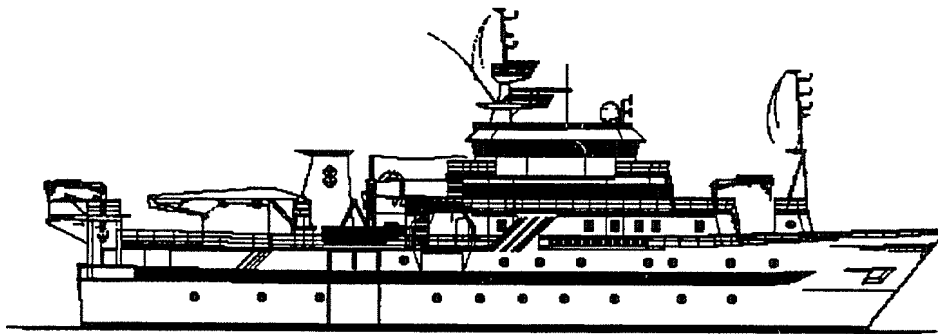


CRUISE REPORTS "DR. FRIDTJOF NANSEN"



SURVEYS OF THE FISH RESOURCES OF NAMIBIA

Preliminary Report Cruise No 1/94

**Surveys of the hake stocks
19 January-21 February 1994**

**Ministry of Fisheries & Marine Resources
Swakopmund
Republic of Namibia**

**Institute of Marine Research
Bergen
Norway**

The DR FRIDTJOF NANSEN RESEARCH PROGRAMME is supported by the Norwegian Agency for Development Cooperation (NORAD), the Food and Agriculture Organization of the United Nations (FAO), and the United Nations Development Programme (UNDP). The programme in Namibia is being organized and planned under agreements between NORAD, Namibian authorities and the Institute of Marine Research, Norway. Its execution is the responsibility of the Institute of Marine Research, Bergen in cooperation with the Ministry of Fisheries & Marine Resources of Namibia.

The following surveys were carried out in Namibia:

Survey	1/90	25 January to 19 March 1990
"	2/90	27 May to 20 June 1990
"	3/90	11 September to 6 October 1990
"	1/91	25 January to 23 March 1991
"	2/91	23 October to 16 December 1991
"	1/92	23 April to 21 June 1992
"	2/92	20 October to 16 December 1992
"	1/93	20 January to 19 March 1993
"	2/93	21 April to 25 May 1993
"	1/94	19 January to 21 February 1994 *

* First survey with the new R/V 'Dr. Fridtjof Nansen'.

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CHAPTER 1 INTRODUCTION

1.1 GENERAL OBJECTIVES

Following an offer from NORAD extended through FAO and UNDP, an agreement was reached in Windhoek in January 1990 between the UNDP Resident Representative and Namibian authorities for the execution of a programme of surveys of the fish resources of the Namibian shelf with the RV 'Dr. Fridtjof Nansen'.

The purpose of the programme was agreed as follows:

The main objectives are descriptions of the distribution, composition and abundance of the most important fish resources. Small pelagic fish, including horse mackerel, pilchard and anchovy will be investigated by the acoustic integration method combined with sampling with mid-water and bottom trawls. A swept area trawl survey programme will be used for the demersal stocks. All catches will be sampled to species by weight and numbers and biological sampling will be made of the commercially important stocks.

Environmental studies will include recording of surface temperature on a continuous basis and sampling hydrographic stations in a series of fixed profiles.

Possible taxonomic problems will be studied in cooperation with FAO's Fisheries Department.

1.2 OBJECTIVES OF SURVEY 1/1994

The main objective was to carry out a demersal trawl survey of the hake stocks in order to continue the time series started with the old 'Dr. Fridtjof Nansen'. This vessel concluded its operations in Namibia in June 1993. As in previous surveys, the complete demersal fish community within the distribution range of the hake stocks was studied, with special emphasis, besides the hakes, on the less abundant but commercially important species as monk, sole and kingklip.

The acoustic system was used to observe possible mid-water occurrence of the hakes. The survey design for the swept-area trawl programme was based on a semi-random distribution of hauls along transects perpendicular to the coast. The transects were intended to cover the depth ranges

of the two hake species (100 to 600 m depth) and with a density of stations adapted to the expected fish densities. Biomass estimates of hake were based on post stratification by depth and density aggregations.

The new 'Dr. Fridtjof Nansen' is designed to do multidisciplinary surveys. Phytoplankton occurrence was mapped at the surface with point sampling and by a continuous flow through system. In addition, the vertical distribution of phytoplankton was studied by taking samples at the standard hydrographic sections.

Being the first survey with the new vessel, a series of technical tests and development of the information system onboard was part of the objectives.

1.3 PARTICIPATION

The scientific staff consisted of:

From Namibia:

Hashali Hamakuiaya 19-29 Jan., 11-21 Feb.

Heidrun Plarre and Annike van der Westhuizen, 19-29 Jan.

Lizette Voges, Mari du Plooy and Malakia Shimhanda, 2-21 Feb.

Dion van Vuuren, 2-11 Feb.

Janet Botha, Jamy Traut, Filimon Dauseb, Johnny Gamathan and

Heinie Lesch.(19 Jan-21 Feb)

From Norway, 19 Jan.-21 Feb.:

Tore Strømme, Oddgeir Alvheim, Terje Haugland and Martin Dahl.

1.4 NARRATIVE

The course tracks with the positions of the fishing and hydrographic stations are shown in Figures 1 a-c.

The vessel left Walvis Bay on the evening of 19 January and steamed south for about 36 hours to the Orange River where the survey started. The trawl stations were randomly distributed along transects perpendicular to the coast, about 20nm apart. After three days work, a breakdown in one of the trawl winches forced the vessel to interrupt the work, and return to Walvis Bay for

service. En route to Walvis Bay, while waiting for spare parts and service personnel to arrive from Norway, the standard hydrographic sections off Hottentot Point and off Conception Bay were completed. The vessel arrived in harbour on the 29 January, and left again on the 2 February to resume the work in the south. Supplementary problems with the winch system forced the vessel to call shortly on Luderitz on 4 February for service, whereafter the vessel was performing satisfactorily. The technical problems and the necessary steaming associated with it caused a loss in total survey time of 9 days. In order to be able to complete the coverage up to the Cunene the distance between the transect was increased from 20 to 30 nm, and the date for the end of the survey was postponed by three days, until 21 February. A short call was made at Pelican Point on the 11 February for exchange of personnel. Except for the shortened time for sampling and the more open sampling grid the programme followed that of previous surveys and 151 bottom trawl stations were completed. The survey ended off the Cunene River where the vessel met the RV 'Benguela' which brought the Namibian scientists back to Walvis Bay while 'Dr. Fridtjof Nansen' proceeded to Luanda. Three days were lost due to unfavourable weather conditions, two in the southern region and one in the central.

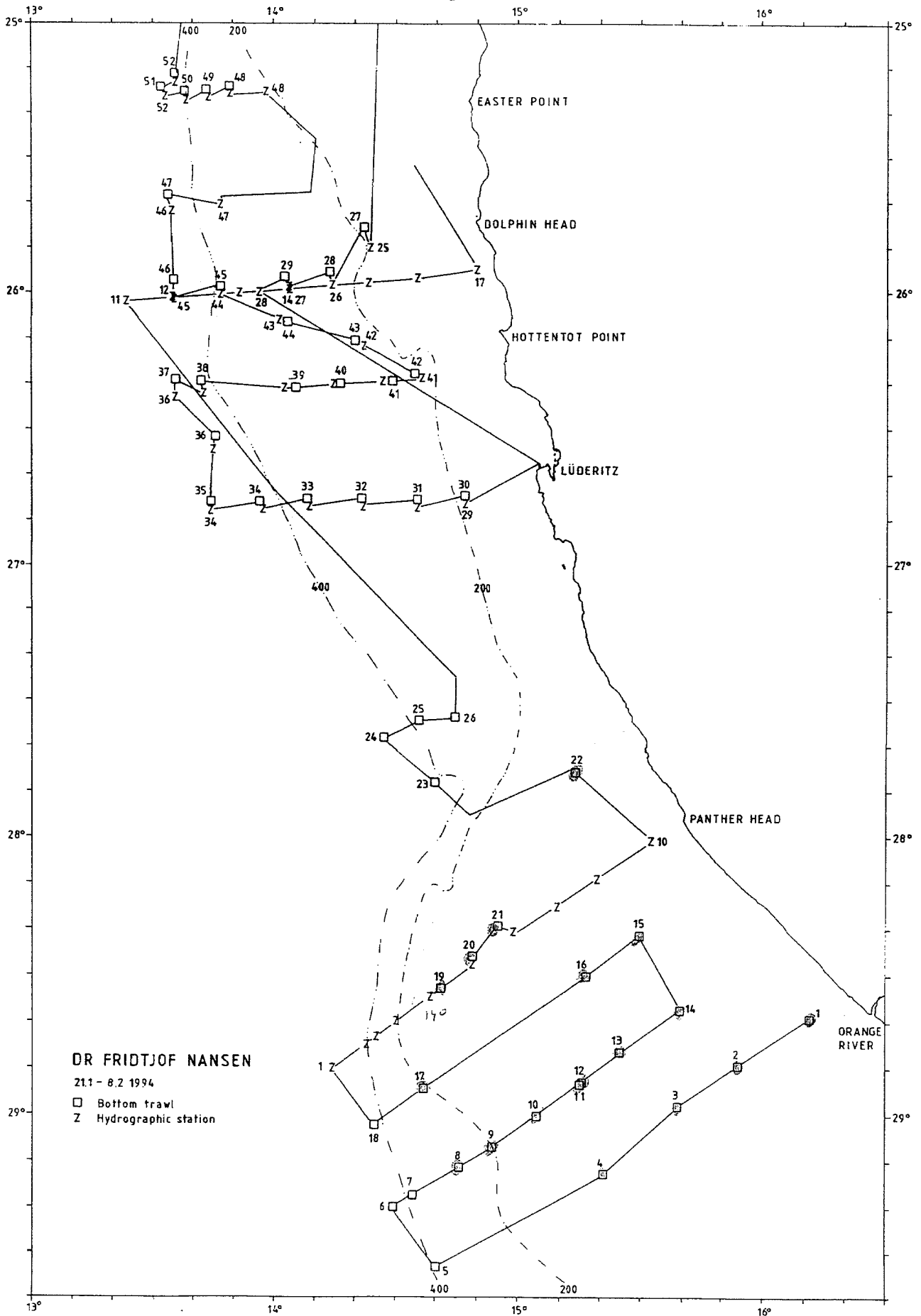


Figure 1a Southern Region (Orange River to St. Francis Bay). Course tracks, fishing stations and hydrographic profiles.

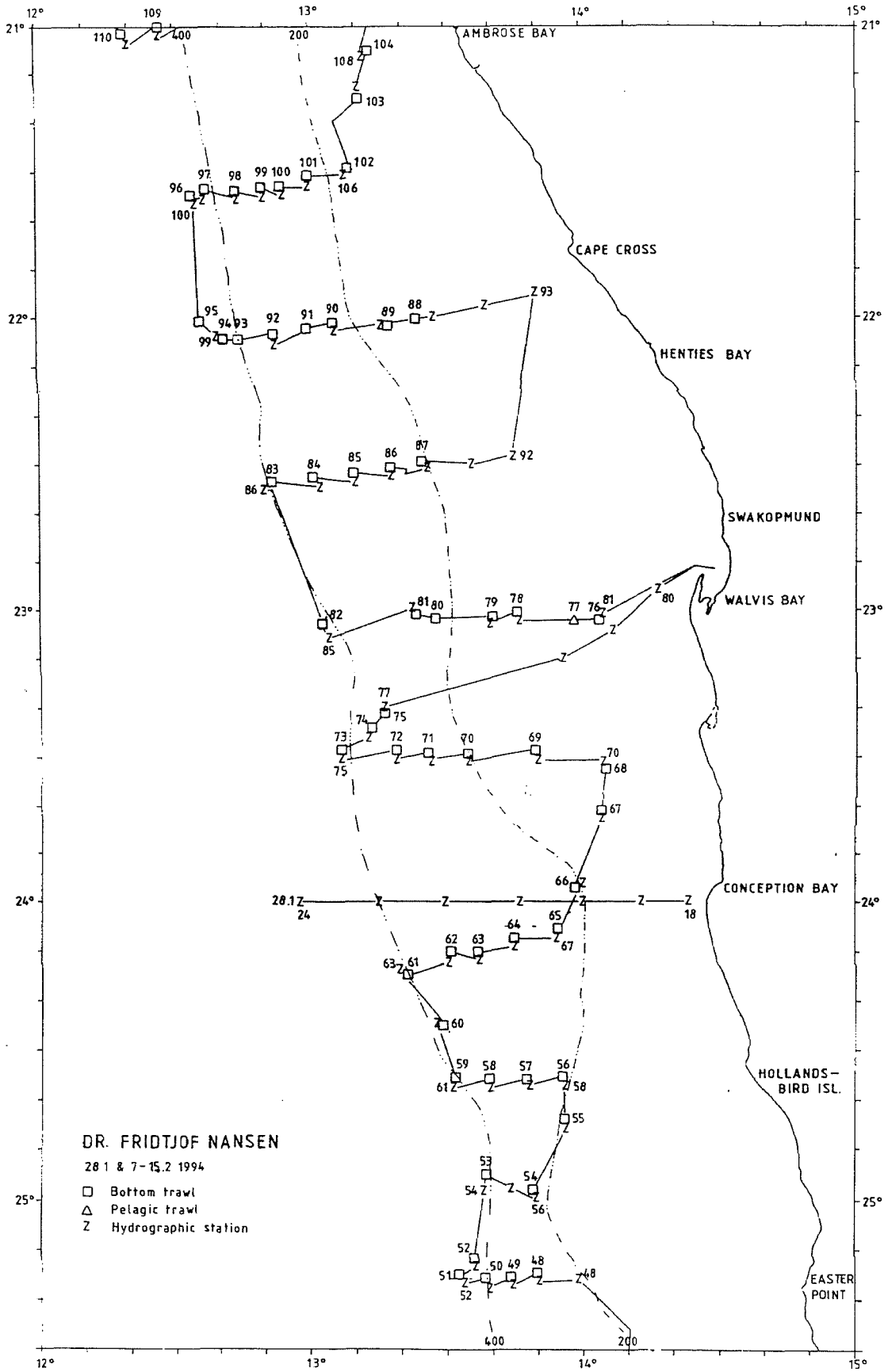


Figure 1b Central Region (St. Francis Bay to Ambrose Bay). Course tracks, fishing stations and hydrographic profiles.

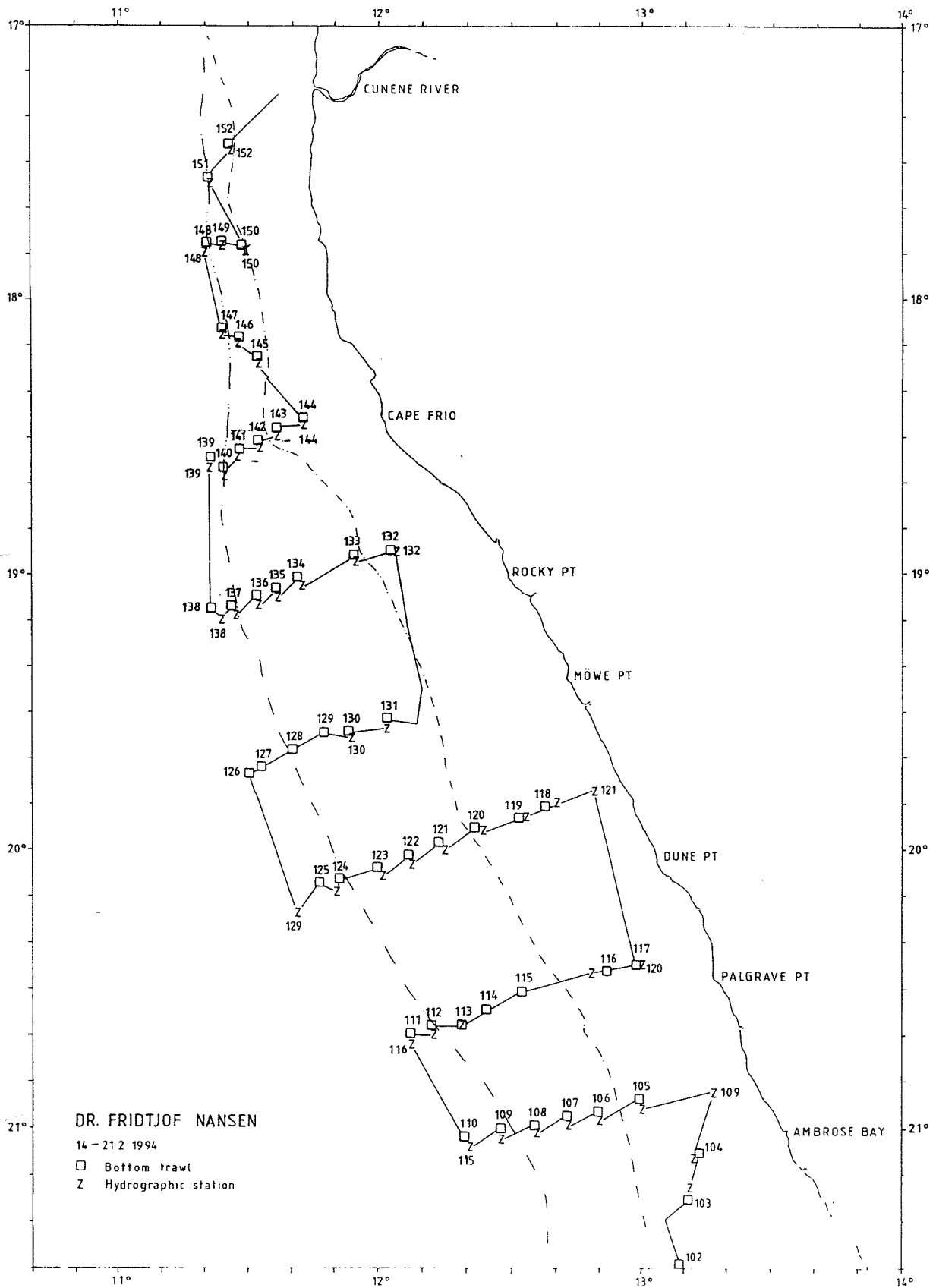


Figure 1c Northern Region (Ambrose Bay to Cunene River). Course tracks, fishing stations and hydrographic profiles.

CHAPTER 2 HYDROGRAPHY

Surface sea temperature was not recorded during the survey, as a new data logging system was still under development.

Temperature and oxygen at the bottom were recorded at all fishing stations from Lüderitz and northwards and are shown in Figures 2a-c and 3a-c. This was done in order to investigate the effect of these parameters on the distribution of the hake. Low oxygen conditions characterizes the shelf environment until beyond 200m bottom depth from Hottentot Point and northwards and the shallow waters until 100-150m between Conception Bay and Rocky Point have values less than 0.25ml O₂/l.

The oxygen maps have been overlayed with the distribution maps of the Cape hake in Figures 4a-4c. They show that the main part of the hake stock is found between the oxyclines 0.25 and 1.0 ml/l.

The vertical distributions of temperature, salinity and oxygen along five standard hydrographic transects, collected with a CTD and an attached rosette for water samples, are shown in Figures 5a-5c.

The results from the phytoplankton mapping programme will be described in a separate report from the Plankton Section, MFMR, Swakopmund.

In the southern region, off Panther Head, the surface waters were characterized by relatively warm water (16-18°C) with a narrow upwelling zone close to the coast. Much of the shelf and coastal waters had high values of oxygen and the offshore water was relatively stable and defined by a strong thermocline at about 50m depth. Further to the north, off Hottentot Point, upwelling was intense in the subsurface coastal waters. Oxygen deficient waters at the bottom had developed and the 0.5 ml oxycline encircled the bottom water masses down to about 200m.

In the central region, the low oxygen conditions on the bottom prevail and there are indications of upwelling in the coastal surface waters.

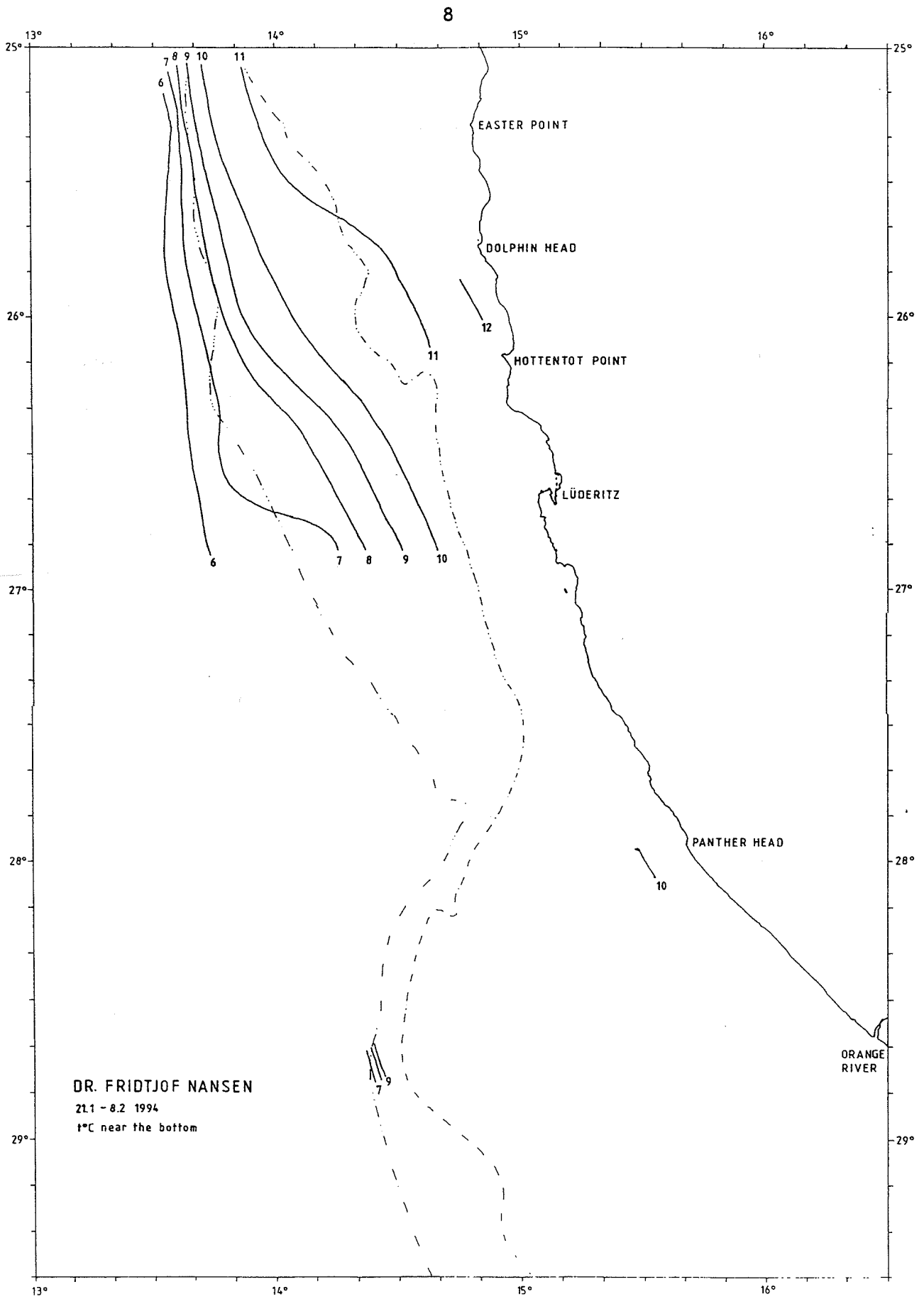


Figure 2a Orange River to St. Francis Bay. Distribution of sea temperature near the bottom.

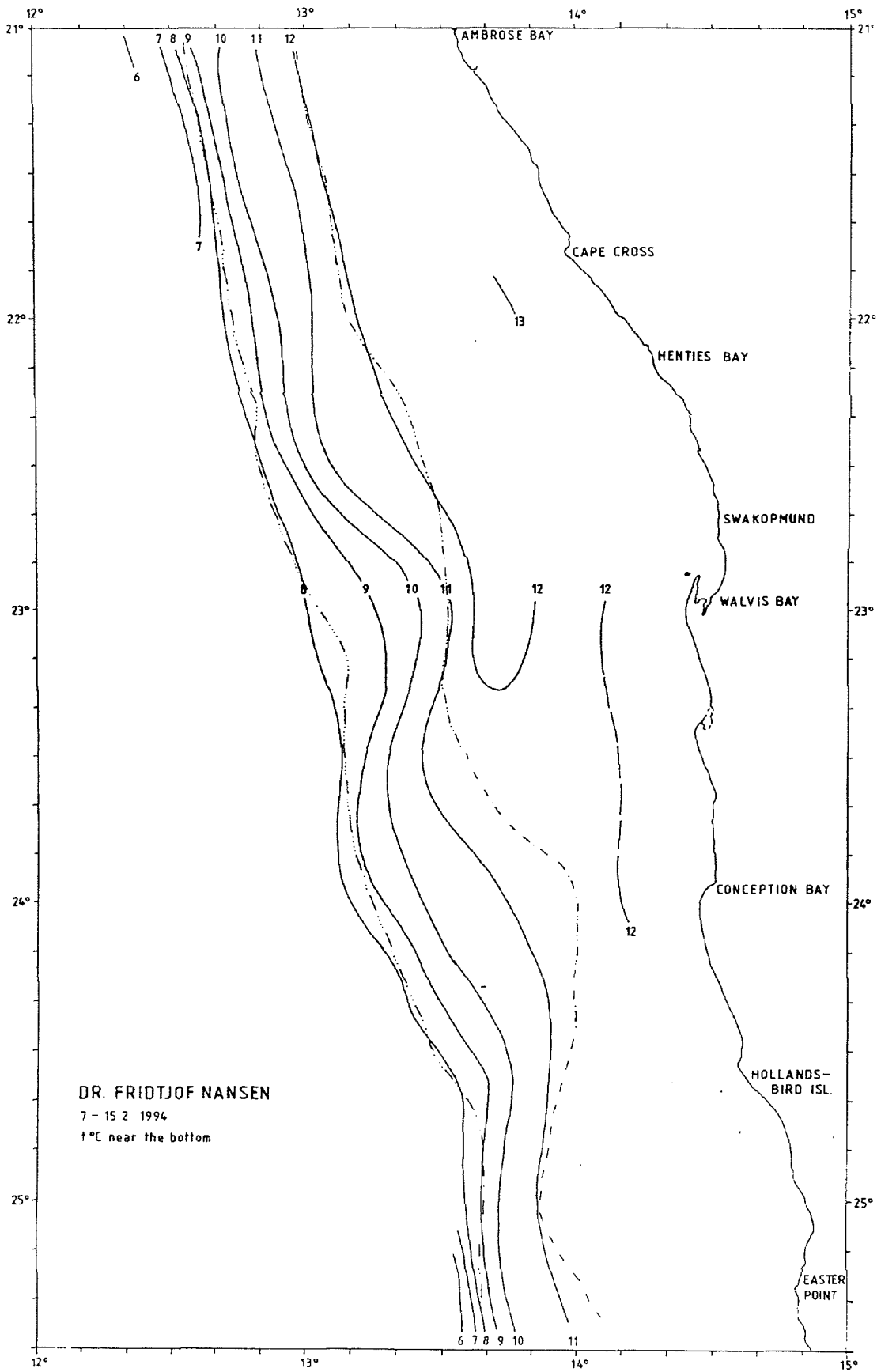


Figure 2b St. Francis Bay to Ambrose Bay. Distribution of sea temperature near the bottom.

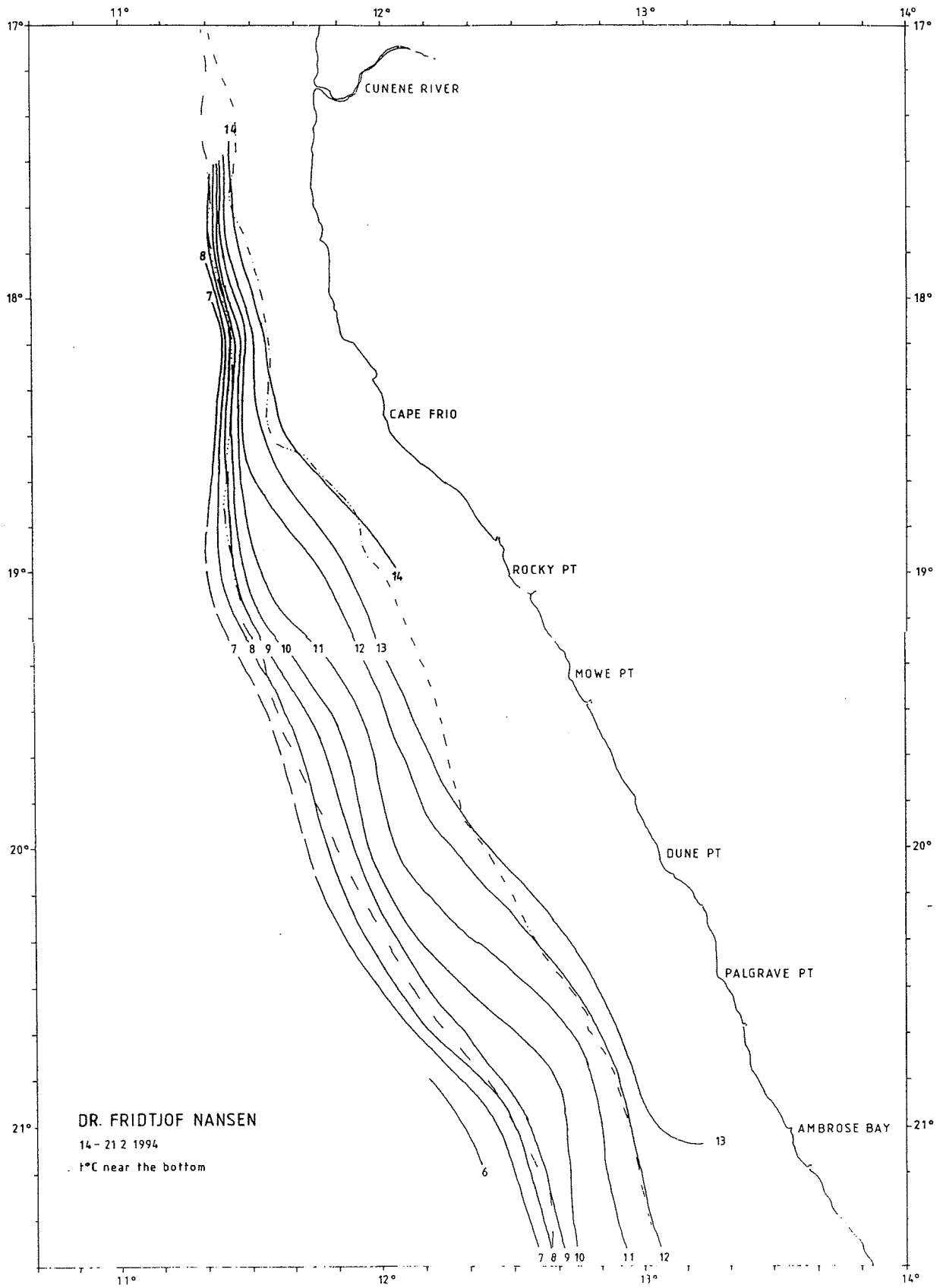


Figure 2c Ambrose Bay to Cunene River. Distribution of sea temperature near the bottom.

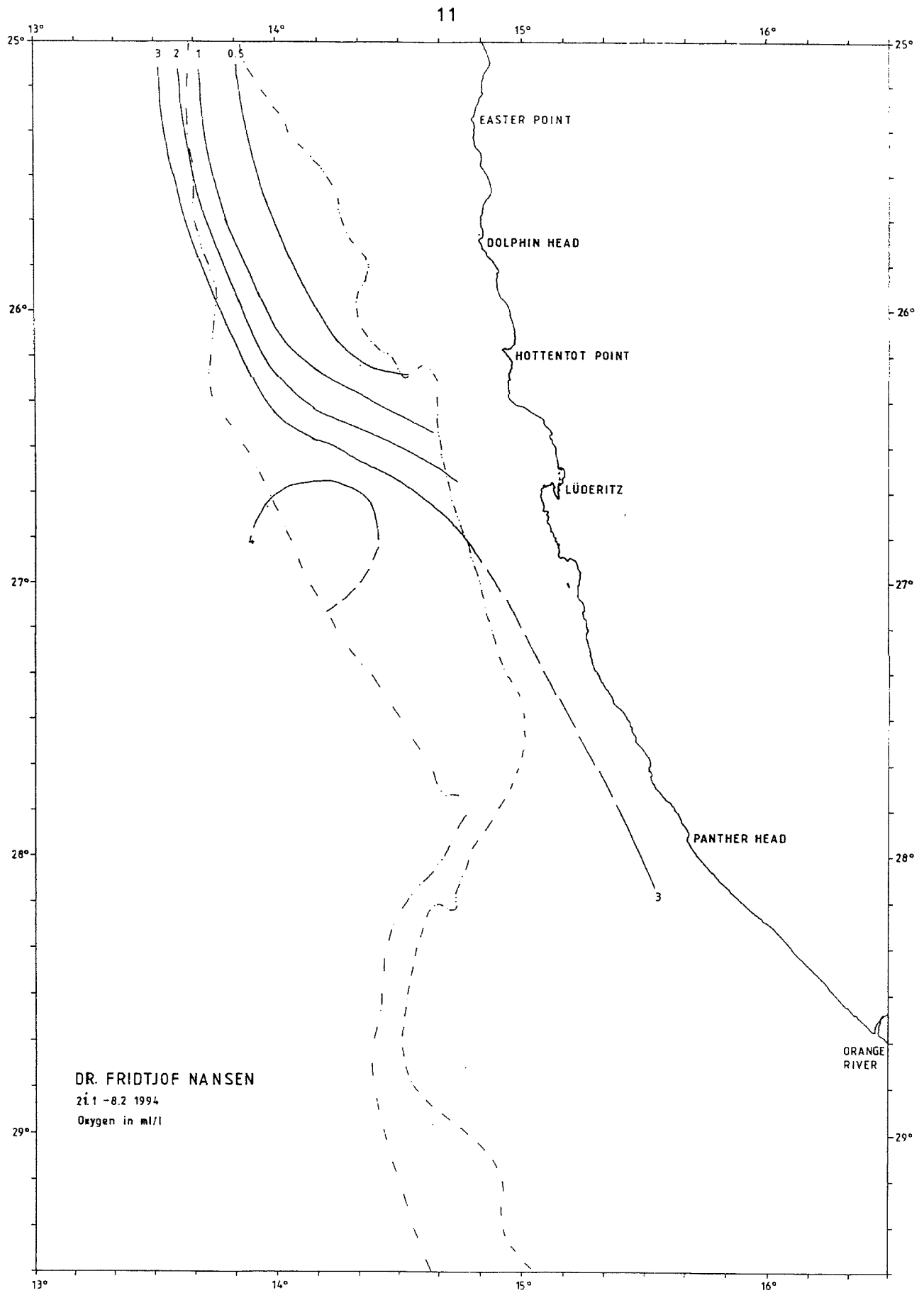


Figure 3a Orange River to St. Francis Bay. Distribution of oxygen (ml/l) near the bottom.

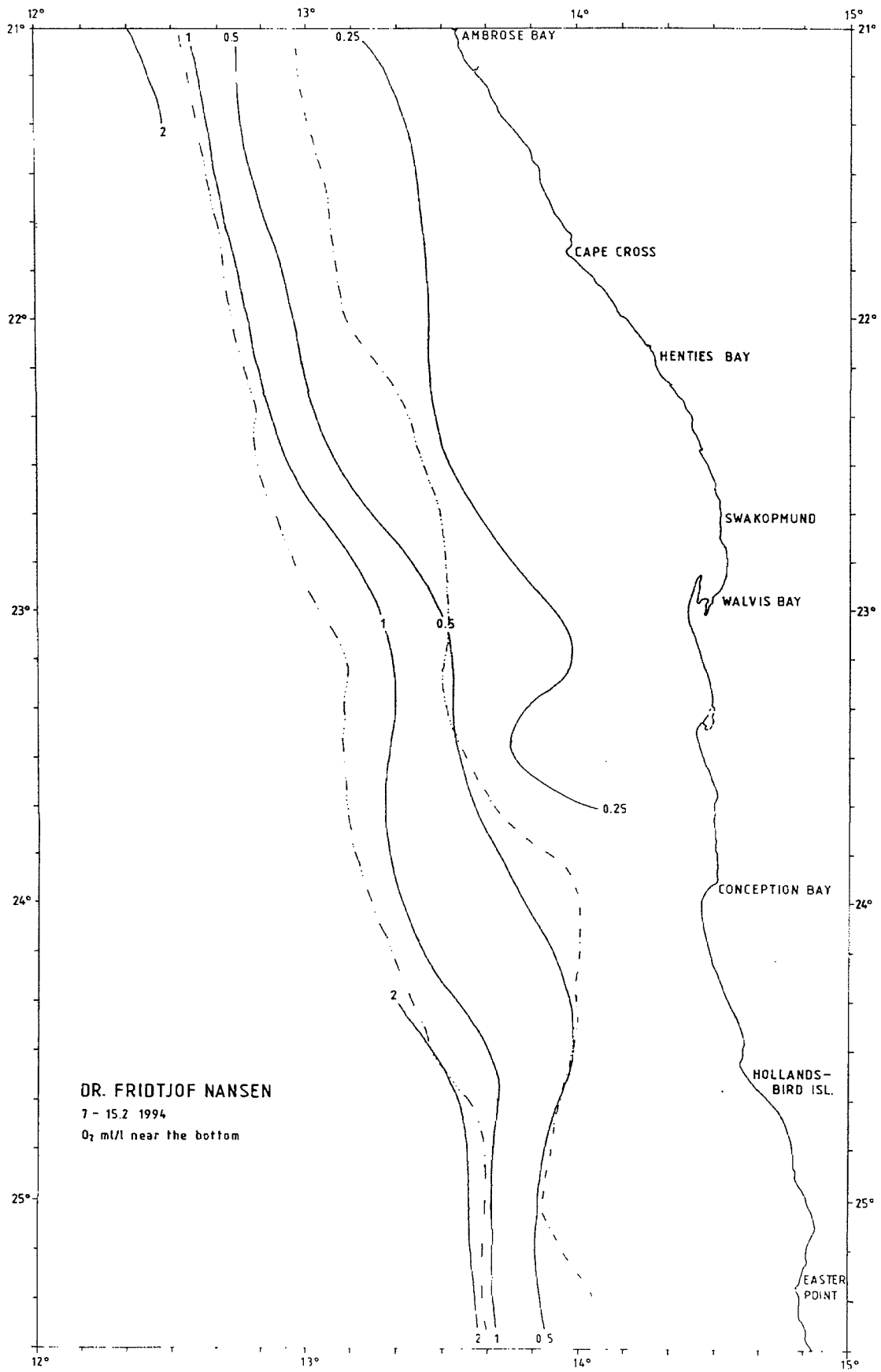


Figure 3b St. Francis Bay to Ambrose Bay. Distribution of oxygen (ml/l) near the bottom.

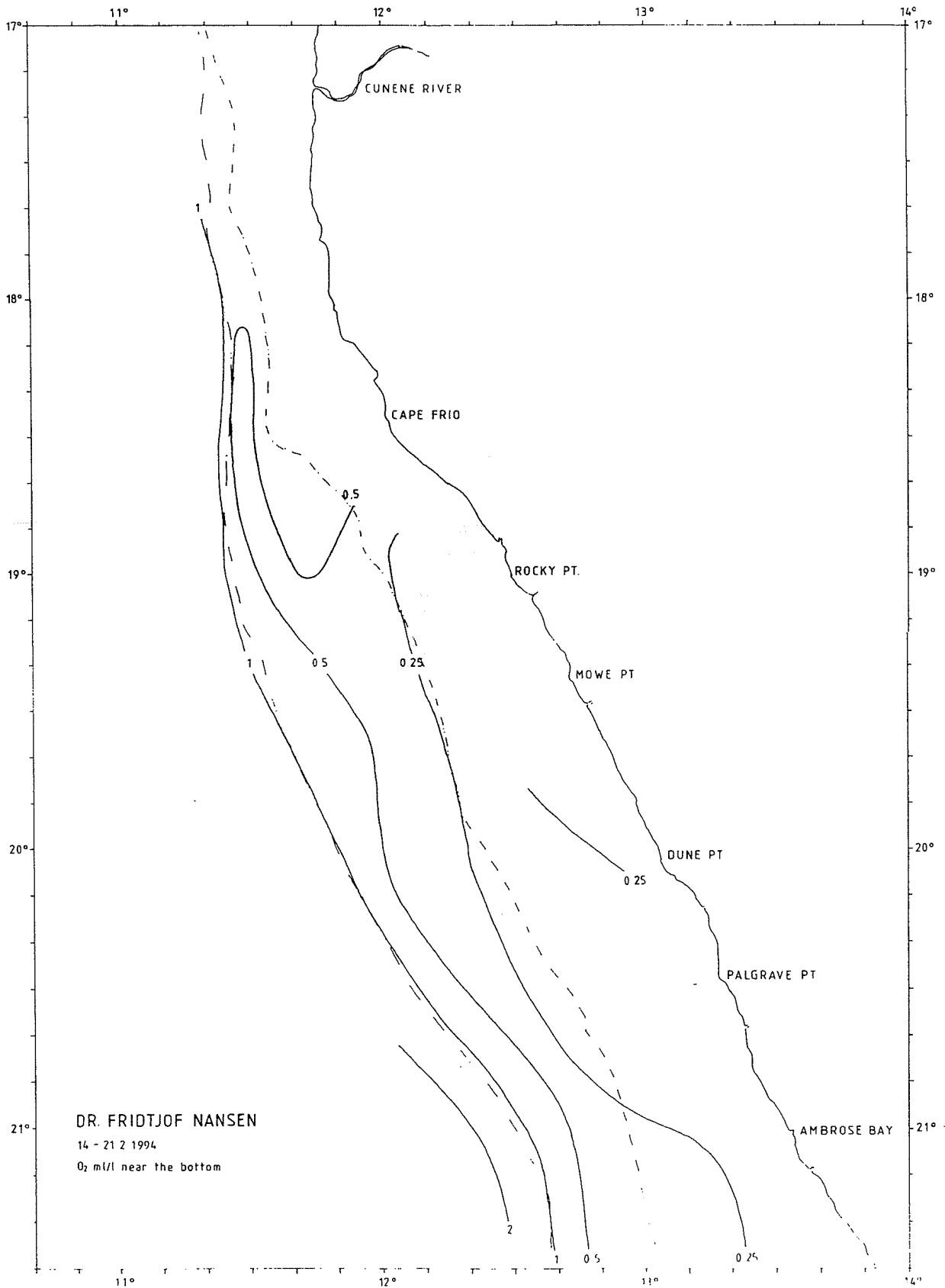


Figure 3c Ambrose Bay to Cunene River. Distribution of oxygen (ml/l) near the bottom.

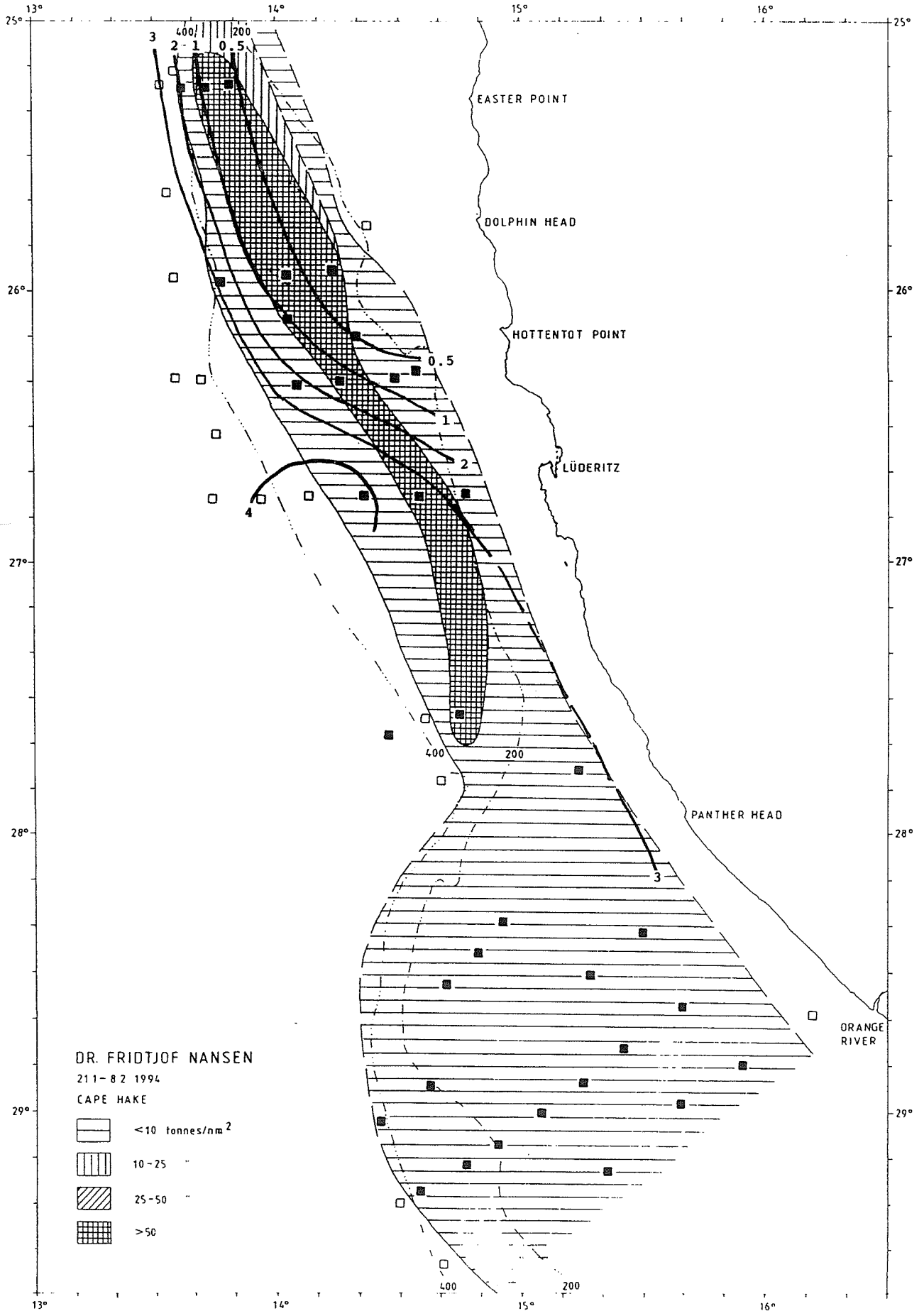


Figure 4a Orange River to St. Francis Bay. Distribution of Cape hake and oxygen (ml/l) near the bottom.

