NG Area c GearCc Validi 120 m S F 70.3 CATCH weight 1118.77 351.57 207.97 166.91 145.54 60.77 31.20 26.29 17.40 17.40 17.40 15.43 15.43 2200.97</pre>	pp: 8 POS: ode : nd.code: ty code: ipeed: 33 4 CATC //HOUR numbers 13831 3286 1871 460 623 31 854 557 31 31 31	ROJECT STAT ITION:Lat 2 3 kn*10 CH/HOUR: * OF TOT. 1 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.79 0.79 0.79 0.70 0.70 0.70	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43 06:19:14 21 (min LOG :5645.69 5646.86 1.15 FDEDTH: 24 22 BDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella madrensis - Juv. Pomadasys rogeri Pagellus bellottii Total	<pre>ISD.00 IPE: BT Nc IPE: BT Nc Area c GearCc Validi 120 m S IPE: T70.3 CATCH weight 1118.77 351.57 207.97 166.91 145.54 60.77 31.20 26.29 17.40 15.43 15.43 15.43</pre>	pp: : 8 POS: : e code: : nd.code: : ty code: : ipeed: 33 4 CAT(//HOUR numbers 13831 3286 1871 689 3286 1831 3283 1831 3286 1831 3286 1831 331 854 557 31 31	ROJECT STAT ITION:Lat 2 3 kn*10 CH/HOUR: \$ OF TOT. 1 50.83 15.97 9.45 7.58 6.61 2.16 1.42 1.19 0.79 0.79 0.79 0.79 0.70 0.70 0.70	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Spraea guachancho Sardinella aurita - Juveniles Sardinella maderensis - Juv. Pmadasys rogeri Pagellus bellottii Total	<pre>ISD.60 //PE: BT Nc Area c GearCc Validi : 120 m S : 770.3 CATCH weight 1118.77 351.57 207.97 166.91 145.54 60.77 31.20 26.29 17.40 15.43 15.43</pre>	pp = 8 POS: e code: ind.code: ty code: pped: 33 4 CAT(//HOUR numbers 13831 3243 689 3286 1871 460 623 31 854 557 31 31	ROJECT STAT ITION:Lat 2 3 kn*10 CH/HOUR: \$ OF TOT. 0 50.83 15.97 9.45 7.58 6.61 2.16 1.42 1.19 0.79 0.79 0.70 0.70 0.70 0.70 0.99.98	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6774
DATE:31/ 7/03 GEAR T start stop duration TIME:55:8:43.06:19:14.21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir: 112æ Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Total	YPE: BT NG a) Purpos Area c GearCC Validi : 120 m S : 770.3 CATCH weight 1118.77 207.97 166.91 145.54 60.77 31.20 26.29 17.40 17.40 15.43 2200.97 XPE: PT NC	pp = 8 POS: ode : nd.code: ty code: = pped: 33 4 CAT(//HOUR numbers 13831 3943 2331 689 3286 1871 460 623 31 854 4557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 31 31 31 31 31 31 31 31	ROJECT STAT ITION: Lat 2 3 kn*10 CH/HOUR: \$ OF TOT. 0 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70 0.70 0.70 0.70 0.70 0.70 0.79 8 8 8 8 8 8 8 8 8 8 8 8 8	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010
DATE:31/ 7/03 GEAR T start stop duration TIME:55:8:43.06:19:14.21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Total DATE:31/ 7/03 GEAR T start stop duration TIME: 70:3120 09:04:42 27 (min	YPE: BT NG 1) Purpos Area c GearCC Validi : 120 m S : 770.3 CATCH weight 1118.77 207.97 166.91 145.54 60.77 31.20 26.29 17.40 17.40 15.43 2200.97 YPE: PT NG 1) Purpos	pp = 8 POS: ode : nd.code: ty code: pped: 33 4 CAT(//HOUR numbers 13831 3943 2331 689 3286 1871 460 623 31 854 4557 31 31 854 4557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 854 557 31 854 557 31 854 557 31 854 557 31 854 557 31 854 557 31 854 557 31 854 557 31 854 557 31 854 557 31 854 557 31 854 557 31 854 557 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 31 31 31 31 854 557 31 31 854 557 31 31 854 557 31 31 854 557 57 31 31 854 557 557 31 31 557 557 557 557 557 557 557 55	ROJECT STAT ITION: Lat 2 3 kn*10 CH/HOUR: \$ OF TOT. 0 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 1.10 8 ROJECT STAT ITION: Lat Long 1	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir:112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Total DATE:31/ 7/03 GEAR T start stop duration TIME:08:37:20.09:04:422.27 (min LOG ::562.85 564.55 1.58 FDEFTH: 10 10	YPE: BT NG 1) Purpos Area c GearCC Validi : 120 m S : 770.3 CATCH weight 1118.77 207.97 145.54 60.77 31.20 26.29 17.40 15.43 2200.97 YPE: PT NG 1) Purpos Area c GearCC	pp = 8 POS: ode : ode : pped: 33 4 CAT(//HOUR numbers 13831 2331 689 3286 1871 460 623 31 854 4557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 31 557 31 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 557 31 31 31 557 31 31 31 31 557 31 31 557 31 31 31 31 31 31 31 31 31 31	ROJECT STAT ITION: Lat 2 3 kn*10 CH/HOUR: * OF TOT. 0 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 1.10 8 ROJECT STAT ITION: Lat Long 1 2	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir:112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Total DATE:31/ 7/03 GEAR T start stop duration TIME:08:37:20.09:04:42 27 (min LOG :562.85 5664.55 1.58 FDEPTH: 10 10 BDEPTH: 33 35 Towing dir: 148ø Wire out	YPE: BT NG 1) Purpos Area c GearCC Validi : 120 m S : 770.3 CATCH weight 1118.77 207.97 166.91 145.54 60.77 31.20 26.29 17.40 17.40 17.40 15.43 2200.97 YPE: PT NG 1) Purpos Area c GearCC Validi : 120 m S Area c GearCC Validi : 120 m S Area c GearCC Validi : 120 m S Area c GearCC Validi : 120 m S Area c GearCC Validi : 120 m S : 770.3 :	pp = 8 POS: ode : md.code: ty code: pped: 33 4 CAT(//HOUR numbers 13831 2331 689 3286 1871 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 460 623 31 854 854 460 623 31 854 854 855 7 31 31 854 854 855 7 31 31 854 854 854 855 855 855 855 855	ROJECT STAT ITION: Lat 1 2 3 kn*10 CH/HOUR: * OF TOT. 4 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir:112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbiai Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Total DATE:31/ 7/03 GEAR T start stop duration TIME:00:37:20 09:04:42 27 (min LOG :5662.85 56:64.55 1.78 FDEPTH: 10 10 BDEPTH: 33 35 Towing dir: 148@ Wire out	YPE: BT NG Area c GearCc Validi : 120 m S : 770.3 CATCH weight 1118.77 207.97 166.91 145.54 60.77 31.20 26.29 17.40 17.40 15.43 2200.97 YPE: PT NG Area c GearCc Validi : 120 m S : 700.3 : 700.97 :	<pre>pi</pre>	ROJECT STAT TITION: Lat 1 2 3 kn*10 CH/HOUR: * OF TOT. 4 * OF TOT. 4 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320 161.56
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (min FDEEPTH: 24 22 BDEPTH: 24 22 Towing dir:112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichirus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella - Juveniles Sardin	YPE: BT NG Area c GearCc Validi : 120 m S : 770.3 CATCH weight 118.77 207.97 166.91 145.54 60.77 31.20 26.29 17.40 17.40 15.43 2200.97 YPE: PT NG Area c GearCc Validi : 100 m S : 72.7	<pre>pi : 8 POS: ide code: ind.code: ty code: pped: 33 4 CAT(//HOUR numbers 13343 2331 689 3286 623 31 343 2331 689 3286 623 31 31 460 623 33 31 31 31 31 31 31 31 31 31 31 31 31</pre>	ROJECT STAT TITION: Lat 1 2 3 kn*10 CH/HOUR: * OF TOT. 4 * OF TOT. 4 * OF TOT. 5 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.7	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320 161.56
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir:1120 Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella - J	<pre>ISD.60 //PE: BT NG Area c GearCc Validi : 120 m S : 770.3 CATCH weight 1118.77 351.57 207.97 7166.91 145.54 60.77 31.20 26.29 17.40 15.43 15.43 2200.97 //PE: PT NG 15.43 2200.97 //PE: PT NG Area c GearCc Validi : 100 m S : 72.7 CATCH weight</pre>	<pre>p)</pre>	ROJECT STAT TITION: Lat 2 3 kn*10 CH/HOUR: \$ OF TOT. 4 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70 0.	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320 161.56 C SAMP
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir: 112ø Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sar	<pre>ISD.60 IPE: BT NG Area c GearCc Validi I20 m S CATCH weight II18.77 II18.77 I118.77 207.97 I66.91 45.54 60.77 31.20 26.29 17.40 15.43 I5.43 I5.44 I5.44</pre>	<pre>p) : 8 POS: e code: ide : ide code: ity code: peed: 33 4 CAT /HOUR numbers 13831 3943 2331 689 3286 1871 460 623 31 31 .: 1 POS e code: ide code: ide code: ide code: ity code: peed: 37 0 CAT /HOUR numbers</pre>	ROJECT STAT TITION: Lat 1 2 3 kn*10 CH/HOUR: * OF TOT. 4 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320 161.56 C SAMP 6775
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (min LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir: 1120 Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella auritus Total DATE:31/ 7/03 GEAR T start stop duration ILOG :562.85 5664.55 1.58 FDEPTH: 10 10 BDEPTH: 33 35 Towing dir: 1480 Wire out Sorted: Kg Total catch SPECIES Chloroscombrus chrysurus Sardinella madrenesis Brachydeuterus auritus Trichiveus lepture	<pre>ZPE: BT NG</pre>	<pre>p) : 8 pOS: e code: ind.code: ty code: peed: 33 4 CAT //HOUR numbers 13831 3943 2331 689 3286 1871 460 623 31 31 *******************************</pre>	ROJECT STAT TITION: Lat 1 2 3 kn*10 CH/HOUR: \$ OF TOT. 4 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320 161.56 C SAMP 6776
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (mi) LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir:1120 Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trachurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella madrenesis Brachydeuterus auritus Trichiurus lepturus Sardinella madrenesis Brachydeuterus auritus Trichiurus lepturus Sardinella madrenesis	<pre>ZPE: BT NG</pre>	<pre>p) : 8 POS: e code: ind.code: ity code: i</pre>	ROJECT STAT TITION: Lat 1 2 3 kn*10 CH/HOUR: \$ OF TOT. 4 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320 161.56 C SAMP 6776
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (mi) LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir:1120 Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Total DATE:31/ 7/03 GEAR T start stop duration TIME:08:37:20 09:04:42 27 (mi) LOG :562.85 5664.55 1.58 FDEPTH: 10 10 BDEPTH: 33 35 Towing dir: 148ø Wire out Sorted: Kg Total catch SPECIES Chloroscombrus chrysurus Sardinella madrensis Brachydeuterus auritus Trichiurus lepturus Selene dorsalis Sardinella madrensis Brachydeuterus auritus Trichiurus lepturus Selene dorsalis Sardinella madrensis	<pre>ZPE: BT NG Area c GearCc Validi 2120 m S CATCH weight 1118.77 351.57 207.97 166.91 45.54 60.77 31.20 26.29 17.40 17.40 15.43 2200.97 Zepe: PT NG 2200.97 Zepe: PT NG CATCH weight 100 m S CATCH weight 100 m S CATCH weight 37.67 3.2.47 1.73 1.11</pre>	<pre>p) : 8 POS: e code: ind.code: peed: 33 4 CAT /HOUR numbers 13831 3943 2331 689 3286 1871 460 623 31 31 31 .: 1 POS: e code: ind.code: ty code: peed: 37 0 CAT /HOUR numbers 12 22 27 35 7 31 7 2</pre>	ROJECT STAT TITION: Lat 1 2 3 kn*10 CH/HOUR: \$ OF TOT. 4 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70 0.60 0.70 0.70 0.60 0.70	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320 161.56 C SAMP 6776 6777
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (mi) LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir:1120 Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trichiurus lepturus Selene dorsalis Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Sardinella aurita - Juveniles Total DATE:31/ 7/03 GEAR T start stop duration TIME:08:37:20 09:04:42 27 (mi) LOG :562.85 5664.55 1.58 FDEPTH: 10 10 BDEPTH: 33 35 Towing dir: 148s Wire out Sorted: Kg Total catch SPECIES Chloroscombrus chrysurus Sardinella madrensis Brachydeuterus auritus Trichiurus lepturus Sardinella madrensis Brachydeuterus auritus Trichiurus lepturus Selene dorsalis Sardinella matra Galeoides decadactylus Sphyraena guachancho Auxis thazard	<pre>ZPE: BT NG</pre>	<pre>p) : 8 POS: e code: ind.code: ity code: peed: 33 4 CAT /HOUR numbers 13831 3943 2331 689 3286 1871 460 623 31 31 31 .: 1 POS: e code: ind.code: ty code: pred: 37 0 CAT /HOUR numbers 12 /HOUR numbers 1 7 31 7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2</pre>	ROJECT STAT TITION: Lat 2 3 kn*10 CH/HOUR: \$ OF TOT. 4 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70 0.50 0.	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320 161.56 C SAMP 6776 6777
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (mi) LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir: 1120 Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella madrensis - Juv. Pomadasys rogeri DATE:31/ 7/03 GEAR T start stop duration TIME :08:37:20 09:04:42 27 (mi) LOG :562.85 5664.55 1.58 FDEPTH: 10 10 BDEPTH: 33 35 Towing dir: 1480 Wire out Sorted: Kg Total catch SPECIES Chloroscombrus chrysurus Sardinella madrensis Brachydeuterus auritus Trichiurus lepturus Selene dorsalis Sardinella aurita Galeoides decadactylus Sphyraena guachancho Auxis thazard Pagellus bellottii Trachurus trecae	<pre>ZPE: BT NG Area c GearCc Validi 2120 m S CATCH weight 1118.77 1118.77 207.97 166.91 45.54 60.77 31.20 26.29 17.40 15.43 2200.97 Zec2 17.40 15.43 2200.97 Zec2 2200.97 Zec2 Zec2 Zec2 Zec2 Zec2 Zec2 Zec2 Zec2</pre>	<pre>p) : 8 POS: e code: ind.code: ty code: peed: 33 4 CAT /HOUR numbers 13831 3943 2331 689 3286 1871 460 623 31 31 31 .: 1 POS e code: ind.code: ty code: pred: 37 0 CAT /HOUR numbers 127 code: 1</pre>	ROJECT STAT TITION: Lat 1 2 3 kn*10 CH/HOUR: * OF TOT. 4 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70 0.50 0.50 0.50 0.07 0.50 0.07 0.50 0.07 0.70 0.50 0.50 0.07 0.50 0.07 0.50 0.07 0.50 0.07 0.50 0.07 0.50	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320 161.56 C SAMP 6776 6777
DATE:31/ 7/03 GEAR T start stop duration TIME:05:58:43.06:19:14.21 (mi) LOG :5645.69 5646.86 1.15 FDEPTH: 24 22 Towing dir:1120 Wire out Sorted: 67 Kg Total catch SPECIES Brachydeuterus auritus Chloroscombrus chrysurus Ilisha africana Galeoides decadactylus Pentheroscion mbizi Trachurus trecae, juvenile Sphyraena guachancho Sardinella aurita - Juveniles Sardinella aurita Sorted: Kg Total catch SPECIES Chloroscombrus chrysurus Sardinella madrenesis Brachydeuterus auritus Trichiurus lepturus Selene dorsalis Sardinella aurita Galeoides decadactylus Sphyraena guachancho Auxis thezard Pagellus bellottii Trachurus trecae Sepia officinalis hierreda	<pre>ZPE: BT NG Area c GearCc Validi 2120 m S CATCH weight 1118.77 1118.77 207.97 166.91 45.54 60.77 31.20 26.29 17.40 15.43 2200.97 Zeber PT NG 15.43 2200.97 Zeber PT NG 2200.97 Zeber P</pre>	<pre>p) : 8 POS: e code: ind.code: ty code: peed: 33 4 CAT /HOUR numbers 13831 3943 2331 689 3286 1871 460 623 31 31 31 .: 1 POS e code: ind.code: ty code: pred: 37 0 CAT /HOUR numbers 12 code: 12 code: 14 code: 14 code: 14 code: 15 code: 14 code: 15 code: 15 code: 15 code: 16 code: 17 code: 18 code</pre>	ROJECT STAT TITION: Lat 2 3 kn*10 CH/HOUR: \$ OF TOT. 4 50.83 15.97 9.45 7.58 6.61 2.76 1.42 1.19 0.79 0.70 0.70 0.70 99.98 ROJECT STAT TITION: Lat Long 1 2 3 kn*10 CH/HOUR: \$ OF TOT. 4 10 2 3 kn*10 CH/HOUR: 2 3 kn*10 CH/HOUR: 2 3 1.55 1.55 1.55	ION: 3228 S 1007 E 1319 2200.97 C SAMP 6773 6775 6774 ION: 3229 S 1010 E 1320 161.56 C SAMP 6776 6777

		PF	ROJECT STAT	ION:3230
DATE: 2/ 8/03 GEAR TY start stop duration	PE: PT No: 1	POSI	LTION:Lat Long	S 1020 E 1325
TIME :08:16:30 08:46:31 30 (min LOG :6009.48 6011.45 1.95) Purpose c Area code	ode:	1 2	
FDEPTH: 20 20 BDEPTH: 48 41	GearCond. Validity	code:	3	
Towing dir: Ø Wire out:	120 m Spee	ed: 38	kn*10	
Sorted: Kg Total catch:	0.50	CATO	CH/HOUR:	1.00
SPECIES	CATCH/HC weight nu)UR umbers	% OF TOT.	C SAMP
Decapterus rhonchus	1.00	4	100.00	
Total	1.00		100.00	
		DI		1011-2221
DATE: 2/ 8/03 GEAR TY	PE: BT No: 8	PF POSI	COJECT STAT	S 1024
start stop duration TIME :15:31:06 16:01:09 30 (min) Purpose c	ode:	Long	E 1331
LOG :6076.40 6077.92 1.49	Area code	e :	2	
BDEPTH: 19 19	Validity	code:	3	
Towing dir: 170ø Wire out:	120 m Spee	ad: 30	kn*10	
Sorted: 95 Kg Total catch:	416.71	CATO	CH/HOUR:	833.42
CDECTEC	CATCH /UC		\$ OF TOT	C CAMD
SPECIES	weight nu	mbers	5 OF 101.	C SAMP
Brachydeuterus auritus Galeoides decadactylus	352.00 233.06	8936 1694	42.24 27.96	
Pentheroscion mbizi Pomadasys jubelini	110.08 40.24	952 86	13.21	
Miracorvina angolensis	20.04	130	2.40	
Solea senegalensis	14.28	146 318	2.06	
Trachurus trecae Ilisha africana	11.62 9.54	228 130	1.39 1.14	6778
Trichiurus lepturus Parapenaeus longinostris	8.60	94	1.03	
Sepia orbignyana	3.50	2	0.80	
Pentanemus quinquarius Sardinella maderensis - Juv.	3.02 1.90	44 92	0.36	6779
Sepiella ornata	1.64	34	0.20	
Total	833.42		99.98	
		PF	ROTECT STAT	TON: 3232
DATE: 2/ 8/03 GEAR TY	PE: BT No: 8	POS1	TION:Lat	S 1030
TIME :18:18:15 18:42:32 24 (min) Purpose c	ode:	1 Long	F 1991
LOG :6094.76 6096.06 1.29 FDEPTH: 40 41	Area code GearCond.	code:	2	
DDDDDDI1 . 10 11			3	
BDEPTH: 40 41 Towing dir: 145ø Wire out:	200 m Spee	d: 32	kn*10	
BDEFTH: 40 41 Towing dir: 145ø Wire out:	200 m Spee	code: ed: 32	kn*10	2720 52
Towing dir: 1450 Wire out: Sorted: 94 Kg Total catch:	200 m Spee 1095.41	code: ed: 32 CATO	kn*10 CH/HOUR:	2738.53
EDEFIN: 40 41 Towing dir: 145ø Wire out: Sorted: 94 Kg Total catch: SPECIES	Validity 200 m Spee 1095.41 CATCH/HC	Code: 2d: 32 CATC	kn*10 CH/HOUR: % OF TOT.	2738.53 C SAMP
EDEFIN: 40 41 Towing dir: 145ø Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus	Validity 200 m Spee 1095.41 CATCH/HC weight nu 2428.90	CATC CATC DUR mbers 22988	kn*10 CH/HOUR: % OF TOT. 88.69	2738.53 C SAMP
EDEFIN: 40 41 Towing dir: 145æ Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Paja alba	Validity 200 m Spee 1095.41 CATCH/HC weight nu 2428.90 204.10 34 75	CATC CATC DUR mbers 22988 928 318	kn*10 CH/HOUR: % OF TOT. 88.69 7.45 1 27	2738.53 C SAMP
EDEFIN: 40 41 Towing dir: 145æ Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi	Validity 200 m Spee 1095.41 CATCH/HC weight nu 2428.90 204.10 34.75 27.80	CATC CATC DUR mbers 22988 928 318 405	<pre>kn*10 CH/HOUR: % OF TOT. 88.69 7.45 1.27 1.02</pre>	2738.53 C SAMP
EDEFIN: 40 41 Towing dir: 145æ Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Pseudotolithus typus Umbrina canariensis	Validity 200 m Spee 1095.41 CATCH/HC weight nu 2428.90 204.10 34.75 27.80 20.28 14.78	Code: cATC CATC UUR mmbers 22988 318 405 58 115	kn*10 2H/HOUR: % OF TOT. 88.69 7.45 1.27 1.02 0.74 0.54	2738.53 C SAMP
BDEFTH: 40 41 Towing dir: 145a Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Pseudotolithus typus Umbrina canariensis Dentex canariensis Trachurus trecae	Validity 200 m Spee 1095.41 CATCH/HC weight nu 2428.90 204.10 34.75 27.80 20.28 14.78 2.90 1.45	CATC CATC UUR umbers 22988 928 318 405 58 115 30 5	<pre>kn*10 CH/HOUR: % OF TOT. % OF TOT. % 0F TOT. 1.02 0.74 0.54 0.11 0.05</pre>	2738.53 C SAMP
BDEFTH: 40 41 Towing dir: 145a Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Pseudotolithus typus Umbrina canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus Lastupus	Validity 200 m Spee 1095.41 CATCH/HC weight nu 2428.90 204.10 34.75 27.80 20.28 14.78 2.90 1.45 1.45	Code: cd: 32 CATC DUR imbers 22988 928 318 405 58 115 30 5 58 145	<pre>kn*10 CH/HOUR: % OF TOT. % OF TOT. % 88.69 7.45 1.27 1.02 0.74 0.54 0.11 0.05 0.05 0.05</pre>	2738.53 C SAMP
BDEFTH: 40 41 Towing dir: 145a Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Pseudotolithus typus Umbrina canariensis Dentex canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus lepturus Sardinella maderensis	Validity 200 m Spee 1095.41 CATCH/HC Weight nu 2428.90 204.10 34.75 27.80 20.28 14.78 2.90 1.45 1.45 1.45 0.68	code: ed: 32 CATC DUR mubers 22988 928 318 405 58 115 30 5 5 8 115 30 5 5 8 145 3	kn*10 TH/HOUR: % OF TOT. 88.69 7.45 1.27 1.02 0.74 0.54 0.154 0.15 0.05 0.05 0.05 0.02	2738.53 C SAMP
BDEFTH: 40 41 Towing dir: 145a Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Pseudotolithus typus Umbrina canariensis Dentex canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus lepturus Sardinella maderensis Total	Validity 200 m Spee 1095.41 CATCH/HC Weight nu 2428.90 204.10 34.75 27.80 20.28 14.78 2.90 1.45 1.45 1.45 0.68 2738.54	Code: cd: 32 CATC UUR mbers 22988 928 318 405 58 115 30 5 58 145 3	kn*10 TH/HOUR: & OF TOT. 88.69 7.45 1.27 1.02 0.74 0.54 0.54 0.55 0.05 0.05 0.02 99.99	2738.53 C SAMP
EDEFIN: 40 41 Towing dir: 145a Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Pseudotolithus typus Umbrina canariensis Dentex canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus lepturus Sardinella maderensis Total	Validity 200 m Spee 1095.41 CATCH/HC weight nu 2428.90 204.10 34.75 27.80 20.28 14.78 2.90 1.45 1.45 1.45 0.68 2738.54	CODUR CATC DUR 22988 928 318 405 58 115 30 5 58 145 3	kn*10 TH/HOUR: \$ OF TOT. 88.69 7.45 1.27 1.02 0.74 0.54 0.11 0.05 0.05 0.05 0.05 0.02 99.99	2738.53 C SAMP
BDEFTH: 40 41 Towing dir: 145a Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Pseudotolithus typus Umbrina canariensis Dentex canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus lepturus Sardinella maderensis Total	Validity 200 m Spee 1095.41 CATCH/HC weight nu 2428.90 204.10 34.75 27.80 20.28 14.78 2.90 1.45 1.45 1.45 0.68 2738.54	code: cAt 32 cATC pUR mbers 22988 928 318 405 58 115 30 58 145 3	kn*10 CH/HOUR: * OF TOT. 88.69 7.45 1.27 1.02 0.74 0.54 0.11 0.05 0.05 0.05 0.05 0.05 0.99 99.99	2738.53 C SAMP
BDEFTH: 40 41 Towing dir: 145a Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Pseudotolithus typus Umbrina canariensis Dentex canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus lepturus Sardinella maderensis Total	Validity 200 m Spee 1095.41 CATCH/HC weight nu 2428.90 204.10 34.75 27.80 20.28 14.78 2.90 1.45 1.45 1.45 0.68 2738.54	COACE: cd: 32 CATC DUR imbers 22988 928 318 405 58 145 58 145 30 5 58 145 3	kn*10 CH/HOUR: * OF TOT. 88.69 7.45 1.27 1.02 0.74 0.54 0.11 0.05 0.05 0.05 0.05 0.99 99.99	2738.53 C SAMP
DEFIN: 40 41 Towing dir: 1455 Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagelus bellottii Raja alba Pentheroscion mbizi Pseudotolithus typus Umbrina canariensis Dentex canariensis Dentex canariensis Trachurus lepturus Sardinella maderensis Total DATE: 3/ 8/03 GEAR TY	Validity 200 m Spee 1095.41 CATCH/HC weight nu 2428.90 204.10 34.75 27.80 20.28 14.78 2.90 1.45 1.45 1.45 1.45 2738.54	Code: ed: 32 CATC DUR mmbers 22988 928 318 405 58 115 30 5 58 115 30 5 5 8 145 3 9 8 928 928 928 928 928 928 928 928 928	<pre>kn*10 CH/HOUR:</pre>	2738.53 C SAMP ION:3233 S 1035
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DEPTH: 40 41 Towing dir: 1455 Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Precharoscion mbizi Dentex canariensis Trachurus trecae Raja miraletus Sardinella maderensis Total DATE: 3/ 8/03 GEAR TY start stop duration Trichirurus lepturus Sardinella maderensis Total DATE: 01:44:49 02:14:34 30 (min LOG colfs6.66 colfs.19 1.51 FDEPTH: 23 32 DEPTH: 23 32 Towing dir: 2458 Wire out: Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Pteroscion peli Pomadasys incisus Pagellus bellottii Torpedo mamorata Rhinobatos albomaculatus Trichirurus lepturus Dayatis margarita Pseudotolitus senegalensis Penaeus notialis Sardinella aurita - Juveniles Trachurus trecae Ophichtus ophis	Validity 200 m Spec 1095.41 CATCH/HU weight mu 2428.90 204.10 34.75 27.80 20.28 14.78 2.90 1.45 1.45 0.68 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 200 m Spec 158.45 274.10 10.00 8.00 28.24 17.00 16.74 16.30 13.00 8.34 6.52 5.24 4.10 2.92 2.50	code: cATC CATC 22988 405 58 318 405 58 318 405 58 318 405 58 318 405 58 318 405 58 318 405 58 318 405 58 30 30 258 20 20 20 20 20 20 20 20 20 20 20 20 20	kn *10 CH/HOUR: * OF TOT. 8 0.69 7.45 1.27 0.74 0.54 0.11 0.05 0.05 0.05 0.05 0.02 	2738.53 C SAMP ION: 3233 S 1035 E 1339 316.90 C SAMP C SAMP
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DEPTH: 40 41 Towing dir: 1455 Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Pesudotolithus typus Umbrina canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus lepturus Sardinella maderensis Total DATE: 3/ 8/03 GEAR TY start stop duration TIME :01:44:49 02:14:34 30 (min LOG :6156.66 6158.19 1.51 FPEPTH: 23 32 Towing dir: 245e Wire out: Sortel: Kg Total catch: SPECIES Brachydeuterus auritus Pteroscion peli Pomadasys incisus Pagellus bellottii Torpedo marmorata Rhinobatos albomaculatus Trichiurus lepturus Dayatis margarita Pseudotolithus senegalensis Penaeus notialis Penaeus notialis Sardinella aurita - Juveniles Trachurus trecae Ophichtus ophis Dentex barnardi Solaa senegalensis - Juv.	Validity 200 m Spee 1095.41 CATCH/HC weight nu 2428.90 204.10 34.75 27.80 20.28 14.78 20.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.28 14.78 2.0.68 2.738.54 2.741.55 2.741.55 2.741.55 2.741.55 2.741.55 2.741.55 2.741.55 2.741.55 2.741.55 2.741.55 2.752.55 2.741.55 2.752.552.55 2.741.552.552.552.552.552.552.552.552.552.55	code: dd: 32 CATC UUR UUR 22988 928 928 928 928 928 928 928 928 9	<pre>kn*10 CH/HOUR: % OF TOT. % OF TOT. % OF TOT. % OF TOT. 0.52 0.05 0.05 0.02 99.99 ROJECT STAT TTION:Lat Long 1 2 3 kn*10 CH/HOUR: % OF TOT. 31.87 25.24 8.0F TOT. 31.87 25.24 8.91 15.36 5.26 5.26 5.26 5.26 5.27 0.22 0.72 0.62 0.67 1.65 1.65 1.65 1.65 1.65 1.65 1.65 1.65</pre>	2738.53 C SAMP ION: 3233 S 1035 E 1339 316.90 C SAMP C SAMP 6781 6781 6782
DEPTH: 40 41 Towing dir: 1455 Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Pseudotolithus typus Umbrina canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus lepturus Sardinella maderensis Total DATE: 3/ 8/03 GEAR TY start stop duration TIME :01:44:49 02:14:34 30 (min LOG :6156.66 6158.19 1.51 PDEPTH: 23 32 Towing dir: 245g Wire out: Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Pteroscion peli Pomadasys incisus Pagellus bellottii Torpedo marmorata Rhinobatos albomaculatus Trichiurus lepturus Daryatis margarita Pseudotolithus senegalensis Penaeus notialis Penaeus notialis Sardinella aurita - Juveniles Trachurus trecae Ophichtus ophis Dentex barnardi Solea senegalensis - Juv. Sepia orbignyana Ilisha africana	Validity 200 m Spee 1095.41 CATCH/HC weight mu 2428.90 204.10 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.5 1.45 1.45 1.45 2.738.54 2738.54 2738.54 2738.54 2738.54 20.068 2738.54 20.068 2738.54 20.068 2738.54 20.068 2738.54 20.068 2738.54 20.078 20.0778 20.0778 20.0777 20.0778 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.0777 20.07777 20.07777 20.07777 20.077777 20.07777777777	code: dd: 32 CATC UUR 22988 928 928 928 928 928 928 928 928 9	<pre>kn*10 2H/HOUR: % OF TOT. % OF TOT. % OF TOT. % OF TOT. 0.54 0.51 0.05 0.05 0.02 99.99 ROJECT STAT TTION:Lat Long 1 2 3 kn*10 2H/HOUR: % OF TOT. 15.36 5.26 5.26 5.26 5.26 5.26 5.26 5.26 5.2</pre>	2738.53 C SAMP ION:3233 S 1035 E 1339 316.90 C SAMP C SAMP 6781 6781 6782
DEPTH: 40 41 Towing dir: 1455 Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Peseudotolithus typus Umbrina canariensis Dentex canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus lepturus Sardinella maderensis Total DATE: 3/ 8/03 GEAR TY start stop duration TIME : 101:44:49 02:14:34 30 (min LOG :6156.66 6158.19 1.51 PDEPTH: 23 32 Towing dir: 245e Wire out: Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Pteroscion peli Pomadasys incisus Pagellus bellottii Torpedo marmorata Rhinobatos albomaculatus Trichiurus lepturus Dasyatis margarita Psenaeus notialis Penaeus notialis Penaeus notialis Penaeus notialis Penaeus notialis Sardinella aurita - Juveniles Trachurus trecae Ophichtus ophis Dentex barnardi Solea senegalensis S Sardinella maderensis - Juv. Sepia orbignyan Ilisha africana Pentamemus quinquarius	Validity 200 m Spee 1095.41 CATCH/HC weight mu 2428.90 204.10 34.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.5 1.45 1.45 1.45 1.45 0.68 2738.54 2748.54 27575555555555555555555555555555	code: cATC UUR CATC UUR 22988 928 928 928 928 928 928 9	<pre>kn*10 2H/HOUR: % OF TOT. % OF TOT. % OF TOT. % OF TOT. 0.52 0.02 0.74 0.11 0.05 0.05 0.05 0.02 99.99 ROJECT STAT TTION:Lat Long 1 2 3 kn*10 2H/HOUR: % OF TOT. 15.36 5.28 5.14 4.10 2.75 2.63 2.06 1.65 5.29 0.92 0.79 0.68 5.14 4.10 2.75 2.63 2.06 1.65 5.26 1.65 5</pre>	2738.53 C SAMP ION:3223 S 1035 E 1339 316.90 C SAMP C SAMP 6781 6782
DEPTH: 40 41 Towing dir: 1456 Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Pseudotolithus typus Umbrina canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus lepturus Sardinella maderensis Total DATE: 3/ 8/03 GEAR TY start stop duration TIME :01:44:49 02:14:34 30 (min LOG :6156.66 6158.19 1.51 FDEPTH: 23 32 BDEPTH: 23 32 Towing dir: 245s Wire out: Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Pteroscion peli Pomadasys incisus Pagellus bellottii Torpedo marmorata Rhinobatos albomaculatus Trichiurus lepturus Dasyatis margarita Pseudotolithus senegalensis Penaeus notialis Sardinella aurita - Juveniles Trachurus trecae Ophichtus ophis Dentex barnardi Solea senegalensis Sardinella maderensis - Juv. Sepia orbignyana Ilisha africana Pentamemus quinquarius Chilomyterus pinosus mauret. Penaeus kerathurus	Validity 200 m Spec 1095.41 CATCH/HC weight mu 2428.90 204.10 34.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.75 27.80 20.28 14.5 1.45 1.45 1.45 1.45 0.68 2738.54 2748.54	code: cATC UUR 22988 9288 9288 9288 9288 105 58 115 58 145 30 58 147 30 244 44 4 50 244 44 4 4 4 4 4 4 4 4 4 4 4	<pre>kn*10 2H/HOUR: % OF TOT. % OF TOT. % OF TOT. % OF TOT. 0.22 0.74 0.11 0.05 0.05 0.05 0.02 99.99 ROJECT STAT TTION:Lat Long 1 2 3 kn*10 2H/HOUR: % OF TOT. 15.36 5.28 % 5.14 4.10 2.75 2.63 2.66 1.65 5.24 % 0.57 0.22 0.11 1.29 0.68 0.68 0.08 0.08 0.08 0.08 0.08 0.08</pre>	2738.53 C SAMP ION:3233 S 1035 E 1339 316.90 C SAMP 6781 6782
DEPTH: 40 41 Towing dir: 1455 Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagellus bellottii Raja alba Pentheroscion mbizi Dentex canariensis Dentex canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus lepturus Sardinella maderensis Total DATE: 3/ 8/03 GEAR TY start stop duration TIME :01:44:49 02:14:34 30 (min LOG :6156.66 6158.19 1.51 FDEPTH: 23 32 Towing dir: 245s Wire out: Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Pteroscion peli Pomadasys incisus Pagellus bellottii Torpedo marmorata Thinobatos albomaculatus Trichiurus lepturus Dayatis margarita Pseudotolithus senegalensis Penaeus notialis Sardinella aurita - Juveniles Trachurus trecae Ophichtus ophis Dentex barnardi Solea senegalensis Sardinella maderensis - Juv. Septi orbignyan Ilisha africana Pentanemus quinquarius Chilomycterus spinousus mauret. Penaeus kerathurus SQUILLIDAE	Validity 200 m Spec 1095.41 CATCH/HC weight mu 2428.90 204.10 34.75 27.80 20.28 14.78 2.02.28 14.78 2.02.28 14.78 2.02.28 14.78 2.02.28 14.78 2.02.28 14.75 2.738.54 2748.54 27575.557555555555555555555555555555555	code: dd: 32 CATC UUR 22988 9288 9288 9288 9288 105 58 115 58 115 58 115 58 145 30 20 20 20 20 20 20 20 20 20 20 20 20 20	<pre>kn*10 CH/HOUR:</pre>	2738.53 C SAMP ION:3233 S 1035 E 1339 316.90 C SAMP 6781 6780 6782
DEPTH: 40 41 Towing dir: 1455 Wire out: Sorted: 94 Kg Total catch: SPECIES Brachydeuterus auritus Pagelus bellottii Raja alba Pentheroscion mbizi Dentex canariensis Dentex canariensis Trachurus trecae Raja miraletus Trichiurus lepturus Sardinella maderensis Total DATE: 3/ 8/03 GEAR TY start stop duration TIME :01:44:49 02:14:34 30 (min LOG :6156.66 6158.19 1.51 PDEPTH: 23 32 DEDETH: 23 32 Towing dir: 245s Wire out: Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Pteroscion peli Pomadasys incisus Pagellus bellottii Torpedo marmorata Thinobatos albomaculatus Trichiurus lepturus Dayatis margarita Pseudotolithus senegalensis Penaeus notialis Sardinella aurita - Juveniles Trachurus trecae Ophichtus ophis Dentex barnardi Solea senegalensis Sardinella maderensis - Juv. Sepia orbignyana Ilisha africana Pentanemus quinquarius Chilomycterus pinosus mauret. Penaeus kerathurus SQUILLIDAE	Validity 200 m Spee 1095.41 CATCH/HC weight mu 2428.90 204.10 34.75 27.80 20.28 14.78 2.02.8 14.78 2.02.8 14.78 2.02.8 14.78 2.290 1.45 1.45 1.45 1.45 0.68 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2738.54 2.20 Area code GearCond. Validity 120 m Spee 158.45 CATCH/HC weight mu 101.00 80.00 28.24 17.00 16.74 16.30 13.00 8.34 6.52 5.24 4.10 2.50 2.514 1.80 0.34 0.34 0.34 0.34 0.24 0.24 0.24 0.24 0.24 0.24 0.24 0.2	code: d: 32 CATC UUR 22988 9288 9288 9288 405 58 318 405 58 318 405 58 318 405 58 318 405 58 318 405 58 58 145 3 3 0 5 58 20 40 20 20 20 20 20 20 20 20 20 20 20 20 20	<pre>kn*10 CH/HOUR:</pre>	2738.53 C SAMP ION:3233 S 1035 E 1339 316.90 C SAMP 6781 6780 6782

