2013 BCC SURVEY NO.1

FINAL REPORT:

R/V DR. FRIDTJOF NANSEN, 15 JANUARY – 13 FEBRUARY 2013. CAPE AGULHAS – ORANGE RIVER (WEST COAST), SOUTH AFRICA

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THE EAF-NANSEN PROJECT

FAO has started the implementation of the project entitled "Strengthening the Knowledge Base for and Implementing an Ecosystem Approach to Marine Fisheries in Developing Countries (EAF-Nansen GCP/INT/003/NOR)" in December 2006 with funding from the Norwegian Agency for Development Cooperation (NORAD). The EAF-Nansen project is follow-up of earlier projects and programmes in various partnerships involving FAO, NORAD, World's Bank, Institute of Marine Research (IMR) in Bergen, Norway, on assessment and management of marine fishery resources in developing countries. The project works in partnership with governments and also Global Environment Facility (GEF)–supported Large Marine Ecosystem (LME) projects and other projects that have the potential to contribute to the EAF-Nansen project.

The EAF-Nansen project offers an opportunity to coastal countries in sub-Saharan Africa working in partnership with them, to receive technical support from FAO for the development of national and regional frameworks for the implementation of Ecosystem Approach to Fisheries management and to acquire additional knowledge on their marine ecosystems for their use in planning and monitoring. The project contributes to building the capacity of national fisheries management administrations in ecological risk assessment methods. This is then used to identify critical management issues and in the preparation, implementing, running and tracking actions leading to the progress in building up fisheries management plans stemming from, and considered as, Ecosystem Approach to Fisheries (EAF). It also contains an important training component.

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1. Introduction

Biological resources of the southern African region were relatively well researched for nearly 100 years and reasonably well managed under heavy exploitation of last several decades. However, with the political change in South Africa in 1994 and independence of Namibia in 1990, ownership and right to exploit natural resources equitably and sustainably became complicated because of the increased number of stakeholders and increased national and international pressure for access to the resources. These complications, more and more common in the world, as well as substantial increase of knowledge about natural biological exploitable resources, led to the development of Ecosystem Approach to Fisheries. This noble idea (to manage renewable resources in balance with the biological and socio-economic surroundings) is however seldom successful in practice. This is because of many factors, one of them being that life cycles of many exploited and not exploited species are not adequately known.

Hake is the most valuable renewable marine resource for Namibia and South Africa. Both species of hake (Merluccius capensis and M. paradoxus) occur in both countries, and have been managed together (as if they were one species only), but separately for each country. This bizarre approach was taken for practical reasons, but biologically it was highly risky to the sustainability of the resources. Knowledge about biology of southern African hakes, underlying many assumptions of the used models, was very uneven. Stock structure research (based on size distributions in time and space and on genetic investigations) was never undertaken for both species and on sufficiently large scale. Basic maturity, spawning, hatching, transport and movement were never investigated in detail necessary to determine spawning locations and distribution of eggs, larvae and early juveniles. Available data were scant and dispersed. Dr Fridtjof Nansen cruises, started in 2002 under the international research effort called The Benguela Environment, Fisheries, Interaction and Training (BENEFIT), were set to address these gaps through highly international effort (scientists from South Africa, Namibia, Holland, Germany and Norway). After the BENEFIT was phased out, The Benguela Current Large Marine Ecosystem (BCLME) set of projects took over the goals and ideas of its predecessor. At the end of this phase (2006-2007) it was realized that one of the investigated hake species (Merluccius paradoxus or the deepwater hake) is a typical example of a transboundary resource. The study then took a new turn, to investigate in detail these aspects of the biology (e.g. distribution and stock structure)

which are essential to sustainably manage such a valuable resource, biologically shared by both countries, and exploited heavily both in South Africa and in Namibia. The task to continue this research was taken up by then newly formed Benguela Current Commission (in 2008). The all-important time series for detailed analysis now thus comprise the years 2003 and 2005-2011 (years 2002 and 2004 were devoted to the methodological questions of transect surveys). Transboundary questions were soon supplemented by the life-cycle and abundance oriented questions, because a magnitude of historical exploitation (Fig. 1), spawning biomass trajectories (Fig. 2) and survey results (Fig. 3) were not compatible with each other, model indicating much healthier stock for M. capensis, whilst surveys indicated much healthier stock for M. paradoxus. These survey indices of the relative biomass index needed an independent corroboration in an independent time series, obtained using a different method. Dr Fridtjof Nansen research provided such a time series, which in the lack of survey data in South Africa in 2013 caused by logistic difficulties, will serve as a scientifically acceptable replacement for the original R/V "Africana" data.

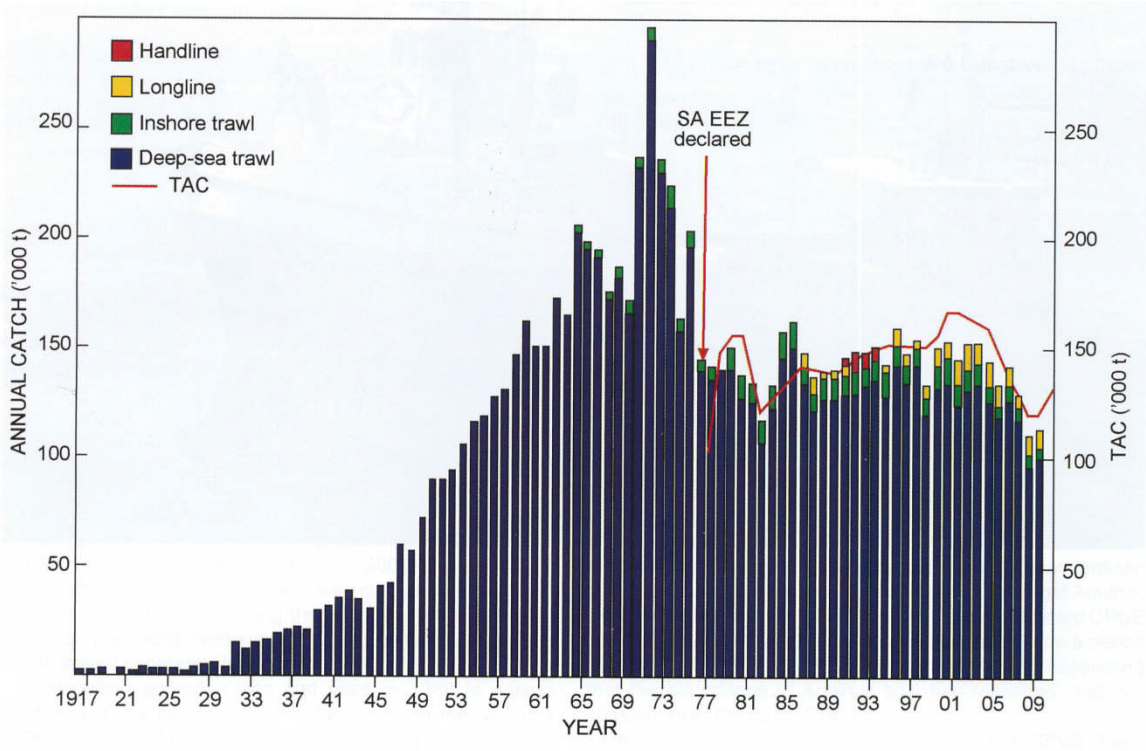


Fig. 1: Catches of both species of hake in the South African waters, 1917-2009. From the "Status of the South African Marine Fishery Resources 2012", DAFF, Cape Town.

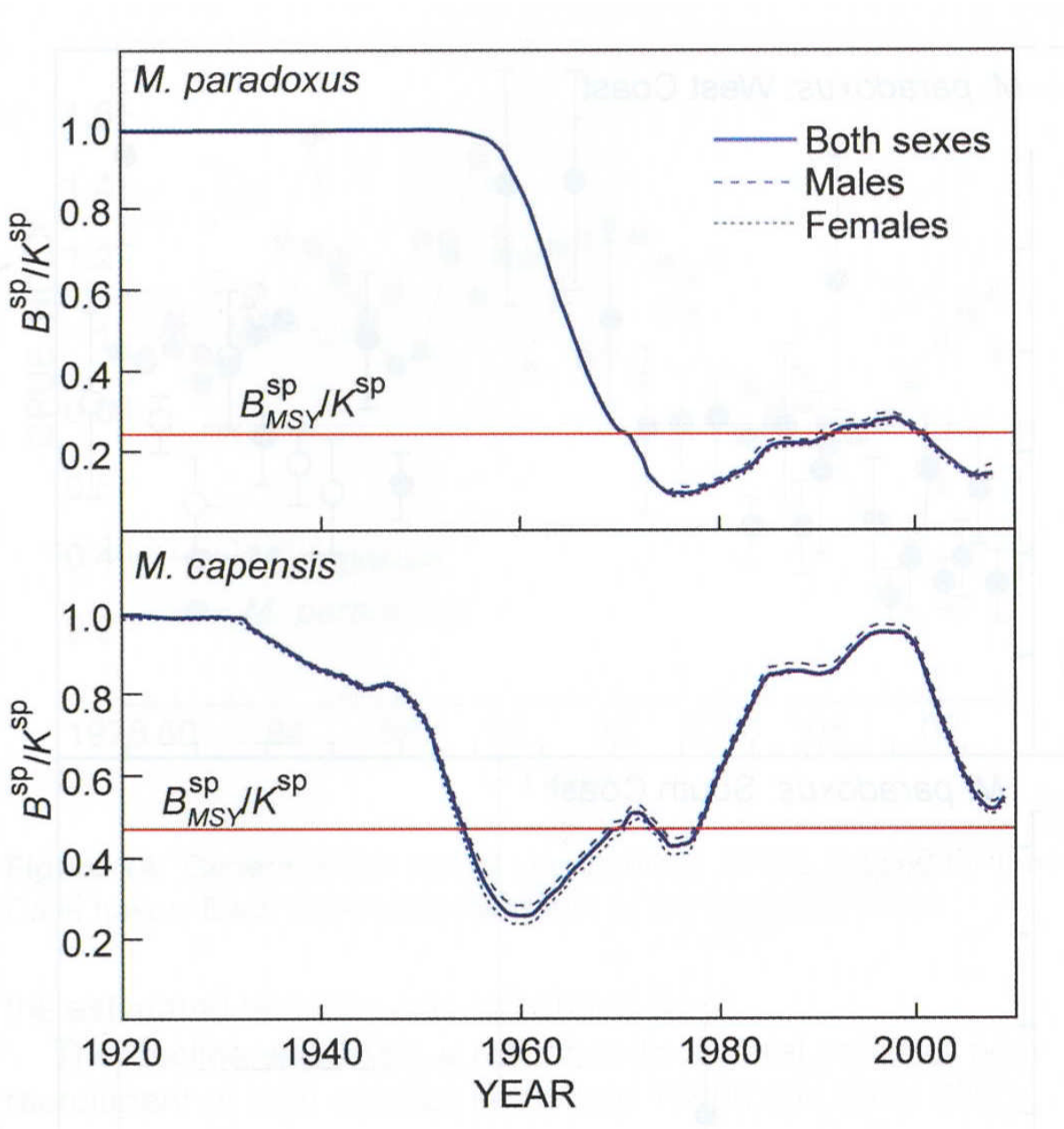


Fig. 2: Spawning biomass trajectories for Cape hakes, estimated in the 2010 baseline assessment. The estimated maximum sustainable yield for each stock relative to the pre-exploitation level is indicated by a horizontal line. From the "Status of the South African Marine Fishery Resources 2012", DAFF, Cape Town.

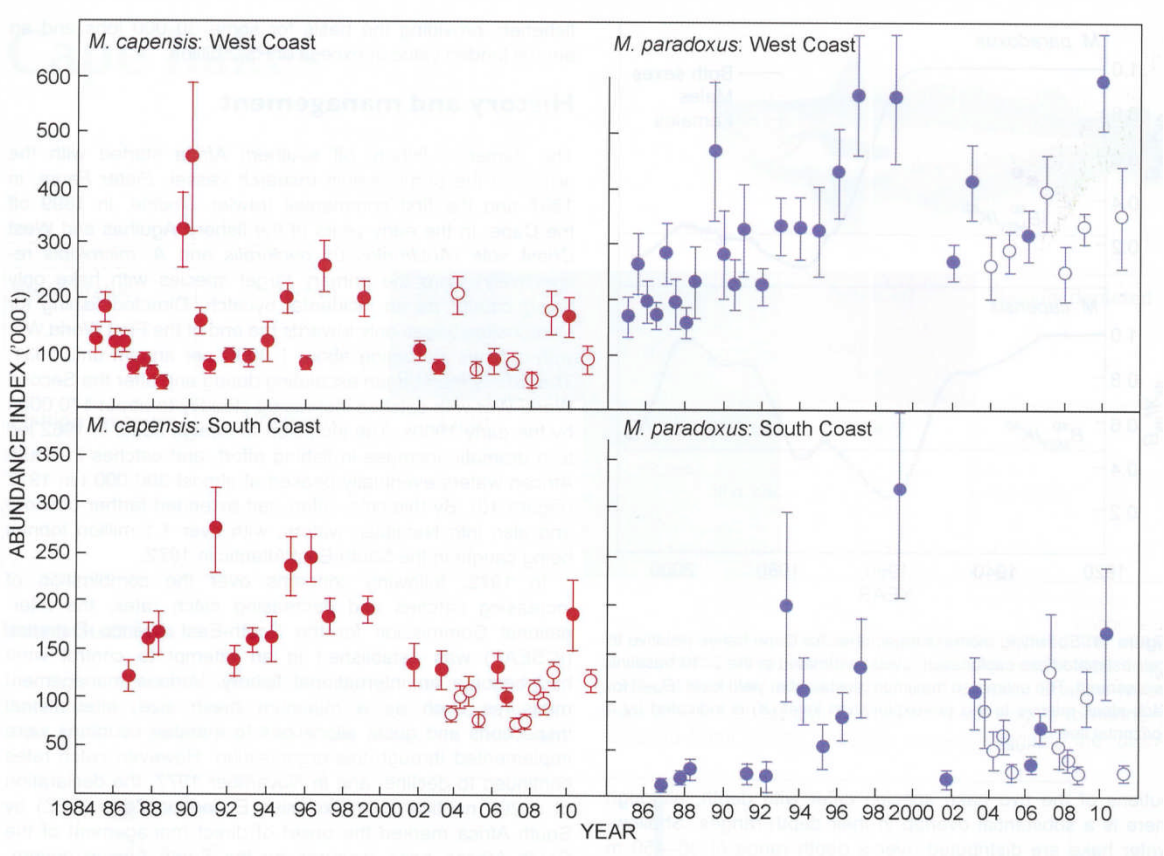


Fig. 3: Swept-area based survey abundance indices for the two species of Cape hakes on the slope and upper shelf on the west and south coasts of South Africa. Based on R/V "Africana" surveys. Filled circles: old gear; blank circles: new gear. From the "Status of the South African Marine Fishery Resources 2012", DAFF, Cape Town.

Thus the foresight of subsequent Regional Steering Committee for the EAF-Nansen project in the BCC to continue with the time series very well paid off. In 2010 this research was even extended to the South Coast of South Africa, thus covering most of the geographic distribution of both species of hakes in simultaneous demersal survey using the same gear,. This coverage stretched from Kunene to Orange River (Namibian research on R/V Blue Sea), Orange River to Cape Agulhas (R/V Dr Fridtjof Nansen), and from Cape Agulhas to Port Alfred (the latter in 2010 only).

Data, concepts and conclusions of Dr Fridtjof Nansen transboundary research in the southern African region were published in a number of scientific papers in peer reviewed journals.

Specific objectives of 2013 survey were as follows:

- To plan and conduct a transboundary survey from Cape Agulhas to Orange River to produce distribution maps and abundance estimates of the two species of hake, to be later merged with similar data from a co-occurring Namibian national demersal survey, to enable complete mapping and assessment of shared stocks, thus providing a measure of the degree of sharing the stocks at the time of the survey;
- To collect data on maturity, food and age of both hake species, and in addition same for kingklip, monk and horse mackerel (under agreement with the Department of Agriculture, Forestry and Fisheries of South Africa);
- To collect genetic samples for both hake species (small piece of muscle tissue) under agreement with the Molecular Zoology, University of Stellenbosch in the ECOFISH international programme;
- To collect all other relevant data to better understand the environmental and biological impact on the distribution of hakes, and the fish community structure in the survey area, according to goals and principles of the Ecosystem Approach to Fisheries;
- To conduct on board training exercises for junior staff comprising goals of EAF, purpose of conducting demersal survey, methods and practices of such a survey, practical exercises concerning species identification, etc. To conduct also training of middle rank staff in organizing and running demersal surveys.

2 Materials and methods

2.1 Registration of weather conditions

The underway weather data aboard Dr. Fridtjof Nansen are logged with the Aanderaa Weather Station unit fitted with the following sensors:

Sensor type	Measurement units

Air temperature	Degrees °C
Wind speed	M/s
Solar radiation	W/m^2
Wind direction	Degrees re. the magnetic N. Pole
Sea surface temperature	Degrees °C

All sensors but Sea surface temperature (SST) are mounted on a mast positioned midships, at about 20 meters above the sea level. The SST sensor is located at the intake of the water for cooling the engine and it readings are representative to a water layer at about 5 meters below the sea level.

The weather station data were logged continuously throughout the survey. The results presented in this report are based on a standard output from the logging system comprising one nautical mile averages along the ship's track.

2.2 Hydrography

The data on temperature salinity and oxygen were collected with a CTD *Seabird 9 plus* probe between the surface and 10 meters off the bottom. CTDs were made at each trawl station.

The salinity samples were analysed with the Guildline Portasal salinometer unit. The laboratory conditions onboard are suitable to detect deviations between the CTD and *in situ* samples at a level of 0.005 of salinity units. Since no deviations reaching or exceeding this range were detected, the salinity values based on the factory calibration of the conductivity sensor are used throughout this report.

2.3 Acoustic measurements

2.3.1 Acoustic equipment

Acoustic data were recorded using a Simrad ER60 scientific echo sounder equipped with keel-mounted transducers at nominal operating frequencies of 18, 38, 120 and 200 kHz. The survey was started without *a priori* calibration.

Acoustic data were logged and post-processed using the latest acoustic data post-processing software, the Large Scale Survey System (LSSS) Version 1.25. The technical specifications and operational settings of the echo sounder used during the survey are given in Annex 2.

2.3.2 Classification

Scatterers were displayed at 38 kHz, standardized to 5 nautical miles (NM) echograms with 1,000 pings (horizontal) by 500 bins (vertical). The mean 5 NM area backscattering coefficients s_A (m^2/NM^2) was allocated to a predefined set of species or species groups on the basis established echogram features. When concentrations of juvenile pelagic hake were encountered the s_A-values were stored with a 1 NM resolution.

Acoustic groups used were: a) Juvenile pelagic hake < 17 cm, b) older hake, usually demersal, c) horse mackerel, d) Pelagic group1 (pilchard, anchovies, red eye), e) Pelagic group 2 (pelagic fish not of Pelagic 1), f) demersal fish, not hake, g) mesopelagic fish, h) plankton. The classification was based on the characteristics of the echo traces, experience accumulated from previous similar surveys in Namibia since 1990 and in South Africa since 2000, supported when possible with results from nearby bottom trawl stations.

The results from the acoustic system are considered as a pilot study with the main aim of delineating the limits of distribution of juvenile pelagic hake and some information on relative densities. The figures will not be converted to biomass, as the target strength is uncertain and as the classification scheme and methods are too coarse for such a purpose. Adult hake were very rarely observed in the acoustic channel during daytime, while it showed up frequently above bottom at nighttime.

2.4 Trawl sampling procedures

The standard bottom trawl of Dr. Fridtjof Nansen, a Gisund Super shrimp cum fish trawl, was used in the survey.. A description of the trawl and gear is given in Annex 2. Dr. Fridtjof Nansen use a 20 m strapping on the warps 105 m in front of the doors to keep the door and wingspread constant at 50 m and 21 m respective, independent of trawl depth.

A standard haul was 30 minutes at 3 knots, sometimes reduced to 20 minutes in areas of expected high densities. The exact time for start and stop of the trawl operation was determined by SCANMAR sensors. The output from the SCANMAR system was also recorded on files to facilitate later analysis of bottom contact and door-spread if necessary.

For conversion of catch rates (kg/hour) to fish densities (t/NM²), the effective fishing area was considered as the product of the wing spread and the haul length, or distance over the bottom, based on GPS readings. In the survey a nominal distance of 18.5 m was applied to facilitate analysis with previous surveys. The area swept for each haul was thus 18.5 m times the distance trawled, converted to NM². The catchability coefficient (q), i.e. the fraction of the fish encountered by the trawl that was actually caught, was conservatively assumed equal to 1, to allow comparison with previous results.