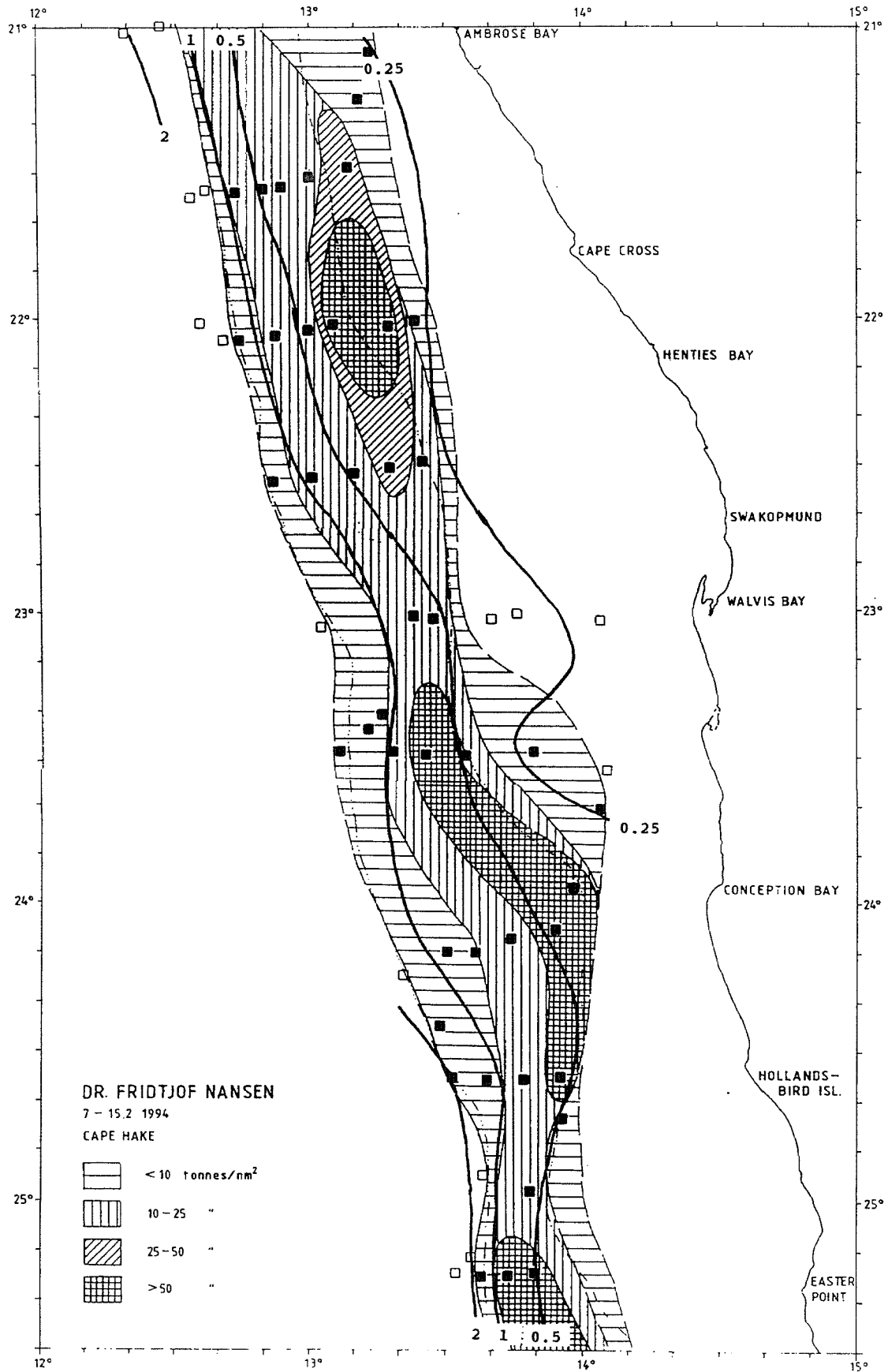


Figure 4b St. Francis Bay to Ambrose Bay. Distribution of Cape hake and oxygen (ml/l) near the bottom.

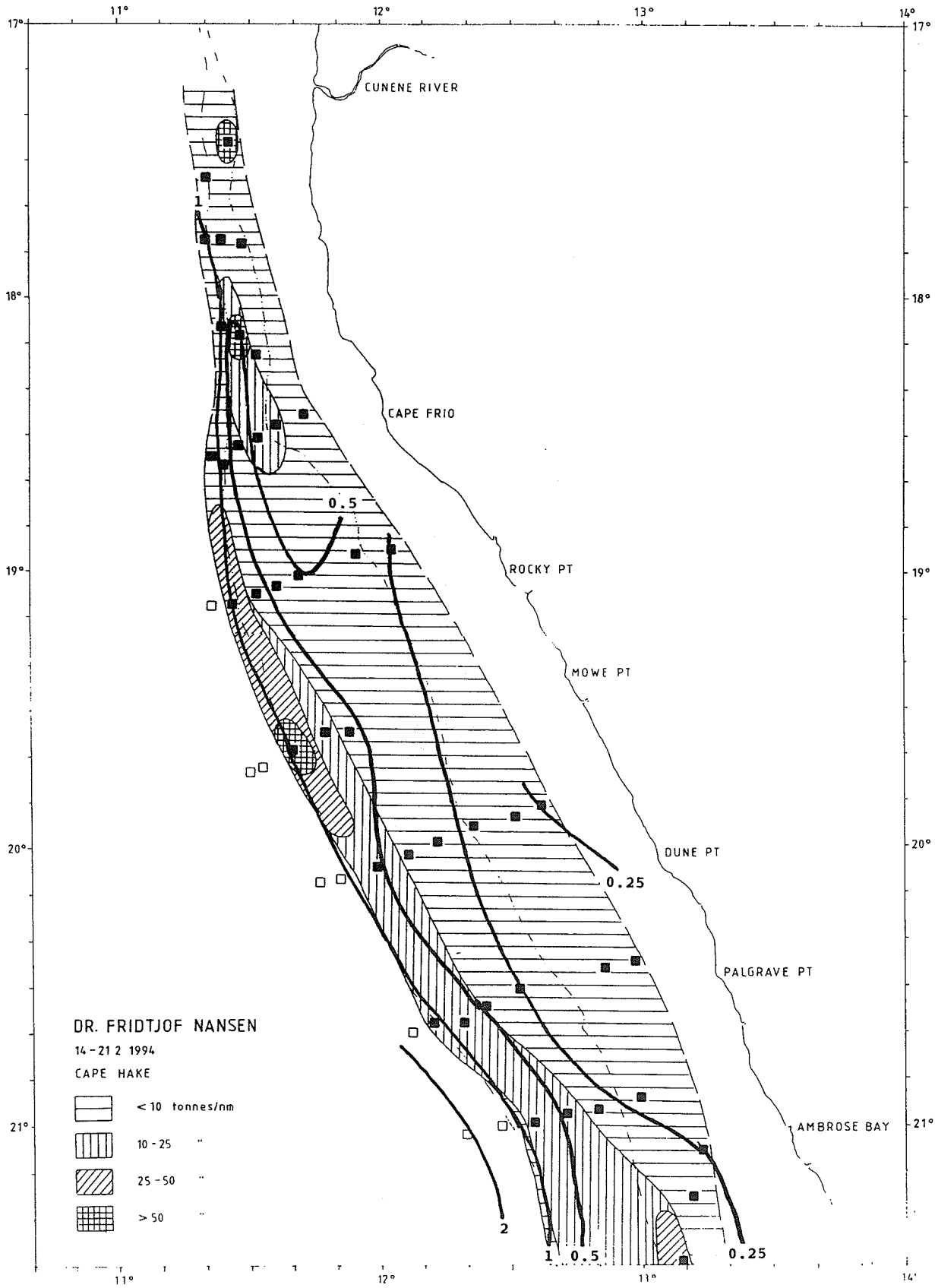


Figure 4c Ambrose Bay to Cunene River. Distribution of Cape hake and oxygen (ml/l) near the bottom.

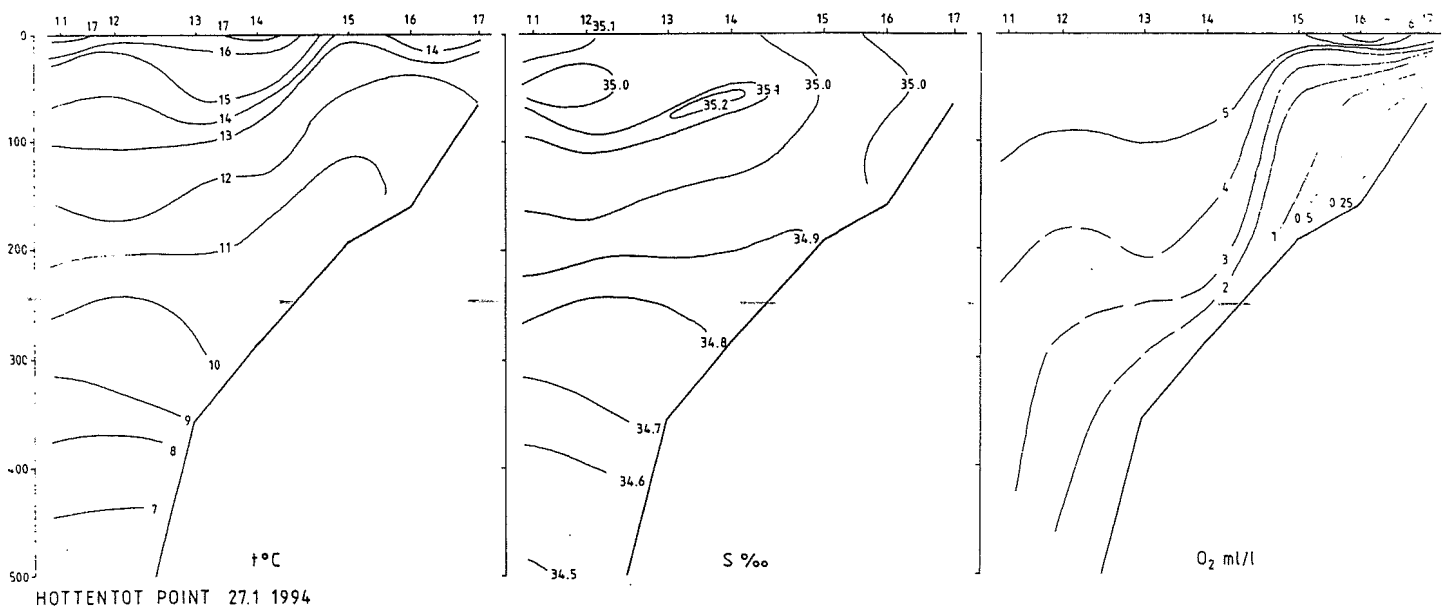
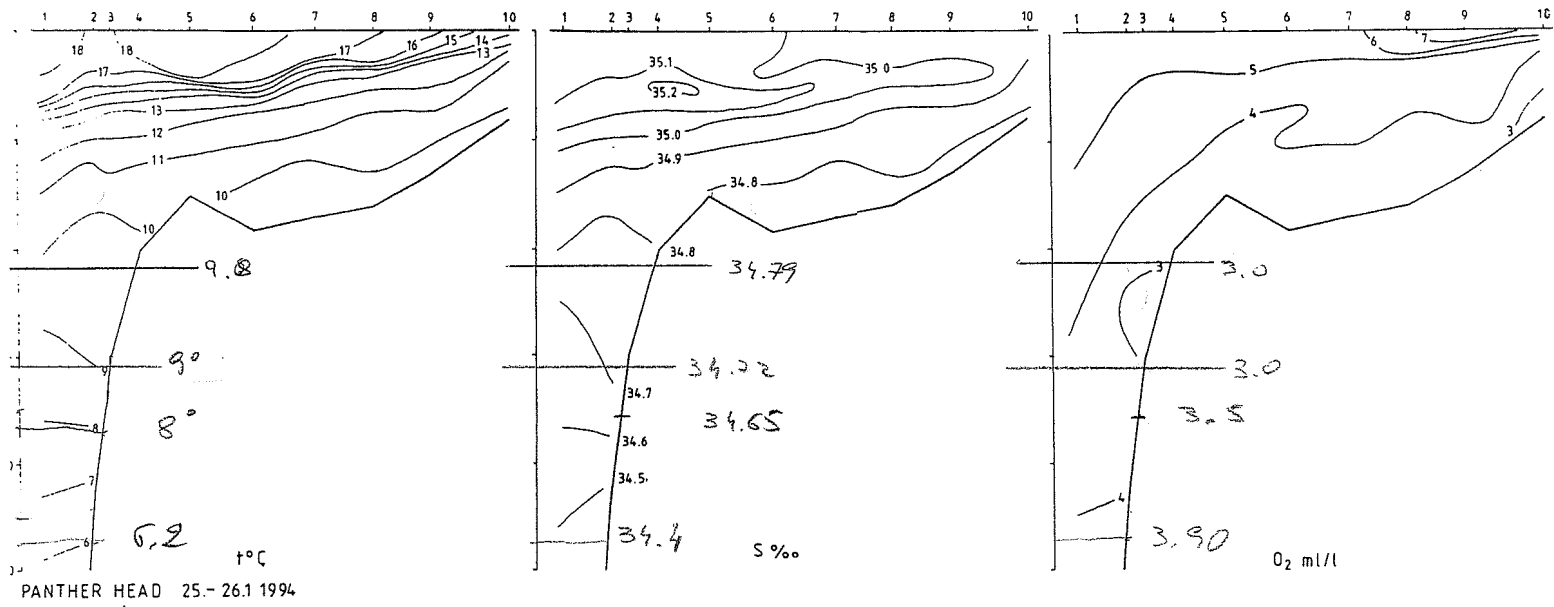


Figure 5a Orange River to St. Francis Bay. Temperature, salinity and oxygen in the standard profiles worked.

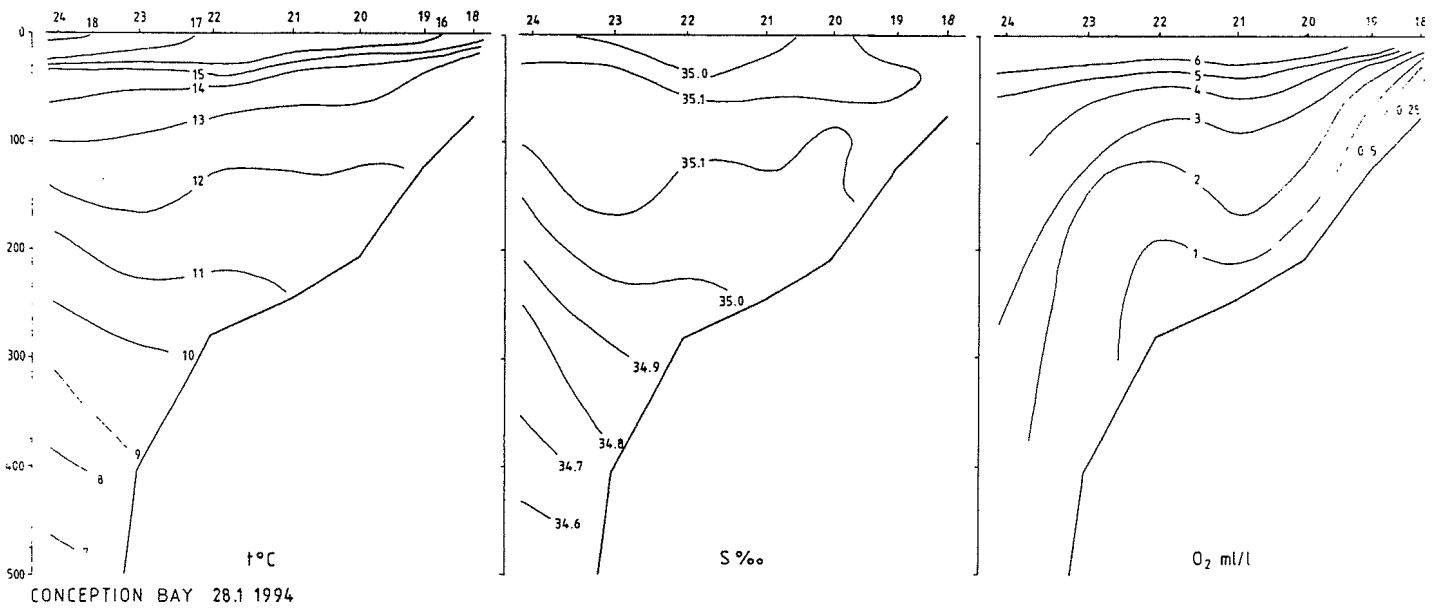
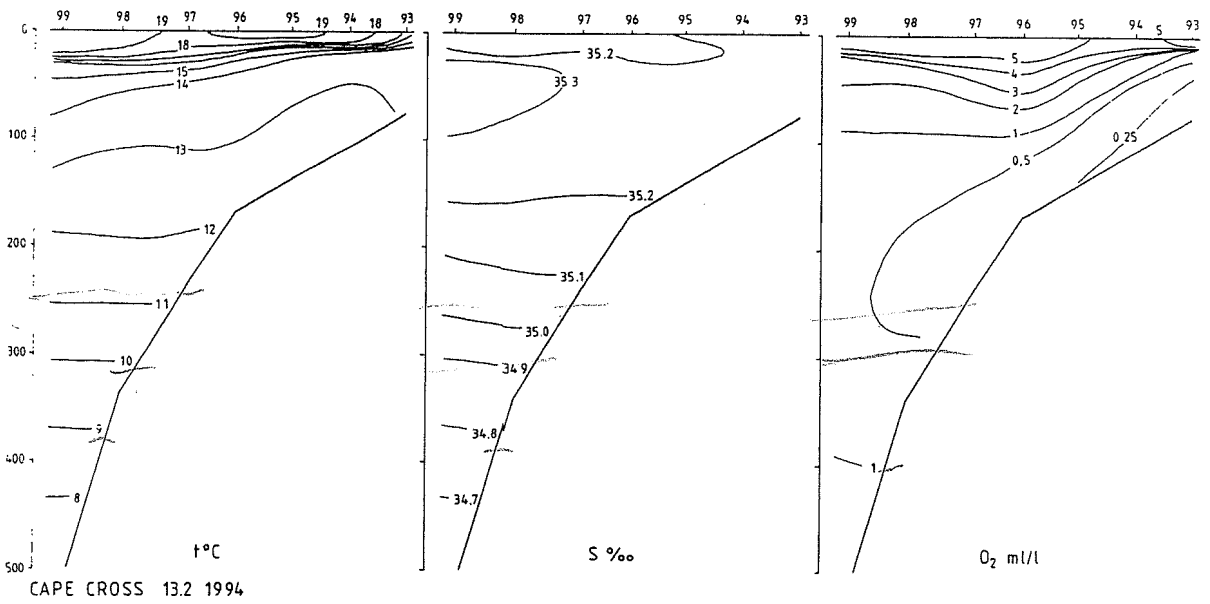


Figure 5b St Francis Bay to Ambrose Bay. Temperature, salinity and oxygen in the standard profiles worked.

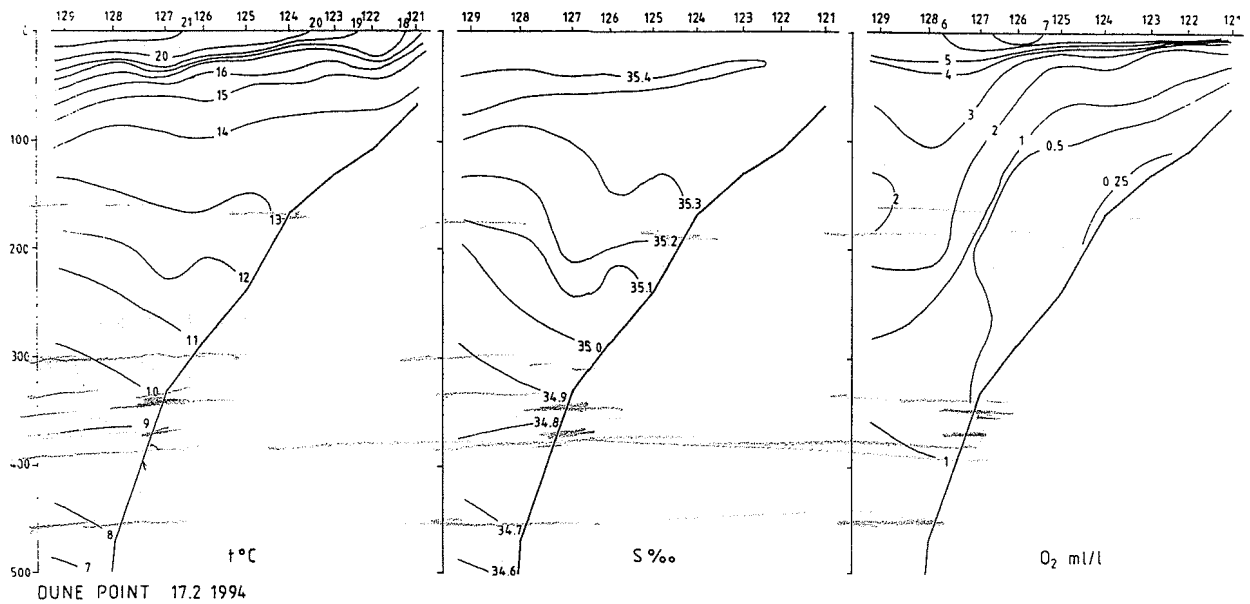


Figure 5c Ambrose Bay to Cunene River. Temperature, salinity and oxygen at the standard profiles

In northern waters, some upwelling was taking place. Off Dune Point the 0.5ml oxycline was found at 300m bottom depth and there were signs of upwelling of subsurface waters in the coastal areas.

A detailed analysis of the hydrodynamics of the water masses in the region should reveal more characteristics of the phenomenon.

CHAPTER 3 RESULTS OF THE ACOUSTIC AND TRAWL SURVEY

3.1 DISCUSSION OF METHODS

In the trawl survey programme all catches were sampled in weight and numbers, by species. The bottom trawl has a headline of 31m (float line), footrope 47 m, estimated headline height 5m and distance between wings during towing about 18m. As a new standard procedure all trawl hauls were monitored by SCANMAR trawl sensors and the actual time the trawl was fishing on the bottom was determined with improved accuracy. For conversion of catch rates to fish densities the area between the wings was assumed to be the effective fishing area. Furthermore, the retention factor q was assumed to be equal to 1. With the new vessel a new trawl gear was introduced with smaller bobbins. This gear gives better bottom contact and a higher catch rates for bottom dwelling species as monk and sole. For the hake species the new gear is assumed to have no difference in performance. The trawl doors, net, warp and wire dimensions are as with the former vessel. The length of a haul, recorded as distance over bottom was measured by Doppler log on the bottom.

The problem of mid-water occurrence of hake and its effect on the swept-area assessments has been discussed in previous cruise reports. Off-bottom hake constituted only a minor problem in the south and in the central area, while on the north it made up at average a 26% addition to the demersal biomass in the day hauls. In a more limited number of night hauls the average correction is 47% both in the northern and southern area.

The high rate of mid-water occurrence observed in the north during the present survey makes the biomass estimates less reliable (Table 1). It seems probable that they have caused a negative bias and that the stock biomass for this area may be underestimated.

Table 1 Hakes. Frequency of observations of hake in mid-water during trawling. No. of trawl stations with swept-area estimate only and no. of stations with observations of hake above 5 m from bottom, with acoustic density estimate. Density in tonnes/nm ² .		
	DAY	NIGHT
ORANGE RIVER - ST. FRANCIS BAY		
Trawl		
No. stations	37	13
Mean density	30.1	14.9
Acoustic obs.		
No. stations	6	6
Mean density	8.7	14.8
Average acou. corr.	5%	46%
ST. FRANCIS BAY - AMBROSE BAY		
Trawl		
No. stations	41	7
Mean density	24.5	7.5
Acoustic obs.		
No. stations	9	4
Mean density	6.6	10.2
Average acou. corr.	6%	78%
AMBROSE BAY - CUNENE RIVER		
Trawl		
No. stations	38	7
Mean density	13.2	9.1
Acoustic obs.		
No. stations	8	2
Mean density	16.1	14.9
Average acou. corr.	26%	47%

3.2 SOUTHERN REGION, ORANGE RIVER TO ST. FRANCIS BAY

The complete record of the fishing stations is shown in Annex III.

Table 2 shows the catch rates of the main commercial species standardized to kg/hour for the shelf and the slope separately. Compared with the January-February survey 1993 the mean catch rates for the hakes do not show any change. The mean monk catch rates have increased remarkably since the previous surveys, 9 times in the 50-250m bottom depth zone, and 14 times

beyond 250m compared to survey 1/93. This increase is mainly due to the new gear giving better bottom contact. However, the catch rates of the soles have not increased.

Table 2. Southern Region. Catch rates by main groups by swept area bottom trawl for the shelf and the slope.

SHELF 50-259 m

ST.NO.	DEP.	Hakes	Monk	Kingklip	Soles	Squid	Other
1	93	1996.0		13.9	3.3	14.2	1927.6
2	147	85.8		1.8		127.6	645.7
3	173	227.7	2.6	1.4	1.7	19.5	208.1
4	179	288.8	29.1	15.02		145.6	2921.6
8	210	121.7	15.9			14.4	372.8
9	188	83.8	45.7			14.8	219.1
10	168	95.4	11.8	1.8		6.6	1008.0
12	150	147.6	19.2	0.8		9.4	305.6
13	176	122.1	5.6	6.2		58.3	128.7
14	151	140.8	4.2	4.3		74.6	122.8
15	136	189.5		4.5			272.7
16	175	225.1		3.7		243.3	132.5
17	216	11.1	7.8	53.5		1.4	182.8
19	171	402.2	29.6			4.9	385.0
20	180	319.6	84.1			21.2	290.7
21	174	320.5	11.5			84.2	289.0
22	122	171.3		1.0		29.2	289.6
27	192	1.5					50.0
28	234	2356.7					174.2
30	182	344.7					46.4
31	253	2744.7	41.7	6.0	25.5		361.5
42	245	83.9					154.0
43	209	18.1					3.0
48	247	2232.1	132.6		7.2	7.5	604.4
MEAN		530.4	18.4	4.8	1.6	36.5	462.3

SLOPE 260-700 m

ST.NO.	DEP.	Hakes	Monk	Kingklip	Soles	Squid	Other
5	350	179.7		49.4			140.6
6	475	199.6	7.7			2.4	97.7
7	319	521.0		63.8			997.8
18	367	168.7		15.7	0.1	0.1	82.7
23	431	1693.3		11.8			32.5
24	534	413.2				11.9	318.6
25	363	2726.6		21.0			207.5
26	330	705.1	16.6	11.6			259.5
29	288	2359.5	231.8		2.6	125.4	1719.4
32	338	925.2	12.9	15.5			106.7
33	380	1399.9	24.7	37.0		32.5	419.1
34	414	273.9	0.3	22.7		7.5	182.2
35	479	344.2	22.7			18.9	102.7
36	417	1133.6		7.3			279.9
37	589	241.8				16.5	443.5
38	413	1173.9				6.6	50.8
39	346	3047.7	49.9	2.0			225.7
40	300	3970.2	111.0	30.8			487.0
41	266	51.2	1.8	19.9	1.2	4.0	536.4
44	307	1423.2	26.6			8.3	127.7
45	384	1140.7	52.5	41.8		19.7	382.4
46	648	237.8				28.6	994.1
47	581	112.9	19.2			5.8	731.2
49	296	4141.8	227.4			46.0	697.1
50	412	874.0	29.5	20.8		123.1	485.3
51	638	677.1	32.0			418.0	1462.0
52	501	296.7	13.3			48.0	1436.0
MEAN		1127.1	32.6	13.8	0.2	34.2	481.7

The depth distribution of the two hake species based on the catch rates converted to densities are shown in Table 3. For both species the densities are lower than of the previous survey.

	100-250m	250-350m	350-450m	450-550m	550-650m
Cape hake					
Density	11.0	49.1	0.5	0.1	
Catch rate	330	1470	15	2	
Deep w. hake					
Density	0.1	13.0	37.0	9.6	10.5
Catch rate	2	390	1110	290	310
No. of hauls	22	11	9	4	4

The distribution of the two hake species based on plots of densities by fishing stations are shown in Figures 6 and 7. These include the acoustic estimates of fish present above the 5 m bottom channel during trawling as discussed above. The distribution pattern of the two species is similar to that found in the previous surveys with relatively high densities of Cape hake extending from 25° S to about 28° S.

Biomass estimates based on a poststratification of the densities as shown in Figure 6 and 7, give 200 000 tonnes for the Cape and 160 000 tonnes for the deep water hake (Table 4). For both species, the estimates are about the same as in survey 1/93. The 95% confidence limits give a range of $\pm 19\%$ on the estimate of the Cape hake and $\pm 17\%$ on the deep water hake.

Year/Survey	Cape hake	Deep water hake
90/1	130	22
90/3	130	25
91/1	113	31
91/2	80	82
92/1	200	145
92/2	160	125
93/1	210	150
93/2	180	115
94/1	200	160

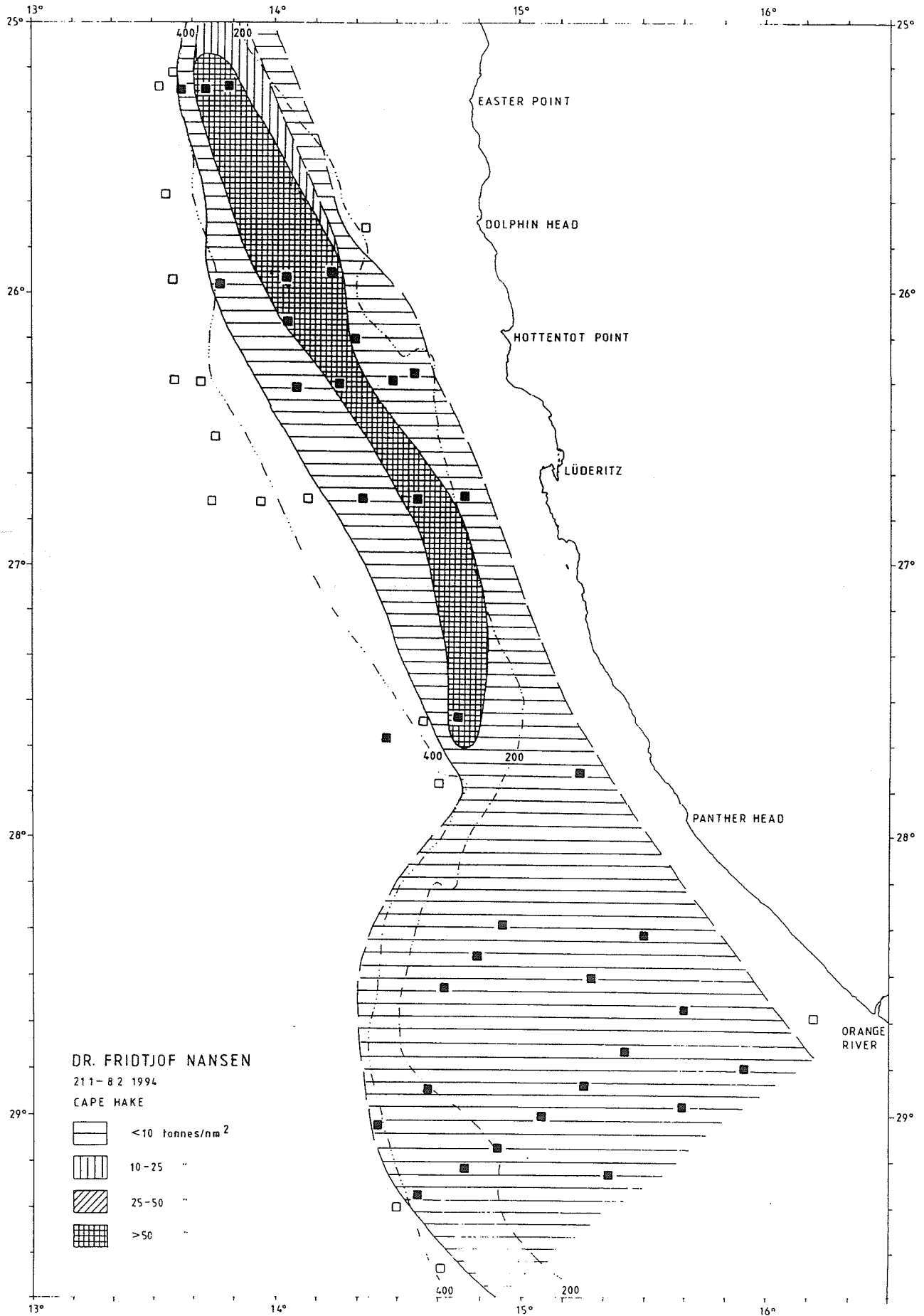


Figure 6 Orange River to Francis Bay. Distribution of Cape hake. Empty squares indicate stations where Cape hake was not caught.

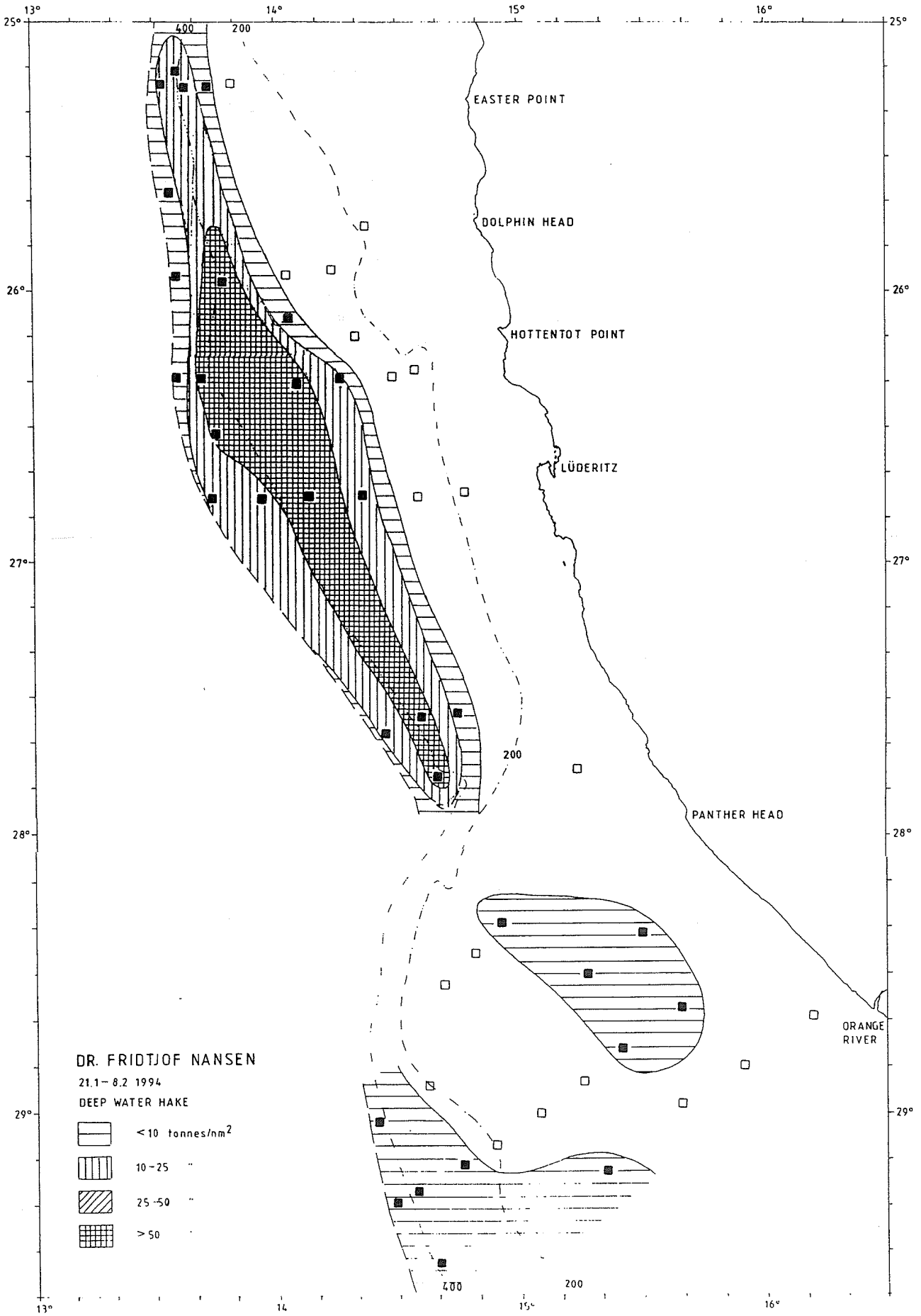


Figure 7 Orange River to St. Francis Bay. Distribution of deep water hake. Empty squares indicate stations where deep water hake was not caught.

The size compositions of the Cape hake from pooled samples weighted by catch rates are shown for each region by depth ranges in Annex I. There is as usual an increase of size with depth. A cohort analysis on the length distribution was performed in the same way as during surveys 2/92 and 2/93. The results are shown in Table 5 and a graphical representation in Annex II.

Table 5 Southern Region. Cape hake. Estimated age-cohorts from optimized length distributions.					
Year class	Mean length	Sigma	Fraction of all fish	Population million N	Biomass 1 000 t
1992	24.7	2.35	0.45	340	34
1991	30.5	3.20	0.40	310	60
1990	40.0	3.50	0.08	67	27
older			0.07	53	79

The dominating cohorts are the 1992 and 1991 yearclasses which is estimated to 85% of the total number of fish and a biomass of 94 000 tonnes. The fishable part of the cape hake in the region constitutes 138 mill. fish with a biomass of 112 000 tonnes. Since survey 2/93 the fishable biomass has increased with 48 mill. fish and about 18 thousand tonnes. The mean body weight has decreased from 1.04 kg to 0.81 kg, indicating recruitment of young fish into the fishable part of the stock.

The size composition of the deep water hake is shown in Annex I.

Results from a length based cohort analysis on the deep water hake is shown in Table 6. The non-fishable part of the stock in the region is estimated to 331 mill. fish with a biomass of 46 thousand tonnes, and 190 mill. fish with a biomass of 114 thousand tonnes constitutes the fishable biomass. This is a slight increase compared to survey 2/93 (168 mill. fish and 95 000 tonnes).

Year class	Mean length	Sigma	Fraction of all fish	Population million N	Biomass 1 000 t
1992	25.4	3.1	0.47	246	27
1991	33.5	3.2	0.22	113	29
1990	40.0	3.2	0.14	74	31
1989	49.2	3.5	0.16	82	65
older			0.01	6	9

3.3 CENTRAL REGION, ST. FRANCIS BAY TO AMBROSE BAY

Table 7 shows the catch composition for the shelf and the slope by main groups. The mean catch rates for hake are about the same as those obtained in the April-May survey 1993 while the catchrates for monk has increased about two times in the more shallow depth range, and 13 times in the deeper.

Table 7 Central Region. Catch rates by main groups in swept area bottom trawl hauls, kg/hour.

SHELF 100-259m

ST.NO.	DEP.	Hakes	Monk	Kingklip	Soles	Squid	Other
54	243	986.7	134.5		11.4	9.2	2685.6
55	202	191.9					3.7
56	208	5403.9	3.3		3.7		188.3
65	232	1486.6	68.0		3.3		150.6
66	206	2662.2	8.6		3.4		211.7
67	157	6.6					
68	142						
69	155	188.8					3.0
70	193	999.8	33.0		4.6		216.5
71	236	2585.1	28.7	0.9			8747.3
76	123	1.8					9.2
78	144	38.3					1259.5
79	148	535.8					24.3
86	245	1188.9	0.7		4.9		29.1
87	211	612.7					247.5
88	161	246.7					273.6
89	172	3430.6					100.8
90	235	2470.2	0.5		17.7		65.3
102	158	1069.0				7.7	4697.8
103	123	265.1					104.7
104	120	4.0					64.4
MEAN		1160.7	13.2	0.04	2.3	0.8	908.7

SLOPE 260-650m

ST.NO.	DEP.	Hakes	Monk	Kingklip	Soles	Squid	Other
53	430	235.6	40.1	17.2			735.4
57	319	625.5	97.0			11.9	340.7
58	376	933.8	106.8	19.0		5.9	786.1
59	397	1344.7	36.4	11.8			359.2
60	352	60.3	34.9	32.3		39.4	460.0
61	430	441.2	19.3	6.9		52.2	698.0
62	294	178.6	33.1			13.1	395.8
63	287	300.3	59.8				348.5
64	261	563.5	105.5				266.5
72	312	504.7	12.6			18.0	331.6
73	417	212.4	20.1			27.0	484.7
74	378	159.0	60.4	6.2		8.3	451.5
75	357	177.3	57.9	6.8		25.1	342.2
80	269	386.7	37.3	0.7		0.8	183.3
81	322	95.4	17.5			5.3	168.6
83	350	187.1	5.0	13.7		5.3	379.8
84	291	542.1	48.9			9.5	191.1
85	269	629.0	29.3	0.4	7.9		782.7
91	291	262.3	49.3	0.6	13.7		341.6
92	335	643.1	27.1	3.2		12.3	235.4
93	379	201.2	22.9	8.9		39.4	816.8
94	503	428.8	3.2			57.7	504.3
95	623	273.4	7.9			5.7	753.0
96	544	156.8	21.5			27.2	928.3
97	441	468.6	121.8				1152.6
98	346	75.6	58.2	3.2		0.2	184.5
99	306	251.1	113.2		36.6	6.1	582.4
100	287	178.6	8.8	0.1	50.2		230.3
109	447	440.2	38.8				952.5
110	640	38.4	19.7			16.2	291.8
MEAN		366.5	43.8	4.4	3.6	12.9	489.3

The density indices by depth ranges of the two hake species are shown in Table 8. For the Cape hake the density is about the same as in survey 2/93 for the depth ranges 100-250m and 250-350m. In the depth range 350-450m the estimated density has dropped to about 30% of the previous level. The density index on the deep water hake has on the other hand increased in the same period. This increase is centered to the depth regions 350-450 and 450-550m.

	100-250m	250-350m	350-450m	450-550m	550-650m
Cape hake					
Density	33.0	10.7	1.3		
Catch rate	990	320	40		
Deep w. hake					
Density		0.6	11.7	12.6	6.1
Catch rate		17	350	380	180
No. of hauls	21	15	11	3	2

The biomass estimate of Cape hake for the central region based on post stratification is 225 thousand tonnes, Table 9. This represents a reduction of 55 thousand tonnes or 20% since survey 2/93. The estimate on the deep water hake is 30 thousand tonnes, a 50% increase from 20 thousand tonnes since survey 2/93.

The 95% confidence limits on the estimates are $\pm 31\%$ on the Cape hake and $\pm 36\%$ on the deep water hake.

Table 9 Central Region. Estimates of total biomass by surveys, 1 000 tonnes.		
Year/Survey	Cape hake	Deep water hake
90/1	180	4
90/3	219	6
91/1	150	6
91/2	302	13
92/1	261	15
92/2	542	15
93/1	280	12
93/2	280	20
94/1	225	30

Figure 8 shows the distribution of Cape hake over this region. This has the same main features as in previous surveys, with high concentrations of fish forming bands 10-15 nm thick, their depth position varying between surveys. In survey 1/93 the high concentrations were found from about 20nm off Walvis Bay, while in survey 2/93 it was about 30nm further offshore, as in the present survey.