99.98

316.90

Total

ראידי 3/8/03 נפגעס ידע	DF. PT No.	PR	DJECT STAT	ION:3234
start stop duration	EL DI NOU		Long	E 1339
LOG :6228.84 6230.43 1.58) Purpose Area cod	e :	2	
FDEPTH: 65 77 BDEPTH: 65 77	GearCond Validity	.code: code: :	3	
Towing dir: 243ø Wire out:	210 m Spe	ed: 30 1	cn*10	
Sorted: Kg Total catch:	247.45	CATCI	H/HOUR:	494.90
PECIES	CATCH/H	JUR !	SOF TOT.	C SAME
richiurus lepturus	weight n 292.00	umbers 3740	59.00	
rachydeuterus auritus terothrissus bellogi	63.68	352	12.87	
rotula barbata	21.76	92	4.40	
eus faber 'itharus linguatula	18.24 10.72	66 200	3.69 2.17	
seudotolithus typus agellus bellottii	9.92	44 50	2.00	
entex barnardi	8.16	66	1.65	
epia orbignyana	5.36	16	1.08	
entex angolensis olea senegalensis	4.96 3.74	18 28	1.00 0.76	
Mbrina canariensis	2.72	18	0.55	
helidonichthys gabonensis	2.10	16	0.42	
haetodon hoefleri arapristipoma octolineatum	1.52	8 4	0.31	
ctopus vulgaris vnoglossus browni	1.12	4	0.23	
rachurus trecae	0.70	2	0.14	
ISH LAKVAE teroscion peli	0.64 0.56	220 4	0.13 0.11	
arapenaeus longirostris erluccius polli	0.54 0.28	144 60	0.11 0.06	
ynoponticus ferox	0.22	4	0.04	
pinephelus guaza ?	0.08	4	0.04	
OBIIDAE chedophilus pemarco	0.06	32 4	0.01	
phippion guttifer	0.02	4		
	0.02	-		
DATE: 3/ 8/03 GEAR TY start stop duration	PE: PT No:	PRO 1 POSI	DJECT STAT: FION:Lat Long	ION:3235 S 1047 E 1342
TIME :14:16:01 14:46:11 30 (min) Purpose	code:	L	5 1342
FDEPTH: 15 20	GearCond	.code:	2	
BDEPTH: 39 56 Towing dir: 243ø Wire out:	Validity 120 m Spe	code: : ed: 40 l	3 cn*10	
Sorted: Kg Total catch:	32.86	CATCI	H/HOUR:	65.72
PECIES				
	CATCH/H	JUR '	F OF TOT.	C SAME
aleoides decadactylus	CATCH/H weight n 28.10	UR : umbers 52	\$ OF TOT. (42.76	C SAME
aleoides decadactylus ardinella maderensis rachincus ovatus	CATCH/H weight n 28.10 18.30 6 28	OUR : umbers 52 64	© OF TOT. (42.76 27.85	C SAME 6783
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus	CATCH/H weight n 28.10 18.30 6.28 3.36	OUR 52 52 64 14 28	© OF TOT. (42.76 27.85 9.56 5.11	C SAME 6783
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus	CATCH/H weight n 28.10 18.30 6.28 3.36 2.64 1.92	DUR 52 52 64 14 28 12 4	© OF TOT. 0 42.76 27.85 9.56 5.11 4.02 2.92	C SAME
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadaxys roceri	CATCH/H weight n 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66	DUR 52 64 14 28 12 4 4 2	\$ OF TOT. 0 42.76 27.85 9.56 5.11 4.02 2.92 2.86 2.53	C SAME 6783
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadasys rogeri egia officinalis hierredda	CATCH/H weight n 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.86	DUR 52 64 14 28 12 4 4 2 88	42.76 27.85 9.56 5.11 4.02 2.92 2.86 2.53 1.31	C SAMI
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadasys rogeri epia officinalis hierredda ardinella aurita rachurus trecae	CATCH/H weight n 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.86 0.50 0.20	DUR 52 64 14 28 12 4 4 2 88 2 2 2	<pre>\$ OF TOT. (</pre>	C SAMI
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadasys rogeri epia officinalis hierredda ardinella aurita rachurus trecae comber japonicus	CATCH/H weight n 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.86 0.50 0.20 0.02	DUR 52 64 14 28 12 4 4 2 88 2 2 2 2 2	<pre>\$ OF TOT. (</pre>	С SAMI
Maleoides decadactylus Mardinella maderensis Trachinotus ovatus Mioroscombrus chrysurus Tichiurus lepturus Pyhyraena guachancho omadasys rogeri epia officinalis hierredda ardinella aurita Trachurus trecae comber japonicus	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.86 0.50 0.20 0.20 0.02 65.72	DUR 52 64 14 28 12 4 4 2 88 2 2 2 2	\$ OF TOT. (42.76 27.85 9.56 5.11 4.02 2.92 2.86 6.2.53 1.31 0.76 0.30 0.03 100.01	C SAME
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadasys rogeri epia officinalis hierredda ardinella aurita rachurus trecae comber japonicus otal	CATCH/H weight m 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.50 0.20 0.20 0.02 65.72	DUR 52 imbers 52 64 14 28 12 4 4 2 88 2 2 2 PR	\$ 0F TOT. (42.76 27.85 9.56 5.11 4.02 2.92 2.86 2.53 1.31 0.76 0.30 0.03 100.01	C SAME 6783
Maleoides decadactylus Mardinella maderensis Trachinotus ovatus Trachydeuterus auritus hloroscombrus chrysurus Trichiurus lepturus phyraena guachancho omadasys rogeri epia officinalis hierredda ardinella aurita Trachurus trecae koomber japonicus total DATE: 3/ 8/03 GEAR TY start stop duration	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.50 0.20 0.20 0.02 65.72	DUR 5 522 64 14 28 12 4 4 2 88 2 2 2 2 2 88 2 2 2 2	<pre>& OF TOT. 4</pre>	C SAME 6783 1001:3236 S 1044 E 1343
Maleoides decadactylus Mardinella maderensis Trachinotus ovatus Trachydeuterus auritus hloroscombrus chrysurus Tichiurus lepturus phyraena guachancho Tomadasys rogeri tepia officinalis hierredda ardinella aurita Trachurus trecae toomber japonicus Total DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.50 0.20 0.20 65.72 PE: PT No:) Purpose Area cod	DUR 52 imbers 52 64 14 28 12 4 4 2 88 2 2 2 2 2 2 2 2 2 2 2 2 2	<pre>& OF TOT. 4</pre>	C SAME 6783 1001:3236 S 1046 E 1343
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadasys rogeri epia officinalis hierredda ardinella aurita rachurus trecae comber japonicus otal DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00 FDEPTH: 10 10	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.50 0.20 0.20 65.72 PE: PT No:) Purpose Area cod GearCond Validter	DUR 52 imbers 52 64 14 28 12 4 4 2 88 2 2 2 2 2 2 2 2 2 2 2 2 2	<pre>& OF TOT. 4</pre>	C SAME 6783 10N: 3236 S 1046 E 1343
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadasys rogeri epia officinalis hlerredda ardinella aurita rachurus trecae comber japonicus otal DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00 FDEFTH: 10 10 BDEFTH: 36 37 Towing dir: 1600 Wire out:	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.50 0.20 0.20 0.20 65.72 PE: PT No:) Purpose Area cod GearCond Validity 120 m Spe	DUR 5 52 64 14 28 12 4 2 88 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	<pre>& OF TOT. 6</pre>	C SAME 6783 10N: 3236 S 1046 E 1343
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aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadasys rogeri epia officinalis hierredda ardinella aurita rachurus trecae comber japonicus otal DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00 FDEFTH: 10 10 BDEPTH: 36 37 Towing dir: 160s Wire out: Sorted: 95 Kg Total catch: PECIES rachydeuterus auritus ardinella maderensis omadasys jubelini richiurus lepturus aleoides decadactylus	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.86 0.50 0.20 0.02 65.72 PE: PT No:) Purpose A Area cod GearCond Validity 120 m Spe 2210.32 CATCH/H weight m 2868.38 740.78 17.59 158.93 105.53	UUR 3 imberss 52 52 64 14 28 14 28 14 28 2 2 2 2 2 2 2 2 2 2 2 2 2	<pre>\$ 0F TOT. (</pre>	C SAME 6783 6783 5 1046 E 1343 C SAME 6784
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadasys rogeri epia officinalis hierredda ardinella aurita rachurus trecae comber japonicus otal DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00 FDEFTH: 16 10 BDEPTH: 16 10 BDEPTH: 36 37 Towing dir: 160s Wire out: Sorted: 95 Kg Total catch: PECIES rachydeuterus auritus ardinella maderensis omadasys jubelini richiurus lepturus aleoides decadactylus rius parkii rachurus trecae	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.86 0.50 0.20 0.02 65.72 PE: PT No:) Purpose A Area cod GearCond Validity 120 m Spei 2210.32 CATCH/H weight m 2868.38 740.78 179.59 158.93 105.53 42.64 27.84	UUR 3 imberss 52 52 64 14 28 28 4 4 4 2 28 8 2 2 2 2 2 2 2 2 2 2 2 2 2	<pre>& OF TOT. (</pre>	C SAME 6783 6783 5 1046 E 1343 4144.35 C SAME 6784
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadasys rogeri epia officinalis hierredda ardinella aurita rachurus trecae comber japonicus otal DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00 FDEPTH: 10 10 BDEPTH: 16 10 BDEPTH: 36 37 Towing dir: 160ø Wire out: Sorted: 95 Kg Total catch: PECIES rachydeuterus auritus ardinella maderensis omadasys jubelini richiurus lepturus aleoides decadactylus rius parkii rachurus trecae teroscion peli	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.50 0.20 0.02 65.72 PE: PT No:) Purpose Area cod GearCond Validity 120 m Spe 2210.32 CATCH/H weight m 2868.38 740.78 179.59 158.93 105.53 42.64 27.84 12.06	UUR 3 imberse 52 52 64 14 28 12 14 28 8 2 2 2 2 2 2 2 2 2 2 2 2 2	<pre>& OF TOT. (</pre>	C SAME 6783 6783 5 104 E 1343 4144.35 C SAME 6784
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadays rogeri epia officinalis hierredda ardinella aurita rachurus trecae comber japonicus otal DATE: 3/ 8/03 GEAR TY start stop duration rotal DATE: 3/ 8/03 GEAR TY start stop duration total DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00 FPDEPTH: 10 10 BDEPTH: 36 37 Towing dir: 160ø Wire out: Sorted: 95 Kg Total catch: PECIES rachydeuterus auritus ardinella maderensis omadasys jubelini richiurus lepturus aleoides decadactylus rius parkii rachurus trecae teroscion peli hloroscombrus chrysurus ardinella aurita	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.50 0.20 0.02 65.72 PE: PT No:) Purpose A Area cod GearCond Validity 120 m Spe 2210.32 CATCH/H weight m 2868.38 740.78 17.59 158.93 105.53 42.64 27.84 12.06 5.18 3.45	UUR 3 imberse 52 52 64 14 28 8 8 2 2 2 2 2 2 2 2 2 2 2 2 2	<pre>\$ 0F TOT. (</pre>	C SAME 6783 6783 5 104 E 1343 4144.35 C SAME 6784 6785
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aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hhoroscombrus chrysurus richiurus lepturus phyraena guachancho omadays rogeri epia officinalis hierredda ardinella aurita rachurus trecae comber japonicus otal DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00 FPDEPTH: 16 10 BDEPTH: 36 37 Towing dir: 160ø Wire out: Sorted: 95 Kg Total catch: PECIES trachydeuterus auritus ardinella maderensis omadasys jubelini richiurus lepturus aleoides decadactylus rus parkii rachurus trecae teroscion peli hhoroscombrus chrysurus ardinella aurita	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.86 0.50 0.20 0.02 65.72 PE: PT No: 0 Purpose Area cod GearCond Validity 120 m Spe 2210.32 CATCH/H weight m 2868.38 740.78 179.59 158.93 105.53 42.64 12.06 5.18 3.45	UUR 3 imberss 2 52 64 14 28 8 2 2 2 2 2 2 2 2 2 2 2 2 2	<pre>& OF TOT. (</pre>	C SAME 6783 6783 5 1046 E 1343 4144.35 C SAME 6784 6784
Aleoides decadactylus ardinella maderensis Tachinotus ovatus trachydeuterus auritus hloroscombrus chrysurus Tichiurus lepturus phyraena guachancho omadasys rogeri epia officinalis hierredda ardinella aurita Tachurus trecae icomber japonicus total DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00 FDEPTH: 36 37 Towing dir: 160s Wire out: Sorted: 95 Kg Total catch: Sorted: 95 Kg Total catch: PECIES trachydeuterus auritus ardinella maderensis omadasys jubelini Tichiurus lepturus laleoides decadactylus rius parkii Tachurus trecae teroscion peli hloroscombrus chrysurus ardinella aurita total	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.50 0.20 0.02 65.72 PE: PT No:) Purpose Area cod GearCond Validity 120 m Spe 2210.32 CATCH/H weight m 2868.38 740.78 179.59 158.93 105.53 42.64 27.84 1.206 5.18 3.45 4144.38	UUR 3 imberse 52 54 54 54 54 54 54 54 54 55 54 54	<pre>\$ 0F TOT. 4</pre>	C SAME 6783 6783 5 1046 E 1343 4144.35 C SAME 6784 6785 100:3237 S 1102
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aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hlorosocombrus chrysurus richiurus lepturus phyraena guachancho omadays rogeri epia officinalis hierredda ardinella aurita rachurus trecae comber japonicus otal DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00 PDEPTH: 10 10 BDEPTH: 10 10 BDEPTH: 10 10 BDEPTH: 10 10 BDEPTH: 10 0 BDEPTH: 10 10 BDEPTH: 1	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.50 0.20 0.02 65.72 PE: PT No:) Purpose Area cod GearCond Validity 120 m Spe 2210.32 CATCH/H weight m 2868.38 740.78 179.59 158.93 105.53 42.64 27.84 1.20 65.18 3.45 4144.38 PE: PT No:) Purpose Area cod GearCond 4144.38	UUR : S2 S2 S4 S4 S2 S4 S4 S2 S4 S5 S5 S5 S5 S5 S5 S5 S5 S5 S5	<pre>& OF TOT. (</pre>	C SAME 6783 6783 6783 4144.35 C SAME 6784 6784 6785 1001:3237 S 1102 E 1333
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hloroscombrus chrysurus richiurus lepturus phyraena guachancho omadays rogeri epia officinalis hierredda ardinella aurita rachurus trecae comber japonicus otal DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00 PDEPTH: 10 10 BDEPTH: 36 37 Towing dir: 160ø Wire out: Sorted: 95 Kg Total catch: PECIES rachydeuterus auritus ardinella maderensis omadays jubelini richiurus lepturus aleoides decadactylus rius parkii rachurus trecae teroscion peli hloroscomburs chrysurus ardinella aurita otal DATE: 4/ 8/03 GEAR TY start stop duration TIME :02:01:58 02:32:14 30 (min LOG :6324.01 6325.82 1.79 FDEPTH: 5 5 EDEPTH: 239 327 Towing dir: 261ø Wire out:	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.50 0.20 0.02 65.72 PE: PT No:) Purpose Area cod GearCond Validity 120 m Spe 2210.32 CATCH/H weight m 2866.38 740.78 179.59 158.93 105.53 42.64 27.84 1.20 65.18 3.45 4144.38 PE: PT No:) Purpose Area cod GearCond Validity 150 m Spe	UUR : S2 S2 S4 14 28 8 2 2 2 2 2 2 2 2 2 2 2 2 2	<pre>& OF TOT. (</pre>	C SAME 6783 6783 6783 4144.35 C SAME 6784 6784 6785 100:3237 S 1103 E 1333
aleoides decadactylus ardinella maderensis rachinotus ovatus rachydeuterus auritus hlorosocombrus chrysurus richiurus lepturus phyraena guachancho omadasys rogeri epia officinalis hierredda ardinella aurita rachurus trecae comber japonicus otal DATE: 3/ 8/03 GEAR TY start stop duration TIME :18:41:17 19:13:09 32 (min LOG :6272.38 6274.46 2.00 PDEPTH: 10 10 BDEPTH: 36 37 Towing dir: 160ø Wire out: Sorted: 95 Kg Total catch: DATE: 95 Kg Total catch: Sorted: 95 Kg Total catch: PECIES rachydeuterus auritus ardinella maderensis omadasys jubelini richiurus lepturus aleoides decadactylus rius parkii rachurus trecae teroscion peli hlorosocombrus chrysurus ardinella aurita otal DATE: 4/ 8/03 GEAR TY start stop duration TIME :02:01:58 02:32:14 30 (min LOG :6324.01 6325.82 1.79 FDEPTH: 23 327 Towing dir: 261ø Wire out: Sorted: Kg Total catch:	CATCH/H weight m 28.10 18.30 6.28 3.36 2.64 1.92 1.88 1.66 0.50 0.20 0.02 65.72 PE: PT No:) Purpose Area cod GearCond Validity 120 m Spe 2210.32 CATCH/H weight m 2866.38 740.78 179.59 158.93 105.53 42.64 27.84 1.20 5.18 3.45 4144.38 PE: PT No:) Purpose Area cod GearCond Validity 150 m Spe 25.10	UUR : S2 S2 S4 14 28 82 2 2 2 2 2 2 2 2 2 2 2 2 2	<pre>& OF TOT. (</pre>	C SAME 6783 6783 6783 4144.35 C SAME 6784 6784 6785 100:3237 S 1107 E 1333

SPECIES	CATCH	/HOUR	d/o	OF	TOT.	C SAMP
	weight	numbers				
MYCTOPHIDAE	388.20	282120			74.91	
Lepidochelys olivacea	130.00	2			25.09	
Total	518.20				100.00	