2.4.1 Handling the catch

In most cases, the whole trawl catch was sorted and all species were recorded with their weight and numbers. For especially big catches the abundant species were sub-sampled while the other fish were sorted out. Length measurements (total length) were taken for target species. The length of each fish was recorded to the 1 cm below. The mantle length of squid was measured to the 1 cm below. All samples of small hake was checked for the species identity by vertebrae count (usually 50 fish were examined).

An electronic measuring board was used for length measurement, main sample weights were recorded by Scanvaegt electronic balances and a Marel weight was used for single fish and small species measurements.

2.4.2 Biological samples

Biological samples were collected for the two hake species throughout the survey. The following information were collected: Sex, maturity stage, gonad weight and stomach content. The maturity scale used was the one adopted at Marine and Coastal Management, Cape Town:

1: immature,

2: active,

3: ripe,

4: ripe and running,

5: spent and

6: inactive

In addition, same biological analysis was conducted for kingklip, monk and horse mackerel at the request of the Demersal Section, DAFF. These data will be stored and used by DAFF.

Data collection of the genetic material for investigating the stock structure of hake was collected on the principle of 40 fish per day per species, deviating from this principle when the ship was working only far offshore (then 80 individuals of M. paradoxus only were collected) or closer inshore (likewise, 80 individuals of M. capensis). Small piece of tissue was collected from dorso-lateral anterior part of the body and placed in an Ependorf tube filled with 96% ethanol. At least length, weight, and sex of fish was recorded.

Training on board took form of lectures, seminar type of interaction, and practicals on deck.

3. Narrative

The scientific staff consisted of:

Officer responsible (BCC, FAO): Marek R. Lipinski

From DAFF, South Africa:

Sharon du Plessis (second leg, 26 January – 13 February);.

Granville Louw (whole cruise);

Jean Githaiga-Mwicigi (whole cruise);

Clifford Hart (whole cruise)

From NatMIRC, Namibia:

Anne-Marie Amunyela (first leg, 15-24 January);

Justina Shitindi (first leg, 15-24 January);

Fiina Amakali (second leg, 26 January – 13 February);

Colette Simwanza (second leg, 26 January – 13 February).

Volunteers via SANCOR website, South Africa:

Vicky Johnson (first leg, 15-24 January);

Danielle Boyd (first leg, 15-24 January);

Dylan Cooper (first leg, 15-24 January);

Samantha Ockhuis (whole cruise);

Zuko Nkomo (second leg, 26 January – 13 February);

Thulwaneng Mashifane (second leg, 26 January – 13 February);

Chad Wilkinson (second leg, 26 January – 13 February).

From IMR, Norway:

> Oddgeir Alvheim (cruise leader), Tore Mørk (instrument chief), Jan Frode Wilhelmsen and Jan A. Vagenes

The cruise tracks with fishing and hydrographical stations are shown in Figure 4.

The vessel departed Cape Town in the afternoon of 15 January, steaming south towards Cape Agulhas. Stormy weather prevented trawling operations next day. Trawling started on 17 January when 5 first stations were made. Work continued during next seven days, doing between 3 trawls (last day before docking in Cape Town) and 7 trawls. This part of the cruise, despite one day being lost for a heavy weather, was successful indeed, doing 5 trawls per day on average. Ship docked 2 p.m. on 24 January, and sailed again 26 January. Sampling work resumed in the afternoon of 26 January with two trawl stations off Cape Town. Work proceeded northwards in a regular transect pattern until the border with Namibia where the last trawl station was completed in 133 m of water in the afternoon (3h30 p.m.) of 11 February. The survey was completed with arrival in Walvis Bay in the morning of 13 February.

The weather conditions were, during the work south of Cape Town, for long periods unfavourable with strong winds and heavy swell, but the trawling could still be carried out with caution. North of Saldana Bay the working conditions were mostly favourable.

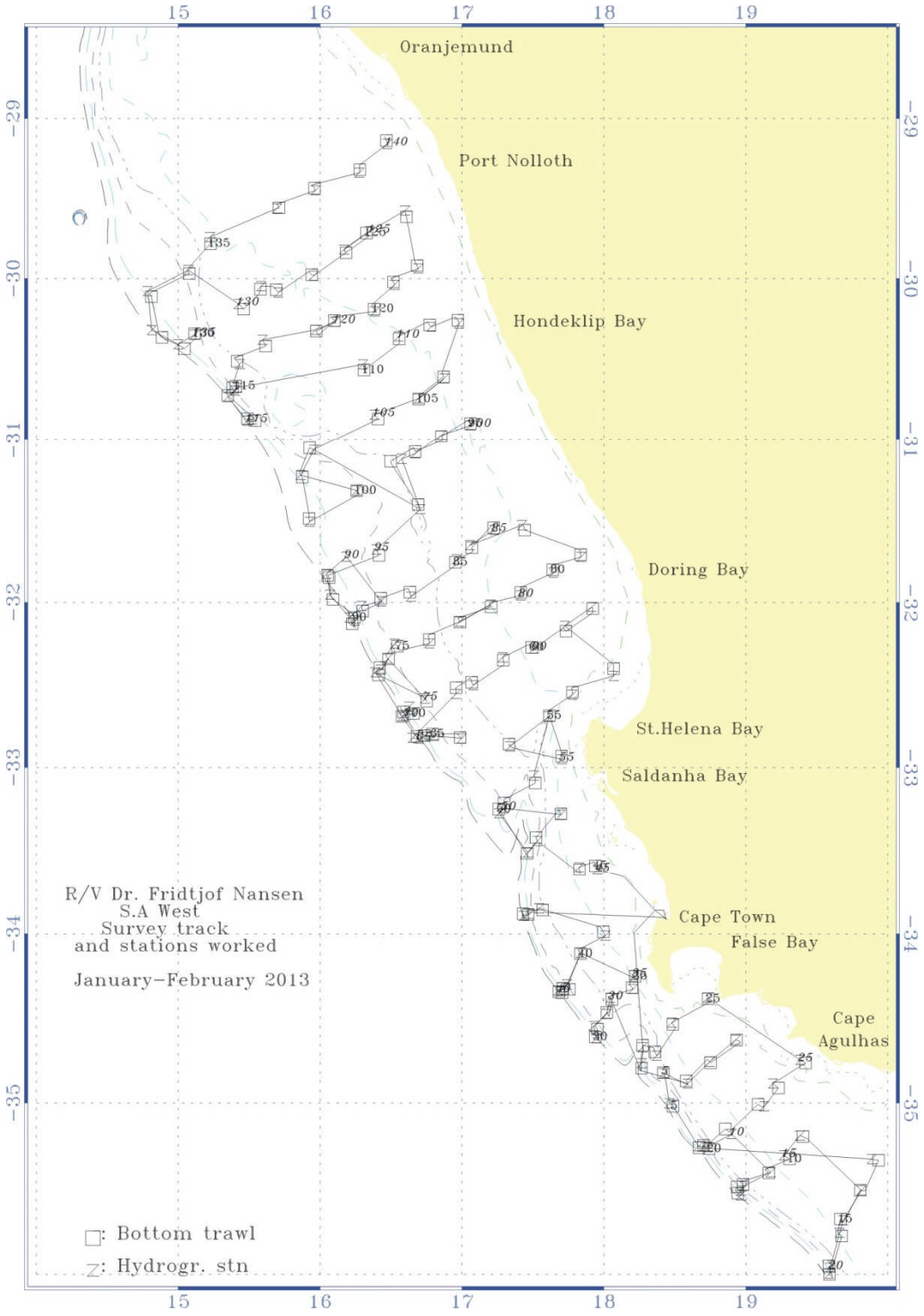


Figure 4. Course tracks with hydrographic and trawl stations Cape Agulhas-Orange River.

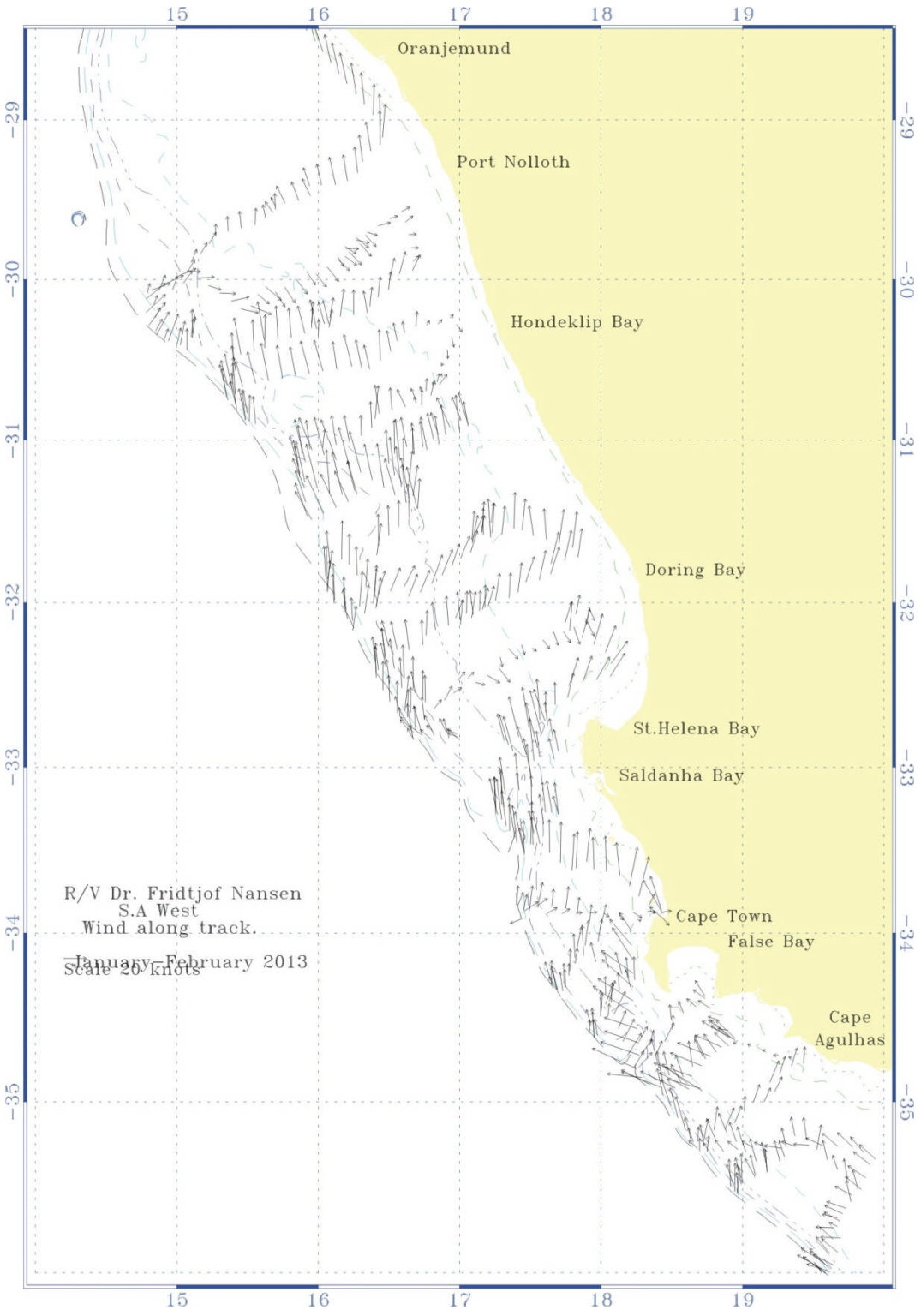


Figure 5. Wind conditions along the survey tracks.

4. Results

Annex 1 gives the account on the fishing gear used. Annex 2 provides historical overview of hake distribution and abundance (drawings). Annex 3 gives an account of training provided during the cruise. Annex 4 is a detailed account of trawl stations. Annex 5 provides depth strata by latitude for South Africa and Namibia.

4.1 Biology

Figure 6 shows the distribution of deep water hake (*M. paradoxus*) in the survey area. Dense concentrations of adult fish are found on the slope between Cape Agulhas and Cape Pennisula, offshore of St. Helena Bay, and offshore of Hondeklip Bay. In the Annex 2, figures of M. paradoxus distribution in the years 2010-2012 are given for comparison. This comparison suggests the movement of adult fish in the investigated area, because relatively long-living hake shows different pattern of distribution in different years. These changes cannot be attributed exclusively to mortality (including fishing mortality). Shape of the densities resemble 2010 distribution, but much more weakly developed. In 2013 deep water hake clings strongly to the deep water. Deep water “river of fish” moving north is prominent in the Hondeklip Bay area. Doring Bay – Hondeklip Bay distribution in water between 200 and 300 m is well developed, but less concentrated than in 2011. Peculiar low density offshore at the latitude of Doring Bay may be attributed to a combination of factors. In this area at the time of the survey there were a number of ships conducting a seismic survey, in strong south-westerly winds. Response of hake to these conditions is not known, perhaps except a general rule that mobile marine fauna avoids seismic research activities.

Juvenile M. paradoxus (6-20 cm) were widely distributed (Fig. 7), their distribution following the most common pattern over years. High densities of juveniles did extend north of the Hondeklip Bay (in contrast to 2011), which is a normal pattern observed in previous years. The survey did not include southern Namibia (as some surveys prior to 2008), but judging throm the distribution of juvenile fish, their spill-over through northern part of Orange Banks seems likely in 2013.

The distribution of shallow water hake (*M. capensis*) was uniform (Fig. 7) and at generally low level except for denser aggregations in waters off Cape Agulhas, which

were also present in other years except 2012. This compares unfavourably with previous years, where denser concentrations were also detected between Doring Bay and Hondeklip Bay (years 2010-2012).

The density estimates from the point samples have been converted into biomass estimates by length classes for both species of hake (Table 1). For *M. paradoxus*, estimates of fish less than 36 cm was 227 thousand tonnes, on the same level as the estimate in 2012 (216 thousand tonnes) which indicate a fairly stable system consistently providing new recruits into the adult biomass. Total biomass for *M. paradoxus* was 331.6 thousand tonnes, slightly down from the 2012 estimate of 348.2 tonnes. However, biomass of *M. capensis*, at 45.1 thousand tonnes, was sharply down from 2012 biomass of 79.7 thousand tonnes. It must be remembered though, that the west coast of SA is of secondary importance as far as *M. capensis* distribution and abundance is concerned.

Table 1. Abundance estimates of *M.capensis and M. paradoxus.* (2013)

Length	Merluccius capensis		Merluccius paradoxus	
cm	Tonnes	N mill.	Tonnes	N mill.
0	0	0.0	0	0.7
5	116	26.1	1140	261.1
10	666	62.1	9376	746.6
15	560	16.7	36112	1004.9
20	1676	22.7	69290	916.2
25	1682	12.4	60166	470.4
30	2860	12.6	27816	128.2
35	3874	11.3	24257	71.6
40	3338	6.8	22093	44.8
45	3599	5.3	22439	32.7
50	2969	3.2	18843	20.2
55	3961	3.2	15272	12.5
60	5557	3.5	11754	7.6
65	6488	3.3	6721	3.4
70	4035	1.6	3696	1.5
75	1466	0.5	1572	0.5
80	1029	0.3	668	0.2
85	613	0.1	292	0.1
90	358	0.1	114	0.0
95	311	0.1	0	0.0
100				
Sum	45157	191.8	331623	3723.3

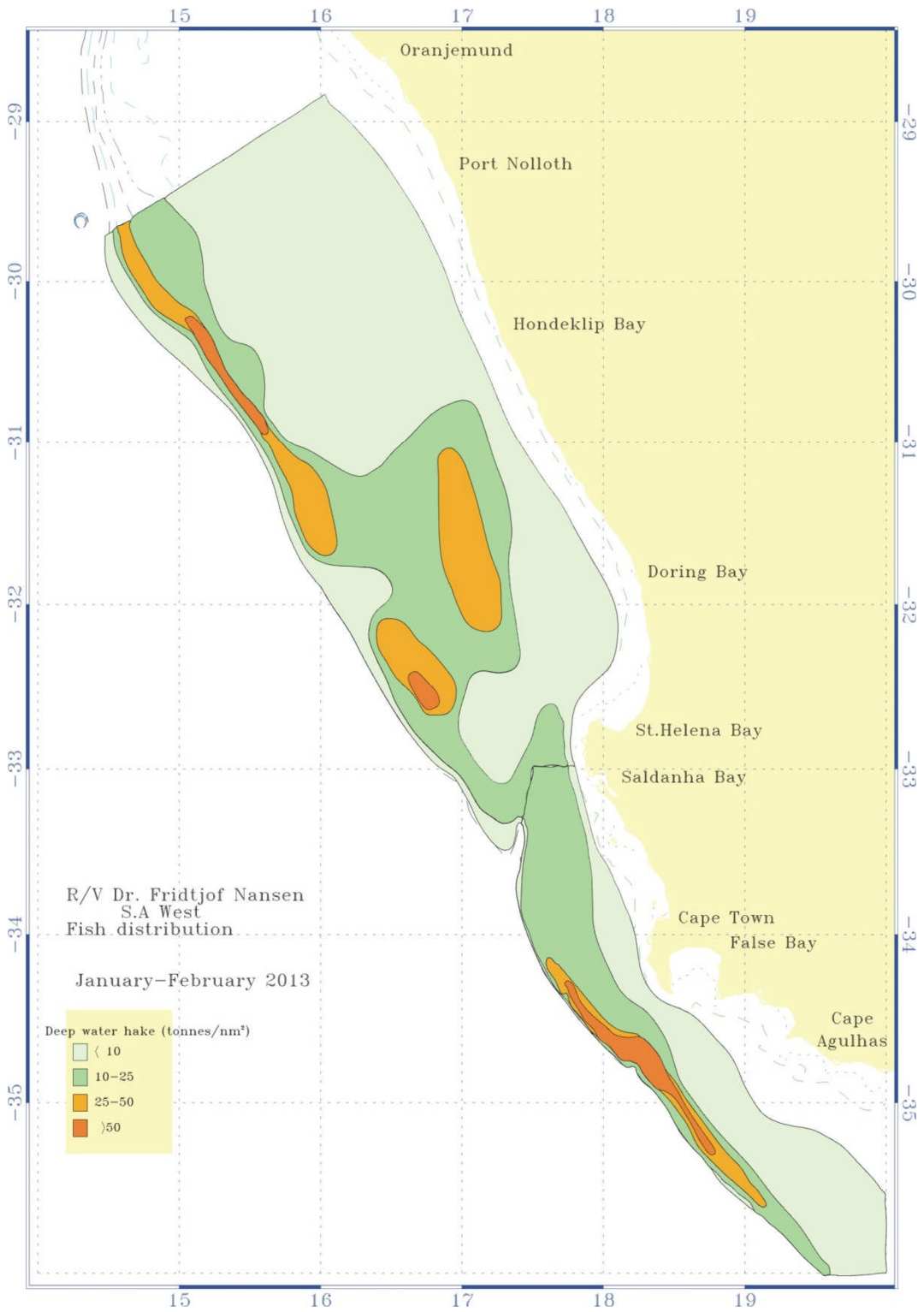

15
16
17
18
19
-29
-30
-31
-32
-33
-34
-35
Oranjemund
Port Nolloth
Hondeklip Bay
Doring Bay
St.Helena Bay
Saldanha Bay
Cape Town
False Bay
Cape
Agulhas
R/V Dr. Fridtjof Nansen
S.A West
Fish distribution
January–February 2013
Deep water hake (tonnes/nm²)
〈 10
10–25
25–50
〉50

Figure 6. Distribution of deep-water hake (*Merluccius paradoxus*) Cape Agulhas-Orange River.