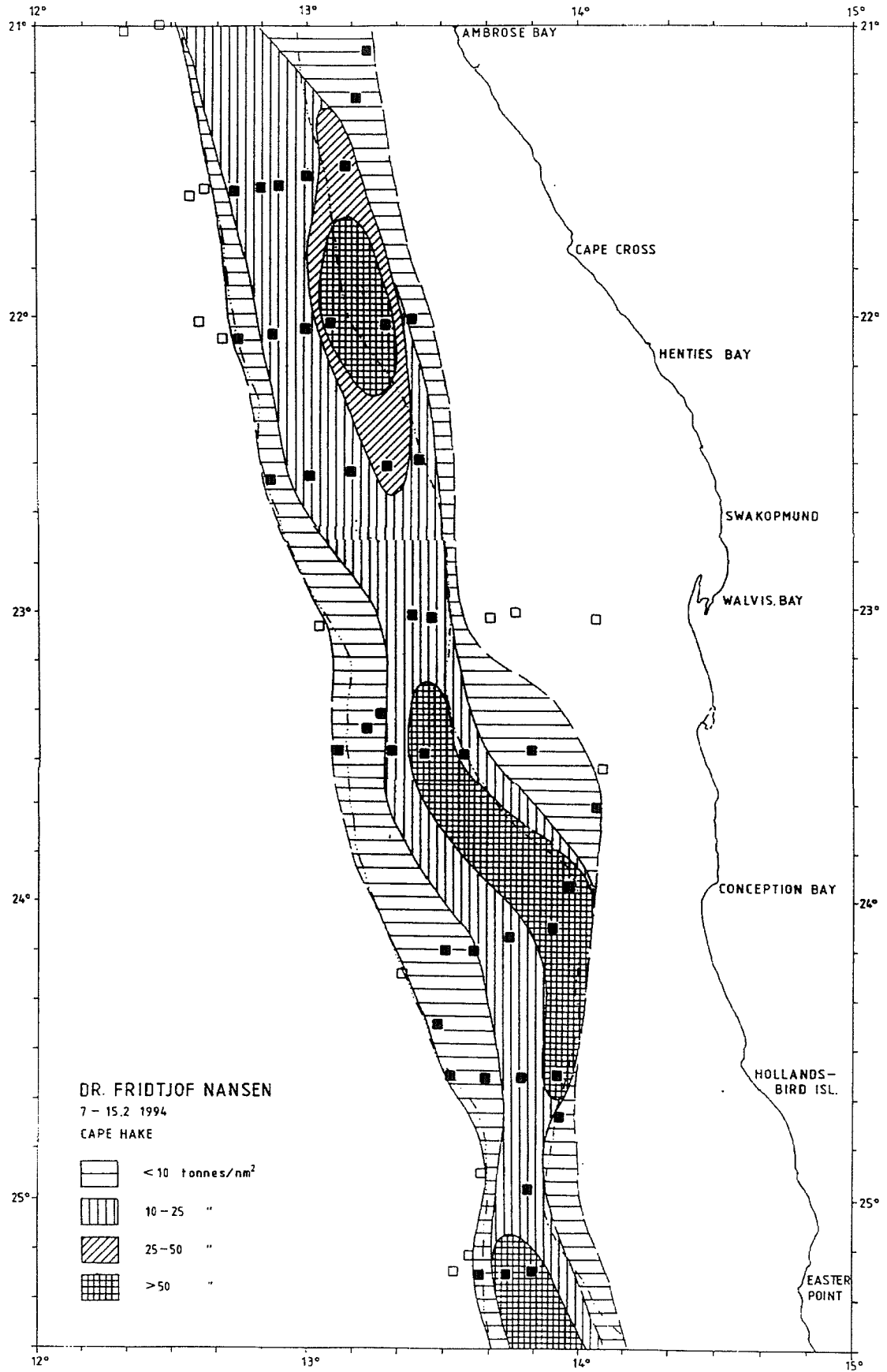


Figure 8 St. Francis Bay to Ambrose Bay. Distribution of Cape hake. Empty squares indicate stations where Cape hake was not caught.

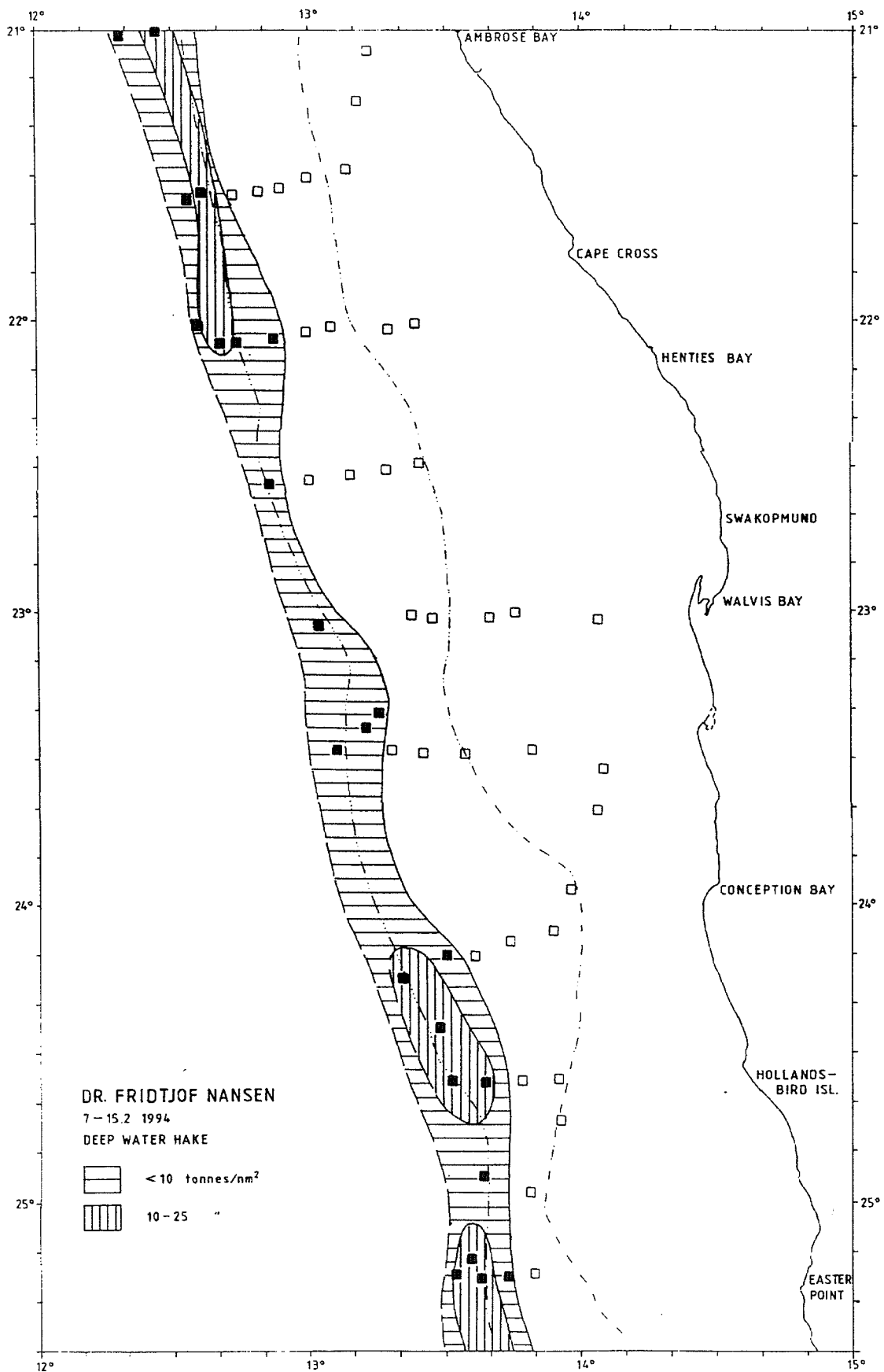


Figure 9 St. Francis Bay to Ambrose Bay. Distribution of deep water hake. Empty squares indicate stations where deep water hake was not caught.

The results from a length frequency analysis of the length distribution are shown in Table 10.

Table 10 Central Region. Cape hake. Estimated age-cohorts from optimized length distributions.					
Year class	Mean length	Sigma	Fraction of all fish	Population million N	Biomass 1 000 t
1992	22.2	2.1	0.85	1882	137
1991?	26.5	2.0	0.115	254	31
older			0.035	75	57

The 1992 yearclass dominates the fish population with 85% of the number of fish, followed by a less clearly identified 1991 yearclass with about 12%. The fishable part of the population is 46 mill. fish and 50 000 tonnes, a reduction from 95 mill. fish and 118 000 tonnes in May 1993. The mean body weight in the fishable biomass has in the same period been reduced from 1.25 kg to 1.12 kg. The non-fishable biomass is estimated to 2212 mill. fish with a biomass of 174 000 tonnes, indicating a recruitment potential to the fishable biomass above normal.

Results from the length frequency analysis for the deep water hake is shown in Table 11. In this population the non-fishable biomass makes up only 33% of the number of fish while the remaining 67% are fish of size bigger than 35cm and are estimated to 47 mill. fish and 26 000 tonnes.

Table 11 Central Region. Deep water hake. Estimated age-cohorts from optimized length distributions.					
Year class	Mean length	Sigma	Fraction of all fish	Population million N	Biomass 1 000 t
1992	25.7	2.2	0.18	13	1.4
1991	31.9	2.0	0.08	6	1.2
1990	40.0	3.7	0.55	38	16.0
1989	50.5	3.2	0.183	12	10.0
older			0.008	0.6	0.9

3.4 NORTHERN REGION, AMBROSE BAY TO CUNENE RIVER

Table 12 shows the catch rates by main groups for the shelf and slope separately. The mean rate for hake has increased by approximately 25% in the shallower zone compared to survey 2/93 while in the deeper zone is practically the same. As in the other regions the catch rates for monk are consistently higher in this survey as compared with previous ones. This is probably due to the new gear taken in use.

Table 12 Northern Region. Catch rates by main groups in swept area bottom trawl hauls, kg/hour.

SHELF 100-259 m

ST.NO.	DEP.	Hakes	Monk	Dentex	Horse mck.	Squid	Other
105	156	155.9					355.1
116	126	89.2			0.4		0.3
117	111	2.9			2.7		0.8
118	116	9.0			1.0		3.5
119	132	12.7			22.8		5.9
120	192	19.0					1.3
121	235	54.6		3.0	5.8		
132	135	139.8					38.8
133	230	48.8		0.4	294.6		0.2
142	230	1190.4		572.8	1493.6		90.0
143	181	440.8		1688.2	2346.6		176.3
144	148	66.2		2534.8	2741.2		107.5
145	239	189.1		580.8	2191.8		417.1
150	208	72.9		60.0	397.8	0.4	103.5
152	217	2880.0		213.6	4033.5		4234.2
MEAN		358.1		376.9	902.1	0.03	369.0

SLOPE 260-600 m

ST.NO.	DEP.	Hakes	Monk	Dentex	Horse mck.	Squid	Other
106	275	241.7	0.6	81.7	5.6	1.7	113.6
107	326	298.8	105.5		6.0	4.2	254.6
108	369	1167.3	63.1			48.6	195.5
111	541	121.7	131.2				2187.5
112	405	187.7	137.4				1431.1
113	413	209.0	52.6				2351.5
114	300	263.6	64.2	117.8	7.6		931.6
115	279	205.6			7.3		252.5
123	334	151.5	198.7	32.4	3.6	6.3	625.0
124	441	565.1	60.0			48.3	777.4
125	573	394.1	10.2				1496.3
126	595	451.4	10.7			44.6	1768.5
127	548	233.6	3.7				982.4
128	394	1579.8	73.4			18.2	942.4
129	345	414.0	23.1	142.0	9.7	60.5	804.4
130	324	49.6	18.6	10.3		13.8	89.2
134	300	0.9	0.3		8.1		50.2
135	272	91.7	1.4		9.1		64.7
136	296	47.8	0.7	574.0			432.0
137	431	148.6	18.0				418.6
138	599	424.4	39.8			57.4	1053.7
139	551	190.3	305.5			85.8	1733.7
140	467	338.2	311.6			36.9	2154.6
141	297	328.8		415.0	11.0	0.7	126.2
146	366	3111.0	20.7				3854.6
147	557	170.0	89.6				2624.5
148	511	155.3	173.7			41.1	2524.5
149	275	219.2		19.7	5.2	2.1	111.5
151	379	107.4	38.3				1008.2
MEAN		409.2	67.3	48.0	2.5	16.2	1081.4

Figure 10 shows the distribution of Cape hake in the northern region by levels of density calculated from the catch rates and with adjustments for fish in mid-water. The pattern of distribution is similar to that found previously in this region, with concentrations of high density in deeper waters extending northwards and gradually more shallow to the Cunene River.

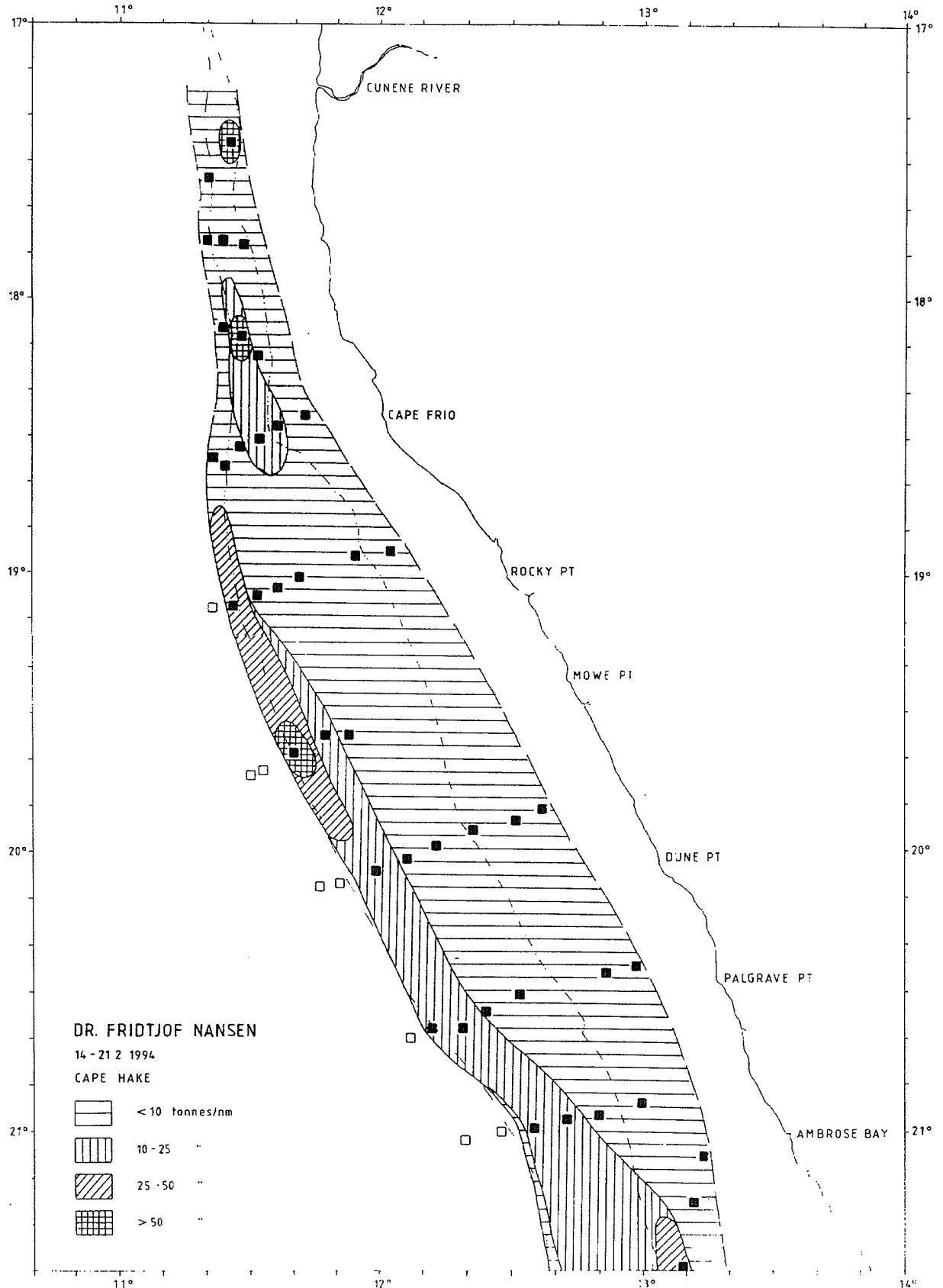


Figure 10 Ambrose Bay to Cunene River. Distribution of Cape hake. Empty squares indicate stations where deep water hake were not caught.

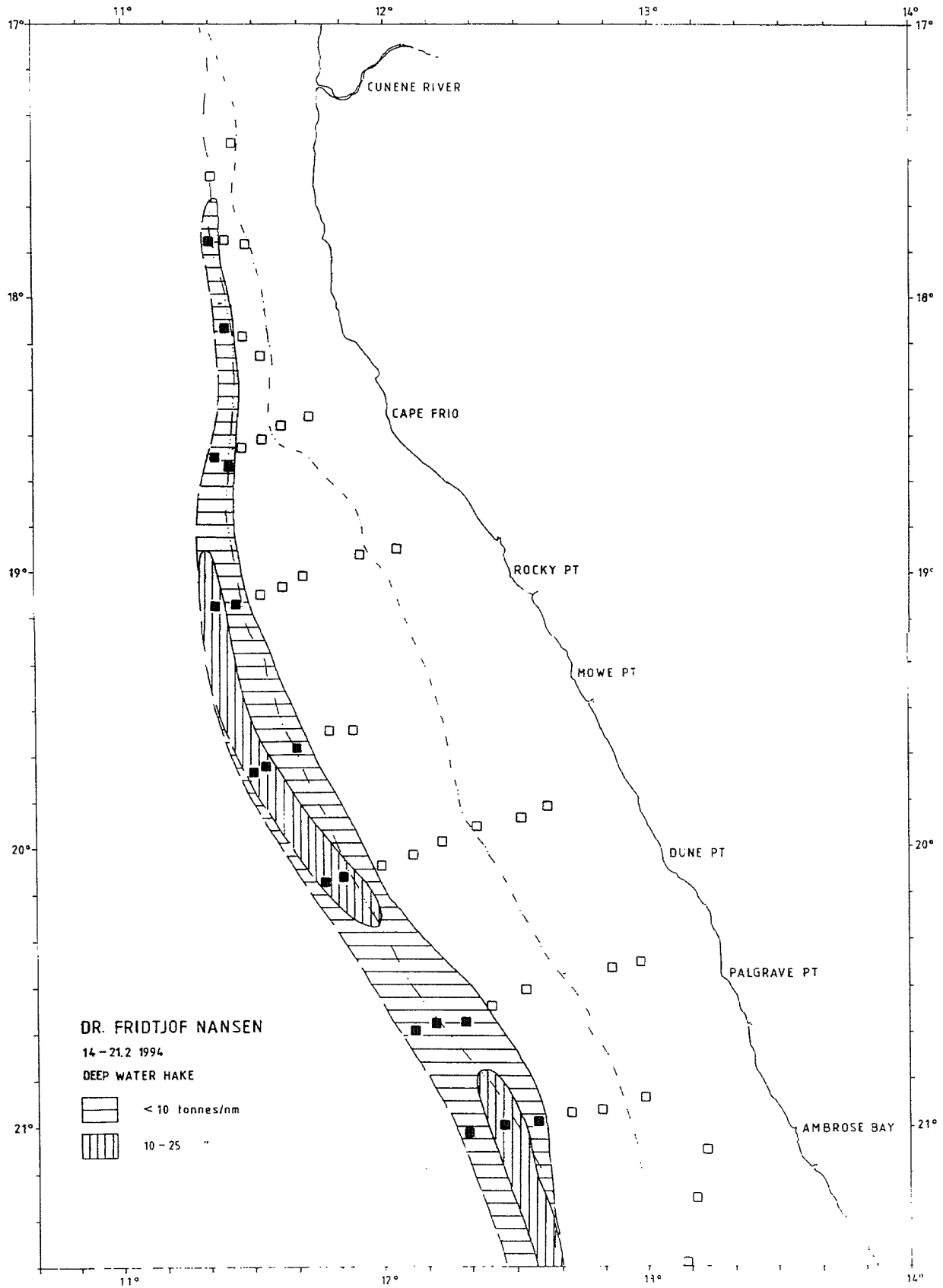


Figure 11 Ambrose Bay to Cunene River. Distribution of deep water hake. Empty squares indicate stations where deep water hake was not caught.

Biomass estimates give a total of 90 000 tonnes $\pm 36\%$ (95% confidence interval) of Cape hake and 20 000 tonnes of deep water hake $\pm 36\%$. (Table 14). For the Cape hake this represents a decline of 20 000 tonnes since the last survey and the biomass figures generally indicate a declining trend in the biomass since January 1993. The deep-water hake on the other hand shows an increase from 6 to 20 thousand tonnes. Part of this increase can be explained by the better monitoring of the actual time the trawl is on bottom in the deeper waters. Experiments with SCANMAR sensors have shown the sinking time for the gear to be longer in deeper waters than estimated in the past. This has in the past caused that the actual time the trawl has been on the bottom has been overestimated, giving a negative bias in estimates from the deeper waters beyond 500m.

	100-250m	250-350m	350-450m	450-550m	550-650m
Cape hake					
Density	12.4	6.3	24.0	2.3	1.0
Catch rate	370	190	720	70	30
Deep w. hake					
Density			3.4	4.1	9.5
Catch rate			100	120	290
No. of hauls	15	12	8	4	5

The results of a length frequency analysis done on the pooled length frequency distribution on Cape hake in the northern region are shown Table 15. The young part of the population with fish three years and younger makes up 70% of the number of fish, or 150 million fish with a biomass of 25 thousand tonnes. The so called 'fishable biomass', representing fish of 36cm and larger, constitutes 91 mill. fish with a biomass of 74 000 tonnes.

Year/Survey	Cape hake	Deep water hake
90/1	180	
90/3	105 *	
91/1	200	
91/2	140	2
92/1	185	4
92/2	190	8
93/1	150	4
93/2	110	6
94/1	90	20

* + hake in the mid-water.

Table 15 Northern Region. Cape hake. Estimated age-cohorts from optimized length distributions.					
Year class	Mean length	Sigma	Fraction of all fish	Population million N	Biomass 1 000 t
Juv.			0.07		
1992	24.8	2.2	0.3	74	7
1991	32.5	3.5	0.32	77	18
1990	39.5	3.5	0.045	12	5
1989	48.0	3.8	0.18	44	32
1988			0.085	22	30

A similar analysis on deep water hake, Table 16, showed that only 11%, or 3.5 million fish with a biomass of 900 tonnes, is young fish of age 3 years or less. The fishable biomass is 19 000 tonnes.

Table 16 Northern Region. Deep water hake. Estimated age-cohorts from optimized length distributions.					
Year class	Mean length	Sigma	Fraction of all fish	Population million N	Biomass 1 000 t
1991	33.7	2.5	0.11	3.5	0.9
1990	40.3	2.5	0.35	11	5.0
1989	50.4	3.5	0.536	17	14.0
			0.004	0.03	0.1

4 CONSIDERATIONS ON THE SURVEY RESULTS

The present survey is the 9th in a series started in early 1990 , covering the distribution of the hake stocks over the whole Namibian shelf. Table 17 shows the effort spent in these investigations. Due to technical problems, the effort in the last survey was reduced, about 25% lower than in the previous survey. The reduced effort will also give a reduced precision in the biomass estimates.

Survey		Orange R.- St. Francis Bay	St. Francis Bay- Ambrose Bay	Ambrose Bay- Cunene River	Total
1/1990 25.1- 10.3	No. stations	59	73	37	169
	No. samples	37	73	25	114
	No. measured	6.0	10.7	2.6	18.6
3/1990 11.9- 6.10	No. stations	44	51	34	129
	No. samples	68	106	77	251
	No. measured	9.3	10.3	5.6	25.2
1/1991 25.1- 28.2	No. stations	41	77	56	174
	No. samples	104	170	114	388
	No. measured	6.8	13.3	6.9	27.0
2/1991 23.10- 21.11	No. stations	52	69	49	170
	No. samples	110	132	110	352
	No. measured	7.1	14.3	9.6	31.0
1/1992 23.4- 21.5	No. stations	57	60	47	164
	No. samples	136	141	102	379
	No. measured	9.0	11.2	8.2	28.4
2/1992 20.10- 1.12	No. stations	64	78	50	192
	No. samples	188	169	143	500
	No. measured	13.1	13.4	7.8	34.3
1/1993 20.1- 25.2	No. stations	72	56	56	184
	No. samples	197	162	118	477
	No. measured	12.7	11.9	7.6	32.2
2/1993 22.4- 25.5	No. stations	61	78	69	208
	No. samples	173	202	163	538
	No. measured	10.8	13.9	10.2	34.9
1/1994 19.1- 21.2	No. stations	52	54	46	152
	No. samples	146	165	112	423
	No. measured	9.5	11.1	7.4	28.0

The mid-water behaviour of the hake has caused problems for several of the trawl surveys in the past. Improved acoustic technology has made it possible to establish a technique that can reduce the effect of this behaviour on the estimates. In the last three surveys the pelagic behaviour is believed to have caused some underestimate in the biomass, especially in the Northern Region.

A summary of the estimates of the mean density of the hakes by depth strata is shown in Table 18. The difference in the depth distribution between the two species is clearly demonstrated. For the Cape hake, the densities in the shallow range 100-250m mainly reflects the strength of the young recruits 2-3 years of age that occupy this zone. These densities are consistent with previous surveys, with exception for survey 2/92, when extreme high densities were recorded in the Central Region. The densities in the deeper zones mainly reflect the state of the fishable part of the hake stock. The reduction in the densities at all depths beyond 250m in the Central Region should be given particular attention.

Table 19 shows a summary of the biomass estimates for the two stocks of hakes by regions and surveys. The total country estimates of the fishable biomass and recruits have also been summarized graphically in Figure 12. A worrying feature is the persistent declining trend in the fishable biomass of the Cape hake over the last year. This reduction is located in the Central and Northern Regions, while in the Southern Region the level is the same as in the two previous surveys (Table 19).

The deep-water hake do not show remarkable changes, except for an increase in this survey that can be ascribed to seasonal variability and to the better precision of measuring the effective trawling time in deep water hauls.

As mentioned above some caution should be applied when interpreting the biomass estimates on the Cape hake. The reduced effort in the last survey may give a reduced precision. Furthermore, although the pelagic phase of the Cape hake in the north and Central regions has been estimated acoustically, there might still be a bias towards underestimation. However, Table 19 and Figure 12 seem to indicate that the major part of the hake quota is harvested on the Cape hake in the Central and Northern regions, while the deep water hake in Namibia is underutilized together with the Cape hake in the Southern Region. This probable harvest pattern should give reason for concern.

Table 18 Depth distribution of the hake species. Mean densities in tonnes/nm ² .				
	100-250m	250-350m	350-450m	450-550m
SOUTHERN REGION				
Cape hake				
1/90	21.9	4.4		
3/90	11.5	6.1	0.1	
1/91	11.3	8.8	0.9	
2/91	6.3	12.5	0.7	0.7
1/92	12.6	28.4	4.6	
2/92	11.6	12.2	1.1	0.2
1/93	14.2	25.4	7.2	0.3
2/93	11.0	18.2	4.7	
1/94	11.0	49.1	0.5	0.1
Deep water hake				
1/90		1.4	5.0	1.2
3/90	0.1	6.3	1.2	0.4
1/91		4.4	6.0	1.1
2/91	0.3	8.9	14.9	4.9
1/92		8.9	34.8	4.0
2/92	1.7	7.9	23.8	14.2
1/93	0.2	44.2	26.3	10.3
2/93	0.1	5.1	31.5	12.1
1/94	0.1	13.0	37.0	9.6
CENTRAL REGION				
Cape hake				
1/90	27.1	7.4	0.4	
3/90	38.6	8.3	2.5	
1/91	14.5	9.1	2.2	
2/91	34.2	19.0	7.2	1.0
1/92	36.5	14.6	8.5	1.7
2/92	53.6	20.1	10.5	0.8
1/93	34.1	9.5	8.9	0.3
2/93	34.4	23.8	4.6	0.6
1/94	33.0	10.7	1.3	
Deep water hake				
1/90			1.6	1.4
3/90	0.2	0.4	0.9	0.9
1/91	0.2	0.1	0.8	
2/91		0.3	5.3	5.6
1/92		1.3	6.8	1.6
2/92		0.3	3.1	4.1
1/93		0.3	2.8	4.3
2/93		0.6	4.6	6.0
1/94		0.6	11.7	12.6
NORTHERN REGION				
Cape hake				
1/90	41.3	20.9	1.0	
3/90	25.9	15.1		
1/91	15.0	27.0	11.5	
2/91	13.6	23.5	24.3	4.3
1/92	25.4	26.1	15.5	
2/92	29.6	18.6	17.6	
1/93	13.7	23.2	14.7	2.8
2/93	9.3	16.5	12.8	2.3
1/94	12.4	6.3	24.0	2.3

Table 17 Summary of total and fishable biomass estimates for the two hake species by surveys and areas. 1000 tonnes.									
TOTAL BIOMASS									
	Feb-Mar 1990	Sep-Oct 1990	Jan-Feb 1991	Oct-Nov 1991	Apr-May 1992	Oct-Nov 1992	Jan-Feb 1993	Apr-May 1993	Jan-Feb 1994
SOUTH REGION									
Cape hake	130	130	126	80	200	160	210	180	200
Deep water hake	22	25	31	83	145	125	150	115	160
CENTR. REGION									
Cape hake	180	219	150	302	261	542	280	280	225
Deep water hake	4	6	6	13	15	15	12	20	30
NORTH REGION									
Cape hake	180	105*	200	140	185	190	150	110	92
Deep water hake				2	4	8	4	6	20
TOTAL	516	485*	513	620	810	1040	810	710	737
FISHABLE BIOMASS									
SOUTH REGION									
Cape hake				42	145	75	115	94	112
Deep water hake				42	113	80	123	95	114
CENTR. REGION									
Cape hake				140	85	170	150	118	50
Deep water hake				(13)	15	15	9	16	26
NORTH REGION									
Cape hake				135	143	143	113	88	74
Deep water hake				-	-	-	-	-	19
FISHABLE									
Cape hake	200	270*	280	320	370	390	380	300	240
Deep water hake	20	20*	20	50	130	100	140	120	160
TOTAL FISHABLE	220	290*	300	370	503	490	520	420	400

* Unadjusted underestimate due to fish off the bottom.

Figure 13 shows the development of the relative share of the fishable biomass of Cape hake in the regions for the last three years. The figure demonstrates that the Southern Region, which in October 1991 only represented a 13% share of the biomass, in the last survey had increased to 48%. In the same period the biomass in the Central Region was reduced from 44 to 21% and in the north from 43 to 31%.

For the years 1990-1994 the TAC on the hakes was allocated for the two species combined, and calculated on basis of the estimated fishable biomass of the two species. If the TAC is close to the surplus production of the two species and the catch is harvested on one species only, an overexploitation on this species and an underexploitation of the other is the obvious result.

In the previous cruise report, from the survey in May 1992, concern was expressed about the culmination in the development of the fishable biomass on the Cape hake. It was recommended

to investigate the development on the CPUE in the fisheries in the same period to see if the same pattern could be confirmed from these data. These results are unfortunately not yet available. It is strongly recommended that such work is given a high priority.

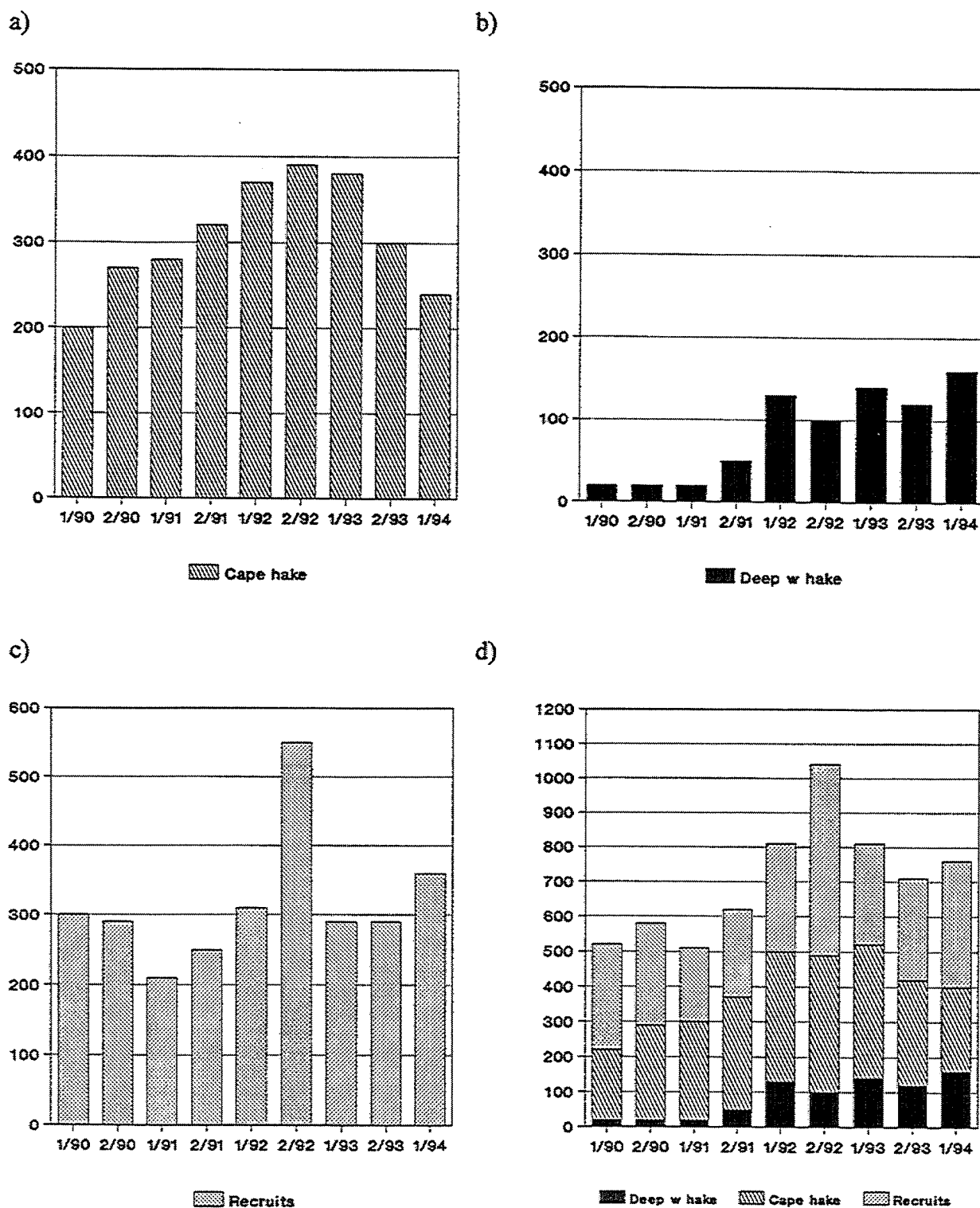


Figure 12 Trends in biomass estimates: a) Cape hake, 'fishable stock', b) deep water hake, 'fishable' stock, c) recruits ('non-fishable' biomass) and d) total hake in Namibia. Thousand tonnes.

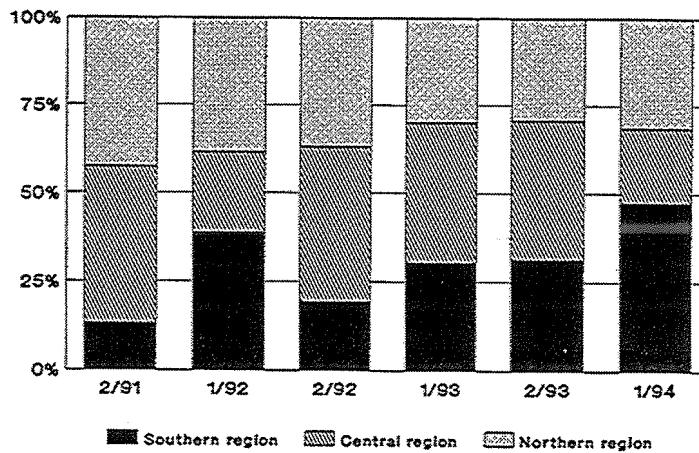


Figure 13 Relative regional share of fishable biomass of Cape hake 1991-94.

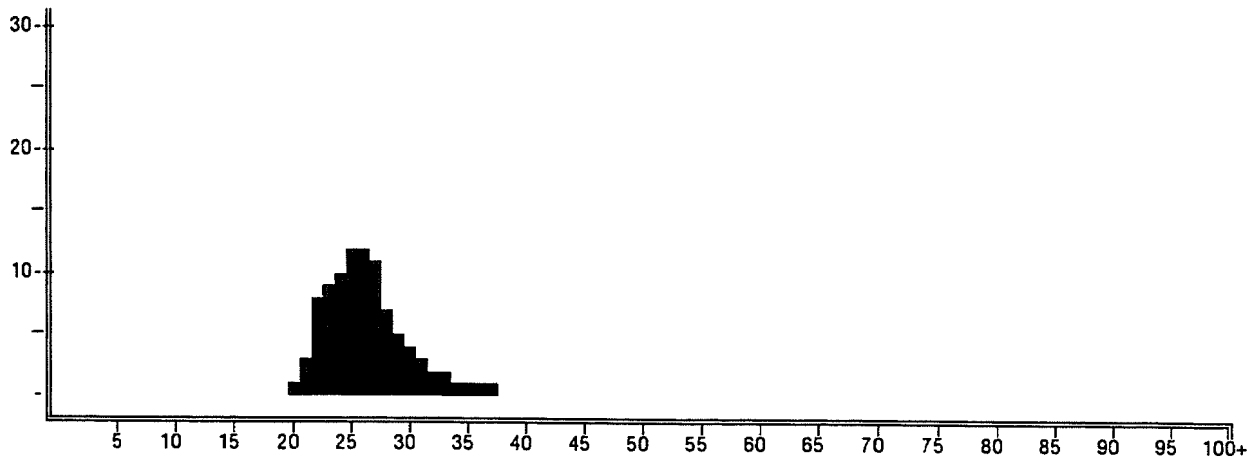
Further conclusions concerning the state of the hake stocks should await the results from CPUE study and confirmation from the forthcoming hake survey in May 1994.

A management practice that will ensure a more balanced harvest of the two hake species is however strongly recommended. Administratively the solution would perhaps be to direct the fisheries by regions. To allow a more selective management we will in this and future reports present the fishable hake biomass by species and regions.

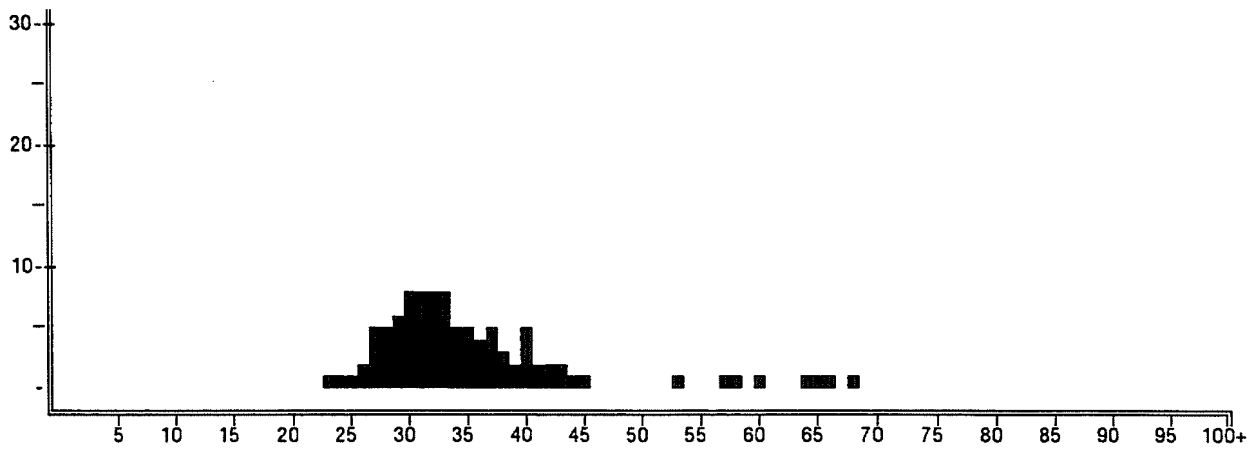
The recruitment to the stock of Cape hake can be estimated from the numerical abundance of the two year old fish. The estimates for the 1992 yearclass based on the current survey data are shown in Table 20 together with previous observations. The 1992 yearclass is close to the level of the 1991 class measured during survey 1/93 after its strong decimation at the end of 1992. A 'normal' recruitment level after two years seems to be around 2 billion fish \pm 200 million (Table 19) and the 1992 yearclass falls within this range.