		PR	OJECT STATI	ON:3238
DATE: 4/ 8/03 GEAR TY start stop duration	PE: PT No:	1 POSI	Long	S 1108 E 1337
TIME :09:12:24 09:35:41 23 (min LOG :6374.69 6375.97 1.28) Purpose Area co	code: de :	1 2	
FDEPTH: 110 110 BDEPTH: 141 116	GearCon	d.code:	3	
Towing dir: 90ø Wire out:	300 m Sp	eed: 34	kn*10	
Sorted: Kg Total catch:	11.62	CATC	H/HOUR:	30.31
SPECIES	CATCH/I	HOUR	S OF TOT. C	SAMP
Trichiurus lepturus	16.17	21	53.35	
MYCTOPHIDAE Todarodes sagittatus	2.09	5084 788	35.96 6.90	
FISH LARVAE Selene dorsalis, juveniles	0.91 0.23	300 23	3.00 0.76	
Total	30.30		99.97	
		PR	OJECT STATI	ON:3239
DATE: 4/ 8/03 GEAR TY start stop duration	PE: PT No:	1 POSI	TION:Lat	S 1114 E 1337
TIME :15:08:20 15:38:15 30 (min) Purpose	code:	1	
FDEPTH: 75 65	GearCon	d.code:	-	
BDEPTH: 120 108 Towing dir: 173ø Wire out:	Validity 270 m Sp	y code: eed: 40]	3 kn*10	
Sorted: Kg Total catch:	10.97	CATC	H/HOUR:	21.94
SPECIES	CATCH/	HOUR	§ OF TOT. C	SAMP
JELLYFISH	weight 1 16.70	numbers 938	76.12	
MYCTOPHIDAE Trichiurus lepturus	1.40	160	6.38	
FISH LARVAE	1.22	190	5.56	
Todaropsis sp. Trachurus trecae, juvenile	0.14	160	5.47	6786
Total	21.94		100.00	
		PR	OJECT STATI	ON:3240
DATE: 5/ 8/03 GEAR TY start stop duration	PE: BT No:	8 POSI	TION:Lat	S 1131 E 1345
TIME :02:06:53 02:36:29 30 (min) Purpose	code:	1	
FDEPTH: 19 18	GearCon	d.code:	2	
Towing dir: 15ø Wire out:	100 m Sp	y coue.	5 kn*10	
-		eeu• 50 .		
- Sorted: Kg Total catch:	354.76	CATC	H/HOUR:	709.52
Sorted: Kg Total catch:	354.76	CATC	H/HOUR:	709.52
Sorted: Kg Total catch:	354.76 CATCH/1	CATC	H/HOUR:	709.52 SAMP
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus	354.76 CATCH/I weight 1 612.00	CATC HOUR 1000 25512	H/HOUR: % OF TOT. C 86.26	709.52 SAMP
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lecturus	254.76 CATCH/I weight 1 612.00 20.72 13.76	CATC CATC HOUR 25512 126 96	H/HOUR: % OF TOT. C 86.26 2.92 1.94	709.52 SAMP 6788
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galenide decadartulus	254.76 CATCH/I weight 1 612.00 20.72 13.76 13.56 10.08	CATCI HOUR 25512 126 96 12 96	H/HOUR: % OF TOT. C 86.26 2.92 1.94 1.91 1.42	709.52 SAMP 6788
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus Raja miraletus Galeoides decadactylus Pomadasys jubelini	CATCH/ weight 1 612.00 20.72 13.76 13.56 10.08 8.76	CATC: HOUR 125512 126 96 12 96 12	H/HOUR: % OF TOT. C 86.26 2.92 1.94 1.91 1.42 1.23	709.52 SAMP 6788
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp.	CATCH/ weight : 612.00 20.72 13.76 13.56 10.08 8.76 8.04 5.16	CATC: HOUR 5 25512 126 96 12 96 12 24 228	<pre>% OF TOT. C 86.26 2.92 1.94 1.91 1.42 1.23 1.13 0.73</pre>	709.52 SAMP 6788
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp. Pseudotolithus senegalensis Ilisha africana	CATCH/I weight 5 612.00 20.72 13.76 13.56 10.08 8.76 8.04 5.16 4.44 3.84	CATCI HOUR 25512 126 96 12 96 12 24 228 12 24 228 24 228 24 228	<pre>% OF TOT. C % 0F TOT. C % 0F TOT. C % 0.292 1.94 1.91 1.42 1.23 1.13 0.73 0.63 0.54</pre>	709.52 SAMP 6788
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp. Pseudotolithus senegalensis Ilisha africana Trachurus trecae Pomadasys peroteti	CATCH/I weight :: 612.00 20.72 13.76 13.56 10.08 8.76 8.04 5.16 4.44 3.84 2.36 2.16	CATC: HOUR numbers 25512 126 96 12 24 228 12 24 228 12 24 24 24 24 24 24 24 24 24 24 24 24 24	<pre>% OF TOT. C 86.26 2.92 1.94 1.91 1.42 1.23 1.13 0.73 0.63 0.54 0.33</pre>	709.52 SAMP 6788
Sorted: Kg Total catch: SPECIES Brachtydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp. Pseudotolithus senegalensis Ilisha africana Trachurus trecae Pomadasys peroteti Pseudotolithus typus Pseudotolithus typus	CATCH/ weight : 612.00 20.72 13.76 13.56 10.08 8.76 8.04 5.16 4.44 3.84 2.36 2.16 1.44 1.20	HOUR CATC: HOUR 1000 1200 1200 1200 1200 1200 1200 1200	<pre>% OF TOT. C 86.26 2.92 1.94 1.91 1.42 1.23 0.73 0.63 0.54 0.33 0.20 0.20</pre>	709.52 SAMP 6788 6787
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Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp. Pesudotolitus senegalensis Ilisha africana Trachurus trecae Pomadasys peroteti Pesudotolitus typus Pentanemus quinquarius Pentanemus quinquarius Pentanemus quinquarius Solea senegalensis Solea senegalensis Solea senegalensis Solea senegalensis Total DATE: 5/ 8/03 GEAR TY start stop duration TIME :12:20:48 12:35:37 15 (min LOG :6576.62 6577.42 0.81 FDEPTH: 24 24 FDEPTH: 24 24 Towing dir: 1800 Wire out: Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Trachurus trecae Pomadasys peroteti Galeoides decadactylus	CATCH// weight :: 612.00 20.72 3.76 3.56 10.08 8.76 8.04 5.16 1.44 4.44 2.36 2.16 1.44 1.20 0.84 0.72 0.48 709.56 PE: BT No:) Purpose Area con GearCon Validit : 120 m Sp 1364.32 CATCH// weight :: 2541.00 8.2541.20 315.00 8.56 0.48	CATCI HOUR CATCI numbers 25512 126 96 12 96 12 96 12 24 228 12 24 24 60 12 24 24 60 12 12 24 60 12 24 54 60 12 24 60 12 24 60 12 24 60 12 24 60 12 24 60 12 24 60 12 24 60 12 24 60 12 24 60 12 24 60 12 24 60 12 24 12 24 60 12 24 12 12 12 12 12 12 12 12 12 12 12 12 12	<pre>H/HOUR: # OF TOT. C 86.26 2.92 1.94 1.94 1.23 1.13 0.73 0.54 0.33 0.54 0.33 0.54 0.30 0.20 0.17 0.17 0.17 0.17 0.10 0.07 100.00 DJECT STATII TION:Lat 1 2 3 km*10 H/HOUR: 5 % OF TOT. C 46.56 41.25 5.77 1.57</pre>	709.52 SAMP 6788 6787 6787 5 1144 8 1346 457.28 SAMP 6790
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp. Pesudotolitus senegalensis Ilisha africana Trachurus trecae Pomadaays peroteti Pesudotolitus typus Pentanemus quinquarius Pentanemus quinquarius Pentanemus longirostris Solea senegalensis Selene dorsalis Total DATE: 5/ 8/03 GEAR TY start stop duration TIME :12:20:48 12:35:37 15 (min) LOG :6576.62 60577.42 0.81 FDEPTH: 24 24 FDEPTH: 24 24 Towing dir: 1800 Wire out: Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Trachurus trecae Pomadasys peroteti Galeoides decadactylus Pteroscion sp. Miracorvina angolensis Parellus bellortii	CATCH// weight :: 612.00 20.72 3.76 3.56 10.08 8.76 8.04 5.16 1.44 4.44 2.36 2.16 1.44 1.20 0.84 0.72 0.48 709.56 PE: BT No:) Purpose Area co GearCon Validit: 120 m Sp 1364.32 CATCH// weight :: 2541.00 8.5.68 60.48 43.5.68 43.5.88 43.68 44.5.88	CATCI HOUR CATCI numbers 25512 126 96 12 96 12 24 228 12 24 60 12 24 24 60 12 24 24 60 12 24 24 60 12 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 24 61 22 24 24 61 22 24 24 61 22 24 24 61 22 24 24 61 22 24 24 61 22 24 24 61 22 24 24 61 22 24 24 24 24 24 24 24 12 24 24 12 24 24 12 12 12 12 12 12 12 12 12 12 12 12 12	<pre>H/HOUR: # OF TOT. C 86.26 2.92 1.94 1.94 1.94 1.23 1.13 0.73 0.54 0.33 0.54 0.33 0.54 0.30 0.20 0.17 0.12 0.10 0.07 100.00 DJECT STATII TION:Lat 1 2 3 kn*10 H/HOUR: 5 % OF TOT. C 46.56 41.25 5.77 1.57 1.57 1.57 1.57 1.57 1.57</pre>	709.52 SAMP 6788 6787 6787 5 1144 5 1346 457.28 SAMP 6790
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp. Pseudotolitus senegalensis Ilisha africana Trachurus trecae Pomadasys peroteti Pseudotolitus typus Pentanemus quinquarius Pentanemus quinquarius Solea senegalensis Solea senegalensis Solea senegalensis Solea senegalensis Solea senegalensis Solea senegalensis Solea senegalensis Total DATE: 5/ 8/03 GEAR TY start stop duration TIME :12:20:48 12:35:37 15 (mit EDEPTH: 24 24 Towing dir: 1800 Wire out: Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Trachurus trecae Pomadasys peroteti Galeoides decadactylus Pteroscion sp. Miracorvina angolensis Pagellus bellottii Pomadasys engeri	CATCH// weight :: 612.00 20.72 3.76 13.56 10.08 8.76 8.76 2.16 1.44 1.20 0.84 1.44 1.20 0.84 0.72 0.48 709.56 PE: BT No: 0.84 709.56 PE: BT No: 0.84 0.72 0.48 709.56 PE: CATCH// weight :: 120 m Sp 1364.32 CATCH// weight :: 2541.00 8.5.68 60.48 43.68 40.32 2251.20 315.00	CATCI HOUR CATCI Aumberss 25512 126 96 12 96 12 96 12 24 228 12 24 60 12 24 12 24 60 12 24 80 12 2 80 80 80 80 80 80 80 80 80 80 80 80 80	<pre>H/HOUR: # OF TOT. C 86.26 2.92 1.94 1.91 1.42 1.23 0.73 0.54 0.33 0.54 0.33 0.54 0.33 0.54 0.33 0.20 0.17 0.12 0.10 0.07 100.00 DJECT STATION TION:Lat 1 2 3 km*10 H/HOUR: 5 46.56 41.25 5.77 1.57 1.57 1.57 1.57 1.57 1.57 1.5</pre>	709.52 SAMP 6788 6787 6787 S 1144 E 1346 457.28 SAMP 6790
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp. Pseudotolitus senegalensis Ilisha africana Trachurus trecae Pomadasys peroteti Pseudotolitus typus Pentanemus quinquarius Pentanemus quinquarius Pentanemus quinquarius Solea senegalensis Solea senegalensis Soted: Kg Total catch: SPECIES Brachydeuterus auritus Trachurus trecae Pomadasys peroteti Galeoides decadactylus Pteroscion sp. Miracorvina angolensis Pagellus bellottii Pomadasys rogeri Pseudotolithus typus Trichiurus lepturus	CATCH// weight :: 612.00 20.72 3.76 13.56 10.08 8.76 3.56 2.16 1.44 4.44 3.84 2.36 2.16 1.44 0.84 0.72 0.48 709.56 PE: BT No: 709.56 PE: BT No: 709.56 PE: BT No: 1.64 0.84 0.72 0.48 709.56 PE: CATCH// weight :: 2541.00 8.5.68 60.48 43.68 43.68 43.5.68 60.48 5.68 60.48 5.68 60.48 5.68 60.48 5.68 60.48 5.68 60.48 5.68 60.48 5.68 60.48 5.68 60.48 5.68 60.48 5.68 60.48 5.68 60.48 5.68 60.48 5.68 60.48 5.68 5.68 60.48 5.68 5.68 5.68 5.68 5.68 5.68 5.68 5.6	CATCI HOUR CATCI ACC CATCI CAT	<pre>H/HOUR: # OF TOT. C 86.26 2.92 1.94 1.91 1.42 1.23 0.73 0.54 0.33 0.54 0.33 0.20 0.17 0.12 0.10 0.07 100.00 DJECT STATION TION:Lat 2 3 km*10 H/HOUR: 5 46.56 41.25 5.77 1.5777 1.577 1.5777 1.5777 1.5777 1.5777 1.5777 1.5777 1.5777</pre>	709.52 SAMP 6788 6787 6787 S 1144 5 1144 E 1346 457.28 SAMP 6790
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp. Pseudotolitus senegalensis Ilisha africana Trachurus trecae Pomadasys peroteti Pseudotolitus typus Pentanemus quinquarius Pentanemus quinquarius Solea senegalensis Solea senegalensis Soted: Kg Total catch: SPECIES Brachydeuterus auritus Trachurus trecae Pomadasys peroteti Galeoides decadactylus Pteroscion sp. Miracorvina angolensis Pagellus bellottii Pomadasys rogeri Pseudotolithus typus Trichiurus lepturus Ilisha africana Umbrina canariensis	CATCH// weight :: 612.00 20.72 3.76 13.56 10.08 8.76 3.56 2.16 1.44 1.20 0.84 709.56 PE: BT No: 709.56 PE: BT No: 709.56 PE: BT No: 20.72 0.48 709.56 PE: CATCH// weight :: 2541.00 8.5.68 60.48 43.68 43.68 43.68 43.52 77.64 43.52 77.64 7.75 7.75 7.75 7.75 7.75 7.75 7.75 7.7	CATCI HOUR CATCI 126 96 12 96 12 96 12 24 228 12 24 228 12 24 24 24 24 24 24 24 24 24 24 24 24 24 2	<pre>#/HOUR: #/HOUR: # OF TOT. C 86.26 2.92 1.94 1.91 1.42 1.23 0.73 0.54 0.33 0.54 0.33 0.20 0.17 0.12 0.10 0.07 100.00 DJECT STATION TION:Lat 2 3 km*10 H/HOUR: 5 46.56 41.25 5.77 1.5777 1.5777 1.5777 1.5777 1.5777 1.57777 1.5777 1.57777 1</pre>	709.52 SAMP 6788 6787 6787 0N:3241 S 1144 E 1346 457.28 SAMP 6790
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp. Pseudotolitus senegalensis Ilisha africana Trachurus trecae Pomadasys peroteti Pseudotolitus typus Pentanemus quinquarius Pentanemus quinquarius Pentanemus quinquarius Solea senegalensis Solea senegalensis Soted: Kg Total catch: SPECIES Brachydeuterus auritus Trachurus trecae Pomadasys peroteti Galeoides decadactylus Pteroscion sp. Miracorvina angolensis Pagellus bellottii Pomadasys rogeri Pseudotolitus typus Trichiurus lepturus Ilisha africana Umbrina canariensis Sphyraena guachancho Torpedo maprata	CATCH// weight :: 612.00 20.72 3.76 13.56 10.08 8.76 10.08 8.76 2.16 1.44 1.20 0.84 709.56 PE: BT No: 709.56 PE: BT No: 709.56 PE: BT No: 709.56 PE: CATCH// Weight :: 2541.00 8.76 4.42 709.56 PE: CATCH// Weight :: 2541.00 8.5.68 60.48 43.68 40.42 2251.20 315.00 8.5.68 60.48 43.68 43.52 7.56 7.56 7.56 7.56 7.56 7.56 7.56 7.56	CATC: HOUR CATC: 126 96 12 96 12 96 12 24 228 12 24 228 12 24 24 60 12 24 24 60 12 24 24 60 12 24 24 60 12 24 24 60 12 24 60 12 24 84 24 24 60 12 12 12 12 12 12 12 12 12 12 12 12 12	<pre># /HOUR: # /HOUR: # OF TOT. C 86.26 2.92 1.94 1.91 1.42 1.23 0.73 0.54 0.33 0.54 0.33 0.20 0.17 0.12 0.10 0.07 100.00 DJECT STATION TION:Lat 2 3 km*10 H/HOUR: 5 46.56 41.25 5.77 1.5777 1.577 1.577 1.577 1.577 1.577 1.</pre>	709.52 SAMP 6788 6787 6787 0N:3241 S 1144 E 1346 457.28 SAMP 6790
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp. Pseudotolitus senegalensis Ilisha africana Trachurus trecae Pomadasys peroteti Pseudotolitus typus Pentanemus quinquarius Pentanemus quinquarius Solea senegalensis Solea senegalensis Sotted: Kg Total catch: SPECIES Brachydeuterus auritus Trachurus trecae Pomadasys peroteti Galeoides decadactylus Pteroscion sp. Miracorvina angolensis Pagellus bellottii Pomadasys rogeri Pseudotolithus typus Trichiurus lepturus Ilisha africana Umbrina canariensis Sphyraena guachancho Torpedo marozata Boops boops Benaeux rotialis	CATCH// weight :: 612.00 20.72 3.76 13.56 10.08 8.76 10.08 8.76 2.10 8.76 2.12 1.44 1.40 0.8 2.16 1.44 1.20 0.84 0.72 0.48 709.56 PE: BT No: 709.56 PE: BT No: 709.56 PE: BT No: 1.44 1.20 0.48 709.56 PE: BT No: 1.20 8.76 2.16 1.44 1.20 0.84 1.20 0.84 1.20 0.84 1.20 0.85 1.44 1.20 0.84 1.20 0.84 1.20 0.84 1.20 0.84 1.20 0.85 1.44 1.20 0.85 1.44 1.20 0.84 1.20 0.85 1.44 1.20 0.85 1.25 1.20 1.35 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20	CATCI HOUR CATCI 126 96 12 96 12 96 12 24 228 12 24 228 12 24 60 12 24 24 60 12 24 24 60 12 12 80 12 12 80 12 12 80 12 80 80 80 80 80 80 80 80 80 80 80 80 80	<pre>H/HOUR: # OF TOT. C 86.26 2.92 1.94 1.91 1.42 1.23 0.73 0.54 0.33 0.54 0.33 0.20 0.17 0.12 0.10 0.07 100.00 DJECT STATIN TION:Lat 2 3 km*10 H/HOUR: 5 46.56 41.25 5.77 1.5777 1.577 1.577 1.577 1.5777</pre>	709.52 SAMP 6788 6787 6787 S 1144 8 1144 8 11346 457.28 SAMP 6790
Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Sardinella maderensis Trichiurus lepturus Raja miraletus Galeoides decadactylus Pomadasys jubelini Sepia orbignyana Pteroscion sp. Pesudotolitus senegalensis Ilisha africana Trachurus trecae Pomadaays peroteti Pentanemus quinquarius Pentanemus quinquarius Pentanemus quinquarius Solea senegalensis Solea senegalensis Solea senegalensis Solea senegalensis Solea senegalensis Solea senegalensis Total DATE: 5/ 8/03 GEAR TY start stop duration TIME :12:20:48 12:35:37 15 (mit EDEPTH: 24 24 Towing dir: 1800 Wire out: Sorted: Kg Total catch: SPECIES Brachydeuterus auritus Trachurus trecae Pomadasys peroteti Galeoides decadactylus Pteroscion sp. Miracorvina angolensis Pagellus bellottii Pomadasys rogeri Pseudotolithus typus Trichiurus lepturus Ilisha africana Umbrina canariensis Sphyraena guachancho Torpedo mamorata Bops boops Penaeus notialis	CATCH// weight :: 612.00 20.72 3.76 13.56 10.08 8.76 8.76 8.76 2.10 8.8.76 8.76 2.16 1.44 1.20 0.84 4.44 2.36 2.16 1.44 0.84 0.72 0.48 709.56 PE: BT No: 0.84 709.56 PE: BT No: 2.56 709.56 PE: CATCH// weight :: 2.541.00 8.568 60.48 40.32 2.541.00 8.568 60.48 40.32 2.541.00 8.568 60.48 40.32 2.51.20 3.5.00 8.568 60.44 40.32 2.51.20 3.5.00 8.568 60.44 40.32 2.51.20 3.5.00 8.568 60.44 40.32 2.51.20 3.5.00 8.568 60.44 40.32 2.51.20 3.5.00 8.568 60.44 40.32 2.51.20 3.5.00 8.568 60.44 40.32 2.51.20 3.5.00 8.568 60.44 40.32 2.51.20 3.5.00 8.568 60.44 40.32 2.51.20 8.568 60.44 40.32 2.51.20 8.568 60.44 40.32 2.51.20 8.568 60.44 40.32 2.51.20 8.568 60.44 40.32 8.568 60.44 40.51 60.44 40.51 8.568 60.44 40.51 8.568 60.44 40.51 8.568 60.44 40.51 8.568 60.44 40.51 8.568 60.44 60.51 8.568 60.44 40.51 8.568 60.44 7.555 7.556 7.556 7.556 7.557 7.556 7.557 7.557 7.557 7.557 7.557 7.557 7.557 7.557 7.557 7.557 7.5577 7.55777 7.5577777777	CATCI HOUR numberss 25512 126 96 12 96 12 24 228 12 24 228 12 24 60 12 24 24 60 12 24 24 60 12 24 24 60 12 24 61 22 24 61 22 24 60 12 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 24 61 22 84 24 24 61 22 24 61 22 24 61 22 84 24 24 24 61 22 24 61 22 84 24 24 24 61 22 84 24 24 24 61 22 84 24 24 24 24 24 24 61 22 84 24 24 24 24 24 24 24 24 24 24 24 24 24	<pre>H/HOUR: # OF TOT. C 86.26 2.92 1.94 1.42 1.23 0.73 0.54 0.33 0.54 0.33 0.54 0.33 0.54 0.33 0.20 0.17 0.12 0.10 0.07 100.00 DJECT STATII TION:Lat 1 2 3 km*10 H/HOUR: 5 % OF TOT. C 46.56 41.25 5.77 1.5</pre>	709.52 SAMP 6788 6787 6787 S 1144 8 1346 457.28 SAMP 6790

		PROJI	ECT STATIO	N:3242
DATE: 5/ 8/03 GEAR TYL start stop duration	PE: BT No: 8	B POSITIO	DN:Lat S Long E	1145 1330
TIME :15:45:20 16:09:43 24 (min) Purpose o	code: 1		
LOG :6604.04 6605.25 1.20 FDEPTH: 121 119	GearCond.	code:		
BDEPTH: 121 119 Towing dir: 360ø Wire out:	Validity 370 m Spee	code: 3 ed: 30 kn	*10	
Sorted. 49 kg Total Catch.	/91.18	CAICH/I	100R. 19	//.95
SPECIES	CATCH/HC weight ni)UR %(umbers	OF TOT. C	SAMP
Dentex macrophthalmus	1363.50	6548	68.94	
Dentex angolensis	70.88	238	3.58	6/9I
Atractoscion aequidens Umbrina canariensis	66.50 54.68	35	3.36	
Branchiostegus semifasciatus	52.33	35	2.65	
Brotula barbata Lagocephalus laevigatus	33.08 22.95	35	1.67	
Illex coindetii Cynoglossus canariensis	7.10	305	0.36	
Chelidonichthys gabonensis	0.35	35	0.02	
Total	1977.97	-	100.00	
		PROJI	CT STATIO	N:3243
DATE: 6/ 8/03 GEAR TY start stop duration	PE: BT No: 8	B POSITIO	DN:Lat S Long E	1339
TIME :07:52:27 08:06:22 14 (min LOG :6726.84 6727.65 0.79) Purpose o Area code	ode: 1		
FDEPTH: 26 26	GearCond.	code		
BDEPTH: 26 26 Towing dir: 210ø Wire out:	Validity 120 m Spee	code: 3 ed: 35 kn	*10	
Corted: 65 Kg Total gatch:	880 08	CATCU/I	1011D · 38	14 20
Coreca, of Ng Total CalCh.	505.50	CAICH/I		20
SPECIES	CATCH/HC	UR %	OF TOT. C	SAMP
Trachurus trecse	weight nu	mbers	51 E0	6792
Brachydeuterus auritus	1096.41	11687	28.75	6793
Selene dorsalis Miracorvina angolensis	284.66 135.39	2254 403	7.46 3.55	
Pagellus bellottii	118.03	1273	3.09	
Boops boops	50.91	866	1.33	
Dentex canariensis Dentex macrophthalmus	35.31 12.17	463 56	0.93	
Trichiurus lepturus	6.94	463	0.18	
Argyrosomus noiolepidotus	5.23	56	0.14	
Total	3814.06		100.00	
		DDO T		
DATE: 6/ 8/03 GEAR TY	PE: BT No: 8	PROJE POSITIC	ON:Lat S	1206
start stop duration TIME :12:55:45 13:25:33 30 (min) Purpose (rođe; 1	Long E	1327
LOG :6753.89 6755.53 1.63	Area code	: 2		
FDEPTH: 110 109 BDEPTH: 110 109	GearCond. Validity	code: 3		
Towing dir: 190ø Wire out:	320 m Spee	ed: 31 kn	*10	
Sorted: Kg Total catch:	487.83	CATCH/H	HOUR: 9	75.66
SPECIES	CATCH/HC	UR % (OF TOT. C	SAMP
Dentex macrophthalmus	561.40	3752	57.54	
Trachurus trecae Boops boops	207.20 105.98	620 994	21.24 10.86	6794
Raja clavata	41.16	14	4.22	
Raja miraletus	14.42	14	1.48	
Dentex congoensis Spicara alta	5.32 5.18	28 28	0.55	
Zeus faber	4.90	14	0.50	
Chelidonichthys gabonensis	1.40	14	0.14	
Total	975.66	-	100.00	
		PROJI	ECT STATIO	N:3245
DATE: 6/ 8/03 GEAR TY start stop duration	PE: BT No: 8	POSITIO	DN:Lat S Long E	1222
TIME :18:00:43 18:20:03 19 (min LOG :6797.00 6798.09 1.10) Purpose o Area code	ode: 1		
FDEPTH: 52 54	GearCond.	code:		
BDEPTH: 52 54 Towing dir: 45ø Wire out:	validity 150 m Spee	d: 30 kn	*10	
Sorted: Ka Total catch:	165.70	CATCH /	HOUR: 5	23.26
		/-	5	
SPECIES	CATCH/H	UR % (OF TOT. C	SAMP
	CATCH/IIC		39 83	
Pagellus bellottii	weight nu 208.42	mbers 1563	55.05	
Pagellus bellottii Pterothrissus belloci	weight nu 208.42 83.05	1563 711	15.87	
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis	weight nu 208.42 83.05 54.79 48.47	1563 711 411 458	15.87 10.47 9.26	
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus lepturus	weight nu 208.42 83.05 54.79 48.47 38.05 22.11	mbers 1563 711 411 458 1263 332	15.87 10.47 9.26 7.27 4.23	
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus lepturus Umbrina canariensis	weight nu 208.42 83.05 54.79 48.47 38.05 22.11 16.42	mbers 1563 711 411 458 1263 332 158	15.87 10.47 9.26 7.27 4.23 3.14	
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus	weight nu 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00	mbers 1563 711 411 458 1263 332 158 16 63	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72	
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbienyama	weight nu 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37	<pre>imbers 1563 711 411 458 1263 332 158 16 63 95 205</pre>	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03	
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata	weight m 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 5.37	mbers 1563 711 411 458 1263 332 158 16 63 95 205 32	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93	
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis	weight m 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.79 3.32	<pre>imbers 1563 711 411 458 1263 332 158 16 63 95 205 32 16 16 16</pre>	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63	
Pagellus bellottii Pterothrissus belloci Pomadaşys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Grammoplites gruveli Scorpaena angolensis	weight m 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.32 2.37 0.16	<pre>imbers 1563 711 411 458 1263 332 158 16 63 95 205 32 16 16 16 47 16</pre>	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63 0.45 0.03	
Pagellus bellottii Pterothrissus belloci Pomadaşys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Gramoplites gruveli Scorpaena angolensis	weight m 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.79 3.32 2.37 0.16	<pre>imbers 1563 711 411 458 1263 332 158 16 63 95 205 32 16 16 47 16</pre>	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63 0.45 0.03	
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichirurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Grammoplites gruveli Scorpaena angolensis	weight m 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.79 3.32 2.37 0.16	mbers 1563 711 411 1263 332 158 16 63 95 205 32 16 16 47 16 47 16	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63 0.45 0.03	
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichirurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Grammoplites gruveli Scorpaena angolensis Total	weight m 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.32 2.37 0.16 523.26	mmbers 1563 1563 711 411 458 1263 332 158 16 63 95 205 32 16 63 95 205 32 16 16 47 16	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63 0.45 0.03 99.99	N-2044
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichirurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Grammoplites gruveli Scorpaena angolensis Total DATE: 7/ 8/03 GEAR TYI	weight m 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.32 2.37 0.16 523.26	<pre>mmbers 2 1563 711 411 458 1263 332 158 16 63 95 205 32 16 47 16 47 16 PROJU POSITUG </pre>	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63 0.45 0.03 99.99 SCT STATION NN:Lat S	N:3246 1236
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichirurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Grammoplites gruveli Scorpaena angolensis Total DATE: 7/ 8/03 GEAR TYI start stop duration TIME 12:10:34 (2:33:15 3.3 (mir)	weight m 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.32 2.37 0.16 523.26 PE: PT No: 4) Purpose 6	<pre>mmbers 1 1663 711 411 458 1263 332 158 6 332 158 6 6 3 205 205 205 205 205 205 205 32 16 16 16 16 16 16 16 16 16 16 10 10 10 10 10 10 10 10 10 10 10 10 10</pre>	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63 0.45 0.03 99.99 ECT STATIO ECT STATIO	N:3246 1236 1314
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichirurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Grammoplites gruveli Scorpaena angolensis Total DATE: 7/ 8/03 GEAR TYI start stop duration TIME :12:10:34 12:33:15 23 (min LDG :6903.12 6904.60 1.26	weight m 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.32 2.37 0.16 523.26 PE: PT No: 4 Acaa code Acea code	<pre>mmbers 2 1663 711 411 458 1263 332 158 16 63 95 205 32 16 16 16 47 16 PROJU 4 POSITIC code: 1 ; 2 2</pre>	15.87 15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63 0.72 0.63 0.45 0.03 99.99 SCT STATION N:Lat S Long E	N:3246 1236 1314
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Grammoplites gruveli Scorpaena angolensis Total DATE: 7/ 8/03 GEAR TYI start stop duration TIME :12:10:34 12:33:15 23 (min LOG :6903.12 6904.60 1.26 FDEPTH: 40 222	weight nu 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.32 2.37 0.16 523.26 PE: PT No: 4 Purpose of Area code GearCond, Validity	mmbers 3 1663 711 411 458 1263 332 158 16 63 95 205 32 205 32 205 32 16 16 47 16 47 16 PROJI PROJI POROJI POROJI Code: 1 2 Code: 3 Code: 4 Code: 3 Code: 3 Code	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63 0.72 0.63 0.45 0.03 99.99 SCT STATION NN-LAT S Long E	N:3246 1236 1314
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Grammoplites gruveli Scorpaena angolensis Total DATE: 7/ 8/03 GEAR TYI start stop duration TIME :12:10:34 12:33:15 23 (min LOG :6903.12 6904.60 1.26 FDEPTH: 1 1 BDEPTH: 40 222 Towing dir: 280e Wire out:	weight nu 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.32 2.37 0.16 523.26 PE: PT No: 4 Press code GearCond. Validity 160 m Spee	mbers 1663 711 411 458 1263 332 158 6 332 158 6 332 16 16 47 16 PROJI 6 47 16 16 205 32 16 16 47 16 205 32 205 205 205 205 205 205 205 20	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63 0.72 0.63 0.45 0.03 99.99 SCT STATIO NN:Lat S Long E	N: 3246 1236 1314
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus legturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Grammoplites gruveli Scorpaena angolensis Total DATE: 7/ 8/03 GEAR TYI start stop duration TIME :12:10:34 12:33:15 23 (min LOG :6903.12 6904.60 1.26 FDEPTH: 40 222 Towing dir: 280ø Wire out: Sorted: Kg Total catch:	weight m 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.32 2.37 0.16 523.26 PE: PT No: 4 b) Purpose of Area code GearCond. Validity 160 m Spee	mbers 1563 711 411 458 1263 332 158 1263 332 158 16 63 95 205 32 16 16 16 16 47 16 47 16 47 16 205 32 205 205 205 205 205 205 205 20	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63 0.45 0.03 99.99 SCT STATIO DN:Lat S Long E	N: 3246 1236 1314
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus legturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Grammoplites gruveli Scorpaena angolensis Grammoplites gruveli Scorpaena angolensis Total DATE: 7/ 8/03 GEAR TYI start stop duration TIME :12:10:34 12:33:15 23 (min LOG :6903.12 6904.60 1.26 FDEPTH: 1 1 BDEPTH: 40 222 Towing dir: 280ø Wire out: Sorted: Kg Total catch: SPECIES	weight m 208.42 83.05 54.79 48.47 38.05 22.11 16.42 15.16 9.00 7.89 5.37 4.89 3.32 2.37 0.16 523.26 PE: PT No: 4 PE: PT No: 4 Validity 160 m Spec	mbers 1563 1563 164 1263 332 158 1263 332 158 16 6 3 205 32 16 16 16 16 16 16 16 16 16 205 32 205 205 32 205 205 205 205 205 205 205 20	15.87 10.47 9.26 7.27 4.27 3.14 2.90 1.72 1.51 1.03 0.93 0.45 0.03 99.99 SCT STATIO NN:Lat S Long E	N: 3246 1236 1314 SAMP
Pagellus bellottii Pterothrissus belloci Pomadasys incisus Chelidonichthys gabonensis Citharus linguatula Trichiurus lepturus Umbrina canariensis Torpedo torpedo Brachydeuterus auritus Dentex canariensis Sepia orbignyana Brotula barbata Zeus faber Miracorvina angolensis Grammoplites gruveli Scorpaena angolensis Total DATE: 7/ 8/03 GEAR TYI start stop duration TIME :12:10:34 12:33:15 23 (min LOG :6903.12 6904.60 1.26 FDEPTH: 1 1 BDETTH: 40 222 Towing dir: 2800 Wire out: Sorted: Kg Total catch: SPECIES N.O. CAT.C.H	<pre>weight m 208.42 83.05 54.79 48.47 38.05 52.11 16.42 15.16 9.00 7.89 5.37 4.89 3.32 2.37 0.16 523.26 PE: PT No: 4) Purpose c Area code GearCond, Validity 160 m Spec CATCH/HK weight m 0 on</pre>	<pre>mmberss 1663 711 411 458 1263 332 158 16 63 395 205 32 16 16 16 16 16 16 16 16 PROJI 47 16 PROJI 4 PROJI 4 PROJI 5 20 20 20 20 20 20 20 20 20 20 20 20 20</pre>	15.87 10.47 9.26 7.27 4.23 3.14 2.90 1.72 1.51 1.03 0.93 0.72 0.63 0.45 0.03 99.99 SCT STATIO INVLAT S Long E	N: 3246 1236 1314 SAMP