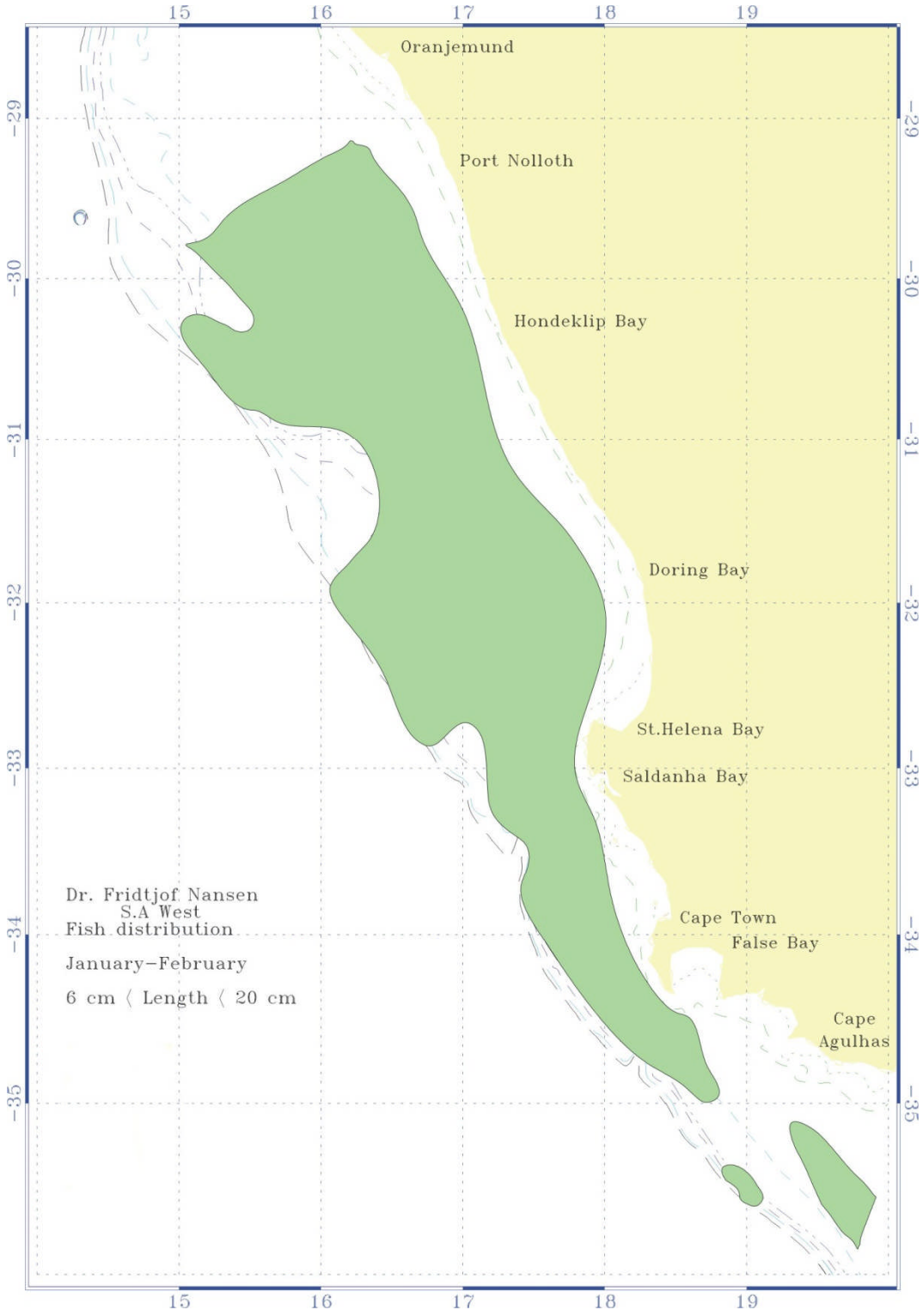


Fig.7. Distribution of the juveniles of deep-water hake (6-19 cm)

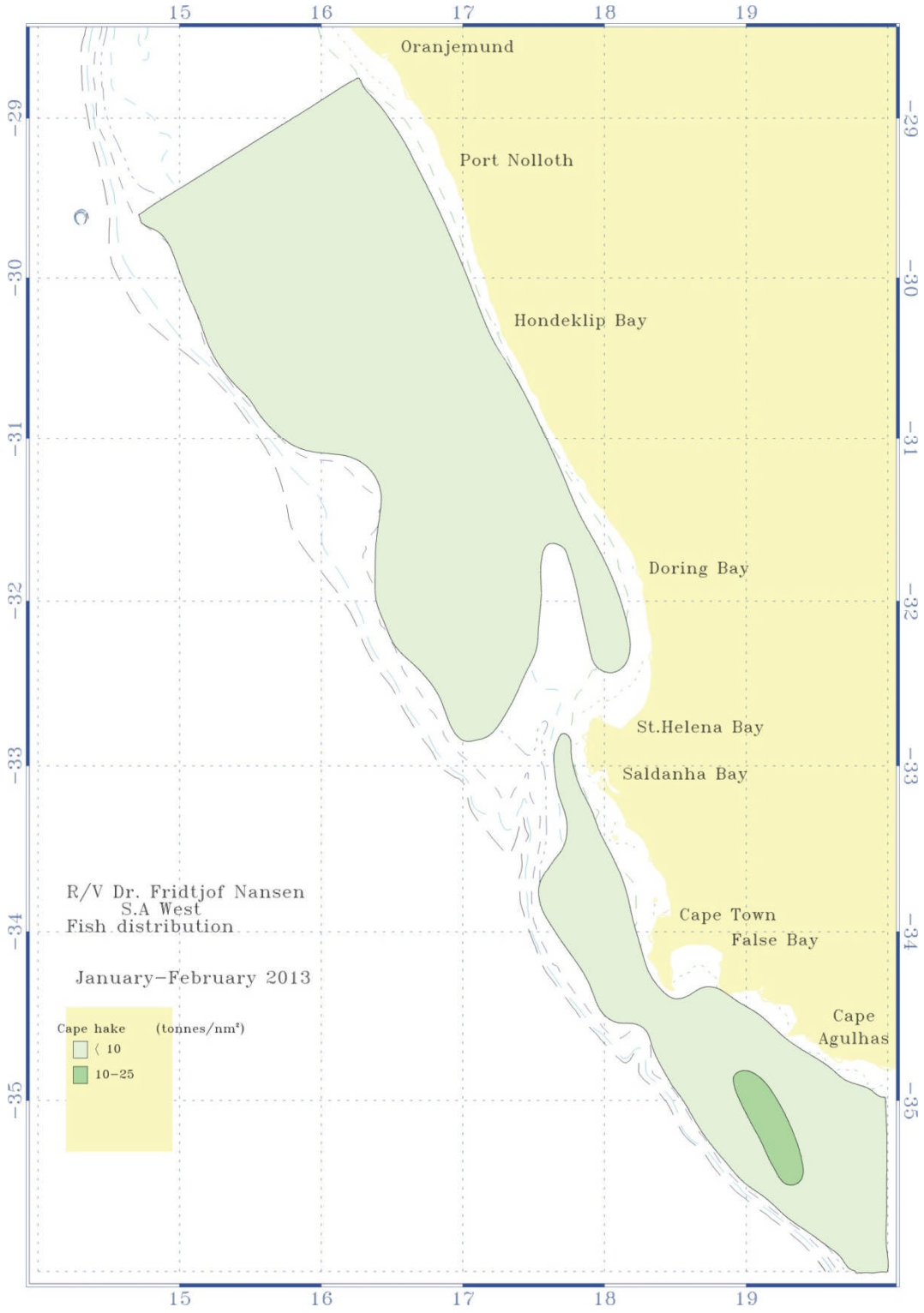


Figure 8. Distribution of Cape hake (*Merluccius capensis*) Cape Agulhas-Orange River.

Table 2. Regional abundance estimates of M. paradoxus (2013). Data for Namibia not as yet available. Fishable and non-fishable components provided.

Length	Biomass in tonnes			Number in millions		
	Namibia	S. Africa	Total	Namibia	S. Africa	Total
0		0	0		0.7	0.7
5		1140	1140		261.1	261.1
10		9376	9376		746.6	746.6
15		36112	36112		1004.9	1004.9
20		69290	69290		916.2	916.2
25		60166	60166		470.4	470.4
30		27816	27816		128.2	128.2
35		24257	24257		71.6	71.6
40		22093	22093		44.8	44.8
45		22439	22439		32.7	32.7
50		18843	18843		20.2	20.2
55		15272	15272		12.5	12.5
60		11754	11754		7.6	7.6
65		6721	6721		3.4	3.4
70		3696	3696		1.5	1.5
75		1572	1572		0.5	0.5
80		668	668		0.2	0.2
85		292	292		0.1	0.1
90		114	114		0.0	0.0
95		0	0		0.0	0.0
100						
Total	0	331623	331623		3723.3	3723.3
Non-fishable		208338	208338		3543.5	3543.5
Fishable		123286	123286		179.8	179.8

Fishable biomass for 2013 is down from 2011-2012 levels and close to TAC. It will be interesting to compare this result with the fishable biomass for Namibia, when Namibian data will become available.

Figure 9 shows the distribution of baby hake (smaller than 6 cm). This distribution confirms findings made in previous years: main concentration of baby hake is in the Hondeklip area (main nursery). Smaller pockets are found offshore of St. Helena Bay, Doring Bay and off Cape Point (smallest pocket). Since 2009 small patches of baby hake were observed off Cape Pennisula, False Bay and Cape Agulhas. This indicates that in addition to the main nursery off Hondeklip Bay, there are smaller nurseries along

the coast, potentially indicating spawning activity in several places. However, their distribution is variable and of much lesser importance.

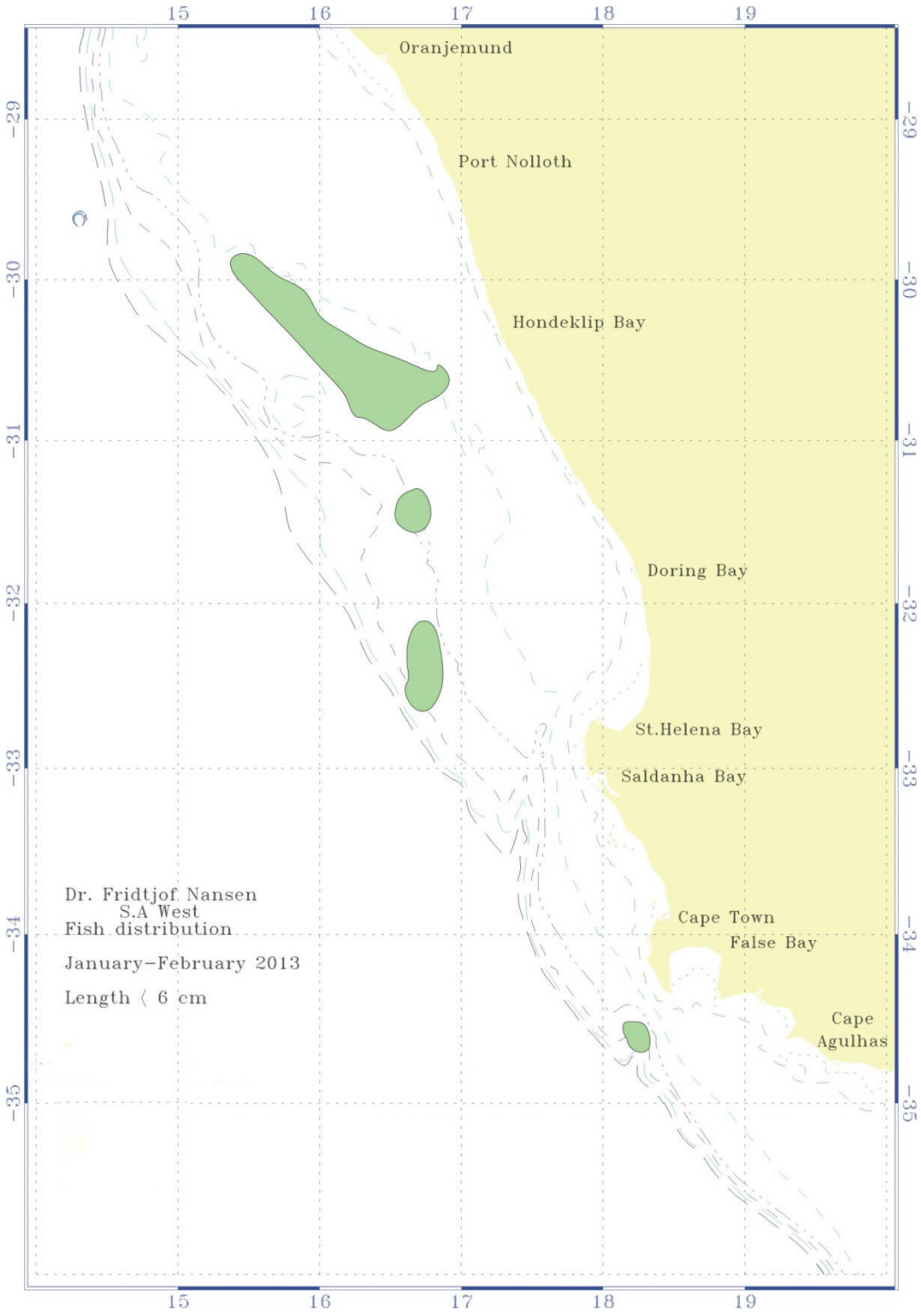


Fig. 9. Presence of baby hake (<6 cm length) in trawl catches during 2013.

Table 3. Density estimates of M. paradoxus by depth strata and regions

Region	0-100 m	100-199 m	200-299 m	300-399 m	400-499 m	500-599 m	600-699 m
Cunene - 21°S							
21°S - 25°S							
25°S - Orange River							
Orange River - Hondeklip Bay	n.a.	4.94	3.18	12.52	45.42	11.58	n.a.
Hondeklip Bay - Saldanha Bay	0.00	9.14	16.78	17.88	18.44	13.03	2.86
Saldanha Bay - Cape of Good Hope	n.a.	9.77	15.95	30.91	32.01	20.77	n.a.
Cape of Good Hope - Cape Agulhas	0.00	1.33	4.45	49.27	41.52	24.27	n.a.

Table 4. Density estimates of M. capensis by depth strata and regions

Region	0-100 m	100-199 m	200-299 m	300-399 m	400-499 m	500-599 m	600-699 m
Cunene - 21°S							
21°S - 25°S							
25°S - Orange River							
Orange River - Hondeklip Bay	n.a.	1.21	1.32	1.22	0.00	0.00	n.a.
Hondeklip Bay - Saldanha Bay	2.07	0.25	0.76	1.98	0.00	0.00	0.00
Saldanha Bay - Cape of Good Hope	n.a.	1.16	0.74	4.19	0.00	0.00	n.a.
Cape of Good Hope - Cape Agulhas	1.99	6.42	4.28	0.47	0.00	0.00	n.a.

5. Summary considerations of results of Dr Fridtjof Nansen surveys for *M. paradoxus* (2003-2013)

The findings from the survey 15 January - 13 February 2013 and from the previous surveys confirm the general features as regards the distribution, abundance and biology of *M. paradoxus* :

- Survey in 2013 confirmed that this is an “average year” as far as the distribution and abundance of *M. paradoxus* is concerned. Supply of

young fish is also average and stable. However, there is larger than average difference between fishable and non-fishable biomass.

- Minimal spawning takes place at this time of the year, confirmed through few signs of maturing gonads.
- The massive migration towards the slope starts in the 25-29cm group and when the fish is bigger than 30cm this movement is mainly completed. In 2013 juvenile fish spilled across the Orange Banks, most probably reaching shelf break in their northern part.
- From 2009 to 2010 there has been recorded a major shift in the distribution of adult hake between the two countries, as the share in South Africa increased to 75%. In 2011-2013 the pattern is returning to normal.
- The south coast of South Africa was in 2010 covered for the first time as part of the BCC surveys on transboundary stocks in order to have full synoptic survey and to investigate to what extent the southern stock component showed connectivity to the fish on the west coast. The deep water hake in this region was estimated to 100 thousand tonnes, which represents 15 % of the total *M paradoxus* 2010 estimate and 18% of the South African estimate.
- The deep water hake in this region consisted in 2010 mainly of fish in the size range 35-70cm. The young fish less than 36cm ("non-fishable biomass") on the south coast comprises less than 5% in terms of biomass of this fish in South African waters. This indicates that the southern component is mainly supplied by recruits from the west coast. The whole region from Port Alfred to the Cunene could therefore be understood as an integrated connected system as regards one unit stock of deep water hake.
- M/T "Blue Sea" and R/V "Dr. Fridtjof Nansen" use identical trawls and similar survey design and sampling protocol. The catchability coefficient in the biomass estimates applied is 0.8. Since the catchability coefficient of the trawl used on Dr. Fridtjof Nansen and Blue Sea has not been calibrated against absolute densities in the path of the trawl, the biomass estimates given here should not be considered as absolute biomass, but

as indices of biomass. Thus the essential information is in relative comparisons and trends.

6. Training

According to BCC brief before sailing, training was an important part of the cruise. It consisted of three parts:

- Training of two DAFF officials (and also participants from Namibia) to run these cruises in the future, should BCC decide to continue with the time series. For this purpose, number of meetings and training sessions were called, and a training booklet was produced (Appendix). Special emphasis was put on good understanding of the project's objectives, and a preparation of the cruise in fine details.
- Lectures and practicals for all trainees and generally all interested in identification of encountered fauna, particularly fish and cephalopods. Of this latter group, complete set of 8 lectures on systematics was presented since the lecturer (M.R. Lipinski) has specialized in this group.
- Explaining various elements of action during the data collection: hydroacoustics, meteorological data, oceanographic data, gears and trawling procedures, sorting and identification, weighing and measuring, biologicals and special projects (such as genetics), data punching, data processing, interpretation and discussion (i.e. comparison with literature and data collected earlier).

Training progressed well and trainees were satisfied with the information given. However, during these demersal cruises, systematic and complete training is impossible. These cruises are labour-intensive and very little time is left between the trawls and after all operations of the day. Especially data-punching, paper- and computer work leaves no time for training. This is why Nansis system training did not progress very far. It is recommended that, if training is to be done properly including data capture and processing, then at least one week of the survey should be devoted specifically and only for training, with one or two trawls per day.

Annex 1

Instruments and fishing gear

The Simrad ER-60/18, 38, 120 and 200 kHz scientific sounder was run during the survey for fish observation and bottom conditions.

Standard sphere calibrations were carried out using 38.1 mm diameter tungsten carbide sphere for 18, 38, 120 and 200 kHz. The last calibrations took place 23.07.2010 at Baía dos Elefantes. The details of the settings of the 38 kHz echo sounder where as follows:

Transceiver-2 menu (38 kHz)

Transducer depth	5.50/7.0 m
Absorption coefficient	8.7 dB/km
Pulse length	medium (1,024ms)
Bandwidth	2.43 kHz
Max power	2000 Watt
2-way beam angle	-20,6dB
Gain	25.99 dB
SA correction	-0.59 dB
Angle sensitivity	21.9
3 dB beam width	6.74º along ship
	6.77º athwart ship
Along ship offset	0.13º
Athwart ship offset	0.04º

Bottom detection menu

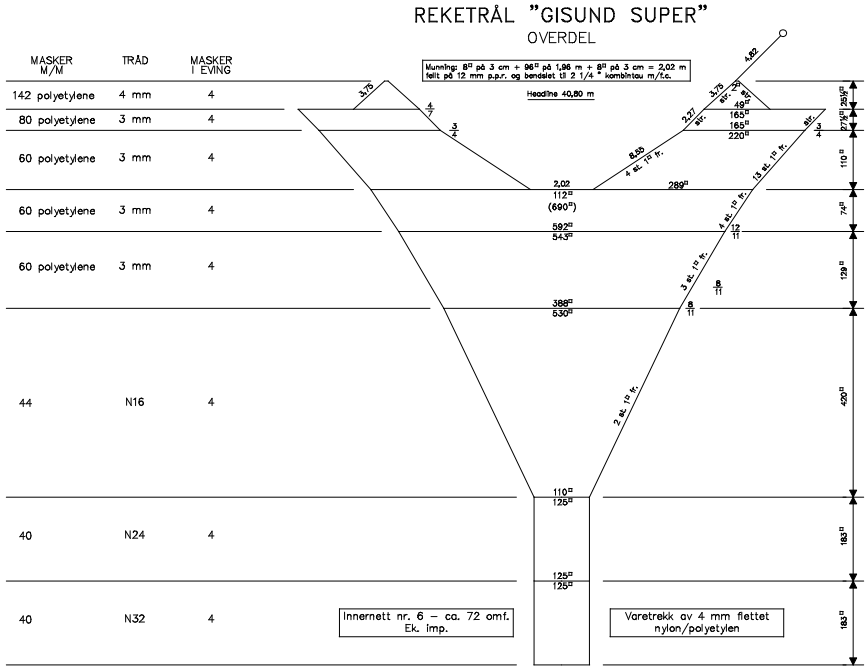
Minimum level	-45 dB

Fishing gear

The vessel has two different sized "Åkrahamn" pelagic trawls and one "Gisund super bottom trawl". Trawls were used for identification of acoustic targets only.

The bottom trawl has a headline of 31 m, footrope 47 m and 20 mm mesh size in the cod end with an inner net of 10 mm mesh size. The trawl height was about 4.5 m and distance between wings during towing about 21 m. The sweeps are 40 m long. The trawl is equipped with a 12" rubber bobbins gear. New doors are 'Thyborøn' combi type, 7.41 m^2, 1720 kg. These have been in use onboard since 19.02.08.

The SCANMAR system was used on all trawl hauls. This equipment consists of sensors, a hydrophone, a receiver, a display unit and a battery charger. Communication between sensors and ship is based on acoustic transmission. The doors are fitted with sensors to provide information on their distance, and the trawl was equipped with a trawl eye that provides information about the trawl opening. A catch sensor on the cod-end indicated the size of the catch.