Yearclass	1988	1989	1990	1990	1991	1991	1991	1992
Southern region	980	100	160	300	990	670	390	250
Central region	1 320	170	1 710	1 620	3 500	1 230	1 370	1 880
Northern region	10	10	20	240	440	270	130	70
Total	2 310	280	1 890	2 160	4 930	2 170	1 890	2 200
Survey/Year	1/90	1/91	2/91	1/92	2/92	1/93	2/93	1/94

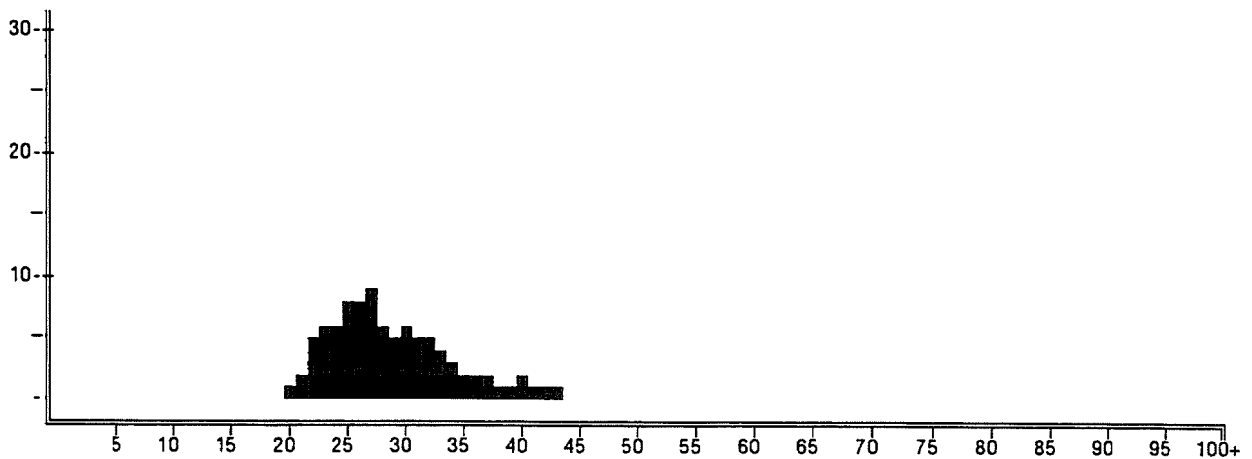
Annex I Size composition of main stocks



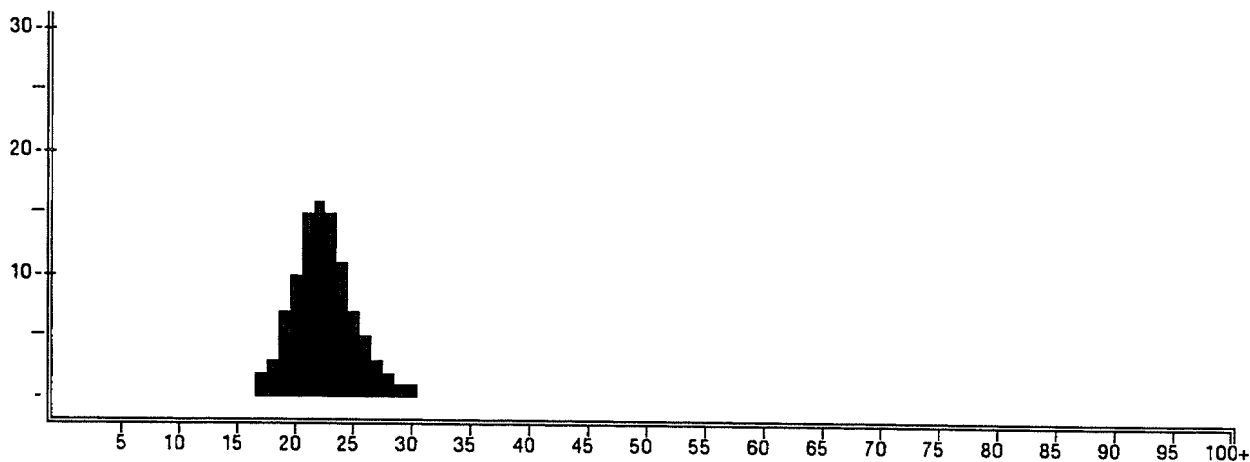
Merluccius capensis
SOUTHERN REGION 50-259m



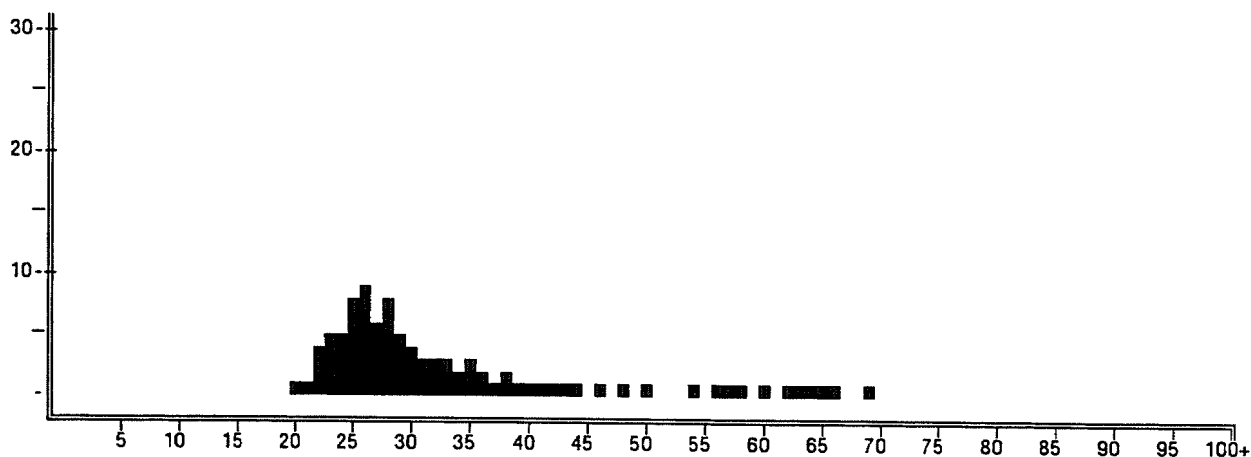
Merluccius capensis
SOUTHERN REGION 260-700m



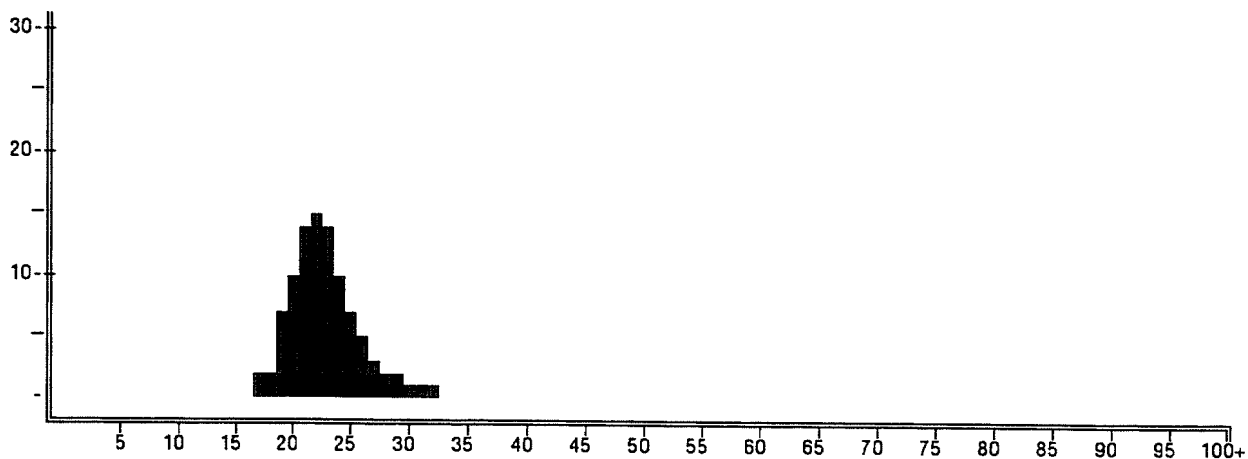
Merluccius capensis
SOUTHERN REGION Total



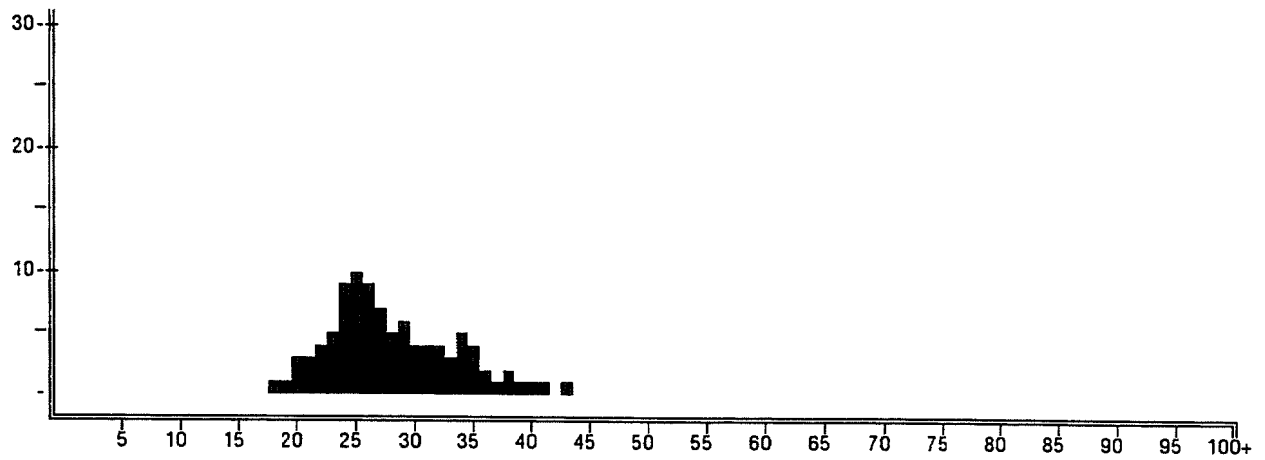
Merluccius capensis
CEBTRAL REGION 100-259m



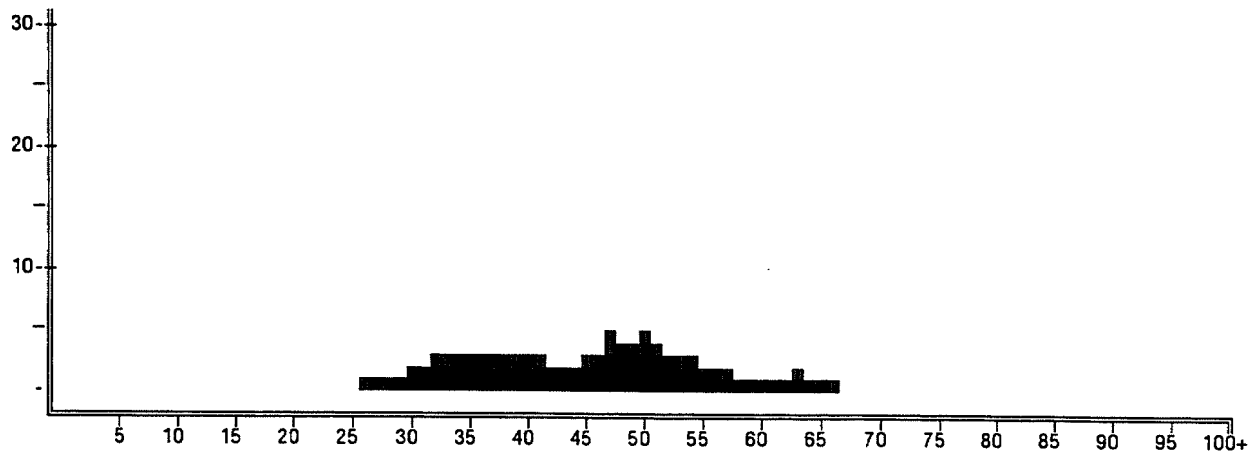
Merluccius capensis
CEBTRAL REGION 260-650m



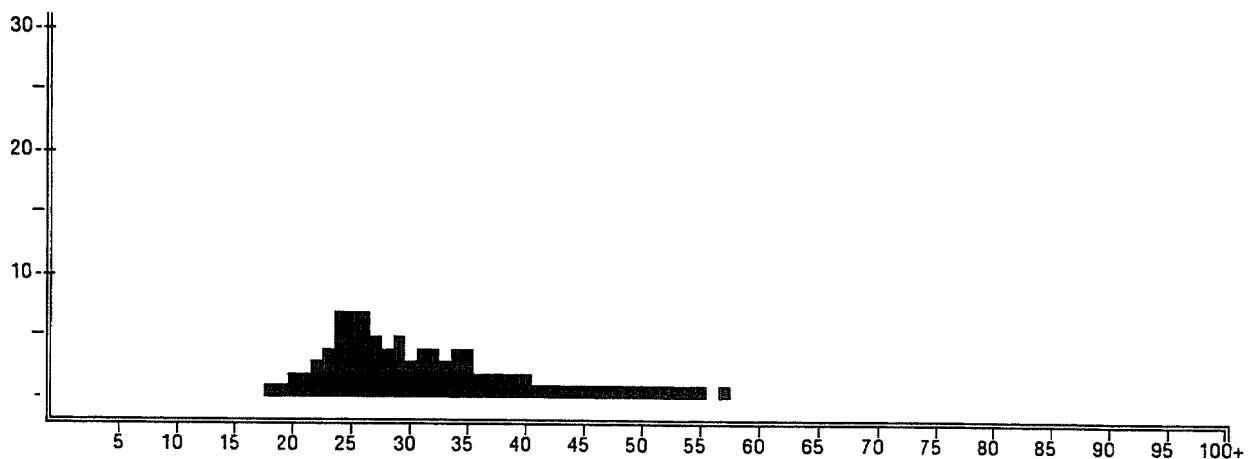
Merluccius capensis
CEBTRAL REGION Total



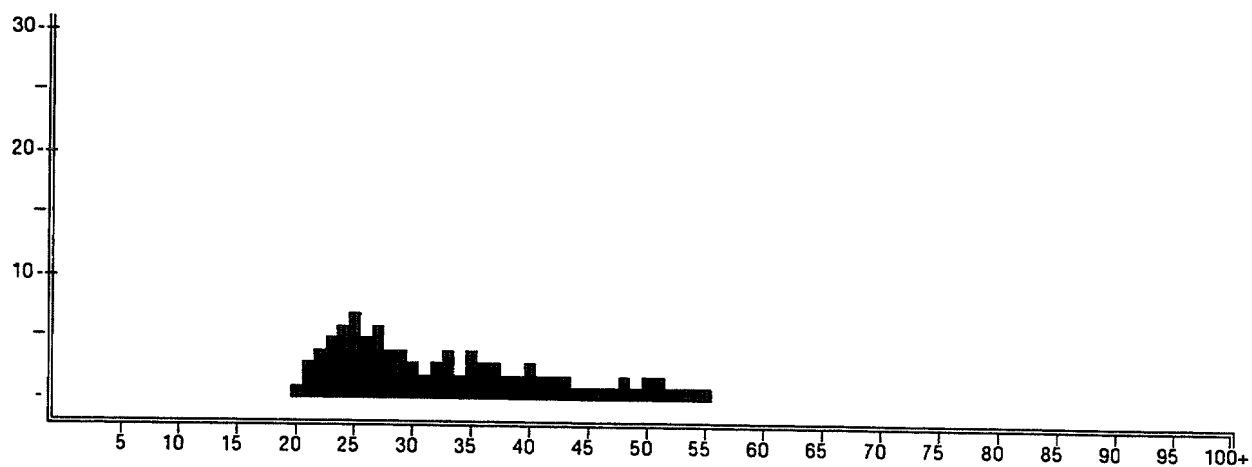
Merluccius capensis
NORTHERN REGION 100-259m



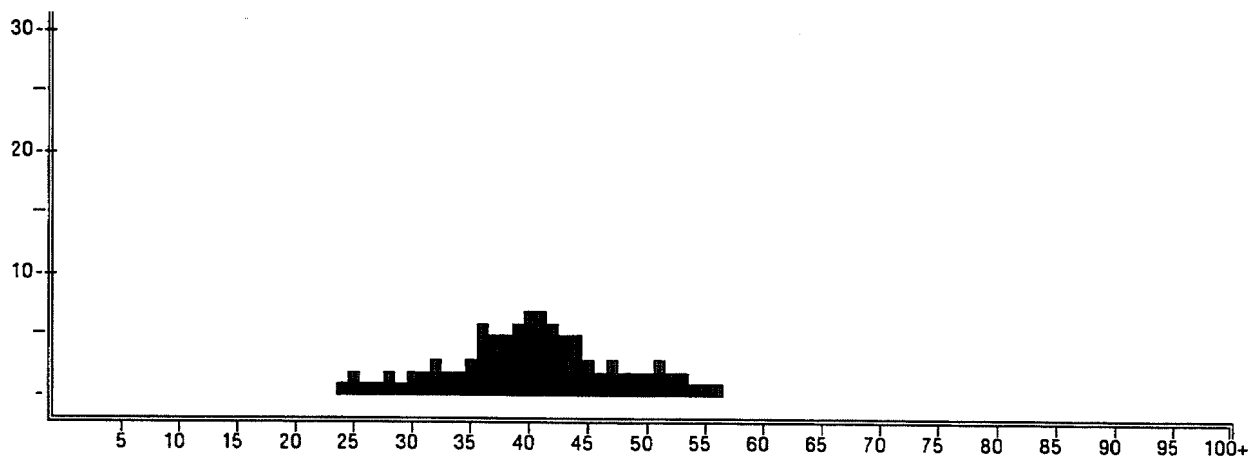
Merluccius capensis
NORTHERN REGION 260-600m



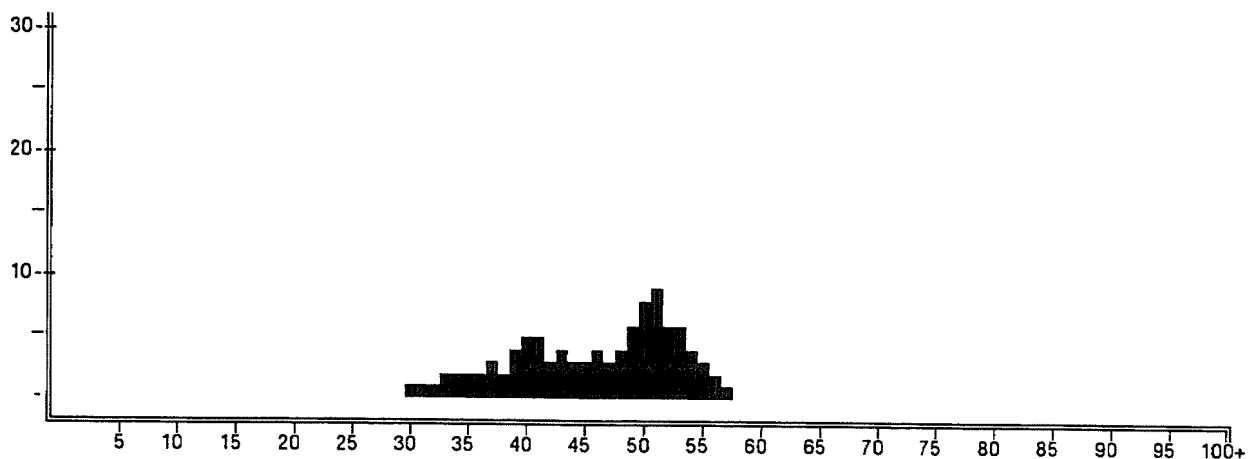
Merluccius capensis
NORTHERN REGION Total



Merluccius paradoxus
SOUTHERN REGION Total



Merluccius paradoxus
CENTRAL REGION Total



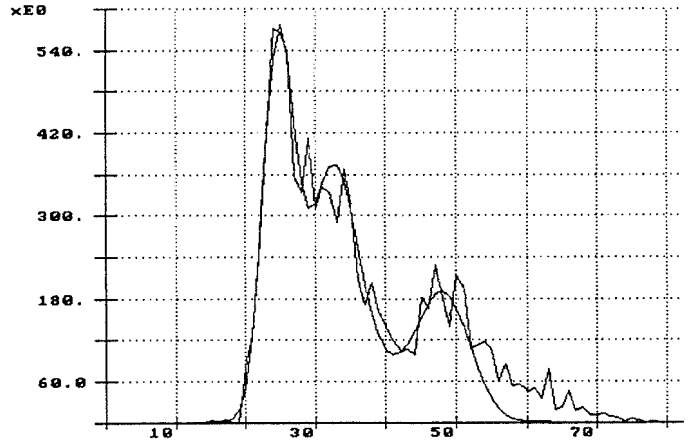
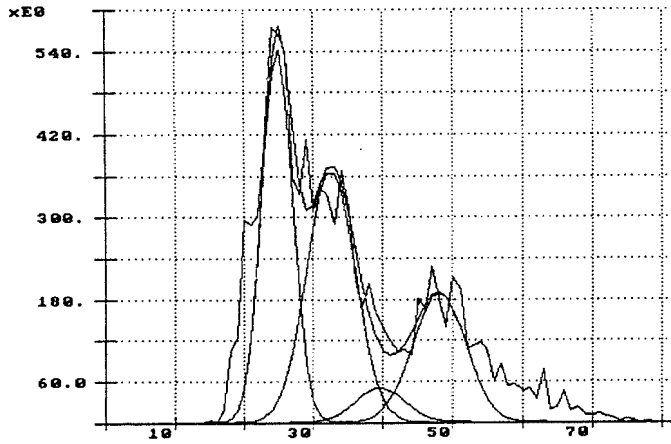
Merluccius paradoxus
NORTHERN REGION Total

ANNEX II

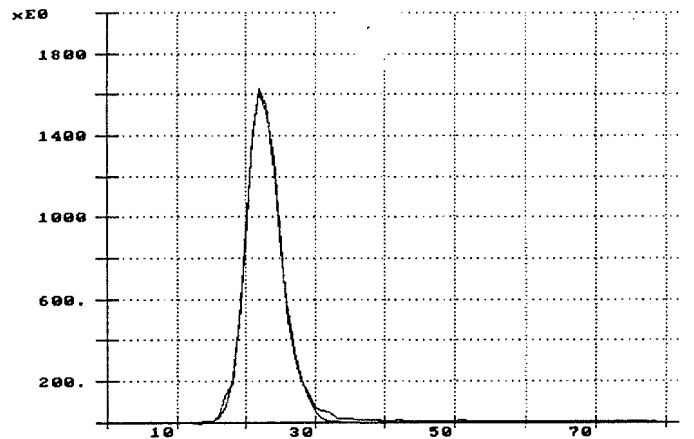
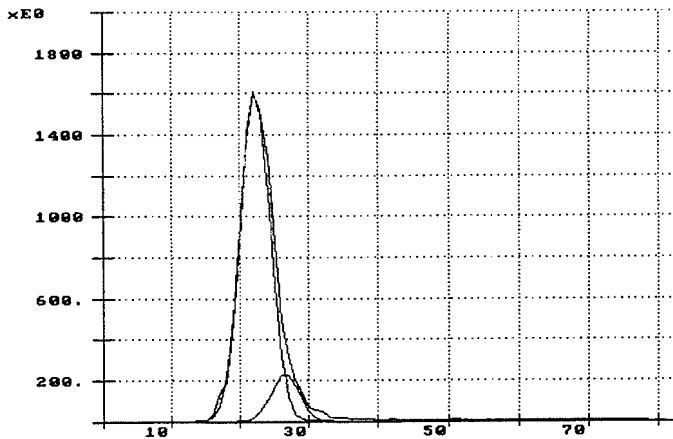
The size composition of the hake stocks split into length cohorts through optimizing techniques.

CAPE HAKE

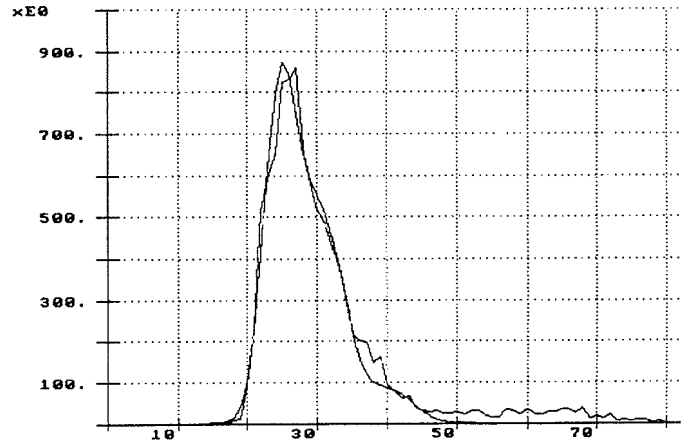
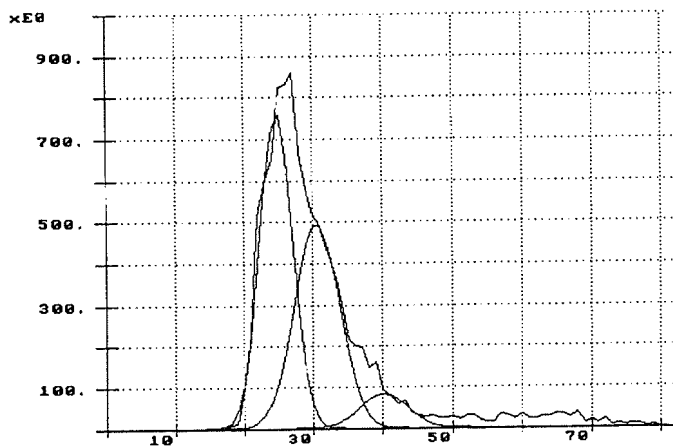
NORTHERN REGION



CENTRAL REGION



SOUTHERN REGION



The length frequency distribution with the estimated cohorts.

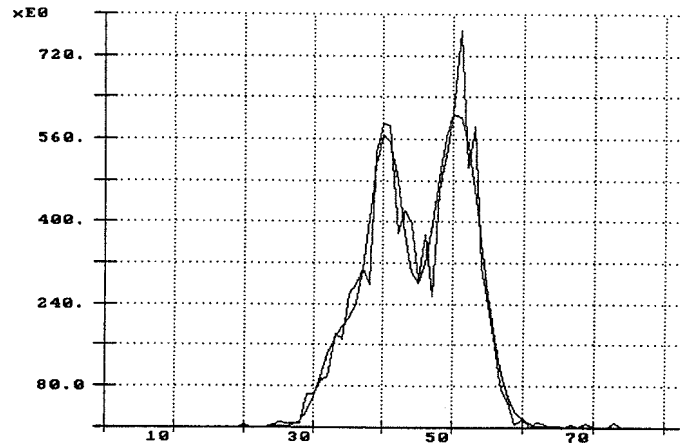
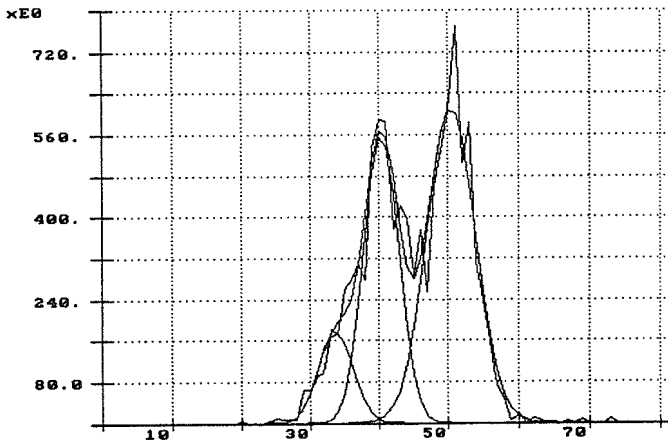
The length frequency distribution with the resultant distribution explained by the estimated cohorts

ANNEX II

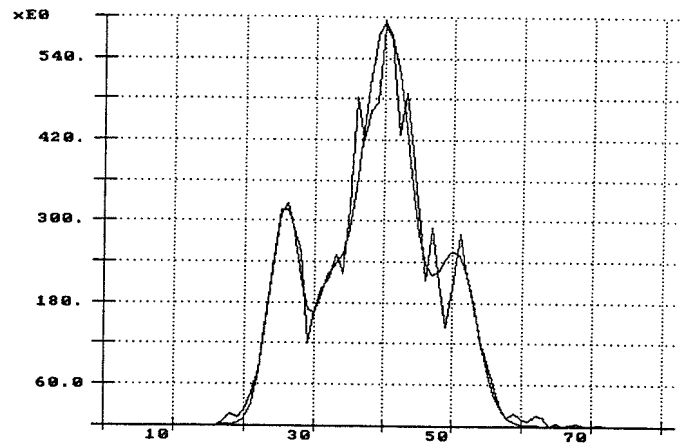
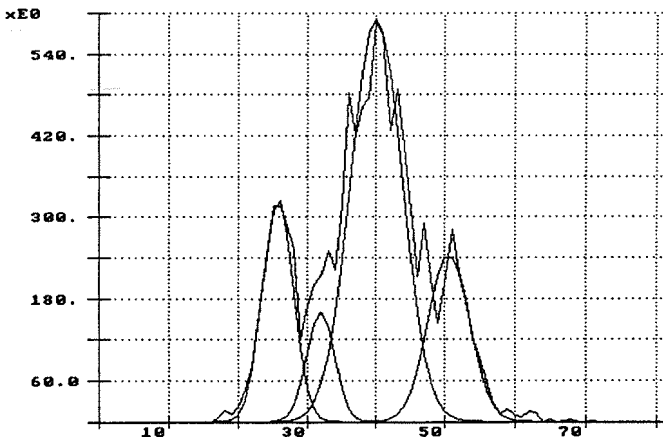
The size composition of the hake stocks split into length cohorts through optimizing techniques.

DEEP WATER HAKE

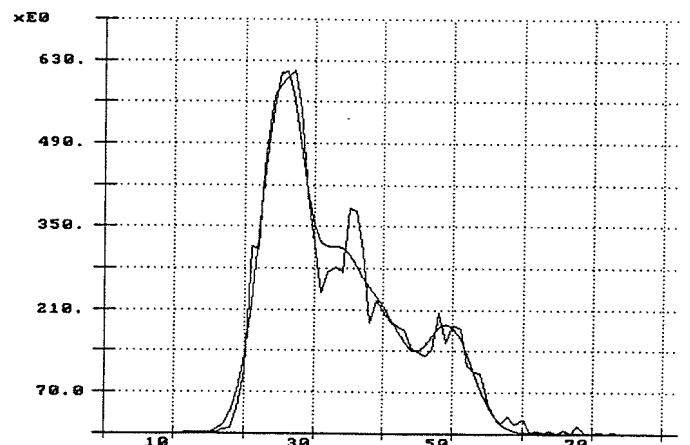
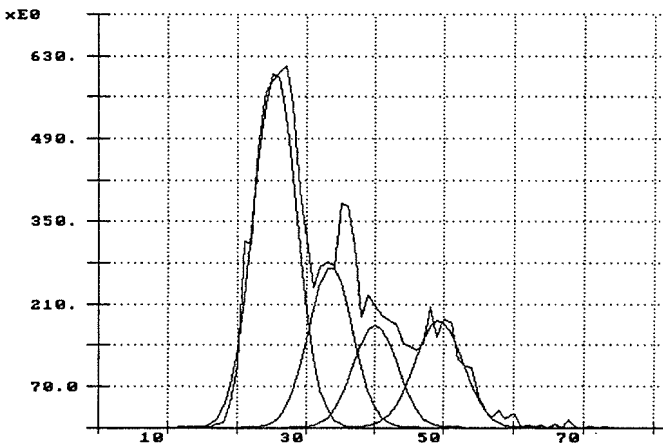
NORTHERN REGION



CENTRAL REGION



SOUTHERN REGION



The length frequency distribution with the estimated cohorts.

The length frequency distribution with the resultant distribution explained by the estimated cohorts

Annex III Records of fishing stations

A 10

PROJECT STATION: 1
 DATE: 21/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2840 Long E 1612
 start stop duration
 TIME :10:20:00 10:50:00 30 (min) Purpose code: 3
 LOG :9856.70 9858.30 1.60 Area code : 1
 FDEPTH: 95 91 GearCond.code:
 BDEPTH: 95 91 Validity code:
 Towing dir: 335° Wire out: 400 m Speed: 33 kn*10
 Sorted: 258 Kg Total catch: 1978.00 CATCH/HOUR: 3956.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, juveniles	1996.00 240958	50.46	3
Callorhynchus capensis	1136.00 1254	33.77	2
Jasus lalandii	240.00 2196	6.07	2
Chelidonichthys capensis	119.60 512	3.02	
Trachurus capensis	108.40 456	2.74	4
RAJIDAE	77.00 28	1.95	
Squilla aculeata calmani	37.40 2940	0.95	
Sepia sp.	14.20 1334	0.36	
Genypterus capensis	13.90 14	0.35	1
Sufflogobius bibarbatatus	5.80 784	0.15	
Lepidopus caudatus	3.42 256	0.09	
Austroglossus microlepis	3.30 10	0.08	
Total	3955.02	99.95	

PROJECT STATION: 4
 DATE: 21/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2912 Long E 1522
 start stop duration
 TIME :19:08:00 19:36:00 28 (min) Purpose code: 3
 LOG :9927.70 9929.20 1.50 Area code : 1
 FDEPTH: 177 180 GearCond.code:
 BDEPTH: 177 180 Validity code:
 Towing dir: 220° Wire out: 650 m Speed: 34 kn*10
 Sorted: 246 Kg Total catch: 1586.74 CATCH/HOUR: 3400.16

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Emmelichthys nitidus	2084.64 3887	61.31	18
Trachurus capensis	424.16 1202	12.47	19
Merluccius capensis, female	163.93 178	4.82	16
Sepia australis	115.84 8059	3.41	
Merluccius paradoxus, juvenile	109.84 4157	3.23	17
Etrumeus whiteheadi	109.29 1314	3.21	20
Helicolenus dactylopterus	78.96 1352	2.32	
Callorhynchus capensis	50.55 69	1.49	
Holohalaelurus regani	47.27 231	1.39	
Cynoglossus capensis	45.49 996	1.34	
Galeorhinus galeus	40.50 2	1.29	
Todaropsis eblanae	29.79 315	0.88	
Lophius vomerinus	29.10 28	0.86	
Chelidonichthys capensis	19.14 56	0.56	
Genypterus capensis	15.02 13	0.44	
Merluccius capensis, male	11.61 28	0.34	15
Paracallionymus costatus	10.24 1106	0.30	
Squalus megalops	6.43 13	0.19	
Merluccius paradoxus, female	2.74 26	0.08	
Zeus capensis	2.06 56	0.06	
Congiopus spinifer	1.78 56	0.05	
Lepidopus caudatus	1.09 13	0.03	
Merluccius paradoxus, male	0.69 13	0.02	
Squilla aculeata calmani	0.00 13		
Total	3400.16	99.99	

PROJECT STATION: 2
 DATE: 21/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2850 Long E 1554
 start stop duration
 TIME :13:09:00 13:39:00 30 (min) Purpose code: 3
 LOG :9880.10 9881.80 1.70 Area code : 1
 FDEPTH: 149 145 GearCond.code:
 BDEPTH: 149 145 Validity code:
 Towing dir: 20° Wire out: 550 m Speed: 34 kn*10
 Sorted: 164 Kg Total catch: 431.00 CATCH/HOUR: 862.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Maurollicus muelleri	386.00 12252	44.78	
Sepia australis	125.40 2216	14.55	
Galeorhinus galeus	112.40 8	13.04	
Strumeus whiteheadi	82.20 854	9.54	6
Callorhynchus capensis	44.40 50	5.15	
Merluccius capensis, juveniles	41.80 1412	4.85	7
Merluccius capensis, female	30.00 372	3.48	9
Merluccius capensis, male	14.00 112	1.52	8
Brama brama	11.20 7	1.30	
Chelidonichthys capensis	4.90 14	0.57	
Scyliorhinus capensis	3.40 28	0.39	
Todarodes sagittatus	2.20 220	0.26	
Genypterus capensis	1.80 4	0.21	5
Helicolenus dactylopterus	0.70 42	0.08	
Cynoglossus capensis	0.50 28	0.06	
Total	860.90	99.88	

PROJECT STATION: 5
 DATE: 22/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2934 Long E 1441
 start stop duration
 TIME :01:12:00 01:42:00 30 (min) Purpose code: 3
 LOG :975.60 976.80 1.20 Area code : 1
 FDEPTH: 364 335 GearCond.code:
 BDEPTH: 364 335 Validity code:
 Towing dir: 350° Wire out: 1200 m Speed: 30 kn*10
 Sorted: Kg Total catch: 184.90 CATCH/HOUR: 369.80

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius paradoxus, female	120.10 386	32.48	21
Merluccius paradoxus, male	59.60 204	16.12	22
Genypterus capensis	49.40 32	13.36	23
Zeus capensis	33.20 42	8.98	
Coelorinchus fasciatus	30.00 408	8.11	
Epigonus denticulatus	26.20 336	7.08	
Malacocephalus laevis	20.80 34	5.62	
Helicolenus dactylopterus	9.90 58	2.68	
Holohalaelurus regani	9.20 42	2.49	
Scyliorhinus capensis	7.86 8	2.13	
CHIMAERIDAE	3.44 4	0.93	
OPHICHTHIDAE	0.00 2		
Total	369.70	99.98	

PROJECT STATION: 3
 DATE: 21/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2859 Long E 1539
 start stop duration
 TIME :15:55:00 16:30:00 35 (min) Purpose code: 3
 LOG :9901.80 9903.90 2.10 Area code : 1
 FDEPTH: 173 173 GearCond.code:
 BDEPTH: 173 173 Validity code:
 Towing dir: 10° Wire out: 650 m Speed: 32 kn*10
 Sorted: 269 Kg Total catch: 268.88 CATCH/HOUR: 450.94

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Brama brama	119.66 77	25.96	
Merluccius paradoxus, juvenile	106.29 2784	23.06	12
Merluccius capensis, female	35.46 202	18.54	11
Merluccius capensis, male	35.91 93	7.79	10
Helicolenus dactylopterus	24.00 948	5.21	
Thyrites atun	12.86 9	2.79	
Callorhynchus capensis	12.51 12	2.71	
Todaropsis eblanae	12.41 173	2.69	
Chelidonichthys capensis	12.34 26	2.68	
Trachurus capensis	12.26 33	2.66	13
Sepia australis	7.11 403	1.54	
Holohalaelurus regani	6.17 48	1.34	
Paracallionymus costatus	5.57 372	1.21	
Lophius vomerinus	2.59 5	0.56	14
Austroglossus microlepis	1.72 39	0.37	
Genypterus capensis	1.37 12	0.30	
Squalus megalops	1.13 2	0.25	
Emmelichthys nitidus	1.11 2	0.24	
Lepidopus caudatus	0.36 5	0.08	
Zeus capensis	0.07 2	0.02	
Squilla aculeata calmani	0.03 2	0.01	
Total	460.92	100.01	

PROJECT STATION: 6
 DATE: 22/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2921 Long E 1430
 start stop duration
 TIME :04:09:00 04:39:00 30 (min) Purpose code: 3
 LOG :9991.70 9993.10 1.30 Area code : 1
 FDEPTH: 475 474 GearCond.code:
 BDEPTH: 475 474 Validity code:
 Towing dir: 350° Wire out: 1500 m Speed: 31 kn*10
 Sorted: Kg Total catch: 154.00 CATCH/HOUR: 308.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius paradoxus, female	144.00 202	46.75	25
Merluccius paradoxus, male	55.60 94	18.05	24
Helicolenus dactylopterus	35.60 186	11.56	
RAJIDAE	14.90 2	4.84	
Deepwater fish mixture	13.38	4.34	
Raja leopardus	10.32 5	3.35	
Lophius vomerinus	7.66 4	2.49	25
Zeus capensis	5.52 2	1.79	
Hydrolagus sp.	5.04 5	1.64	
OPHICHTHIDAE	4.70 85	1.53	
Malacocephalus laevis	4.00 24	1.30	
Todaropsis eblanae	2.40 4	0.78	
Lamprogrammus exutus	1.72 24	0.56	
Etmopterus lucifer	1.00 18	0.32	
Holohalaelurus regani	0.56 4	0.18	
Notacanthus sexspinis	0.52 12	0.17	
Yarella blackfordi *	0.46 24	0.15	
Total	307.38	99.80	

PROJECT STATION: 7
 DATE: 22/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2918 Long E 1436
 start stop duration
 TIME : 06:29:00 06:59:00 30 (min) Purpose code: 3
 LOG : 2.00 3.70 1.70 Area code : 1
 FDEPTH: 312 325 GearCond.code: 1
 BDEPTH: 312 325 Validity code:
 Towing dir: 350° Wire out: 950 m Speed: 33 kn*10
 Sorted: 211 Kg Total catch: 790.49 CATCH/HOUR: 1580.98

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Zeus capensis	698.30	1126	44.17
Merluccius paradoxus, female	173.00	144	10.94
Epigonus pandionis	146.60	3420	9.27
Merluccius capensis, female	143.20	52	9.06
Merluccius paradoxus	96.50	944	6.10
Merluccius paradoxus, male	86.70	110	5.48
Genypterus capensis	63.80	38	4.04
Coelorhynchus fasciatus	50.60	1090	3.20
Helicolenus dactylopterus	31.90	136	2.02
Merluccius capensis, male	21.60	8	1.37
Scyliorhinus capensis	17.40	26	1.10
Malacocephalus laevis	15.90	68	1.01
Squalus megalops	12.20	8	0.77
Scomber japonicus	11.10	8	0.70
Holohalaelurus regani	7.20	26	0.46
Lepidopus caudatus	3.40	34	0.22
Cynoglossus capensis	1.90	34	0.12
Paracallionymus costatus	1.30	154	0.08
Total	1582.60		100.11

PROJECT STATION: 10
 DATE: 22/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2901 Long E 1506
 start stop duration
 TIME : 14:35:00 14:50:00 15 (min) Purpose code: 3
 LOG : 46.10 47.00 0.90 Area code : 1
 FDEPTH: 167 169 GearCond.code: 8
 BDEPTH: 167 169 Validity code:
 Towing dir: 345° Wire out: 600 m Speed: 30 kn*10
 Sorted: 94 Kg Total catch: 280.70 CATCH/HOUR: 1122.80

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachurus capensis	697.60	2000	62.13
Helicolenus dactylopterus	149.60	1920	13.32
Merluccius capensis, female	79.40	60	7.07
Callorhynchus capensis	57.28	32	5.10
Lepidopus caudatus	24.00	32	2.14
Etrumeus whiteheadi	20.00	240	1.78
Thyrssites atun	17.40	8	1.55
Merluccius capensis, male	16.00	8	1.43
Chelidonichthys capensis	13.92	128	1.24
Cynoglossus capensis	11.20	128	1.00
Lophius vomerinus	11.08	8	0.99
Centrophorus squamosus	7.36	16	0.66
Congio podus spinifer	7.20	32	0.64
Sepia australis	6.56	416	0.58
Callanthias legras	2.08	16	0.19
Genypterus capensis	1.80	4	0.16
Zeus capensis	0.32	32	0.03
Total	1122.80		100.01

PROJECT STATION: 8
 DATE: 22/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2917 Long E 1447
 start stop duration
 TIME : 09:27:00 09:57:00 30 (min) Purpose code: 3
 LOG : 19.10 20.70 1.60 Area code : 1
 FDEPTH: 209 210 GearCond.code: 1
 BDEPTH: 209 210 Validity code:
 Towing dir: 360° Wire out: 650 m Speed: 29 kn*10
 Sorted: 263 Kg Total catch: 263.00 CATCH/HOUR: 526.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Lepidopus caudatus	180.20	210	34.26
Merluccius capensis, female	87.60	44	16.65
Trachurus capensis	31.80	84	6.05
Thyrssites atun	29.10	12	5.53
Scyliorhinus capensis	29.00	138	5.51
Merluccius capensis, male	22.50	10	4.28
Congio podus torvus	16.90	10	3.21
Lophius vomerinus	15.88	10	3.02
Chelidonichthys capensis	15.70	72	2.98
Cynoglossus capensis	12.12	134	2.30
Holohalaelurus regani	12.10	38	2.30
Helicolenus dactylopterus	11.90	164	2.26
Sepia australis	10.22	364	1.94
Merluccius paradoxus	9.50	164	1.81
Etrumeus whiteheadi	8.18	86	1.56
Emmelichthys nitidus	7.40	122	1.41
Paracallionymus costatus	6.26	872	1.19
Zeus capensis	4.76	10	0.90
Scomber japonicus	2.44	2	0.46
Todarodes sagittatus	2.10	4	0.40
Squalus megalops	1.70	4	0.32
Merluccius paradoxus, female	1.70	6	0.32
Loligo vulgaris	1.32	6	0.25
Congio podus spinifer	1.16	10	0.22
Raja caudaspinosa	1.16	2	0.20
Arnglossus capensis	1.04	4	0.20
Todaropsis eblanae	0.74	18	0.14
Merluccius paradoxus, male	0.42	2	0.08
Epigonus denticulatus	0.04	2	0.01
Neorossia sp.	0.04	2	0.01
Total	524.86		99.77

PROJECT STATION: 9
 DATE: 22/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2908 Long E 1454
 start stop duration
 TIME : 11:28:00 11:58:00 30 (min) Purpose code: 3
 LOG : 29.90 31.70 1.80 Area code : 1
 FDEPTH: 191 185 GearCond.code: 1
 BDEPTH: 191 185 Validity code:
 Towing dir: 360° Wire out: 650 m Speed: 35 kn*10
 Sorted: 181 Kg Total catch: 181.70 CATCH/HOUR: 363.40

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachurus capensis	76.40	186	21.02
Merluccius capensis, female	58.80	30	16.18
Lophius vomerinus	45.70	14	12.58
Helicolenus dactylopterus	24.60	194	6.77
Chelidonichthys capensis	23.70	98	6.52
Merluccius capensis, juveniles	20.90	1014	5.75
Zeus capensis	20.40	158	5.61
Emmelichthys nitidus	18.70	302	5.15
Etrumeus whiteheadi	15.10	150	4.16
Thyrssites atun	15.00	4	4.13
Cynoglossus capensis	11.68	164	3.21
Sepia australis	11.20	676	3.08
Holohalaelurus regani	5.70	18	1.57
Lepidopus caudatus	5.00	66	1.38
Merluccius capensis, male	4.10	4	1.13
Todarodes sagittatus	3.64	72	1.00
Raja straeleni	2.40	2	0.66
Congio podus spinifer	0.40	6	0.11
OREOSOMATIDAE	0.00	2	
Notopogon macrosolen	0.00	2	
Total	363.42		100.01

PROJECT STATION: 11
 DATE: 23/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2854 Long E 1516
 start stop duration
 TIME : 06:38:00 07:06:00 28 (min) Purpose code: 3
 LOG : 96.80 98.40 1.60 Area code : 1
 FDEPTH: 150 150 GearCond.code: 7
 BDEPTH: 150 150 Validity code: 3
 Towing dir: 350° Wire out: 500 m Speed: 32 kn*10
 Sorted: 138 Kg Total catch: 219.06 CATCH/HOUR: 469.41

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Etrumeus whiteheadi	158.57	1933	33.78
Merluccius capensis, female	91.71	54	19.54
Merluccius capensis, male	47.68	49	10.16
Mustelus palumbes	36.96	28	7.87
Chelidonichthys capensis	36.43	71	7.76
Squalus megalops	31.35	156	6.68
Lophius vomerinus	26.79	24	5.71
Callorhynchus capensis	10.71	6	2.28
Holohalaelurus regani	6.17	6	1.31
Trachurus capensis	5.89	28	1.25
Cynoglossus capensis	4.56	39	0.97
Raja straeleni	4.07	2	0.87
Sepia australis	3.17	221	0.68
Todaropsis eblanae	1.35	39	0.29
Paracallionymus costatus	1.29	199	0.27
Emmelichthys nitidus	1.14	114	0.24
Zeus capensis	1.03	32	0.22
Congio podus spinifer	0.54	6	0.12
Total	469.41		100.00

PROJECT STATION: 12
 DATE: 24/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2854 Long E 1516
 start stop duration
 TIME : 06:27:00 06:57:00 30 (min) Purpose code: 3
 LOG : 165.10 166.70 1.60 Area code : 1
 FDEPTH: 150 150 GearCond.code: 1
 BDEPTH: 150 150 Validity code:
 Towing dir: 350° Wire out: 550 m Speed: 31 kn*10
 Sorted: 173 Kg Total catch: 241.30 CATCH/HOUR: 482.60

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Etrumeus whiteheadi	120.80	1402	25.03
Merluccius capensis, female	86.74	38	17.97
Chelidonichthys capensis	54.60	196	11.31
Merluccius capensis, male	44.80	56	9.28
Galeorhinus galeus	41.60	2	8.62
Squalus megalops	29.00	68	6.01
Mustelus palumbes	26.20	16	5.43
Lophius vomerinus	19.20	24	3.98
Merluccius capensis, female	16.06	2	3.33
Cynoglossus capensis	11.08	92	2.30
Trachurus capensis	6.60	24	1.37
Paracallionymus costatus	6.52	1086	1.35
Sepia australis	5.36	488	1.11
Holohalaelurus regani	4.36	16	0.90
Todaropsis eblanae	2.64	68	0.55
Zeus capensis	2.40	88	0.50
Congio podus spinifer	1.88	20	0.39
Loligo vulgaris	1.36	4	0.28
Genypterus capensis	0.84	4	0.17
Emmelichthys nitidus	0.32	32	0.07
Lepidopus caudatus	0.24	88	0.05
Total	482.60		100.00

PROJECT STATION: 13
 DATE: 24/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2847 Long E 1526
 start stop duration
 TIME : 09:42:00 10:12:00 30 (min) Purpose code: 3
 LOG : 182.60 184.10 1.50 Area code : 1
 FDEPTH: 175 177 GearCond.code: 1
 BDEPTH: 175 177 Validity code:
 Towing dir: 355° Wire out: 600 m Speed: 30 kn*10
 Sorted: 75 Kg Total catch: 160.00 CATCH/HOUR: 320.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	70.60	86	22.06
Helicolenus dactylopterus	63.00	3150	19.69
Sepia australis	50.80	2886	15.88
Paracallionymus costatus	42.20	3482	13.19
Merluccius capensis, male	29.80	40	9.31
Merluccius paradoxus, juvenile	20.90	500	6.53
Chelidonichthys capensis	13.00	20	4.06
Todaropsis eblanae	7.50	140	2.34
Genypterus capensis	6.20	50	1.94
Lophius vomerinus	5.60	10	1.75
Holohalaelurus regani	4.60	20	1.44
Cynoglossus capensis	3.20	100	1.00
Congio podus spinifer	1.70	20	0.53
Merluccius paradoxus, female	0.78	4	0.24
Lepidopus caudatus	0.70	20	0.22
Zeus capensis	0.30	10	0.09
Total	320.88		100.27

DATE:24/ 1/94 GEAR TYPE: BT No:1 PROJECT STATION: 14
 start stop duration POSITION:Lat S 2838
 Long E 1540
 TIME :13:13:00 13:43:00 30 (min) Purpose code: 3
 LOG : 206.90 208.60 1.70 Area code : 1
 FDEPTH: 152 150 GearCond.code:
 BDEPTH: 152 150 Validity code:
 Towing dir: 2* Wire out: 550 m Speed: 33 kn*10

Sorted: 165 Kg Total catch: 173.36 CATCH/HOUR: 346.72

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	74.50	178	21.49	68
Sepia australis	72.30	4016	20.85	
Merluccius paradoxus, juvenile	32.70	1922	9.43	70
Etrumeus whiteheadi	27.00	310	7.79	73
Lepidopus caudatus	26.10	506	7.53	
Raja straeleni	17.90	10	5.16	
Merluccius capensis, male	17.30	56	4.99	67
Merluccius paradoxus, female	14.50	192	4.18	69
Chelidonichthys capensis	11.82	30	3.41	
Maurolicus muelleri	11.30	12024	3.26	
Trachurus capensis	11.12	24	3.21	71
Callorhynchus capensis	5.80	4	1.67	
Helicolenus dactylopterus	4.48	166	1.29	
Genypterus capensis	4.28	44	1.23	72
Lophius vomerinus	4.24	12	1.22	74
Holohalaelurus regani	2.98	20	0.86	
Loligo vulgaris	2.34	52	0.67	
Merluccius paradoxus, male	1.76		0.51	
Cynoglossus capensis	1.60	64	0.46	
Squilla aculeata calmani	1.20	88	0.35	
Galeorhinus galeus	0.62	2	0.18	
Sufflogobius bibarbus	0.60	214	0.17	
Sardinops ocellata	0.20	2	0.06	
Congiopodus spinifer	0.08	2	0.02	
Total	346.72		99.99	