DATE: 7/ 8/03 GEAR TY	PE: PT No:	PROJ 1 POSITI	ECT STATI	ON:3247 S 1250
start stop duration TIME :20:05:01 20:18:28 13 (min) Purpose	code: 1	Long	E 1256
LOG :6951.35 6952.28 0.92 FDEPTH: 5 5	Area cod GearCond	e :2 .code:		
BDEPTH: 32 29 Towing dir: 217ø Wire out:	Validity 100 m Spe	code: 3 ed: 40 kr	1*10	
Sorted: Kg Total catch:	121.12	CATCH/	HOUR:	559.02
SPECIES	CATCH/H weight n	OUR % umbers	OF TOT. C	SAMP
MYCTOPHIDAE Pomatomus saltatrix	494.31 45.46	324831 83	88.42 8.13	
Sphyraena guachancho	11.45	32	2.05	
Irachurus trecae	1.20	32	0.21	
Synagrops microlepis	0.97	28	0.17	
otal	559.02		99.99	
		PROJ	ECT STATI	ON:3248
DATE: 8/ 8/03 GEAR TY start stop duration	PE: BT No:	POSITI	ION:Lat Long	S 1312 E 1245
TIME :04:00:13 04:21:51 22 (min) Purpose	code: 1	5	
FDEPTH: 77 77	GearCond	e : 2 .code:		
BDEPTH: 77 77 Towing dir: 235ø Wire out:	Validity 340 m Spe	code: 3 ed: 30 kr	1*10	
Sorted: 31 Kg Total catch:	552.06	CATCH/	HOUR: 1	505.62
DEGTEG		0110	0.0	
PECIES	CATCH/H weight n	umbers	UF TOT. C	SAMP
entex macrophthalmus agellus bellottii	493.36 270.00	∠405 1669	32.77 17.93	
mbrina canariensis lectorhinchus macrolepis	159.55 121.25	638 835	10.60 8.05	
entex barnardi helidonichthys gaborensis	119.78	589	7.96	
rotula barbata	85.42	98	5.67	
oops boops entex angolensis	38.29 24.05	393 1178	2.54 1.60	
nthias anthias aja miraletus	21.60 21.60	245 49	1.43	
itharus linguatula arapristipoma octolinestum	21.60	1080	1.43	
pinephelus haifensis	7.36	49	0.49	
naetodon hoefleri richiurus lepturus	2.95	49 49	0.20	
embrops sp. rachurus trecae	1.47 0.49	98 49	0.10	
	1505 61			
DATE: 9/ 8/03 GEAR TY	PE: BT No:	PROJ	IECT STATI	ON:3249 S 1315
DATE: 9/ 8/03 GEAR TY. start stop duration TIME :12:56:56 13:24:29 28 (min)	PE: BT No:	PROJ POSITI	IECT STATI ION:Lat Long	ON:3249 S 1315 E 1238
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44	PE: BT No:) Purpose - Area cod	PROJ POSITI code: 1 e : 2	UECT STATI ION:Lat Long	ON:3249 S 1315 E 1238
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 BDEPTH: 111 184	PE: BT No:) Purpose Area cod GearCond Validity 260 m Spo	PROJ POSITI code: 1 e : 2 .code: 2 code: 3	IECT STATI ION:Lat Long	ON:3249 S 1315 E 1238
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 EDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch:	PE: BT No:) Purpose (Area cod GearCond Validity 360 m Spec 204.29	PROJ POSITI code: 1 e : 2 .code: 2 .code: 3 ed: 30 kr CATCH/	NECT STATI ION:Lat Long 1*10 HOUR:	ON: 3249 S 1315 E 1238 437.76
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 BDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch:	PE: BT No:) Purpose of Area cod GearCond Validity 360 m Spec 204.29	PROJ POSITI code: 1 e : 2 .code: 3 ed: 30 kr CATCH/	IECT STATI ION:Lat Long 1*10 'HOUR:	ON:3249 S 1315 E 1238 437.76
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEFTH: 111 184 BDEFTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: PECIES	PE: BT No:) Purpose Area cod GearCond Validity 360 m Sper 204.29 CATCH/H weight m	PROJ POSITI code: 1 e : 2 .code: 3 ed: 30 kr CATCH/ OUR % umbers	VECT STATI ION:Lat Long *10 HOUR: OF TOT. C	ON:3249 S 1315 E 1238 437.76 SAMP
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 BDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae	PE: BT No:) Purpose of Area codd GearCond Validity 360 m Sper 204.29 CATCH/H weight m 296.61 36.00	PROU POSITI code: 1 e : 2 .code: 3 ed: 30 kr CATCH/ OUR % umbers 2139 1059	NECT STATI ION:Lat Long N*10 HOUR: OF TOT. C 67.76 8.22	ON:3249 S 1315 E 1238 437.76 SAMP 6789
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (mi LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 BDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae mbrina canariensis helidonichtys adhonensis	PE: BT No:) Purpose of Area codd GearCond Validity 360 m Spev 204.29 CATCH/H weight m 296.61 36.00 19.50 18.39	PROC POSITI code: 1 e : 2 .code: 3 code: 3 ed: 30 kr CATCH/ OUR % umbers 2139 1059 75 150	VECT STATI ION:Lat Long HOUR: OF TOT. C 67.76 8.22 4.45 4.20	ON:3249 S 1315 E 1238 437.76 SAMP 6789
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 BDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae mbrina canariensis helidonichthys gabonensis eus faber	PE: BT No:) Purpose v Area cod GearCond Validity 360 m Sper 204.29 CATCH/H weight m 296.61 36.00 19.50 18.39 16.80 14.10	PROC POSITI code: 1 e : 2 .code: 3 code: 3 ed: 30 kr CATCH/ OUR % umbers 2139 1059 75 1059 75 30 30 4	IECT STATI ION:Lat Long 'HOUR: OF TOT. C 67.76 8.22 4.45 4.20 3.84 2.22	ON:3249 S 1315 E 1238 437.76 SAMP 6789
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 144 FDEPTH: 111 184 BDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae mbrina canariensis helidonichthys gabonensis eus faber entex angolensis nthias anthias	<pre>PE: BT No:) Purpose Area cod GearCond Validity 360 m Spe 204.29 CATCH/H weight m 296.61 36.00 19.50 18.39 16.80 14.10 12.96</pre>	PRO. POSITI code: 1 code: 2 code: 3 code: 3 code: 3 cATCH/ OUR % umbers 2139 1059 75 150 30 45 96	IECT STATI ION:Lat Long (HOUR: OF TOT. C 67.76 8.22 4.45 4.20 3.84 3.22 2.96	ON:3249 S 1315 E 1238 437.76 SAMP 6789
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 BDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae mbrina canariensis helidonichthys gabonensis eus faber entex angolensis nthias anthias corpaena angolensis rythrocles mondi	PE: BT No:) Purpose Area cod GearCond Validity 360 m Sper 204.29 CATCH/H weight m 296.61 36.00 19.50 18.39 16.80 14.10 12.96 8.79 5.70	PRO. POSITI code: 1 e : 2 code: 3 code: 3 code: 3 cATCH/ OUR % 2139 1059 75 150 30 45 96 21 15	<pre>IECT STATI ION:Lat Long 'HOUR: OF TOT. C 67.76 8.22 4.45 4.45 4.45 4.2 2.96 2.96 2.01 1.30</pre>	ON:3249 S 1315 E 1238 437.76 SAMP 6789
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 BDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae mbrina canariensis helidonichthys gabonensis eus faber entex angolensis nthias anthias corpaena angolensis rythrocles mondi agrus caeruleostictus oligo vulgaris	PE: BT No:) Purpose v Area cod GearCond Validity 360 m Sper 204.29 CATCH/H weight m 296.61 36.00 19.50 18.39 16.80 14.10 12.96 8.79 5.70 3.15 1.80	PROC POSITI code: 1 .code: 2 .code: 3 ed: 30 kr CATCH/ OUR % umbers 2139 1059 75 150 30 30 45 96 21 5 6 75	<pre>IECT STATI ION:Lat Long HOUR: OF TOT. C 67.76 8.22 4.45 4.20 3.84 3.84 3.22 2.96 2.01 1.30 0.72 0.41</pre>	ON:3249 S 1315 E 1238 437.76 SAMP 6789
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 BDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae mbrina canariensis helidonichthys gabonensis eus faber entex angolensis nthias anthias corpaena angolensis corpaena angolensis rythrocles monodi agrus caeruleostictus oligo vulgaris agellus bellottii	PE: BT No:) Purpose v Area cod GearCond Validity 360 m Sper 204.29 CATCH/H weight m 296.61 36.00 19.50 18.39 16.80 14.10 12.96 8.79 5.70 3.15 1.80 1.50 1.50 1.50	PROC POSITI code: 1 .code: 2 .code: 3 ed: 30 kr CATCH/ OUR * unbers 2139 1059 75 150 30 45 96 21 15 6 75	<pre>IECT STATI ION:Lat Long HOUR: HOUR: OF TOT. C 67.76 8.22 4.45 4.20 3.84 3.22 2.96 2.01 1.30 0.0,72 0.41 0.34 0.77</pre>	ON:3249 S 1315 E 1238 437.76 SAMP 6789
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae mbrina canariensis helidonichthys gabonensis eus faber entex angolensis nthias anthias corpaena angolensis corpaena angolensis ythrocles monodi agrus caeruleostictus oligo vulgaris agellus bellottii haetodon hoefleri picara alta	PE: BT No:) Purpose v Area cod GearCond Validity 360 m Sper 204.29 CATCH/H weight m 296.61 36.00 19.50 18.39 16.80 14.10 12.96 8.79 5.70 3.15 1.80 1.50 1.20 1.20 0.07	PROC POSITI code: 1 .code: 2 .code: 3 ed: 30 kr CATCH/ OUR * unbers 2139 1059 75 150 30 45 96 21 15 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	<pre>IECT STATI ION:Lat Long HOUR: HOUR: 0F TOT. C 67.76 8.22 4.45 4.20 3.84 3.84 3.82 2.96 2.01 1.30 0.72 0.41 0.34 0.27 0.27</pre>	ON:3249 S 1315 E 1238 437.76 SAMP 6789
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (Min LOG :7044.10 7045.56 13:24:4 FDEPTH: 111 184 BDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae mbrina canariensis helidonichtys gabonensis eus faber entex angolensis nthias anthias corpaena angolensis orythrocles monodi agrus caeruleostictus oligo vulgaris agellus bellottii haetodon hoefleri picara alta rnoglossus imperialis	PE: BT No:) Purpose - Area cod GearCond Validity 360 m Sper 204.29 CATCH/H weight m 296.61 36.00 19.50 18.39 16.80 14.10 12.96 8.79 5.70 3.15 1.80 1.20 1.20 0.06 	PROC POSITI code: 1 .code: 2 .code: 3 ed: 30 kr CATCH/ OUR % unbers 2139 1059 75 150 30 30 45 96 21 5 6 75 5 5 5 6 6 6 6 6 6	VECT STATI CON:Lat Long 1*10 HOUR: 0F TOT. C 67.76 8.22 4.45 4.25 4.25 4.20 1.30 0.3.84 3.84 3.22 2.96 2.96 2.01 1.30 0.72 0.41 0.77 0.77 0.77 0.72 0.41 0.72 0.44 0.72 0.44 0.72 0.44 0.72 0.44 0.72 0.45 1.00 0.72 0.44 0.72 0.45 1.00 0.72 0.45 1.00 0.72 0.45 1.00 0.72	ON:3249 S 1315 E 1238 437.76 SAMP 6789
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DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 EDEPTH: 111 184 Towing dir: 3010 Wire out: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae mbrina canariensis helidonichthys gabonensis eus faber entex angolensis nthias anthias corpaena angolensis tythrocles monodi agrus caeruleostictus oligo vulgaris agellus bellottii haetodon hoefleri picara alta moglossus imperialis otal DATE:10/ 8/03 GEAR TY start stop duration TIME :09:42:04 10:11:32 29 (min LOG :7190.35 7192.07 1.70 FDEPTH: 139 120 EDEPTH: 139 120 Towing dir: 900 Wire out:	PE: BT No:) Purpose v Area cod GearCond Validity 204.29 CATCH/H weight m 296.61 36.00 19.50 18.39 16.80 14.10 12.96 8.79 5.70 3.15 1.80 1.20 0.06 437.76 PE: BT No: PE: BT No: Area cod GearCond Validity Validity Validity Area cod GearCond Validity 400 m Spec	PROC POSITI code: 1 e : 2 code: 3 ed: 30 kr CATCH/ 0UR % umbers 2139 1059 75 150 30 45 6 21 155 6 6 75 15 15 6 6 75 15 15 6 6 75 15 6 6 75 15 15 6 6 75 15 15 6 6 75 15 15 6 6 75 15 15 6 6 75 15 15 15 15 15 15 15 15 15 15 15 15 15	<pre>X*10 X*10 HOUR: Long X*10 HOUR: OF TOT. C</pre>	ON:3249 S 1315 E 1238 437.76 SAMP 6789 0N:3250 S 1402 E 1215
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DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (Min LOG :7044.10 7045.56 1.14 PDEPTH: 111 184 BDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: PPECIES entex macrophthalmus Tachurus trecae mbrina canariensis helidonichtys gabonensis eus faber entex angolensis nthias anthias icorpaena angolensis rythrocles monodi 'agrus caeruleostictus oligo vulgaris 'agellus bellottii 'haetodon hoefleri picara alta rnoglossus imperialis 'otal DATE:10/ 8/03 GEAR TY start stop duration TIME :09:42:04 10:11:32 29 (Min LOG :7190.35 7192.07 1.70 FDEPTH: 139 120 DEDETH: 139 120 EDETH: 139 120 ED	PE: BT No:) Purpose of Area cod GearCond Validity 204.29 CATCH/H weight m 296.61 36.00 19.50 18.39 16.80 14.10 12.96 8.79 5.70 3.15 1.80 1.20 0.06 437.76 PE: BT No: 437.76 PE: BT No: 437.76 PE: BT No: CATCH/H weight m 743.79 400 m Spec 475.55 CATCH/H weight m 743.79 6.14 63.10 31.86 20.38 15.00 12.24 12.24 12.24 12.24 13.24 13.24 13.24 13.24 13.24 13.24 14.24 14.24 14.24 15.24 1	PROC POSITI code: 1 e : 2 code: 3 code: 3 cATCH/ 0UR % umbers 2139 1059 75 150 30 45 6 75 15 15 15 15 6 6 6 75 15 15 15 15 15 15 6 6 6 8 POSITI code: 1 e : 1 21 8 9 7 5 15 15 15 15 15 15 15 15 15 15 15 15 1	<pre>YECT STATI ION:Lat Long HOUR: OF TOT. C 67.76 8.22 4.45 4.20 3.84 4.20 3.84 4.20 0.0 0.72 0.01 </pre>	ON: 3249 S 1315 E 1238 437.76 SAMP 6789 6789 SAMP 6789 SAMP 6795
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 BDEPTH: 111 184 Towing dir: 301ø Wire out: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae mbrina canariensis helidonichthys gabonensis eus faber entex angolensis rythrocles monodi agrus caeruleostictus oligo vulgaris agellus bellottii haetodon hoefleri picara alta rnoglossus imperialis otal DATE:10/ 8/03 GEAR TY start stop duration TIME :09:42:04 10:11:32 29 (min LOG :7190.35 7192.07 1.70 FDEFTH: 133 120 BDEPTH: 139 120 EDEPTH: 13	PE: BT No:) Purpose of Area cod GearCond Validity 204.29 CATCH/H weight m 296.61 36.00 19.50 18.39 16.80 14.10 12.96 8.79 5.70 3.15 1.80 1.20 0.06 437.76 PE: BT No: 437.76 PE: BT No: 437.76 PE: BT No: 437.76 CATCH/H weight m 743.79 63.10 31.86 20.38 15.00 13.24 13.27 9.10	PROC POSITI code: 1 e : 2 code: 3 code: 3 cATCH/ 0UR % umbers 2139 1059 75 150 30 45 6 75 15 15 15 15 6 6 75 15 15 15 15 6 6 6 8 PROC 8 PROC 8 PROC 8 PROC 8 PROC 8 PROC 8 PROC 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 8 PROC 10 10 10 10 10 10 10 10 10 10 10 10 10	<pre>YECT STATI ION:Lat Long HOUR: OF TOT. C 67.76 8.22 4.45 4.20 3.84 4.20 3.84 4.20 3.84 4.20 0.0 0.72 0.01 0.34 0.27 0.01 99.98 YECT STATI ION:Lat Long Y=0.9 Y</pre>	ON: 3249 S 1315 E 1238 437.76 SAMP 6789 6789 SAMP 6789 983.90 SAMP 6795
DATE: 9/ 8/03 GEAR TY start stop duration TIME :12:56:56 13:24:29 28 (min LOG :7044.10 7045.56 1.44 FDEPTH: 111 184 EDEPTH: 111 184 Towing dir: 3010 Wire out: Sorted: 58 Kg Total catch: PECIES entex macrophthalmus rachurus trecae mbrina canariensis helidonichthys gabonensis eus faber entex angolensis trythrocles monodi agrus caeruleostictus oligo vulgaris agellus bellottii haetodon hoefleri picara alta rnoglossus imperialis otal DATE:10/ 8/03 GEAR TY. start stop duration TIME :09:42:04 10:11:32 29 (min LOG :7190.35 7192.07 1.70 FDEPTH: 139 120 EDEPTH: 139 120 Towing dir: 900 Wire out: Sorted: 95 Kg Total catch: PECIES	PE: BT No:) Purpose of Area cod GearCond Validity 204.29 CATCH/H 296.61 36.00 19.50 18.39 16.80 14.10 12.96 8.79 5.70 3.15 1.80 1.20 0.06 437.76 PE: BT No: 437.76 PE: BT No: 437.76 PE: BT No: CATCH/H weight m 743.79 6.14 63.10 31.86 20.38 15.00 13.24 12.72 9.10 5.90 4.66	PROC POSITI code: 1 e : 2 code: 3 code: 3 cade: 30 kr CATCH/ 00UR % umbers 2139 1059 75 150 30 45 6 6 21 155 15 15 15 15 15 15 6 6 6 6 8 POSITI code: 1 e : 1	<pre>YECT STATI ION:Lat Long HOUR: OF TOT. C 67.76 8.22 4.40 3.84 4.20 3.84 4.20 0.10 0.32 2.96 2.01 0.32 0.01 0.34 0.27 0.01 99.98 YECT STATI ION:Lat Long YECT STATI ION:Lat Long **10 YHOUR: OF TOT. C 75.60 6.41 3.22 1.35 1.29 0.60 0.47</pre>	ON: 3249 S 1315 E 1238 437.76 SAMP 6789 6789 S 1402 E 1215 983.90 SAMP 6795

DATE:10/ 8/03 GEAR TY	PE: BT No: 8	PROJECT S POSITION:La	TATION:3251 t S 1413
start stop duration TIME :14:01:01 14:31:06 30 (min) Purpose cod	Lo Le: 1	ng E 1219
LOG :7220.15 7221.61 1.45	Area code GearCond co	: 1 de:	
BDEPTH: 25 37 Towing dir: 350g Wire out:	Validity co	de: 3 30 kn*10	
Sorted: 67 Kg Total catch:	436.99	CATCH/HOUR:	873.98
SPECIES	CATCH/HOUR	* % OF TO	T. C SAMP
Brachydeuterus auritus	270.40 23	948 30	.94
Selene dorsalis	129.40 1	124 14	.81
Pomadasys incisus	55.60	628 6	.36
Umbrina canariensis Boops boops	33.16	716 5	.88
Pteroscion peli Umbrina ronchus	32.40 31.80	208 3 26 3	.71
Galeoides decadactylus Pagellus bellottii	31.20 21.40	156 3 78 2	.57
Raja miraletus Diplodus cervinus cervinus	9.60 7.80	12 1 12 0	.10
Decapterus rhonchus Sardinella maderensis	1.96 1.56	12 0 40 0	.22
Total	873.98	100	.00
		PROJECT S	TATION:3252
DATE:10/ 8/03 GEAR TYN start stop duration	PE: PT No: 1	POSITION:La Lo	t S 1422 ng E 1211
TIME :18:48:49 19:13:23 25 (min) LOG :7247.55 7248.93 1.38) Purpose cod Area code	le: 1 : 1	
FDEPTH: 25 25 BDEPTH: 623 413	GearCond.co Validity co	de: de: 3	
Towing dir: 360ø Wire out:	120 m Speed:	35 kn*10	
Sorted: Kg Total catch:	20.24	CATCH/HOUR:	48.58
SPECIES	Сатер / логи	\$ 0F TO	T. C. SAMD
Trichiurus lenturus	weight numb	. 50F10 ers 151 50	AA SAMP
Trachurus trecae	28.39	62 22	.44 .87 6797
Ommastrephes pteropus Scomber japonicus	8.02 0.82	22 16 2 1	.51
MYCTOPHIDAE	0.24	322 0	. 49
Total	48.58	100	.00
DATE:10/ 8/03 GEAR TY	PE: PT No: 1	PROJECT S POSITION:La	TATION: 3253 t S 1422
start stop duration TIME :21:27:13 21:47:38 20 (min)	Purpose cod	Lo Lo	ng E 1220
LOG :7262.30 7263.56 1.24	Area code GearCond co	: 1 de:	
BDEPTH: 63 49	Validity co	de: 3	
lowing dir. 200 wile out.	120 m opecu	54 KH 10	
Sorted: 83 Kg Total catch:	1183 38	CATCH / HOUR :	3550 14
Sorted: 83 Kg Total catch:	1183.38	CATCH/HOUR:	3550.14
Sorted: 83 Kg Total catch:	1183.38 CATCH/HOUF weight numb	CATCH/HOUR: % OF TO ers	3550.14 T. C SAMP
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae	1183.38 CATCH/HOUF weight numb 3550.14 14	CATCH/HOUR: * % OF TO ers 244 100	3550.14 T.C SAMP .00 6798
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total	1183.38 CATCH/HOUF weight numb 3550.14 14 3550.14	CATCH/HOUR: * % OF TO *ers 244 100 	3550.14 T. C SAMP .00 6798
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total	1183.38 CATCH/HOUF weight num 3550.14 14 3550.14	CATCH/HOUR:	3550.14 T. C SAMP .00 6798
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TY	1183.38 CATCH/HOUR weight numh 3550.14 14 3550.14	CATCH/HOUR: S OF TO vers 244 100 PROJECT S PROJECT S	3550.14 T. C SAMP .00 6798 .00
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :10:47:05 10 (sr):57	1183.38 CATCH/HOUE weight numb 3550.14 14 3550.14 PE: BT No: 8	CATCH/HOUR: * OF TO ers 244 100 	3550.14 T. C SAMP .00 6798 .00 .00 .00 .00 .00 .00 .00 .0
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min. LOG :7357.68 7358.29 0.60 DEDEDWY: 7357.68 7358.29 0.60	1183.38 CATCH/HOUT weight num 3550.14 14 3550.14 2550.14 2550.14	CATCH/HOUR: * 0F TO vers 244 100 	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 ng E 1210
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :10:47:06 10:57:05 10 (min LOG :7357.68 7358.29 0.60 PPDEPTH: 23 73 BDEPTH: 23 73	1183.38 CATCH/HOUT weight num 3550.14 14 3550.14 14 3550.14 2E: ET No: 8) Purpose coo Area code GearCond.cc Validity cc	CATCH/HOUR: * * OF TO vers 244 100 PROJECT S POSITION:La Lo i: 1 de: 1 de: 3 OF HOUSE	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 ng E 1210
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :10:47:06 10:57:05 10 (min LOG :7357.68 7358.29 0.60 FDEPTH: 23 73 BDEPTH: 23 73 Towing dir: 200 Wire out:	1183.38 CATCH/HOUT weight num 3550.14 14 3550.14 2000 Purpose cod Area code GearCond.cc Validity cc 140 m Speed:	CATCH/HOUR: * * OF TO vers 244 100 	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 ng E 1210
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LOG :7357.68 7358.29 0.60 FPDETH: 23 73 BDEPTH: 23 73 Towing dir: 20æ Wire out: Sorted: 62 Kg Total catch:	1183.38 CATCH/HOUT weight numm 3550.14 14 3550.14 202: ET No: 8) Purpose coo Area code GearCond.cc Validity cc 140 m Speed: 519.03	CATCH/HOUR: * 0F TO vers 244 100 	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 ng E 1210 3114.18
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :10:47:06 10:57:05 10 (min) COG :7357.68 7358.29 0.60 FPDEPTH: 23 73 BDEPTH: 23 73 Towing dir: 20ø Wire out: Sorted: 62 Kg Total catch: SPECIES	1183.38 CATCH/HOUF weight numm 3550.14 14 3550.14 14 3550.14 PE: BT No: 8) Purpose coo Area code GearCond.cc Validity cc 140 m Speed: 519.03 CATCH/HOUF	CATCH/HOUR: * 0F TO ers 244 100 PROJECT S POSITION:La Lo 1 de: 1 de: 3 35 km*10 CATCH/HOUR: * 0F TO	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 ng E 1210 3114.18 T. C SAMP
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :10:47:06 10:57:05 10 (min COS 7357.68 7358.29 0.60 FDEPTH: 23 73 BDEPTH: 23 73 BDEPTH: 23 73 Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus	1183.38 CATCH/HOUT weight num 3550.14 14 3550.14 14 3550.14 24 3550.14 14 251. BT No: 8) Purpose coc Area code GearCond.cc Validity cod 519.03 CATCH/HOUT weight num 1320.90 5	CATCH/HOUR: * 0F TO ers 244 100 100 PROJECT S POSITION:La I to i 1 de: 1 i i de: 3 35 ka*10 CATCH/HOUR: * 0F TO ers * 0F TO ers * 0F TO * 0F TO	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t. S 1458 ng E 1210 3114.18 T. C SAMP .42
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :10:47:06 10:57:05 10 (min, LOG :7357.68 7358.29 0.60 FDEPTH: 23 73 DEPTH: 23 73 DEPTH: 20 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus	1183.38 CATCH/HOUT weight num 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 225: BT No: 8 Area code GearCond.cc Validity cc 140 m speed: 519.03 CATCH/HOUT Neight num 1320.90 14 178.98 014	CATCH/HOUR: * 0F TO ************************************	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t. S 1458 ng E 1210 3114.18 T. C SAMP .42 .14 .75
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :10:47:06 10:57:05 10 (min, LOG :7357.68 7358.29 0.60 FDEPTH: 23 73 DDETTH: 23 73 Towing dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayyatis centroura Dentex barnardi	1183.38 CATCH/HOUT weight num 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 S19.03 CATCH/HOUT Neight num 1320.90 5 1218.90 14 178.98 150.42 95.88	CATCH/HOUR: * © F TO vers 244 100 PROJECT S POSITION:La POSITION:La to POSITION:La Lo le: 1 de: 1 de: 3 35 kn*10 CATCH/HOUR: * © F TO 916 42 994 39 102 5 150 4 354 3	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t. S 1458 ng E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .08