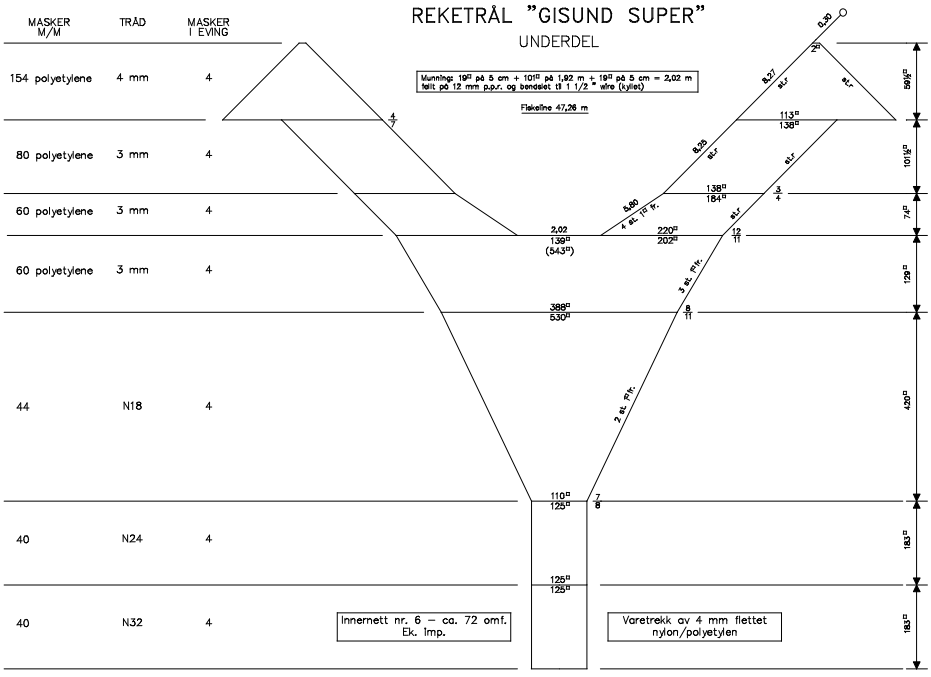


Figure 1 Design of the trawl used.

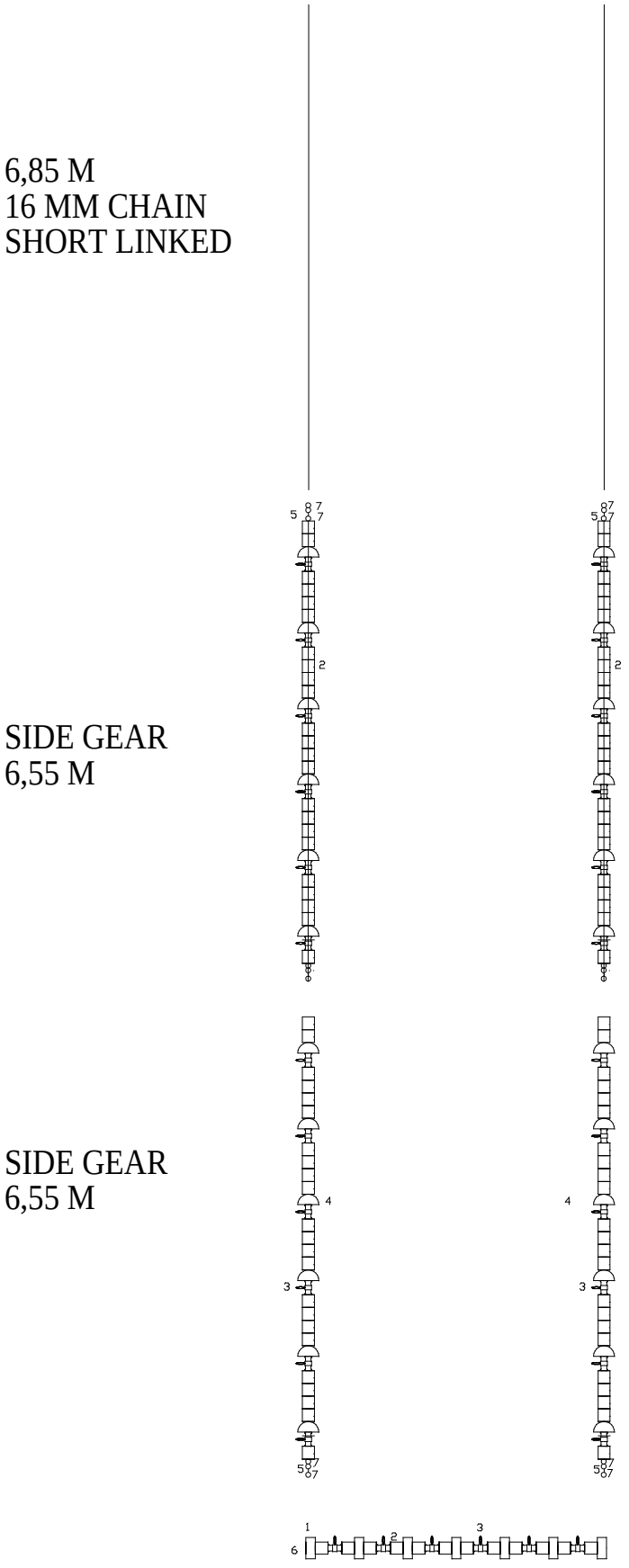
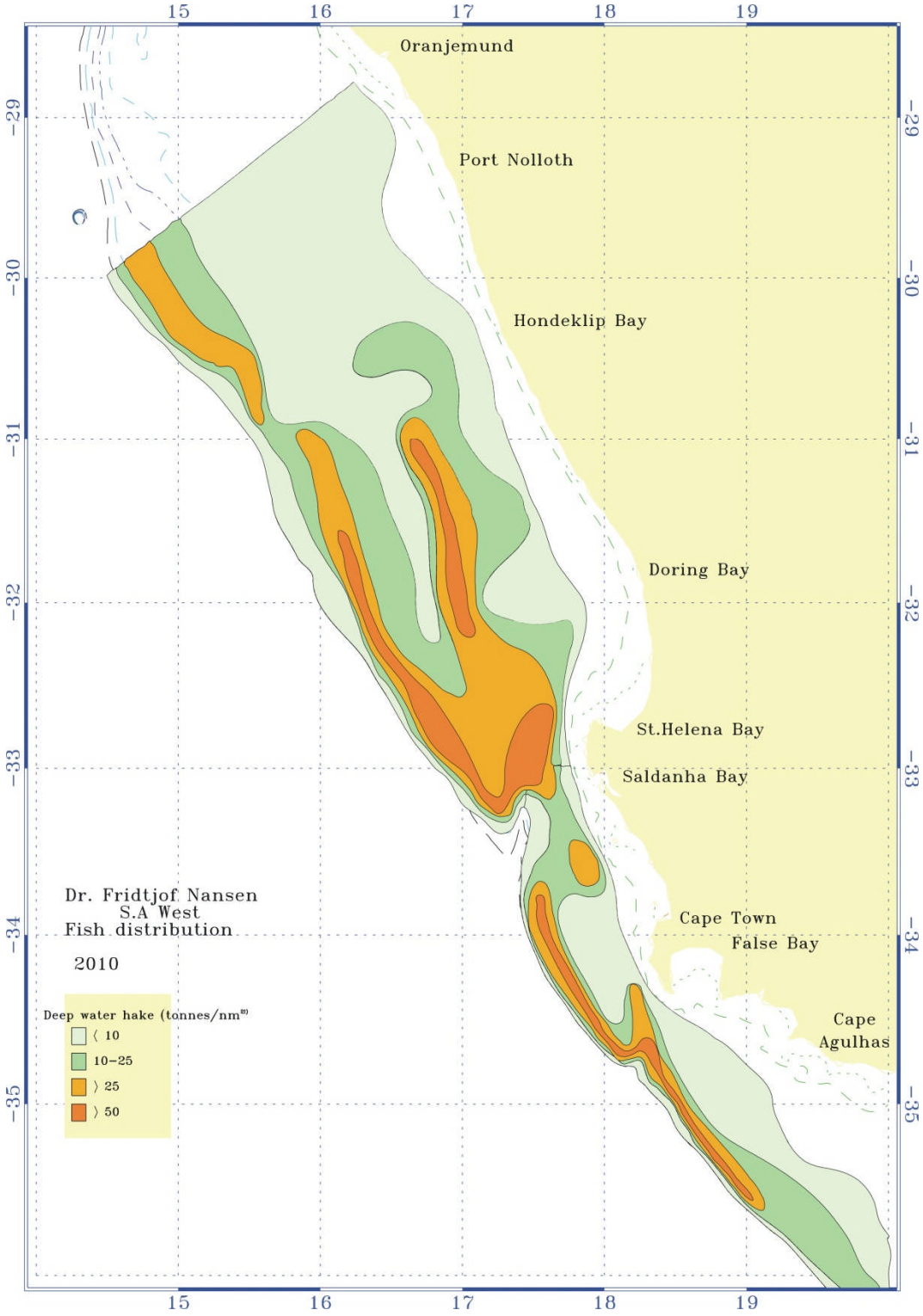
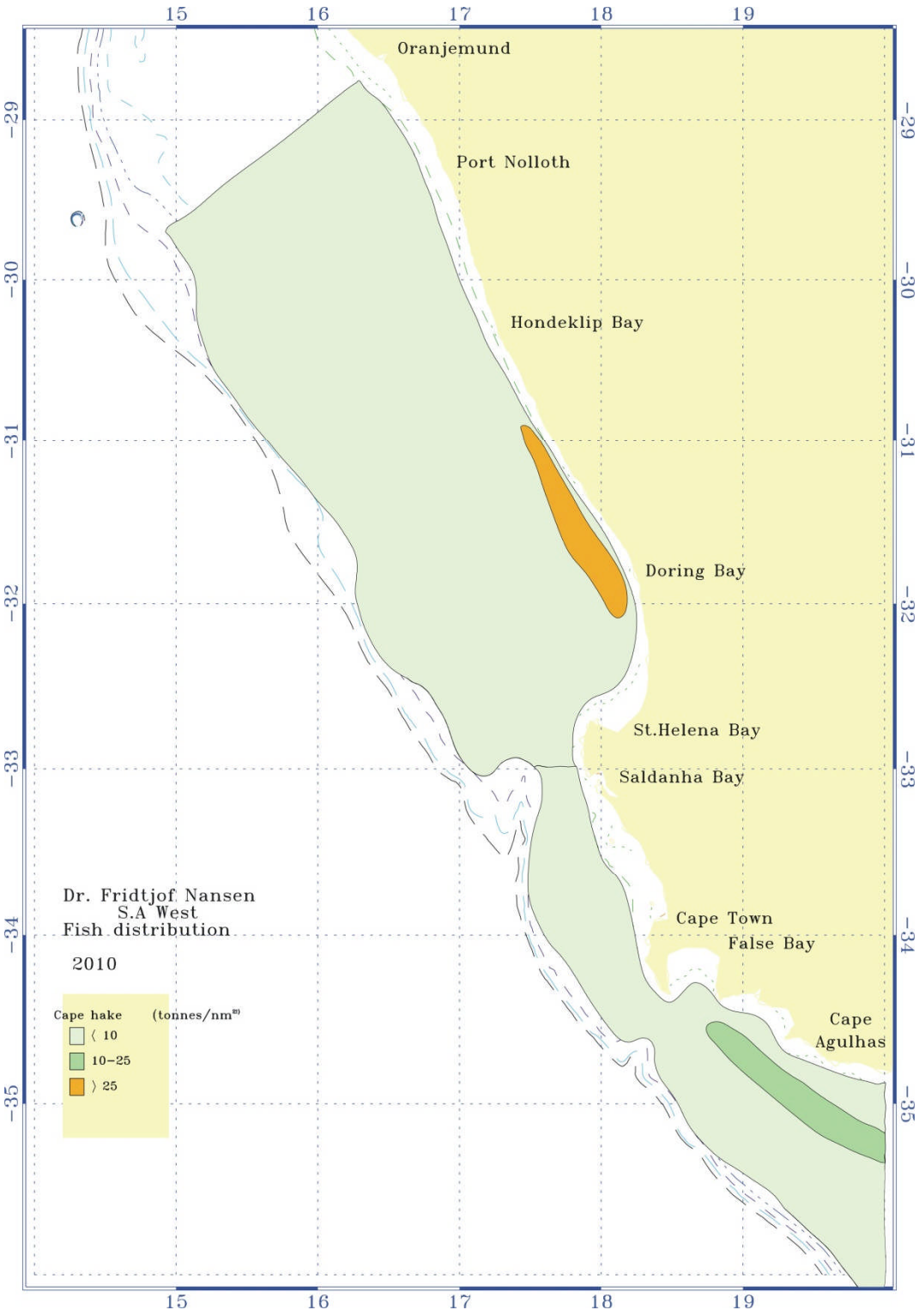


Figure 2 Schematic drawing of the ground gear used in the experiment.

Annex 2

Maps of hakes distribution and abundance in the years 2010-2012.

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Hondeklip Bay
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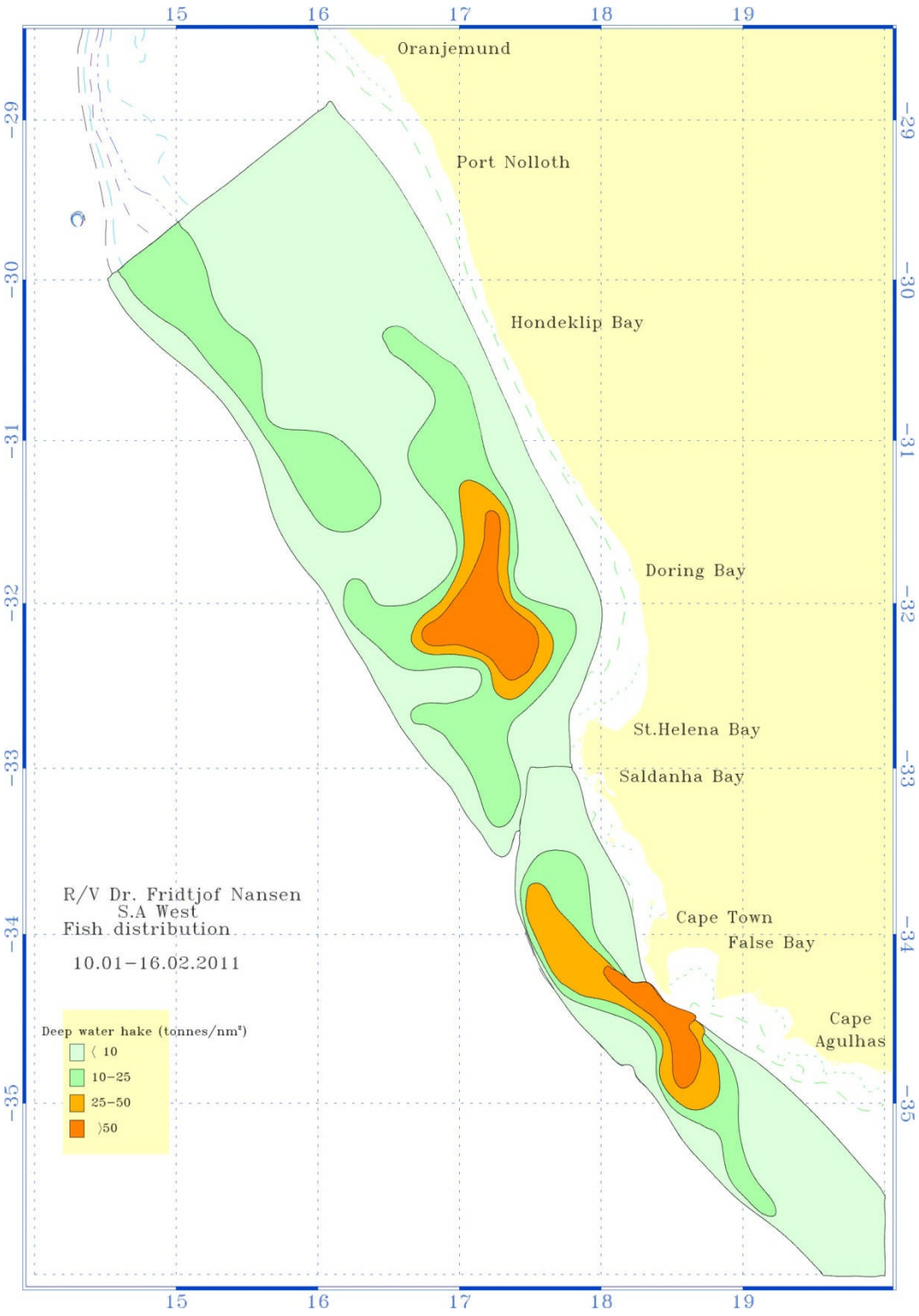
St.Helena Bay
Saldanha Bay
Cape Town
False Bay
Cape
Agulhas
Dr. Fridtjof Nansen
S.A West
Fish distribution
2010
Cape hake (tonnes/nm²)
〈 10
10–25
〉 25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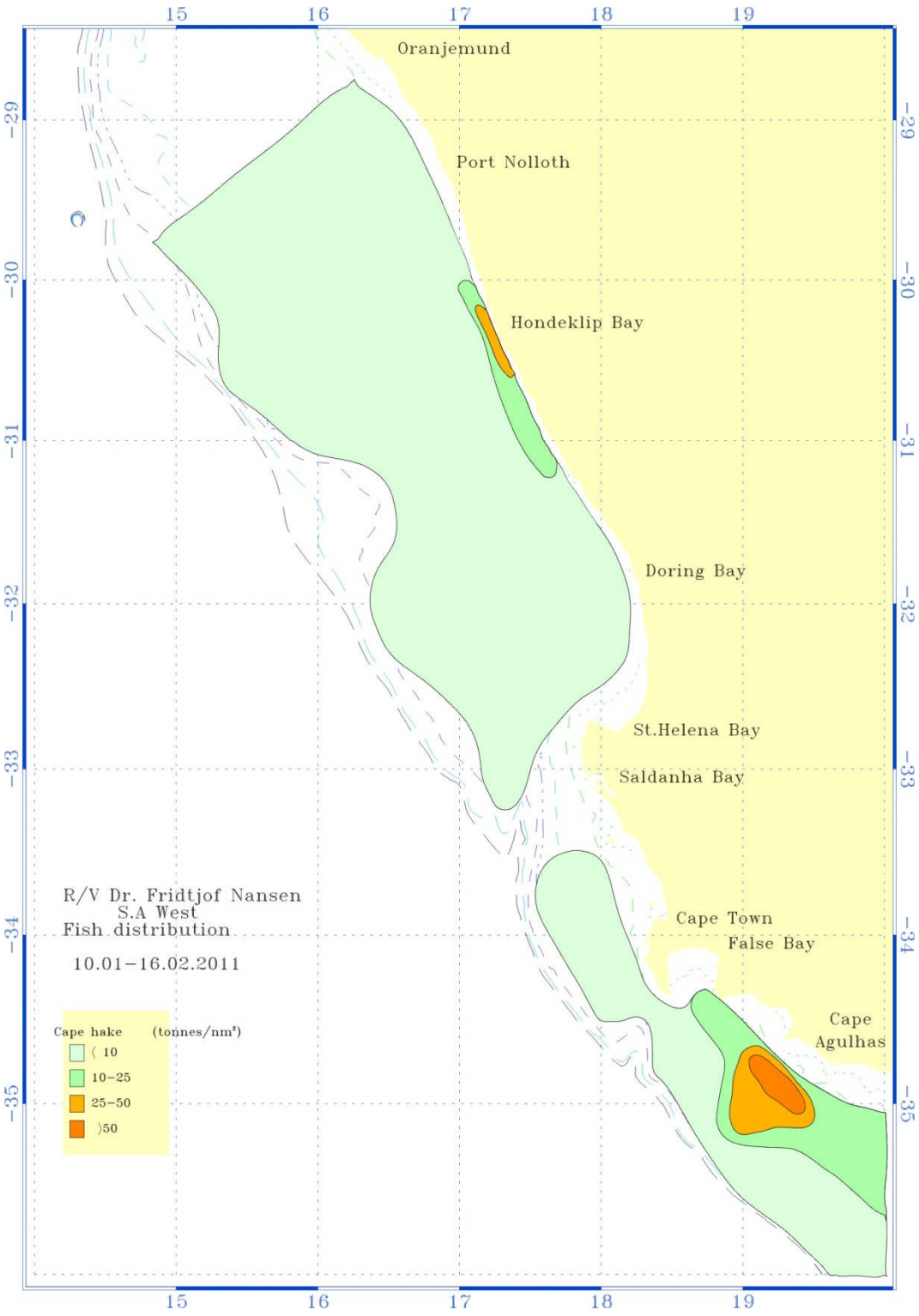
Saldanha Bay
Cape Town
False Bay
Cape
Agulhas
R/V Dr. Fridtjof Nansen
S.A West
Fish distribution
10.01-16.02.2011
Deep water hake (tonnes/nm²)
〈 10
10-25
25-50
〉50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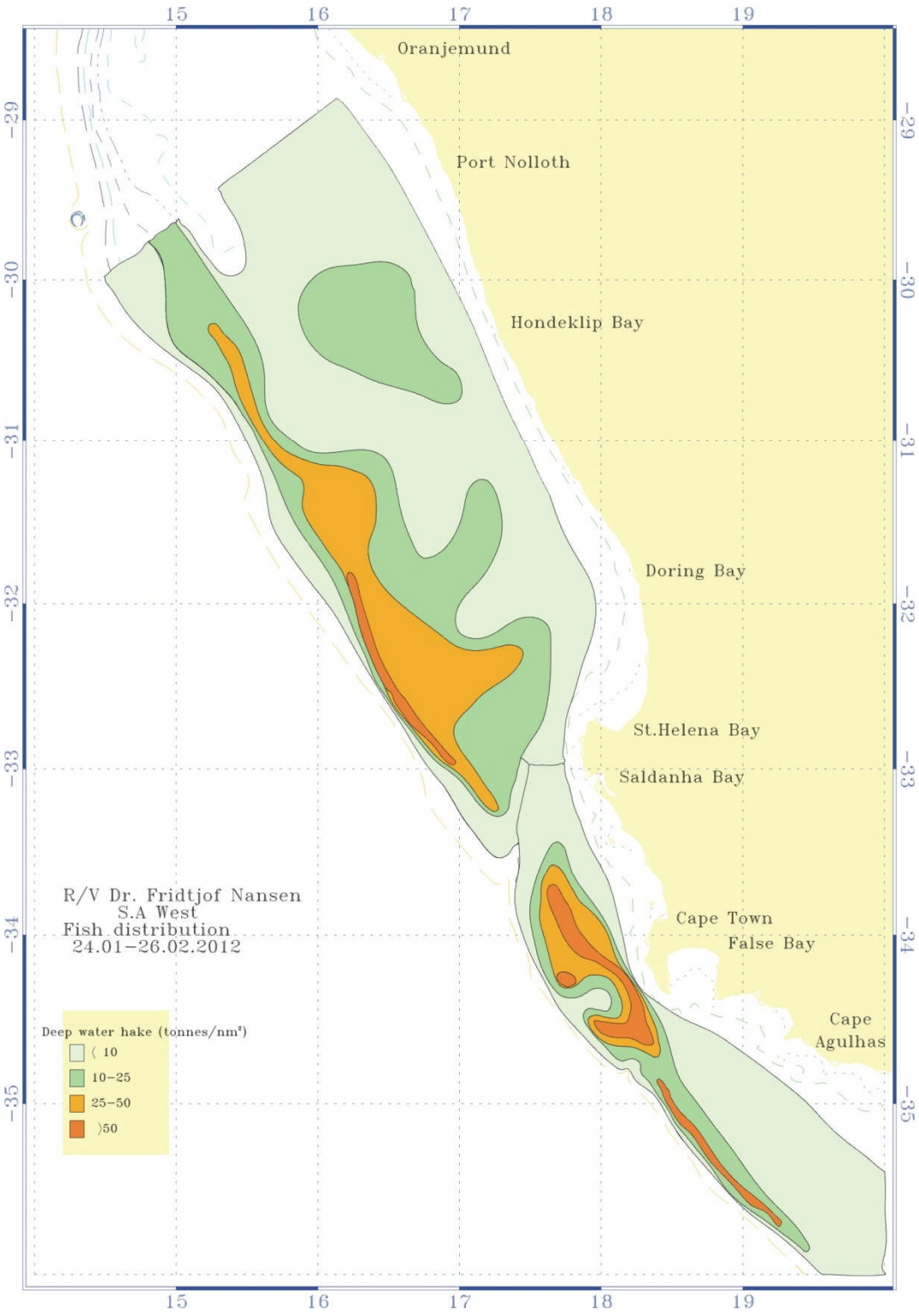
Agulhas
R/V Dr. Fridtjof Nansen
S.A West
Fish distribution
10.01-16.02.2011
Cape hake (tonnes/nm²)
〈 10
10-25
25-50
〉50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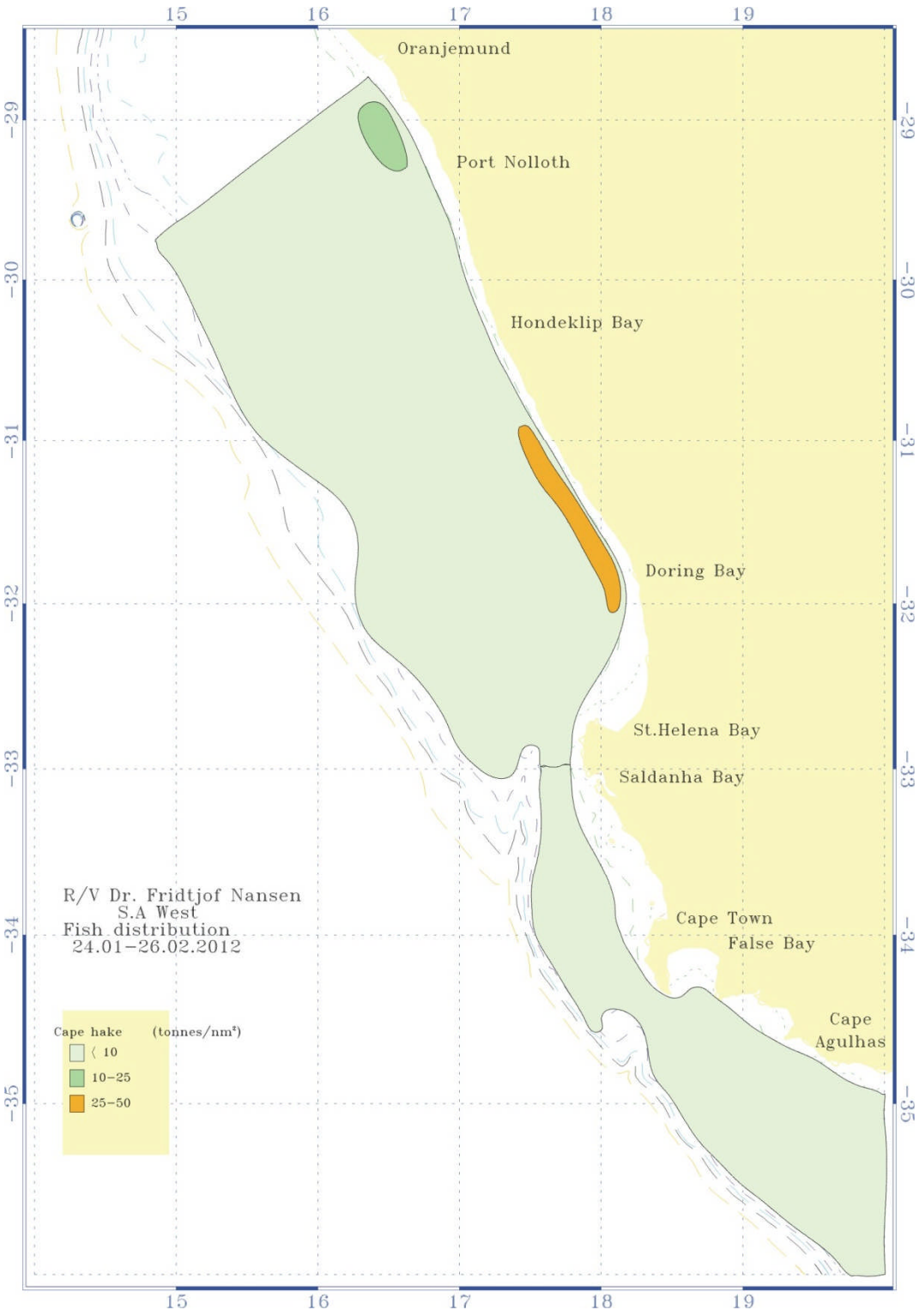
Port Nolloth
Hondeklip Bay
Doring Bay
St.Helena Bay
Saldanha Bay
Cape Town
False Bay
Cape
Agulhas
R/V Dr. Fridtjof Nansen
S.A West
Fish distribution
24.01-26.02.2012
Deep water hake (tonnes/nm²)
〈 10
10-25
25-50
〉50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Oranjemund
Port Nolloth
Hondeklip Bay
Doring Bay
St.Helena Bay
Saldanha Bay
Cape Town
False Bay
Cape
Agulhas
R/V Dr. Fridtjof Nansen
S.A West
Fish distribution
24.01-26.02.2012
Cape hake (tonnes/nm²)
< 10
10-25
25-50