DATE:24/ 1/94 GEAR TYPE: BT No:1 PROJECT STATION: 15
 start stop duration POSITION:Lat S 2822
 Long E 1530
 TIME :15:50:00 16:06:00 16 (min) Purpose code: 3
 LOG : 226.60 227.50 0.90 Area code : 1
 FDEPTH: 137 135 GearCond.code: 8
 BDEPTH: 137 135 Validity code:
 Towing dir: 360* Wire out:1150 m Speed: 35 kn*10

Sorted: 124 Kg Total catch: 124.44 CATCH/HOUR: 466.65

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
RAJIDAE	150.00	4	32.14	
Merluccius capensis, juveniles	114.94	9589	24.63	80
Etrumeus whiteheadi	51.00	566	10.93	83
Merluccius capensis, female	35.81	94	7.67	77
Merluccius paradoxus, female	27.38	368	5.87	79
Callorhynchus capensis	23.06	11	4.94	
Chelidonichthys capensis	20.78	94	4.45	
Helicolenus dactylopterus	10.13	64	2.17	76
Merluccius capensis, male	9.19	23	1.97	
Lepidopus caudatus	6.94	206	1.49	
Trachurus capensis	5.44	15	1.17	82
Genypterus capensis	4.50	23	0.96	81
Cynoglossus capensis	4.16	90	0.89	
Merluccius paradoxus, male	2.14	30	0.46	78
Zeus capensis	1.20	38	0.26	
Total	466.67		100.00	

DATE:24/ 1/94 GEAR TYPE: BT No:1 PROJECT STATION: 16
 start stop duration POSITION:Lat S 2831
 Long E 1518
 TIME :19:48:00 20:07:00 19 (min) Purpose code: 3
 LOG : 244.30 245.20 0.90 Area code : 1
 FDEPTH: 175 175 GearCond.code:
 BDEPTH: 175 175 Validity code:
 Towing dir: 260* Wire out: 600 m Speed: 31 kn*10

Sorted: 49 Kg Total catch: 192.00 CATCH/HOUR: 606.32

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Sepia australis	230.21	14239	37.97	
Merluccius capensis, juveniles	185.68	10816	30.62	86
Merluccius capensis, female	34.89	25	5.75	84
Etrumeus whiteheadi	28.42	265	4.69	87
Helicolenus dactylopterus	26.53	455	4.38	
Trachurus capensis	23.21	92	3.83	85
Holohalaelurus regani	19.89	76	3.28	
Coelorinchus fasciatus	16.29	227	2.69	
Todarodes sagittatus	8.34	19	1.38	
Squalus megalops	7.20	19	1.19	
Cynoglossus capensis	5.31	57	0.88	
Merluccius capensis, male	3.95	3	0.65	
Genypterus capensis	3.73	9	0.62	
Todaropsis eblanae	3.60	57	0.59	
Zeus capensis	3.22	38	0.53	
Congiopodus spinifer	1.71	19	0.28	
Sepia bertheloti	1.14	19	0.19	
Synagrops microlepis	0.76	19	0.13	
Merluccius paradoxus, female	0.60	3	0.10	
Total	604.68		99.75	

DATE:25/ 1/94 GEAR TYPE: BT No:1 PROJECT STATION: 17
 start stop duration POSITION:Lat S 2855
 Long E 1438
 TIME :02:29:00 02:59:00 30 (min) Purpose code: 3
 LOG : 292.20 293.90 1.70 Area code : 1
 FDEPTH: 215 217 GearCond.code:
 BDEPTH: 215 217 Validity code:
 Towing dir: 5* Wire out: 750 m Speed: 38 kn*10

Sorted: 128 Kg Total catch: 128.30 CATCH/HOUR: 256.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Trachurus capensis	102.60	522	39.98	90
Genypterus capensis	53.50	32	20.85	89
Cynoglossus capensis	29.70	344	11.57	
Deepwater fish mixture	21.20		8.26	
Merluccius capensis, female	11.10	6	4.33	88
Deania calcea	9.56	14	3.73	
Lophius vomerinus	7.84	6	3.06	91
Lepidopus caudatus	5.54	16	2.16	
Holohalaelurus regani	4.10	14	1.60	
Emmelichthys nitidus	2.88	12	1.12	92
Raja leoparden	1.72	2	0.67	
Todaropsis eblanae	1.44	28	0.56	
Chelidonichthys capensis	1.36	2	0.53	
Helicolenus dactylopterus	1.36	22	0.53	
Zeus capensis	1.32	10	0.51	
Congiopodus spinifer	0.90	4	0.35	
Selachophidium guentheri	0.28	10	0.11	
Coelorinchus fasciatus	0.24	12	0.09	
Total	256.64		100.01	

DATE:25/ 1/94 GEAR TYPE: BT No:1 PROJECT STATION: 18
 start stop duration POSITION:Lat S 2903
 Long E 1426
 TIME :06:04:00 06:34:00 30 (min) Purpose code: 3
 LOG : 316.50 317.90 1.40 Area code : 1
 FDEPTH: 363 370 GearCond.code:
 BDEPTH: 363 370 Validity code:
 Towing dir: 350* Wire out:1200 m Speed: 29 kn*10

Sorted: 134 Kg Total catch: 134.19 CATCH/HOUR: 268.38

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, male	77.00	250	28.69	95
Merluccius paradoxus, female	65.70	142	24.48	96
Coelorinchus fasciatus	29.20	654	10.88	
Merluccius capensis, female	19.30	10	7.19	94
Genypterus capensis	15.72	8	5.86	
Epigonus denticulatus	14.80	188	5.51	
Trachurus capensis	8.80	46	3.28	97
Helicolenus dactylopterus	7.90	44	2.94	
Malacocephalus laevis	6.98	80	2.60	
Merluccius capensis, male	6.70	4	2.50	93
Brama brama	3.98	4	1.48	
Holohalaelurus regani	3.62	14	1.35	
Squalus megalops	3.32	2	1.24	
Raja caudaspinosus	2.02	2	0.75	
Cynoglossus capensis	1.32	14	0.49	
Emmelichthys nitidus	0.76	2	0.28	
Austroglossus microlepis	0.14	10	0.05	
Todaropsis eblanae	0.12	2	0.04	
Total	267.38		99.61	

DATE:25/ 1/94 GEAR TYPE: BT No:1 PROJECT STATION: 19
 start stop duration POSITION:Lat S 2833
 Long E 1442
 TIME :15:07:00 15:37:00 30 (min) Purpose code: 3
 LOG : 369.70 371.50 1.80 Area code : 1
 FDEPTH: 169 172 GearCond.code:
 BDEPTH: 169 172 Validity code:
 Towing dir: 350* Wire out: 650 m Speed: 36 kn*10

Sorted: 289 Kg Total catch: 410.00 CATCH/HOUR: 820.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	321.00	142	39.15	99
Chelidonichthys capensis	157.20	600	19.17	
Merluccius capensis, male	81.20	64	9.90	98
Centrophorus squamosus	80.40	216	9.80	
Galeorhinus galeus	55.30	4	6.74	
Emmelichthys nitidus	36.80	3536	4.49	102
Lophius vomerinus	29.60	16	3.61	100
Zeus capensis	23.12	104	2.82	
Holohalaelurus regani	11.76	64	1.43	
Thyrssites atun	10.40	10	1.27	101
Congiopodus spinifer	9.68	56	1.18	
Loligo vulgaris	4.88	56	0.60	
Coelorinchus fasciatus	0.32	8	0.04	
Total	821.66		100.20	

DATE:25/ 1/94 GEAR TYPE: BT No:1 PROJECT STATION: 20
 start stop duration POSITION:Lat S 2827
 Long E 1449
 TIME :17:29:00 17:59:00 30 (min) Purpose code: 3
 LOG : 382.10 383.80 1.70 Area code : 1
 FDEPTH: 180 180 GearCond.code:
 BDEPTH: 180 180 Validity code:
 Towing dir: 345* Wire out: 700 m Speed: 34 kn*10

Sorted: Kg Total catch: 358.25 CATCH/HOUR: 716.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	235.00	116	32.80	104
Lophius vomerinus	84.10	88	11.74	106
Chelidonichthys capensis	74.60	168	10.41	
Lepidopus caudatus	70.70	70	9.87	
Merluccius capensis, male	46.20	34	6.45	103
Merluccius capensis, juveniles	38.36	2862	5.35	105
Holohalaelurus regani	26.88	84	3.75	
Paracallionymus costatus	26.20	1026	3.66	
Trachurus capensis	21.00	70	2.93	108
Squalus megalops	18.90	42	2.64	
Etrumeus whiteheadi	18.40	204	2.57	107
Zeus capensis	17.92	140	2.50	
Sepia australis	16.88	128	4.75	
Cynoglossus capensis	6.92	92	0.97	
Torpedo nobiliana	5.80	8	0.81	
Todarodes sagittatus	4.28	56	0.60	
Raja caudaspinosus	3.36	8	0.47	
Total	715.50		99.88	

DATE:25/ 1/94 GEAR TYPE: BT No:1 PROJECT STATION: 21
 start stop duration POSITION:Lat S 2819
 Long E 1455
 TIME :19:32:00 20:02:00 30 (min) Purpose code: 3
 LOG : 395.50 397.00 1.50 Area code : 1
 FDEPTH: 172 175 GearCond.code:
 BDEPTH: 172 175 Validity code:
 Towing dir: 310* Wire out: 600 m Speed: 30 kn*10

Sorted: Kg Total catch: 352.76 CATCH/HOUR: 705.52

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, juveniles	214.00	19152	30.33	114
Thyrssites atun	108.80	48	15.42	
Sepia australis	83.52	5644	11.84	
Merluccius capensis, female	82.50	54	11.69	110
Raja pullopectata	55.20	16	7.82	
Raja straeleni	43.20	16	6.12	
Chelidonichthys capensis	21.60	48	3.06	
Merluccius capensis, male	17.60	14	2.49	109
Trachurus capensis	12.32	48	1.75	
Lophius vomerinus	11.50	10	1.63	113
Holohalaelurus regani	9.60	32	1.36	
Chelidonichthys capensis	8.00	48	1.13	
Zeus capensis	8.00	96	1.13	
Paracallionymus costatus	8.00	1408	1.13	
Squalus megalops	5.92	16	0.84	
Merluccius paradoxus, female	5.00	40	0.71	112
Cynoglossus capensis	4.64	64	0.66	
Etrumeus whiteheadi	2.24	32	0.32	
Lepidopus caudatus	1.44	32	0.20	
Merluccius paradoxus, male	1.40	8	0.20	111
Todaropsis eblanae	0.64	16	0.09	
Total	705.12		99.92	

PROJECT STATION: 22
 DATE: 26/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2747 Long E 1515
 start stop duration
 TIME : 06:29:00 06:59:00 30 (min) Purpose code: 3
 LOG : 471.00 472.70 1.70 Area code : 1
 FDEPTH: 121 122 GearCond.code: 8
 BDEPTH: 121 122 Validity code: 1
 Towing dir: 360° Wire out: 450 m Speed: 30 kn*10

Sorted: Kg Total catch: 245.19 CATCH/HOUR: 490.38

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Galeorhinus galeus	132.00	6	26.92	
Etrumeus whiteheadi	116.10	2110	23.68	118
Merluccius capensis, juveniles	77.10	8638	15.72	117
Merluccius capensis, male	66.90	528	13.64	115
Chelidonichthys capensis	31.20	126	6.36	
Sepia australis	28.80	1782	5.87	
Merluccius capensis, female	27.30	114	5.57	116
Callorhynchus capensis	3.24	6	0.66	
Sufflogobius bibarbatatus	3.06	456	0.62	
Trachurus capensis	2.58	12	0.53	
Gerypteris capensis	1.02	6	0.21	
Lepidopus caudatus	0.72	78	0.15	
Lepidopus caudatus	0.72	78	0.15	
Todaropsis eblanae	0.36	12	0.07	
Total	491.10		100.15	

PROJECT STATION: 26
 DATE: 26/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2734 Long E 1445
 start stop duration
 TIME : 19:56:00 20:26:00 30 (min) Purpose code: 3
 LOG : 550.10 551.60 1.50 Area code : 1
 FDEPTH: 350 310 GearCond.code:
 BDEPTH: 350 310 Validity code:
 Towing dir: 350° Wire out: 950 m Speed: 30 kn*10

Sorted: 125 Kg Total catch: 496.40 CATCH/HOUR: 992.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, juvenile	532.80	37686	53.67	130
Merluccius capensis, female	149.50	60	15.06	128
Coelorinchus fasciatus	66.56	1216	6.70	
Galeus polli	66.24	960	6.67	
Helicolenus dactylopterus	61.12	864	6.16	
Malacocephalus laevis	30.40	84	3.06	
FORTUNIDAE	21.44	608	2.16	
Merluccius paradoxus, female	19.50	28	1.96	129
Lophius vomerinus	16.62	4	1.67	131
Trachurus capensis	13.76	32	1.39	
Gerypteris capensis	11.56	16	1.16	
Merluccius capensis, male	3.30	2	0.33	
Total	992.80		99.99	

PROJECT STATION: 23
 DATE: 26/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2748 Long E 1540
 start stop duration
 TIME : 12:33:00 13:03:00 30 (min) Purpose code: 3
 LOG : 508.70 510.30 1.60 Area code : 1
 FDEPTH: 426 435 GearCond.code:
 BDEPTH: 426 435 Validity code:
 Towing dir: 125° Wire out: 1350 m Speed: 34 kn*10

Sorted: 119 Kg Total catch: 868.82 CATCH/HOUR: 1737.64

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	949.80	2986	54.66	121
Merluccius paradoxus, male	741.60	2306	42.68	120
Coelorinchus fasciatus	24.60	246	1.42	
Gerypteris capensis	11.84	6	0.68	119
Helicolenus dactylopterus	4.00	14	0.23	
Malacocephalus laevis	2.04	44	0.12	
Merluccius paradoxus, juvenile	1.88	44	0.11	122
Galeus polli	1.30	14	0.07	
Coelorinchus braueri	0.58	58	0.03	
Total	1737.64		100.00	

PROJECT STATION: 27
 DATE: 3/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2546 Long E 1422
 start stop duration
 TIME : 10:00:00 10:12:00 12 (min) Purpose code: 3
 LOG : 1303.50 1304.00 0.50 Area code : 1
 FDEPTH: 192 192 GearCond.code:
 BDEPTH: 192 192 Validity code:
 Towing dir: * Wire out: 600 m Speed: 29 kn*10

Sorted: 10 Kg Total catch: 10.30 CATCH/HOUR: 51.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Sufflogobius bibarbatatus	50.00		97.09	
Merluccius capensis, juveniles	1.50	115	2.91	132
Total	51.50		100.00	

PROJECT STATION: 24
 DATE: 26/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2739 Long E 1428
 start stop duration
 TIME : 15:14:00 15:44:00 30 (min) Purpose code: 3
 LOG : 521.90 523.80 1.90 Area code : 1
 FDEPTH: 543 525 GearCond.code:
 BDEPTH: 543 525 Validity code:
 Towing dir: 340° Wire out: 1600 m Speed: 36 kn*10

Sorted: Kg Total catch: 371.86 CATCH/HOUR: 743.72

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	394.40	370	53.03	124
Trachyrhinus scabrus	131.40	1738	17.67	
Deepwater fish mixture	50.20		6.75	
RAIIDAE	40.00	10	5.38	
Deania profundorum	29.50	28	3.97	
Nezumia sp.	19.30	126	2.60	
Malacocephalus laevis	15.78	84	2.12	
Todarodes sagittatus	11.88	22	1.60	
Merluccius paradoxus, male	11.50	12	1.55	125
Photichthys argenteus	10.98	550	1.48	
Merluccius capensis, female	7.30	2	0.98	123
Etmopterus lucifer	5.90	28	0.79	
Laemonema laureysi	5.04	68	0.68	
Hydrolagus sp.	4.96	14	0.67	
Galeus polli	2.20	22	0.30	
Coelorinchus braueri	1.20	62	0.16	
Ehinania costaeacanarie	0.70	6	0.09	
Notacanthus sexspinis	0.64	6	0.09	
Beryx splendens	0.40	4	0.05	
C R A B S	0.24	4	0.03	
Aristeus varidens	0.20	18	0.03	
Total	743.72		100.02	

PROJECT STATION: 28
 DATE: 3/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2556 Long E 1414
 start stop duration
 TIME : 12:26:00 12:54:00 28 (min) Purpose code: 3
 LOG : 1320.60 1321.80 1.20 Area code : 1
 FDEPTH: 234 234 GearCond.code:
 BDEPTH: 234 234 Validity code:
 Towing dir: 340° Wire out: 800 m Speed: 35 kn*10

Sorted: 25 Kg Total catch: 1181.11 CATCH/HOUR: 2530.95

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	1404.96	11683	55.51	134
Merluccius capensis, male	951.75	9669	37.60	133
Sufflogobius bibarbatatus	118.84	10071	4.70	
Squilla acuelata calmani	55.39	2115	2.19	
Total	2530.94		100.00	

PROJECT STATION: 29
 DATE: 3/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2557 Long E 1403
 start stop duration
 TIME : 14:54:00 15:24:00 30 (min) Purpose code: 3
 LOG : 334.90 336.50 Area code : 1
 FDEPTH: 286 290 GearCond.code:
 BDEPTH: 286 290 Validity code:
 Towing dir: 343° Wire out: 900 m Speed: 33 kn*10

Sorted: 274 Kg Total catch: 2219.41 CATCH/HOUR: 4438.82

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	939.40	418	21.16	137
Merluccius capensis, female	937.20	4158	21.11	139
Trachurus capensis	919.60	3168	20.72	140
MYCTOPHIDAE	429.70		9.68	
Merluccius capensis, male	383.90	1936	8.65	138
Lophius vomerinus	231.84	58	5.22	135
Squilla acuelata calmani	148.12	7072	3.34	
Todarodes sagittatus	125.44	266	2.83	
Merluccius capensis, male	99.00	44	2.23	136
Coelorinchus coelorinch. polli	85.40	1468	1.92	
Galeus polli	70.72	1868	1.59	
B I V A L V E S	37.36	2268	0.84	
Sufflogobius bibarbatatus	14.68	4538	0.33	
Helicolenus dactylopterus	13.86	22	0.31	
Austroglossus microlepis	2.60	4	0.06	
Total	4438.82		99.99	

PROJECT STATION: 25
 DATE: 26/ 1/94 GEAR TYPE: BT No:1 POSITION: Lat S 2735 Long E 1437
 start stop duration
 TIME : 17:34:00 18:05:00 31 (min) Purpose code: 3
 LOG : 536.20 537.90 1.70 Area code : 1
 FDEPTH: 363 363 GearCond.code:
 BDEPTH: 363 363 Validity code:
 Towing dir: 337° Wire out: 1200 m Speed: 36 kn*10

Sorted: 144 Kg Total catch: 1527.00 CATCH/HOUR: 2955.48

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	2400.00	8166	81.21	127
Merluccius paradoxus, male	326.57	1831	11.05	126
Coelorinchus fasciatus	163.61	1635	5.54	
Trachurus capensis	25.20	62	0.85	
Gerypteris capensis	21.00	15	0.71	
Galeus polli	16.47	184	0.56	
Helicolenus dactylopterus	2.25	21	0.08	
Total	2955.10		100.00	

PROJECT STATION: 30
 DATE: 5/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2645
 start stop duration Long E 1447
 TIME :06:45:00 07:15:00 30 (min) Purpose code: 3
 LOG :1469.60 1471.30 Area code : 1
 FDEPTH: 182 181 GearCond.code:
 BDEPTH: 182 181 Validity code:
 Towing dir: * Wire out: 600 m Speed: 34 kn*10

Sorted: 22 Kg Total catch: 195.57 CATCH/HOUR: 391.14

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	208.80	1512	53.38	142
Merluccius capensis, juveniles	74.70	1170	19.10	144
Merluccius capensis, male	61.20	576	15.65	141
Trachurus capensis	42.48	234	10.86	143
Sufflogobius bibarbatatus	3.96	720	1.01	
Total	391.14		100.00	

PROJECT STATION: 31
 DATE: 5/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2646
 start stop duration Long E 1436
 TIME :09:02:00 09:32:00 30 (min) Purpose code: 3
 LOG :1483.20 1484.80 Area code : 1
 FDEPTH: 252 253 GearCond.code:
 BDEPTH: 252 253 Validity code:
 Towing dir: * Wire out: 750 m Speed: 32 kn*10

Sorted: 167 Kg Total catch: 1589.70 CATCH/HOUR: 3179.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	1604.00	2274	50.45	146
Merluccius capensis, male	1039.50	1870	32.69	145
Centrolophus niger	273.20	36	8.59	
Merluccius capensis, female	96.40	60	3.03	147
Callorhynchus capensis	70.40	74	2.21	
Lophius vomerinus	41.70	28	1.31	149
Austroglossus microlepis	25.50	34	0.80	148
Sufflogobius bibarbatatus	9.90	1944	0.31	
Squilla aculeata calmani	6.58	478	0.21	
Genypterus capensis	6.00	10	0.19	
Merluccius capensis, juveniles	4.76	294	0.15	
Trachipterus jacksonensis	1.46	36	0.05	
Total	3179.40		99.99	

PROJECT STATION: 32
 DATE: 5/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2645
 start stop duration Long E 1421
 TIME :11:45:00 12:15:00 30 (min) Purpose code: 3
 LOG :1499.70 1501.40 1.70 Area code : 1
 FDEPTH: 338 338 GearCond.code:
 BDEPTH: 338 338 Validity code:
 Towing dir: * Wire out:1050 m Speed: 32 kn*10

Sorted: 86 Kg Total catch: 530.14 CATCH/HOUR: 1060.28

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	514.20	1608	48.50	152
Merluccius capensis, female	281.40	396	26.54	150
Merluccius capensis, male	89.40	228	8.43	151
Coelorinchus fasciatus	69.84	1488	6.59	
Merluccius paradoxus, male	40.20	192	3.79	153
PORTUNIDAE	27.72	564	2.61	
Genypterus capensis	15.50	6	1.46	154
Lophius vomerinus	12.90	4	1.22	155
Nezumia sp.	6.96	240	0.66	
Helicolenus dactylopterus	2.16	24	0.20	
Total	1060.28		100.00	

PROJECT STATION: 33
 DATE: 5/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2645
 start stop duration Long E 1408
 TIME :14:30:00 15:00:00 30 (min) Purpose code: 3
 LOG :1515.60 1517.20 1.60 Area code : 1
 FDEPTH: 380 380 GearCond.code:
 BDEPTH: 380 380 Validity code:
 Towing dir: 360* Wire out:1200 m Speed: 35 kn*10

Sorted: 140 Kg Total catch: 956.60 CATCH/HOUR: 1913.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	1349.80	3654	70.55	157
Coelorinchus fasciatus	132.94	1716	6.95	
PORTUNIDAE	105.40	1972	5.51	
Helicolenus dactylopterus	104.00	884	5.44	
Merluccius paradoxus, male	50.14	170	2.62	156
Genypterus capensis	37.00	22	1.93	159
Todarodes sagittatus	32.46	84	1.70	
Deepwater fish mixture	27.36		1.43	
Lophius vomerinus	24.70	6	1.29	158
Nezumia sp.	21.42	476	1.12	
Galeus polli	19.04	152	1.00	
Selachophidium guentheri	4.76	84	0.25	
Raja confundens	2.32	2	0.12	
Shrimps, small, non comm.	1.86	526	0.10	
Total	1913.20		100.01	

PROJECT STATION: 34
 DATE: 5/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2647
 start stop duration Long E 1357
 TIME :17:00:00 17:30:00 30 (min) Purpose code: 3
 LOG :529.30 530.80 1.10 Area code : 1
 FDEPTH: 413 414 GearCond.code:
 BDEPTH: 413 414 Validity code:
 Towing dir: 350* Wire out:1200 m Speed: 33 kn*10

Sorted: 80 Kg Total catch: 243.22 CATCH/HOUR: 486.44

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	209.10	492	42.99	161
Coelorinchus fasciatus	127.80	1628	26.27	
Merluccius paradoxus, male	64.80	180	13.32	160
Genypterus capensis	22.70	12	4.67	
Deepwater fish mixture	22.68		4.66	
Galeus polli	8.34	60	1.71	
Todarodes sagittatus	7.50	6	1.54	
PORTUNIDAE	5.88	108	1.21	
Helicolenus dactylopterus	5.10	30	1.05	
Selachophidium guentheri	4.80	96	0.99	
Raja confundens	4.38	4	0.90	
Lithodes ferox	2.60	4	0.53	
Shrimps, small, non comm.	0.54	84	0.11	
Lophius vomerinus	0.30	6	0.06	
PSYCHROLUTIDAE	0.12	6	0.02	
Total	486.64		100.03	

PROJECT STATION: 35
 DATE: 5/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2646
 start stop duration Long E 1345
 TIME :19:46:00 20:16:00 30 (min) Purpose code: 3
 LOG :1545.20 1546.60 1.40 Area code : 1
 FDEPTH: 493 464 GearCond.code:
 BDEPTH: 493 464 Validity code:
 Towing dir: * Wire out:1550 m Speed: 27 kn*10

Sorted: 122 Kg Total catch: 244.24 CATCH/HOUR: 488.48

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	321.40	376	65.80	162
Lithodes ferox	36.60	80	7.49	
Merluccius paradoxus, male	22.80	36	4.67	163
Lophius vomerinus	22.68	4	4.64	
Todarodes sagittatus	18.92	44	3.87	
Helicolenus dactylopterus	16.88	56	3.46	
Coelorinchus braueri	12.80	312	2.62	
Nezumia leonis	9.60	332	1.97	
Raja confundens	7.28	16	1.49	
Hydrolagus sp.	5.60	8	1.15	
Etmopterus lucifer	5.00	8	1.02	
Etmopterus pusillus	4.04	12	0.83	
PORTUNIDAE	3.64	56	0.75	
Deania profundorum	1.24	4	0.25	
Total	488.48		100.01	

PROJECT STATION: 36
 DATE: 5/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2632
 start stop duration Long E 1347
 TIME :22:20:00 22:50:00 30 (min) Purpose code: 3
 LOG :1558.60 1560.10 1.50 Area code : 1
 FDEPTH: 418 415 GearCond.code:
 BDEPTH: 418 415 Validity code:
 Towing dir: * Wire out:1300 m Speed: 30 kn*10

Sorted: 92 Kg Total catch: 710.40 CATCH/HOUR: 1420.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	971.20	2048	68.36	165
Coelorinchus fasciatus	236.00	2974	16.61	
Merluccius paradoxus, male	162.40	368	11.43	164
Selachophidium guentheri	16.64	320	1.17	
Galeus polli	13.44	96	0.95	
Genypterus capensis	7.32	4	0.52	
Nezumia sp.	6.72	480	0.47	
Helicolenus dactylopterus	3.52	16	0.25	
PORTUNIDAE	2.72	48	0.19	
Lithodes ferox	0.84	2	0.06	
Total	1420.80		100.01	

PROJECT STATION: 37
 DATE: 6/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2619
 start stop duration Long E 1337
 TIME :01:22:00 01:52:00 30 (min) Purpose code: 3
 LOG :1576.00 1577.30 1.30 Area code : 1
 FDEPTH: 587 590 GearCond.code: 8
 BDEPTH: 587 590 Validity code:
 Towing dir: 15* Wire out:1700 m Speed: 33 kn*10

Sorted: 135 Kg Total catch: 350.94 CATCH/HOUR: 701.88

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	241.80	192	34.45	166
Coelorinchus fasciatus	192.40	520	27.41	
Deania profundorum	118.56	52	16.89	
Nezumia sp.	43.94	840	6.26	
Centroscyllium fabricii	32.76	26	4.67	
Todarodes sagittatus	16.54	32	2.36	
Selachophidium guentheri	16.32	188	2.33	
Alloctytus verucosus	12.48	110	1.78	
Etmopterus lucifer	11.96	52	1.70	
Notacanthus sexspinis	5.24	68	0.75	
Hoplostethus atlanticus	4.00	10	0.57	
Raja confundens	2.20	16	0.31	
Trachyrhynchus scabrus	1.82	16	0.26	
GONOSTOMATIDAE	0.82	78	0.12	
Shrimps, small, non comm.	0.52	114	0.07	
Galeus polli	0.52	6	0.07	
Total	701.88		100.00	

PROJECT STATION: 38
 DATE: 6/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2620
 start stop duration Long E 1313
 TIME :05:10:00 05:40:00 30 (min) Purpose code: 3
 LOG :1590.70 1592.30 1.60 Area code : 1
 FDEPTH: 411 415 GearCond.code:
 BDEPTH: 411 415 Validity code:
 Towing dir: 350* Wire out:1200 m Speed: 33 kn*10

Sorted: 88 Kg Total catch: 615.65 CATCH/HOUR: 1231.30

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	1050.00	2044	85.28	168
Merluccius paradoxus, male	123.90	252	10.06	167
Coelorinchus fasciatus	23.10	252	1.88	
Deepwater fish mixture	15.54		1.26	
Helicolenus dactylopterus	10.64	98	0.86	
Todarodes sagittatus	6.58	14	0.53	
Galeus polli	1.54	14	0.13	
Total	1231.30		100.00	

PROJECT STATION: 39
 DATE: 6/2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2620
 start stop duration Long E 1404
 TIME :08:20:00 08:50:00 30 (min) Purpose code: 3
 LOG :1613.60 1615.30 1.70 Area code : 1
 FDEPTH: 348 343 GearCond.code:
 BDEPTH: 348 343 Validity code:
 Towing dir: 90° Wire out: 1100 m Speed: 33 kn*10

Sorted: 210 Kg Total catch: 1662.65 CATCH/HOUR: 3325.30

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	2559.40	2558	76.97	173
Merluccius paradoxus, male	287.80	1064	8.65	172
Merluccius capensis, female	187.50	144	5.64	170
Coelorinchus fasciatus	104.50	2164	3.14	
Lophius vomerinus	49.90	18	1.50	171
Nezumia leonis	40.30	1430	1.21	
Helicolenus dactylopterus	32.20	330	0.97	
Galeus polli	24.20	330	0.73	
Merluccius capensis, male	13.00	14	0.39	169
Selachophidium guentheri	12.40	330	0.37	
PORTUNIDAE	12.10	330	0.36	
Genypterus capensis	2.00	2	0.06	
Total	3325.30		99.99	

PROJECT STATION: 40
 DATE: 6/2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2619
 start stop duration Long E 1416
 TIME :10:25:00 10:36:00 11 (min) Purpose code: 3
 LOG :1624.07 1624.78 0.71 Area code : 1
 FDEPTH: 302 298 GearCond.code:
 BDEPTH: 302 298 Validity code:
 Towing dir: 84° Wire out: 950 m Speed: 34 kn*10

Sorted: 87 Kg Total catch: 843.15 CATCH/HOUR: 4599.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	1796.51	5225	39.06	175
Merluccius capensis, male	1161.65	3905	25.26	174
Merluccius paradoxus, female	872.51	6038	18.97	177
Galeus polli	158.29	3807	3.44	
Merluccius paradoxus, male	139.53	813	3.03	176
Deepwater fish mixture	136.47	2	2.97	
Coelorinchus fasciatus	132.38	3496	2.88	
Lophius vomerinus	111.00	65	2.41	179
PORTUNIDAE	33.98	1015	0.74	
Genypterus capensis	30.82	5	0.67	178
Squalus megalops	14.18	49	0.31	
Squilla acuelata calmani	9.65	813	0.21	
Nezumia leonis	2.02	49	0.04	
Total	4598.99		99.99	

PROJECT STATION: 41
 DATE: 6/2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2619
 start stop duration Long E 1429
 TIME :12:20:00 12:50:00 30 (min) Purpose code: 3
 LOG :1636.40 1638.00 1.60 Area code : 1
 FDEPTH: 267 264 GearCond.code:
 BDEPTH: 267 264 Validity code:
 Towing dir: 87° Wire out: 780 m Speed: 33 kn*10

Sorted: 60 Kg Total catch: 307.27 CATCH/HOUR: 614.54

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Deepwater fish mixture	288.40		46.93	
Coelorinchus fasciatus	99.00	1900	16.11	
Callorhynchus capensis	58.20	20	9.47	
Sufflogobius bibarbatatus	47.60	13060		
Merluccius capensis, female	34.80	48	5.66	181
Galeus polli	31.00	640	5.04	
Genypterus capensis	19.90	12	3.24	182
Squilla acuelata calmani	12.20	780	1.99	
Merluccius capensis, male	9.20	46	1.50	180
Merluccius capensis, juveniles	7.20	600	1.17	185
Todaropsis eblanae	4.00	40	0.65	
Lophius vomerinus	1.84	2	0.30	183
Austroglossus microlepis	1.20	2	0.20	184
Total	614.54		100.01	

PROJECT STATION: 42
 DATE: 6/2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2617
 start stop duration Long E 1434
 TIME :14:50:00 15:01:00 11 (min) Purpose code: 3
 LOG :1650.70 1651.40 0.70 Area code : 1
 FDEPTH: 246 243 GearCond.code: 9
 BDEPTH: 246 243 Validity code:
 Towing dir: 110° Wire out: 730 m Speed: 31 kn*10

Sorted: 43 Kg Total catch: 43.63 CATCH/HOUR: 237.98

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Deepwater fish mixture	89.13		37.45	
Merluccius capensis, female	69.27	169	29.11	187
Callorhynchus capensis	24.65	11	10.36	
Thyrssites atun	24.27	5	10.20	
Merluccius capensis, male	12.27	76	5.16	186
Coelorinchus fasciatus	5.84	60	2.45	
Trachurus capensis	3.76	22	1.58	189
Merluccius capensis, juveniles	2.40	147	1.01	188
Sufflogobius bibarbatatus	2.18	398	0.92	
Chelidonichthys capensis	1.42	5	0.60	
Squilla acuelata calmani	1.31	49	0.55	
Galeus polli	0.93	22	0.39	
PORTUNIDAE	0.55	11	0.23	
Total	237.98		100.01	

PROJECT STATION: 43
 DATE: 6/2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2610
 start stop duration Long E 1421
 TIME :17:07:00 17:37:00 30 (min) Purpose code: 3
 LOG :1666.60 1668.00 1.40 Area code : 1
 FDEPTH: 209 209 GearCond.code:
 BDEPTH: 209 209 Validity code:
 Towing dir: 330° Wire out: 600 m Speed: 29 kn*10

Sorted: 10 Kg Total catch: 10.53 CATCH/HOUR: 21.06

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	9.50	76	45.11	191
Merluccius capensis, male	8.24	84	39.13	190
MYCTOPHIDAE	3.00		14.25	
Merluccius capensis, juveniles	0.32	12	1.52	
Total	21.06		100.01	

PROJECT STATION: 44
 DATE: 6/2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2606
 start stop duration Long E 1403
 TIME :19:25:00 19:55:00 30 (min) Purpose code: 3
 LOG :1682.71 1684.30 1.59 Area code : 1
 FDEPTH: 305 309 GearCond.code:
 BDEPTH: 305 309 Validity code:
 Towing dir: * Wire out: 900 m Speed: 33 kn*10

Sorted: 142 Kg Total catch: 792.87 CATCH/HOUR: 1585.74

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	1131.00	1704	71.32	193
Merluccius capensis, male	265.80	720	16.76	192
Coelorinchus fasciatus	37.68	636	2.38	
Deepwater fish mixture	27.82		1.75	
Lophius vomerinus	26.60	14	1.68	196
Merluccius paradoxus, female	22.20	18	1.40	195
Trachurus capensis	16.32	60	1.03	
Callorhynchus capensis	12.96	12	0.82	
Galeus polli	12.72	432	0.80	
Helicolenus dactylopterus	9.24	48	0.58	
Todarodes sagittatus	8.28	12	0.52	
Squilla acuelata calmani	6.12	336	0.39	
PORTUNIDAE	4.80	156	0.30	
Merluccius paradoxus, male	4.20	12	0.26	194
Total	1585.74		99.99	

PROJECT STATION: 45
 DATE: 6/2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2658
 start stop duration Long E 4826
 TIME :22:28:00 22:58:00 30 (min) Purpose code: 3
 LOG :1700.50 1701.90 1.40 Area code : 1
 FDEPTH: 383 384 GearCond.code:
 BDEPTH: 383 384 Validity code:
 Towing dir: * Wire out: 1150 m Speed: 31 kn*10

Sorted: 130 Kg Total catch: 818.57 CATCH/HOUR: 1637.14

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	983.94	1154	60.10	198
Coelorinchus fasciatus	141.36	1172	8.63	
Helicolenus dactylopterus	106.76	724	6.52	
Merluccius capensis	95.40	2082	5.83	
Merluccius paradoxus, male	61.38	94	3.75	197
Galeus polli	53.40	484	3.26	
Lophius vomerinus	52.50	20	3.21	200
Genypterus capensis	41.80	18	2.55	199
Raja confundens	40.92	36	2.50	
Callorhynchus capensis	24.54	18	1.50	
Todarodes sagittatus	19.72	18	1.20	
Trachurus capensis	10.96	36	0.67	
PORTUNIDAE	4.46	74	0.27	
Total	1637.14		99.99	

PROJECT STATION: 46
 DATE: 7/2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2557
 start stop duration Long E 1335
 TIME :01:40:00 02:10:00 30 (min) Purpose code: 3
 LOG :1718.20 1719.70 1.50 Area code : 1
 FDEPTH: 652 643 GearCond.code:
 BDEPTH: 652 643 Validity code:
 Towing dir: 360° Wire out: 1950 m Speed: 32 kn*10

Sorted: 143 Kg Total catch: 630.25 CATCH/HOUR: 1260.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Nezumia sp.	315.00	10962	24.99	
Merluccius paradoxus, male	221.60	202	17.58	201
Alloctytus verrucosus	214.20	420	16.99	
Deania profundorum	161.28	126	12.79	
Selachophidium guentheri	89.04	924	7.06	
Raja confundens	73.50	294	5.83	
Coelorinchus fasciatus	52.92	126	4.20	
Ebinania costaecanarie	41.58	84	3.30	
Todarodes sagittatus	28.56	42	2.27	
Notacanthus sexspinis	27.30	378	2.17	
Merluccius paradoxus, female	16.20	16	1.29	202
Etmopterus brachyurus	5.88	42	0.47	
Trachyrinus scabratus	5.04	84	0.40	
Hoplostethus melanopus	3.78	378	0.30	
Photichthys argenteus	2.52	126	0.20	
Galeus polli	2.10	42	0.17	
Total	1260.50		100.01	

PROJECT STATION: 47
 DATE: 7/2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2539
 start stop duration Long E 1334
 TIME :04:54:00 05:24:00 30 (min) Purpose code: 3
 LOG :1736.50 1738.10 1.60 Area code : 1
 FDEPTH: 574 588 GearCond.code:
 BDEPTH: 574 588 Validity code:
 Towing dir: 345° Wire out: 1650 m Speed: 32 kn*10

Sorted: 95 Kg Total catch: 434.50 CATCH/HOUR: 869.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Nezumia leonis	269.80	1792	31.05	
Hoplostethus melanopus	129.06	4754	14.85	
Selachophidium guentheri	113.76	1698	13.09	
Merluccius paradoxus, female	111.70	124	12.85	204
Raja confundens	64.62	252	7.44	
Notacanthus sexspinis	49.68	1800	5.72	
Coelorinchus fasciatus	36.36	594	4.18	
Lithodes ferox	21.60	18	2.49	
Ebinania costaecanarie	19.44	36	2.24	
Lophius vomerinus	19.20	2	2.21	
Galeus polli	16.58	180	1.91	
Alloctytus verrucosus	10.26	144	1.18	
Todarodes sagittatus	5.76	36	0.66	
Merluccius paradoxus, male	1.20	2	0.14	203
Total	869.02		100.01	

PROJECT STATION: 48
 DATE: 7/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2514 Long E 1350
 TIME :16:38:00 15:06:00 30 (min) Purpose code: 3
 LOG :1814.40 1815.80 1.40 Area code : 1
 FDEPTH: 249 245 GearCond.code:
 BDEPTH: 249 245 Validity code:
 Towing dir: 360° Wire out: 786 m Speed: 30 kn*10

Sorted: 194 Kg Total catch: 1491.95 CATCH/HOUR: 2983.90

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	1266.54 5860	42.45	207
Merluccius capensis, male	883.50 3944	29.61	206
Trachurus capensis	406.98 2509	13.64	205
Lophius vomerinus	132.56 300	4.44	205
Coelorinchus fasciatus	120.38 3488	4.03	
Merluccius capensis, juveniles	82.08 4870	2.75	210
Sufflogobius bibarbat	22.58 3648	0.76	
Pterochrissus belloci	17.56 114	0.59	
Squilla sp.	15.04 638	0.50	
Galeus polli	13.90 684	0.47	
Chelidonichthys capensis	7.98 22	0.27	
Todarodes sagittatus	7.52 22	0.25	
Austroglossus microlepis	7.20 16	0.24	208
Total	2983.82	100.00	

PROJECT STATION: 52
 DATE: 7/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2511 Long E 1336
 TIME :23:31:00 00:01:00 30 (min) Purpose code: 3
 LOG :1851.20 1853.10 1.90 Area code : 1
 FDEPTH: 505 496 GearCond.code:
 BDEPTH: 505 496 Validity code:
 Towing dir: 60° Wire out:1500 m Speed: 36 kn*10

Sorted: 201 Kg Total catch: 897.00 CATCH/HOUR: 1794.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachyrinus scabrus	692.00 1770	38.57	
Merluccius paradoxus, female	290.40 328	16.19	223
Nezumia sp.	184.00 246	10.26	
Raja sp.	130.00 192	7.25	
S H A R K S	80.00 64	4.46	
Deania calcea	80.00 32	4.46	
Selachophidium guentheri	76.00 1056	4.24	
Coelorinchus fasciatus	50.00 608	2.79	
Todarodes sagittatus	48.00 96	2.68	
Lithodes ferox	48.00 160	2.68	
Galeus polli	44.00 608	2.45	
Deepwater fish mixture	24.00	1.34	
Notacanthus sexspinis	20.00 512	1.11	
Lophius vomerinus	13.30 6	0.74	225
Merluccius paradoxus, male	6.30 6	0.35	224
APOGONIDAE	4.00 64	0.22	
Hoplostethus mediterraneus	4.00 160	0.22	
Total	1794.00	100.01	

PROJECT STATION: 49
 DATE: 7/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2515 Long E 1344
 TIME :16:38:00 17:08:00 30 (min) Purpose code: 3
 LOG :1824.30 1825.80 1.50 Area code : 1
 FDEPTH: 297 294 GearCond.code:
 BDEPTH: 297 294 Validity code:
 Towing dir: 360° Wire out: 900 m Speed: 30 kn*10

Sorted: 383 Kg Total catch: 2556.12 CATCH/HOUR: 5112.24

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	2978.00 2252	58.25	213
Merluccius capensis, male	1117.00 3004	21.85	212
Trachurus capensis	412.92 1548	8.08	215
Lophius vomerinus	227.40 242	4.45	211
Coelorinchus fasciatus	166.30 5706	3.25	
Helicolenus dactylopterus	70.98 1184	1.39	
Todarodes sagittatus	45.96 68	0.90	
Merluccius capensis, juveniles	39.80 2592	0.78	214
Galeus polli	18.66 274	0.37	
Nezumia leonis	12.52 274	0.24	
PORTUNIDAE	8.42 229	0.16	
Squilla acuelata calmani	7.28 432	0.14	
Merluccius paradoxus	7.00 68	0.14	
Total	5112.24	100.00	

PROJECT STATION: 53
 DATE: 8/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2455 Long E 1339
 TIME :02:28:00 02:58:00 30 (min) Purpose code: 3
 LOG :1868.20 1869.80 1.60 Area code : 1
 FDEPTH: 430 430 GearCond.code:
 BDEPTH: 430 430 Validity code:
 Towing dir: 360° Wire out:1310 m Speed: 32 kn*10

Sorted: 198 Kg Total catch: 514.16 CATCH/HOUR: 1028.32

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Galeus polli	247.10 3460	24.03	
Merluccius paradoxus, female	225.70 484	21.95	227
S H A R K S	130.62 84	12.70	
Selachophidium guentheri	89.60 1344	8.71	
Nezumia sp.	41.86 1946	4.07	
Lophius vomerinus	40.10 26	3.90	228
Ebinania costaeanae	40.04 112	3.89	
Lithodes ferox	36.82 98	3.58	
Deepwater fish mixture	31.08	3.02	
Helicolenus dactylopterus	22.40 196	2.13	
S H A R K S	17.22 28	1.67	
Gerypterus capensis	17.20 8	1.67	229
Coelorinchus fasciatus	16.52 322	1.61	
Raja confundens	16.24 14	1.58	
S H A R K S	14.98 28	1.46	
Notacanthus sexspinis	14.98 308	1.46	
S H R I M P S	11.34 1330	1.10	
Merluccius paradoxus, male	9.90 24	0.96	226
Trachyrinus scabrus	3.50 70	0.34	
Epigonus denticulatus	1.12 28	0.11	
Total	1028.32	99.95	

PROJECT STATION: 50
 DATE: 7/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2515 Long E 1338
 TIME :19:00:00 19:30:00 30 (min) Purpose code: 3
 LOG :1834.40 1836.00 1.60 Area code : 1
 FDEPTH: 407 416 GearCond.code:
 BDEPTH: 407 416 Validity code:
 Towing dir: * Wire out:1200 m Speed: 3 kn*10

Sorted: 177 Kg Total catch: 766.38 CATCH/HOUR: 1532.76

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius paradoxus, female	752.12 1306	49.07	217
Galeus polli	167.64 1836	10.94	
Todarodes sagittatus	123.14 208	8.03	
Merluccius capensis, female	109.00 58	7.11	218
Nezumia leonis	81.12 1600	5.29	
Raja confundens	68.64 50	4.48	
Selachophidium guentheri	42.10 640	2.75	
Helicolenus dactylopterus	29.86 200	1.95	
Lophius vomerinus	29.50 10	1.92	220
Ebinania costaeanae	29.12 200	1.90	
Coelorinchus fasciatus	21.64 200	1.44	
Gerypterus capensis	20.80 10	1.36	219
Lithodes ferox	13.80 16	0.90	
Merluccius paradoxus, male	12.90 24	0.84	216
Notacanthus sexspinis	10.16 358	0.66	
Deania profundorum	9.98 16	0.65	
Epigonus denticulatus	8.66 292	0.56	
Etmopterus pusillus	2.58 8	0.17	
Total	1532.76	99.99	