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :10:47:06 10:57:05 10 (min, LOG :7357.68 7358.29 0.60 PDEPTH: 23 73 DDEPTH: 23 73 DDEPTH: 20 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lithognathus mormyrus Fistularia petimba	1183.38 CATCH/HOUT weight numm 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 350.14 14 S19.03 CATCH/HOUT Neight numm 1320.90 5 1218.90 14 178.98 150.42 95.88 45.90 31.08	CATCH/HOUR: * © F TO vers 244 100 PROJECT S POSITION:La POSITION:La to POSITION:La Lo le: 1 Lo le: 1 Lo le: 3 S kn*10 CATCH/HOUR: * © F TO * © F TO * 0 F TO * 1 S kn*10 CATCH/HOUR: * © F TO * 0 F TO * 1 S kn*10 CATCH/HOUR: * 0 F TO * 0 F TO * 1 S kn*10 CATCH/HOUR: * 0 F TO * 0 S kn*10 CATCH/HOUR: * 0 S kn*10 *	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t. S 1458 ng E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .00
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min. LOG :7357.68 7358.29 0.60 FDEPTH: 23 73 TOWING dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayyatis centroura Dentex barnardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus	1183.38 CATCH/HOUF weight numm 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 1320.03 CATCH/HOUF weight numm 1320.90 5 1218.90 14 178.98 150.42 95.88 45.90 31.08 23.46 19.38	CATCH/HOUR: * 0F TO vers 244 100 PROJECT S POSITION:La POSITION:La to POSITION:La 1 de: 1 de: 3 35 kn*10 CATCH/HOUR: * 0F TO vers 916 42 994 39 910 25 150 4 354 3 150 4 150 4	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 mg E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .68 .00 .75
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :10:47:06 10:57:05 10 (min LOG :7357.68 7358.29 0.60 FDEPTH: 23 73 BDEPTH: 23 73 Towing dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex dibosus Dayatis centroura Dentex parardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias	1183.38 CATCH/HOUF weight numm 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 1350.03 CATCH/HOUF weight numm 1320.90 5 1218.90 14 178.98 15 1218.90 14 178.98 15 1218.90 14 178.98 15 195.88 45.90 31.08 23.46 19.38 10.68 8 16	CATCH/HOUR: * 0F TO vers 244 100 PROJECT S POSITION:La POSITION:La to POSITION:La 100 CATCH/HOUR: * 0F TO vers 916 42 994 39 912 5 150 4 35 kn*10 CATCH/HOUR: * 1 48 00 102 0 108 109 109 100 100 100 100 100 100	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 mg E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .00 .75 .83 .00 .00 .75 .62 .34
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LOG :7357.68 7358.29 0.60 FDEPTH: 23 73 TOWING dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayyatis centroura Dentex barnardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae	1183.38 CATCH/HOUF weight numm 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 1350.03 CATCH/HOUF weight numm 1320.90 5 1218.90 14 178.98 150.42 95.88 45.90 31.08 23.46 19.38 10.68 8.16 7.26	CATCH/HOUR: * 0F TO vers 244 100 PROJECT S POSITION:La POSITION:La to POSITION:La 100 CATCH/HOUR: * 0F TO vers 916 42 994 39 102 5 150 4 35 kn*10 CATCH/HOUR: * 0F TO vers 916 42 994 39 102 5 150 4 35 kn *10 CATCH/HOUR: * 0F TO vers 916 42 914 39 102 5 150 4 35 kn *10 CATCH/HOUR: * 0F TO vers 916 42 914 39 102 5 100 43 102 5 100 43 100 48 00 100 48 100 48 10	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 mg E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .60 .47 .75 .83 .00 .75 .83 .00 .42 .14 .25 .25 .25 .25 .25 .25 .25 .25
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LOG :7357.68 7358.29 0.60 FDEPTH: 23 73 BDEPTH: 23 73 Towing dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Daystis centroura Dentex benrardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops	1183.38 CATCH/HOUF weight numm 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 Area code GearCond.cc Validity.cc 140 m Speed: 519.03 CATCH/HOUF weight numm 1320.90 5 1218.90 14 178.98 150.42 95.88 45.90 14 178.98 150.42 95.88 45.90 14 19.38 10.68 8.16 7.26 3.06	CATCH/HOUR: * 0F TO vers 244 100 PROJECT S POSITION:La POSITION:La (e: 1 Lo (e: 1 Lo (e: 3 35 kn*10 CATCH/HOUR: * 0F TO vers 916 42 994 39 912 5 150 4 354 3 916 42 994 39 912 5 150 4 354 3 916 42 994 39 912 5 150 4 354 3 100 100 100 100 100 100 100 10	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 mg E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .00 .75 .83 .00 .62 .34 .25 .62 .34 .25 .62 .34 .25 .25 .67 .34 .25 .25 .25 .25 .25 .25 .25 .25
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :10:47:06 10:57:05 10 (min LOG :7357.68 7358.29 0.60 PDEPTH: 23 73 DEPTH: 23 73 Towing dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lichognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total	1183.38 CATCH/HOUF weight num 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 Area code GearCond.cc Validity cc Validity cc Validity cc 140 m Speed: 519.03 CATCH/HOUF weight num 1320.90 5 1218.90 14 178.98 150.42 95.88 95.88 45.90 16 19.38 10.68 8.16 7.26 3.06	CATCH/HOUR: * 0 F TO vers 244 100 PROJECT S POSITION:La POSITION:La de: 1 Lo la: 1 Lo la: 1 Lo la: 3 35 kn*10 CATCH/HOUR: * 0 F TO vers 916 42 994 39 102 5 150 42 994 39 102 5 103 42 994 39 102 5 104 48 104 48 104 48 104 48 104 48 104 48 105 48 104 48 104 48 105 48 104 48 104 48 105 48 104 48 105 49 105 48 104 48 107 48 10	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t. S 1458 mg E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .08 .447 .00 .75 .62 .34 .26 .25 .6799 .10 .99
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :10:47:06 10:57:05 10 (min LOG :7357.68 7358.29 0.60 PDEPTH: 23 73 Towing dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Detex barnardi Lichognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total	1183.38 CATCH/HOUF weight num 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 225: BT No: 8) Purpose coc Area code GearCond.oc Validity oc Validity oc 140 m Speed: 519.03 CATCH/HOUF weight num 1320.90 5 131.03 16 132.8.90 16 132.8.90 16 150.42 150.42 151.8.8 45.90 16 19.38 10.68 8.16 7.26 3.06	CATCH/HOUR: * © OF TO vers 244 100 PROJECT S POSITION:La POSITION:La de: 1 Lo la: 1 Lo la: 1 Lo la: 3 35 kn*10 CATCH/HOUR: * © OF TO vers 916 42 994 39 102 5 150 42 994 39 102 5 104 48 0 102 0 48 0 108 0 78 0 99 99 99 99 99 99 99 99 99 9	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t. S 1458 mg E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .00 .42 .25 .23 .26 .23 .26 .23 .26 .23 .26 .23 .26 .25 .23 .26 .23 .26 .23 .26 .23 .26 .25 .25 .25 .25 .25 .25 .25 .25
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LGG :7357.68 7358.29 0.60 FDEPTH: 23 73 DEPTH: 23 73 Towing dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI	1183.38 CATCH/HOUF weight num 3550.14 14 3550.14 14 3550.14 14 3550.14 14 22: BT No: 8) Purpose coco GearCond.cc Validity cc 140 m Speed: 519.03 CATCH/HOUF weight num 1320.90 5 1218.90 14 178.98 150.42 1519.03 CATCH/HOUF weight num 1320.90 5 1218.90 14 178.98 150.42 151.90 14 178.98 150.42 150.42 151.90 14 178.98 150.42 151.90 14 178.98 150.42 151.90 14 178.98 150.42 151.90 14 178.98 150.42 151.90 14 178.98 150.42 151.90 14 150.42 151.90 14 150.42 151.90 14 150.42 151.90 14 150.42 151.90 14 151.90 14 150.42 151.90 14 150.42 151.90 14 150.42 150.42 151.90 14 150.42 1	CATCH/HOUR: * % OF TO vers 244 100 PROJECT S POSITION:La POSITION:La de: 1 i 1 de: 2 de: 3 35 kn*10 CATCH/HOUR: * % OF TO vers 916 42 994 39 102 5 150 42 994 39 150 42 999 43 150 42 999 43 150 42 999 43 150 42 999 43 150 42 150 42	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 mg E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .00 .75 .62 .23 .67 .99 TATION:3255 t S 1506
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LOG :7357.68 7358.29 0.60 FDEPTH: 23 73 BDEPTH: 23 73 Towing dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Pentex barnardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :13:25:52 13:50:21 24 (min LOG :7378.28 7379.55 1.26	1183.38 CATCH/HOUF weight num 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 PE: BT No: 8) Purpose coco (Arca code GearCond.cc Validity cc 140 m Speed: 519.03 CATCH/HOUF weight num 1320.90 5 131.08 23.46 19.38 10.68 8.16 7.26 3.06 3114.06 PE: BT No: 8) Purpose coco	CATCH/HOUR: * % OF TO vers 244 100 PROJECT S POSITION:La to to to to to to to to to to	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t. S 1458 mg E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .00 .75 .62 .23 .06 .47 .75 .62 .23 .67 .99 TATION:3255 t. S 1504 mg E 1206
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LOG :7357.68 7358.29 0.60 FDEPTH: 23 73 DEPTH: 23 73 Towing dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :13:25:52 13:50:21 24 (min LOG :7378.28 7379.55 1.26 FDEPTH: 111 164	1183.38 CATCH/HOUF weight num 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 PE: BT No: 8) Purpose cood CATCH/HOUF weight num 1320.90 5 140 m Speed: 519.03 CATCH/HOUF weight num 1320.90 14 178.98 150.42 178.98 150.42 10.68 8.16 7.26 3.06 23.46 19.38 10.68 8.16 7.26 3.06 Purpose cod Area code GearCond.cc Purpose cod Area code GearCond.cc Purpose cod Area code GearCond.cc Validity of 23.46 19.38 8.16 7.26 3.06 Purpose cod Area code GearCond.cc Purpose cod Area code GearCond.cc Validity of Purpose cod Area code GearCond.cc	CATCH/HOUR: * * OF TO vers 244 100 PROJECT S POSITION:La te: 1 Lo le: 1 Lo le: 1 S de: 3 S kn*10 CATCH/HOUR: * * OF TO vers 916 42 994 39 102 5 104 435 kn*10 CATCH/HOUR: * * OF TO vers 916 42 994 39 910 25 104 435 kn*10 CATCH/HOUR: * * OF TO vers 916 42 994 39 PROJECT S POSITION:La Vers POSITION:La Vers POSITION:La Vers 1 de: 1 1 de: 3 Vers 1 de: 3 Vers 1 de: 3 1 de: 4 1 de: 3 1 de: 4 1 de: 3 1 de: 4 1 de: 4 1 de: 4 1 de: 5 1 de: 4 1 de: 5 1 de: 4 1 de: 4 1 de: 5 1 d	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 mg E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .00 .75 .62 .23 .67 .99 TATION:3255 t S 1504 mg E 1206
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LOG :7357.68 7358.29 0.60 FDEPTH: 23 73 DEPTH: 23 73 Towing dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayaytis centroura Dentex barnardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :13:25:52 13:50:21 24 (min LOG :7378.28 7379.55 1.26 FDEFTH: 111 164 BDETH: 111 164 BDETH: 280 Wire out:	1183.38 CATCH/HOUF weight num 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 PE: BT No: 8) Purpose cood CATCH/HOUF weight num 1320.90 5 140 m Speed: 519.03 CATCH/HOUF weight num 1320.90 14 178.98 150.42 178.98 150.42 151.90 121.8.90 14 178.98 150.42 151.90 121.8.90 14 178.98 150.42 151.90 121.8.90 14 178.98 150.42 151.90 31.08 8.16 7.26 31.06 Purpose code GearCond.cc 28. BT No: 8) Purpose code Area code GearCond.cc Validity cc 340 m Speed: 340 m Speed: 340 m Speed:	CATCH/HOUR: * * OF TO vers 244 100 PROJECT S POSITION:La de: 1 Lo le: 1 Lo le: 1 S de: 3 S kn*10 CATCH/HOUR: * * OF TO vers 916 42 994 39 102 5 104 435 kn*10 CATCH/HOUR: * * OF TO vers 916 42 994 39 102 5 104 48 0 48	3550.14 T. C SAMP .00 6798 .00 TATION:3254 t S 1458 ng E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .00 .75 .62 .23 .67 .99 TATION:3255 t S 1504 ng E 1206
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LGG :7357.68 7358.29 0.60 FDEPTH: 23 73 DEPTH: 23 73 Towing dir: 200 Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :13:25:52 13:50:21 24 (min LGG :7378.28 7379.55 1.26 FDEPTH: 111 164 BDEFTH: 111 164 Towing dir: 2800 Wire out: Sorted: 134 Kg Total catch:	1183.38 CATCH/HOUF weight num 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 PE: BT No: 8) Purpose cood CATCH/HOUF weight num 1320.90 5 140 m Speed: 519.03 CATCH/HOUF weight num 1320.90 5 1218.90 14 178.98 130.6 5 19.38 10.68 8.16 7.26 3.06 3114.06 PE: BT No: 8) Purpose code GearCond.cc Validity cc 3114.06 PURPOSE code GearCond.cc Validity cc 340 m Speed: 631.98	CATCH/HOUR: * © F TO vers 244 100 PROJECT S POSITION:La to POSITION:La to to to to to to to to to to	3550.14 T. C SAMP .00 6798 .00 TATION: 3254 t S 1458 ng E 1210 3114.18 T. C SAMP .42 .14 .75 .62 .23 .6799 .10 .99 TATION: 3255 t S 1054 ng E 1206
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LGG :7357.68 7358.29 0.60 FDEPTH: 23 73 BDEPTH: 23 73 Towing dir: 20e Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :13:25:52 13:50:21 24 (min LOG :7376.28 1.26 FDEPTH: 111 164 BDEPTH: 111 164 BDEPTH: 111 164 SPECIES	1183.38 CATCH/HOUF weight num 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 2E: BT No: 8) Purpose coc Validity cc 140 m Speed: 519.03 CATCH/HOUF weight num 1320.90 54 131.08 128.90 14 178.98 150.42 95.88 45.90 31 106.82 9.38 8.16 7.26 3.06 3114.06 22: ET No: 8) Purpose coc Area code GearCond.cc Validity cc 3114.06 22: ET No: 8	CATCH/HOUR: * * OF TO vers 244 100 PROJECT S POSITION:La * 0 F TO * 1 de: 1 * 1 de: 3 35 kn*10 CATCH/HOUR: * 0 F TO * 0 F	3550.14 T. C. SAMP .00 6798 .00 TATION: 3254 t. S. 1458 ng E 1210 3114.18 T. C. SAMP .42 .14 .75 .62 .34 .25 .34 .22 .34 .23 .6799 .10 .75 .62 .34 .25 .504 ng E 1206 .5504 .47 .504 .504 .22 .504 .504 .22 .34 .25 .34 .22 .34 .25 .34 .35 .35 .34 .35 .35 .35 .35 .35 .35 .35 .35
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LGG :7357.68 7358.29 0.60 FDEPTH: 23 73 BDEPTH: 23 73 DEPTH: 23 73 Towing dir: 20e Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :13:25:52 13:50:21 24 (min LOG :7378.28 1:26 TYIP: 1.26 FDEPTH: 111 164 BDEPTH: 111 164 BDEPTH: 111 164 SPECIES	1183.38 CATCH/HOUF weight numm 3550.14 14 3550.14	CATCH/HOUR: * * OF TO vers 244 100 PROJECT S POSITION:La POSITION:La * 1 de: 1 i 1 de: 3 35 kn*10 CATCH/HOUR: * * OF TO * * 0F 100 * * 0F TO * * 0F * 0 * 0 * 0 * 0 * 0 * 0 * 0 * 0	3550.14 T. C SAMP .00 6798 .00 TATION: 3254 t S 1458 ng E 1210 3114.18 T. C SAMP .42 .14 .75 .62 .47 .00 .75 .62 .34 .25 .35 .35 .35 .35 .35 .35 .35 .3
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LGG :7357.68 7358.29 0.60 FDEPTH: 23 73 BDEPTH: 23 73 DEPTH: 23 73 Towing dir: 20e Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :13:25:52 13:50:21 24 (min LOG :7378.28 7379.55 1.26 FDEPTH: 111 164 BDEPTH: 111 164 SPECIES Dentex macrophthalmus Attracoscion aequidens	1183.38 CATCH/HOUF weight numm 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 22: BT No: 8) Purpose cood 140 m Speed: 519.03 CATCH/HOUF weight numm 1320.90 14 178.98 1321.90 14 178.98 130.46 19.38 10.68 8.16 7.26 3.06 3114.06 22: ET No: 8) Purpose code GearCond.cc Validity cc 310.40 3114.06 22: Starter Starter Starter Starter Starter Starter Starter Starter Starter Starter CATCH/HOUF Starter Starter Starter Starter Starter Starter S	CATCH/HOUR: * * OF TO vers 244 100 PROJECT S POSITION:La POSITION:La * 1 de: 1 i 1 de: 3 35 kn*10 CATCH/HOUR: * * OF TO * * 0F 100 * * 0F TO * * 0F * 0 * 0 * 0 * 0 * 0 * 0 * 0 * 0	3550.14 T. C SAMP .00 6798 .00 TATION: 3254 t S 1458 ng E 1210 3114.18 T. C SAMP .42 .14 .75 .62 .75 .62 .34 .23 .67 .99 TATION: 3255 t S 1504 ng E 1206 1577.95 T. C SAMP
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LGG :7357.68 7358.29 0.60 FDEPTH: 23 73 BDEPTH: 23 73 DEPTH: 23 73 Towing dir: 20@ Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lithognathus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :13:25:52 13:50:21 24 (min LOG :7378.28 7379.55 1.26 FDEPTH: 111 164 BDEFTH: 111 164 SPECIES Dentex macrophthalmus Atractoscion aequidens Trachurus trecae	1183.38 CATCH/HOUT weight numm 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 22: BT No: 8) Purpose cood CATCH/HOUT weight numm 1320.90 54 519.03 CATCH/HOUT weight numm 1320.90 54 10.68 8.16 7.26 3.06 3114.06 23.46 19.38 10.68 8.16 7.26 3.06 3114.06 23.46 19.38 10.68 8.16 7.26 3.06 3114.06 23.46 19.38 10.68 8.16 7.26 3.06 3114.06 23.46 19.38 10.68 8.16 7.26 3.06 3114.06 24.70 51.98 CATCH/HOUT 4.78 5.72 5.75 5	CATCH/HOUR: * * OF TO vers 244 100 PROJECT S POSITION:La POSITION:La de: 1 i 1 de: 2 35 kn*10 CATCH/HOUR: * * OF TO * * OF TO * * OF TO * * 0F 150 42 994 32 916 42 994 32 100 48 0 48 0 102 0 48 0 102 0 48 0 102 0 48 0 PROJECT S POSITION:La Lo * * 0F TO * 0F TO	3550.14 T. C SAMP .00 6798 .00 TATION: 3254 t S 1458 ng E 1210 3114.18 T. C SAMP .42 .14 .75 .83 .00 .75 .62 .34 .22 .34 .23 .6799 .10 .99 TATION: 3255 t S 1504 ng E 1206 1579.95 T. C SAMP .00 .99 .00 .00 .00 .00 .00 .00
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LGG :7357.68 7358.29 0.60 FDEFTH: 23 73 BDFTH: 23 73 BDFTH: 23 73 Towing dir: 20@ Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lithoganthus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :13:25:52 13:50:21 24 (min LOG :7378.28 7379.55 1.26 FDEFTH: 111 164 BDEFTH: 111 164 BDEFTH: 111 164 SPECIES Dentex macrophthalmus Atractoscion aequidens Trachurus trecae Pagel us for the formation the form	1183.38 CATCH/HOUF weight numä 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 22: BT No: 8 0) Purpose cood Area code GearCond.cc Validity cc 140 m Speed: 519.03 CATCH/HOUF weight numä 1320.90 14 178.98 1320.90 14 178.98 1320.90 14 178.98 1320.90 14 178.98 1320.90 14 178.98 130.68 8.16 7.26 3.06 3114.06 23.46 19.38 0.68 8.16 7.26 3.06 3114.06 23.46 19.38 0.68 8.16 7.26 3.06 3114.06 23.46 19.38 0.68 8.16 7.26 3.06 3114.06 23.46 19.38 0.68 8.16 7.26 3.06 3114.06 23.46 19.38 0.68 8.16 7.26 3.06 3114.06 23.46 19.38 0.68 8.16 7.26 3.06 3114.06 23.46 19.38 0.68 8.16 7.26 3.06 3114.06 23.46 19.38 0.68 3.16 7.26 3.06 3114.06 22.54 22.70 162.28 38.90 38.20 162.28 38.90 38.20 162.28	CATCH/HOUR: *** * OF TO **** * OF TO ***** PROJECT S POSITION:La 1 **********************************	3550.14 T. C SAMP .00 6798 .00 778 .00 3798 .00 3798 .00 3798 .114.18 T. C SAMP .42 .14 .75 .83 .00 .47 .75 .83 .00 .47 .75 .83 .00 .42 .14 .25 .83 .00 .42 .15 .55 .52 .62 .15 .55 .55 .55 .55 .55 .55 .55
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LGG :7357.68 7358.29 0.60 FDEFTH: 23 73 BDFTH: 23 73 BDFTH: 23 73 Towing dir: 20e Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lithoganthus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :13:25:52 13:50:21 24 (min LOG :7378.28 7379.55 1.26 FDEFTH: 111 164 BDEFTH: 111 164 BDEFTH: 111 164 SPECIES Dentex macrophthalmus Atractoscion aequidens Trachurus trecae Patra trace Patra trace SPECIES	1183.38 CATCH/HOUF weight numä 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 PE: BT No: 8 0 Purpose cood Area code GearCond.cc Validity cc 140 m Speed: 519.03 CATCH/HOUF weight numä 1320.90 14 178.98 1320.90 14 178.98 1320.90 14 178.98 1320.90 14 178.98 1320.90 14 178.98 130.68 8.16 7.26 3.06 3114.06 PE: BT No: 8 0 Purpose cood Area code GearCond.cc 40 m Speed: 631.98 CATCH/HOUF weight numä 933.53 6 225.48 202.70 1 62.28 38.90 38.20 27.63 17.98	CATCH/HOUR: * * OF TO ************************************	3550.14 T. C SAMP .00 6798 .00 7798 .00 3798 .00 3798 .00 3114.18 T. C SAMP .42 .14 .25 .83 .47 .75 .83 .42 .14 .25 .83 .42 .14 .25 .83 .42 .14 .25 .83 .42 .15 .55 .55 .62 .157 .95 TATION: 3255 t. S 1504 ng E 1206 .99 .90 .93 .83 .6800 .94 .95 .95 .95 .95 .95 .95 .95 .95
Sorted: 83 Kg Total catch: SPECIES Trachurus trecae Total DATE:11/ 8/03 GEAR TYI start stop duration TIME :10:47:06 10:57:05 10 (min LGG :7357.68 7358.29 0.60 FDEFTH: 23 73 BDFTH: 23 73 DFPTH: 23 73 DFPTH: 23 73 Towing dir: 20@ Wire out: Sorted: 62 Kg Total catch: SPECIES Decapterus rhonchus Pagellus bellottii Dentex gibbosus Dayatis centroura Dentex barnardi Lithoganthus mormyrus Fistularia petimba Diplodus cervinus cervinus Trachinus araneus Anthias anthias Sphyraena guachancho Trachurus trecae Boops boops Total DATE:11/ 8/03 GEAR TYI Start stop duration TIME :13:25:52 13:50:21 24 (min LOG :7378.28 7379.55 1.26 FDEFTH: 111 164 EDEFTH: 111 164 EDEFTH: 111 164 SPECIES Dentex macrophthalmus Atractoscion aequidens Trachurus trecae Pagelus bellottii Species	1183.38 CATCH/HOUT weight numm 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 14 3550.14 PE: BT No: 8 Purpose cood GearCond.cc Validity cc 140 m Speed: 519.03 CATCH/HOUT weight numm 1320.90 5 1218.90 5 1218.90 5 1218.90 5 1218.90 5 1218.90 5 1218.90 5 1218.90 5 1218.90 5 1218.90 5 1314.06 PE: BT No: 8 Purpose cood Area code GearCond.cc 3104.06 3114.06 PE: BT No: 8 Purpose cood Area code GearCond.cc 340 m Speed: 631.98 CATCH/HOUT weight numm 933.53 6 225.48 202.70 1 62.28 38.90 38.20 27.63 17.98 15.28 4.48	CATCH/HOUR: * * OF TO ************************************	3550.14 T. C. SAMP .00 6798 .00 6798 .00 3798 .00 3798 .00 3798 .00 3798 .00 4798 .01 42 .114 .18 T. C. SAMP .42 .14 .75 .83 .08 .47 .75 .83 .08 .47 .75 .83 .09 .42 .14 .25 .83 .09 .42 .15 .55 .62 .23 .6799 .10 .23 .6799 .10 .23 .6799 .10 .23 .6799 .10 .23 .6799 .10 .23 .6799 .10 .23 .6799 .10 .23 .55 .62 .23 .6799 .10 .23 .55 .62 .23 .6799 .10 .55 .62 .23 .6799 .10 .55 .62 .23 .6799 .10 .55 .62 .23 .6799 .10 .55 .52 .54 .55 .55 .55 .55 .55 .55 .55