Annex 3

Training booklet (without examples of Sailing Orders and Cruise Reports as they are too bulky to reproduce)

BASICS

1. Objective of transboundary nansen cruises

Hake resources are the most important single objects of the multi-gear fisheries in the south-eastern Atlantic. Understanding of their biology in the form of full, temporal and spatial life cycle on a population level and throughout their distribution range was (and still is) the main objective of R/V Dr Fridtjof Nansen cruises in the region, conducted from 2002 until today (2013).

2. Questions which must be asked and answered if the objective (as above) is to be achieved

- Where and when both hakes spawn, and what is the dynamics of this spawning (i.e. quantitative spawning process in space and time)?

It is known for a long time that this dynamics cannot be adequately investigated by demersal surveys alone, since they do not cover rough grounds, nets miss an important part of the spawning population even on and over good grounds (for various reasons), and surveys are time-limited. The best solution is to investigate distribution of eggs and larvae. With present molecular techniques of species identification, it is now possible to identify both species of hake even on that early stage of life. This research was initiated by Nansen-associated projects and first results were already published (publications available from mrlipinski@nashuaisp.co.za or Lipinski@mweb.co.za).

- After hakes have spawned, what is the fate of eggs and larvae? How and where they are distributed? Until which time this distribution (movement with water masses) can be considered to be passive? What physical oceanographic processes facilitate this distribution in positive (survival) and negative (death) way? How much time hake larvae spend in passive (planktonic) stage and when they pass from movement to active migration? What are distances covered in relation to their growth stage?
- After hakes reach their juvenile stage, they feed and grow in the “nursery areas”. Where are they per species? How big are they? Do they stay the same from year to year? What is the hakes most abundant food there? Which forces (physical and biological) determine availability of this food to hake? What are juvenile hakes natural predators and what is their survival rate?
- When hakes approach adulthood, they leave nursery areas and distribute in all directions around them. However, this distribution is not random. What are main directions of adult hakes migrations? Are they mainly shallow – deep, or also longshore? Do they return to spawn in more-or-less same areas as their parents before them, or this choice is determined by their individual life history and surrounding environment? What is and what determines survival of adult hakes?

What is their growth and age? Do the largest females produce healthiest and best offspring (BOFFFF hypothesis)?

3. Questions, asked above, require extensive fieldwork using many techniques and many survey types over many years. Dr Fridtjof Nansen demersal surveys are able to address only part (but substantial part) of these questions. Since investigation of whole distribution range of hakes at the same time is critical, access to Namibian data and surveys is also critical. Still, part of the ideal research scenario is missing anyway since south coast of SA demersal survey is conducted much later during the year. Research planning should strive towards organizing these south coast surveys as well.

- Length frequency data, distributed along the coast, indicate presence-absence of various size classes of hakes in various geographic areas. From this distribution, correct predictions can be made concerning hake possible movements, if the spawning area(s) are known. They are now better known as a result of egg and larvae surveys made and results published. Length frequency data and associated abundance will also inform about the distribution of nursery areas.
- Biological analyses inform about hake maturities, individual weights, food and age (when otoliths are read).
- Genetic samples collected will provide information about stock structure of hakes in time and space when they are processed and results interpreted.
- Catch composition of trawls will inform about hakes potential predators and preys, their identity and abundance.
- Environmental data collected during most cruises, will address (partially) questions of physical forces acting upon juvenile and adult hakes during their life cycles.

ORGANIZATION OF THE CRUISES

Dr Fridtjof Nansen cruises are at present organized under the auspices of the Benguela Current Commission (BCC). Rules and regulations of BCC apply.

Sponsoring and coordinating institutions are FAO-NORAD. Contact person: Tore Strømme, telephone 00 39 0657054735, email tore.stromme@fao.org.

Executive: Dr Hashali Hamukuaya; Secretariat: Swakopmund, Namibia, telephone 00264 64 406901. Petrina Mutumbulua (Secretary), Bernice Ujaha (Finance), emails hashali@benguelacc.org; petrina@benguelacc.org; Bernice@benguelacc.org.

Most important institutions participating in these surveys are:

NatMIRC, Swakopmund, Namibia. Contact person: Paulus Kainge, telephone 00 264 64 4101100, email pkainge@mfmr.gov.na;

DAFF, Cape Town, South Africa. Contact person: Deon Durholtz, telephone 021 4023179, email DeonD@daff.gov.za.

Arguments for conducting these cruises in the future:

- Continuation of consistent, well-proportioned biological programme investigating life cycle of hakes. Canadian cod would have been saved if the similar programme would have been executed in its distribution area;
- Continuation of consistent and comparable time-series of abundance for most of the exploited range of distribution;
- Lack of immediate solution for research vessel problems in South Africa.

Arguments against conducting these surveys, assuming that there is an acceptable alternative to R/V Africana surveys in SA, or if Africana is back in the service:

- Possible redundancy of data collection on the same area and in the same time. There are two views on this criticism: one maintains that there is no redundancy because of the gear, survey design and purpose differences; second view maintains that Nansen surveys are a waste of scarce resources. One must research tis problem thoroughly before coming to own conclusions.

Preparation for the cruise.

These cruises are labour-intensive, and have to be well-prepared.

Team

If cruise is multi-task (biological analyses of several species, collection of special samples etc.), optimum number of people is 12. There must be at least four men in the team as work involves lifting heavy weights etc. There must be at least two experienced leaders in the team (preferably four) and half of the team should have participated in these cruises before. Choosing the team for the work should be careful and based on the sea experience of the candidates.

Sailing Orders

Template of the SO is provided in the appendix to this booklet. Before the cruise, number of preparations must be made:

- All team members should be requested to have a valid passport, health certificate (see appendix), vaccination book if requested, weather gear (boots, trousers, raincoat);
- Main organiser of the cruise should collect passport numbers and cell numbers of all participants, as changes do happen, and request that they be alert and have their cellphones switched on all the time;
- BCC and FAO-NORAD coordinator should be sent the Sailing Orders as early as possible;

- All the necessary permits should be obtained well ahead of the cruise (e.g. permit to operate in SA or Namibian waters);
- Orders for stationery and consumables must be made well in time, BCC will pay for these but they are in Swakopmund and approvals take a lot of time.

Stationery and Consumables

Stationery: all required forms for recording data printed or in electronic form or both; permanent markers thin and thick, minimum 5; good HB pencils (not light!); preferably around 10; good pencil sharpener; 3-5 pens of various colours; 3-4 erasers.

Preservation & storage: lots of erasable and waterproof labels; plastic bags A5, A4, A3: 200 hundred each minimum; fertilizer bags, 30 minimum, jars of various sizes, number depends upon projects planned; 25 l of formalin 40%, 25 l of 96% alcohol, 2-3 l of alcohol of pure grade 100%. Also 2-3 large bins with covers and handles. Also otolith trays, KOH and 2-3 squeeze bottles.

Fish fries: boxes sheets; stapler; staples; wire for bags; wire turner; plastic separation sheets; additional hemp or plastic bags of large size.

Deck: knives, minimum 5; scissors, minimum 3 pairs; sharpening stone; tweezers of various sizes; scalpel handles, minimum 3; scalpel blades; magnifying glasses; preparation pins, min. 3; trays for weighing small items; paper towel on a roll; few rags.

Cleaning: cleaning agents (Pine or others); brushes

Loading of the ship should be done as soon as possible and not last minute.

RUNNING THE CRUISE

This is described in the Sailing Orders. It is very important to inform everybody about ship's customs and everyday life, important tips etc. Tour of the ship for newcomers is advisable. Team should learn during the first trawl or other data collection exercise what is being done and what are the rules of the work. Everybody should know what he/she should be doing and what is not permitted.

It is critical to keep good atmosphere in the team. Work is tedious and repetitive. Many things are happening fast at the same time. It would affect data quality if certain rules are not followed.

Communication is important. Discuss matters with the Norwegian cruise leader and be careful to speak with one voice to the bridge. Do not say different things to the bridge and to the cruise leader.

Sorting on deck and identifying various organisms including fish

This is a highly specialized knowledge and cannot be taught and memorized quickly. If there has been nobody on the trip who knows well the local marine fauna, demersal cruise would

not have been possible. Preferably, in the team should be at least two such persons, able to instruct others who have little knowledge. Anybody who wants to learn such an ability, should study books on systematics of various groups of animals of the region. Southern Africa is fortunate to have such books such as JLB Smith's South African Fishes, and others. After learning how to understand keys for identification, one must practise his or her ability in the field for several years. Advice can be obtained from local specialists: Rob Leslie (RWLeslie@daff.gov.za) or Marek Lipinski (lipinski@mweb.co.za).

DATA PUNCHING AND NANSIS SYSTEM

This is complex system of entering the data. It is more complex than system used on R/V Africana. It requires a lot of practice to remember correct species codes and enter data quickly. Data are not recorded automatically as they go through the scales, but manually after trawls, from basic data sheet. This system is easier to use when a lot of subsampling is done. Subsampling calculations are also done manually. In the case of Nansen research it is very frequent as Gisund Super trawl catches a lot of very small animals and sorting whole catch is then impractical.

Since Dr Fridtjof Nansen is doing many cruises in various parts of the world, cruises are grouped in database according to region, with specific cruise number and year of research. From this basic screen data may be called back by trawl. Trawl may be listed as: catch composition, individual species per trawl (with a photograph of the species and its length frequency), and biological and miscellaneous data.

Example of the output is given in the Appendix (not for distribution please).

Description of the NANSIS system is available in a small booklet (IMR, Bergen), but since then system has been upgraded and a new version of this description has not been produced yet.

Annex 4 Records of fishing stations

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 1
DATE :17/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°37.79
start stop duration Lon E 18°56.12
TIME :04:32:04 05:02:35 30.0 (min) Purpose : 3
LOG : 2971.44 2973.03 1.6 Region : 6100
FDEPTH: 142 140 Gear cond.: 0
BDEPTH: 142 140 Validity : 0
Towing dir: 0° Wire out : 350 m Speed : 3.1 kn
Sorted : 239 Total catch: 239.14 Catch/hour: 478.28

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Chelidonichthys capensis	113.60	474	23.75	1
Etrumeus whiteheadi	82.00	2734	17.14	
Merluccius capensis	71.20	296	14.89	3
Callorhinchus capensis	55.60	42	11.62	
Raja pullopunctata, female	38.80	2	8.11	
Lophius vomerinus	31.40	50	6.57	2
Trachurus capensis	24.20	452	5.06	5
Raja straeleni	11.00	14	2.30	
Todaropsis eblanae	10.84	310	2.27	8
Merluccius capensis	7.26	734	1.52	7
Cynoglossus zanzibarensis	5.80	100	1.21	11
Engraulis capensis	5.44	778	1.14	
Paracallionymus costatus	5.24	874	1.10	
Genypterus capensis	4.64	70	0.97	4
Sepia australis	4.20	526	0.88	
Starfish (pentagon)	1.40	80	0.29	
Pterygosquilla armata capensis	0.88	90	0.18	
Zeus capensis	0.74	18	0.15	6
Helicolenus dactylopterus	0.74	20	0.15	12
Loligo reynaudi	0.64	4	0.13	9
JELLYFISH	0.56	0	0.12	
Heart urchin	0.54	8	0.11	
Loligo reynaudi	0.44	4	0.09	10
Holohalaelurus regani	0.42	2	0.09	
Champsodon capensis	0.16	18	0.03	
Nudibranchs	0.14	14	0.03	
Ophichthus bennettai	0.11	2	0.02	
Chelidonichthys queketti	0.08	2	0.02	13
Mursia cristimanus	0.07	4	0.01	
G A S T R O P O D S	0.05	32	0.01	
Goneplax angulata	0.02	2	0.01	
Starfish - yellow A	0.02	2	0.00	
Aphrodite pol	0.02	2	0.00	
ISOPODS	0.01	6	0.00	
XXXXXXX	0.01	2	0.00	
Sepia typica	0.00	2	0.00	
Turitella	0.00	2	0.00	
Total	478.28		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 2
DATE :17/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°45.74
start stop duration Lon E 18°45.11
TIME :07:36:16 08:07:52 32.0 (min) Purpose : 3
LOG : 2989.68 2991.31 1.6 Region : 6100
FDEPTH: 175 175 Gear cond.: 0
BDEPTH: 175 175 Validity : 0
Towing dir: 0° Wire out : 420 m Speed : 3.1 kn
Sorted : 427 Total catch: 1191.16 Catch/hour: 2233.42