PROJECT STATION: 54
 DATE: 8/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2457 Long E 1348
 TIME :07:37:00 08:08:00 31 (min) Purpose code: 3
 LOG :1887.00 1888.70 1.70 Area code : 1
 FDEPTH: 240 245 GearCond.code:
 BDEPTH: 240 245 Validity code:
 Towing dir: * Wire out: 750 m Speed: 32 kn*10

Sorted: 235 Kg Total catch: 1977.49 CATCH/HOUR: 3827.40

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachurus capensis	2402.13 1252	62.76	237
Merluccius capensis, female	347.52 2317	9.08	235
Merluccius capensis, juveniles	268.26 11423	7.01	236
Merluccius capensis, male	167.67 1585	4.38	234
Merluccius capensis, female	161.81 101	4.23	233
Sufflogobius bibarbat	140.23 1355	3.66	
Lophius vomerinus	134.52 135	3.51	230
Galeus polli	64.03 2501	1.67	
Merluccius capensis, male	41.42 31	1.08	232
Squilla acuelata calmani	36.58 610	0.96	
PORTUNIDAE	30.48 1097	0.80	
Coelorinchus fasciatus	12.19 244	0.32	
Lophius vomerinus	11.42 21	0.30	231
Todaropsis eblanae	9.15 366	0.24	
Total	3827.41	100.00	

PROJECT STATION: 51
 DATE: 7/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2514 Long E 1333
 TIME :21:12:00 21:42:00 30 (min) Purpose code: 3
 LOG :1843.70 1845.30 1.60 Area code : 1
 FDEPTH: 632 643 GearCond.code:
 BDEPTH: 632 643 Validity code:
 Towing dir: 241° Wire out:1800 m Speed: 30 kn*10

Sorted: 415 Kg Total catch: 1295.00 CATCH/HOUR: 2590.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius paradoxus, female	672.70 584	25.97	221
Deania calcea	486.00 320	18.76	
Todarodes sagittatus	418.00 720	15.14	
Nezumia leonis	288.00 8740	11.12	
Raja sp.	246.00 1200	9.50	
Hoplostethus mediterraneus	228.00 11566	8.80	
Selachophidium guentheri	206.00 3003	7.95	
Lophius vomerinus	32.00 5	1.24	
Galeus polli	8.00 83	0.31	
Merluccius paradoxus, male	4.36 4	0.17	222
Total	2589.06	99.96	

PROJECT STATION: 55
 DATE: 8/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2443 Long E 1355
 TIME :10:02:00 10:30:00 28 (min) Purpose code: 3
 LOG :1902.40 1903.63 1.20 Area code : 2
 FDEPTH: 202 202 GearCond.code:
 BDEPTH: 202 202 Validity code:
 Towing dir: * Wire out: 600 m Speed: 29 kn*10

Sorted: 22 Kg Total catch: 91.28 CATCH/HOUR: 195.60

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	95.14 891	48.64	239
Merluccius capensis, male	69.69 771	35.63	238
Merluccius capensis, juveniles	27.09 1106	13.85	240
Sufflogobius bibarbat	3.69 411	1.89	
Total	195.61	100.01	

DATE: 8/ 2/94 GEAR TYPE: BT No:1 PROJECT STATION: 56
 start stop duration POSITION:Lat S 2435
 TIME :11:52:00 12:22:00 30 (min) Long E 1355
 LOG :1910.80 1912.20 1.40 Purpose code: 3
 Area code : 2
 FDEPTH: 207 208 GearCond.code:
 BDEPTH: 207 208 Validity code:
 Towing dir: * Wire out: 600 m Speed: 27 kn*10
 Sorted: 119 Kg Total catch: 2799.59 CATCH/HOUR: 5599.18

SPECIES	CATCH/HOUR	weight	numbers	% OF TOT. C	SAMP
Merluccius capensis, male	2601.20	26928	46.46	243	
Merluccius capensis, female	2270.40	26752	40.55	244	
Merluccius capensis, juveniles	362.56	13728	6.40	245	
Trachurus capensis	140.80	704	2.51	246	
Merluccius capensis, female	139.30	98	2.49	242	
Sufflogobius bibaratus	35.20	3872	0.63		
Merluccius capensis, male	30.40	26	0.54	241	
Lepidopus caudatus	12.32	160	0.22		
Austroglossus microlepis	3.70	10	0.07	248	
Lophius vomerinus	3.30	2	0.06	247	
Total	5599.18		100.01		

DATE: 8/ 2/94 GEAR TYPE: BT No:1 PROJECT STATION: 57
 start stop duration POSITION:Lat S 2435
 TIME :14:35:00 15:05:00 30 (min) Long E 1346
 LOG :1922.90 1924.40 1.50 Purpose code: 3
 Area code : 2
 FDEPTH: 318 319 GearCond.code:
 BDEPTH: 318 319 Validity code:
 Towing dir: 350* Wire out: m Speed:900 kn*10
 Sorted: 366 Kg Total catch: 537.40 CATCH/HOUR: 1074.80

SPECIES	CATCH/HOUR	weight	numbers	% OF TOT. C	SAMP
Merluccius capensis, female	372.30	202	34.64	249	
Coelorinchus fasciatus	168.30	2952	15.66		
Merluccius capensis, male	99.60	62	9.27	250	
Lophius vomerinus	96.96	48	9.02	254	
Merluccius capensis, female	74.20	458	6.90	251	
Merluccius capensis, male	73.34	476	6.82	252	
Schedophilus huttoni	66.00	20	6.14		
Galeus polli	53.54	630	4.98		
Helicolenus dactylopterus	23.94	422	2.23		
Todarodes sagittatus	11.88	8	1.11		
Squalus megalops	7.64	8	0.71		
Deepwater fish mixture	7.02		0.65		
Merluccius capensis, juveniles	6.02	360	0.56	253	
PORTUNIDAE	5.22	188	0.49		
Nezumia sp.	5.04	224	0.47		
Squilla acuelata calmani	3.06	144	0.28		
Shrimps, small, non comm.	0.90	252	0.08		
Total	1074.96		100.01		

DATE: 8/ 2/94 GEAR TYPE: BT No:1 PROJECT STATION: 58
 start stop duration POSITION:Lat S 2434
 TIME :16:50:00 17:20:00 30 (min) Long E 1339
 LOG :1935.10 1936.60 1.40 Purpose code: 3
 Area code : 2
 FDEPTH: 379 373 GearCond.code:
 BDEPTH: 379 373 Validity code:
 Towing dir: 360* Wire out:1170 m Speed: 29 kn*10
 Sorted: 352 Kg Total catch: 921.36 CATCH/HOUR: 1842.72

SPECIES	CATCH/HOUR	weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus, female	632.64	2174	34.33	260	
Helicolenus dactylopterus	238.56	3046	12.95		
Merluccius paradoxus, female	219.60	84	11.92	256	
Schedophilus huttoni	145.44	48	7.89		
Galeus polli	141.12	1962	7.66		
Lophius vomerinus	106.80	60	5.80	255	
Raja sp.	43.20	28	2.34		
Squalus megalops	42.72	10	2.32		
Merluccius paradoxus, female	37.40	24	2.03	258	
Deepwater fish mixture	36.28		1.97		
Merluccius paradoxus, male	29.76	220	1.62	259	
Coelorinchus fasciatus	26.02	288	1.41		
Lithodes ferox	21.22	28	1.15		
Genypterus capensis	19.00	6	1.03		
Etmopterus lucifer	17.48	20	0.95		
Epigonus denticulatus	16.52	614	0.90		
Merluccius paradoxus, male	14.40	10	0.78	257	
Nezumia leonis	13.06	356	0.71		
Selachophidium guentheri	12.20	308	0.66		
PORTUNIDAE	10.28	452	0.56		
Beryx splendens	7.60	20	0.41		
Ebinania costaecanarie	6.04	116	0.33		
Todarodes sagittatus	5.86	10	0.32		
Shrimps, small, non comm.	4.52	1124	0.25		
Notacanthus sexspinis	2.60	58	0.14		
Coelorinchus braueri	1.20	40	0.07		
Total	1851.52		100.50		

DATE: 8/ 2/94 GEAR TYPE: BT No:1 PROJECT STATION: 59
 start stop duration POSITION:Lat S 2437
 TIME :19:00:00 19:30:00 30 (min) Long E 1332
 LOG :1946.00 1947.80 1.80 Purpose code: 3
 Area code : 2
 FDEPTH: 405 389 GearCond.code:
 BDEPTH: 405 389 Validity code:
 Towing dir: * Wire out:1250 m Speed: 35 kn*10
 Sorted: 120 Kg Total catch: 876.05 CATCH/HOUR: 1752.10

SPECIES	CATCH/HOUR	weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus, female	1275.00	2780	72.77	262	
Helicolenus dactylopterus	84.00	840	4.79		
Nezumia leonis	62.80	1460	3.58		
Selachophidium guentheri	56.80	800	3.24		
Galeus polli	46.20	500	2.64		
Merluccius paradoxus, male	42.00	100	2.40	261	
Coelorinchus fasciatus	38.60	880	2.20		
Lophius vomerinus	36.40	26	2.08	264	
Lithodes ferox	30.40	46	1.74		
Merluccius capensis, female	27.70	8	1.58	263	
Deania profundorum	22.60	40	1.29		
Genypterus capensis	11.80	6	0.67	265	
Beryx splendens	7.60	20	0.43		
Etmopterus pusillus	6.40	20	0.37		
Notacanthus sexspinis	2.00	120	0.11		
Coelorinchus braueri	1.20	40	0.07		
PORTUNIDAE	0.60	60	0.03		
Total	1752.10		99.99		

DATE: 8/ 2/94 GEAR TYPE: BT No:1 PROJECT STATION: 60
 start stop duration POSITION:Lat S 2423
 TIME :21:22:00 21:57:00 35 (min) Long E 1328
 LOG :1959.50 1961.50 2.00 Purpose code: 3
 Area code : 2
 FDEPTH: 359 344 GearCond.code:
 BDEPTH: 359 344 Validity code:
 Towing dir: 323* Wire out:1100 m Speed: 35 kn*10
 Sorted: 147 Kg Total catch: 365.71 CATCH/HOUR: 626.93

SPECIES	CATCH/HOUR	weight	numbers	% OF TOT. C	SAMP
Coelorinchus fasciatus	147.60	2155	23.54		
Helicolenus dactylopterus	82.39	1018	13.14		
Centroscymnus crepidater	45.94	3	7.33		
Guentherus altivela	45.77	21	7.30		
Todarodes sagittatus	39.39	93	6.28		
Deania profundorum	39.09	62	6.24		
Lophius vomerinus	34.89	29	5.57	268	
Genypterus capensis	32.31	15	5.15	269	
Merluccius paradoxus, female	30.77	77	4.91	266	
Merluccius capensis, female	29.57	14	4.72	267	
Nezumia leonis	28.70	869	4.58		
Epigonus denticulatus	26.02	710	4.15		
Galeus polli	22.11	185	3.53		
Selachophidium guentheri	9.87	206	1.57		
Trachurus capensis	4.01	21	0.64		
Lithodes ferox	3.34	3	0.53		
Notacanthus sexspinis	2.98	31	0.48		
PORTUNIDAE	2.16	82	0.34		
Total	626.91		100.00		

DATE: 9/ 2/94 GEAR TYPE: BT No:1 PROJECT STATION: 61
 start stop duration POSITION:Lat S 2415
 TIME :00:43:00 01:13:00 30 (min) Long E 1320
 LOG :1982.50 1984.20 1.70 Purpose code: 3
 Area code : 2
 FDEPTH: 430 430 GearCond.code:
 BDEPTH: 430 430 Validity code:
 Towing dir: 340* Wire out:1310 m Speed: 35 kn*10
 Sorted: 169 Kg Total catch: 608.41 CATCH/HOUR: 1216.82

SPECIES	CATCH/HOUR	weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus, female	435.48	888	35.79	271	
Centroscymnus crepidater	205.80	68	16.91		
Epigonus denticulatus	81.32	668	6.68		
Deepwater fish mixture	62.32		5.12		
Coelorinchus fasciatus	60.04	500	4.93		
Deania profundorum	58.90	68	4.84		
Helicolenus dactylopterus	53.20	158	4.37		
Hoplostethus mediterraneus	43.00	1070	3.53		
Nezumia sp.	39.90	1320	3.28		
Pholidoteuthis boschmai	29.94	8	2.46		
Galeus polli	29.26	288	2.40		
Etmopterus pusillus	27.74	90	2.28		
Todarodes sagittatus	22.26	38	1.83		
Lophius vomerinus	19.30	16	1.59	272	
Lithodes ferox	10.64	22	0.87		
Selachophidium guentheri	9.60	128	0.79		
Raja confundens	9.18	8	0.75		
Genypterus capensis	6.88	2	0.57	273	
Merluccius paradoxus, male	5.70	16	0.47	270	
Notacanthus sexspinis	2.36	46	0.19		
Trachurus capensis	1.90	8	0.16	274	
Myxine capensis	1.66	22	0.14		
PORTUNIDAE	1.14	52	0.09		
Total	1217.52		100.04		

DATE: 9/ 2/94 GEAR TYPE: BT No:1 PROJECT STATION: 62
 start stop duration POSITION:Lat S 2410
 TIME :06:40:00 07:10:00 30 (min) Long E 1330
 LOG :2003.60 2005.10 1.50 Purpose code: 3
 Area code : 2
 FDEPTH: 296 291 GearCond.code:
 BDEPTH: 296 291 Validity code:
 Towing dir: * Wire out: 900 m Speed: 31 kn*10
 Sorted: 131 Kg Total catch: 310.38 CATCH/HOUR: 620.76

SPECIES	CATCH/HOUR	weight	numbers	% OF TOT. C	SAMP
Helicolenus dactylopterus	269.50	1756	43.43		
Merluccius capensis, female	118.80	66	19.14	276	
Galeus polli	55.36	688	8.92		
Coelorinchus fasciatus	39.84	880	6.42		
Lophius vomerinus	33.08	32	5.33	279	
Merluccius capensis, male	32.00	68	5.15	275	
Merluccius capensis, female	14.80	50	2.38	280	
Todarodes sagittatus	13.12	16	2.11		
Merluccius paradoxus, female	12.30	86	1.98	278	
Raja confundens	10.88	16	1.75		
Shrimps, small, non comm.	4.80	1200	0.77		
Trachurus capensis	3.68	16	0.59		
Squilla acuelata calmani	3.04	208	0.49		
PORTUNIDAE	3.04	280	0.49		
Chlorophthalmus atlanticus	2.40	432	0.39		
Epigonus denticulatus	2.24	80	0.36		
Nezumia leonis	0.96	48	0.15		
Merluccius paradoxus, male	0.70	4	0.11	277	
Total	620.64		99.96		

DATE: 9/ 2/94 GEAR TYPE: BT No:1 PROJECT STATION: 63
 start stop duration POSITION:Lat S 2410
 TIME :08:37:00 09:07:00 30 (min) Long E 1336
 LOG :2013.20 2014.70 1.50 Purpose code: 3
 Area code : 2
 FDEPTH: 289 284 GearCond.code:
 BDEPTH: 289 284 Validity code:
 Towing dir: * Wire out: 900 m Speed: 30 kn*10
 Sorted: 203 Kg Total catch: 354.26 CATCH/HOUR: 708.52

SPECIES	CATCH/HOUR	weight	numbers	% OF TOT. C	SAMP
Merluccius capensis, female	214.80	122	30.32	282	
Galeus polli	136.50	1790	19.27		
Helicolenus dactylopterus	117.60	2768	16.60		
Coelorinchus fasciatus	65.80	974	9.29		
Lophius vomerinus	59.80	42	8.44	284	
Merluccius capensis, male	51.90	86	7.33	281	
Merluccius capensis, female	30.20	92	4.26	283	
Squalus megalops	14.00	14	1.98		
PORTUNIDAE	3.92	210	0.55		
Chlorophthalmus atlanticus	3.92	924	0.55		
Lepidopus caudatus	3.50	42	0.49		
Merluccius capensis, juveniles	3.36	336	0.47	285	
Squilla acuelata calmani	2.66	196	0.38		
Shrimps, small, non comm.	0.56	210	0.08		
Total	708.52		100.01		

PROJECT STATION: 64
 DATE: 9/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2407 Long E 1305
 start stop duration Purpose code: 3
 TIME :10:42:00 11:11:00 30 (min) Area code : 2
 LOG :2023.30 2034.80 1.50 GearCond.code:
 FDEPTH: 263 259 Validity code:
 BDEPTH: 263 259
 Towing dir: * Wire out: 850 m Speed: 30 kn*10
 Sorted: 288 Kg Total catch: 468.34 CATCH/HOUR: 936.68

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	279.78	176	287
Lophius vomerinus	105.50	98	291
Merluccius capensis, juveniles	104.50	9356	290
Merluccius capensis, male	103.30	80	286
Helicolenus dactylopterus	82.34	2350	8.79
Galeus polli	71.50	2100	7.63
Coelorinchus fasciatus	59.50	3180	6.35
Merluccius capensis, female	57.00	320	6.09
Merluccius capensis, male	21.90	170	2.34
Trachurus capensis	18.50	30	1.98
Sufflogobius bibarbatatus	16.70	1360	1.78
Squilla aculeata calmani	5.80	320	0.62
MYCTOPHIDAE	4.70	320	0.50
Chelidonichthys capensis	4.10	10	0.44
PORTUNIDAE	2.80	120	0.30
Chlorophthalmus atlanticus	0.60	50	0.06
Total	935.52	99.88	

PROJECT STATION: 69
 DATE:10/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2329 Long E 1349
 start stop duration Purpose code: 3
 TIME :06:50:00 07:20:00 30 (min) Area code : 2
 LOG :2107.50 2109.00 1.50 GearCond.code:
 FDEPTH: 154 156 Validity code:
 BDEPTH: 154 156
 Towing dir: * Wire out: 450 m Speed: 30 kn*10
 Sorted: 23 Kg Total catch: 95.96 CATCH/HOUR: 191.92

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	106.00	1176	55.23
Merluccius capensis, male	80.80	1056	42.10
Sufflogobius bibarbatatus	2.80	448	1.46
Merluccius capensis, juveniles	2.08	112	1.08
Trachurus capensis	0.24	48	0.13
Total	191.92	100.00	

PROJECT STATION: 70
 DATE:10/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2330 Long E 1335
 start stop duration Purpose code: 3
 TIME :09:12:00 09:42:00 30 (min) Area code : 2
 LOG :2123.90 2125.60 1.70 GearCond.code:
 FDEPTH: 195 191 Validity code:
 BDEPTH: 195 191
 Towing dir: * Wire out: 600 m Speed: 33 kn*10
 Sorted: 57 Kg Total catch: 626.94 CATCH/HOUR: 1253.88

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, male	460.80	5760	36.75
Merluccius capensis, juveniles	314.40	13358	25.07
Merluccius capensis, female	196.80	2256	15.70
Pterothrissus belloci	104.64	960	8.35
Sufflogobius bibarbatatus	77.28	8448	6.16
Lophius vomerinus	33.00	86	2.63
Merluccius capensis, female	24.70	24	1.97
PORTUNIDAE	14.88	480	1.19
Trachurus capensis	8.64	48	0.69
Galeus polli	8.16	288	0.65
Austroglossus microlepis	4.60	6	0.37
Merluccius capensis, male	3.10	6	0.25
Coelorinchus fasciatus	2.88	96	0.23
Total	1253.88	100.01	

PROJECT STATION: 65
 DATE: 9/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2465 Long E 1354
 start stop duration Purpose code: 3
 TIME :12:48:00 13:18:00 30 (min) Area code : 2
 LOG :2035.10 2036.40 1.30 GearCond.code:
 FDEPTH: 233 230 Validity code:
 BDEPTH: 233 230
 Towing dir: 360* Wire out: 711 m Speed: 28 kn*10
 Sorted: 124 Kg Total catch: 854.22 CATCH/HOUR: 1708.44

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, male	560.60	3312	32.81
Merluccius capensis, juveniles	530.00	2994	31.02
Merluccius capensis, female	396.00	2720	23.18
Sufflogobius bibarbatatus	74.18	5934	4.34
Lophius vomerinus	68.00	222	3.98
Trachurus capensis	34.04	148	1.99
Coelorinchus fasciatus	24.42	796	1.43
Pterothrissus belloci	17.94	112	1.05
Austroglossus microlepis	3.26	6	0.19
Total	1708.44	98.99	

PROJECT STATION: 71
 DATE:10/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2329 Long E 1326
 start stop duration Purpose code: 3
 TIME :11:12:00 11:42:00 30 (min) Area code : 2
 LOG :2135.50 2137.20 1.70 GearCond.code:
 FDEPTH: 234 237 Validity code:
 BDEPTH: 234 237
 Towing dir: * Wire out: 700 m Speed: 32 kn*10
 Sorted: 277 Kg Total catch: 5681.00 CATCH/HOUR: 11362.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachurus capensis	8172.96	50386	71.93
Merluccius capensis, male	1269.96	13362	11.18
Merluccius capensis, female	863.74	7344	5.84
Galeus polli	851.26	12744	3.71
Merluccius capensis, juveniles	376.12	23202	3.31
Merluccius capensis, female	179.70	100	1.58
Helicolenus dactylopterus	133.62	5220	1.18
Merluccius capensis, male	95.60	98	0.84
Lophius vomerinus	28.70	84	0.25
Sufflogobius bibarbatatus	19.46	1326	0.17
Gnyphterus capensis	0.92	2	0.01
Total	11362.04	100.00	

PROJECT STATION: 66
 DATE: 9/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2357 Long E 1359
 start stop duration Purpose code: 3
 TIME :15:03:00 15:33:00 30 (min) Area code : 2
 LOG :2047.70 2049.10 1.50 GearCond.code:
 FDEPTH: 202 209 Validity code:
 BDEPTH: 202 209
 Towing dir: 212* Wire out: 660 m Speed: 29 kn*10
 Sorted: 28 Kg Total catch: 1442.98 CATCH/HOUR: 2885.96

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	1236.60	13932	42.85
Merluccius capensis, male	1220.40	15120	42.29
Merluccius capensis, juveniles	205.20	6696	7.11
Sufflogobius bibarbatatus	182.52	19008	6.32
Trachurus capensis	29.16	216	1.01
Lophius vomerinus	8.64	648	0.30
Austroglossus microlepis	3.44	22	0.12
Total	2885.96	100.00	

PROJECT STATION: 67
 DATE: 9/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2342 Long E 1404
 start stop duration Purpose code: 3
 TIME :17:52:00 18:22:00 30 (min) Area code : 2
 LOG :2068.60 2070.20 1.60 GearCond.code:
 FDEPTH: 158 155 Validity code:
 BDEPTH: 158 155
 Towing dir: 16* Wire out: 500 m Speed: 31 kn*10
 Sorted: 3 Kg Total catch: 3.32 CATCH/HOUR: 6.64

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, juveniles	5.10	256	76.81
Merluccius capensis, male	1.30	18	19.58
Merluccius capensis, female	0.24	4	3.61
Total	6.64	100.00	

PROJECT STATION: 72
 DATE:10/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2329 Long E 1319
 start stop duration Purpose code: 3
 TIME :13:43:00 14:13:00 30 (min) Area code : 2
 LOG :2147.70 2149.20 1.50 GearCond.code:
 FDEPTH: 312 312 Validity code:
 BDEPTH: 312 312
 Towing dir: 15* Wire out: 924 m Speed: 33 kn*10
 Sorted: 275 Kg Total catch: 433.42 CATCH/HOUR: 866.84

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	364.70	196	42.07
Helicolenus dactylopterus	136.80	3678	15.78
Galeus polli	88.20	1538	10.17
Merluccius capensis, female	51.10	182	5.89
Merluccius capensis, male	46.00	34	5.31
Schedophilus buttoni	42.34	14	4.88
Merluccius capensis, male	41.20	132	4.75
Deepwater fish mixture	39.20		4.52
Todarodes sagittatus	17.98	34	2.07
Lophius vomerinus	12.60	10	1.45
Squalus megalops	10.14	8	1.17
Coelorinchus fasciatus	8.88	364	1.02
Merluccius capensis, juveniles	1.68	118	0.19
Hyperopllythe moselii	1.64	2	0.19
PORTUNIDAE	1.26	48	0.15
Shrimps, small, non comm.	1.04	328	0.12
Chlorophthalmus atlanticus	0.90	48	0.10
Squilla aculeata calmani	0.70	20	0.08
Malacocephalus occidentalis	0.34	8	0.04
Solenocera africana	0.14	20	0.02
Total	866.84	99.97	

PROJECT STATION: 68
 DATE: 9/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2333 Long E 1436
 start stop duration Purpose code: 3
 TIME :19:21:00 19:35:00 14 (min) Area code : 2
 LOG :2076.40 2077.10 0.70 GearCond.code:
 FDEPTH: 143 141 Validity code:
 BDEPTH: 143 141
 Towing dir: 20* Wire out: 500 m Speed: 30 kn*10
 Sorted: Kg Total catch: CATCH/HOUR:

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
N O C A T C H	0.00		
Total			

DATE:10/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2328 Long E 1307
 start stop duration
 TIME :16:20:00 16:50:00 30 (min) Purpose code: 3
 LOG :2163.60 2165.10 1.50 Area code : 2
 FDEPTH: 418 416 GearCond.code:
 BDEPTH: 418 416 Validity code:
 Towing dir: 360° Wire out:1261 m Speed: 31 kn*10

Sorted: 181 Kg Total catch: 372.10 CATCH/HOUR: 744.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	200.30	276	26.87	334
Helicolenus dactylopterus	106.00	138	14.24	
Selachophidium guentheri	67.20	322	9.03	
Schedophilus huttoni	41.84	32	5.62	
Galeus polli	41.60	416	5.59	
Nezumia sp.	37.04	1320	4.98	
Trachyrhinus scabrus	34.80	8	4.68	
Raja dournei	28.00	8	3.76	
Todarodes sagittatus	26.96	48	3.62	
Raja confundens	25.60	16	3.44	
Epigonus denticulatus	24.16	144	3.25	
Lophius vomerinus	20.10	30	2.70	335
Deepwater fish mixture	19.44		2.61	
Ebinania costaecanarie	12.64	8	1.70	
Squalus megalops	9.92	16	1.33	
Merluccius capensis, female	9.90	4	1.33	332
Deania profundorum	9.12	8	1.23	
Etmopterus pusillus	7.44	8	1.00	
Hoplostethus mediterraneus	5.40	240	0.86	
CONGRIDAE	4.48	8	0.60	
Lithodes ferax	2.50	6	0.34	
Merluccius paradoxus, male	2.50	6	0.34	333
Coelorinchus fasciatus	1.76	24	0.24	
Shrimps, small, non comm.	1.60	400	0.21	
Yarella blackfordi	0.80	56	0.11	
Notacanthus sexspinis	0.80	72	0.11	
S H R T M P S	0.56	168	0.08	
Aristeus varidens	0.40	40	0.05	
Scopelosaurus meadi	0.24	8	0.03	
Chlorophthalmus atlanticus	0.24	8	0.03	
GONOSTOMATIDAE	0.16	24	0.02	
Total	744.20		100.00	

DATE:10/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2324 Long E 1312
 start stop duration
 TIME :18:14:00 18:44:00 30 (min) Purpose code: 3
 LOG :1171.90 2173.70 1.80 Area code : 2
 FDEPTH: 378 377 GearCond.code:
 BDEPTH: 378 377 Validity code:
 Towing dir: * Wire out:1140 m Speed: 33 kn*10

Sorted: 142 Kg Total catch: 342.72 CATCH/HOUR: 685.44

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Galeus polli	151.20	1714	22.06	
Helicolenus dactylopterus	148.80	1838	21.71	
Merluccius paradoxus, female	78.80	170	11.50	338
Merluccius capensis, female	73.80	30	10.77	336
Lophius vomerinus	60.40	44	8.81	339
Coelorinchus fasciatus	46.24	1216	6.75	
Deania profundorum	31.68	48	4.62	
Etmopterus pusillus	28.64	64	4.18	
Selachophidium guentheri	11.20	432	1.63	
S H R T M P S	11.04	2540	1.61	
Epigonus denticulatus	10.56	288	1.54	
Nezumia leonis	9.92	416	1.45	
Todarodes sagittatus	8.28	48	1.21	
Merluccius paradoxus, male	6.40	8	0.93	337
Genypterus capensis	6.20	2	0.90	
Hoplostethus mediterraneus	2.24	48	0.33	
Total	685.40		100.00	

DATE:10/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2321 Long E 1316
 start stop duration
 TIME :19:34:00 20:04:00 30 (min) Purpose code: 3
 LOG :2177.60 2179.30 1.70 Area code : 2
 FDEPTH: 356 358 GearCond.code:
 BDEPTH: 356 358 Validity code:
 Towing dir: * Wire out:1050 m Speed: 33 kn*10

Sorted: 152 Kg Total catch: 304.66 CATCH/HOUR: 609.32

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Galeus polli	129.00	1526	21.17	
Merluccius paradoxus, female	99.50	218	16.33	341
Merluccius capensis, female	75.20	30	12.34	340
Helicolenus dactylopterus	73.32	1068	12.03	
Lophius vomerinus	57.90	38	9.50	344
Schedophilus huttoni	38.40	12	6.30	
Shrimps, small, non comm.	34.08	7498	5.59	
Torpedo nobiliana	26.76	12	4.39	
Todarodes sagittatus	25.08	36	4.12	
Coelorinchus fasciatus	22.08	456	3.62	
Genypterus capensis	5.80	6	1.12	343
Nezumia leonis	5.52	216	0.91	
Selachophidium guentheri	3.96	132	0.65	
Ebinania costaecanarie	3.84	72	0.63	
PORTUNIDAE	2.76	144	0.45	
Merluccius paradoxus, male	2.60	6	0.43	342
Epigonus denticulatus	1.44	72	0.24	
Hoplostethus mediterraneus	3.72	12	0.12	
Notacanthus sexspinis	0.36	48	0.06	
Total	609.32		100.00	

DATE:11/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2301 Long E 1404
 start stop duration
 TIME :11:46:00 11:56:00 10 (min) Purpose code: 3
 LOG :2281.20 2281.60 0.40 Area code : 2
 FDEPTH: 123 123 GearCond.code: 9
 BDEPTH: 123 123 Validity code: 1
 Towing dir: 243° Wire out: 400 m Speed:360 kn*10

Sorted: 1 Kg Total catch: 1.84 CATCH/HOUR: 11.04

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Trachurus capensis	9.24	684	83.70	346
Merluccius capensis, juveniles	1.80	108	16.30	345
Total	11.04		100.00	

DATE:11/ 2/94 GEAR TYPE: PT No:7 POSITION:Lat S 2309 Long E 1358
 start stop duration
 TIME :13:07:00 13:14:00 7 (min) Purpose code: 1
 LOG :2288.80 2290.10 1.30 Area code : 2
 FDEPTH: 124 124 GearCond.code:
 BDEPTH: 134 134 Validity code:
 Towing dir: 100° Wire out: 400 m Speed: 30 kn*10

Sorted: 16 Kg Total catch: 389.39 CATCH/HOUR: 3337.53

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, juveniles	3174.00	310646	95.10	347
Sardinops ocellata	124.20	1183	3.72	349
Trachurus capensis, juvenile	39.43	3154	1.18	348
Total	3337.63		100.00	

DATE:11/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2301 Long E 1346
 start stop duration
 TIME :15:05:00 15:23:00 18 (min) Purpose code: 3
 LOG :2304.10 2305.00 0.90 Area code : 2
 FDEPTH: 144 144 GearCond.code:
 BDEPTH: 144 144 Validity code:
 Towing dir: 348° Wire out: 450 m Speed: 32 kn*10

Sorted: 35 Kg Total catch: 389.35 CATCH/HOUR: 1297.83

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Sufflogobius bibarbus	1259.50	240653	97.05	
Merluccius capensis, juveniles	38.33	3937	2.95	350
Total	1297.83		100.00	

DATE:11/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2302 Long E 1340
 start stop duration
 TIME :16:43:00 16:49:00 6 (min) Purpose code: 3
 LOG :2313.60 2313.90 0.30 Area code : 2
 FDEPTH: 148 148 GearCond.code:
 BDEPTH: 148 148 Validity code:
 Towing dir: 357° Wire out: 450 m Speed: 35 kn*10

Sorted: 18 Kg Total catch: 56.01 CATCH/HOUR: 560.10

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, juveniles	535.80	40240	95.66	351
Sufflogobius bibarbus	24.30	1320	4.34	
Total	560.10		100.00	

DATE:11/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2302 Long E 1327
 start stop duration
 TIME :18:26:00 18:50:00 24 (min) Purpose code: 3
 LOG :2328.00 2329.10 1.10 Area code : 2
 FDEPTH: 268 270 GearCond.code:
 BDEPTH: 268 270 Validity code:
 Towing dir: * Wire out: 800 m Speed: 32 kn*10

Sorted: 103 Kg Total catch: 243.50 CATCH/HOUR: 608.75

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	157.50	1183	25.87	357
Merluccius capensis, male	132.50	1138	21.77	358
Merluccius capensis, female	61.25	35	10.06	352
MYCTOPHIDAE	60.38	17028	9.92	
Galeus polli	55.75	463	9.16	
Lophius vomerinus	37.25	43	6.12	354
Coelorinchus fasciatus	19.88	840	3.27	
Merluccius capensis, juveniles	18.73	1375	3.08	356
Helicolenus dactylopterus	17.43	1138	2.86	
Merluccius capensis, male	16.75	15	2.75	353
Aristeus varidens	6.23	1218	1.02	
Hyperoglyphe mosellii	5.43	10	0.89	
Pterothrissus belloci	5.43	28	0.89	
Trachurus capensis	5.15	35	0.85	
Sufflogobius bibarbus	3.78	438	0.62	
Dentex macropthalmus	2.28	10	0.37	
Chlorophthalmus atlanticus	1.33	150	0.22	
Todaropsis eblanae	0.80	28	0.13	
Genypterus capensis	0.68	3	0.11	355
C R A B S	0.18	28	0.03	
Total	608.71		99.99	

DATE:11/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2301 Long E 1323
 start stop duration
 TIME :19:43:00 20:13:00 30 (min) Purpose code: 3
 LOG :2334.90 2336.50 1.60 Area code : 2
 FDEPTH: 320 323 GearCond.code:
 BDEPTH: 320 323 Validity code:
 Towing dir: * Wire out: 560 m Speed: 31 kn*10

Sorted: 143 Kg Total catch: 143.43 CATCH/HOUR: 286.86

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	75.80	36	26.42	359
Helicolenus dactylopterus	68.00	2304	23.70	
Galeus polli	40.50	946	14.12	
Merluccius capensis, male	19.60	16	6.83	360
Lophius vomerinus	17.54	20	6.11	362
Coelorinchus fasciatus	15.70	354	5.47	
Centrolophus niger	14.50	6	5.05	
Raja leopardus	7.20	2	2.51	
Schedophilus huttoni	6.90	2	2.41	
Squalus megalops	5.22	10	1.82	
Todarodes sagittatus	4.68	16	1.63	
Aristeus varidens	3.24	554	1.13	
Trachurus capensis	2.76	18	0.96	361
Nezumia leonis	2.46	240	0.86	
Chlorophthalmus atlanticus	0.72	46	0.25	
Todaropsis eblanae	0.60	22	0.21	
PORTUNIDAE	0.58	40	0.20	
Malacocephalus laevis	0.44	8	0.15	
Squilla aculeata calmani	0.42	14	0.15	
Total	286.86		99.98	

PROJECT STATION: 82
 DATE:11/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2303
 start stop duration
 TIME :23:30:00 24:00:00 30 (min) Purpose code: 3
 LOG :2358.50 2360.30 1.80 Area code : 2
 FDEPTH: 444 457 GearCond.code:
 BDEPTH: 444 457 Validity code: 5
 Towing dir: 340° Wire out:1350 m Speed: 34 kn*10

Sorted: 220 Kg Total catch: 999.63 CATCH/HOUR: 1999.26

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP	
weight	numbers			
Merluccius paradoxus, female	612.26	1116	30.62	365
Trachyrhinus scabrus	425.40	2416	21.28	
Epigonus denticulatus	311.54	696	15.58	
Centroscymnus crepidater	137.00	10	6.85	
Helicolenus dactylopterus	136.40	1038	6.82	
Deania profundorum	75.16	124	3.76	
Lophius vomerinus	66.00	24	3.30	363
Deepwater fish mixture	57.66		2.88	
Nezumia sp.	45.72	1658	2.29	
Selachophidium guentheri	45.72	930	2.29	
Merluccius paradoxus, male	45.48	76	2.27	364
Todarodes sagittatus	18.44	30	0.92	
Galeus polli	11.16	294	0.56	
Lithodes ferox	6.00	6	0.30	
Hoplostethus mediterraneus	2.94	154	0.15	
Notacanthus sexspinis	1.08	46	0.05	
Coelorinchus fasciatus	0.92	30	0.05	
Aristeus varidens	0.92	76	0.05	
Total	1999.80		100.02	

PROJECT STATION: 83
 DATE:12/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2234
 start stop duration
 TIME :07:50:00 08:20:00 30 (min) Purpose code: 3
 LOG :2404.80 2406.50 1.80 Area code : 2
 FDEPTH: 344 355 GearCond.code:
 BDEPTH: 344 355 Validity code:
 Towing dir: 340° Wire out:1050 m Speed: 33 kn*10

Sorted: 130 Kg Total catch: 295.45 CATCH/HOUR: 590.90

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP	
weight	numbers			
Merluccius paradoxus, female	163.30	172	27.64	369
Centroscyllium fabricii	130.20	70	22.03	
Centrolophus niger	84.70	42	14.33	
Coelorinchus fasciatus	60.76	1064	10.28	
Helicolenus dactylopterus	50.96	560	8.62	
Etmopterus pusillus	20.58	28	3.48	
Genypterus capensis	13.70	8	2.32	370
Merluccius capensis, female	11.50	8	1.95	366
Epigonus denticulatus	10.36	252	1.75	
Galeus polli	9.38	392	1.59	
Merluccius capensis, male	8.90	6	1.51	367
Todarodes sagittatus	5.32	14	0.90	
Lophius vomerinus	5.00	4	0.85	371
PORTUNIDAE	3.50	98	0.59	
Merluccius paradoxus, male	3.36	4	0.57	368
Nezumia sp.	3.22	140	0.54	
Beryx splendens	2.38	14	0.40	
Lamprogrammus exutus	1.82	28	0.31	
Chlorophthalmus atlanticus	1.54	42	0.26	
Ebinania costaeccanarie	0.42	14	0.07	
Total	590.90		99.99	

PROJECT STATION: 84
 DATE:12/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2233
 start stop duration
 TIME :10:20:00 10:55:00 35 (min) Purpose code: 3
 LOG :2418.40 2420.20 1.80 Area code : 2
 FDEPTH: 292 290 GearCond.code:
 BDEPTH: 292 290 Validity code:
 Towing dir: 340° Wire out: 900 m Speed: 33 kn*10

Sorted: 172 Kg Total catch: 461.75 CATCH/HOUR: 791.57

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP	
weight	numbers			
Merluccius capensis, female	466.71	360	58.96	372
Merluccius capensis, male	75.34	154	9.52	373
Chlorophthalmus atlanticus	60.17	2211	7.60	
Lophius vomerinus	48.86	58	6.17	374
Helicolenus dactylopterus	31.94	1262	4.04	
Coelorinchus fasciatus	29.62	1032	3.74	
Deepwater fish mixture	27.72		3.50	
Raja leopardus	23.40	10	2.96	
Galeus polli	11.57	309	1.46	
Todarodes sagittatus	9.51	10	1.20	
Schedophilus huttoni	2.78	5	0.35	
Aristeus varidens	2.42	411	0.31	
S H R T M P S	0.62	113	0.08	
Lepidopus caudatus	0.62	5	0.08	
MYXINIDAE	0.26	10	0.03	
Total	791.54		100.00	

PROJECT STATION: 85
 DATE:12/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2232
 start stop duration
 TIME :12:50:00 13:11:00 21 (min) Purpose code: 3
 LOG :2431.80 2432.90 1.10 Area code : 2
 FDEPTH: 270 268 GearCond.code:
 BDEPTH: 270 268 Validity code:
 Towing dir: 360° Wire out: 840 m Speed: 33 kn*10

Sorted: 91 Kg Total catch: 507.24 CATCH/HOUR: 1449.26

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP	
weight	numbers			
Galeus polli	451.66	149	31.16	
Merluccius capensis, male	244.29	1546	16.86	375
Coelorinchus fasciatus	165.57	4446	11.42	
Merluccius capensis, juveniles	149.29	4397	10.30	380
Merluccius capensis, female	149.29	1031	10.30	377
Pterothrissus belloci	119.43	1166	8.24	
Merluccius capensis, female	67.00	66	4.62	376
Lophius vomerinus	26.86	91	1.85	381
Merluccius capensis, male	19.14	26	1.32	379
Solenocera africana	14.37	2849	0.99	
Helicolenus dactylopterus	13.83	1111	0.95	
Dentex macrophthalms	11.94	26	0.52	
Austroglossus microlepis	7.86	14	0.84	382
Sufflogobius bibarbatatus	2.97	380	0.20	
Lophius vomerinus	2.43	134	0.17	378
Synagrops microlepis	1.63	163	0.11	
Chlorophthalmus atlanticus	1.34	189	0.09	
Genypterus capensis	0.37	3	0.03	383
Total	1449.27		99.97	

PROJECT STATION: 86
 DATE:12/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2231
 start stop duration
 TIME :15:00:00 15:30:00 30 (min) Purpose code: 3
 LOG :2443.60 2445.20 1.60 Area code : 2
 FDEPTH: 246 243 GearCond.code:
 BDEPTH: 246 243 Validity code:
 Towing dir: 360° Wire out: 740 m Speed: 33 kn*10

Sorted: 24 Kg Total catch: 611.83 CATCH/HOUR: 1223.66

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP	
weight	numbers			
Merluccius capensis, male	565.60	7112	46.22	386
Merluccius capensis, female	506.80	6496	41.42	387
Merluccius capensis, juveniles	116.48	4200	9.52	389
Pterothrissus belloci	13.44	168	1.10	
Sufflogobius bibarbatatus	6.72	784	0.55	
Solenocera africana	5.60	1344	0.46	
Austroglossus microlepis	4.92	10	0.40	384
PORTUNIDAE	3.36	56	0.27	
Lophius vomerinus	0.74	4	0.06	385
Total	1223.66		100.00	

PROJECT STATION: 87
 DATE:12/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2229
 start stop duration
 TIME :19:15:00 19:45:00 30 (min) Purpose code: 3
 LOG :2459.00 2460.60 1.60 Area code : 2
 FDEPTH: 212 210 GearCond.code:
 BDEPTH: 212 210 Validity code:
 Towing dir: 350° Wire out: 650 m Speed: 31 kn*10

Sorted: 39 Kg Total catch: 430.10 CATCH/HOUR: 860.20

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP	
weight	numbers			
Merluccius capensis, female	321.20	3674	37.34	387
Merluccius capensis, male	291.50	3652	33.89	386
Sufflogobius bibarbatatus	247.50	54000	28.77	
Total	860.20		100.00	

PROJECT STATION: 88
 DATE:13/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2201
 start stop duration
 TIME :06:57:00 07:27:00 30 (min) Purpose code: 3
 LOG :2549.00 2550.20 1.20 Area code : 2
 FDEPTH: 161 161 GearCond.code:
 BDEPTH: 161 161 Validity code:
 Towing dir: 350° Wire out: 500 m Speed: 24 kn*10

Sorted: 58 Kg Total catch: 260.22 CATCH/HOUR: 520.44

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP	
weight	numbers			
Sufflogobius bibarbatatus	268.00	73738	51.49	
Merluccius capensis, female	139.96	1638	26.89	388
Merluccius capensis, male	90.90	1198	17.47	389
Merluccius capensis, juveniles	16.00	694	3.07	390
Squalus megalops	3.24	10	0.62	
Squilla aculeata calmani	2.26	208	0.43	
Trachurus capensis, juvenile	0.08	28	0.02	391
Total	520.44		99.99	

PROJECT STATION: 89
 DATE:13/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2202
 start stop duration
 TIME :08:58:00 09:28:00 30 (min) Purpose code: 3
 LOG :2558.50 2560.10 1.60 Area code : 2
 FDEPTH: 170 173 GearCond.code:
 BDEPTH: 170 173 Validity code:
 Towing dir: 77° Wire out: 500 m Speed: 32 kn*10

Sorted: 31 Kg Total catch: 1765.70 CATCH/HOUR: 3531.40

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP	
weight	numbers			
Merluccius capensis, female	1663.20	23072	47.10	392
Merluccius capensis, male	1276.80	16240	36.16	393
Merluccius capensis, juveniles	490.60	15944	13.89	394
Sufflogobius bibarbatatus	100.80	18422	2.85	
Total	3531.40		100.00	

PROJECT STATION: 90
 DATE:13/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2202
 start stop duration
 TIME :11:34:00 12:04:00 30 (min) Purpose code: 3
 LOG :2574.00 2575.60 1.60 Area code : 2
 FDEPTH: 236 234 GearCond.code:
 BDEPTH: 236 234 Validity code:
 Towing dir: 350° Wire out: 710 m Speed: 33 kn*10

Sorted: 35 Kg Total catch: 1276.86 CATCH/HOUR: 2553.72

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP	
weight	numbers			
Merluccius capensis, female	1228.00	15168	48.09	397
Merluccius capensis, male	1224.00	16416	47.93	396
Pterothrissus belloci	22.08	480	0.86	
Merluccius capensis, juveniles	18.24	1248	0.71	395
Austroglossus microlepis	17.70	126	0.69	399
Solenocera africana	16.32	3552	0.64	
PORTUNIDAE	13.44	48	0.53	
Sufflogobius bibarbatatus	13.44	2496	0.53	
Lophius vomerinus	0.50	8	0.02	398
Total	2553.72		100.00	