1579.99

100.00

Total

DATE:11/ 8/03 GEAR TY	E YPE: PT No: 1 POS	SITION:Lat S 1514
start stop duration) Purpose code:	Long E 1156
LOG :7419.32 7419.88 0.55	Area code :	: 1
FDEPTH: 100 100 BDEPTH: 207 262	GearCond.code: Validity code:	9
Towing dir: 280ø Wire out:	: 250 m Speed: 35	5 kn*10
Sorted: Kg Total catch:	CA1	CH/HOUR:
SPECIES	CATCH/HOUR weight numbers	% OF TOT. C SAMP
NO CATCH	0.00	
Total		
	I	PROJECT STATION: 3257
DATE:11/ 8/03 GEAR TY	VPE: PT No: 1 POS	SITION:Lat S 1514
TIME :19:49:01 19:59:00 10 (mir	n) Purpose code:	1
LOG :/420.26 /420.84 0.58 FDEPTH: 500 50	GearCond.code	1
BDEPTH: 302 393 Towing dir: 280ø Wire out:	Validity code: 150 m Speed:350	9) kn*10
Sorted: Kg Total catch:	CA1	CH/HOUR:
SPECIES	CATCH/HOUR	SOF TOT C SAMP
	weight numbers	B Street Street
NO CATCH	0.00	
Total		
DMR:11/0/02	IDD. DE N	ROJECT STATION: 3258
DATE:11/ 8/03 GEAR TY start stop duration	TAF: AL NO: 1 DOS	Long E 1154
TIME :20:06:38 20:17:18 11 (mir LOG :7421.31 7421.99 0.68	 Purpose code: Area code 	1
FDEPTH: 25 25	GearCond.code	-
BDEPTH: 473 564 Towing dir: 280ø Wire out:	: 110 m Speed: 37	9 7 kn*10
Sorted: Kg Total catch:	5.08 CA1	CH/HOUR: 27.71
····· ·		
SPECIES	CATCH/HOUR	% OF TOT. C SAMP
Krill	weight numbers 13.80 1932(3 49.80
Trachurus trecae	7.47 55	26.96 6801
MYCTOPHIDAE	6.44 2444	23.24
Total	27.71	100.00
Total —	27.71	100.00
Total	27.71	100.00
Total —	27.71	100.00
Total	27.71	TODJECT STATION: 3259
Total — DATE:11/ 8/03 GEAR TY start stop duration	27.71 27.8 P05 27.71	ROJECT STATION:3259 ITTION:Lat S 1517 Long E 1202
DATE:11/ 8/03 GEAR T1 start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437 39 0 15	27.71 (PE: BT No: 8 POS 1) Purpose code: brea code	PROJECT STATION:3259 SITION:Lat S 1517 Long E 1202
DATE:11/ 8/03 GEAR T start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33	27.71 (PE: BT No: 8 POS 1) Purpose code: Area code : GearCond.code:	ROJECT STATION:3259 STROJECT STATION:3259 STROJECT STATION:3259 Long E 1202 1
DATE:11/ 8/03 GEAR T start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 BDEPTH: 32 33 Towing dir: 3500 Wire out:	27.71 (PE: BT No: 8 POS 1) Purpose code: Area code : GearCond.code: Validity code: 120 m Speed: 33	TIOD.00 PROJECT STATION:3259 SITION:Lat S 1517 Long E 1202 1 3 3 5 km*10
Total Total Total Total Total Total Total Total Total TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 BDEPTH: 32 33 Towing dir: 3500 Wire out:	27.71 ZPE: BT No: 8 POS 1) Purpose code: Area code Validity code: 120 m Speed: 32 503.70 code	 PROJECT STATION:3259 JITION:Lat S 1517 Long E 1202 1 3 3 3 3 3 3 3 3 3 3 3 3 3
Total DATE:11/ 8/03 GEAR TT start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 BDEPTH: 32 33 Towing dir: 350ø Wire out: Sorted: Kg Total catch:	27.71 XPE: BT No: 8 POS 1) Purpose code: Area code : GearCond.code: Validity code : 120 m Speed: 32 : 503.70 CA1	 PROJECT STATION:3259 SITION:Lat S 1517 Long E 1202 1 3 3 kn*10 XCH/HOUR: 7555.50
Total — DATE:11/ 8/03 GEAR TY start stop duration TIME :22:40:10 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 DEPTH: 32 33 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES	27.71 YPE: BT No: 8 POS 1) Purpose code: Area code : GearCond.code Validity code: 120 m Speed: 3 : 503.70 CAT CATCH/HOUR	 PROJECT STATION: 3259 SITION:Lat S 1517 Long E 1202 1 3 3 hn*10 XCH/HOUR: 7555.50 \$ OF TOT. C SAMP
Total CATE: 11/ 8/03 GEAR TY start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 EDEPTH: 32 33 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES Decantarus rhorchur	27.71 YPE: BT No: 8 POS n) Purpose code: Area code : GearCond.code: Validity code: 120 m Speed: 33 : 503.70 CAT CATCH/HOUR weight numbers 7465 c 2000	
Total CATE:11/ 8/03 GEAR TI DATE:11/ 8/03 GEAR TI Start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 DEPTH: 32 33 Towing dir: 350ø Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus	27.71 PUPE: BT No: 8 POS n) Purpose code: Area code : GearCond.code: 120 m Speed: 33 : 503.70 CAT CATCH/HOUR weight numbers 7465.05 35700 62.40 120	
Total DATE:11/ 8/03 GEAR TY start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 BDEPTH: 32 33 Towing dir: 350ø Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops	27.71 YPE: BT No: 8 POS 1) Purpose code: Area code : GearCond.code: 120 m Speed: 3: 503.70 CAT CATCH/HOUR weight numbers 7465.05 35700 62.40 122 28.05 255	
Total Total Total Total Total Total Total Total Total The start stop duration TIME :22:40:19 22:44:10 4 (min LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 BDEPTH: 32 33 Towing dir: 350ø Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total To	27.71 YPE: BT No: 8 POS Area code : GearCond.code Validity code: 120 m Speed: 33 CATCH/HOUR weight numbers 7465.05 33700 62.40 122 28.05 255 7555.50	100.00 PROJECT STATION: 3259 SITION:Lat \$ 1517 Long E 1202 1 3 3 kn*10 XCH/HOUR: 7555.50 \$ OF TOT. C SAMP 9 88.80 0.83 0.37 100.00
Total DATE:11/ 8/03 GEAR TY start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 Towing dir: 350ø Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total Catch	27.71 PPE: BT No: 8 POS 1) Purpose code: Area code : GearCond.code: 120 m Speed: 33 : 503.70 CAT CATCH/HOUR weight numbers 7465.05 33700 62.40 122 28.05 255 7555.50	
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Total	27.71 I YPE: BT No: 8 POS Area code : GearCond.code: Validity code: 120 m Speed: 33 : 503.70 CAT CATCH/HOUR weight numbers 7465.05 3570 62.40 120 28.05 255 7555.50 I PE: BT No: 8 POS	
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Total Total DATE:11/ 8/03 GEAR TY start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total Total Total Category Total Total Category Total Total Category Total Total Category Total Total Category Total Category Total 10:51:19 11:09:18 18 (mir LOG :7530.36 7531.38 1.01 FDEPTH: 73 71	27.71 YPE: BT No: 8 POS n) Purpose code: Area code : GearCond.code: '120 m Speed: 33 : 503.70 CAT CATCH/HOUR weight numbers 7465.05 3570 62.40 120 28.05 255 7555.50 PE: BT No: 8 POS 1) Purpose code: Area code : GearCond.code: Area code :	
Total Total Total Total Total Total Total Taken stop duration TIME :2:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 BEEPTH: 32 33 Towing dir: 350ø Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total Total Total Total Total Total Total Total BATE:12/ 8/03 GEAR TY Start stop duration TIME :10:51:19 11:09:18 18 (mir LOG :7530.36 7531.38 1.01 FDEPTH: 73 71 EDEPTH: 73 71 EDE	27.71 YPE: BT No: 8 PO(n) Purpose code: Area code : GearCond.code: '120 m Speed: 33 : 503.70 CA1 CATCH/HOUR weight numbers 7465.05 35700 62.40 12(28.05 255 7555.50 YPE: BT No: 8 PO(1) Purpose code: Area code : GearCond.code Validity code: 250 m Speed: 33	
Total DATE:11/ 8/03 GEAR TT start stop duration TIME :2:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FPEPTH: 32 33 BEEPTH: 32 33 Towing dir: 350ø Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total DATE:12/ 8/03 GEAR TT start stop duration TIME :10:51:19 11:09:18 18 (mir LOG :7530.36 7531.38 1.01 FPEPTH: 73 71 BDEPTH: 73 71 Towing dir: 215ø Wire out:	27.71 PPE: BT No: 8 PO(1) Purpose code: Area code : GearCond.code: 120 m Speed: 32 : 503.70 CAT CATCH/HOUR weight numbers 7465.05 35700 62.40 12(28.05 255 7555.50 PE: BT No: 8 PO(1) Purpose code: Area code : GearCond.code Validity code: 1 20 m Speed: 31 0 21 25	
Total DATE:11/ 8/03 GEAR TI start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 DEDEPTH: 32 33 Towing dir: 350ø Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total DATE:12/ 8/03 GEAR TI start stop duration TIME :10:51:19 11:09:18 18 (mir LOG :7530.36 7531.38 1.01 FDEPTH: 73 71 EDEPTH: 73 71 EDEPTH: 73 71 Towing dir: 215ø Wire out: Sorted: Kg Total catch:	27.71 PPE: BT No: 8 PO(1) Purpose code: Area code : GearCond.code: 120 m Speed: 32 503.70 CAT CATCH/HOUR weight numbers 7465.05 3570(62.40 12(28.05 255) 7555.50 PPE: BT No: 8 PO(1) Purpose code: Area code : Parea code : 26earCond.code Validity code: 250 m Speed: 31 : 874.35 CAT	
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Total DATE:11/ 8/03 GEAR TY start stop duration TIME :22:40:19 22:44:10 4 (min LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 BDEPTH: 32 33 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total Total Total Catch: DATE:12/ 8/03 GEAR TY start stop duration TIME :10:51:19 11:09:18 18 (min LOG :7530.36 7531.38 1.01 FDEPTH: 73 71 EDEPTH: 73 71 Towing dir: 2150 Wire out: Sorted: Kg Total catch: SPECIES	27.71 PPE: BT No: 8 PO Area code : GearCond.code: 10 Purpose code: 120 m Speed: 3: 503.70 CA1 CATCH/HOUR weight numbers 7465.05 3570 62.40 122 28.05 255 7555.50 PEE: BT No: 8 PO 1) Purpose code: Area code : GearCond.code: Validity code: 250 m Speed: 31 : 874.35 CA1 CATCH/HOUR weight numbers	
Total Total Total Total Total Total Total Total Total The start stop duration Time :22:40:19 22:44:10 4 (min LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total Sorted: Kg Total catch: SPECIES Sorted: Kg Total catch: Sorted: Kg Total catch: Sorted: Kg Total catch: Sorted: Kg Total catch: Species Sorted: Kg Total catch: Species Pagellus bellottii Dentx barnardi	27.71 PPE: BT No: 8 PO PUPPOSE code: Area code : GearCond.code: 120 m Speed: 3: 503.70 CAI CATCH/HOUR weight numbers 7465.05 33700 62.40 122 28.05 255 7555.50 PUPE: BT No: 8 PO 1) Purpose code: Area code : GearCond.code: 250 m Speed: 33 : 874.35 CAI CATCH/HOUR weight numbers 1293.73 1029 469.33 2143	
Total Total DATE:11/ 8/03 GEAR TT start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 PDEPTH: 32 33 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total Total Total (mir LOG :7530.36 7531.38 1.01 PDEPTH: 73 71 DOATE:10:51:19 11:09:18 18 (mir LOG :7530.36 7531.38 1.01 PDEPTH: 73 71 Towing dir: 2156 Wire out: Sorted: Kg Total catch: SPECIES Pagellus bellottii Dentex barnardi Lithogathus mormyrus	27.71 If PE: BT No: 8 POS Area code: GearCond.code: Validity code: 120 m Speed: 33 503.70 CAT CATCH/HOUR weight numbers 7465.05 3570 62.40 120 28.05 255 7555.50 If PE: BT No: 8 POS 10 Purpose code: Area code: Area code: Area code: Area code: Area code: Area code: Area code: CATCH/HOUR weight numbers 1250 m Speed: 31 : 874.35 CAT CATCH/HOUR Weight numbers 129.73 1029 469.33 214 329.63 214 329.64 214 329.65 214 329.	
Total Total DATE:11/ 8/03 GEAR TT start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total Total DATE:12/ 8/03 GEAR T STICH:12/ 8/03 GEAR T TIME :10:51:19 11:09:18 18 (mir LOG :7530.36 7531.38 1.01 FDEPTH: 73 71 EDEPTH: 73 71 EDEPTH: 73 71 Towing dir: 2150 Wire out: Sorted: Kg Total catch: SPECIES Pagellus bellottii Dentex barnardi Lithogathus mormyrus Myliobatis aquila Trachurus trecae	27.71 If PE: BT No: 8 POS Area code : Area code : Area code : GearCond.code: Validity code: : 120 m Speed: 3: : 503.70 CAT CATCH/HOUR weight numbers 7465.05 3570 62.40 122 28.05 255 7555.50 If Purpose code: Area code : Area code : 26 GearCond.code: Validity code: : 250 m Speed: 3: : 874.35 CAT CATCH/HOUR weight numbers 1293.73 1029; 469.33 215; 329.63 1466 251.90 3215; 255.50	
Total Total DATE:11/ 8/03 GEAR TI start stop duration TIME :22:40:19 22:44:10 4 (mir LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 EDEPTH: 32 33 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total Total Total (mir LOG :7530.36 7531.38 1.01 FDEPTH: 73 71 EDEPTH: 73 71 EDEPTH: 73 71 Towing dir: 2150 Wire out: Sorted: Kg Total catch: SPECIES Pagellus bellottii Dentex barnardi SPECIES Pagellus bellottii Dentex barnardi Lithogathus mormyrus Myliobatis aquila Trachurus trecae Dasyatis centroura	27.71 If PE: BT No: 8 POS a) Purpose code: Area code : GearCond.code: '2120 m Speed: 33 : 503.70 CAT CATCH/HOUR weight numbers 7465.05 3570 62.40 120 28.05 255 7555.50 I) Purpose code: Area code : Area code : A	
Total Total DATE:11/ 8/03 GEAR TI start stop duration TIME :22:40:19 22:44:10 4 (min LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total Total GEAR TY start stop duration TIME :10:51:19 11:09:18 18 (min LOG :7530.36 7531.38 1.01 FDEPTH: 73 71 EDEPTH: 73 71 EDEPTH: 73 71 Towing dir: 2150 Wire out: Sorted: Kg Total catch: SPECIES Pagellus bellottii Dentex barnardi Lithognathus mormyrus Myliobatis aquila Trachurus trecae Dasyatis centroura Atractoscion aequidens Spendyliocoma cantharus	27.71 PPE: BT No: 8 POG n) Purpose code: Area code : GearCond.code: Validity code: 120 m Speed: 33 : 503.70 CAT CATCH/HOUR weight numbers 7465.05 35700 62.40 122 28.05 255 7555.50 Purpose code: Area code : Area code : Area code : 26earCond.code: Validity code: 250 m Speed: 33 : 874.35 CAT CATCH/HOUR weight numbers 228.03 216 CATCH/HOUR Weight numbers 1293.73 1029 469.33 2146 219.33 216 219.33 216 219.35 216 219.55	
Total Total Total Total Table 2015 Total Total Total TIME 12:44:10 4 (min Total 3) Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total Total Total Total Total Total Construction TIME 10:51:19 11:09:18 18 (min LOG :7530.36 7531.38 1.01 FDEPTH: 73 71 Towing dir: 2150 Wire out: Sorted: Kg Total catch: SPECIES Pagellus bellotti Dentex barnardi Lithograthus mormyrus Myliobatis aquila Trachurus trecae Dasyatis centroura Atractoscion aequidens Specipers Phagellus bellotti Dentex barnardi Lithograthus mormyrus Myliobatis aquila Trachurus trecae Dasyatis centroura Atractoscion aequidens Specipers Phagellus bellotti Dentex barnardi Lithograthus mormyrus Myliobatis aquila Trachurus trecae Dasyatis centroura Atractoscion aequidens Specipers Phagellus rhonchus Total Phage Phagellus Phagel	27.71 PTE: BT No: 8 PO(n) Purpose code: Area code : GearCond.code: 'lalidity code: 120 m Speed: 33 503.70 CAT CATCH/HOUR weight numbers 7465.05 35700 62.40 12(28.05 255 7555.50 PUPE: BT No: 8 PO(1) Purpose code: Area code : GearCond.code Validity code: 310 Purpose code: Area code : 250 m Speed: 31 : 874.35 CAT CATCH/HOUR weight numbers 325.50 CATCH/HOUR weight 31 : 250.31 1029 469.33 214 329.63 1466 251.90 217 35.63 122 32.63 122	TION: 00 PROJECT STATION: 3259 SITION: Lat S 1517 Long E 1202 1 3 km*10 CCH/HOUR: 7555.50 * OF TOT. C SAMP 9 08.80 0 0.83 0 0.83 0 0.83 0 0.83 0 0.83 100.00 PROJECT STATION: 3260 SITION: Lat S 1537 Long E 1157 1 3 . km*10 CCH/HOUR: 2914.50 * OF TOT. C SAMP 3 . 1.11 1.12 * OF TOT. C SAMP 3 . 1.13 1.13 1.13 1.12
Total Total Total Total Total Total Total Total Total Time :22:40:19 22:44:10 4 (min LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 BEDEPTH: 32 33 Towing dir: 350ø Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Trichiurus lepturus Boops boops Total Total Total Total Total Total Sorted: Kg Total catch: Sorted: Kg Total catch: SPECIES SPECIES Catcher Start stop duration TIME :10:51:19 11:09:18 18 (min LOG :7530.36 7531.38 1.01 FDEPTH: 73 71 Towing dir: 215ø Wire out: Sorted: Kg Total catch: SPECIES SPECIES Pagellus bellottii Dentex barnardi Lithograthus mormyrus Myliobatis aquila Trachurus trecae Dasyatis centroura Atractoscion aequidens Spedylog vulgaris Decapterus rhonchus Diplodus cervinus cervinus Atractoscion aguida Tarachurus theoleguida tota sorte sor	27.71 Pre: BT No: 8 PO(1) Purpose code: Area code : GearCond.code: 120 m Speed: 32 503.70 CAT CATCH/HOUR weight numbers 7465.05 35700 62.40 12(28.05 255 7555.50 Purpose code: Area code : Area code : Area code : 1) Purpose code: Area code : Area code : 250 m Speed: 31 CATCH/HOUR weight numbers Area code : 250 m Speed: 31 : 874.35 CAT CATCH/HOUR weight numbers 7469.33 214 229.33 214 251.90 211 250.33 216 129.33 214 251.90 211 250.33 214 251.90 217 32.93 122 3.64 0 27 32.63 122 13.67 33 12.43 77	
Total Total DATE:11/ 8/03 GEAR TI start stop duration TIME :22:40:19 22:44:10 4 (min LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 DEDEPTH: 32 33 Towing dir: 350ø Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Tichiurus lepturus Boops boops Total DATE:12/ 8/03 GEAR TI start stop duration TIME :10:51:19 11:09:18 18 (min LOG :7530.36 7531.38 1.01 FDEPTH: 73 71 EDEPTH: 73 71 Towing dir: 215ø Wire out: Sorted: Kg Total catch: SPECIES Pagellus bellottii Dentex barnardi Lithognathus mormyrus Myliobatis aquila Trachurus trecae Dasyatis centroura Atractoscion acquidens Spedigo vulgaris Decapterus rhonchus Diplodus cervinus cervinus Argrocomus hololepidotus Fomenaey jubelini	27.71 PTE: BT No: 8 PO(1) Purpose code: Area code : GearCond.code: 120 m Speed: 3: 503.70 CAT CATCH/HOUR weight numbers 7465.05 3570(62.40 12(28.05 255) 7555.50 PUPDE: BT No: 8 PO(1) Purpose code: Area code : Area code : 1293.73 1029: 624.01 20(28.05 255) 7555.50 PUPDE: BT No: 8 PO(1) Purpose code: Area code : Area code : 26earCond.code Validity code: 1293.73 1029: 469.33 2144 329.63 124 25.53 122; 13.67 33 12.63 122; 13.67 33 12.43 33 7.13 30	
Total Total Total DATE:11/ 8/03 GEAR T: start stop duration TIME :22:40:19 22:44:10 4 (min LOG :7437.39 7437.56 0.15 FDEPTH: 32 33 EDEPTH: 32 33 Towing dir: 350ø Wire out: Sorted: Kg Total catch: SPECIES Decapterus rhonchus Tichiurus lepturus Boops boops Total DATE:12/ 8/03 GEAR T: start stop duration TIME :10:51:19 11:09:18 18 (min LOG :7530.36 7531.38 1.01 FDEPTH: 73 71 EDEPTH: 73 71 EDEPTH: 73 71 Towing dir: 215ø Wire out: Sorted: Kg Total catch: SPECIES Pagellus bellottii Dentex barnardi Lithograchus mormyrus Myliobatis aquila Trachurus trecae Dasyatis centroura Atractoscion aequidens Spedigo vulgaris Decapterus rhonchus Diplodus cervinus cervinus Argyrosomus hololepidotus Promadays jubellni Brachydeuterus auritus Citharus linguatula	27.71 PPE: BT No: 8 PO(1) Purpose code: Area code : GearCond.code: 'lalidity code: 120 m Speed: 3: 503.70 CAT CATCH/HOUR weight numbers 7465.05 3570 62.40 122 28.05 255 7555.50 (PE: BT No: 8 POC 1) Purpose code: Area code : GearCond.code Validity code: 250 m Speed: 31 : 874.35 CAT CATCH/HOUR weight numbers 1293.73 1029 CATCH/HOUR weight numbers 1293.73 1029 CATCH/HOUR weight 232.63 124 329.63 124 329.63 124 329.63 124 329.63 124 35.53 122 13.67 33 1.23 30 3.70 33 0.90 33	
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Damp 12 / 0 /02		PROJEC	T STATION	1:3261
start stop duration TIME :20:29:10 20:46:23 17 (min) Purpose co	de: 1	Long E	1147
LOG :7600.77 7601.88 1.09 FDEPTH: 22 21 BDEPTH: 22 21	Area code GearCond.c Validity c	: 1 ode: ode: 3		
Towing dir: 15ø Wire out:	120 m Speed	: 35 kn*1	10	0 07
Softed. 55 kg fotal catch.	297.32	CAICH/HC	JUR. 10.	50.07
SPECIES	CATCH/HOU weight num	R % OF bers	TOT. C	SAMP
Trachurus trecae Myliobatis aquila	660.00 131.01	9162 95	62.85 12.48	6803
Pagellus bellottii Atractoscion aequidens	90.04 47.65	2015 332	8.57	
Dentex canariensis Arius parkii	23.33 21.28	635 46	2.22	
Solea senegalensis Pomadasys incisus Paja miralatug	15.88	540	1.51	
Boops boops Imbrina canariensis	7.31	109	0.70	
Spondyliosoma cantharus Pomatomus saltatrix	4.76	109 14	0.45	
Trichiurus lepturus Trachinus armatus	2.68 0.78	78 14	0.26	
Sepia orbignyana Lithognathus mormyrus	0.78 0.78	14 14	0.07	
Penaeus notialis, male	0.46	14	0.04	
Total	1050.08		99.98	
DATE:13/ 8/03 GEAR TY start stop duration TIME :01:52:33 02:22:49 30 (min	PE: PT No: 1	PROJEC POSITION de: 1	T STATION N:Lat S Long E	1:3262 1613 1132
LOG :7634.05 7635.80 1.74 FDEPTH: 45 40	Area code GearCond.c	: 1 ode:		
BDEPIH: 110 208 Towing dir: 10ø Wire out:	150 m Speed	: 38 kn*1	10	
Sorted: Kg Total catch:	15.08	CATCH/HC	UR: 3	80.16
SPECIES	CATCH/HOU	R %OF	TOT. C	SAMP
Etrumeus whiteheadi	29.80	452	98.81	
Total	30.16		100.00	
		PROJEC	T STATION	1:3263
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 PDEPTH: 45 45 BDEPTH: 45 45 Towing dir: 360ø Wire out:	PE: BT No: 8 Purpose co Area code GearCond.c Validity c 160 m Speed	POSITION de: 1 : 1 ode: ode: : 33 kn*1	J:Lat S Long E	1613 1144
DATE:13/8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FPEPTH: 45 45 BDEPTH: 45 45 Towing dir: 360ø Wire out: Sorted: Kg Total catch:	PE: BT No: 8) Purpose co Area code GearCond.c Validity c 160 m Speed 193.98	POSITION de: 1 : 1 ode: ode: 3 : 33 kn*1 CATCH/HC	J:Lat S Long E 10 DUR: 40	1613 1144
DATE:13/ 8/03 GEAR TY start stop duration TIME:04:54:20 05:23:38 29 (min LOG:7650.75 7652.35 1.60 PDEPTH: 45 45 DBEPTH: 45 45 Towing dir:360ø Wire out: Sorted: Kg Total catch: SPECIES	PE: BT No: 8 Purpose co Area code GearCond.c. Validity c 160 m Speed 193.98 CATCH/HOU weight num 	POSITION de: 1 : 1 ode: ode: 3 : 33 kn*1 CATCH/HC R % OF bers	ILAT S Long E	1613 1144 01.34 SAMP
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:22:38 29 (min LOG :7650.75 7652.35 1.60 FPDEPTH: 45 45 BDEPTH: 45 45 Towing dir: 360ø Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii	PE: BT No: 8 Area code GearCond.c Validity c 160 m Speed 193.98 CATCH/HOU weight num 263.17 41.40	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 1061	1:Lat S Long E 10 DUR: 40 F TOT. C 65.57 10.32	1613 1144 01.34 SAMP 6804
DATE:13/8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FDEPTH: 45 45 BDEPTH: 45 45 Towing dir: 360ø Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Dentex canariensis Sepia orbignyana	PE: BT No: 8) Purpose coc Area code GearCond.c Validity c 160 m Speed 193.98 CATCH/HOU weight num 263.17 41.40 16.01 13.84	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC CATCH/HC CATCH/HC CATCH/HC S06 596 43	N:Lat S Long E L0 DUR: 40 7 TOT. C 65.57 10.32 3.99 3.45	1613 1144 01.34 SAMP 6804
DATE:13/8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FPEPTH: 45 45 BDEPTH: 45 45 Towing dir: 360ø Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Pentex canariensis Sepia orbignyana Solea senegalensis Merluccius polli	PE: BT No: 8) Purpose CC Area code GearCond.c Validity c 160 m Speed 193.98 CATCH/HOU weight num 263.17 41.40 16.01 13.84 12.54 12.41	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 596 43 701 230	U:Lat S Long E 0 0UR: 40 5 TOT. C 65.57 10.32 3.99 3.45 3.12 3.09	1613 1144 01.34 SAMP 6804
DATE:13/8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FPDEPTH: 45 45 BDEPTH: 45 45 Towing dir: 360ø Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Dentex canariensis Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii	PE: BT No: 8) Purpose co Area code GearCond.c Validity of 160 m Speed 193.98 CATCH/HOU Weight num 263.17 41.40 16.01 13.84 12.54 12.54 12.54 12.54 12.54	POSITION de: 1 : 1 ode: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 596 43 701 230 248 19 62	V:Lat S Long E UUR: 4(7 TOT. C 65.57 10.32 3.99 3.45 3.12 3.09 2.27 1.72 2.27	1613 1144 01.34 SAMP 6804
DATE:13/8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FPDEPTH: 45 45 Towing dir: 360@ Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Dentex canariensis Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trachinus lanturus	PE: BT No: 8) Purpose co Area code GearCond.c Validity co 160 m Speed 193.98 CATCH/HOU weight num 263.17 41.40 16.01 13.84 12.54 12.54 12.54 12.54 5.40 5.40 2.20	POSITION de: 1 : 1 ode: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 596 43 701 230 248 19 62 211 55	ViLat S Long E 00 000000000000000000000000000000000	1613 1144 01.34 SAMP 6804
DATE:13/8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FDEPTH: 45 45 BDEPTH: 45 45 Towing dir: 360ø Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Dentex canariensis Sepia orbignyana Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trichiurus lepturus Loligo vulgaris	PE: BT No: 8) Purpose cc Area code GearCond.c Validity c Validity c Validity c Validity c RearCond.c 193.98 CATCH/HOU weight num 263.17 41.40 16.01 13.84 12.54 12.54 12.54 9.12 6.89 6.70 5.40 3.29 2.73	POSITION de: 1 : 1 ode: 3 : 3 kn*1 CATCH/HC R % OF bers 4543 1061 596 453 701 230 248 19 62 211 56 12 6	1:Lat S Long E 20 DUR: 4(7 TOT. C 65.57 10.32 3.45 3.12 3.09 3.45 3.12 3.27 1.72 1.67 1.35 0.82 0.76 0.56	1613 1144 01.34 SAMP 6804
DATE:13/8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FDEPTH: 45 45 BDEPTH: 45 45 Towing dir: 360ø Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Dentex canariensis Sepia orbignyana Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trichiurus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi	PE: BT No: 8) Purpose CC Area code GearCond.c Validity c 160 m Speed 193.98 CATCH/HOU weight num 263.17 41.40 16.01 13.84 12.54 12.54 12.54 12.54 12.54 5.40 3.29 2.79 2.279 2.279 2.23 1.55 1.37	POSITION de: 1 : 1 : 1 : 2 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 596 43 701 230 248 19 62 211 56 62 231	ELAT S Long E .0 VUR: 40 7 TOT. C 65.57 10.32 3.99 3.45 3.12 3.09 2.27 1.72 1.67 1.35 0.82 0.76 0.56 0.39 0.34	1613 1144
DATE:13/8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FPEEPTH: 45 45 BDEPTH: 45 45 Sorted: Kg Total catch: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Dentex canariensis Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi Spendyliosoma cantharus Dentex carcophthalmus	PE: BT No: 8) Purpose co Area code GearCond.c Validity of 160 m Speed 193.98 CATCH/HOU weight num 263.17 41.40 16.01 13.94 12.54 12.54 12.41 9.12 6.89 6.70 5.40 3.29 2.79 2.23 1.55 1.37 1.24 0.93	POSITION de: 1 : 1 ode: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 2596 453 701 230 248 19 62 211 56 62 31 37 137	ELAT S Long E 000000000000000000000000000000000000	1613 1144
DATE:13/8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FPEEPTH: 45 45 DEPTH: 45 45 Sorted: Kg Total catch: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Dentex canariensis Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trichiurus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi Epentex macrophthalmus Pentex macrophthalmus	PE: BT No: 8) Purpose co GearCond.c Validity cel 160 m Speed 193.98 CATCH/HOU weight num 263.17 41.40 16.01 13.84 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 1.25 1.37 1.24 0.32 0.43 40 10 10 10 10 10 10 10 10 10 1	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC R % OR bers 4543 1061 596 43 1061 596 43 1061 596 43 1061 596 43 1061 596 43 1062 248 19 62 211 56 62 31 25 137 2 	ELAT S Long E LO DUR: 40 F TOT. C 65.57 10.32 3.99 3.45 3.12 3.09 2.27 1.72 1.35 0.82 0.72 0.72 1.35 0.82 0.70 0.34 0.34 0.34 0.34 0.34 0.23 0.21	1613 1144 01.34 SAMP 6804
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FPEEPTH: 45 45 Towing dir: 3600 Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Dentex canariensis Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trichiurus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi Spondyliosoma cantharus Dentex macrophthalmus Penaeus notialis	PE: BT No: 8) Purpose CC Area code GearCond.c Validity cel 160 m Speci 193.98 CATCH/HOU weight num 263.17 41.40 16.01 13.84 12.54 12.54 12.54 12.54 12.54 12.54 1.25 1.37 1.24 0.93 0.43 401.31	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 596 433 1061 596 433 1061 596 43 248 19 62 211 56 62 31 25 137 2 	STLAT S Long E LO DUR: 4(1 7 TOT. C 65.57 10.32 3.99 3.45 3.12 3.09 2.27 1.72 1.72 1.67 1.35 0.82 0.70 0.34 0.34 0.34 0.34 0.23 0.11 100.01	1613 1144)1.34 SAMP 6804
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FPDEFTH: 45 45 Towing dir: 3600 Wire out: Sorted: Kg Total catch: SpecIES Trachurus trecae Pagellus bellottii Dentex canariensis Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trichinurus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi Spondylisoma cantharus Dentex macrophthalmus Penaeus notialis Total	PE: BT No: 8)) Purpose co Gearcond.c Validity c Validity c V	POSITION de: 1 : 1 : 1 : 1 : 1 : 3 : 33 kn*1 CATCH/HC R * 0P bers 4543 1061 596 43 701 230 454 1061 596 122 62 248 19 62 211 56 125 137 2 PROJEC PROJEC PROJEC	STATION ST STATION ST STATION ST STATION ST STATION S Long E	1613 1144 01.34 SAMP 6804 *: 3264 1619 1147
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FDEETH: 45 45 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SpecIES Trachurus trecae Pagellus bellottii Dentex canariensis Sola senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trichinus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi Spondylisoma cantharus Dentex macrophthalmus Penaeus notialis Total DATE:13/ 8/03 GEAR TY start stop duration TIME :07:53:17 08:20:18 27 (min LOG :7665.08 7666.57 1.48 FDEPTH: 16 17	PE: BT No: 8)) Purpose cc Gearcond.c Validity c Validity c CATCH/HOU weight num 263.17 41.40 10.01 13.84 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 1.25 1.37 1.3	POSITION de: 1 : 1 : 1 : 1 : 1 : 1 : 1 : 3 : 33 kn*1 CATCH/HC R * 0 Ders 4543 1061 596 43 701 230 4543 19 62 248 19 62 248 19 62 248 19 62 21 248 19 62 21 248 19 62 21 248 19 62 25 137 2 	STATION ST ST STATION ST ST STATION ST ST S	1613 1144 01.34 SAMP 6804 6804
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FPDEPTH: 45 45 BDEPTH: 45 45 Sorted: Kg Total catch: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Dentex canariensis Solea senegalensis Merluccius polli Umbrina canariensis Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus lepturus Loligo vulgaris Raja miraletus Triful yra Etrumeus whiteheadi Spondyliosoma cantharus Dentex macrophthalmus Penaeus notialis Total DATE:13/ 8/03 GEAR TY start stop duration TIME :07:53:17 08:20:18 27 (min LOG :7665.08 7666.57 1.48 FDEPTH: 16 17 DEPTH: 16 17 Total Total catch:	PE: BT No: 8)) Purpose cc Area code GearCond.c. Validity c 160 m Speed 193.98 CATCH/HOU weight num 263.17 41.40 16.01 13.84 12.54 12.54 12.54 12.54 12.54 12.54 12.54 1.25 1.55 1.55 1.57 1.24 0.93 0.43 PE: BT No: 8) Purpose cc Area code GearCond.c Validity c 120 m Speed 816.52	POSITION de: 1 : 1 : 1 : 1 : 2 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 596 43 701 220 248 4543 596 43 701 230 248 19 62 211 56 62 211 56 62 211 70 - PROJEC POSITION de: 1 : 33 kn*1 CATCH/HC	ST STATION ST STATION ST STATION ST STATION SUP: 183 SUP SUP SUP SUP SUP SUP SUP SUP	1613 1144)11.34 SAMP 6804 6804 1147
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FPDEPTH: 45 45 Towing dir: 3600 Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Dentex canariensis Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trichiurus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi Spondyliosoma cantharus Dentex macrophthalmus Penaeus notialis Total DATE:13/ 8/03 GEAR TY start stop duration TIME :07:53:17 08:20:18 27 (min LOG :7665.08 7666.57 1.48 FDEPTH: 16 17 TOWING dir: 3500 Wire out: Sorted: Kg Total catch:	PE: BT No: 8)) Purpose cc Area code GearCond.c Validity cel 160 m Speed 193.98 CATCH/HOU Weight num 263.17 41.40 16.01 13.84 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 1.25 1.37 1.37 1.37 1.37 401.31 PE: BT No: 8 ()) Purpose cc Area code GearCond.c Validity c	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 593 4543 1061 594 4543 1061 595 4543 1061 595 4543 1061 595 12 62 21 12 62 21 12 62 21 12 62 21 12 62 21 12 62 21 12 62 21 12 62 21 12 62 21 12 62 25 137 2 PROJEC POSITION de: 1 : 1 CATCH/HC	STLAT S Long E 20 20 20 20 20 20 20 20 20 20 20 20 20	1613 1144)1.34 SAMP 6804 7:3264 6804
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 PDEPTH: 45 45 Towing dir: 3600 Wire out: Sorted: Kg Total catch: SpecIES Trachurus trecae Pagellus bellottii Dentex canariensis Sola senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trichinurus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi Spondylisoma cantharus Dentex macrophthalmus Penaeus notialis Total DATE:13/ 8/03 GEAR TY start stop duration TIME :07:53:17 08:20:18 27 (min LOG :7665.08 7666.57 1.48 PDEPTH: 16 17 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES	PE: BT No: 8)) Purpose cc Area code Gearcond.c Validity c l60 m Speed 193.98 CATCH/HOU weight num 263.17 41.40 12.54 13.29 2.79 2.23 1.55 1.37 1.37 1.37 1.37 401.31 PE: BT No: 8 PE: BT No: 8 CATCH/HOU weight num 0.43 CATCH/HOU S16.52 CATCH/HOU Weight num 1.25 CATCH/HOU No Speed 1.25 CATCH/HOU No Speed 1.25 CATCH/HOU	POSITION de: 1 : 1 : 1 : 1 : 2 : 3 : 33 kn*1 CATCH/HC R * 0P bers 4543 1061 596 43 701 230 4543 1061 596 62 211 56 62 31 25 137 2 PROJEC POSITION de: 1 : 1 ode: 3 : 3 kn*1 CATCH/HC R * 0P bers 4543 1978	STATION ST STATION ST C STATION ST C STATION ST STATION ST C STATION ST STATION ST C STATION ST STATION ST C STATION ST ST STATION ST ST S	1613 1144)1.34 SAMP 6804 1:3264 6804 1:3264 1619 1147
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 PDEPTH: 45 45 Towing dir: 3600 Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Pagellus bellottii Dentex canariensis Sola senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trichirus lepturus Loligo vulgaris Raja miraletus Trichirus lepturus Loligo vulgaris Raja miraletus Trichirus lepturus Loligo vulgaris Raja miraletus Trichirus sub thehadi Spendylisoma cantharus Dentex macrophthalmus Penaeus notialis Total DATE:13/ 8/03 GEAR TY start stop duration TIME :07:53:17 08:20:18 27 (min LOG :7665.08 7666.57 1.48 FDEPTH: 16 17 Towing dir: 350ø Wire out: Sorted: Kg Total catch: SPECIES	PE: BT No: 8)) Purpose cc Gearcond.c Validity c Validity c Validity c Validity c Validity c Validity c 193.98 CATCH/HOU Weight num 263.17 41.40 16.01 13.84 12.57 12.57 Speed 816.52 CATCH/HOU Weight num 167.844 10.63 167.52 CATCH/HOU Weight num 167.844 10.43 167.844 10.43 167.844 10.52 CATCH/HOU Weight num 167.844 10.75 CATCH/HOU Weight num 167.844 10.75 CATCH/HOU Weight num 167.844 10.75 CATCH/HOU Weight num 167.844 10.75 CATCH/HOU Weight num 167.844 10.75 CATCH/HOU Weight num 167.844 10.75 CATCH/HOU Weight num 167.844 10.75 CATCH/HOU Notes 20.75 CATCH/HOU Notes	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 701 230 248 19 62 248 19 62 248 19 62 248 19 62 248 19 62 248 19 62 248 19 62 211 56 62 25 137 2 	STLAT S Long E LO DUR: 4(5 TOT. C 65.57 10.39 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.09 3.45 3.12 3.02 7 1.72 1.67 3.02 7 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.67 1.05 3.02 1.07 1.05 3.02 1.07 1.07 1.05 1.03 2.07 1.07 1.05 1.03 2.07 1.07 1.05 1.03 2.07 1.07 1.05 1.03 2.07 1.07 1.05 1.03 2.07 1.07 1.05 1.03 2.07 1.07 1.07 1.05 1.03 2.07 1.07 1.07 1.05 1.03 2.07 1.07 1.07 1.05 1.03 2.07 1.07 1.07 1.07 1.07 1.07 1.07 1.07 1	1613 1144 31.34 SAMP 6804 6804 8.3264 1619 1147 1147 4.49 SAMP 6805 6805
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 PPEPTH: 45 45 BDEPTH: 45 45 Sorted: Kg Total catch: Sorted: Kg Total catch: SpecIES Trachurus trecae Pagellus bellottii Dentex canariensis Solea senegalensis Merluccius polli Umbrina canariensis Arius parkli Atractoscion aequidens Trighal yra Hrumeus whiteheadi Spendyliosoma cantharus Dentex macrophthalmus Penaeus notialis Total DATE:13/ 8/03 GEAR TY start stop duration TIME :07:53:17 08:20:18 27 (min LOG :7655.08 7666.57 1.48 PDEPTH: 16 17 BDEPTH: 16 17 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SPECIES Trachurus trecae Pomatomus saltatrix Sardinops ocellatus Myliobatis aquila	PE: BT No: 8)) Purpose cc Area code GearCond.c. Validity c 160 m Speed 193.98 CATCH/HOU weight num 263.17 41.40 16.01 13.84 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 1.25 1.37 1.24 0.93 0.43 401.31 PE: BT No: 8)) Purpose cc Area code GearCond.c Validity c 120 m Speed 816.52 CATCH/HOU weight num 1678.44 10 49.40 29.44 26.58 7.51	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 596 43 701 230 248 4543 1061 596 43 701 260 27 PROJEC POSITION de: 1 : 1 ode: 3 : 33 kn*1 CATCH/HC PROJEC POSITION de: 1 : 1 cATCH/HC R % OF bers 4543 2 2 2 2 2 2 2 2 2 2 2 2 2	ST STATION ST STATION ST OTT. C 10 2.27 1.72 1.67 3.45 3.12 3.09 3.45 3.12 3.07 1.35 0.82 0.70 0.34 0.31 0.21 1.67 1.35 0.82 0.70 0.34 0.31 0.01 100.01 T STATION SLONG E 1.67 1.62 1.66 1.64 0.41 1.64	1613 1144)1.34 SAMP 6804 6804 4.49 SAMP 6805 6805
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 PDEPTH: 45 45 Towing dir: 360ø Wire out: Sorted: Kg Total catch: SpecIES Trachurus trecae Pagellus bellottii Dentex canariensis Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trichiurus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi Spondyliosoma cantharus Dentex macrophthalmus Penaeus notialis Total DATE:13/ 8/03 GEAR TY start stop duration TIME :07:53:17 08:20:18 27 (min LOG :7665.08 7666.57 1.48 FDEPTH: 16 17 BDEPTH: 16 17 BDEPTH: 16 17 Sorted: Kg Total catch: SPECIES	PE: BT No: 8)) Purpose co GearCond.c Validity cel 160 m Speed 193.98 CATCH/HOU Weight num 263.17 41.40 16.01 13.84 12.55 1.37 1.24 0.93 0.43 401.31 PE: BT No: 8 % 16.52 CATCH/HOU Weight num 1678.44 10 29.44 26.58 7.51 7.22 6.07	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 596 43 701 220 248 196 125 6 6 2 2 137 2 PROJEC POSITION de: 1 code: 3 : 33 kn*1 CATCH/HC R % OF bers 1978 144 269 87 144 166 167 167 167 167 167 167 167	<pre>ILLAT S Long E LO DUR: 40 F TOT. C 65.57 10.32 3.99 3.45 3.12 3.09 2.27 1.72 1.67 1.35 0.82 0.72 1.67 0.56 0.39 0.34 0.23 0.11 100.01 FT STATION ILLAT S LONG E LONG E UR: 181 FT STATION ILLAT S LONG E LONG E STATION ILLAT S LONG E LONG E STATION ILLAT S LONG E STATION ILLAT S LONG E S LONG S S LONG E S LONG E LONG E S LONG E LONG E LON</pre>	1613 1144)1.34 SAMP 6804 6804 1619 1147 4.4.49 SAMP 6805 6806
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 FPEEPTH: 45 45 Towing dir: 3600 Wire out: Sorted: Kg Total catch: SpecIES Trachurus trecae Pagellus bellottii Dentex canariensis Solea senegalensis Merluccius polli Umbrina canariennis Arius parkii Atractoscion aequidens Trachinus armatus Trichiurus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi Spendyliosoma cantharus Penaeus notialis Total DATE:13/ 8/03 GEAR TY start stop duration TIME :07:53:17 08:20:18 27 (min LOG :7665.08 7666.57 1.48 FDEPTH: 16 17 BDEPTH: 16 17 BDEPTH: 16 17 BDEPTH: 16 17 Synclistic Kg Total catch: SpecIES	PE: BT No: 8)) Purpose cc Area code GearCond.c Validity cel 160 m Speed 193.98 CATCH/HOU Weight num 263.17 41.40 16.01 13.84 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 1.25 1.37 1.24 0.93 0.43 401.31 PE: BT No: 8 ()) Purpose cc Area code GearCond.c Validity c 120 m Speed 816.52 CATCH/HOU Weight num 167.84 10 - 2.44 10 - 2.	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 596 433 1061 596 433 1061 596 43 1061 596 43 1061 596 43 1051 506 125 137 2 2 PROJEC POSITION de: 1 CATCH/HC R % OF bers 1072 1156 125 137 2 2 1156 157 2 2 1156 157 2 2 1157 2 2 1156 157 2 2 117 2 2 117 2 2 117 2 2 117 2 2 117 2 2 117 2 2 117 2 2 11 CATCH/HC R % OF bers 1074 2 104 114 209 87 1144 1166 376 297 1144 1166 376 297 1144 1166 376 297 1174 1174 207 1174 1174 207 1174 1174 207 1174 1174 207 1174 1174 207 1174 1174 207 207 1174 1174 207 207 1174 1174 207 207 1174 1174 207 207 1174 1174 207 207 1174 1174 207 207 1174 1174 207 207 1174 1174 207 207 1174 1174 207 207 1174 1174 1174 207 207 1174 1174 1174 207 207 1174 1174 1174 207 207 207 207 207 207 207 207	<pre>StLat S Long E Long E STOT. C 65.57 10.32 3.99 3.45 3.12 3.09 2.27 1.72 1.67 0.36 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34</pre>	1613 1144)1.34 SAMP 6804 6804 6804 1147 1147 .4.49 SAMP 6805 6806
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 PDEPTH: 45 45 Towing dir: 3600 Wire out: Sorted: Kg Total catch: SpecIES Trachurus trecae Pagellus bellottii Dentex canariensis Sepia orbignyana Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trichiurus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi Spondyliosoma cantharus Dentex macrophthalmus Penaeus notialis Total DATE:13/ 8/03 GEAR TY start stop duration TIME :07:53:17 08:20:18 27 (min LOG :7665.08 7666.57 1.48 PDEPTH: 16 17 BDEPTH: 16 17 BDEPTH: 16 17 BDEPTH: 16 17 SpecIES Trachurus trecae Pomatomus saltatrix Sardinops ocellatus Myliobatis aquila Atractoscion aequidens Loligo vulgaris Spondyliosoma cantharus Pagellus bellottii Umbrina canariensis Species	PE: BT No: 8)) Purpose CC Area code GearCond.c Validity cel 160 m Speed 193.98 CATCH/HOU Weight num 263.17 41.40 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 1.25 1.37 1.37 1.37 1.37 401.31 PE: BT No: 8 () Purpose CC Area code GearCond.c Validity c 120 m Speed 816.52 CATCH/HOU Weight num 1678.44 10 49.40 29.44 26.58 7.51 7.22 6.07 4.62 2.02 1.44 0.87	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC R % OF bers 4543 1061 596 43 1061 596 43 701 248 19 62 248 19 62 248 19 62 248 19 62 248 19 62 211 56 12 62 137 2 PROJEC POSITION de: 1 : 1 code: 3 : 3 kn*1 CATCH/HC R % OF bers 137 2 	<pre>Sile is a set of the set of</pre>	1613 1144)1.34 SAMP 6804 6804 7:3264 6804 147 144 8 SAMP 6805 6806
DATE:13/ 8/03 GEAR TY start stop duration TIME :04:54:20 05:23:38 29 (min LOG :7650.75 7652.35 1.60 PDEPTH: 45 45 Towing dir: 3500 Wire out: Sorted: Kg Total catch: SpecIES Trachurus trecae Pagellus bellottii Dentex canariensis Sepia orbignyana Solea senegalensis Merluccius polli Umbrina canariensis Arius parkii Atractoscion aequidens Trachinus armatus Trichinus armatus Trichinus lepturus Loligo vulgaris Raja miraletus Trigla lyra Etrumeus whiteheadi Spondyliosoma cantharus Dentex macrophthalmus Penaeus notialis Total DATE:13/ 8/03 GEAR TY start stop duration TIME :07:53:17 08:20:18 27 (min LOG :7665.08 7666.57 1.48 PDEPTH: 16 17 BDEPTH: 16 17 BDEPTH: 16 17 Sorted: Kg Total catch: SPECIES Trachurus trecae Pomatomus saltatrix Spadyliosoma cantharus Pagellus bellottii Umbrina canariensis Solea sengalensis Dentex canariensis Solea sengalensis	PE: BT No: 8)) Purpose cc GearCond.c. Validity c Validity c Validity c Validity c Validity c Validity c 193.98 CATCH/HOU Weight num 263.17 41.40 16.01 13.84 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 12.54 1.25 1.37 1.24 0.93 0.43 PE: BT No: 8 CATCH/HOU Weight num 401.31 PE: BT No: 8 CATCH/HOU Weight num 401.31 PE: BT No: 8 CATCH/HOU Weight num 401.31 PE: BT No: 8 CATCH/HOU Weight num 5.40 3.29 CATCH/HOU Weight num 401.31 PE: BT No: 8 CATCH/HOU Weight num 401.31 PE: BT No: 8 CATCH/HOU Weight num 5.40 3.29 CATCH/HOU Weight num 5.40 3.29 CATCH/HOU Seed 8.16 5.2 CATCH/HOU Seed 7.22 6.07 4.62 2.02 1.44 0.58 0.29	POSITION de: 1 : 1 code: 3 : 33 kn*1 CATCH/HC R * 0F bers 4543 701 230 248 19 62 248 19 62 248 19 62 248 19 62 248 19 62 248 19 62 248 19 62 211 56 62 25 137 2 	<pre>STLAT S Long E 20 20 20 20 20 20 20 20 20 20 20 20 20</pre>	1613 1144 53,000 6804 53,000 53,000 53,000 53,000 53,000 53,000 53,000 53,000 53,000 53,000 53,000 53,000 53,000 53,000 54,0000000000