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Etrumeus whiteheadi	1294.13	32353	57.94	
Parapagurus dimorphus	165.38	16538	7.40	
Chelidonichthys capensis	117.00	293	5.24	14
Merluccius capensis	93.75	137	4.20	21
Merluccius paradoxus	88.13	441	3.95	19
Merluccius capensis	81.38	242	3.64	20
Lophius vomerinus	72.38	124	3.24	18
Merluccius capensis	67.31	116	3.01	22
Squalus megalops	38.25	88	1.71	
Thyrsites atun	34.69	36	1.55	15
Trachurus capensis	30.23	484	1.35	29
Paracallionymus costatus	17.53	2505	0.78	
Mustelus palumbes	17.25	6	0.77	
Caelorinchus simorhynchus	14.12	122	0.63	
Loligo reynaudi	14.10	60	0.63	24
Todaropsis eblanae	13.31	364	0.60	30
Raja straeleni	12.94	9	0.58	
Chelidonichthys queketti	10.88	39	0.49	17
Callorhinchus capensis	10.88	4	0.49	
Loligo reynaudi	7.66	40	0.34	23
Cynoglossus zanzibarensis	6.06	182	0.27	28
Helicolenus dactylopterus	5.23	221	0.23	31
Sepia australis	4.84	624	0.22	
Brama brama	4.50	4	0.20	16
Lepidopus caudatus	2.06	2	0.09	
Merluccius capensis	1.82	322	0.08	25
Zeus capensis	1.61	81	0.07	26
Holohalaelurus regani	1.31	4	0.06	
Congiopodus spinifer	1.20	2	0.05	
Genypterus capensis	1.20	20	0.05	27
Nudibranchs	0.69	60	0.03	
Turitella	0.46	60	0.02	
Anemones, red	0.34	20	0.02	
Champsodon capensis	0.34	41	0.02	
Coral - Alcyonaria?	0.28	141	0.01	
Heart urchin	0.20	20	0.01	
Total	2233.42		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 3
DATE :17/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°52.18
start stop duration Lon E 18°34.80
TIME :09:42:06 10:13:06 31.0 (min) Purpose : 3
LOG : 3003.21 3004.87 1.7 Region : 6100
FDEPTH: 221 225 Gear cond.: 0
BDEPTH: 221 225 Validity : 0
Towing dir: 0° Wire out : 474 m Speed : 3.2 kn
Sorted : 320 Total catch: 481.74 Catch/hour: 932.40

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Parapagurus dimorphus	355.35	3948	38.11	
Merluccius capensis	90.00	54	9.65	36
Merluccius paradoxus	86.71	521	9.30	38
Lophius vomerinus	85.55	56	9.18	35
Helicolenus dactylopterus	49.55	592	5.31	43
Jasus lalandii	37.35	93	4.01	32
Brama brama	34.45	87	3.69	34
Squalus megalops	30.39	81	3.26	
Trachurus capensis	28.65	298	3.07	41
Todaropsis eblanae	27.10	418	2.91	45
Chelidonichthys capensis	15.87	17	1.70	42
Paracallionymus costatus	14.40	1800	1.54	
Lepidopus caudatus	13.55	19	1.45	
Merluccius capensis	11.88	12	1.27	37
Zeus capensis	8.90	29	0.95	39
Raja straeleni	7.94	8	0.85	
Caelorinchus simorhynchus	6.43	70	0.69	
Sepia australis	5.81	414	0.62	
Mustelus palumbes	5.54	2	0.59	
Cynoglossus zanzibarensis	5.11	186	0.55	44
Helicolenus dactylopterus	3.48	286	0.37	46
Holohalaelurus regani	2.79	17	0.30	
Thyrsites atun	2.32	2	0.25	33
Genypterus capensis	2.13	8	0.23	40
Scyliorhinus capensis	0.77	6	0.08	
G A S T R O P O D S	0.23	23	0.02	
Mursia cristimanus	0.08	8	0.01	
Champsodon capensis	0.08	15	0.01	
Total	932.40		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 4
DATE :17/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°49.33
start stop duration Lon E 18°25.16
TIME :12:19:01 12:49:13 30.0 (min) Purpose : 3
LOG : 3018.35 3020.03 1.7 Region : 6100
FDEPTH: 347 360 Gear cond.: 0
BDEPTH: 347 360 Validity : 0
Towing dir: 0° Wire out : 770 m Speed : 3.3 kn
Sorted : 290 Total catch: 1657.59 Catch/hour: 3315.18

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	2576.60	17294	77.72	51
Caelorinchus simorhynchus	405.12	5626	12.22	
Merluccius paradoxus	116.80	78	3.52	52
Genypterus capensis	56.00	46	1.69	47
Merluccius paradoxus	22.40	26	0.68	53
Lophius vomerinus	19.00	8	0.57	50
Brama brama	18.80	22	0.57	49
Malacocephalus laevis	18.04	19	0.54	
Trachurus capensis	17.86	115	0.54	54
Todaropsis eblanae	16.70	192	0.50	56
Squalus mitsukurii	12.00	2	0.36	
Helicolenus dactylopterus	10.76	134	0.32	55
Merluccius capensis	10.40	4	0.31	48
Holohalaelurus regani	4.80	12	0.14	
Anemones, pink	3.84	19	0.12	
Scyliorhinus capensis	1.60	4	0.05	
Cyttus traversi	1.00	2	0.03	
Starfish white 5 arms	0.90	58	0.03	
Mursia cristimanus	0.81	19	0.02	
Rochinia sp.	0.73	58	0.02	
Whelks	0.56	19	0.02	
Starfish - many arms	0.46	58	0.01	
Total	3315.18		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 5
DATE :17/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°1.12
start stop duration Lon E 18°29.21
TIME :03:04:34 03:35:13 31.0 (min) Purpose : 3
LOG : 3031.70 3033.11 1.4 Region : 6100
FDEPTH: 574 560 Gear cond.: 0
BDEPTH: 574 560 Validity : 0
Towing dir: 0° Wire out : 1000 m Speed : 2.8 kn
Sorted : 350 Total catch: 349.81 Catch/hour: 677.06

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	362.13	255	53.49	60
Merluccius paradoxus	132.00	170	19.50	61
Caelorinchus braueri	33.87	1355	5.00	
Caelorinchus simorhynchus	33.68	337	4.97	
Lophius vomerinus	18.39	4	2.72	59
Helicolenus dactylopterus	14.98	66	2.21	62
Chaceon maritae	12.43	83	1.84	
Bathyraja smithii	11.03	2	1.63	
Anemones, pink	9.89	27	1.46	
Plesionika martia	9.23	1488	1.36	
Lucigadus ori	7.35	565	1.09	
Bassanago albescens	7.16	17	1.06	
Raja leopardus	6.00	15	0.89	
Genypterus capensis	4.26	2	0.63	58
Psychrolutes macrocephalus	3.58	64	0.53	
Notacanthus sexspinis	3.35	66	0.49	
Brama brama	3.29	4	0.49	57
Raja confundens	1.16	4	0.17	
Physiculus capensis	1.03	41	0.15	
Hoplostethus mediterraneus	0.38	6	0.06	
Raja leopardus, juvenile	0.28	10	0.04	
Bristle worms (straws)	0.26	52	0.04	
Nezumia sp.	0.26	39	0.04	
Kuronezumia leonis	0.23	2	0.03	
Whelks	0.22	6	0.03	
Starfish white 5 arms	0.17	19	0.03	
Rochinia sp.	0.09	10	0.01	
Rossia sp.	0.08	4	0.01	
Lepidion capensis	0.08	6	0.01	
Selachophidium guentheri	0.06	2	0.01	
Epigonus telescopus	0.06	4	0.01	
Starfish red	0.04	2	0.01	
Xenolepidichthys dagleishi	0.01	2	0.00	
MYCTOPHIDAE	0.01	4	0.00	
Stereomastis sp.	0.00	2	0.00	
Total	677.06		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 6
DATE :18/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°31.68
start stop duration Lon E 18°56.62
TIME :04:39:14 05:09:40 30.0 (min) Purpose : 3
LOG : 3108.91 3110.34 1.4 Region : 6100
FDEPTH: 553 554 Gear cond.: 0
BDEPTH: 553 554 Validity : 0
Towing dir: 0° Wire out : 1100 m Speed : 2.8 kn
Sorted : 220 Total catch: 220.24 Catch/hour: 440.49

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	166.60	706	37.82	63
Merluccius paradoxus	70.00	50	15.89	68
Centrophorus squamosus	41.20	4	9.35	
Helicolenus dactylopterus	31.80	178	7.22	65
Lophius vomerinus	24.40	2	5.54	67
Merluccius paradoxus	20.00	30	4.54	69
Bathyraja smithii	16.40	2	3.72	
Caelorinchus braueri	14.72	546	3.34	
Chaceon maritae	11.00	56	2.50	
Genypterus capensis	10.20	4	2.32	64
Caelorinchus simorhynchus	9.80	172	2.22	
Squalus mitsukurii	8.40	4	1.91	
Notacanthus sexspinis	4.00	80	0.91	
Bassanago albescens	1.53	4	0.35	
Todaropsis eblanae	1.48	16	0.34	70
Anemones, D.W.	1.00	8	0.23	
Tripterophycis gilchristi	0.73	30	0.17	
Plesionika martia	0.67	96	0.15	
Malacocephalus laevis	0.63	2	0.14	
Raja leopardus, juvenile	0.62	10	0.14	
Maurolicus muelleri	0.60	0	0.14	
Anemones, D.W.	0.59	46	0.13	0
Physiculus capensis	0.59	24	0.13	
Ophichthus bennettai	0.54	6	0.12	
Kuronezumia leonis	0.42	2	0.09	
Raja sp.	0.33	10	0.07	
Diastobranchus capensis	0.25	2	0.06	
Starfish - many arms	0.25	142	0.06	
Nezumia sp.	0.25	58	0.06	
Photichthys argenteus	0.24	4	0.06	
Lucigadus ori	0.17	16	0.04	
SALPS	0.17	2	0.04	
Psychrolutes macrocephalus	0.16	8	0.04	
Starfish white 5 arms	0.12	2	0.03	
Stereomastis sp.	0.09	14	0.02	
Rossia enigmatica	0.09	4	0.02	
Ommastrephes bartrami	0.08	2	0.02	66
Funchalia woodwardi	0.07	6	0.02	
Gymnoscopelus sp.	0.06	4	0.01	
Lampanyctodes hectoris	0.04	0	0.01	
Hoplostethus mediterraneus	0.04	26	0.01	
Chauliodus sloani	0.03	2	0.01	
Haliporoides triarthrus	0.03	2	0.01	
Rochinia sp.	0.03	8	0.01	
Munidopsis sp.	0.02	4	0.00	
Starfish	0.02	2	0.00	
Argyropelecus sp., juvenile	0.00	2	0.00	
Total	440.49		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 7
DATE :18/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°29.49
start stop duration Lon E 18°56.30
TIME :06:32:17 07:02:46 30.0 (min) Purpose : 3
LOG : 3117.16 3118.70 1.5 Region : 6100
FDEPTH: 457 462 Gear cond.: 0
BDEPTH: 457 462 Validity : 0
Towing dir: 0° Wire out : 950 m Speed : 3.0 kn
Sorted : 361 Total catch: 360.71 Catch/hour: 721.41

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	287.00	212	39.78	75
Merluccius paradoxus	217.40	1326	30.14	71
Merluccius paradoxus	60.60	88	8.40	76
Helicolenus dactylopterus	38.00	316	5.27	73
Caelorinchus simorhynchus	25.00	500	3.47	
Lophius vomerinus	18.60	8	2.58	72
Todaropsis eblanae	13.40	138	1.86	78
Octopus magnificus	11.40	2	1.58	
Bassanago albescens	10.60	18	1.47	
Anemones, pink	9.00	64	1.25	
Genypterus capensis	8.40	4	1.16	74
Malacocephalus laevis	4.00	4	0.55	
Starfish - many arms	3.80	380	0.53	
Lucigadus ori	2.52	200	0.35	
Tripterophycis gilchristi	2.00	132	0.28	
Paracallionymus costatus	1.22	122	0.17	
Raja leopardus	1.22	6	0.17	
Stereomastis sp.	1.10	158	0.15	
Parapagurus pilosimanus	1.02	78	0.14	
Merluccius paradoxus	1.00	16	0.14	77
Anemones, white	0.82	16	0.11	
Plesionika martia	0.76	218	0.11	
Physiculus capensis	0.46	28	0.06	
Raja sp., juvenile	0.30	10	0.04	
Whelks	0.26	6	0.04	
Starfish	0.23	4	0.03	
Psychrolutes macrocephalus	0.22	18	0.03	
Haliporoides triarthrus	0.20	18	0.03	
Lampanyctodes hectoris	0.20	80	0.03	
Rochinia sp.	0.19	60	0.03	
Caelorinchus braueri	0.18	18	0.02	
Helicolenus dactylopterus	0.16	10	0.02	79
Starfish - Ophibroids	0.05	2	0.01	
G A S T R O P O D S	0.03	2	0.00	
Cubiceps sp.	0.02	2	0.00	
Bathypolypus valdiviae	0.01	2	0.00	
ISOPODS	0.01	14	0.00	
Munidopsis sp.	0.01	2	0.00	
Amalda obtusa	0.01	2	0.00	
Chlorophthalmus sp., juvenile	0.01	2	0.00	
Paraliparis sp., juvenile	0.00	2	0.00	
Stoloteuthis sp.	0.00	2	0.00	
Hoplostethus mediterraneus, juvenile	0.00	2	0.00	
Chaceon maritae, juvenile	0.00	2	0.00	
Total	721.41		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 8
DATE :18/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°28.62
start stop duration Lon E 18°58.82
TIME :08:08:00 08:38:21 30.0 (min) Purpose : 3
LOG : 3122.86 3124.13 1.3 Region : 6100
FDEPTH: 340 345 Gear cond.: 0
BDEPTH: 340 345 Validity : 0
Towing dir: 0° Wire out : 750 m Speed : 2.5 kn
Sorted : 425 Total catch: 903.57 Catch/hour: 1807.13

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	524.70	3350	29.03	86
Helicolenus dactylopterus	255.60	1378	14.14	81
Merluccius paradoxus	247.60	112	13.70	84
Caelorinchus simorhynchus	208.80	3480	11.55	
Lophius vomerinus	150.00	48	8.30	80
Todaropsis eblanae	88.20	1026	4.88	90
Genypterus capensis	46.40	32	2.57	82
Starfish - many arms	46.26	5712	2.56	
Todaropsis eblanae	39.60	513	2.19	91
Scyliorhinus capensis	33.60	46	1.86	
Octopus magnificus	32.00	4	1.77	
Merluccius capensis	27.20	8	1.51	87
Raja alba	25.20	2	1.39	
Zeus capensis	17.28	27	0.96	88
Malacocephalus laevis	11.70	9	0.65	
Anemones, pink	9.90	45	0.55	
Raja pullopunctata	9.80	2	0.54	
Brama brama	8.80	8	0.49	83
Merluccius paradoxus	6.76	8	0.37	85
Trachurus capensis	5.13	36	0.28	89
Holohalaelurus regani	2.52	9	0.14	
Whelks	2.15	63	0.12	
JELLYFISH	1.39	0	0.08	
Rossia enigmatica	1.39	54	0.08	
Sponges - spiky	1.14	18	0.06	
Raja confundens	0.92	2	0.05	
Parapagurus pilosimanus	0.70	45	0.04	
Rochinia sp.	0.57	90	0.03	
Paracallionymus costatus	0.56	81	0.03	
Physiculus capensis	0.31	18	0.02	
Sepia hieronis	0.28	9	0.02	
G A S T R O P O D S	0.26	27	0.01	
Starfish red A	0.14	9	0.01	
PORIFERA (Sponges)	0.10	9	0.01	
Champsodon capensis	0.08	9	0.00	
Sepia sp.	0.05	9	0.00	
Raja sp., juvenile	0.04	9	0.00	
Total	1807.13		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 9
DATE :18/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°24.53
start stop duration Lon E 19°9.69
TIME :10:31:13 11:03:31 32.0 (min) Purpose : 3
LOG : 3137.70 3139.43 1.7 Region : 6100
FDEPTH: 226 228 Gear cond.: 0
BDEPTH: 226 228 Validity : 0
Towing dir: 0° Wire out : 560 m Speed : 3.2 kn
Sorted : 211 Total catch: 380.92 Catch/hour: 714.22

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Trachurus capensis	195.00	1768	27.30	102
Merluccius capensis	133.88	105	18.74	98
Parapagurus dimorphus	83.06	6952	11.63	
Merluccius paradoxus	75.56	418	10.58	100
Todaropsis eblanae	51.24	1069	7.17	107
Merluccius capensis	31.13	34	4.36	99
Brama brama	30.56	32	4.28	95
Todaropsis eblanae	25.13	482	3.52	108
Caelorinchus simorhynchus	18.75	206	2.63	
Squalus megalops	14.81	36	2.07	
Chelidonichthys capensis	9.38	17	1.31	92
Zeus capensis	7.88	15	1.10	96
Helicolenus dactylopterus	5.63	30	0.79	97
Lophius vomerinus	5.44	6	0.76	94
Holohalaelurus regani	5.06	0	0.71	
Merluccius paradoxus	4.50	11	0.63	104
Chelidonichthys queketti	2.63	11	0.37	93
Merluccius paradoxus	2.55	4	0.36	103
Squalus acanthias	2.44	15	0.34	
Starfish - many arms	1.76	246	0.25	
Lepidopus caudatus	1.69	2	0.24	
Helicolenus dactylopterus	1.13	31	0.16	105
Sepia australis	1.07	99	0.15	
Etrumeus whiteheadi	0.96	19	0.13	
Paracallionymus costatus	0.80	131	0.11	
SALPS	0.57	6	0.08	
Starfish red	0.54	6	0.08	
Zeus capensis	0.44	6	0.06	106
Heart urchin	0.24	19	0.03	
Genypterus capensis	0.19	2	0.03	101
Starfish white 5 arms	0.17	13	0.02	
Champsodon capensis	0.04	6	0.01	
Starfish - Ophibroids	0.02	6	0.00	
Total	714.22		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 10
DATE :18/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°19.63
start stop duration Lon E 19°18.51
TIME :12:42:13 01:12:09 30.0 (min) Purpose : 3
LOG : 3151.46 3153.07 1.6 Region : 6100
FDEPTH: 181 184 Gear cond.: 0
BDEPTH: 181 184 Validity : 0
Towing dir: 0° Wire out : 500 m Speed : 3.2 kn
Sorted : 493 Total catch: 1158.60 Catch/hour: 2317.20

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Etrumeus whiteheadi	722.40	18060	31.18	
Trachurus capensis	672.00	12714	29.00	117
Merluccius capensis	143.40	240	6.19	113
Chelidonichthys capensis	140.00	290	6.04	109
Merluccius capensis	134.40	314	5.80	114
Lophius vomerinus	103.40	94	4.46	112
Squalus megalops	92.00	242	3.97	
Merluccius capensis	55.20	96	2.38	123
Todaropsis eblanae	31.80	624	1.37	118
Chelidonichthys queketti	30.40	144	1.31	110
Parapagurus dimorphus	30.00	3000	1.29	
Helicolenus dactylopterus	22.80	540	0.98	125
Mustelus palumbes	18.60	10	0.80	
Congiopodus spinifer	16.80	48	0.73	0
Brama brama	12.00	12	0.52	111
Heart urchin	12.00	288	0.52	
Raja pullopunctata	10.60	6	0.46	
Loligo reynaudi	10.20	36	0.44	119
Chelidonichthys queketti	8.40	36	0.36	124
Raja straeleni	7.80	14	0.34	
Callorhinchus capensis	7.40	4	0.32	
Merluccius capensis	6.60	12	0.28	115
Congiopodus spinifer	4.40	16	0.19	
Cynoglossus zanzibarensis	4.08	60	0.18	120
Holohalaelurus regani	3.60	12	0.16	
Genypterus capensis	3.36	24	0.15	121
Zeus capensis	3.00	36	0.13	122
Merluccius paradoxus	2.60	6	0.11	116
Mustelus palumbes	2.00	4	0.09	0
Paracallionymus costatus	1.74	334	0.08	
Starfish red	1.51	48	0.07	
Sepia australis	1.31	156	0.06	
Raja pullopunctata	0.50	12	0.02	0
Whelks	0.42	12	0.02	
Champsodon capensis	0.23	36	0.01	
Starfish - many arms	0.19	24	0.01	
G A S T R O P O D S	0.06	12	0.00	
Total	2317.20		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 11
DATE :18/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°11.84
start stop duration Lon E 19°24.12
TIME :03:09:25 03:39:33 30.0 (min) Purpose : 3
LOG : 3164.09 3165.66 1.6 Region : 6100
FDEPTH: 169 169 Gear cond.: 0
BDEPTH: 169 169 Validity : 0
Towing dir: 0° Wire out : 430 m Speed : 3.1 kn
Sorted : 394 Total catch: 1449.55 Catch/hour: 2899.09