PROJECT STATION: 91
 DATE:13/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2204
 start stop duration Long E 1259
 TIME :13:36:00 14:06:00 30 (min) Purpose code: 3
 LOG :2584.90 2586.30 1.40 Area code : 2
 FDEPTH: 289 292 GearCond.code:
 BDEPTH: 289 292 Validity code:
 Towing dir: 360° Wire out: 840 m Speed: 31 kn*10

Sorted: 125 Kg Total catch: 333.75 CATCH/HOUR: 667.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Chlorophthalmus atlanticus	210.40	10790	31.52	
Merluccius capensis, female	84.10	62	12.60	401
Helicolenus dactylopterus	72.32	6146	10.83	
Merluccius capensis, female	65.76	336	9.95	403
Merluccius capensis, male	61.60	192	9.23	402
Lophius vomerinus	49.30	88	7.39	405
Merluccius capensis, male	43.00	48	6.44	400
Deepwater fish mixture	31.20		4.67	
Austroglossus microlepis	13.70	24	2.05	405
Merluccius capensis, juveniles	7.84	512	1.17	407
Coelorinchus fasciatus	6.24	432	0.93	
Synagrops microlepis	5.28	528	0.79	
Solenocera africana	4.80	800	0.72	
Coelorinchus coelorinch. polli	4.80	144	0.60	
Trachurus capensis	3.20	16	0.48	
PORTUNIDAE	2.56	144	0.38	
Galeus polli	1.60	48	0.24	
Genypterus capensis	0.60	2	0.09	404
Total	667.50		99.98	

PROJECT STATION: 92
 DATE:13/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2204
 start stop duration Long E 1253
 TIME :16:10:00 16:31:00 21 (min) Purpose code: 3
 LOG :2598.10 2599.20 1.10 Area code : 2
 FDEPTH: 335 334 GearCond.code:
 BDEPTH: 335 334 Validity code:
 Towing dir: 360° Wire out:1020 m Speed: 3 kn*10

Sorted: 270 Kg Total catch: 322.42 CATCH/HOUR: 921.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	462.43	291	50.20	411
Merluccius paradoxus, female	101.71	283	11.04	413
Helicolenus dactylopterus	88.29	1914	9.58	
Merluccius capensis, male	77.57	74	8.42	410
Galeus polli	47.31	600	5.14	
Lophius vomerinus	27.14	29	2.95	408
Schedophilus huttoni	25.71	11	2.79	
Centrolophus niger	19.26	6	2.05	
Chlorophthalmus atlanticus	18.17	600	1.97	
Hexanchus griseus	17.14	3	1.86	
Todarodes sagittatus	12.34	17	1.34	
Shrimps, small, non comm.	7.37	2229	0.80	
Heptanchias perlo	6.00	3	0.65	
Nezumia sp.	3.77	120	0.41	
Merluccius capensis	3.23	3	0.35	409
PORTUNIDAE	2.40	86	0.26	
Merluccius paradoxus, male	1.34	6	0.15	412
Total	921.18		100.00	

PROJECT STATION: 93
 DATE:13/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2204
 start stop duration Long E 1244
 TIME :18:09:00 18:39:00 30 (min) Purpose code: 3
 LOG :2609.80 2611.20 1.40 Area code : 2
 FDEPTH: 382 376 GearCond.code:
 BDEPTH: 382 376 Validity code:
 Towing dir: * Wire out:1120 m Speed: 27 kn*10

Sorted: 197 Kg Total catch: 544.10 CATCH/HOUR: 1088.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Helicolenus dactylopterus	376.00	2784	34.55	
Merluccius paradoxus, female	174.90	426	16.07	418
Epigonus denticulatus	135.00	3318	12.50	
Deepwater fish mixture	54.90		5.05	
Trachyrinus scabrus	47.10	1134	4.33	
Todarodes sagittatus	39.40	72	3.62	
Selachophidium guentheri	35.80	972	3.38	
Aristeus varidens	30.00	2400	2.76	
Coelorinchus coelorinch. polli	23.00	448	2.11	
Lophius vomerinus	22.90	20	2.10	416
Galeus polli	18.78	180	1.73	
Centrolophus niger	17.46	6	1.60	
Deania profundorum	17.28	30	1.59	
Nezumia sp.	15.60	572	1.43	
Merluccius paradoxus, male	12.60	30	1.16	419
Raja sp.	12.06	24	1.11	
Merluccius capensis, female	11.68	8	1.07	414
Etmopterus lucifer	11.42	42	1.05	
Genypterus capensis	8.90	4	0.82	417
Hoplostethus cadenati	8.70	318	0.80	
Coelorinchus fasciatus	4.80	194	0.44	
PORTUNIDAE	4.14	138	0.38	
Chlorophthalmus atlanticus	2.76	84	0.25	
Merluccius capensis, male	2.02	2	0.19	415
Total	1088.20		100.09	

PROJECT STATION: 94
 DATE:13/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2204
 start stop duration Long E 1241
 TIME :19:55:00 20:25:00 30 (min) Purpose code: 3
 LOG :2618.40 2619.90 1.50 Area code : 2
 FDEPTH: 500 506 GearCond.code:
 BDEPTH: 500 506 Validity code:
 Towing dir: 350° Wire out:1500 m Speed: 28 kn*10

Sorted: 236 Kg Total catch: 493.74 CATCH/HOUR: 987.48

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius paradoxus, female	420.80	510	42.61	421
Trachyrinus scabrus	305.60	1430	30.95	
Hoplostethus cadenati	58.20	2494	5.89	
Todarodes sagittatus	57.72	78	5.85	
Yarella blackfordi *	39.26	6964	3.98	
Nezumia sp.	28.80	1116	2.92	
Helicolenus dactylopterus	25.74	78	2.61	
Centrolophus squamosus	14.00	2	1.42	
Merluccius paradoxus, male	8.00	12	0.81	420
Etmopterus lucifer	6.76	26	0.68	
Galeus polli	6.50	78	0.66	
Galeus polli	6.50	78	0.66	
Epigonus denticulatus	5.46	104	0.55	
Lophius vomerinus	3.16	4	0.32	422
Selachophidium guentheri	1.82	52	0.18	
Lithodes ferox	1.74	2	0.18	
Aristeus varidens	1.56	104	0.16	
Notacanthus sexspinis	1.04	52	0.11	
Ebinania costaeacanarie	1.04	26	0.11	
Stereomastis sculpta	0.26	52	0.03	
OPHICHTHIDAE	0.02	26		
Total	993.98		100.68	

PROJECT STATION: 95
 DATE:13/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2201
 start stop duration Long E 1236
 TIME :22:38:00 23:08:00 30 (min) Purpose code: 3
 LOG :2625.60 2626.90 1.30 Area code : 2
 FDEPTH: 617 628 GearCond.code:
 BDEPTH: 617 628 Validity code:
 Towing dir: * Wire out:1850 m Speed: 30 kn*10

Sorted: 187 Kg Total catch: 519.99 CATCH/HOUR: 1039.98

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Centrolophus granulosus	315.90	26	30.38	
Merluccius paradoxus, female	273.40	226	26.29	424
Neocyttus rhomboidalis	116.74	442	11.23	
Nezumia sp.	91.26	4082	8.78	
Raja sp.	54.08	52	5.20	
Trachyrinus scabrus	44.46	130	4.28	
OPHICHTHIDAE	34.32	650	3.30	
Coelorinchus fasciatus	18.72	104	1.80	
Heterocarpus grimaldii	16.64	1118	1.60	
Deania calcea	15.08	26	1.45	
Notacanthus sexspinis	12.22	78	1.18	
Yarella blackfordi	10.14	364	0.98	
Selachophidium guentheri	9.62	234	0.93	
Lophius vomerinus	7.90	2	0.76	423
Todarodes sagittatus	5.72	25	0.55	
Aristeus varidens	4.68	260	0.45	
ALEPOCEPHALIDAE	2.86	104	0.28	
Hoplostethus mediterraneus	1.56	130	0.15	
Stereomastis sculpta	1.56	208	0.15	
Ebinania costaeacanarie	1.30	26	0.13	
Nephropsis atlantica	1.04	104	0.10	
Shrimps, small, non comm.	0.78	234	0.08	
Total	1039.98		100.05	

PROJECT STATION: 96
 DATE:14/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2135
 start stop duration Long E 1234
 TIME :03:37:00 04:07:00 30 (min) Purpose code: 3
 LOG :2653.40 2654.90 1.50 Area code : 2
 FDEPTH: 546 542 GearCond.code:
 BDEPTH: 546 542 Validity code:
 Towing dir: 350° Wire out:1650 m Speed: 32 kn*10

Sorted: 185 Kg Total catch: 567.50 CATCH/HOUR: 1135.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Trachyrinus scabrus	378.12	1536	33.31	
Hoplostethus mediterraneus	220.80	6376	19.45	
Merluccius paradoxus, female	155.30	154	13.68	426
Centroscymnus crepidater	133.00	10	11.72	
Deepwater fish mixture	53.76		4.74	
Nezumia sp.	47.36	2464	4.17	
Galeus polli	30.72	320	2.71	
Todarodes sagittatus	27.20	32	2.40	
Lophius vomerinus	21.50	12	1.89	427
Yarella blackfordi	17.60	1088	1.55	
Raja sp.	10.56	96	0.93	
ALEPOCEPHALIDAE	9.92	800	0.87	
Centrolophus granulosus	8.70	2	0.77	
OPHICHTHIDAE	8.32	192	0.73	
Selachophidium guentheri	4.80	96	0.42	
OPHICHTHIDAE	4.48	96	0.39	
Merluccius paradoxus, male	1.46	2	0.13	425
Notacanthus sexspinis	0.12	32	0.01	
Total	1133.72		99.87	

PROJECT STATION: 97
 DATE:14/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2134
 start stop duration Long E 1236
 TIME :07:12:00 07:42:00 30 (min) Purpose code: 3
 LOG :2664.40 2668.00 1.60 Area code : 2
 FDEPTH: 449 432 GearCond.code:
 BDEPTH: 449 432 Validity code:
 Towing dir: * Wire out:1400 m Speed: 32 kn*10

Sorted: 320 Kg Total catch: 871.47 CATCH/HOUR: 1742.94

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Trachyrinus scabrus	700.00	5264	40.16	
Merluccius paradoxus, female	465.50	574	26.71	430
Hoplostethus cadenati	251.30	8950	14.40	
Lophius vomerinus	105.70	34	6.06	429
Nezumia sp.	46.50	2356	2.67	
Epigonus denticulatus	44.00	900	2.52	
Deepwater fish mixture	43.00		2.47	
Aristeus varidens	31.50	2150	1.81	
Helicolenus dactylopterus	22.00	250	1.26	
Lophius vaillanti	16.10	2	0.92	428
Notacanthus sexspinis	4.50	200	0.26	
Merluccius paradoxus, male	3.08	6	0.18	431
Ebinania costaeacanarie	3.00	4	0.17	
Geryon maritae	2.54	2	0.15	
Lithodes ferox	2.02	2	0.12	
Chlorophthalmus atlanticus	2.00	100	0.11	
Selachophidium guentheri	0.50	50	0.03	
Total	1742.94		100.00	

PROJECT STATION: 98
 DATE:14/ 2/93 GEAR TYPE: BT No:1 POSITION:Lat S 2133
 start stop duration Long E 1242
 TIME :09:20:00 09:50:00 30 (min) Purpose code: 3
 LOG :2677.20 2678.50 1.30 Area code : 2
 FDEPTH: 345 347 GearCond.code:
 BDEPTH: 345 347 Validity code:
 Towing dir: * Wire out:1050 m Speed: 26 kn*10

Sorted: 82 Kg Total catch: 160.86 CATCH/HOUR: 321.72

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Galeus polli	98.56	1638	30.64	
Merluccius capensis, female	67.10	40	20.86	432
Lophius vomerinus	58.20	38	18.09	434
Helicolenus dactylopterus	45.64	965	14.19	
Chlorophthalmus atlanticus	15.12	532	4.70	
Squalus megalops	12.60	38	3.92	
Merluccius capensis, male	8.50	6	2.64	433
Coelorinchus fasciatus	6.44	28	2.00	
Genypterus capensis	3.16	4	0.98	435
Nezumia sp.	3.08	210	0.96	
Selachophidium guentheri	1.54	42	0.48	
Synagrops microlepis	0.98	112	0.30	
Coelorinchus coelorinch. polli	0.56	14	0.17	
Todaropsis eblanae	0.24	8	0.07	
Total	321.72		100.00	

PROJECT STATION: 99
 DATE: 14/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2134 Long E 1249
 start stop duration Purpose code: 3
 TIME :11:20:00 11:50:00 30 (min) Area code : 2
 LOG :2686.90 2688.50 1.60 GearCond.code:
 FDEPTH: 305 306 Validity code:
 BDEPTH: 305 306
 Towing dir: * Wire out: 900 m Speed: 32 kn*10

Sorted: 169 Kg Total catch: 494.72 CATCH/HOUR: 989.44

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Chlorophthalmus atlanticus	325.40	19666	32.89	
Lophius vomerinus	112.00	244	11.32	437
Pterothrissus bellioi	88.34	434	8.93	
Merluccius capensis, female	87.00	464	8.79	441
Galeus polli	75.64	3452	8.05	
Merluccius capensis, female	70.93	42	7.17	440
Merluccius capensis, male	67.50	420	6.82	442
Austroglossus microlepis	36.60	50	3.70	438
Solenocera africana	33.90	7370	3.43	
Dentex macropthalmus	21.00	74	2.12	
Merluccius capensis, male	14.30	12	1.45	439
Coelorrhinus coelorrhin. polli	13.50	314	1.36	
Merluccius capensis, juveniles	11.40	824	1.15	436
Coelorrhinus fasciatus	8.70	390	0.88	
Todarodes sagittatus	6.14	44	0.62	
Schedophilus huttoni	4.90	2	0.50	
Chelidonichthys capensis	3.00	44	0.30	
Helicolenus dactylopterus	2.54	210	0.26	
Lophius vomerinus	1.20	60	0.12	
OPHICHTHIDAE	1.04	14	0.11	
PORTUNIDAE	0.44	44	0.04	
Total	989.44		100.01	

PROJECT STATION: 100
 DATE: 14/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2133 Long E 1254
 start stop duration Purpose code: 3
 TIME :13:15:00 13:45:00 30 (min) Area code : 2
 LOG :2695.70 2697.30 1.60 GearCond.code:
 FDEPTH: 287 286 Validity code:
 BDEPTH: 287 286
 Towing dir: 360° Wire out: 870 m Speed: 33 kn*10

Sorted: 73 Kg Total catch: 233.95 CATCH/HOUR: 467.90

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Pterothrissus bellioi	139.20	1498	29.75	
Merluccius capensis, female	72.00	464	15.39	450
Merluccius capensis, male	58.40	368	12.48	451
Solenocera africana	56.00	13556	11.97	
Austroglossus microlepis	50.20	308	10.73	443
Merluccius capensis, female	28.80	22	6.16	446
Galeus polli	13.92	640	2.97	
Merluccius capensis, male	11.70	10	2.50	447
Lophius vomerinus	8.80	32	1.88	444
Merluccius capensis, juveniles	7.68	432	1.64	448
Trachurus capensis	7.36	80	1.57	449
PORTUNIDAE	6.56	352	1.40	
Sufflogobius bibarbatatus	4.80	1808	1.03	
Neoharriotta pinnata	1.62	2	0.35	
OPHICHTHIDAE	0.80	32	0.17	
Genypterus capensis	0.06	2	0.01	445
Total	467.90		100.00	

PROJECT STATION: 101
 DATE: 14/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2131 Long E 1300
 start stop duration Purpose code: 2
 TIME :15:04:00 15:34:00 30 (min) Area code : 3
 LOG :2704.70 2706.40 1.70 GearCond.code:
 FDEPTH: 246 246 Validity code:
 BDEPTH: 246 246
 Towing dir: 360° Wire out: 740 m Speed: 33 kn*10

Sorted: 67 Kg Total catch: 470.82 CATCH/HOUR: 941.64

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Trachurus capensis	338.50	3478	36.05	454
Merluccius capensis, female	323.40	2016	34.34	453
Merluccius capensis, male	222.60	1386	23.64	452
Sufflogobius bibarbatatus	41.72	12270	4.43	
Chelidonichthys capensis	5.88	14	0.62	
PORTUNIDAE	5.18	378	0.55	
Merluccius capensis, juveniles	1.96	112	0.21	455
Todarodes sagittatus	0.84	28	0.09	
CPHIDIIDAE	0.56	14	0.06	
Total	941.64		99.95	

PROJECT STATION: 102
 DATE: 14/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2130 Long E 1308
 start stop duration Purpose code: 3
 TIME :17:03:00 17:33:00 30 (min) Area code : 2
 LOG :2715.60 2717.10 1.50 GearCond.code:
 FDEPTH: 161 155 Validity code:
 BDEPTH: 161 155
 Towing dir: 10° Wire out: 510 m Speed: 30 kn*10

Sorted: 156 Kg Total catch: 2887.27 CATCH/HOUR: 5774.54

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Trachurus capensis	4590.80	53130	79.50	458
Merluccius capensis, male	699.20	8280	12.11	457
Merluccius capensis, female	369.80	3348	6.40	456
Sufflogobius bibarbatatus	58.20	14536	1.01	
Chelidonichthys capensis	26.40	110	0.46	
Chatrabus melanurus	20.60	36	0.36	
Galeus polli	7.72	258	0.13	
C R A B S	1.10	36	0.02	
Squilla acuelata calmani	0.36	36	0.01	
Total	5774.54		100.01	

PROJECT STATION: 103
 DATE: 14/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2114 Long E 1310
 start stop duration Purpose code: 3
 TIME :18:28:00 18:58:00 30 (min) Area code : 2
 LOG :2734.10 2735.70 1.60 GearCond.code:
 FDEPTH: 123 123 Validity code:
 BDEPTH: 123 123
 Towing dir: * Wire out: 400 m Speed: 31 kn*10

Sorted: 47 Kg Total catch: 184.90 CATCH/HOUR: 369.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	142.80	1344	38.62	459
Merluccius capensis, male	111.60	1104	30.18	460
Sufflogobius bibarbatatus	53.20	11566	14.39	
Trachurus capensis	41.20	560	11.14	462
Merluccius capensis, juveniles	10.72	312	2.90	461
Chelidonichthys capensis	7.60	24	2.06	
Squalus megalops	1.80	4	0.49	
Squilla acuelata calmani	0.88	104	0.24	
Total	369.80		100.02	

PROJECT STATION: 104
 DATE: 14/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2105 Long E 1312
 start stop duration Purpose code: 3
 TIME :22:00:00 22:30:00 30 (min) Area code : 2
 LOG :2745.20 2746.80 1.60 GearCond.code:
 FDEPTH: 120 119 Validity code:
 BDEPTH: 120 119
 Towing dir: 200° Wire out: 375 m Speed: 31 kn*10

Sorted: 34 Kg Total catch: 34.18 CATCH/HOUR: 68.36

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Sardinops ocellata	30.80	262	45.06	466
Trachurus capensis	30.00	504	43.89	467
Merluccius capensis, female	3.00	26	4.39	464
Squalus megalops	2.52	6	3.69	
Merluccius capensis, male	0.96	10	1.40	463
Chelidonichthys capensis	0.84	2	1.23	
Engraulis capensis	0.24	14	0.35	465
Total	68.36		100.01	

PROJECT STATION: 105
 DATE: 15/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2054 Long E 1259
 start stop duration Purpose code: 3
 TIME :06:54:00 07:24:00 30 (min) Area code : 2
 LOG :2795.10 2796.60 1.50 GearCond.code:
 FDEPTH: 156 155 Validity code:
 BDEPTH: 156 155
 Towing dir: * Wire out: 500 m Speed: 30 kn*10

Sorted: 51 Kg Total catch: 255.50 CATCH/HOUR: 511.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Sufflogobius bibarbatatus	334.00	77932	65.36	
Merluccius capensis, male	97.20	940	19.02	469
Merluccius capensis, female	53.80	480	10.53	468
Chatrabus melanurus	21.10	70	4.13	
Merluccius capensis, juveniles	4.90	160	0.96	470
Trachurus capensis, juvenile	0.00	10		471
Total	511.00		100.00	

PROJECT STATION: 106
 DATE: 15/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2056 Long E 1249
 start stop duration Purpose code: 3
 TIME :09:07:00 09:37:00 30 (min) Area code : 2
 LOG :2808.40 2809.90 1.50 GearCond.code:
 FDEPTH: 276 273 Validity code:
 BDEPTH: 276 273
 Towing dir: 333° Wire out: 850 m Speed: 31 kn*10

Sorted: 149 Kg Total catch: 222.47 CATCH/HOUR: 444.94

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	141.20	244	31.73	472
Merluccius capensis, male	99.10	206	22.27	473
Sufflogobius bibarbatatus	88.20	2106	19.82	
Dentex macropthalmus	81.70	322	18.36	477
Austroglossus microlepis	21.60	104	4.85	475
Trachurus capensis	5.64	24	1.27	478
Pterothrissus bellioi	2.40	36	0.54	
Todarodes sagittatus	1.72	2	0.39	
Merluccius capensis, juveniles	1.18	90	0.31	474
Solenocera africana	1.02	318	0.23	
Lophius vomerinus	0.56	4	0.13	476
C R A B S	0.42	54	0.09	
Total	444.94		99.99	

PROJECT STATION: 107
 DATE: 15/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2057 Long E 1243
 start stop duration Purpose code: 3
 TIME :11:16:00 11:46:00 30 (min) Area code : 2
 LOG :2819.40 2820.80 1.40 GearCond.code:
 FDEPTH: 329 323 Validity code:
 BDEPTH: 329 323
 Towing dir: 340° Wire out: 1000 m Speed: 31 kn*10

Sorted: 315 Kg Total catch: 333.51 CATCH/HOUR: 667.02

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	217.10	190	32.55	480
Lophius vomerinus	195.52	116	15.82	481
Chlorophthalmus atlanticus	195.20	2690	15.77	
Merluccius capensis, male	81.70	108	12.25	479
Galeus polli	52.40	1056	9.36	
Helicolenus dactylopterus	18.80	1416	2.82	
Schedophilus huttoni	17.00	6	2.55	
Deepwater fish mixture	14.32	2	2.15	
Raja straeleni	8.16	8	1.22	
Coelorrhinus fasciatus	6.00	128	0.90	
Trachurus capensis	6.00	16	0.90	
Austroglossus microlepis	4.80	10	0.72	482
MYCTOPHIDAE	4.72	920	0.71	
Hexanchus griseus	4.70	2	0.70	
Shrimps, small, non comm.	2.24	920	0.34	
Todarodes sagittatus	2.38	80	0.31	
Todarodes sagittatus	2.08	80	0.31	
PORTUNIDAE	1.50	136	0.24	
Genypterus capensis	0.92	2	0.14	483
Nezumia sp.	0.88	128	0.13	
Coelorrhinus coelorrhin. polli	0.88	40	0.13	
Synagrops microlepis	0.80	56	0.12	
Solenocera africana	0.40	120	0.06	
OPHICHTHIDAE	0.40	8	0.06	
Ebinania costacanarie	0.40	8	0.06	
Total	669.10		100.32	

PROJECT STATION: 108
 DATE: 15/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2059 Long E 1336
 TIME :13:41:00 14:11:00 30 (min) Purpose code: 3
 LOG :2832.70 2834.20 1.50 Area code : 2
 FDEPTH: 371 366 GearCond.code:
 BDEPTH: 371 366 Validity code:
 Towing dir: 270* Wire out:1140 m Speed: 30 kn*10

Sorted: 651 Kg Total catch: 737.24 CATCH/HOUR: 1474.48

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	945.80	690	64.14
Merluccius capensis, male	219.48	200	14.89
Helicolenus dactylopterus	107.70	1800	7.30
Lophius vomerinus	63.10	52	4.28
Todarodes sagittatus	48.60	90	3.30
Galeus polli	30.00	390	2.03
Nezumia sp.	21.00	690	1.42
Aristeus varidens	11.70	3000	0.79
Geryon capensis	9.00	8	0.61
Coelorinchus fasciatus	5.10	180	0.35
Raja confundens	3.60	30	0.24
Zenopsis conchifer	2.10	2	0.14
Merluccius paradoxus, female	2.00	6	0.14
Squalus megalops	2.00	2	0.14
MYCTOPHIDAE	1.80	300	0.12
Coelorinchus coelorinch. polli	1.50	90	0.10
Total	1474.48		99.99

PROJECT STATION: 112
 DATE: 16/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2038 Long E 1212
 TIME :07:12:00 07:42:00 30 (min) Purpose code: 3
 LOG :2900.70 2902.10 1.40 Area code : 2
 FDEPTH: 413 396 GearCond.code:
 BDEPTH: 413 396 Validity code:
 Towing dir: Wire out:1300 m Speed: 30 kn*10

Sorted: Kg Total catch: 879.09 CATCH/HOUR: 1758.18

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachyrinus scabrus	887.40	10374	50.47
Hoplostethus cadenati	193.80	9554	11.02
Lophius vomerinus	127.40	66	7.25
Nezumia sp.	125.20	5372	7.12
Merluccius capensis, female	111.90	66	6.36
Helicolenus dactylopterus	105.40	1292	5.99
Merluccius paradoxus, female	68.10	98	3.87
Deepwater fish mixture	53.04		3.02
Galeus polli	16.32	204	0.93
Epigonus denticulatus	14.28	544	0.81
Chlorophthalmus punctatus	10.20	340	0.58
Lophius vaillanti	10.00	4	0.57
Aristeus varidens	8.84	1088	0.50
Ebinania costaecanarie	7.48	68	0.43
Shrimps, small, non comm.	7.48	4216	0.43
Merluccius capensis, male	6.66	6	0.38
Merluccius paradoxus, male	1.02	2	0.06
Coelorinchus fasciatus	0.68	68	0.04
OPHICHTHIDAE	0.68	68	0.04
Notacanthus sexspinis	0.34	68	0.02
Total	1756.22		99.89

PROJECT STATION: 109
 DATE: 15/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2059 Long E 1228
 TIME :16:04:00 16:34:00 30 (min) Purpose code: 3
 LOG :2844.90 2846.70 1.80 Area code : 2
 FDEPTH: 453 440 GearCond.code:
 BDEPTH: 453 440 Validity code:
 Towing dir: 232* Wire out:1410 m Speed: 36 kn*10

Sorted: 259 Kg Total catch: 715.74 CATCH/HOUR: 1431.48

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius paradoxus, female	433.10	678	30.26
Trachyrinus scabrus	396.80	2966	27.72
Centrophorus granulosus	160.00	10	11.18
Shrimps, small, non comm.	144.64	96426	10.10
Helicolenus dactylopterus	83.20	640	5.81
Nezumia sp.	51.52	2304	3.60
Lophius vomerinus	38.80		2.71
Denia profundorum	32.00	64	2.24
Galeus polli	30.08	320	2.10
Hoplostethus melanopus	22.72	800	1.59
Deepwater fish mixture	18.88		1.32
Merluccius paradoxus, male	7.10	10	0.50
Aristeus varidens	5.12	1024	0.36
Epigonus denticulatus	3.84	64	0.27
Geryon maritae	2.40	2	0.17
Raja confundens	0.64	32	0.04
Nemichthys scolopacea	0.64	32	0.04
Total	1431.48		100.01

PROJECT STATION: 113
 DATE: 16/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2038 Long E 1212
 TIME :08:58:00 09:28:00 30 (min) Purpose code: 3
 LOG :2907.80 2909.20 1.40 Area code : 2
 FDEPTH: 421 404 GearCond.code:
 BDEPTH: 421 404 Validity code:
 Towing dir: 350* Wire out:1300 m Speed: 28 kn*10

Sorted: Kg Total catch: 1306.56 CATCH/HOUR: 2613.12

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachyrinus scabrus	1108.60	11058	42.42
Shrimps, small, non comm.	402.00	23394	15.38
Hoplostethus cadenati	356.00	25738	13.62
Schedophilus huttoni	211.60	92	8.10
Nezumia sp.	165.60	5980	6.34
Merluccius capensis, female	133.60	80	5.11
Helicolenus dactylopterus	74.60	920	2.85
Lophius vomerinus	52.60	34	2.01
Merluccius paradoxus, female	52.10	88	1.99
Merluccius capensis, male	23.30	20	0.89
Galeus polli	8.28	184	0.32
Chlorophthalmus punctatus	6.44	184	0.25
Epigonus denticulatus	6.44	276	0.25
Notacanthus sexspinis	4.60	644	0.18
Coelorinchus fasciatus	3.68	92	0.14
Aristeus varidens	3.68	1104	0.14
Total	2613.12		99.99

PROJECT STATION: 110
 DATE: 15/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2102 Long E 1219
 TIME :19:05:00 19:25:00 20 (min) Purpose code: 3
 LOG :2859.10 2859.90 0.80 Area code : 2
 FDEPTH: 637 642 GearCond.code:
 BDEPTH: 637 642 Validity code:
 Towing dir: Wire out:2100 m Speed: 26 kn*10

Sorted: 36 Kg Total catch: 122.01 CATCH/HOUR: 366.03

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachyrinus scabrus	94.50	288	25.82
Nezumia sp.	86.58	4680	23.65
Hoplostethus cadenati	52.20	1404	14.26
Merluccius paradoxus, female	38.40	36	10.49
Lophius vomerinus	19.65	15	5.37
Geryon maritae	19.62	36	5.36
Todarodes sagittatus	16.20	18	4.43
Lamprogrammus exutus	13.86	126	3.79
Alepocephalus sp.	8.28	126	2.26
Bathyrhynchus vicinus	3.10	126	2.21
MYXINIDAE	3.24	36	0.89
Galeus polli	2.52	36	0.69
Dicrolene intronigra	1.80	36	0.49
Stereomastis sculpta	1.08	126	0.30
Total	366.03		100.01

PROJECT STATION: 114
 DATE: 16/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2034 Long E 1224
 TIME :11:40:00 12:10:00 30 (min) Purpose code: 3
 LOG :2923.60 2925.20 1.60 Area code : 2
 FDEPTH: 300 299 GearCond.code:
 BDEPTH: 300 299 Validity code:
 Towing dir: 350* Wire out: 900 m Speed: 32 kn*10

Sorted: 157 Kg Total catch: 692.71 CATCH/HOUR: 1385.42

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Pterothrissus belloci	618.20	5248	44.62
Austroglossus microlepis	190.52	572	13.75
Merluccius capensis, female	185.24	298	13.37
Dentex macrophthalmus	117.80	440	8.50
Merluccius capensis, male	73.92	140	5.34
Lophius vomerinus	64.24	254	4.64
Solenocera africana	41.60	8450	3.00
Chlorophthalmus atlanticus	32.90	1882	2.37
Neoharriotta pinnata	23.58	16	1.70
Synagrops microlepis	12.40	1038	0.90
Trachurus capensis	7.56	44	0.55
Merluccius capensis, juveniles	4.48	192	0.32
Sufflogobius bibarbatus	2.98	1732	0.22
Deepwater fish mixture	2.92		0.21
Galeus polli	1.66	78	0.12
Trachyrinus scabrus	1.32	16	0.10
PORTUNIDAE	1.22	78	0.09
OPHICHTHIDAE	0.96	26	0.07
GALATHEIDAE	0.88	88	0.06
Chelidonichthys capensis	0.44	16	0.03
Total	1384.82		99.96

PROJECT STATION: 111
 DATE: 15/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2039 Long E 1207
 TIME :23:16:00 23:46:00 30 (min) Purpose code: 3
 LOG :2884.90 2886.20 1.30 Area code : 2
 FDEPTH: 542 540 GearCond.code:
 BDEPTH: 542 540 Validity code:
 Towing dir: 350* Wire out:1800 m Speed: 25 kn*10

Sorted: 150 Kg Total catch: 1220.20 CATCH/HOUR: 2440.40

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachyrinus scabrus	1360.30	5856	55.74
Nezumia sp.	400.16	15616	16.40
Hoplostethus melanopus	248.88	7076	10.20
Lophius vomerinus	120.78	56	4.95
Merluccius paradoxus, female	118.90	126	4.87
Galeus polli	51.24	610	2.10
Lamprogrammus exutus	43.92	610	1.80
Raja confundens	29.28	122	1.20
Selachophidium guentheri	19.52	366	0.80
Lophius vaillanti	10.42	6	0.43
OPHICHTHIDAE	9.76	244	0.40
Lithodes ferax	8.66	22	0.35
Alloctytus verucosus	4.88	122	0.20
Geryon maritae	4.20	6	0.17
Notacanthus sexspinis	3.66	122	0.15
Merluccius paradoxus, male	2.80	2	0.11
Aristeus varidens	2.44	244	0.10
NEPHROPIDAE	0.60	122	0.02
Total	2440.40		99.99

PROJECT STATION: 115
 DATE: 16/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 2031 Long E 1233
 TIME :13:41:00 14:04:00 23 (min) Purpose code: 3
 LOG :2935.30 2936.60 1.30 Area code : 2
 FDEPTH: 280 277 GearCond.code:
 BDEPTH: 280 277 Validity code:
 Towing dir: 360* Wire out: 840 m Speed: 30 kn*10

Sorted: 91 Kg Total catch: 178.40 CATCH/HOUR: 465.39

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Sufflogobius bibarbatus	252.52	84172	54.26
Merluccius capensis, male	144.26	613	31.00
Merluccius capensis, female	61.30	237	13.17
Trachurus capensis	7.30	83	1.57
Total	465.38		100.00

PROJECT STATION: 116
 DATE:16/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2025
 start stop duration Long E 1252
 TIME :17:44:00 18:03:00 19 (min) Purpose code: 3
 LOG :2962.00 2963.00 1.00 Area code : 2
 FDEPTH: 126 126 GearCond.code:
 BDEPTH: 126 126 Validity code:
 Towing dir: 260° Wire out: 400 m Speed: 32 kn*10

Sorted: 28 Kg Total catch: 28.48 CATCH/HOUR: 89.94

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	66.79 638	74.26	517
Merluccius capensis, male	22.42 183	24.93	518
Trachurus capensis, juvenile	0.41 60	0.46	519
Sufflogobius bibarbatatus	0.19 16	0.21	
Etrumeus whiteheadi	0.13 6	0.14	520
Total	89.94	100.00	

PROJECT STATION: 122
 DATE:17/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2002
 start stop duration Long E 1208
 TIME :15:10:00 15:40:00 30 (min) Purpose code: 2
 LOG :3075.10 3076.80 1.70 Area code : 3
 FDEPTH: 287 288 GearCond.code:
 BDEPTH: 287 288 Validity code:
 Towing dir: 340° Wire out: 870 m Speed: 36 kn*10

Sorted: 74 Kg Total catch: 230.06 CATCH/HOUR: 460.12

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Pterothrissus belloci	227.20 1616	49.38	
Dentex macrophthalmus	97.60 336	21.21	544
Merluccius capensis, female	67.60 178	14.69	542
Merluccius capensis, male	35.36 138	7.68	541
Sufflogobius bibarbatatus	24.80 9538	5.39	
Trachurus capensis	3.68 16	0.80	545
CENTROLOPHIDAE	1.44 32	0.31	
Merluccius capensis, juveniles	1.00 30	0.22	543
Solenocera africana	0.80 256	0.17	
PORTUNIDAE	0.64 16	0.14	
Total	460.12	99.99	

PROJECT STATION: 117
 DATE:16/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2036
 start stop duration Long E 1259
 TIME :19:32:00 20:03:00 31 (min) Purpose code: 3
 LOG :2973.70 2975.40 1.70 Area code : 2
 FDEPTH: 109 112 GearCond.code:
 BDEPTH: 109 112 Validity code:
 Towing dir: 240° Wire out: 333 m Speed: 32 kn*10

Sorted: 3 Kg Total catch: 3.26 CATCH/HOUR: 6.31

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachurus capensis, juvenile	2.69 114	42.63	523
Merluccius capensis, male	1.94 19	30.74	522
Merluccius capensis, female	0.91 10	14.42	521
Sufflogobius bibarbatatus	0.77 108	12.20	
Total	6.31	99.99	

PROJECT STATION: 123
 DATE:17/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2005
 start stop duration Long E 1201
 TIME :17:20:00 17:50:00 30 (min) Purpose code: 3
 LOG :3087.60 3089.30 1.70 Area code : 2
 FDEPTH: 333 334 GearCond.code:
 BDEPTH: 333 334 Validity code:
 Towing dir: 340° Wire out: 990 m Speed: 32 kn*10

Sorted: 217 Kg Total catch: 508.75 CATCH/HOUR: 1017.50

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Chlorophthalmus punctatus	235.50 7676	23.14	
Helicolenus dactylopterus	225.00 6152	22.11	
Lophius vomerinus	198.68 328	19.53	548
Merluccius capensis, female	115.30 122	11.33	546
Galeus polli	64.50 1170	6.34	
Coelorinchus fasciatus	37.20 1620	3.66	
Merluccius capensis, male	36.20 58	3.56	547
Dentex macrophthalmus	32.40 96	3.18	550
Shrimps, small, non comm.	24.00 2250	2.36	
Synagrops microlepis	11.10 750	1.09	
Pterothrissus belloci	8.40 30	0.83	
Guentherus altivela	6.90 60	0.68	
Todarodes sagittatus	6.30 30	0.62	
PORTUNIDAE	6.00 120	0.59	
Austroglossus microlepis	4.28 6	0.42	551
Raja straeleni	3.62 10	0.36	549
Raja straeleni	2.12 2	0.21	
Total	1017.50	100.01	

PROJECT STATION: 118
 DATE:17/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 1950
 start stop duration Long E 1238
 TIME :07:18:00 07:48:00 30 (min) Purpose code: 3
 LOG :3032.80 3034.40 1.60 Area code : 3
 FDEPTH: 113 118 GearCond.code:
 BDEPTH: 113 118 Validity code:
 Towing dir: 240° Wire out: 350 m Speed: 32 kn*10

Sorted: 7 Kg Total catch: 6.75 CATCH/HOUR: 13.50

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	5.64 46	41.78	524
Merluccius capensis, male	3.28 44	24.30	525
Sufflogobius bibarbatatus	2.36 16	17.48	
Trachurus capensis, juvenile	0.96 96	7.11	526
Etrumeus whiteheadi	0.94 26	6.96	529
Sardinops ocellata	0.22 2	1.63	528
Merluccius capensis, juveniles	0.10 4	0.74	527
Total	13.50	100.00	

PROJECT STATION: 124
 DATE:17/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2007
 start stop duration Long E 1250
 TIME :19:25:00 19:55:00 30 (min) Purpose code: 3
 LOG :3101.70 3103.00 1.40 Area code : 2
 FDEPTH: 449 433 GearCond.code:
 BDEPTH: 449 433 Validity code:
 Towing dir: 350° Wire out:1400 m Speed: 30 kn*10

Sorted: 343 Kg Total catch: 725.40 CATCH/HOUR: 1450.80

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius paradoxus, female	553.10 1042	38.12	552
Trachyrinus scabrus	411.00 3236	28.33	
Helicolenus dactylopterus	120.00 1110	8.27	
Deepwater fish mixture	93.00 6	6.41	
Todarodes sagittatus	48.30 90	3.33	
Lophius vomerinus	41.80 24	2.88	554
Raja straeleni	35.40 30	2.44	
Nezumia sp.	35.40 1380	2.44	
Galeus polli	29.70 330	2.05	
Lophius vaillanti	18.20 4	1.25	555
Aristeus varidens	16.50 1500	1.14	
Merluccius paradoxus, male	12.00 26	0.83	553
Epigonus denticulatus	11.10 210	0.77	
Chlorophthalmus punctatus	10.20 360	0.70	
Geryon maritae	7.90 16	0.54	
Ebinania costaecanarie	7.20 210	0.50	
Total	1450.80	100.00	

PROJECT STATION: 119
 DATE:17/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 1956
 start stop duration Long E 1232
 TIME :08:55:00 09:10:00 15 (min) Purpose code: 3
 LOG :3039.80 3040.70 0.90 Area code : 3
 FDEPTH: 132 131 GearCond.code:
 BDEPTH: 132 131 Validity code:
 Towing dir: 350° Wire out: 400 m Speed: 31 kn*10

Sorted: 10 Kg Total catch: 10.36 CATCH/HOUR: 41.44

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachurus capensis, juvenile	22.80 836	55.02	532
Merluccius capensis, female	8.96 68	21.62	530
Galeichthys feliceps	3.92 8	9.46	
Merluccius capensis, male	3.76 40	9.07	531
Schedophilus huttoni	1.88 4	4.54	
Sufflogobius bibarbatatus	0.12 8	0.29	
Total	41.44	100.00	

PROJECT STATION: 120
 DATE:17/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 1955
 start stop duration Long E 1221
 TIME :10:47:00 11:17:00 30 (min) Purpose code: 3
 LOG :3051.30 3052.80 1.50 Area code : 3
 FDEPTH: 192 192 GearCond.code:
 BDEPTH: 192 192 Validity code:
 Towing dir: 340° Wire out: 600 m Speed: 32 kn*10

Sorted: 10 Kg Total catch: 10.17 CATCH/HOUR: 20.34

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	11.82 88	58.11	533
Merluccius capensis, male	5.92 64	29.11	534
Merluccius capensis, juveniles	1.30 42	6.39	535
Chatrabus melanurus	0.98 2	4.82	
Sufflogobius bibarbatatus	0.32 98	1.57	
Total	20.34	100.00	

PROJECT STATION: 125
 DATE:17/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 2008
 start stop duration Long E 1149
 TIME :22:15:00 22:45:00 30 (min) Purpose code: 3
 LOG :3114.40 3115.80 1.40 Area code : 2
 FDEPTH: 583 563 GearCond.code:
 BDEPTH: 583 563 Validity code:
 Towing dir: 350° Wire out:1800 m Speed: 28 kn*10

Sorted: 228 Kg Total catch: 950.31 CATCH/HOUR: 1900.62

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Trachyrinus scabrus	582.40 2426	30.64	
Hoplostethus cadenati	579.60 28836	30.50	
Merluccius paradoxus, female	394.10 364	20.74	556
Nezumia sp.	206.08 8378	10.84	
Lamprogrammus exutus	44.24 896	2.33	
Deepwater fish mixture	20.16 106	1.06	
APOGONIDAE	16.80 56	0.88	
Galeus polli	16.24 168	0.85	
OPHICHTHIDAE	14.00 336	0.74	
Helicolenus dactylopterus	14.00 112	0.74	
Lophius vomerinus	10.20 4	0.54	557
Selachophidium guentheri	1.68 56	0.09	
Notacanthus sexspinis	1.12 56	0.06	
Total	1900.62	100.01	

PROJECT STATION: 121
 DATE:17/ 2/94 GEAR TYPE: BT No:1 POSITION:Lat S 1959
 start stop duration Long E 1214
 TIME :12:52:00 13:22:00 30 (min) Purpose code: 3
 LOG :3063.00 3064.50 1.50 Area code : 2
 FDEPTH: 242 227 GearCond.code:
 BDEPTH: 242 227 Validity code:
 Towing dir: 340° Wire out: 720 m Speed: 31 kn*10

Sorted: 31 Kg Total catch: 31.69 CATCH/HOUR: 63.38

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
	weight numbers		
Merluccius capensis, female	26.10 130	41.18	537
Merluccius capensis, male	26.10 196	41.18	536
Trachurus capensis	5.78 88	9.12	539
Dentex macrophthalmus	2.96 14	4.67	540
Merluccius capensis, juveniles	2.44 76	3.85	538
Total	63.38	100.00	

PROJECT STATION: 126
 DATE: 18/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1944
 start stop duration Long E 1130
 TIME :03:36:00 04:06:00 30 (min) Purpose code: 3
 LOG :3155.60 3157.20 1.60 Area code : 2
 FDEPTH: 600 589 GearCond.code:
 BDEPTH: 600 589 Validity code:
 Towing dir: 360° Wire out:1830 m Speed: 35 kn*10

Sorted: 280 Kg Total catch: 1137.60 CATCH/HOUR: 2275.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Hoplostethus melanopus	1072.60	378.22	47.14	
Merluccius paradoxus, female	448.80	434	19.73	559
Trachyrhinus scabrus	437.00	1612	19.21	
Nezumia sp.	128.34	7440	5.64	
Todarodes sagittatus	44.64	186	1.96	
OPHICHTHIDAE	24.18	558	1.06	
Centrophorus granulosus	22.70	2	1.00	
Helicolenus dactylopterus	22.32	124	0.98	
Deania profundorum	19.20	6	0.84	
Lamprogrammus exutus	15.12	186	0.71	
Lophius vaillanti	10.70	2	0.47	560
Galeus polli	8.06	62	0.35	
Raja confundens	6.20	62	0.27	
Selachophidium guentheri	5.58	124	0.25	
Merluccius polli, female	2.56	2	0.11	558
Ebinania costaecanarie	1.86	124	0.08	
Epigonus denticulatus	1.86	62	0.08	
Yarella blackfordi	1.86	62	0.08	
Notacanthus sexspinis	0.62	62	0.03	
Total	2275.20		99.99	

PROJECT STATION: 130
 DATE: 18/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1935
 start stop duration Long E 1154
 TIME :13:58:00 14:28:00 30 (min) Purpose code: 3
 LOG :3204.90 3206.50 1.60 Area code : 3
 FDEPTH: 325 323 GearCond.code:
 BDEPTH: 325 323 Validity code:
 Towing dir: 360° Wire out: 990 m Speed: 33 kn*10