	P	ROJECT STATION:3265
DATE:13/ 8/03 GEAR TY start stop duration	PE: BT No: 8 POS	ITION:Lat S 1619 Long E 1135
TIME :10:49:29 11:04:23 15 (min LOG :7683.64 7684.48 0.83) Purpose code: Area code :	1
BDEPTH: 83 80	Validity code:	3 Irm *1.0
Sorted: Kg Total catch:	54 85 CAT	CH/HOUR: 219 40
Softea. kg fotaf catch.	54.05 CAI	ch/hook; 219.40
SPECIES	CATCH/HOUR weight numbers	% OF TOT. C SAMP
Etrumeus whiteheadi Sepia orbignyana	105.20 1756 36.80 32	47.95 6808 16.77
Merluccius polli Dentex macrophthalmus	32.20 152 24.80 2412	14.68 11.30
Trachurus capensis Raja miraletus	7.08 480 3.24 4	3.23 6807 1.48
Spondyliosoma cantharus Citharus linguatula	2.84 8 2.00 24	1.29 0.91
Zeus faber Pagellus bellottii	1.80 8 1.16 4	0.82 0.53
Trachinus armatus Chelidonichthys gabonensis	0.68 224 0.68 16	0.31 0.31
Loligo vulgaris Sardinops ocellatus	0.56 28 0.36 4	0.26 0.16
Total	219.40	100.00
	P	ROJECT STATION: 3266
DATE:13/ 8/03 GEAR TY start stop duration	PE: BT No: 8 POS	ITION:Lat S 1626 Long E 1130
TIME :13:48:41 14:18:36 30 (min LOG :7706.91 7708.44 1.53) Purpose code: Area code :	1 1
FDEPTH: 96 93 BDEPTH: 96 93	GearCond.code: Validity code:	3
Towing dir: 10ø Wire out:	310 m Speed: 30	kn*10
Sorted: Kg Total catch:	17.20 CAT	CH/HOUR: 34.40
SPECIES	CATCH/HOUR	% OF TOT. C SAMP
Dentex macrophthalmus	15.90 192	46.22
Pagellus bellottii Sepia orbignyana	5.66 26	15.76
Chelidonichthys gabonensis Squalus megalops	2.32 30 1.64 2	6.74 4.77
Trigla lyra Zeus faber	1.56 10	4.53
Pontinus kuhlii	0.18 8	0.52
Total	34.40	99.99
DATE:13/ 8/03 GEAR TY	P PE: BT No: 8 POS	ROJECT STATION: 3267
start stop duration TIME :16:02:36 16:17:47 15 (min) Purpose code:	Long E 1138
LOG :7720.00 7720.77 0.76	Area code :	1
FDEPTH: 81 83	GearCond.code:	
FDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out:	GearCond.code: Validity code: 270 m Speed: 30	3 kn*10
FDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch:	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT	3 kn*10 CH/HOUR: 7862.48
FDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch:	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT	3 kn*10 CH/HOUR: 7862.48
FDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch: SPECIES	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers	3 kn*10 CH/HOUR: 7862.48 % OF TOT. C SAMP
PDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae	GearCond.code: Validity code: 270 m Speed: 300 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312	3 kn*10 CH/HOUR: 7862.48 % OF TOT. C SAMP 47.54 6810 24.89 6809
FDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 2700 Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 383.88 2172	3 kn*10 CH/HOUR: 7862.48 % OF TOT. C SAMP 47.54 6810 24.89 6809 18.91 4.88
PDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1466.80 15224 383.88 2172 142.20 420 113.20 2264	3 kn*10 CH/HOUR: 7862.48 % OF TOT. C SAMP 47.54 6810 24.89 6809 18.91 4.88 1.81 1.44 6811
PDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Attractoscion aequidens Etrumeus whiteheadi Pagellus bellottii	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1466.80 15224 383.88 2172 1466.20 420 113.20 2264 41.20 420	3 kn*10 CH/HOUR: 7862.48 % OF TOT. C SAMP 47.54 6810 24.89 6809 18.91 4.88 1.81 1.44 6811 0.52
PDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 383.88 2172 142.20 420 113.20 2264 41.20 420 7862.48	3 kn*10 CH/HOUR: 7862.48 % OF TOT. C SAMP 47.54 6810 24.89 6809 18.91 4.88 1.81 1.44 6811 0.52 99.99
PDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 383.88 2172 142.20 420 113.20 2264 41.20 420 7862.48	3 kn*10 CH/HOUR: 7862.48 % OF TOT. C SAMP 4.84 1.81 1.44 0.52 99.99 EDUECT STRTION:3267
PDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DR. FRIDTJOF NANSEN DATE:13/ 8/03 GEAR TY START STOP GURATION	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 383.88 2177 142.20 420 113.20 2264 41.20 420 7862.48 PROJECT:AA P PE: BT No: 8 POS	3 kn*10 CH/HOUR: 7862.48 \$ OF TOT. C SAMP 47.54 6810 24.89 6809 18.91 4.88 1.81 1.44 6811 0.52 99.99 ROJECT STATION:3267 ITION:Lat S 1625 LODG E 1138
PDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DR. FRIDTJOF NANSEN DATE:13/ 8/03 GEAR TY start stop duration TIME :16:02:36 16:17:47 15 (min IGG :7720.00 7720.77 0.76	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 383.88 2172 142.20 420 113.20 2264 41.20 420 7862.48 PROJECT:A4 P PE: BT No: 8 POS) Purpose code : Area code :	3 kn*10 CH/HOUR: 7862.48 * OF TOT. C SAMP 47.54 6810 24.89 6809 18.91 4.88 1.81 1.44 6811 0.52 99.99 ROJECT STATION:3267 TITION:Lat S 1625 Long E 1138 1
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DEPTH: 81 83 DEPTH: 81 83 Towing dir: 270e Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DR. FRIDTJOF NANSEN DATE:13/ 8/03 GEAR TY start stop duration TIME :16:02:36 16:17:47 15 (min LGG :7720.00 7720.77 0.76 FDEPTH: 81 83 DDEPTH: 81 83 DDEPTH: 81 83 DDEPTH: 81 83 DEPTH: 81 83 DTachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DATE:13/ 8/03 GEAR TY start stop duration TIME :23:31:14 23:40:55 10 (min LGG :7770.12 7770.52 0.49 FDEPTH: 17 17 DEPTH: 17 17 DEPTH: 17 17 DEPTH: 17 17	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 41.20 420 7862.48 PROJECT:A4 P PE: BT No: 8 POS) Purpose code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1442.20 420 113.20 2264 41.20 420 7862.48	3 kn*10 CH/HOUR: 7852.48 * OF TOT. C SAMP 4.7.54 6810 24.89 6809 18.91 4.88 1.81 1.44 6811 0.52 99.99 ROJECT STATION:3267 TITION:Lat S 1625 Long E 1138 1 3 kn*10 CH/HOUR: 7852.48 * OF TOT. C SAMP 4.88 1.81 1.44 6811 0.44 6810 24.89 6809 18.91 4.88 1.81 1.44 6811 0.52 99.99 ROJECT STATION:3268 ITION:Lat S 1636 LONG E 1147 1 3 kn*10
DEPTH: 81 83 DEPTH: 81 83 Towing dir: 270e Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DR. FRIDTJOF NANSEN DATE:13/ 8/03 GEAR TY start stop duration TIME :16:02:36 16:17:47 15 (min LOG :7720.00 720.77 0.76 FDEPTH: 81 83 DEPTH: 81 83 DEPTH: 81 83 Towing dir: 270e Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DATE:13/ 8/03 GEAR TY start stop duration TIME :23:31:14 23:40:55 10 (min LOG :7770.12 7770.62 0.49 FDEFTH: 17 17 BDEFTH: 17 17 Towing dir: 360e Wire out: Sorted: Kg Total catch:	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 1433.88 2172 142.20 420 7862.48 PROJECT:A4 P PE: BT No: 8 POS) Purpose code: Area code : GearCond.code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 343.88 2172 142.20 420 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 3438.88 2172 142.20 420 1957.20 25312 1486.80 15224 343.88 2172 142.20 420 7862.48 PE: BT No: 8 POS) Purpose code: Area code : GearCond.code: Validity code: 100 m Speed: 30 1080.04 CAT	3 kn*10 CH/HOUR: 7862.48 * OF TOT. C SAMP 4.54 6810 24.89 6809 4.89 6809 4.89 6809 4.81 1.44 6811 0.52 99.99 ROJECT STATION:3267 TIION:Lat S 1625 Long E 1138 1 3 kn*10 CH/HOUR: 7862.48 * OF TOT. C SAMP 4.8 1.81 1.44 6811 0.52 99.99 ROJECT STATION:3268 1.81 1.44 6811 0.52 99.99 ROJECT STATION:3268 TIION:Lat S 1636 Long E 1147 1 3 kn*10 CH/HOUR: 6480.24
DEPTH: 81 83 DEPETH: 81 83 Towing dir: 270e Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DR. FRIDTJOF NANSEN DATE:13/ 8/03 GEAR TY start stop duration TIME :16:02:36 16:17:47 15 (min LOG :7720.00 720.77 0.76 FDEPTH: 81 83 DEPTH: 81 83 Towing dir: 270e Wire out: Sorted: 93 Kg Total catch: SPECIES DATE:13/ 8/03 GEAR TY start stop duration Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DATE:13/ 8/03 GEAR TY start stop duration TIME :23:31:14 23:40:55 10 (min LOG :7770.12 7770.62 0.49 FDEPTH: 17 17 BDEPTH: 17 17 BDEPTH: 17 17 Sorted: Kg Total catch: SPECIES	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 433.88 2172 142.20 420 7862.48 PROJECT:A4 P PE: BT No: 8 POS) Purpose code: Area code : GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR Weight numbers 3738.00 84428 PE: BT No: 8 POS) Purpose code: Area code : GearCond.code: Validity code: 113.20 2264 41.20 420 7862.48	3 kn*10 CH/HOUR: 7862.48 * OF TOT. C SAMP 4.89 18.91 4.89 1.81 1.44 6811 0.52 99.99 ROJECT STATION:3267 TTION:Lat S 1625 Long E 1138 1 3 kn*10 CH/HOUR: 7862.48 * OF TOT. C SAMP 4.88 1.81 1.44 6811 0.52 99.99 ROJECT STATION:3268 TION:Lat S 1636 1.81 1.44 1.81 1.44 6811 0.52 99.99 ROJECT STATION:3268 TION:Lat S 1636 TION:Lat S 1636 TION:Lat S 1636 TION:Lat S 1636 TION:Lat S 1636 TION:Lat S 1636 CH/HOUR: 6480.24 * OF TOT. C SAMP
PDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 2700 Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DR. FRIDTIOF NANSEN DATE:13/ 8/03 GEAR TY Start stop duration TIME :16:02:36 16:17:47 15 (min LOG :7720.00 7720.77 0.76 PDEPTH: 81 83 BDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 2700 Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DATE:13/ 8/03 GEAR TY Start stop duration TIME :23:31:14 23:40:55 10 (min LOG :7770.12 7770.62 0.49 PDEPTH: 17 17 BDEPTH: 17 17 Towing dir: 3600 Wire out: Sorted: Kg Total catch: SPECIES Trachurus capensis	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 333.88 2172 142.20 420 113.20 2264 41.20 420 7862.48 PROJECT:A4 P PE: BT No: 8 POS) Purpose code: Area code : Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1466.80 15224 333.88 2172 142.20 420 113.20 2264 41.20 420 7862.48 PE: BT No: 8 POS) Purpose code: Area code : Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 7862.48 PE: BT No: 8 POS) Purpose code: Area code : Area code : Area code : Validity code: 13.20 2264 41.20 420 7862.48	3 kn*10 CH/HOUR: 7862.48 * OF TOT. C SAMP 47.54 6810 24.89 6809 18.91 4.88 1.81 1.44 6811 0.52 99.99 ROJECT STATION: 3267 ITION:Lat S 1625 Long E 1138 1 3 kn*10 CH/HOUR: 7862.48 * OF TOT. C SAMP 47.54 6810 24.89 6809 18.91 4.81 1.44 6811 0.52 99.99 ROJECT STATION: 3268 ITION:Lat S 1636 Long E 1147 1 3 kn*10 CH/HOUR: 6480.24 * OF TOT. C SAMP
PDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DR. FRIDTJOF NANSEN DATE:13/8/03 GEAR TY Start stop duration TIME :16:02:36 16:17:47 15 (min LOG :7720.00 7720.77 0.76 PDEPTH: 81 83 BDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DATE:13/ 8/03 GEAR TY start stop duration TIME :23:31:14 23:40:55 10 (min LOG :7770.12 7770.62 0.49 PDEPTH: 17 17 BDEPTH: 17 17 Towing dir: 360ø Wire out: Sorted: Kg Total catch: SPECIES Trachurus capensis Trachurus capensis Trachurus frecae DATE:13/ 8/03 GEAR TY start stop duration TIME :23:31:14 23:40:55 10 (min LOG :7770.12 7770.62 0.49 PDEPTH: 17 17 BDEPTH: 17 17 Towing dir: 360ø Wire out: Sorted: Kg Total catch: SPECIES Trachurus capensis Rhinoptera marginata Decapterus rhonchus	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 333.88 2172 142.20 420 113.20 2264 41.20 420 7862.48 PROJECT:AA P PE: BT No: 8 POS) Purpose code: Area code : CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 333.88 2172 1486.80 15224 333.88 2172 1486.80 15224 333.88 2172 1486.80 15224 333.88 2172 1486.80 15224 333.88 2172 1486.80 15224 333.88 2172 1486.80 15224 333.80 4428 0 1524 133.20 2264 41.20 420 133.20 264 41.20 420 420 420	3 kn*10 CH/HOUR: 7862.48 * OF TOT. C SAMP 4 7.54 6810 24.89 6809 18.91 1.44 6811 0.52 99.99 ROJECT STATION:3267 ITION:Lat S 1625 Long E 1138 1 3 kn*10 CH/HOUR: 7862.48 * OF TOT. C SAMP 47.54 6810 24.89 6809 18.91 4.81 1.44 6811 0.52 99.99 ROJECT STATION:3268 ITION:Lat S 1636 Long E 1147 1 3 kn*10 CH/HOUR: 6480.24 * OF TOT. C SAMP 94.58 6812 2.90 2.15
PDEPTH: 81 83 BDEPTH: 81 83 Towing dir: 270ø Wire out: Sorted: 93 Kg Total catch: SPECIES Trachurus capensis Trachurus polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DR. FRIDTJOF NANSEN DATE:13/ 8/03 GEAR TY start stop duration TIME :16:02:36 16:17:47 15 (min LOG :7720.00 7720.77 0.76 FODETH: 81 83 BDEPTH: 81 83 BDEPTH: 81 83 BDEPTH: 81 83 STrachurus capensis Trachurus trecae Dentex macrophthalmus Merluccius polli Atractoscion aequidens Etrumeus whiteheadi Pagellus bellottii Total DATE:13/ 8/03 GEAR TY start stop duration TIME :23:31:14 23:40:55 10 (min LOG :7770.12 7770.62 0.49 FDEPTH: 17 17 BDEPTH: 17 17 Towing dir: 3600 Wire out: Sorted: Kg Total catch: SPECIES Trachurus capensis TIME :23:31:14 23:40:55 10 (min LOG :7770.12 7770.62 0.49 FDEPTH: 17 17 BDEPTH: 17 17 Towing dir: 3600 Wire out: Sorted: Kg Total catch: SPECIES Trachurus capensis Thinoptera marginata Decapterus rhonchus Sepia orbignyan Pseudoclithus senegalensis	GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 433.88 2172 142.20 420 113.20 2264 41.20 420 7862.48 PROJECT:A4 P PE: BT No: 8 POS) Purpose code: Area code : GearCond.code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 84428 1957.20 25312 1486.80 15224 333.88 2172 7862.48 PE: BT No: 8 POS) Purpose code: Validity code: 270 m Speed: 30 1965.62 CAT CATCH/HOUR weight numbers 3738.00 4428 1957.20 2264 41.20 420 113.20 2264 41.20 420 113.20 2264 41.20 420 1080.04 CAT CATCH/HOUR weight numbers 6128.70 657882 187.86 372 139.50 10788 16.74 556	3 kn*10 CH/HOUR: 7852.48 * OF TOT. C SAMP 4 7.54 6810 24.89 6809 18.91 1.44 6811 0.52 99.99 ROJECT STATION:3267 ITION:Lat S 1625 Long E 1138 1 3 kn*10 CH/HOUR: 7862.48 * OF TOT. C SAMP 47.54 6810 24.89 6809 18.91 4.81 1.44 6811 0.52 99.99 ROJECT STATION:3268 ITION:Lat S 1636 Long E 1147 1 3 kn*10 CH/HOUR: 6480.24 * OF TOT. C SAMP 94.58 6812 2.90 2.15 0.26 0.11

		PF	OJECT STATION	:3269
DATE:14/ 8/03 GEAR TY	ZPE: BT No: 8	POSI	TION:Lat S	1631
TIME :00:26:22 00:56:30 30 (mir	1) Purpose c	ode:	Long E	114/
LOG :7774.96 7776.49 1.51 FDEPTH: 14 13	Area code GearCond.	code:	1	
BDEPTH: 14 13 Towing dir: 8ø Wire out:	Validity : 100 m Spee	code: d: 30	3 kn*10	
Sorted: Kg Total catch:	39.61	CATO	CH/HOUR: 7	9.22
SPECIES	CATCH/HC weight nu	UR mbers	% OF TOT. C	SAMP
Engraulis encrasicolus Trachurus trecae	48.08 23.30	7524 2370	60.69 29.41	6815 6813
Trachurus capensis Trachinus radiatus	2.08	194	2.63	6814
Loligo vulgaris	1.40	14	1.77	
Dasyatis centroura	1.04	2	1.44	
Sepia orbignyana Merluccius capensis	0.34	10	0.43	
Solea senegalensis Penaeus notialis	0.02	4	0.03	
Total	79.14		99.91	
		PF	ROJECT STATION	:3270
DATE:14/ 8/03 GEAR TY start stop duration	(PE: PT No: 1	. POSI	TION:Lat S Long E	1631 1135
TIME :02:48:49 03:05:10 16 (mir LOG :7791.46 7792.44 0.97	 Purpose c Area code 	ode:	1 1	
FDEPTH: 50 45 BDEPTH: 91 89	GearCond. Validity	code: code:	3	
Towing dir: 90ø Wire out:	160 m Spee	d: 35	kn*10	
Sorted: Kg Total catch:	1179.00	CATO	CH/HOUR: 442	1.25
SPECIES	CATCH/HC	UR	% OF TOT. C	SAMP
Trachurus trecae	weight nu 4002.75	mbers 88425	90.53	6816
Trachurus capensis	418.50	11610	9.47	6817
Total	4421.25		100.00	
DATE:14/ 8/03 GEAR TY	(PE: BT No: 8	PR POSI	ROJECT STATION	:3271 1642
start stop duration) Purnose o	ode:	Long E	1140
LOG :7843.47 7844.80 1.30	Area code	ando:	1	
BDEPTH: 27 37	Validity	code:	3	
lowing dir. 3500 wire out.	. 150 m Spee	.0. 30	KII*10	
Sorted: Kg Total catch:	112.49	CATC	H/HOUR: 22	4.98
SPECIES	CATCH/HC	UR	% OF TOT. C	SAMP
Trachurus trecae	weight nu 156.80	mbers 9800	69.70	6819
Merluccius polli Sardinops ocellatus	28.00 23.00	792 272	12.45 10.22	6818
Trichiurus lepturus Loligo vulgaris	7.20 3.92	320 80	3.20 1.74	
Sardinella maderensis Pteroscion peli	3.60	108	1.60	6820
Solea senegalensis	0.64	16	0.28	
Engraulis encrasicolus	0.40	12	0.18	
Total	224.00	0		
IULAI	224.90		55.57	
		DE	OTECT CTATION	
DATE:14/ 8/03 GEAR TY	ZPE: BT No: 8	POSI	TION:Lat S	1642
TIME :13:14:02 13:36:49 23 (mir	1) Purpose c	ode:	1	1134
LOG :/856.70 /857.80 1.10 FDEPTH: 99 94	GearCond.	code	1	
BDEPTH: 99 94 Towing dir: 90ø Wire out:	Validity 310 m Spee	code: d: 30	3 kn*10	
Sorted: Kg Total catch:	2164.10	CATO	CH/HOUR: 564	5.48
SPECIES	CATCH/HC	UR	% OF TOT. C	SAMP
	weight nu	mocro.		01111
Trachurus capensıs Dentex macrophthalmus	2895.91 2026.70	74528	51.30 35.90	6822
Trachurus capensıs Dentex macrophthalmus Trachurus trecae Marlucquis polli	weight hu 2895.91 2026.70 387.60	74528 27637 8337	51.30 35.90 6.87 3.08	6822 6821
Trachurus capensis Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci	weight nu 2895.91 2026.70 387.60 173.84 56.77	74528 27637 8337 1863 532	51.30 35.90 6.87 3.08 1.01	6822 6821
Trachurus capeneis Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trigla lyra	weight hu 2895.91 2026.70 387.60 173.84 56.77 43.46 38.14	74528 27637 8337 1863 532 266 89	51.30 35.90 6.87 3.08 1.01 0.77 0.68	6822 6821
Trachurus capeneis Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trigla lyra Trigla lyra Trichiurus lepturus Zeus faber	Weight hu 2895.91 2026.70 387.60 173.84 56.77 43.46 38.14 15.97 7.10	74528 27637 8337 1863 532 266 89 266 89	51.30 35.90 6.87 3.08 1.01 0.77 0.68 0.28 0.13	6822 6821
Trachurus capeneis Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trigla lyra Trichiurus lepturus Zeus faber Total	weight hu 2895.91 2026.70 387.60 173.84 56.77 43.46 38.14 15.97 7.10 5645.49	74528 27637 8337 1863 532 266 89 266 89	51.30 35.90 6.87 3.08 1.01 0.77 0.68 0.28 0.13 	6822
Trachurus capeneis Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trigla lyra Trichiurus lepturus Zeus faber Total	weight ht 2895.91 2026.70 387.60 173.84 56.77 43.46 38.14 15.97 7.10 5645.49	74528 27637 8337 1863 532 266 89 266 89	51.30 35.90 6.87 3.08 1.01 0.77 0.68 0.28 0.13 100.02	6822
Trachurus capensis Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trigla lyra Trigha lyra Trichiurus lepturus Zeus faber Total	Weight hi 22895.91 2026.70 387.60 173.84 56.77 43.46 38.14 15.97 7.10 5645.49	74528 27637 8337 1863 532 266 89 266 89	51.30 35.90 6.87 3.08 1.01 0.77 0.68 0.28 0.13 100.02	6822 6821
Trachurus capenais Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trigla lyra Trigha lyra Trichiurus lepturus Zeus faber Total DATE:14/ 8/03 GEAR TY start stop duration	Weight hi 2895.91 2026.70 387.60 173.84 56.77 43.46 38.14 15.97 7.10 5645.49	74528 27637 8337 1863 532 266 89 266 89	51.30 35.90 6.87 3.08 1.01 0.77 0.68 0.28 0.13 100.02 XOJECT STATION TION:Lat S Long E	6822 6821 :3273 1653 1144
Trachurus capeneis Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trigla]yra Trichiurus lepturus Zeus faber	Weight hu 2895.91 2026.70 387.60 173.84 56.77 43.46 38.14 15.97 7.10 5645.49 (PE: PT No: 7 1) Purpose C Area code	74528 27637 8337 1863 532 266 89 89 266 89 266 89 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 89 266 89 89 89 89 89 80 89 80 80 89 80 80 80 80 80 80 80 80 80 80 80 80 80	51.30 35.90 6.87 3.08 1.01 0.77 0.68 0.13 100.02 XOJECT STATION TTION:Lat S Long E 1	6822 6821 :3273 1653 1144
Trachurus capenais Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trighal yra Trichiurus lepturus Zeus faber — Total — DATE:14/ 8/03 GEAR TY start stop duration TIME: 20:08:00 20:12:56 5 (mir LOG:7917.38 7917.65 0.27 FDEPTH: 10 10 BDEPTH: 19 18	Weight hu 2895.91 2026.70 387.60 173.84 56.77 43.46 38.14 15.97 7.10 5645.49 (PE: PT No: 7 1) Purpose C Area code GearCond. Validity	74528 27637 8337 1863 532 266 89 89 80 80 80 80 80 80 80 80 80 80 80 80 80	51.30 35.90 6.87 3.08 1.01 0.77 0.68 0.28 0.13 100.02 XOJECT STATION TTION:LAT S Long E 1 1	6822 6821 :3273 1653 1144
Trachurus capenels Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trigla lyra Trichiurus lepturus Zeus faber Total DATE:14/ 8/03 GEAR TI start stop duration TIME :20:08:00 20:12:56 5 (mir LOG :7917.38 7917.65 0.27 FDEPTH: 10 10 BDEPTH: 19 18 Towing dir: 3320 Wire out:	Weight h 2895.91 2026.70 387.60 173.84 56.77 43.46 38.14 15.97 7.10 5645.49 (PE: PT No: 7 1) Purpose of Area code GearCond. Validity 120 m Spec	74528 27637 8337 1863 532 266 89 26 89 89 26 89 89 80 89 80 80 80 80 80 80 80 80 80 80 80 80 80	51.30 35.90 6.87 3.08 1.01 0.77 0.68 0.28 0.13 100.02 ROJECT STATION TION:Lat S Long E 1 3 kn*10	6822 6821 :3273 1653 1144
Trachurus capenels Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trigla lyra Trichiurus lepturus Zeus faber Total DATE:14/ 8/03 GEAR TY start stop duration TIME :20:08:00 20:12:56 5 (mir LOG :7917.38 7917.65 0.27 FDEPTH: 10 10 BDEPTH: 19 18 Towing dir: 3320 Wire out: Sorted: Kg Total catch:	Weight III 22895.91 2026.70 387.60 173.84 56.77 43.46 38.14 15.97 7.10 5645.49 (PE: PT No: 7 1) Purpose C Area code GearCond. Validity : 120 m Spec	74528 27637 8337 1863 532 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 7 80 7 7 80 7 7 80 7 80 7 80 80 80 80 80 80 80 80 80 80 80 80 80	51.30 35.90 6.87 1.01 0.77 0.68 0.28 0.13 100.02 KOJECT STATION TION:Lat S Long E 1 1 3 kn*10	6822 6821 :3273 1653 1144 7.20
Trachurus capenels Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trigla lyra Trichlurus lepturus Zeus faber Total DATE:14/ 8/03 GEAR TY start stop duration TIME :20:08:00 20:12:56 5 (mir LOG :7917.38 7917.65 0.27 FDEPTH: 10 10 BDEPTH: 19 18 Towing dir: 332ø Wire out: Sorted: Kg Total catch: SPECIES	Weight h 2895.91 2026.70 387.60 173.84 56.77 43.46 38.14 15.97 7.10 5645.49 (PE: PT No: 7 1) Purpose c Area code GearCond, Validity : 120 m Spee : 2333.10 CATCH/HC	74528 27637 8337 1863 532 266 89 266 80 80 80 80 80 80 80 80 80 80 80 80 80	51.30 35.90 6.87 3.08 1.01 0.77 0.68 0.28 0.13 100.02 KOJECT STATION ILDNY LAT S Long E 1 1 3 km*10 % OF TOT. C	6822 6821 :3273 1653 1144 7.20 SAMP
Trachurus capenels Dentex macrophthalmus Trachurus trecae Merluccius polli Pterothrissus belloci Loligo vulgaris Trigla lyra Trichiurus lepturus Zeus faber	Weight III 2895.91 2026.70 387.60 173.84 56.77 43.46 38.14 15.97 7.10 5645.49 (PE: PT No: 7 1) Purpose of Area code GearCond. Validity : 120 m Spee : 2333.10 CATCH/HC weight III 27997.20	74528 27637 8337 1863 532 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 266 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 20637 89 2066 80 2066 80 2066 80 206 80 80 206 80 80 80 80 80 80 80 80 80 80 80 80 80	51.30 35.90 6.87 3.08 1.01 0.77 0.68 0.13 100.02 ROJECT STATION TION:Lat S Long E 1 3 %n*10 % OF TOT. C 100.00	6822 6821 :3273 1653 1144 7.20 SAMP

DATE:15/ 8/03 GEAR T start stop duration TIME :00:57:13 01:11:52 15 (mi	WDD D DD No.			
DATE:15/ 8/03 GEAR T start stop duration TIME :00:57:13 01:11:52 15 (mi	11/DTI DT NT		STATIO	N:3274
TIME :00:57:13 01:11:52 15 (mi	IPE. PI NO.	1 POSI	TION:Lat S Long E	1701 1121
	.n) Purpose	code:	1	
LOG :7957.77 7958.54 0.77	Area coo	le :	1	
BDEPTH: 158 154	Validity	v code:	3	
Towing dir: 360ø Wire out	: 340 m Spe	eed: 35	kn*10	
Sorted: Kg Total catch	1: 193.86	CATC	H/HOUR: 7	75.44
SPECIES	CATCH/H	HOUR	% OF TOT. C	SAMP
	weight r	numbers		
Frachurus capensis Arius parkii	765.60 9.84	29864 24	98.73 1.27	6824
- Total	775.44		100.00	
DATE:15/ 8/03 GEAR T	TYPE: BT No:	PR 8 POSI	OJECT STATIO TION:Lat S	N:3275 1705
start stop duration TIME :04:42:55 05:12:42 30 (mi	.n) Purpose	code:	Long E	1144
LOG :7988.55 7990.19 1.63	Area coo	le :	1	
BDEPTH: 21 21 BDEPTH: 21 21	Validity	/ code:	3	
Towing dir: 360ø Wire out	: 100 m Spe	eed: 34	kn*10	
Sorted: 36 Kg Total catch	1: 291.92	CATC	H/HOUR: 5	83.84
SPECIES	CATCH/H	HOUR	% OF TOT. C	SAMP
	weight r	numbers		
fracnurus trecae Sardinops ocellatus	259.52 101.12	9056 1088	44.45 17.32	6825 6826
Solea senegalensis	48.00	2274	8.22	
Saleorhinus galeus	43.04	32	7.37	
Arius parkii	37.60	20'/4 96	6.44 5.07	
Merluccius polli	19.84	560	3.40	
Atractoscion aequidens	19.36	304	3.32	
Pomatomus saltatrix Stromateus fiatola	12.00	32	2.06	
Sepia officinalis hierredda	1.92	32	0.33	
Forpedo nobiliana	1.44	32	0.25	
Jmbrina canariensis	0.48	32	0.19	
Cynoglossus senegalensis	0.48	48	0.08	
Pteroscion peli	0.32	16	0.05	
Fotal	583.84		100.00	
DATE:15/ 8/03 GEAR T start stop duration TIME :07:47:41 08:01:13 14 (mi LOG :8011.91 8012.70 0.77 FDRPTH: 126 122	YPE: BT No: n) Purpose Area coo GearCond	8 POSI code: de :	TION:Lat S Long E 1	1706 1129
BDEPTH: 126 122	Validity	/ code:	3	
Towing dir: 90g Wire out				
iowing dir. 500 wire out	: 400 m Spe	eed: 35	kn*10	
Sorted: 31 Kg Total catch	:: 400 m Spe 1: 157.90	eed: 35 CATC	kn*10 H/HOUR: 6	76.71
Sorted: 31 Kg Total catch	:: 400 m Spe 1: 157.90 CATCH/H	catc	kn*10 H/HOUR: 6 % OF TOT. C	76.71 SAMP
Sorted: 31 Kg Total catch SPECIES	: 400 m Spe 1: 157.90 CATCH/F weight r	Eed: 35 CATC HOUR numbers	kn*10 H/HOUR: 6 % OF TOT. C	76.71 SAMP
Sorted: 31 Kg Total catch SPECIES Irachurus capensis Dentex macrophthalmus	:: 400 m Spe n: 157.90 CATCH/H weight r 355.71 221.79	Eed: 35 CATC HOUR numbers 16941 3124	kn*10 H/HOUR: 6 % OF TOT. C 52.56 32.77	76.71 SAMP 6827
Sorted: 31 Kg Total catch SPECIES Frachurus capensis Dentex macrophthalmus Etrumeus whiteheadi	:: 400 m Spe 1: 157.90 CATCH/H weight r 355.71 221.79 40.07	Eed: 35 CATC HOUR numbers 16941 3124 1264	<pre>km*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92</pre>	76.71 SAMP 6827
Sorted: 31 Kg Total catch SPECIES Frachurus capensis Dentex macrophthalmus Brunmeus whiteheadi Merluccius polli "Delidonichtbus camencic	: 400 m Spe 1: 157.90 CATCH/I weight r 355.71 221.79 40.07 39.86 9.65	Eed: 35 CATC HOUR 16941 3124 1264 621 21	<pre>km*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 5.89 1.46</pre>	76.71 SAMP 6827
Sorted: 31 Kg Total catch SPECIES Trachurus capensis Dentex macrophthalmus Etrumeus whiteheadi Merluccius polli Thelidonichthys capensis Trichiurus lepturus	:: 400 m Spe a: 157.90 CATCH/H weight r 355.71 221.79 40.07 39.86 9.86 4.29	HOUR CATC HOUR 16941 3124 1264 621 21 107	<pre>km*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 5.89 1.46 0.63</pre>	76.71 SAMP 6827
Sorted: 31 Kg Total catch SPECIES Prachurus capensis Dentex macrophthalmus Etrumeus whiteheadi Werluccius polli Chelidonichthys capensis Frichiurus lepturus Solea senegalensis	:: 400 m Spe 1: 157.90 CATCH/I weight r 355.71 221.79 40.07 39.86 9.86 9.86 4.29 3.00	HOUR LOUR LOUR L6941 124 1264 621 21 107 214	<pre>km*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 5.89 1.46 0.63 0.44 2.22</pre>	76.71 SAMP 6827
Sorted: 31 Kg Total catch SPECIES Frachurus capensis Dentex macrophthalmus Etrumeus whiteheadi Werluccius polli Chelidonichthys capensis Frichiurus lepturus Solae senegalensis Fodarodes sagittatus	:: 400 m Spe 1: 157.90 CATCH/I weight r 355.71 221.79 40.07 39.86 9.86 4.29 3.00 2.14	eed: 35 CATC HOUR numbers 16941 3124 1264 621 21 107 214 21	<pre>km*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 5.89 1.46 0.63 0.44 0.32</pre>	76.71 SAMP 6827
Sorted: 31 Kg Total catch SPECIES Trachurus capensis Dentex macrophthalmus Strumeus whiteheadi derluccius polli "helidonichthys capensis Trichiurus lepturus Solea senegalensis Fodarodes sagittatus Fotal	:: 400 m Spa 1: 157.90 CATCH/I weight r 355.71 221.79 40.07 39.86 9.86 9.86 9.86 4.29 3.00 2.14 676.72	HOUR HOUR humbers 16941 3124 1264 621 21 107 214 21	<pre>kn*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 1.46 0.63 0.44 0.32 99.99</pre>	76.71 SAMP 6827
DATE:15/ 8/03 GEAR T	:: 400 m Spd :: 157.90 CATCH/I weight r 355.71 221.79 40.07 40.07 9.86 9.86 9.86 4.29 3.00 2.14 676.72 YPE: PT No:	ed: 35 CATC HOUR 16941 3124 1264 21 21 214 21 214 21 PR 1 POSI	<pre>kn*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 1.46 0.63 0.44 0.32 99.99 OJECT STATIO TION:Lat S Long E</pre>	76.71 SAMP 6827 N:3277 1719 1925
DATE:15/ 8/03 GEAR T Start stop duration TTME :18:07:00 18:47:00 40 (million) DATE:15/ 8/03 GEAR T Start stop duration TIME :18:07:00 18:47:00 40 (million) DATE:15/ 8/03 GEAR T Start stop duration TIME :18:07:00 18:47:00 40 (million) DATE:18:07:00 18:47:00 40 (million) DATE:19:00 20:00 (million) DATE:19:00 (million) DAT	:: 400 m Spd :: 157.90 CATCH/ weight r 355.71 221.79 40.07 39.86 9.86 4.29 3.00 2.14 	Ed: 35 CATC HOUR numbers 16941 3124 1264 621 21 214 21 107 214 21 PR 1 POSI code: ie: : 1.code: y code: eed: 30	<pre>kn*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 5.89 1.46 0.63 0.44 0.32 99.99 OJECT STATIO TION:Lat S Long E 1 1 3 kn*10</pre>	76.71 SAMP 6827 N:3277 1719 1925
DATE:15/ 8/03 GEAR T Start stop durition for the formation of the formatio	:: 400 m Spd :: 157.90 CATCH/ weight r 355.71 221.79 40.07 39.86 9.86 4.29 3.00 2.14 676.72 YYPE: PT No: n) Purpose Area coo GearConc Validity :: 250 m Spd 1: 81.41	Ed: 35 CATC HOUR numbers 16941 3124 21 214 21 214 21 PR 1 POSI code: de : 30 cATC	<pre>kn*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 5.89 1.46 0.63 0.44 0.32</pre>	76.71 SAMP 6827 N:3277 1719 1925
DATE:15/ 8/03 GEAR T Start stop duration TTIME :18:07:00 18:47:00 40 (mi LOATE:15/ 8/03 GEAR T Start stop duration TIME :18:07:00 18:47:00 40 (mi LOG 8075:02 8077.02 2.00 PDEPTH: 25 25 BDEPTH: 103 83 Towing dir: 900 Wire out Sorted: 23 Kg Total catch	<pre>:: 400 m Spd :: 157.90 CATCH/I weight r 355.71 221.79 40.07 3.86 9.86 9.86 9.86 9.86 9.86 9.86 9.80 2.14 676.72 rypE: PT No: </pre>	A carce HOUR numbers 16941 3124 1264 621 107 214 21 107 214 21 PR 1 POSI code: 1.code: 2.code:	<pre>kn*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 5.89 1.46 0.63 0.44 0.32 99.99 OJECT STATIO TION:Lat S 1 1 3 kn*10 H/HOUR: 1 % OF TOT. C</pre>	76.71 SAMP 6827 N:3277 1719 1925 22.12 SAMP
Sorted: 31 Kg Total catch SPECIES Frachurus capensis Dentex macrophthalmus Strumeus whiteheadi Merluccius polli Thelidonichthys capensis Trichiurus lepturus Solea senegalensis Todarodes sagittatus Total DATE:15/ 8/03 GEAR T start stop duration TIME :18:07:00 18:47:00 40 (mi LOG :8075.02 8077.02 2.00 FDEPTH: 103 83 Towing dir: 900 Wire out Sorted: 23 Kg Total catch SPECIES Frachurus capensis, juvenile	:: 400 m Spd :: 157.90 CATCH/ weight r 355.71 221.79 40.07 39.86 9.86 4.29 3.00 2.14 676.72 'YPE: PT No:) Purpose Area coo GearConc Validity :: 250 m Spd 1: 81.41 CATCH/I weight r 9.4,77	A code: A c	<pre>kn*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 1.46 0.63 0.44 0.32 99.99 OJECT STATIO TION:Lat S Long E 1 3 kn*10 H/HOUR: 1 % OF TOT. C 77.60</pre>	76.71 SAMP 6827 N:3277 1719 1925 22.12 SAMP 6828
Sorted: 31 Kg Total catch SPECIES Frachurus capensis Dentex macrophthalmus Brunweus whiteheadi Merluccius polli Chelidonichthys capensis Trichiurus lepturus Solea senegalensis Todarodes sagittatus Total DATE:15/ 8/03 GEAR T start stop duration TIME :18:07:00 18:47:00 40 (mi LOG :8075.02 8077.02 2.00 PDEPTH: 25 25 BDEPTH: 103 83 Towing dir: 90s Wire out Sorted: 23 Kg Total catch SPECIES Frachurus capensis, juvenile Engraulis encrasicolus	<pre>:: 400 m Spd :: 157.90 CATCH/I weight r 355.71 221.79 40.07 39.86 9.86 4.29 3.00 2.14 676.72 'YPE: PT No: n) Purpose Area coo GearConc Validity :: 250 m Spd :: 81.41 CATCH/I weight r 94.77 24.20</pre>	Ed: 35 CATC HOUR numbers 16941 3124 1264 621 107 214 21 107 214 21 107 214 21 0051 0051 0051 0051 0051 0051 0051 0	<pre>kn*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 5.89 1.46 0.63 0.44 0.32 99.99 OJECT STATIO TION:Lat S Long E 1 3 kn*10 H/HOUR: 1 % OF TOT. C 77.60 19.82</pre>	76.71 SAMP 6827 N:3277 1719 1925 22.12 SAMP 6828
Sorted: 31 Kg Total catch SPECIES Frachurus capensis Dentex macrophthalmus Brunmeus whiteheadi Merluccius polli Chelidonichthys capensis Frichiurus lepturus Solea senegalensis Fodarodes sagittatus Total DATE:15/ 8/03 GEAR T start stop duration TIME :18:07:00 18:47:00 40 (mi LOG :8075.02 8077.02 2.00 FDEPTH: 25 27.22 BDEPTH: 103 83 Towing dir: 90@ Wire out Sorted: 23 Kg Total catch SPECIES Frachurus capensis, juvenile Engraulis encrasicolus Merluccius polli Fridal Ura	<pre>:: 400 m Spd :: 157.90 CATCH/ weight r 355.71 221.79 40.07 40.07 9.86 9.86 9.86 9.86 9.86 4.29 3.00 2.14 676.72 'YPE: PT No: n) Purpose Area con GearCom Validity :: 250 m Spd :: 81.41 CATCH/i weight r 94.77 94.77 24.20 2.00 1.05</pre>	Eed: 35 CATC HOUR humbers 16941 3124 1264 621 107 214 21 107 214 21 107 214 21 0051 code: de: de: 1 POSI code: de: de: de: de: de: de: de: de: de:	<pre>kn*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 5.89 1.46 0.63 0.44 0.32 99.99 OJECT STATIO TION:Lat S Long E 1 3 kn*10 H/HOUR: 1 % OF TOT. C 19.82 1.64 0.64 0.64 0.64 0.65 0.64 0.65 0.64 0.65 0.65 0.64 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65</pre>	76.71 SAMP 6827 1719 1925 22.12 SAMP 6828
Sorted: 31 Kg Total catch SPECIES Frachurus capensis Dentex macrophthalmus Setumeus whiteheadi Merluccius polli chelidonichthys capensis Trichiurus lepturus Solea senegalensis Todarodes sagittatus Total DATE:15/ 8/03 GEAR T start stop duration TIME :18:07:00 18:47:00 40 (mi LOG :8075.02 8077.02 2.00 FDEPTH: 25 25 BDEPTH: 103 83 Towing dir: 900 Wire out Sorted: 23 Kg Total catch SPECIES Frachurus capensis, juvenile Serius capensis, juvenile Serius polli Trigla lyra Sardinops ocellatus	<pre>:: 400 m Spd :: 157.90 CATCH/ weight r 355.71 221.79 40.07 39.86 9.86 9.86 9.86 9.86 9.86 9.86 9.80 2.14 676.72 *YPE: PT No: </pre>	Eed: 35 CATC HOUR humbers 16941 3124 1264 621 107 214 21 107 214 21 21 107 214 21 005 1005 code: ie : i.code: ie : i.code: deed: 30 cATC	<pre>kn*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 5.89 1.46 0.63 0.44 0.32 99.99 OJECT STATIO TION:Lat S Long E 1 3 kn*10 H/HOUR: 1 % OF TOT. C 77.60 19.82 1.64 0.86 0.09</pre>	76.71 SAMP 6827 N:3277 1719 1925 22.12 SAMP 6828
DATE:15/ 8/03 GEAR T Sorted: 31 Kg Total catch SPECIES Trachurus capensis Dentex macrophthalmus Etrumeus whiteheadi Merluccius polli Chelidonichthys capensis Trichiurus lepturus Solea senegalensis Fodarodes sagittatus Total DATE:15/ 8/03 GEAR T start stop duration TIME :18:07:00 18:47:00 40 (mi LOG : 28075.02 8077.02 2.00 FDEPTH: 103 8:3 Towing dir: 900 Wire out Sorted: 23 Kg Total catch SPECIES Frachurus capensis, juvenile Engraulis encrasicolus Merluccius polli Trigla lyra Sardinops ocellatus	:: 400 m Spd :: 157.90 CATCH/I weight r 355.71 221.79 40.07 39.86 9.87 9.87 9.87 9.87 9.87 9.77 24.20 2.00 1.05 0.11 1.05 0.11	Ed: 35 CATC HOUR numbers 16941 3124 1264 621 107 214 21 107 214 21 007 214 21 007 214 21 007 214 21 007 214 21 005 100 00 00 00 00 00 00 00 00 00 00 00 00	<pre>kn*10 H/HOUR: 6 % OF TOT. C 52.56 32.77 5.92 5.89 1.46 0.32 99.99 OJECT STATIO TION:Lat S 1 1 3 kn*10 H/HOUR: 1 % OF TOT. C 77.60 19.82 1.64 0.86 0.09 100.01</pre>	76.71 SAMP 6827 N:3277 1719 1925 22.12 SAMP 6828