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Etrumeus whiteheadi	1870.00	50540	64.50	
Engraulis capensis	246.40	18954	8.50	
Merluccius capensis	126.00	276	4.35	132
Trachurus capensis	118.80	2420	4.10	139
Chelidonichthys capensis	96.60	206	3.33	126
Merluccius capensis	96.00	188	3.31	131
Squalus megalops	45.40	98	1.57	
Lophius vomerinus	39.00	68	1.35	130
Todaropsis eblanae	36.30	660	1.25	135
Thyrsites atun	30.14	154	1.04	136
Heart urchin	25.08	374	0.87	
Chelidonichthys queketti	23.60	126	0.81	127
Holohalaelurus regani	20.40	54	0.70	
Merluccius capensis	19.80	88	0.68	133
Raja straeleni	19.00	28	0.66	
Lepidopus caudatus	14.60	12	0.50	
Sepia australis	9.00	1046	0.31	
Parapagurus dimorphus	8.07	808	0.28	
Cynoglossus zanzibarensis	7.70	110	0.27	137
Mustelus palumbes	5.80	4	0.20	
Merluccius capensis	5.24	10	0.18	141
Helicolenus dactylopterus	5.00	28	0.17	128
Zeus capensis	4.84	154	0.17	134
Paracallionymus costatus	4.40	956	0.15	
Raja wallacei	3.20	2	0.11	
Callorhinchus capensis	3.20	2	0.11	
Scyliorhinus capensis	2.80	22	0.10	
Helicolenus dactylopterus	2.57	66	0.09	140
Torpedo nobiliana	2.40	2	0.08	
Nudibranchs	1.69	132	0.06	
Raja pullopunctata	1.60	2	0.06	
Starfish red	1.34	44	0.05	
Merluccius paradoxus	1.10	154	0.04	138
Genypterus capensis	1.00	4	0.03	129
Coral - Alcyonaria?	0.37	154	0.01	
Champsodon capensis	0.24	22	0.01	
Starfish yellow	0.22	22	0.01	
Starfish - many arms	0.18	22	0.01	
Total	2899.09		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 12
DATE :19/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°59.97
start stop duration Lon E 19°35.36
TIME :04:34:23 05:04:45 30.0 (min) Purpose : 3
LOG : 3242.30 3243.93 1.6 Region : 6100
FDEPTH: 593 598 Gear cond.: 0
BDEPTH: 593 598 Validity : 0
Towing dir: 0° Wire out : 1200 m Speed : 3.2 kn
Sorted : 309 Total catch: 309.28 Catch/hour: 618.55

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	462.60	340	74.79	142
Lepidion capensis	35.80	116	5.79	144
Caelorinchus brauer	32.20	564	5.21	
Merluccius paradoxus	15.80	16	2.55	145
Bathyraja smithii	15.80	2	2.55	
Chaceon maritae	11.20	68	1.81	
Etmopterus gracilispinis	10.62	68	1.72	
Ranzania laevis	6.40	2	1.03	
Genypterus capensis	4.80	2	0.78	143
Gymnoscopelus sp.	4.00	266	0.65	
Beryx splendens	1.88	4	0.30	
Plesionika martia	1.80	246	0.29	
Bassanago albescens	1.78	4	0.29	
Anemones, pink	1.70	4	0.27	
Caelorinchus matamua	1.62	10	0.26	
Sergia sp.	1.60	276	0.26	
Etmopterus brachyurus	1.58	4	0.26	
Tripterophycis gilchristi	0.94	28	0.15	
Diastobranchus capensis	0.80	8	0.13	
Nezumia sp.	0.72	162	0.12	
Photichthys argenteus	0.66	18	0.11	
Rossia enigmatica	0.64	20	0.10	
Notacanthus sexspinis	0.56	4	0.09	
Raja leopardus	0.52	2	0.08	
Kuronezumia leonis	0.40	2	0.06	
Selachophidium guentheri	0.34	4	0.05	
Whelks	0.30	6	0.05	
Cubiceps sp.	0.28	8	0.05	
Bathophilus sp.	0.14	4	0.02	
Psychrolutes macrocephalus	0.14	4	0.02	
Chauliodus sloani	0.12	6	0.02	
Ophichthus bennettai	0.12	2	0.02	
Diplophos taenia	0.10	6	0.02	
Starfish red	0.08	2	0.01	
Lycoteuthis lorigera	0.08	2	0.01	
Lucigadus ori	0.06	6	0.01	
Neoscopelus macrolepidotus	0.06	2	0.01	
PENAEIDAE	0.04	2	0.01	
Diretmus argenteus	0.04	2	0.01	
Exodromidia sp.	0.04	2	0.01	
Cubiceps sp.	0.03	2	0.01	0
Gonostoma elongatum	0.03	2	0.00	
Haliporoides triarthrus	0.03	2	0.00	
ARGENTINIDAE	0.02	2	0.00	
Electrona risso	0.02	2	0.00	
Stoloteuthis sp.	0.02	4	0.00	
Starfish white 5 arms	0.01	2	0.00	
PARALEPIDIDAE	0.01	2	0.00	
Xenodermichthys copei	0.01	4	0.00	
Paraliparis australis	0.01	2	0.00	
Hoplostethus mediterraneus	0.00	4	0.00	
Total	618.55		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 13
DATE :19/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°57.08
start stop duration Lon E 19°35.14
TIME :06:38:02 07:08:19 30.0 (min) Purpose : 3
LOG : 3252.99 3254.55 1.6 Region : 6100
FDEPTH: 450 444 Gear cond.: 6
BDEPTH: 450 444 Validity : 2
Towing dir: 0° Wire out : 900 m Speed : 3.1 kn
Sorted : 359 Total catch: 605.95 Catch/hour: 1211.90

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Helicolenus dactylopterus	337.00	3320	27.81	152
Beryx splendens	123.60	294	10.20	147
Bassanago albescens	116.00	128	9.57	
Merluccius paradoxus	106.20	186	8.76	150
Caelorinchus simorhynchus	88.00	880	7.26	
Genypterus capensis	64.40	14	5.31	146
Starfish	60.00	0	4.95	
Coral	60.00	0	4.95	
Merluccius paradoxus	58.40	108	4.82	151
Todaropsis eblanae	36.40	200	3.00	153
Scyliorhinus capensis	32.40	28	2.67	
Cyttus traversi	26.40	20	2.18	
Octopus magnificus	23.80	6	1.96	
Lophius vomerinus	18.80	6	1.55	149
Brama brama	17.00	18	1.40	148
Todaropsis eblanae	7.00	50	0.58	154
Whelks	6.90	350	0.57	
Caelorinchus matamua	6.00	10	0.50	
Parapagurus pilosimanus	5.90	268	0.49	
Sponges - spiky	5.00	0	0.41	
Squalus mitsukurii	4.80	2	0.40	
Lucigadus ori	3.20	180	0.26	
Holohalaelurus regani	2.20	4	0.18	
Rossia enigmatica	1.20	40	0.10	
Raja leopardus	1.00	4	0.08	
URCHINS	0.10	10	0.01	
Tripterophycis gilchristi	0.10	10	0.01	
Epigonus sp.	0.10	10	0.01	
Total	1211.90		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 15
DATE :19/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°40.74
start stop duration Lon E 19°39.96
TIME :11:27:56 11:58:18 30.0 (min) Purpose : 3
LOG : 3279.52 3281.11 1.6 Region : 6100
FDEPTH: 182 183 Gear cond.: 0
BDEPTH: 182 183 Validity : 0
Towing dir: 0° Wire out : 500 m Speed : 3.2 kn
Sorted : 336 Total catch: 453.18 Catch/hour: 906.36

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Squalus megalops	280.00	838	30.89	
Parapagurus dimorphus	156.00	17334	17.21	
Trachurus capensis	87.00	1344	9.60	184
Merluccius capensis	67.40	100	7.44	181
Chelidonichthys queketti	43.40	256	4.79	175
Lophius vomerinus	42.60	38	4.70	177
Todaropsis eblanae	39.12	690	4.32	186
Mustelus palumbes	38.00	38	4.19	
Merluccius capensis	36.20	56	3.99	182
Zeus capensis	24.60	132	2.71	188
Chelidonichthys capensis	22.20	34	2.45	176
Heart urchin	15.42	594	1.70	
Spatangus capensis	10.38	72	1.15	
Etrumeus whiteheadi	9.72	150	1.07	
Callorhinchus capensis	6.96	4	0.77	
Helicolenus dactylopterus	5.22	24	0.58	187
Raja straeleni	3.28	6	0.36	
Merluccius paradoxus	2.60	8	0.29	183
Holohalaelurus regani	2.60	6	0.29	
Brama brama	2.28	2	0.25	174
Loligo reynaudi	2.20	8	0.24	179
Lepidopus caudatus	2.00	2	0.22	
Raja wallacei	1.84	4	0.20	
Cynoglossus zanzibarensis	1.50	12	0.17	189
Scyliorhinus capensis	1.12	4	0.12	
Jasus lalandii	1.12	6	0.12	178
Genypterus capensis	0.72	6	0.08	190
Loligo reynaudi	0.44	2	0.05	180
Chelidonichthys queketti	0.36	6	0.04	191
Merluccius paradoxus	0.08	12	0.01	185
Total	906.36		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 14
DATE :19/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°46.64
start stop duration Lon E 19°40.53
TIME :09:30:46 10:01:43 31.0 (min) Purpose : 3
LOG : 3268.74 3270.53 1.8 Region : 6100
FDEPTH: 194 196 Gear cond.: 0
BDEPTH: 194 196 Validity : 0
Towing dir: 0° Wire out : 500 m Speed : 3.5 kn
Sorted : 491 Total catch: 2318.58 Catch/hour: 4487.58

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Trachurus capensis	3073.55	46395	68.49	164
Squalus megalops	280.65	720	6.25	
Merluccius paradoxus	263.42	1001	5.87	165
Parapagurus dimorphus	148.84	16537	3.32	
Merluccius capensis	145.16	77	3.23	155
Merluccius capensis	80.13	75	1.79	156
Etrumeus whiteheadi	70.72	1105	1.58	
Chelidonichthys capensis	64.38	73	1.43	168
Chelidonichthys queketti	57.56	341	1.28	169
Caelorinchus simorhynchus	48.77	391	1.09	
Lophius vomerinus	48.58	45	1.08	158
Helicolenus dactylopterus	41.48	292	0.92	167
Todaropsis eblanae	28.55	391	0.64	170
Merluccius capensis	19.03	49	0.42	166
Mustelus palumbes	16.84	14	0.38	
Merluccius paradoxus	16.26	27	0.36	163
Loligo reynaudi	15.48	45	0.35	173
Galeorhinus galeus	13.55	2	0.30	
Spatangus capensis	11.71	74	0.26	
Zeus capensis	11.71	98	0.26	171
Callorhinchus capensis	9.29	4	0.21	
Brama brama	3.60	4	0.08	157
Raja wallacei	3.29	2	0.07	
Zeus capensis	3.10	8	0.07	159
Jasus lalandii	2.25	10	0.05	162
Raja straeleni	2.13	2	0.05	
Holohalaelurus regani	1.94	8	0.04	
Merluccius capensis	1.59	2	0.04	160
SALPS	1.49	24	0.03	
Jasus lalandii	0.97	4	0.02	161
Heart urchin	0.49	24	0.01	
Loligo reynaudi	0.46	2	0.01	172
Sepia australis	0.37	24	0.01	
Starfish white 5 arms	0.27	24	0.01	
Total	4487.58		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 16
DATE :19/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°30.64
start stop duration Lon E 19°48.42
TIME :01:52:46 02:23:17 30.0 (min) Purpose : 3
LOG : 3295.38 3296.99 1.6 Region : 6100
FDEPTH: 167 165 Gear cond.: 0
BDEPTH: 167 165 Validity : 0
Towing dir: 0° Wire out : 430 m Speed : 3.2 kn
Sorted : 306 Total catch: 416.05 Catch/hour: 832.09

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Trachurus capensis	176.40	2994	21.20	202
Chelidonichthys capensis	120.00	238	14.42	192
Merluccius capensis	106.00	218	12.74	199
Merluccius capensis	74.00	140	8.89	198
Squalus megalops	62.00	204	7.45	
Lophius vomerinus	56.40	48	6.78	195
Chelidonichthys queketti	42.80	220	5.14	193
Etrumeus whiteheadi	26.56	718	3.19	
Raja straeleni	24.40	26	2.93	
Helicolenus dactylopterus	21.88	280	2.63	208
Todaropsis eblanae	19.26	334	2.31	205
Holohalaelurus regani	17.80	34	2.14	
Callorhinchus capensis	16.40	10	1.97	
Mustelus palumbes	9.80	8	1.18	
Zeus capensis	6.57	144	0.79	207
Heart urchin	6.48	136	0.78	
Cynoglossus zanzibarensis	6.03	117	0.72	206
Sepia australis	4.68	586	0.56	
Raja wallacei	4.60	6	0.55	
Raja pullopunctata	4.40	2	0.53	
Starfish red	4.09	126	0.49	
Callanthias legras	3.15	27	0.38	
Genypterus capensis	2.80	4	0.34	194
Squalus megalops	2.70	27	0.32	0
Merluccius capensis	2.40	6	0.29	209
Merluccius paradoxus	2.00	6	0.24	201
Merluccius paradoxus	1.98	216	0.24	204
Loligo reynaudi	1.14	6	0.14	196
Congiopodus spinifer	0.90	9	0.11	
Paracallionymus costatus	0.87	264	0.11	
Merluccius paradoxus	0.80	2	0.10	200
Lamp shell	0.65	64	0.08	
Merluccius capensis	0.63	9	0.08	203
Starfish yellow	0.59	36	0.07	
Loligo reynaudi	0.54	2	0.06	197
Nudibranchs	0.14	9	0.02	
Anemones, yellow	0.13	9	0.02	
Champsodon capensis	0.12	18	0.01	
Pterygosquilla armata capensis	0.02	9	0.00	
Total	832.09		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 17
DATE :19/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°20.15
start stop duration Lon E 19°56.14
TIME :04:23:20 04:53:39 30.0 (min) Purpose : 3
LOG : 3312.20 3314.00 1.8 Region : 6100
FDEPTH: 156 158 Gear cond.: 0
BDEPTH: 156 158 Validity : 0
Towing dir: 0° Wire out : 400 m Speed : 3.6 kn
Sorted : 227 Total catch: 373.29 Catch/hour: 746.57

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Chelidonichthys capensis	122.00	228	16.34	213
Merluccius capensis	106.00	1040	14.20	216
Squalus megalops	84.00	178	11.25	
Engraulis capensis	68.20	6820	9.14	
Trachurus capensis	56.00	1140	7.50	219
Etrumeus whiteheadi	52.00	1734	6.97	
Lophius vomerinus	41.40	64	5.55	211
Merluccius capensis	38.00	3746	5.09	224
Merluccius capensis	28.60	36	3.83	215
Galeorhinus galeus	20.00	2	2.68	
Raja wallacei	16.20	8	2.17	
Cynoglossus zanzibarensis	15.40	330	2.06	217
Merluccius capensis	13.20	22	1.77	214
Callorhinchus capensis	12.00	8	1.61	
Genypterus capensis	11.20	94	1.50	210
Mustelus palumbes	11.00	6	1.47	
Holohalaelurus regani	8.20	22	1.10	
Zeus capensis	8.00	80	1.07	220
Sepia australis	6.60	880	0.88	
Chelidonichthys queketti	5.76	30	0.77	212
Helicolenus dactylopterus	5.50	160	0.74	218
Todaropsis eblanae	4.00	60	0.54	221
Starfish red	2.60	90	0.35	
Loligo reynaudi	2.56	22	0.34	223
Paracallionymus costatus	1.74	436	0.23	
Raja straeleni	1.40	4	0.19	
Starfish yellow	1.05	70	0.14	
Loligo reynaudi	0.84	4	0.11	222
Sepia papillata	0.80	2	0.11	
Congiopodus torvus	0.72	2	0.10	
Champsodon capensis	0.54	80	0.07	
Sepia hieronis	0.46	20	0.06	
Pterygosquilla armata capensis	0.41	30	0.05	
G A S T R O P O D S	0.13	10	0.02	
Starfish - dark	0.06	10	0.01	
Total	746.57		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 19
DATE :20/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°14.92
start stop duration Lon E 18°42.11
TIME :06:28:48 06:59:21 31.0 (min) Purpose : 3
LOG : 3393.65 3395.27 1.6 Region : 6100
FDEPTH: 442 436 Gear cond.: 0
BDEPTH: 442 436 Validity : 0
Towing dir: 0° Wire out : 900 m Speed : 3.2 kn
Sorted : 706 Total catch: 814.03 Catch/hour: 1575.54

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	568.06	354	36.06	230
Merluccius paradoxus	301.94	330	19.16	231
Merluccius paradoxus	220.65	252	14.00	234
Merluccius paradoxus	180.77	890	11.47	235
Caelorinchus simorhynchus	105.29	1879	6.68	
Genypterus capensis	48.39	31	3.07	232
Todaropsis eblanae	48.39	702	3.07	237
Helicolenus dactylopterus	36.29	387	2.30	236
Anemones, pink	12.10	85	0.77	
Anemone - purple 2	7.50	435	0.48	
Lophius vomerinus	6.97	2	0.44	233
Scyliorhinus capensis	6.06	12	0.38	
Hoplostethus mediterraneus	5.69	1138	0.36	
Starfish - many arms	5.44	1361	0.35	
Whelks	3.35	74	0.21	
Etmopterus gracilispinis	2.66	97	0.17	
Raja leopardus	1.94	25	0.12	
Paracallionymus costatus	1.94	246	0.12	
Rossia enigmatica	1.67	48	0.11	
Parapagurus pilosimanus	1.66	97	0.11	
Anemones, white	1.33	12	0.08	
Physiculus capensis	1.32	60	0.08	
Notacanthus sexspinis	1.16	12	0.07	
Stereomastis sp.	1.03	230	0.07	
Tripterophycis gilchristi	1.00	37	0.06	
Nezumia sp.	0.65	194	0.04	
Holohalaelurus regani	0.48	12	0.03	
Giant bullia gastropod	0.46	85	0.03	
Plesionika martia	0.24	24	0.02	
Starfish white 5 arms	0.19	25	0.01	
Cone gastropod	0.13	12	0.01	
Amalda obtusa	0.13	37	0.01	
Maurolicus muelleri	0.12	85	0.01	
Starfish red	0.12	12	0.01	
Lucigadus ori	0.12	12	0.01	
Anemones, red	0.11	12	0.01	
Heart urchin	0.10	12	0.01	
Psychrolutes macrocephalus	0.05	12	0.00	
Bathypolypus valdiviae	0.05	12	0.00	
Total	1575.54		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 18
DATE :20/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°15.72
start stop duration Lon E 18°40.19
TIME :04:36:19 05:06:40 30.0 (min) Purpose : 3
LOG : 3384.91 3386.58 1.7 Region : 6100
FDEPTH: 586 580 Gear cond.: 0
BDEPTH: 586 580 Validity : 0
Towing dir: 0° Wire out : 1225 m Speed : 3.3 kn
Sorted : 141 Total catch: 191.65 Catch/hour: 383.30

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	96.20	472	25.10	227
Caelorinchus braueri	72.60	2268	18.94	
Merluccius paradoxus	59.80	114	15.60	229
Merluccius paradoxus	35.20	38	9.18	228
Helicolenus dactylopterus	19.60	202	5.11	226
Notacanthus sexspinis	18.60	372	4.85	
Bathyraja smithii	13.00	2	3.39	
Etmopterus gracilispinis	12.60	318	3.29	
Plesionika martia	11.04	1380	2.88	
Chaceon maritae	8.88	78	2.32	
Anemones, pink	7.80	36	2.03	
Nezumia sp.	5.58	1116	1.46	
Bristle worms (straws)	2.58	646	0.67	
Caelorinchus simorhynchus	2.34	36	0.61	
Starfish - many arms	2.16	1578	0.56	
Raja straeleni	2.00	2	0.52	
Psychrolutes macrocephalus	1.74	72	0.45	
Raja leopardus	1.56	8	0.41	
Brama brama	1.40	2	0.37	225
Eptatretus profundus	1.24	2	0.32	
Bassanago albescens	1.14	6	0.30	
Starfish yellow	0.90	66	0.23	
Bathypolypus valdiviae	0.84	18	0.22	
Lucigadus ori	0.66	66	0.17	
Hoplostethus mediterraneus	0.55	42	0.14	
Raja confundens	0.44	2	0.11	
Whelks	0.41	6	0.11	
Ophichthus bennettai	0.36	4	0.09	
Starfish red	0.33	12	0.09	
Caelorinchus matamua	0.24	6	0.06	
Raja leopardus, juvenile	0.23	12	0.06	
SALPS	0.18	0	0.05	
Diaphus effulgens	0.17	6	0.04	
Physiculus capensis	0.16	6	0.04	
Rossia sp.	0.16	12	0.04	
Maurolicus muelleri	0.13	90	0.03	
Tripterophycis gilchristi	0.12	6	0.03	
Anemones, yellow	0.11	12	0.03	
Starfish white 5 arms	0.10	12	0.03	
Argyropelecus aculeatus	0.05	6	0.01	
Chlorophthalmus sp., juvenile	0.05	12	0.01	
Lepidion capensis	0.04	6	0.01	
Total	383.30		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 20
DATE :20/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°16.09
start stop duration Lon E 18°44.50
TIME :08:11:48 08:42:26 31.0 (min) Purpose : 3
LOG : 3399.31 3400.84 1.5 Region : 6100
FDEPTH: 382 378 Gear cond.: 0
BDEPTH: 382 378 Validity : 0
Towing dir: 0° Wire out : 850 m Speed : 3.0 kn
Sorted : 420 Total catch: 1369.70 Catch/hour: 2651.03