Sorted: 57 Kg Total catch: 90.81 CATCH/HOUR: 181.62

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	42.20	76	23.24	574
Helicolenus dactylopterus	31.74	2080	17.48	
Chlorophthalmus atlanticus	19.10	808	10.52	
Lophius vomerinus	18.60	18	10.24	576
Synagrops microlepis	17.90	3650	9.86	
Todarodes sagittatus	13.84	34	7.62	
Dentex macrophthalmus	10.34	34	5.69	577
Merluccius capensis, male	7.40	28	4.07	575
Deepwater fish mixture	6.30		3.47	
Pterothrissus belloci	5.04	20	3.33	
Coelacrinchus fasciatus	3.30	124	1.82	
Hyperoglyphe moselli	1.32	2	0.73	
Galeus polli	1.00	24	0.55	
PORTUNIDAE	1.00	14	0.55	
GALATHEIDAE	0.64	64	0.35	
S H R I M P S	0.50	160	0.28	
Solenocera africana	0.26	70	0.14	
OPHICHTHIDAE	0.14	4	0.08	
Total	181.62		100.02	

PROJECT STATION: 127
 DATE: 18/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1942
 start stop duration Long E 1132
 TIME :07:29:00 07:59:00 30 (min) Purpose code: 3
 LOG :3167.70 3169.10 1.40 Area code : 3
 FDEPTH: 545 550 GearCond.code:
 BDEPTH: 545 550 Validity code:
 Towing dir: 340° Wire out:1650 m Speed: 32 kn*10

Sorted: 142 Kg Total catch: 609.86 CATCH/HOUR: 1219.72

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Trachyrhinus scabrus	451.50	2458	37.02	
Hoplostethus codenati	251.20	11074	20.58	
Merluccius paradoxus, female	230.20	232	18.87	561
Deania profundorum	95.76	42	7.85	
Nezumia sp.	69.72	5230	5.72	
Raja confundens	27.72	84	2.27	
Neoharriotta pinnata	17.64	42	1.45	
Shrimps, small, non comm.	17.64	982	1.45	
Helicolenus dactylopterus	16.80	84	1.38	
Galeus polli	14.28	126	1.17	
AFOGONIDAE	7.14	42	0.59	
OPHICHTHIDAE	6.72	168	0.55	
Photichthys argenteus	3.78	336	0.31	
Lophius vomerinus	3.70	2	0.30	563
Merluccius paradoxus, male	3.40	4	0.28	562
Selachophidium guentheri	2.52	42	0.21	
Ebinania costaecanarie	0.00	4		
Total	1219.72		100.01	

PROJECT STATION: 131
 DATE: 18/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1932
 start stop duration Long E 1202
 TIME :16:04:00 16:22:00 18 (min) Purpose code: 3
 LOG :3216.80 3217.70 0.90 Area code : 2
 FDEPTH: 283 283 GearCond.code: 9
 BDEPTH: 283 283 Validity code: 9
 Towing dir: 350° Wire out: 870 m Speed: 32 kn*10

Sorted: Kg Total catch: CATCH/HOUR:

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
N O C A T C H	0.00			
Total				

PROJECT STATION: 128
 DATE: 18/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1939
 start stop duration Long E 1140
 TIME :09:36:00 10:06:00 30 (min) Purpose code: 3
 LOG :3180.80 3182.30 1.50 Area code : 3
 FDEPTH: 391 397 GearCond.code:
 BDEPTH: 391 397 Validity code:
 Towing dir: 340° Wire out:1200 m Speed: 26 kn*10

Sorted: 255 Kg Total catch: 1306.90 CATCH/HOUR: 2613.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	1172.00	1168	44.84	564
Deepwater fish mixture	851.20		32.57	
Merluccius capensis, male	334.96	372	12.82	565
Merluccius paradoxus, female	65.20	126	2.53	566
Lophius vomerinus	63.50	34	2.43	569
Helicolenus dactylopterus	58.24	768	2.23	
Todarodes sagittatus	18.24	96	0.70	
Nezumia sp.	11.20	416	0.43	
Lophius vaillanti	9.90	4	0.38	568
Merluccius paradoxus, male	6.60	14	0.25	567
Galeus polli	5.44	64	0.21	
RAJIDAE	4.48	64	0.17	
Coelacrinchus fasciatus	3.52	96	0.13	
Epigonus denticulatus	2.88	126	0.11	
S H R I M P S	2.24	1344	0.09	
Ebinania costaecanarie	2.24	64	0.09	
Selachophidium guentheri	0.96	32	0.04	
Total	2613.80		100.02	

PROJECT STATION: 132
 DATE: 19/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1855
 start stop duration Long E 1203
 TIME :07:18:00 07:48:00 30 (min) Purpose code: 3
 LOG :3275.70 3277.50 1.80 Area code : 3
 FDEPTH: 135 135 GearCond.code:
 BDEPTH: 135 135 Validity code:
 Towing dir: 340° Wire out: 410 m Speed: 33 kn*10

Sorted: 89 Kg Total catch: 89.28 CATCH/HOUR: 178.56

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Merluccius capensis, female	82.10	1120	45.98	578
Merluccius capensis, male	44.90	650	25.15	579
Chtrabus melanurus	34.90	114	19.04	
Merluccius capensis, juveniles	12.76	292	7.15	582
Etrumeus whiteheadi	3.64	112	2.04	581
Galeichthys feliceps	0.62	2	0.35	
Sardinops ocellata	0.54	8	0.30	580
Total	178.56		100.01	

PROJECT STATION: 129
 DATE: 18/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1936
 start stop duration Long E 1147
 TIME :11:52:00 12:22:00 30 (min) Purpose code: 3
 LOG :3194.00 3195.30 1.30 Area code : 2
 FDEPTH: 346 343 GearCond.code:
 BDEPTH: 346 343 Validity code:
 Towing dir: * Wire out:1050 m Speed: 27 kn*10

Sorted: 238 Kg Total catch: 726.88 CATCH/HOUR: 1453.76

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Helicolenus dactylopterus	406.62	10320	27.97	
Merluccius capensis, female	337.50	316	23.22	570
Galeus polli	225.18	3294	15.49	
Dentex macrophthalmus	142.02	378	9.77	572
Merluccius capensis, male	76.50	88	5.26	571
Synagrops microlepis	75.60	6966	5.20	
Chlorophthalmus atlanticus	74.52	2700	5.13	
Todarodes sagittatus	60.48	162	4.16	
Lophius vomerinus	23.10	22	1.59	573
Trachurus capensis	9.72	54	0.67	
Coelacrinchus fasciatus	8.10	270	0.56	
Nezumia sp.	4.32	324	0.30	
Coelacrinchus coelorinch. polli	3.24	108	0.22	
PORTUNIDAE	3.24	216	0.22	
Centrololopus niger	2.54	2	0.17	
Ebinania costaecanarie	1.08	54	0.07	
Total	1453.76		100.00	

PROJECT STATION: 133
 DATE: 19/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1857
 start stop duration Long E 1154
 TIME :09:16:00 09:46:00 30 (min) Purpose code: 3
 LOG :3285.50 3289.20 3.70 Area code : 3
 FDEPTH: 231 229 GearCond.code:
 BDEPTH: 231 229 Validity code:
 Towing dir: 340° Wire out: 700 m Speed: 33 kn*10

Sorted: 49 Kg Total catch: 171.96 CATCH/HOUR: 343.92

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Trachurus capensis	294.60	3000	85.66	583
Merluccius capensis, female	31.70	278	9.22	585
Merluccius capensis, male	15.80	142	4.59	584
Merluccius capensis, juveniles	1.08	24	0.31	586
Dentex macrophthalmus	0.38	2	0.11	588
Merluccius polli, juveniles	0.20	4	0.06	587
Austroglossus microlepis	0.16	2	0.05	589
Total	343.92		100.00	

PROJECT STATION: 134
 DATE: 19/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1901
 start stop duration Long E 1141
 TIME :11:49:00 12:19:00 30 (min) Purpose code: 3
 LOG :3304.20 3305.70 1.50 Area code : 3
 FDEPTH: 304 296 GearCond.code:
 BDEPTH: 304 296 Validity code:
 Towing dir: 330° Wire out: 900 m Speed: 29 kn*10

Sorted: 11 Kg Total catch: 29.78 CATCH/HOUR: 59.56

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Pterothrissus belloci	41.70	972	70.01	
Trachurus capensis	8.10	78	13.60	594
Helicolenus dactylopterus	5.04	612	8.46	
Austroglossus microlepis	2.04	20	3.43	593
OPHICHTHIDAE	1.02	6	1.72	
Merluccius capensis, female	0.60	4	1.01	591
Merluccius capensis, juveniles	0.34	14	0.57	590
Lophius vomerinus	0.30	4	0.50	592
S H R I M P S	0.18	84	0.30	
Chlorophthalmus atlanticus	0.18	24	0.30	
Solenocera africana	0.06	24	0.10	
Chelidonichthys capensis	0.00	6		
Total	59.56		99.99	

PROJECT STATION: 135
 DATE: 19/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1904
 start stop duration Long E 1137
 TIME :13:49:00 14:19:00 30 (min) Purpose code: 3
 LOG :3313.50 3315.10 1.60 Area code : 3
 FDEPTH: 273 270 GearCond.code:
 BDEPTH: 273 270 Validity code:
 Towing dir: 360° Wire out: 900 m Speed: 38 kn*10

Sorted: 65 Kg Total catch: 83.44 CATCH/HOUR: 166.88

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP
Merluccius capensis, female	69.60 222	41.71	595
Helicolenus dactylopterus	41.40 1300	24.81	
Merluccius capensis, male	22.00 76	13.18	596
Chlorophthalmus atlanticus	10.68 676	6.40	
Trachurus capensis	9.04 76	5.42	597
GALATHEIDAE	3.36 295	2.01	
Pterothrissus belloci	2.48 32	1.49	
Austroglossus microlepis	1.78 14	1.07	601
Synagrops microlepis	1.68 240	1.01	
S H R I M P S	1.52 520	0.91	
Lophius vomerinus	1.38 10	0.83	600
Solenocera africana	0.92 256	0.55	
PORTUNIDAE	0.44 24	0.26	
Coelorinchus fasciatus	0.36 12	0.22	
OPHICHTHIDAE	0.12 4	0.07	
Merluccius capensis, juveniles	0.08 8	0.05	599
Trachurus capensis, juvenile	0.04 24	0.02	598
Total	166.88	100.01	

PROJECT STATION: 136
 DATE: 19/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1906
 start stop duration Long E 1132
 TIME :15:49:00 16:19:00 30 (min) Purpose code: 3
 LOG :3323.10 3324.70 1.60 Area code : 3
 FDEPTH: 297 295 GearCond.code:
 BDEPTH: 297 295 Validity code:
 Towing dir: 340° Wire out: 1000 m Speed: 33 kn*10

Sorted: 50 Kg Total catch: 527.23 CATCH/HOUR: 1054.46

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP
Dentex macrophthalms	574.00 2440	54.44	606
Pterothrissus belloci	325.60 2760	30.88	
Helicolenus dactylopterus	101.20 4280	9.60	
Merluccius capensis, female	38.40 102	3.64	603
Merluccius capensis, male	9.40 30	0.89	602
PORTUNIDAE	3.20 80	0.30	
Austroglossus microlepis	1.96 8	0.19	605
Lophius vomerinus	0.70 6	0.07	604
Total	1054.46	100.01	

PROJECT STATION: 137
 DATE: 19/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1907
 start stop duration Long E 1127
 TIME :17:55:00 18:25:00 30 (min) Purpose code: 3
 LOG :3332.80 3334.40 1.60 Area code : 2
 FDEPTH: 427 434 GearCond.code:
 BDEPTH: 427 434 Validity code:
 Towing dir: 360° Wire out: 1300 m Speed: 31 kn*10

Sorted: 109 Kg Total catch: 292.62 CATCH/HOUR: 585.24

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP
Helicolenus dactylopterus	141.60 842	24.20	
Merluccius capensis, female	118.80 118	20.30	607
Nezumia sp.	114.40 4534	19.55	
Galeus polli	50.80 560	8.68	
Centrolophus niger	45.60 16	7.79	
Coelorinchus fasciatus	24.48 608	4.18	
Merluccius paradoxus, female	20.44 45	3.49	609
Lophius vomerinus	15.10 10	2.58	610
Trachyrinus scabrus	12.96 224	2.21	
Merluccius capensis, male	9.34 18	1.60	608
Hoplostethus cadenati	6.56 928	1.12	
laemonema laureysi	4.96 48	0.85	
Ebinania costaeacanarie	4.80 80	0.82	
Coelorinchus coelorinch. polli	4.16 64	0.71	
Epigonus denticulatus	3.04 144	0.52	
Lophius vaillanti	2.92 2	0.50	611
Selachophidium guentheri	2.72 64	0.46	
Shrimps, small, non comm.	2.56 932	0.44	
Total	585.24	100.00	

PROJECT STATION: 138
 DATE: 19/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1907
 start stop duration Long E 1120
 TIME :20:24:00 20:55:00 31 (min) Purpose code: 3
 LOG :3342.50 3344.00 1.50 Area code : 3
 FDEPTH: 584 614 GearCond.code:
 BDEPTH: 584 614 Validity code:
 Towing dir: 330° Wire out: 1900 m Speed: 27 kn*10

Sorted: 264 Kg Total catch: 913.84 CATCH/HOUR: 1575.17

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP
Trachyrinus scabrus	626.52 2115	39.77	
Merluccius paradoxus, female	422.81 397	26.84	612
Deania profundorum	147.45 50	9.36	
Nezumia sp.	139.35 5806	8.85	
Hoplostethus cadenati	97.63 3472	6.20	
Todarodes sagittatus	57.37 151	3.64	
Lophius vomerinus	19.94 4	1.27	614
Lophius vaillanti	19.84 10	1.26	615
RAJIDAE	15.60 101	0.99	
Notacanthus sexspinis	11.07 101	0.70	
Galeus polli	6.54 50	0.42	
Selachophidium guentheri	6.04 101	0.38	
Trachipterus jacksonensis	3.48 2	0.22	
Merluccius paradoxus, male	1.55 2	0.10	613
Total	1575.19	100.00	

PROJECT STATION: 139
 DATE: 20/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1834
 start stop duration Long E 1122
 TIME :04:10:00 04:40:00 30 (min) Purpose code: 3
 LOG :3384.40 3386.10 1.70 Area code : 3
 FDEPTH: 550 552 GearCond.code:
 BDEPTH: 550 552 Validity code:
 Towing dir: 360° Wire out: 1650 m Speed: 33 kn*10

Sorted: 297 Kg Total catch: 1157.69 CATCH/HOUR: 2315.38

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP
Trachyrinus scabrus	1065.40 6236	43.47	
Nezumia sp.	297.84 6872	12.86	
Lophius vomerinus	177.30 72	7.66	620
Galeus polli	160.58 1960	6.94	
Lophius vaillanti	128.20 46	5.54	621
Merluccius capensis, female	98.70 88	4.26	619
OCTOPODIDAE	76.22 36	3.29	
Dicrolene intronigra	75.48 1036	3.26	
Merluccius paradoxus, female	72.20 142	3.12	617
Ebinania costaeacanarie	33.30 332	1.44	
Raja doutreii	32.92 36	1.42	
Geryon maritae	25.52 110	1.10	
Chlorophthalmus atlanticus	21.82 702	0.94	
Raja confundens	21.08 110	0.91	
Hoplostethus melanopus	18.12 1220	0.78	
Merluccius capensis, male	16.20 18	0.70	618
Neoharriotta pinnata	15.54 36	0.67	
Malacocephalus laevis	12.20 110	0.53	
Helicolenus dactylopterus	9.98 36	0.43	
Todarodes sagittatus	9.62 36	0.42	
Merluccius polli, female	3.20 4	0.14	616
Coelorinchus fasciatus	2.22 110	0.10	
OPHICHTHIDAE	0.74 36	0.03	
Total	2315.38	100.01	

PROJECT STATION: 140
 DATE: 20/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1837
 start stop duration Long E 1123
 TIME :07:35:00 08:05:00 30 (min) Purpose code: 3
 LOG :3393.40 3395.20 1.80 Area code : 3
 FDEPTH: 460 473 GearCond.code:
 BDEPTH: 460 473 Validity code:
 Towing dir: * Wire out: 1350 m Speed: 36 kn*10

Sorted: 353 Kg Total catch: 1420.66 CATCH/HOUR: 2841.32

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP
Chlorophthalmus punctatus	750.30 29834	26.41	
Trachyrinus scabrus	451.82 3444	15.90	
Helicolenus dactylopterus	396.06 5570	13.94	
Merluccius capensis, female	290.30 252	10.22	622
Lophius vomerinus	282.30 346	9.94	626
Nezumia sp.	260.76 18514	9.18	
Galeus polli	233.70 1804	8.23	
Squalus megalops	45.10 82	1.59	
Merluccius capensis, male	42.10 46	1.48	623
Todarodes sagittatus	36.90 82	1.30	
Lophius vaillanti	29.30 16	1.03	627
C R A B S	4.92 82	0.17	
Selachophidium guentheri	4.92 82	0.17	
Merluccius paradoxus, female	4.64 6	0.16	624
OPHICHTHIDAE	2.46 82	0.09	
Coelorinchus coelorinch. polli	2.46 82	0.09	
Austroglossus microlepis	2.10 2	0.07	628
Merluccius paradoxus, male	1.18 2	0.04	625
Total	2841.32	100.01	

PROJECT STATION: 141
 DATE: 20/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1835
 start stop duration Long E 1127
 TIME :09:30:00 10:00:00 30 (min) Purpose code: 3
 LOG :3401.80 3403.50 1.70 Area code : 3
 FDEPTH: 294 300 GearCond.code:
 BDEPTH: 294 300 Validity code:
 Towing dir: * Wire out: 900 m Speed: 34 kn*10

Sorted: 197 Kg Total catch: 440.80 CATCH/HOUR: 881.60

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP
Dentex macrophthalms	415.00 1836	47.07	633
Merluccius capensis, female	248.60 556	28.20	629
Merluccius capensis, male	80.20 216	9.10	630
Pterothrissus belloci	62.64 540	7.11	
Deepwater fish mixture	28.98 329	3.29	
Synagrops microlepis	15.84 3168	1.80	
Trachurus capensis	10.98 108	1.25	632
Helicolenus dactylopterus	8.46 36	0.96	
Austroglossus microlepis	5.26 24	0.60	631
PORTUNIDAE	3.42 180	0.39	
Chelidonichthys capensis	1.62 18	0.18	
Sepia australis	0.72 36	0.08	
Total	881.72	100.03	

PROJECT STATION: 142
 DATE: 20/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1831
 start stop duration Long E 1131
 TIME :11:10:00 11:40:00 30 (min) Purpose code: 3
 LOG :3408.80 3410.60 1.80 Area code : 3
 FDEPTH: 230 229 GearCond.code:
 BDEPTH: 230 229 Validity code:
 Towing dir: * Wire out: 700 m Speed: 36 kn*10

Sorted: 89 Kg Total catch: 1673.39 CATCH/HOUR: 3346.78

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP
Trachurus capensis	1493.58 17692	44.63	636
Merluccius capensis, female	768.18 5356	22.95	634
Dentex macrophthalms	572.80 2752	17.11	637
Merluccius capensis, male	422.22 3348	12.62	635
Synagrops microlepis	65.38 19050	2.07	
Squalus megalops	15.24 36	0.46	
Pterothrissus belloci	3.72 36	0.11	
PORTUNIDAE	1.86 260	0.06	
Total	3346.78	100.01	

PROJECT STATION: 143
 DATE: 20/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1829 Long E 1137
 TIME :12:59:00 13:29:00 30 (min) Purpose code: 3
 LOG :3417.40 3418.90 1.50 Area code : 3
 FDEPTH: 183 178 GearCond.code:
 BDEPTH: 183 178 Validity code:
 Towing dir: 10* Wire out: 570 m Speed: 28 kn*10
 Sorted: 121 Kg Total catch: 2325.95 CATCH/HOUR: 4651.90

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
weight numbers			
Trachurus capensis	2346.55 73926	50.44	641
Dentex macrophthalmus	1688.22 9836	36.29	638
Merluccius capensis, female	354.20 1616	7.61	639
Chelidonichthys capensis	160.54 308	3.45	
Merluccius capensis, male	86.60 692	1.86	640
Pterothrissus belloci	15.40 154	0.33	
Anthias anthias	0.38 2	0.01	
Total	4651.90	99.99	

PROJECT STATION: 144
 DATE: 20/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1827 Long E 1142
 TIME :14:42:00 15:12:00 30 (min) Purpose code: 3
 LOG :3425.20 3426.60 1.40 Area code : 3
 FDEPTH: 153 143 GearCond.code:
 BDEPTH: 153 143 Validity code:
 Towing dir: 360* Wire out: 480 m Speed: 29 kn*10
 Sorted: 126 Kg Total catch: 2724.85 CATCH/HOUR: 5449.70

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
weight numbers			
Trachurus capensis	2741.20 87914	50.30	643
Dentex macrophthalmus	2534.80 25430	46.51	642
Merluccius capensis, female	55.90 386	1.03	644
Austroglossus microlepis	52.88 214	0.97	646
Chelidonichthys capensis	29.24 86	0.54	
Mustelus palumbes	25.36 42	0.47	
Merluccius capensis, male	10.32 128	0.19	645
Total	5449.70	100.01	

PROJECT STATION: 145
 DATE: 20/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1813 Long E 1132
 TIME :17:33:00 18:03:00 30 (min) Purpose code: 3
 LOG :3444.00 3445.80 1.40 Area code : 2
 FDEPTH: 240 238 GearCond.code:
 BDEPTH: 240 238 Validity code:
 Towing dir: 360* Wire out: 720 m Speed: 29 kn*10
 Sorted: 126 Kg Total catch: 1689.40 CATCH/HOUR: 3378.80

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
weight numbers			
Trachurus capensis	2191.80 26868	64.87	650
Dentex macrophthalmus	580.80 2728	17.19	651
Synagrops microlepis	301.98 45040	8.94	
Merluccius capensis, female	140.40 458	4.16	647
Pterothrissus belloci	81.80 1212	2.42	
Merluccius capensis, male	48.40 236	1.43	648
Squalus megalops	32.32 102	0.96	
Callorhynchus capensis	1.02 2	0.03	
Merluccius capensis, juveniles	0.28 6	0.01	649
Total	3378.80	100.01	

PROJECT STATION: 146
 DATE: 20/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1809 Long E 1128
 TIME :19:21:00 19:36:00 15 (min) Purpose code: 3
 LOG :3451.90 3452.80 0.90 Area code : 3
 FDEPTH: 361 370 GearCond.code:
 BDEPTH: 361 370 Validity code:
 Towing dir: 15* Wire out: 1200 m Speed: 36 kn*10
 Sorted: Kg Total catch: 1746.59 CATCH/HOUR: 6996.36

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
weight numbers			
Helicolenus dactylopterus	2787.80 46736	39.90	
Merluccius capensis, female	2284.40 2652	32.70	654
Chlorophthalmus punctatus	452.80 15464	6.48	
Merluccius capensis, female	385.80 424	5.52	652
Pterothrissus belloci	364.80 1696	5.22	
Merluccius capensis, male	364.80 424	5.22	655
Raja leopardus	150.40 108	2.15	
Merluccius capensis, male	76.00 100	1.09	653
Coelorinchus coelorinch. polli	50.00 2436	0.72	
Galeus polli	46.64 424	0.67	
Lophius vomerinus	16.40 24	0.26	657
Lophius vaillanti	7.32 4	0.03	656
Austroglossus microlepis	2.20 48	0.03	658
Total	6996.36	99.99	

PROJECT STATION: 147
 DATE: 20/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1807 Long E 1124
 TIME :21:11:00 21:41:00 30 (min) Purpose code: 3
 LOG :3459.80 3461.50 1.70 Area code : 3
 FDEPTH: 551 563 GearCond.code:
 BDEPTH: 551 563 Validity code:
 Towing dir: Wire out: 1700 m Speed: 31 kn*10
 Sorted: Kg Total catch: 1441.97 CATCH/HOUR: 2883.94

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
weight numbers			
Trachyrinus scabrus	1830.50 13698	63.49	
Nezumia sp.	591.60 17648	20.51	
Merluccius paradoxus, female	96.30 118	3.34	660
Lophius vomerinus	71.92 16	2.49	665
Hoplostethus cadenati	68.34 3876	2.37	
Helicolenus dactylopterus	59.16 306	2.05	
Merluccius capensis, female	45.30 48	1.57	662
Galeus polli	44.88 510	1.56	
Merluccius polli, female	24.60 30	0.85	659
Geryon maritae	21.42 102	0.74	
Lophius vaillanti	17.66 4	0.61	664
Chlorophthalmus punctatus	6.12 204	0.21	
Merluccius capensis, male	2.92 4	0.10	653
Epigonus denticulatus	2.04 102	0.07	
Merluccius paradoxus, male	0.90 2	0.03	661
Total	2884.06	99.99	

PROJECT STATION: 148
 DATE: 21/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1748 Long E 1120
 TIME :01:07:00 01:37:00 30 (min) Purpose code: 3
 LOG :3480.00 3481.40 1.40 Area code : 3
 FDEPTH: 511 511 GearCond.code:
 BDEPTH: 511 511 Validity code:
 Towing dir: 5* Wire out: 1600 m Speed: 29 kn*10
 Sorted: 230 Kg Total catch: 1447.31 CATCH/HOUR: 2894.62

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
weight numbers			
Trachyrinus scabrus	1753.18 9946	60.57	
Nezumia sp.	504.46 27486	17.43	
Lophius vomerinus	114.80 32	3.97	670
Merluccius paradoxus, female	100.20 132	3.46	667
Helicolenus dactylopterus	75.98 186	2.62	
Epigonus denticulatus	67.88 186	2.35	
Lophius vaillanti	58.90 12	2.03	671
Merluccius polli, female	52.00 54	1.80	666
Todarodes sagittatus	41.10 124	1.42	
Deania profundorum	39.30 8	1.36	
Geryon maritae	34.86 124	1.20	
PORTUNIDAE	14.32 248	0.49	
Guentherus altivela	12.76 4	0.44	
Chlorophthalmus atlanticus	9.34 248	0.32	
Hoplostethus melanopus	6.84 372	0.24	
Dicrolene intronigra	5.60 62	0.19	
Merluccius capensis, female	2.20 2	0.08	
Merluccius paradoxus, male	0.90 2	0.03	669
Total	2894.62	100.00	

PROJECT STATION: 149
 DATE: 21/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1748 Long E 1123
 TIME :07:16:00 07:46:00 30 (min) Purpose code: 3
 LOG :3491.50 3493.20 1.70 Area code : 3
 FDEPTH: 268 282 GearCond.code:
 BDEPTH: 268 282 Validity code:
 Towing dir: 350* Wire out: 750 m Speed: 34 kn*10
 Sorted: 179 Kg Total catch: 179.14 CATCH/HOUR: 358.28

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
weight numbers			
Merluccius capensis, female	144.40 446	40.30	672
Merluccius capensis, male	74.20 254	20.71	673
Helicolenus dactylopterus	51.80 972	14.46	
Chlorophthalmus punctatus	39.78 1150	11.10	
Dentex macrophthalmus	19.70 86	5.50	676
Deania calcea	8.50 2	2.37	
Trachurus capensis	5.24 20	1.46	675
Pterothrissus belloci	3.52 18	0.98	
Synagrops microlepis	2.80 260	0.78	
Zeus capensis	2.56 2	0.71	
Todarodes sagittatus	1.94 4	0.54	
Selachophidium guentheri	0.96 34	0.27	
Parapanaeus longirostris	0.74 186	0.21	
Merluccius polli, juveniles	0.56 14	0.16	674
Trigla lyra	0.36 32	0.10	
APOGONIDAE	0.20 6	0.06	
Octopus sp.	0.18 6	0.05	
Coelorinchus fasciatus	0.16 2	0.04	
Solenocera africana	0.10 22	0.03	
Total	357.70	99.83	

PROJECT STATION: 150
 DATE: 21/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1749 Long E 1128
 TIME :09:33:00 09:43:00 10 (min) Purpose code: 3
 LOG :3501.50 3502.20 0.70 Area code : 3
 FDEPTH: 204 211 GearCond.code:
 BDEPTH: 204 211 Validity code:
 Towing dir: 202* Wire out: 6503 m Speed: 36 kn*10
 Sorted: 106 Kg Total catch: 105.77 CATCH/HOUR: 634.62

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
weight numbers			
Trachurus capensis	397.80 3558	62.68	681
Dentex macrophthalmus	60.00 330	9.45	680
Synagrops microlepis	52.44 5244	8.26	
Merluccius capensis, female	47.10 276	7.42	677
Merluccius capensis, male	25.20 126	3.97	678
Helicolenus dactylopterus	19.98 480	3.15	
Pterothrissus belloci	12.90 138	2.03	
Chlorophthalmus punctatus	9.06 258	1.43	
Callorhynchus capensis	6.36 6	1.00	
Squalus megalops	2.76 12	0.43	
Merluccius polli, juveniles	0.60 18	0.09	679
Octopus sp.	0.24 24	0.04	
Sepia australis	0.18 6	0.03	
Total	634.62	99.98	

PROJECT STATION: 151
 DATE: 21/ 2/94 GEAR TYPE: BT No:1 POSITION: Lat S 1734 Long E 1121
 TIME :12:14:00 12:44:00 30 (min) Purpose code: 3
 LOG :3521.10 3522.90 1.80 Area code : 3
 FDEPTH: 377 380 GearCond.code:
 BDEPTH: 377 380 Validity code:
 Towing dir: 340* Wire out: 1300 m Speed: 40 kn*10
 Sorted: 128 Kg Total catch: 576.94 CATCH/HOUR: 1153.88

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP
weight numbers			
Helicolenus dactylopterus	482.40 2922	41.81	
Squalus megalops	131.94 522	11.43	
Dicrolene intronigra	77.94 900	6.75	
Coelorinchus fasciatus	69.12 2032	5.99	
Merluccius capensis, female	68.40 86	5.93	682
Galeus polli	66.24 648	5.74	
Hoplostethus mediterraneus	66.06 6496	5.73	
Schedophilus huttoni	36.90 54	3.20	
Lophius vaillanti	33.20 14	2.88	686
Merluccius capensis, male	20.82 28	1.80	683
Epigonus denticulatus	20.52 1350	1.78	
Merluccius polli, female	18.18 24	1.58	684
Chlorophthalmus atlanticus	17.28 414	1.50	
Guentherus altivela	9.18 18	0.80	
Synagrops microlepis	7.74 630	0.67	
Zenopsis conchifer	7.02 18	0.61	
Lophius vomerinus	5.10 6	0.44	685
Trachyrinus scabrus	4.68 18	0.41	
Malacocephalus laevis	3.96 36	0.34	
Raja confundens	3.78 18	0.33	
Nezumia sp.	2.16 108	0.19	
PORTUNIDAE	1.26 36	0.11	
Total	1153.88	100.02	

DATE: 21/ 2/94 GEAR TYPE: BT No:1 PROJECT STATION: 152
 POSITION: Lat S 1727
 Long E 1126
 TIME :14:22:00 14:52:00 30 (min) Purpose code: 3
 LOG :3531.90 3533.20 1.30 Area code : 3
 FDEPTH: 216 218 GearCond.code:
 BDEPTH: 216 218 Validity code:
 Towing dir: 360° Wire out: 660 m Speed: 32 kn*10

Sorted: 159 Kg Total catch: 5680.66 CATCH/HOUR: 11351.32

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP
	weight	numbers		
Trachurus capensis	4033.48	30802	35.50	690
Synagrops microlepis	3748.68	814930	33.00	
Merluccius capensis, female	2121.76	7688	18.68	689
Merluccius capensis, male	758.28	3274	6.67	688
Dentex macrophthalmus	213.60	1138	1.88	687
Cheilodichthys capensis	138.12	498	1.22	
Squalus megalops	128.86	568	1.13	
Raja miraletus	72.62	142	0.64	
Helicolenus dactylopterus	69.76	1636	0.61	
Pterothrissus belloci	41.28	356	0.36	
PORTUNIDAE	20.64	1708	0.18	
Chlorophthalmus atlanticus	14.24	712	0.13	
Total:	11361.32		100.00	

Annex IV Instruments and fishing gear used

Acoustic instruments

The SIMRAD EK500/38 KHz scientific sounder was used during the survey for estimation of fish density. The EK500 has a built-in digital echo integrator, but the Bergen Echo Integrator system (BEI) was used throughout the survey. The details of the instrument settings are as follows:

Tranceiver settings:

Bandwith	Wide (3.8 KHz)
Pulse length	Medium (1 ms)
Max Power	2 000 Watt
Sv Transducer gain	27.8 dB
Ts Transducer gain	28.1 dB

Printer settings:

Range	0 - 100 or 0 - 250 m
TVG	20 log R
TS Colour min	- 50 dB
Sv Colour min	- 64 dB

An ES38B with a 6.8° -3dB beamwith transducer was used for integration.

A calibration experiment using a standard copper sphere, performed in Baia dos Tigres 23/2 1994 gave the following results: Sv Transducer gain 27.8 dB, Ts Transducer gain 28.1 dB.

Glossary:

Sv Transducer gain: Peak transducer gain assumed during computation of volume backscattering strength.

Ts Transducer gain: Peak transducer gain assumed during computation of target strength.

Ts Colour min: Lower limit of colour scale relative to target strength.

Sv Colour min: Lower limit of colour scale relative to Volume back scattering.

Hydrography

Conductivity, temperature, density and oxygen were sampled regularly at CTD stations with a Seabird CTD-sonde. The salinity was calculated by a computer.

Fishing gear

Two different sized pelagic trawls and one bottom trawl were used during the survey. The following drawings show the size of these trawls.

F/F Dr. Fridtjof Nansen

OVER/UNDER/SIDER

OVERDEL:
50 STK 11" PLASTKULER

UNDERDEL:
14 M/M WIRE OMSP. MED
14 M/M BLYTAU
+ KJETTING.

TOTAL VEKT UNDER 400 KG.

SIDER.

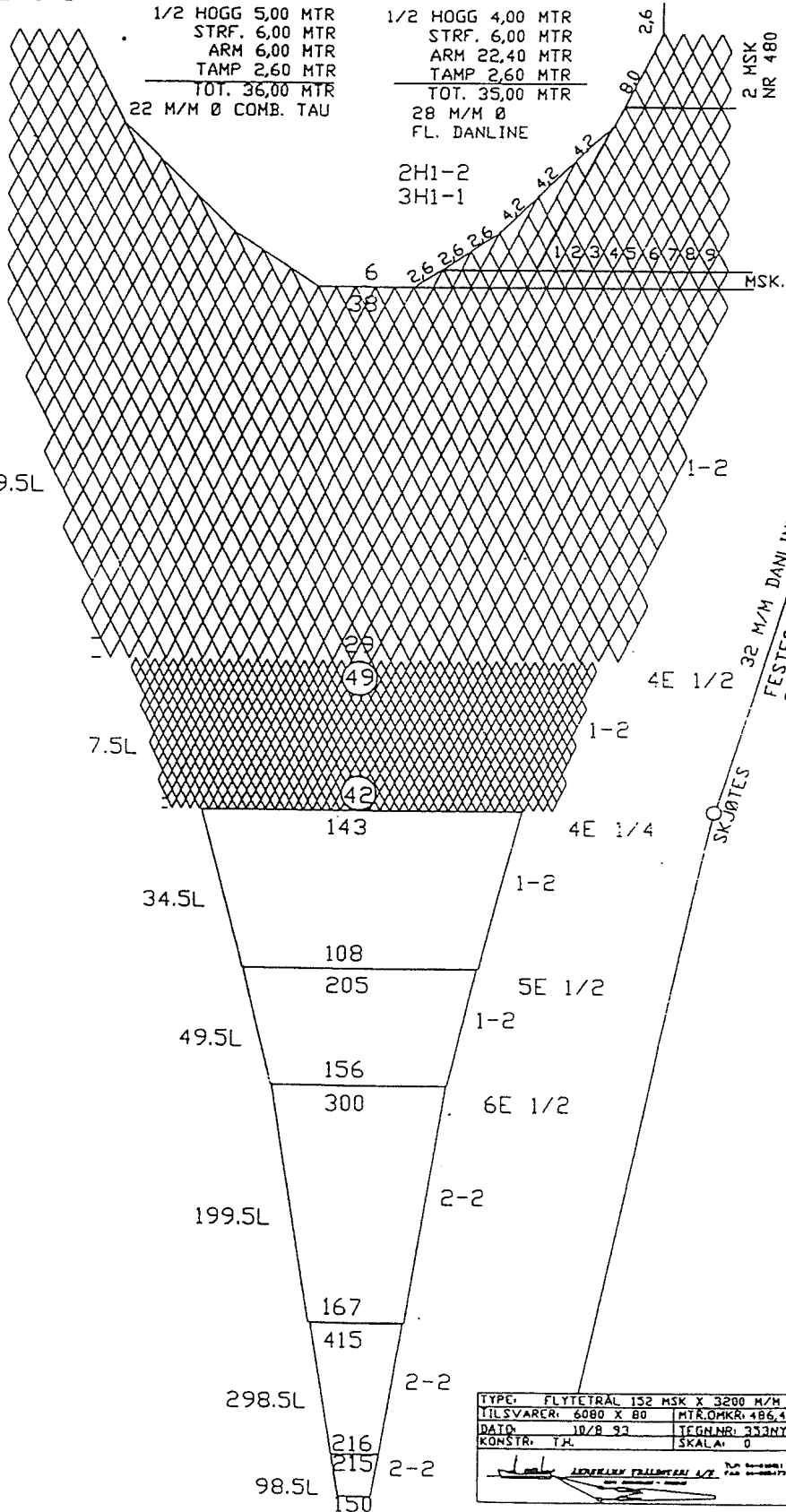
MASKER TRAAD LENGDE MASKER
M/M NR. I MTR. I EVING

1/2 HOGG 5,00 MTR
STRF. 6,00 MTR
ARM 6,00 MTR
TAMP 2,60 MTR
TOT. 36,00 MTR
22 M/M Ø COMB. TAU

1/2 HOGG 4,00 MTR
STRF. 6,00 MTR
ARM 22,40 MTR
TAMP 2,60 MTR
TOT. 35,00 MTR
28 M/M Ø
FL. DANLINE

2 MSK
NR 480

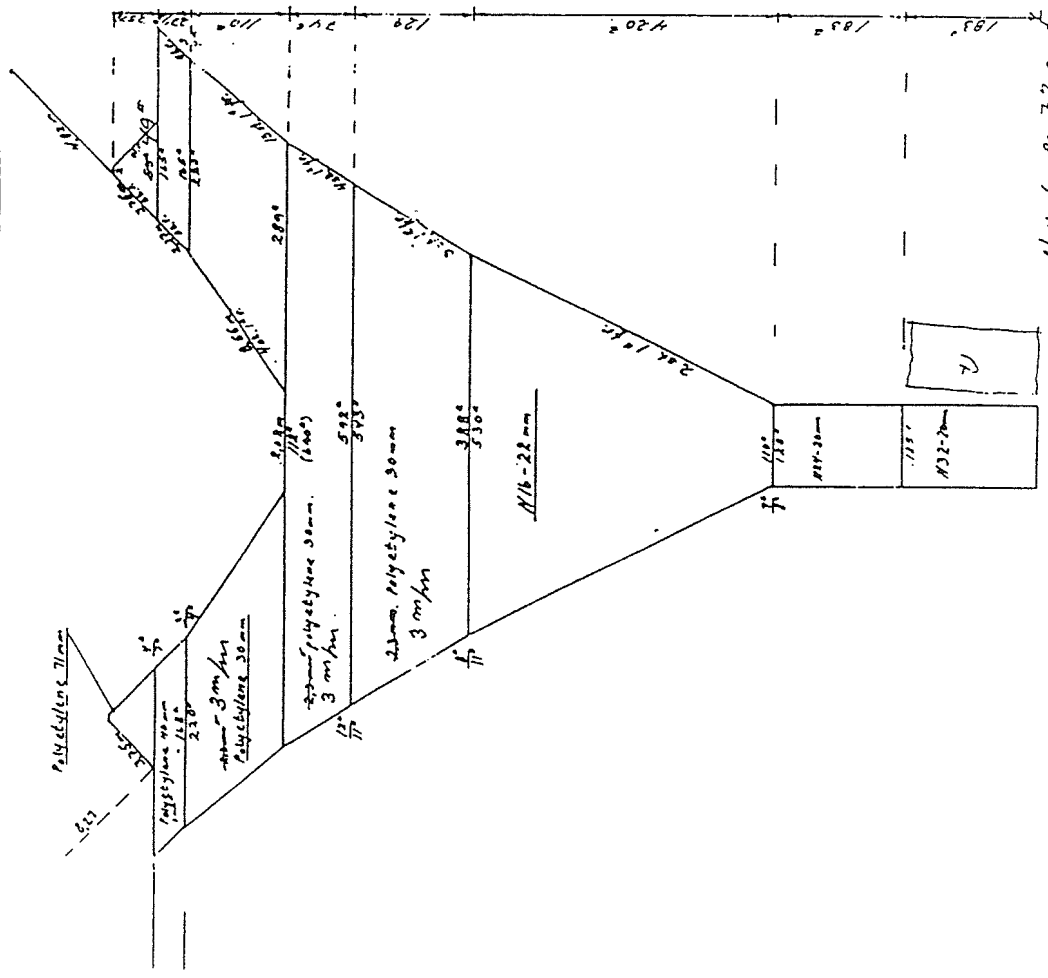
3200.0	240	22.4	4
3200.0	240	32.0	4 9.5L
1620.0	160	13.0	4
400.0	48	14.0	4
200.0	32	10.00	4
100.0	24	20.0	4
38.0	12	11.4	4
38.0	18	3.76	4



TYPE:	FLYTETRAL 152 MSK X 3200 M/M
LILSVARER:	6080 X 80 MTR.OMKR. 486,4
DATE:	10/8 93
KONSTR. TJL:	TEGN.NR. 333NY
	SKALA: 0

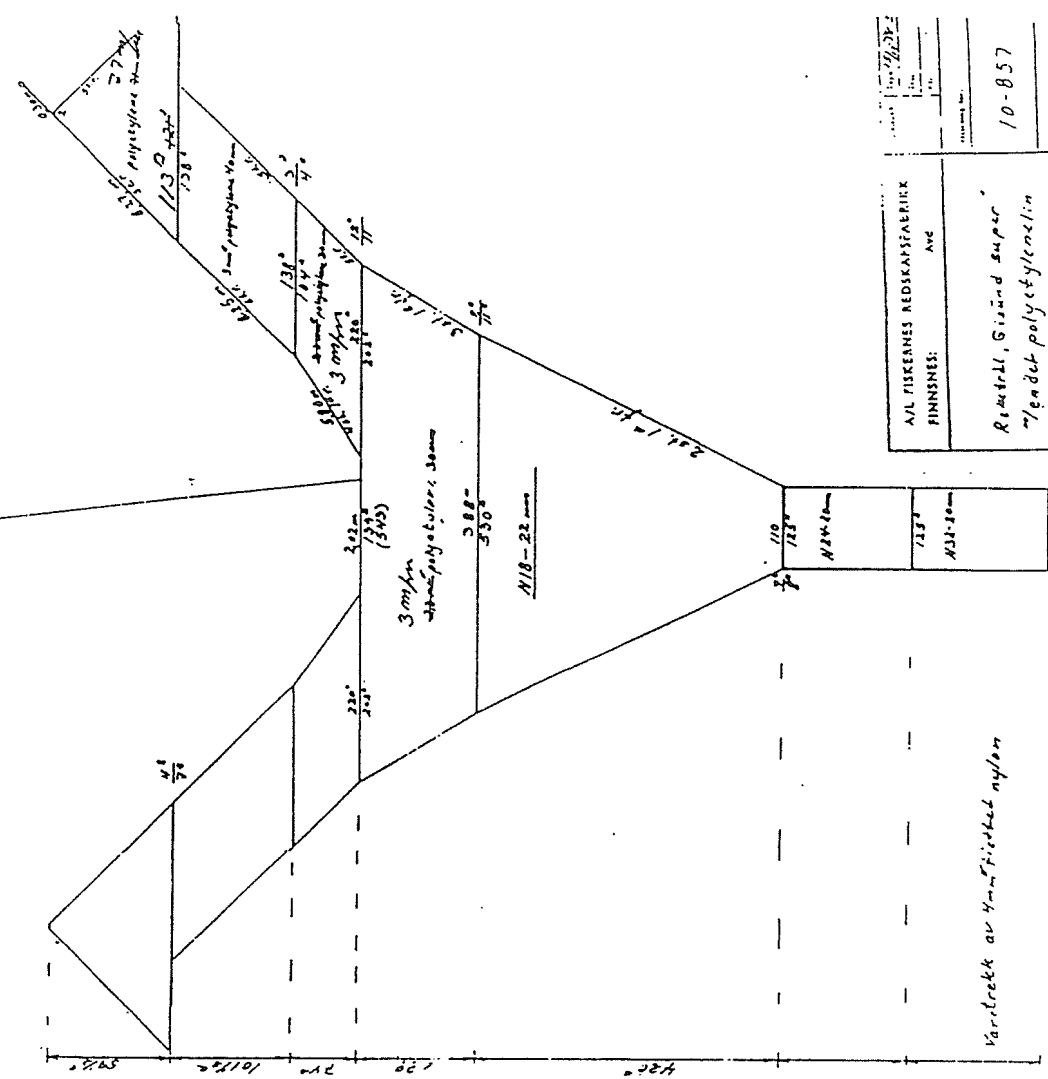
Mængde: 197,58 m² / 107,42 m² / 1,02 m² / 1,02 m² / 1,02 m² / 1,02 m²
 Feltet: 12 mm P.P.A. og
 benadmet til 2 1/4" diam. r. nasjonale
 m/berstjerne
 Headline: 40,80 m

Oversidel



Mængde: 197,58 m² / 107,42 m² / 1,02 m² / 1,02 m² / 1,02 m² / 1,02 m²
 Feltet: 12 mm P.P.A. og
 benadmet til 2 1/4" diam. r. nasjonale
 m/berstjerne
 Headline: 47,26 m

Underside



AVL FISKEARNES NEDSKAPFAERLIK	
FINNSNES:	
Rensert, Gisand super	
m/endet polyetylenlin	
10-857	