ANNEX III BIOMASS AND NUMBER OF FISH PER LENGTH CLASS

Sardinella

Sardinella maderensis

North (Congo River to Luanda, $5^{\circ}S-9^{\circ}S$) and, Central (Luanda to Benguela, $9^{\circ}S-13^{\circ}S$) and, South (Benguela to Cunene River, $13^{\circ}-17^{\circ}15^{\circ}S$)

	North		Central		South	
Length grou	ıp (cm) N	W	Ν	W	Ν	W
5						
6	17					
7	211	0.7				
8	234	1.2				
9	194	1.3	2		9	0.1
10	42	0.4	21	0.2	67	0.6
11	60	0.7	12	0.1	50	0.6
12	3	0.1	2		9	0.2
13	7	0.1	77	1.6	58	1.2
14	36	0.9				
15	23	0.7	45	1.4	45	1.4
16	26	1.0	37	1.5	37	1.5
17			22	1.0	22	1.1
18	13	0.7	8	0.5	11	0.6
19	7	0.4	142	9.3	103	6.7
20	3	0.2	15	1.2	18	1.4
21			22	1.9	25	2.2
22	10	0.9	2	0.2	2	0.2
23	22	2.4	2	0.2	2	0.2
24	61	7.5	20	2.6	15	2.0
25	146	20.4	84	12.5	65	9.7
26	112	17.6	165	27.9	134	22.5
27	57	10.1	183	34.7	173	32.7
28	23	4.6	161	34.0	170	35.9
29	41	8.9	115	27.1	116	27.3
30	33	7.9	92	23.9	82	21.4
31	35	9.3	77	22.1	64	18.5
32	26	7.5	32	10.1	29	9.3
33	17	5.3	29	10.2	23	8.2
34	3	1.1	17	6.4	12	4.7
35	4	1.6	17	6.9	13	5.6
36	4	1.7				
37	4	1.9				
38						
39						
40						
N (mill.)	1 474		1 400		1 355	
Biomass (k	Tons)	117.2		237.5		215.6

	North		Central	
Length group (cm)	Ν	W	N	W
5			16	0.0
6	262	0.5		
7	584	1.8		
8	201	0.9	79	0.4
9	8		16	0.1
10	3		85	0.8
11			50	0.6
12			63	1.0
13			92	1.8
14			52	1.3
15			6	0.2
16	75	2.5		
17				
18				
19				
20	75	4.9		
21				
22				
23				
24				
25				
26	75	10.7		
27				
28			7	1.4
29	75	14.8	2	0.5
30			46	11.1
31			46	12.3
32			24	7.1
33			2	0.8
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
N (mill.)	1 359		798	
Biomass (k Tons)		36.0		59.9

Sardinella aurita North (Congo River to Luanda, 5°S - 9°S), Central (Luanda to Benguela, 9°S – 13°S)

<i>Trachurus ti</i> North (Congo H	r <i>ecae</i> River to	Luan	da, 5°S - 9	9°S), Centr	ral (Luanda to	Benguela, 9°S –	13°S), and So	outh (Benguela to	Cunene River,	13° - 17°15'S)
				North		Central		South		

	North		Central		South	
Length group (cm)	Ν	w	N	w	N	W
5	6		20			
6	26	0.1	80	0.2	2	0
7	41	0.2	31	0.1	4	0
8	23	0.1	19	0.1	34	0
9	2		14	0.1	18	0
10	1		1		39	0
11	1		6	0.1	58	1
12	42	0.8	63	1.2	52	1
13	77	1.8	203	4.8	191	4
14	43	1.2	168	4.9	228	6
15	14	0.5	36	1.3	210	7
16	3	0.1	11	0.5	188	7
17	2	0.1	16	0.8	368	17
18	1		23	1.4	341	19
19	1		9	0.6	224	14
20			5	0.4	34	3
21			7	0.7	116	10
22			2	0.2	73	7
23			13	1.6	78	9
24			21	2.9	28	4
25			13	2.0	21	3
26			12	2.1	19	3
27			2	0.4	12	2
28	1	0.2	2	0.4	7	1
29	3	0.6	3	0.8	3	1
30	4	0.9	4	1.1		
31	4	0.9	4	1.1		
32	3	0.9	3	1.0		
33	1	0.3	2	0.7		
34		0.1	0	0.1		
35		0.1	0			
36	1	0.6	1	0.3		
37	1	0.5	1	0.3		
38	1	0.5	1	0.6		
39	1	0.4	1	0.6		
40	1	0.4		0.2		
41		0.2		0.1		
42		0.2		0.1		
43						
44		0.1				
45						
46						
47		0.1		0.1		
48		0.1		0.1		
49						
50						
N (mill.)	305		801		2 348	
Biomass (k Tons)		12.2		33.8		120.3

Trachurus trachurus capensis South (Benguela to Cunene River, 13° - 17°15'S)

	So	uth
Length group (cm)	Ν	w
5		
6		
7		
8		
9	28	0
10	690	7
11	268	3
12	132	2
13	174	4
14	522	13
15	849	25
16	868	31
17	744	31
18	244	12
19	88	5
20	14	1
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
N (mill.)	4 621	
Biomass (k Tons)		133.0

ANNEX IV ACOUSTIC INSTRUMENTS

Echo sounder

The SIMRAD EK500/38 kHz scientific sounder was used during the survey for fish abundance estimation. The lowering keel was not submerged during the survey. The Bergen Echo Integrator system (BEI) was used to scrutinise the acoustic records. The 38 kHz transducer was calibrated 09 August in Baía dos Elephantes. The settings of 38 kHz echo sounder were as follows:

Transceiver-1 menu (38 kHz, mounted in lowering keel)

Transducer depth	20.07-1508: 5.5 m (keel not submerged), 16.08-17.08: 8.0 m (subm.)
Absorption coeff.	10 dB/km
Pulse length	Medium (1 ms)
Bandwith	Wide
Max Power	2000 Watt
2-way beam angle	-21.0 dB
Sv Transducer gain	27.37 dB
TS Transducer gain	27.49 dB
Angle sensitivity	21.9
3 dB beamwidth	7.0 ° alongship
	6.7 ° athwardship
Alongship offset	0.14 °
Athwardship effect	-0.02 °
Display menu	
Echogram	1 (38 kHz)
Bottom range	15 m
Bottom range start	10 m
Sv colour min	-67 dB
Printer menu	
Echogram	1 (38 kHz)
Range	100 m, 250 m, 500 m
Range start	0
Bottom range	12 m
Bottom range start	10 m
TVG	20 log R
Sv Colour min	- 67 dB
Bottom detection me	e nu Minimum level -50 dB

ANNEX V

Análise do estado do manancial de Carapau do Cunene

Por: Nkosi Luyeye (IIM-Luanda), Jens Otto Krakstad (IMR-Bergen) e Bjørn Alexsen (IMR-Bergen)

Informação disponível

O manancial de carapau do Cunene é o mais importante recurso marinho que tem contribuido bastante na dieta alimentar da população Angolana. O *N/I Fridtjof Nansen* durante muitos anos atrás levou à cabo um conjunto de cruzeiros de hidro-acústica para a avaliação da abundância e do estado do manacial de carapau do Cunene. O presente cruzeiro foi conduzido de 20 de Julho à 19 de Agosto de 2003, e cobriu a costa de Angola a partir da foz do Rio Congo até a foz do Rio Cunene com as profundidades variando de 20 à 500 m.

Observações

O biomassa total do manacial de carapau do Cunene estimada no cruzeiro de 2003 foi cerca de 166 mil toneladas. Os juvenis (com menos de 20 cm do comprimento total), como parte da população representam 86% do número total do manancial e 64% do peso total do manancial. Em termos de distribuição geográfica, a maior parte do manancial (superior a 70%) foi localizada na parte sul de Benguela (13°S - 17°15′S). Relativamente ao carapau do Cunene encontrado nesta região 90% são juvenis.

As observações ou resultados deste cruzeiro são idênticas as observações de 2002 o que indica que o manacial adulto do carapau do Cunene, importante para o consumo da população está severamente reduzido.

Mas existem ainda bons sinais da presença de um bom recrutamento a partir do ano passado e deste ano, com a presença de um forte cohorte (classe etária formada por juvenis do ano passado) com a moda a volta de 13 cm e a cohorte do ano corrente com a moda a volta de 5-6 cm (Figura 1). A manutenção e a gestão cuidadosa destes dois cohortes poderão ajudar na recuperaração do manacial para atingir os níveis adequados à exploração.

O cohorte de peixes de 1 ano de idade observado no ano transacto apresenta actualmente indivíduos com cerca de 18-19 cm e possivelmente atingirão o tamanho para a pesca comercial no próximo ano.

Conclusões

Do observado, conclui-se que houve um declínio drástico do manancial de carapau do Cunene de cerca de 333 mil toneladas de biomassa estimada no ano de 2000. Os dados históricos nos dizem que nos últimos três anos o tamanho do manancial atingiu o nível mais baixo, havendo um risco real na falha de recrutamento neste periodo de tempo e falta de adultos na população

devido a pesca intensiva que tem se verificado nos últimos anos, colocando o manancial num alto risco podendo chegar a um colapso.

Em caso de acontecimento de um colapso, a recuperação será muito lenta e complicada. Os cohortes de juvenis observados apresentam uma oportunidade e esperança para recuperar e aumentar o manancial caso forem aplicadas boas medidas de gestão.

É de salientar que mesmo assim, estamos muito longe dos níveis alacançados em 1996 (Figura 2), quando a biomassa total do manancial de carapau do Cunene foi estimada em cerca de 500 mil toneladas, correspondendo a produção natural considerada acima de 700 mil toneladas.

Recomendações

A recuperação do manancial de carapau do Cunene na plataforma de Angola requer fortes medidas de gestão. Em termos biológicos, a redução do esforço de pesca é a principal medida para alcançar este propósito.

Existem três diferentes tipos de pescarias dirigidas ao carapau do Cunene em Angola: pesca artesanal, pesca semi-industrial e a pesca industrial com arrastões pelágicos (meia-àgua) e demersais. A última componente é responsável pela grande diminuição da biomassa deste manancial.

Para a recuperaração saúdavel e preservação da pesca de carapau do Cunene, recomenda-se como medida imediata a redução drástica do esforço das embarcações da pesca industrial, em particular os arrastões pelágicos a meia-água durante um periodo não inferior a dois anos, findo os quais a reintrodução das embarcações deverá ser feita paulatinamente.

Adicionalmente a retirada dos arrastões pelágicos, o acesso a plataforma continental deve ser limitado implementado uma restricção em termos de profundidades (ex. Até 150 m, mas não inferior a esta profundidade), uma vez que a regulamentação actual para os arrastões limita-se em seis (6) milhas naúticas a partir da linha costeira.

Para os arrastões de fundo (demersais), as quantidades acessórias de carapau do Cunene devem ser limitadas. Isso pode ser feito seguindo o exemplo da Namibia, onde os arrastões demersais são permitidos até 5% de captura em peso das espécies acessórias à bordo da embarcação, e abandonar imeditamente a área caso a proporção de peixe inferior a 17 cm exceda os 5% da captura total num lance.

Estas medidas permitirão aos dois cohortes de juvenis observados em 2002 e 2003 atigirem a maturidade sexual recomendada e tornarem-se atractivos para o consumo humano.

A região sul requer medidas de gestão específicas porque a maior parte do manancial de carapau do Cunene nesta região está misturada com o carapau do Cabo. Na área fronteiriça, as duas espécies são capturadas por arrastões pelágicos licenciados em Angola e Namibia respectivamente. Sendo assim, a gestão conjunta do manancial entre Angola e Namibia nesta região seria benéfica para ambos.

A implementação das medidas acima referidas requer uma fiscalização eficiente da Zona Económica Exclusiva de Angola pelo Direcção Nacional da Fiscalização por meio de embarcações rápidas de patrulhamento ao longo da costa em número de seis (6).

Adicionalmente a esta medida, a introdução de observadores de pesca à bordo das embarcações comerciais e a implementação de sistemas de monitorizaão são indispensáveis.



Figura 1. Composição por comprimentos de Carapau do Cunene (2001 –2003)



Figura 2. Carapau do Cunene: Estimações de biomassa a partir do N/I 'Dr. Fridtjof Nansen' 1995-2003

ANNEX VI

PRELIMINARY MARINE MAMMALS SURVEY, ALONG THE NORTHERN COAST LINE OF ANGOLA, 20-31 JULY 2003

BACKGROUND AND RATIONALE:

Current information on marine mammals inventory, distribution, status, and spatial behavior patterns, off-shore Angola, is scarce. Marine mammals form an important and indicative component of the marine ecosystems, and there is, therefore, a scientific interest in collecting information on these populations, as part of the efforts to compile current data on biodiversity in Angola.

One of the main defined objectives and approved activities, within the framework of UNDP Project ANG/02/005, of support to environmental planning, biodiversity conservation and capacity building in Angola, is the launching and establishing of community-based conservation initiatives, related to poverty alleviation. Marine mammals in this context are of special interest, due to their attractiveness to eco-tourists. Well-thought and carefully developed and managed eco-tourism initiatives may make use of the presence of marine-mammals close to Angola's coasts, in a manner that will secure benefit sharing with the resident fishermen communities along the coastal zone of Angola, as an alternative to the non-sustainable utilization of biodiversity.

The BCLME (Benguela Current Large Marine Ecosystem) project, funded by GEF, and implemented by UNDP and UNOPS, is a regional initiative by Angola, Namibia and South Africa, aiming to facilitate the integrated management, sustainable development and protection of this unique eastern boundary upwelling ecosystem. A sub project for the development of pilot projects with coastal community involvement, aiming to establish an effective plan for environmental management and conservation of large migratory and endangered marine species (marine-mammals, marine-birds and marine-turtles), by involving local coastal communities, was approved as part of the pilot activities of the BCLME.

This preliminary survey of marine mammals, along the northern part of the coast-line of Angola, was done as a preparatory activity for the referred BCLME sub-project, as well as within the

framework of UNDP project ANG/02/005, for a preliminary assessment of marine-mammals presence and visibility off-shore Angola, a preliminary feasibility assessment for a more comprehensive marine-mammal survey, and optional future development of related eco-tourism activities, as well as for training of Angolan technicians in this study field.

OBJECTIVES:

- Collect preliminary data on inventory, distribution, and rough status estimations of marine mammals, off-shore Angola.
- Assess feasibility of more comprehensive data collection on marine-mammals off-shore Angola, on board the Nansen fishing research vessel, and other vessels conducting transects off-shore Angola (for fishing research, oil explorations, etc.).
- Minimize costs of data collection on marine-mammals off-shore Angola, by opportunistic data collection on existing vessels.
- Train Angolan technicians in data-collection on marine-mammals, methodology, and species identification.
- Preliminary assessment of marine-mammals visibility off-shore Angola, and of feasibility of developing community-based "whale-watch" eco-tourism initiatives.

IMPLEMENTATION OF THE SURVEY:

The survey was implemented within the framework of the Nansen fishing research cruise. All costs (accommodation on board for two people) were covered by the Nansen project, and the Nansen team has assisted with the survey. The participation in the Nansen research cruise, was mediated through the Instituto de Investigação Marinha (IIM), the Ministry of Fisheries of Angola, who has supported the realization of this preliminary survey, as a part of the objectives of this fishing research cruise.

PARTICIPANTS:

This marine-mammal survey was done by the UNDP biodiversity CTA and Albertina Nzuzi, a technician indicated by the National Department of Natural Resources, the Ministry of Urban Affairs and Environment, as a trainee. The team of scientists of the Instituto de Investigação Marinha, on board, took part in the survey, when they were off their other tasks, in particular Antonio Barradas. The Nansen team provided invaluable help and advice. In particular Bjørn

Erik Axelsen and Jens-Otto Krakstad, of the Institute of Marine Research, Bergen, Ole Magnus Rottingen, the boat Captain, and Henning Sangolt ("the hawk-eye").

Jean-Paul Roux, of the Ministry of Environment and Tourism, Namibia, continued with the survey in the Southern part (from the Longa River mouth to the Cunene River mouth), and information will be joined to produce a full report and relevant publication.

METHODOLOGY:

Observation platform: fishing research vessel, Dr. F. Nansen, 56.75 m length.

Observation time: 21.7.-31.7.2003, every day from 08.00 to 18.00, most of the time by the two observers, about 25% of the time only by one observer, and occasionally by additional observers. A total of 110 observation hours.

Surveyed area: Off-shore Angola, from the Congo River mouth (6^0 South) to the Longa River mouth (10^018 'South), along transects perpendicular to the coast, and no further than 11^007 East. (see map, Annex B). Length of transect during all observation hours must still be calculated. Estimated width of transect is 4 km (possibility to observe whales from a distance of up to around 2 km to each direction).

Recording information: observations were done with 9X25 Nikon and 10X50 Pentax binoculars. Information was recorded on standard Cetacean sighting forms (see Annex A). Complimentary information was obtained from the vessel datalog. In several occasions the boat has followed the cetaceans, for closer observations and photos. It should be noted that weather and sea conditions and therefore, observation conditions, were optimal throughout the survey.

RESULTS:

Three species of Cetaceans (Order: Cetacea) were observed, as well as cape fur seals:

- Humpback whale (*Megaptera novaengliae*): a baleen whale (sub-order: *Mysticeti*, family: *Balaenopteridae*). This species migrates annually along the coast line of Angola. (IUCN status: Vulnerable)
- Short-finned pilot whale (*Globicephala macrorhynchus*): a toothed whale (sub-order: *Odontoceti*, family: *Delphinidae*). This species may be resident, in off-shore waters. (IUCN status: Insufficiently known)

Bottlenose dolphin (*Tursiops truncates*): a dolphin (sub-order: *Odontoceti*, family: *Delphinidae*). This is the most common dolphin species. The individuals observed were of the off-shore Atlantic form. This species may be resident. (IUCN status: Insufficiently known)

All bottlenose dolphins and pilot whales observed were associating in mixed groups of the two species.

4. South African (Cape) fur seal (*Arctocephalus pusillus*): (order: *Carnivora*, sub-order: *Pinnipedia*, family: *Ortariidae*). This species is common in southern Angola, Namibia and South Africa. (IUCN status: Insufficiently known).

A total of 61 humpback whales were recorded, in 20 different observations (0.18 observations/effort hour), and a total of 34 pilot whales and 68 bottlenose dolphins were recorded in 3 different observations. 2 seals were observed, each separately.

Humpback whales were observed at a depth of 20-340m, while pilot whales and bottlenose dolphins were observed at a depth of 410-800m. 80% of humpback whales were observed at a distance of up to 20 Nautical miles from the coast, while all pilot whales and bottlenose dolphins were observed at a distance of over 29 Nm from the coast. Most humpback whales were observed traveling in groups of 1-3 individuals, except for two larger groups of 15-25. Pilot whales were observed in groups of 6-16 individuals associating with 6-80 bottlenose dolphins.

Distribution of observations is presented in the map below (Annex II).

Further data analysis, and preliminary assessment of status of the observed species, will be done later, with the scientists of the Nansen, and J.P.Roux, to include the data from the southern part of the survey.

Bird species identified: Cape gannet (*Sula capensis*), Blackbrowed albatross (*Diomeda melanophris*), Giant petrel (*Macronectus gigantus*), Sooty shearwater (*Puffinus griseus*), European storm petrel (*Hydrobates pelagicus*), Kelp gull (*Larus dominicanus*), Caspian tern (*Hydroprogone caspia*), several smaller tern species (*Sterna* spp.).

TRAINING:

One of the main objectives of this survey was to train Angolan technicians in methodology of data-collection on marine-mammals observations, and species identification. One technician of

the National Department of Natural Resources, the Ministry of Urban Affairs and Environment, was trained during this survey. General training was also extended to the team of Angolan scientists participating in the fishing research. Information on marine mammal species that may occur off-shore Angola, from: "Jefferson. T. A., Leatherwood, S. and Webber, M.A. 1993. Marine Mammals of the World". UNEP and FAO, Rome." was left in the Nanasen's library, as well as standard Cetacean sighting forms (see Annex I). Another copy was given to the trainee.

CONCLUSIONS:

This preliminary survey was done mainly to assess the conditions for data collection on marine mammals, off-shore Angola, from an existing research vessel. The results demonstrate that there is clear interest in collecting information on marine mammals species, distribution and status, off-shore Angola, and this objective may be achieved at minimum costs, by use of existing vessels. The Nansen can provide an optimal platform for an on-going marine mammals survey, and indication on population dynamics over time. Presence and visibility of whales off-shore Angola also indicate that optional developing of community-based eco-tourism activities, based on "whale-watching" as a sustainable livelihood alternative for coastal communities, may be explored.

RECOMMENDATIONS AND THE WAY FORWARD:

- 1. Within the framework of establishing a data base on biodiversity in Angola, there is need to collect information on marine mammal populations, off-shore Angola species inventory, status, distribution, spatial behaviour and migratory patterns, and threats, as well as long-term monitoring of populations dynamics. Marine-mammal populations form an important and indicative component of the marine-eco-system.
- 2. There is further specific interest in collecting information on marine-mammal populations off-shore Angola, in order to assess the possibility to develop community-based "whale-watch" eco-tourism initiatives, as part of the programme to develop sustainable alternatives to resident communities, to replace the current non-sustainable utilization of biodiversity and natural resources.
- 3. Preliminary data collection on marine mammal populations off-shore Angola, can be done within the framework of the "sub project for the development of pilot projects with

coastal community involvement", of the BCLME project, with the support of UNDP project ANG/02/005, the Nansen project, and IIM, and with the participation of MINUA and ANU.

- A GIS data-base of all existing information on marine-mammals off-shore Angola should be established, and information gaps should be identified. Programmes for data-collection should then be developed.
- 5. To minimize costs, data collection can be based on existing vessels, and in particular, on collaboration with the Nansen project, for systematic data-collection, during the regular cruises of the vessel, twice a year.
- 6. A national coordinator should be nominated to lead and coordinate the data-collection on marine mammals off-shore Angola and to develop and populate the data-base. The coordinator must have an adequate level of education and experience, and can be trained within the framework of the BCLME sub-project. During the cruise there must be at least one or two trained people on board, dedicated only to collecting this information.
- Further information should be collected from interviewing artisanal fishermen and coastal communities, commercial fishermen, teams of other vessels moving off-shore Angola (for example, the petroleum industry's vessels), etc.
- 8. There should be focus on collecting information on intentional catch of marine mammals, by-catch in fishing gear, and other threats.
- 9. Complimentary data collection programmes should be developed, including aerial surveys, and observations from on-shore and off-shore platforms.
- 10. The information collected should be used to develop recommendations for conservation measures, including recommendations for improving fishing gear to minimize by-catch, legislation and enforcement, identification of sensitive marine and coastal areas, and recommendations for establishing marine protected areas, etc.

- 11. Conservation programmes must involve the participation of coastal resident communities and include components of education, awareness campaigns and consultation with stakeholders.
- 12. The development of any eco-tourism initiatives related to "whale-watch", off shore Angola must be controlled, with a legal basis, and must secure the benefit sharing with resident coastal communities, as well as adoption of global standard codes of behaviour to avoid any threat or disturbance to the whales and dolphins.

Tamar Ron, August 2003

ANNEX A - Cetacean Sighting Form

Date:	ate: Observer (name and contact):				
Observation platform (spec	ify):				
Time: beginning of observa	tion:	End of observat	ion		
Position (use GPS): Latitud	le:	Longitude:			
Off-shore distance:		Depth:			
Weather:	Sea conditio	on:	Wind	:	
Air temp.:	Water tem) .:			
Species:					
Group size: Min.: M	fax.: B	est estimation:		No. of calves:	
Group formation (compact/	/dispersed):				
Total distance between extr	eme group me	mbers:			
Distance from observer:		Other species a	associa	ited:	
Behaviour observed (T=travel: s=slow, m=medium, f=fast; S=socialize; B=bow-riding;					
F=surface feed; D=dive, R=	rest, O=other:	specify):			
Special markings on individ	luals (specify a	ny individual ch	aracte	eristics):	

Photos taken (yes/no): (Attach photos whenever possible)

Notes:

ANNEX B – Map of observations

Legend:

..... Cruise route

_____ Marine mammals transect (during observation hours)

start/end: Indicating place of beginning and end of observations, every day

Mn: *Megaptera novaenglia*e (humpback whale)

Gm: *Globicephala macrorhynchus* (short-finned pilot whale)

Tt: *Tursiops truncatus* (bottlenose dolphin)

Ap: *Arctocephalus pusillus* (cape fur seal)

Number of individuals observed in each observation is indicated (see legend in the map)

Location: $6^0 - 11^0$ South, $10^0 30' - 13^0 30$ East


ANNEX VII

Sharks' sampling off the Angolan coast

Diana Zaera

Shark sampling

In order to improve the available information on biology and bathymetric distribution of sharks in Angolan waters, and especially deep-water sharks, several samplings were taken during the Angolan surveys in 2002 and 2003.

During the present survey a total of 36 individuals were measured from 7 different species.

Methodology

Identification. The sharks caught were identified using Compagno (1984; 1989; 2001), Elst (1981), Bianchi (1986) and Fischer *et. al.* (1981).

Morphometric measurements. All specimens caught were measured, weighed (g) and sexed. For the purpose of morphometric analyses we followed Hubbs and Lager criteria. All fish length data are given as total lengths, since this is the measurement most often used as an independent variable and it is a standard measurement in the shark literature. The following morphometric parameters were taken:

- Total length (TL, cm) taken as the length from the snout tip to the upper tip of the upper caudal fin lobe, measured to nearest centimetre below; taken in the natural position without depressing the tail to place it in line with body axis
- Trunk height at pectoral fin insertion
- Snout length taken from outer nostrils
- Preoral length
- Eye's diameter
- Mouth's width
- Mouth's height
- Minimum internasal distance
- 1st gill opening's length
- 2nd gill opening's length
- 3rd gill opening's length
- 4th gill opening's length
- 5th gill opening's length
- 6th gill opening's length
- 7th gill opening's length
- 1st dorsal fin height
- 1st dorsal fin's base length
- 1st dorsal fin's inner margin length
- Upper caudal lobe's length
- Lower caudal lobe's length
- Pectoral fin length
- Pectoral fin inner margin length
- Pectoral's rear margin length

- Distance from tip of snout to 1st dorsal fin's origin
- Distance from tip of snout to upper caudal lobe origin (precaudal length)
- Distance from tip of snout to pectoral fin's origin
- Distance from tip of snout to pelvic fin's origin
- Distance from tip of snout to anal fin's origin
- Distance between dorsal and upper lobe of caudal fins' origins
- Distance between anal and lower lobe of caudal fins' origins
- Distance between pectoral and pelvic fins' origins
- Distance between pelvic and anal fins' origins
- Gonopods (claspers) length

Reproductive information related to fecundity and size at maturity. Maturity was assessed using the scale shown below as suggested by Stehmann (1987).

Male		
Stage 1	Juvenile	Claspers undeveloped, gonads tiny, thread-like, whitish, sperm ducts straight
Stage 2	Sub-adult	Claspers soft, gonads enlarged, sperm ducts meandering
Stage 3	Adult	Claspers stiff, gonads rounded, sperm ducts tightly coiled, sperm flowing freely
Female		
Stage 1	Juvenile	Ovaries small, oocytes not differentiated, evenly small, uteri thread-like
Stage 2	Ripening	Ovaries enlarged, wall transparent, oocytes of various sizes, uteri similar to stage 1
Stage 3	Ripe	Ovaries large, oocytes larger and of similar size, can be counted easily
Stage 4	Early gravid	Uteri filled with nonsegmented yolky matter
Stage 5	Mid-term gravid	Uteri filled with yolk sacs of small non pigmented embryos, easily counted
Stage 6	Late gravid	Embryos fully formed, easily counted, yolk sac reduced
Stage 7	Post-natal	Ovaries similar to stage 1, uteri dilated

Information related to feeding habits. The determination of stomach content was made macroscopically on board the vessel. The prey was identified to the lowest taxa possible. The data were quantified using the frequency of occurrence method (percentage of stomachs containing food with a particular prey item). To describe the stomach fullness, the following scale was used:

Empty (except for some water) Very little content (the stomach has to be opened) Some content (content appears clearly Full (filled, but not expanded) Expanded (stomach very expanded and tight) Everted (turned inside out)

While to register the degree of digestion: *Digestion not started* (content seems rather fresh) *Digestion just started* (the species still can be identified)

Digestion advanced (the species cannot be identified, but systematic groups may be discriminated)

Digestion advanced considerably (bones, eyes and other hard parts of prey can be distinguished)

Digestion nearly terminated (content cannot be identified. Liquid or jelly like content)

Liver weight was recorded to calculate hepatosomatic (HSI) index.

About their distribution and ecology. To get a better understanding of the shark's ecology, data on salinity, oxygen content and specific temperature of the water in which they occur, will be used together with data on catch rates and frequency of occurrence with other species.

Aging. Vertebras were preserved frozen to be read at the Institute of Marine biology in Bergen

Dentition. Heads of some specimens were preserved frozen to count number and rows of teeth

List of species measured:

Species	Number
Mustelus mustelus	2
Scylorhinus cervigoni	2
Squalus megalops	13
Isistus brasiliensis	1
Galeorhinus galeus	12
Alopias vulpinus	2
Sphyrna zygaena	4