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1707.10	9501	64.39	243
Merluccius paradoxus	284.52	372	10.73	238
Merluccius paradoxus	238.06	238	8.98	239
Caelorinchus simorhynchus	165.48	3010	6.24	
Helicolenus dactylopterus	87.10	906	3.29	262
Todaropsis eblanae	73.16	958	2.76	263
Lophius vomerinus	23.23	12	0.88	241
Brama brama	15.87	17	0.60	240
Genypterus capensis	11.81	12	0.45	242
Anemones, pink	9.23	17	0.35	
Anemone - purple 2	8.36	157	0.32	
Thyrsites atun	5.03	2	0.19	244
Merluccius capensis	4.65	2	0.18	245
Scyliorhinus capensis	4.35	17	0.16	
Paracallionymus costatus	3.48	360	0.13	
Anemones, white	1.57	17	0.06	
Parapagurus pilosimanus	1.50	174	0.06	
Holohalaelurus regani	1.39	52	0.05	
Starfish - many arms	1.24	453	0.05	
Whelks	1.20	35	0.05	
Starfish white 5 arms	0.70	87	0.03	
Starfish red	0.57	17	0.02	
Physiculus capensis	0.37	35	0.01	
Rossia sp.	0.33	17	0.01	
Mursia cristimanus	0.17	17	0.01	
Sepia sp.	0.17	35	0.01	
CYPRAEIDAE (Bulia)	0.12	35	0.00	
Stereomastis sp.	0.09	35	0.00	
Rochinia sp.	0.07	17	0.00	
Lucigadus ori	0.05	17	0.00	
Chlorophthalmus sp., juvenile	0.05	17	0.00	
Total	2651.03		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 21
DATE :20/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°9.15
start stop duration Lon E 18°51.39
TIME :10:19:05 10:49:01 30.0 (min) Purpose : 3
LOG : 3411.03 3412.63 1.6 Region : 6100
FDEPTH: 227 225 Gear cond.: 0
BDEPTH: 227 225 Validity : 0
Towing dir: 0° Wire out : 535 m Speed : 3.2 kn
Sorted : 292 Total catch: 2094.72 Catch/hour: 4189.45

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Trachurus capensis	3006.00	28772	71.75	246
Parapagurus dimorphus	364.00	26000	8.69	
Merluccius paradoxus	248.80	1148	5.94	254
Etrumeus whiteheadi	143.60	2316	3.43	
Merluccius capensis	108.00	70	2.58	248
Lophius vomerinus	72.80	96	1.74	253
Squalus megalops	49.78	134	1.19	
Chelidonichthys capensis	47.86	77	1.14	255
Raja straeleni	47.86	19	1.14	
Merluccius capensis	23.60	18	0.56	249
Caelorinchus simorhynchus	16.84	134	0.40	
Merluccius paradoxus	10.40	16	0.25	250
Merluccius capensis	8.00	6	0.19	251
Merluccius capensis	7.00	14	0.17	261
Loligo reynaudi	6.50	19	0.16	258
Paracallionymus costatus	4.98	842	0.12	
Todaropsis eblanae	4.78	115	0.11	260
Loligo reynaudi	4.40	19	0.11	257
Brama brama	3.60	2	0.09	247
Thyrsites atun	3.00	2	0.07	252
Lepidopus caudatus	2.30	19	0.05	
Cynoglossus zanzibarensis	1.34	19	0.03	259
Sepia australis	1.34	96	0.03	
Whelks	0.92	19	0.02	
Helicolenus dactylopterus	0.56	38	0.01	
Starfish - many arms	0.50	38	0.01	
Starfish red	0.46	19	0.01	
Champsodon capensis	0.15	19	0.00	
Starfish white 5 arms	0.08	19	0.00	
Total	4189.45		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 22
DATE :20/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 35°0.47
start stop duration Lon E 19°5.20
TIME :12:45:16 01:15:48 31.0 (min) Purpose : 3
LOG : 3427.82 3429.39 1.6 Region : 6100
FDEPTH: 175 174 Gear cond.: 0
BDEPTH: 175 174 Validity : 0
Towing dir: 0° Wire out : 420 m Speed : 3.1 kn
Sorted : 291 Total catch: 382.14 Catch/hour: 739.62

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius capensis	129.68	598	17.53	273
Merluccius capensis	118.26	145	15.99	271
Etrumeus whiteheadi	96.77	2481	13.08	
Merluccius capensis	47.81	58	6.46	270
Parapagurus dimorphus	44.90	3455	6.07	
Raja straeleni	33.68	35	4.55	
Chelidonichthys capensis	33.10	77	4.47	265
Lophius vomerinus	33.10	58	4.47	267
Helicolenus dactylopterus	32.59	643	4.41	275
Squalus megalops	31.16	75	4.21	
Mustelus palumbes	18.00	6	2.43	
Heart urchin	15.48	281	2.09	
Holohalaelurus regani	15.29	45	2.07	
Raja alba, juvenile	14.13	2	1.91	
Trachurus capensis	12.39	170	1.67	278
Chelidonichthys queketti	12.19	60	1.65	266
Callorhinchus capensis	9.87	4	1.33	
Zeus capensis	8.28	139	1.12	276
Merluccius capensis	6.89	54	0.93	279
Caelorinchus simorhynchus	3.87	39	0.52	
Todaropsis eblanae	3.64	77	0.49	282
Genypterus capensis	3.48	23	0.47	277
Starfish red	3.10	62	0.42	
Merluccius capensis	2.25	6	0.30	272
Loligo reynaudi	1.94	6	0.26	269
Brama brama	1.66	2	0.23	268
Paracallionymus costatus	1.01	201	0.14	
Sepia australis	0.97	93	0.13	
Cynoglossus zanzibarensis	0.85	15	0.12	281
Loligo reynaudi	0.77	6	0.10	274
Merluccius capensis	0.62	77	0.08	280
Gastropod nei	0.44	15	0.06	
Torpedo nobiliana	0.35	2	0.05	
Giant bullia gastropod	0.29	8	0.04	
Exodromidia sp.	0.26	8	0.04	
Nudibranchs	0.22	8	0.03	
Engraulis capensis	0.19	15	0.03	
Starfish	0.08	15	0.01	
Starfish yellow	0.06	15	0.01	
Total	739.62		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 23
DATE :20/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°54.72
start stop duration Lon E 19°13.84
TIME :02:53:30 03:24:04 31.0 (min) Purpose : 3
LOG : 3439.68 3441.36 1.7 Region : 6100
FDEPTH: 155 155 Gear cond.: 0
BDEPTH: 155 155 Validity : 0
Towing dir: 0° Wire out : 390 m Speed : 3.3 kn
Sorted : 249 Total catch: 1278.59 Catch/hour: 2474.68

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Etrumeus whiteheadi	990.00	24147	40.01	
Engraulis capensis	810.00	101251	32.73	
Merluccius capensis	261.00	2700	10.55	293
Chelidonichthys capensis	164.52	379	6.65	283
Callorhinchus capensis	51.68	33	2.09	
Raja straeleni	39.87	25	1.61	
Lophius vomerinus	35.81	45	1.45	286
Zeus capensis	19.20	120	0.78	296
Cynoglossus zanzibarensis	15.60	180	0.63	294
Squalus megalops	14.32	29	0.58	
Merluccius capensis	12.39	8	0.50	289
Trachurus capensis	7.50	150	0.30	291
Raja wallacei	6.97	2	0.28	
Raja straeleni, juvenile	6.31	31	0.25	
Holohalaelurus regani	5.42	12	0.22	
JELLYFISH	5.23	2	0.21	
Merluccius capensis	5.10	420	0.21	295
Merluccius capensis	4.65	6	0.19	290
Helicolenus dactylopterus	3.90	150	0.16	284
Todaropsis eblanae	3.30	90	0.13	285
Starfish red	3.00	90	0.12	
Genypterus capensis	2.48	15	0.10	287
Starfish yellow	1.80	211	0.07	
Paracallionymus costatus	1.26	240	0.05	
Pterygosquilla armata capensis	1.20	120	0.05	
Sepia australis	0.90	900	0.04	
JELLYFISH	0.75	31	0.03	0
Chelidonichthys queketti	0.31	6	0.01	288
Champsodon capensis	0.24	31	0.01	
Total	2474.68		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 24
DATE :20/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°45.85
start stop duration Lon E 19°25.25
TIME :05:29:22 05:50:20 21.0 (min) Purpose : 3
LOG : 3458.07 3459.30 1.2 Region : 6100
FDEPTH: 92 84 Gear cond.: 0
BDEPTH: 92 84 Validity : 2
Towing dir: 0° Wire out : 220 m Speed : 3.5 kn
Sorted : 148 Total catch: 147.67 Catch/hour: 421.92

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Chelidonichthys capensis	242.86	591	57.56	297
Trachurus capensis	91.43	1646	21.67	300
Merluccius capensis	22.86	0	5.42	
Callorhinchus capensis	9.71	6	2.30	
Spatangus capensis	8.00	29	1.90	
Zeus capensis	7.43	0	1.76	
Cynoglossus zanzibarensis	6.14	0	1.46	
Chelidonichthys queketti	6.00	0	1.42	
Lepidopus caudatus	5.57	1114	1.32	
Gonorhynchus gonorhynchus	4.89	63	1.16	
Lophius vomerinus	4.00	0	0.95	
Austroglossus microlepis	3.14	0	0.74	
Sardinops ocellatus	1.94	20	0.46	
Raja alba, juvenile	1.91	6	0.45	
Sepia papillata	1.80	6	0.43	
Haploblepharus edwardsii	1.34	3	0.32	
Raja straeleni	0.63	3	0.15	
Gnathophis capensis	0.54	17	0.13	
Sepia australis	0.50	46	0.12	
Genypterus capensis	0.31	0	0.07	
Pterogymnus laniarius	0.15	3	0.04	298
Starfish yellow	0.15	20	0.04	
Merluccius paradoxus, juvenile	0.14	17	0.03	
Todaropsis eblanae	0.11	3	0.03	299
Mursia cristimanus	0.11	6	0.03	
Hermits, mixed	0.09	3	0.02	
Starfish - dark	0.07	9	0.02	
Paracallionymus costatus	0.03	6	0.01	
Pterygosquilla armata capensis	0.03	3	0.01	
CYPRAEIDAE (Bulia)	0.02	3	0.00	
Priacanthus cruentatus, juvenile	0.01	3	0.00	
Total	421.92		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 25
DATE :21/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°23.16
start stop duration Lon E 18°44.06
TIME :04:21:06 04:51:46 31.0 (min) Purpose : 3
LOG : 3506.82 3508.14 1.3 Region : 6100
FDEPTH: 84 86 Gear cond.: 0
BDEPTH: 84 86 Validity : 0
Towing dir: 0° Wire out : 200 m Speed : 2.6 kn
Sorted : 698 Total catch: 698.00 Catch/hour: 1350.97

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Jasus lalandii	687.48	4939	50.89	301
Jasus lalandii	404.52	2861	29.94	302
Merluccius capensis	78.58	242	5.82	306
Chelidonichthys capensis	70.65	401	5.23	303
Trachurus capensis	43.94	1229	3.25	307
Callorhinchus capensis	24.77	105	1.83	
Raja straeleni	12.77	6	0.95	
Etrumeus whiteheadi	7.95	331	0.59	
Merluccius capensis	5.46	58	0.40	311
Thyrsites atun	4.45	2	0.33	305
Cynoglossus zanzibarensis	2.55	25	0.19	308
Engraulis capensis	1.94	277	0.14	
Rhabdosargus globiceps	1.55	2	0.11	304
Zeus capensis	1.32	23	0.10	310
Merluccius capensis	0.95	56	0.07	309
Haploblepharus edwardsii	0.72	2	0.05	
Chelidonichthys capensis	0.64	12	0.05	312
JELLYFISH	0.56	2	0.04	
Congiopodus spinifer	0.12	2	0.01	
Lepidopus caudatus, juvenile	0.06	8	0.00	
Total	1350.97		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 26
DATE :21/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°32.21
start stop duration Lon E 18°29.11
TIME :07:05:16 07:35:41 30.0 (min) Purpose : 3
LOG : 3524.24 3525.76 1.5 Region : 6100
FDEPTH: 175 176 Gear cond.: 0
BDEPTH: 175 176 Validity : 0
Towing dir: 0° Wire out : 430 m Speed : 3.0 kn
Sorted : 620 Total catch: 684.18 Catch/hour: 1368.35

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Jasus lalandii	547.40	2652	40.00	316
Trachurus capensis	162.40	2182	11.87	322
Chelidonichthys capensis	108.00	262	7.89	313
Jasus lalandii	95.20	698	6.96	315
Merluccius paradoxus	82.60	410	6.04	331
Brama brama	60.00	58	4.38	314
Caelorinchus simorhynchus	53.60	824	3.92	
Merluccius capensis	37.80	42	2.76	318
Trachurus capensis	37.60	112	2.75	317
Mustelus palumbes	36.60	10	2.67	
Callorhinchus capensis	35.40	20	2.59	
Lophius vomerinus	20.00	28	1.46	320
Merluccius paradoxus	19.20	160	1.40	323
Raja straeleni	17.00	34	1.24	
Merluccius capensis	13.20	24	0.96	319
Thyrsites atun	7.40	6	0.54	321
Etrumeus whiteheadi	6.92	121	0.51	
Lepidopus caudatus	5.40	4	0.39	
Zeus capensis	4.88	56	0.36	329
Squalus megalops	4.80	16	0.35	
Scyliorhinus capensis	4.40	2	0.32	
Helicolenus dactylopterus	1.92	20	0.14	325
Merluccius capensis	1.52	8	0.11	332
JELLYFISH	1.20	2	0.09	
Genypterus capensis	0.80	8	0.06	326
Paracallionymus costatus	0.72	84	0.05	
Cynoglossus zanzibarensis	0.72	12	0.05	327
Todaropsis eblanae	0.48	12	0.04	330
Loligo reynaudi	0.44	4	0.03	328
Merluccius paradoxus	0.40	48	0.03	324
Champsodon capensis	0.16	12	0.01	
Callanthias legras	0.08	4	0.01	
Starfish - many arms	0.08	4	0.01	
Gastropod nei	0.03	4	0.00	
Total	1368.35		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 27
DATE :21/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°41.95
start stop duration Lon E 18°21.48
TIME :09:49:59 10:20:19 30.0 (min) Purpose : 3
LOG : 3540.03 3541.51 1.5 Region : 6100
FDEPTH: 354 355 Gear cond.: 0
BDEPTH: 354 355 Validity : 0
Towing dir: 0° Wire out : 850 m Speed : 2.9 kn
Sorted : 301 Total catch: 301.00 Catch/hour: 602.01

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	178.80	1224	29.70	336
Caelorinchus simorhynchus	104.00	1040	17.28	
Helicolenus dactylopterus	98.40	400	16.35	337
Merluccius paradoxus	97.60	56	16.21	340
Genypterus capensis	49.20	20	8.17	334
Merluccius paradoxus	27.40	30	4.55	341
Trachurus capensis	11.92	42	1.98	343
Thyrsites atun	7.48	2	1.24	333
Merluccius capensis	6.76	2	1.12	338
Raja straeleni	4.40	2	0.73	
Scomber japonicus	3.52	2	0.58	335
Merluccius capensis	2.92	2	0.49	339
Holohalaelurus regani	1.90	6	0.32	
Malacocephalus laevis	1.40	2	0.23	
Scyliorhinus capensis	1.40	2	0.23	
Zeus capensis	1.16	2	0.19	346
Chelidonichthys capensis	1.08	4	0.18	342
Paracallionymus costatus	1.02	102	0.17	
Emmelichthys nitidus	1.00	4	0.17	
Cynoglossus zanzibarensis	0.22	2	0.04	345
Whelks	0.20	6	0.03	
Todaropsis eblanae	0.13	4	0.02	347
Merluccius paradoxus	0.10	34	0.02	344
Total	602.01		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 28
DATE :21/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°39.63
start stop duration Lon E 18°16.32
TIME :11:37:59 12:08:14 30.0 (min) Purpose : 3
LOG : 3548.11 3549.78 1.7 Region : 6100
FDEPTH: 476 472 Gear cond.: 0
BDEPTH: 476 472 Validity : 0
Towing dir: 0° Wire out : 1150 m Speed : 3.3 kn
Sorted :1429 Total catch: 1836.54 Catch/hour: 3673.08

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1658.00	888	45.14	350
Merluccius paradoxus	886.00	472	24.12	348
Merluccius paradoxus	802.00	3416	21.83	353
Caelorinchus simorhynchus	76.00	598	2.07	
Bassanago albescens	67.00	130	1.82	
Merluccius paradoxus	56.00	48	1.52	349
Helicolenus dactylopterus	46.00	430	1.25	355
Genypterus capensis	46.00	16	1.25	351
Todaropsis eblanae	16.40	170	0.45	354
Squalus megalops	8.50	10	0.23	
Brama brama	5.08	6	0.14	352
Scyliorhinus capensis	4.20	10	0.11	
Physiculus capensis	0.80	20	0.02	
Rossia enigmatica	0.60	20	0.02	
Tripterophycis gilchristi	0.40	20	0.01	
Caelorinchus braueri	0.10	10	0.00	
Total	3673.08		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 29
DATE :21/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°47.69
start stop duration Lon E 18°15.90
TIME :01:55:02 02:16:35 22.0 (min) Purpose : 3
LOG : 3556.94 3558.09 1.1 Region : 6100
FDEPTH: 545 547 Gear cond.: 0
BDEPTH: 545 547 Validity : 0
Towing dir: 0° Wire out : 1050 m Speed : 3.2 kn
Sorted : 714 Total catch: 882.28 Catch/hour: 2406.22

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1246.36	886	51.80	356
Merluccius paradoxus	581.45	2738	24.16	360
Merluccius paradoxus	403.64	314	16.77	358
Merluccius paradoxus	85.64	104	3.56	357
Helicolenus dactylopterus	60.00	357	2.49	359
Caelorinchus braueri	11.56	284	0.48	
Bassanago albescens	6.33	22	0.26	
Caelorinchus simorhynchus	5.24	87	0.22	
Todaropsis eblanae	2.84	22	0.12	361
Notacanthus sexspinis	1.96	33	0.08	
Tripterophycis gilchristi	0.55	33	0.02	
Physiculus capensis	0.33	11	0.01	
Epigonus sp.	0.33	22	0.01	
Total	2406.22		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 30
DATE :22/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°36.68
start stop duration Lon E 17°56.33
TIME :04:31:12 05:01:33 30.0 (min) Purpose : 3
LOG : 3616.05 3617.86 1.8 Region : 6100
FDEPTH: 577 581 Gear cond.: 0
BDEPTH: 577 581 Validity : 0
Towing dir: 0° Wire out : 1200 m Speed : 3.6 kn
Sorted : 275 Total catch: 275.34 Catch/hour: 550.69

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	385.60	360	70.02	362
Merluccius paradoxus	92.00	114	16.71	363
Caelorinchus simorhynchus	53.00	854	9.62	
Malacocephalus laevis	6.46	14	1.17	
Notacanthus sexspinis	5.40	68	0.98	
Plesionika martia	4.00	572	0.73	
Helicolenus dactylopterus	2.00	10	0.36	364
Anemones, pink	1.66	6	0.30	
Nezumia sp.	0.17	18	0.03	
Selachophidium guentheri	0.14	2	0.03	
Symbolophorus boops	0.10	8	0.02	
Bristle worms (straws)	0.07	20	0.01	
Gymnoscopelus sp.	0.03	2	0.01	
Tripterophycis gilchristi	0.02	2	0.00	
Starfish white 5 arms	0.02	2	0.00	
SALPS	0.01	4	0.00	
Total	550.69		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 31
DATE :22/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°33.92
start stop duration Lon E 17°57.24
TIME :06:27:13 06:57:19 30.0 (min) Purpose : 3
LOG : 3624.84 3626.12 1.3 Region : 6100
FDEPTH: 427 423 Gear cond.: 0
BDEPTH: 427 423 Validity : 0
Towing dir: 0° Wire out : 930 m Speed : 2.6 kn
Sorted : 288 Total catch: 1281.98 Catch/hour: 2563.95

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1960.00	6418	76.44	369
Helicolenus dactylopterus	235.20	1622	9.17	370
Merluccius paradoxus	154.00	140	6.01	367
Caelorinchus simorhynchus	54.32	1006	2.12	
Brama brama	50.00	60	1.95	366
Merluccius paradoxus	33.40	42	1.30	368
Todaropsis eblanae	33.32	224	1.30	371
Bassanago albescens	23.38	28	0.91	
Caelorinchus braueri	6.58	70	0.26	
Genypterus capensis	5.12	4	0.20	365
Malacocephalus laevis	3.78	14	0.15	
Holohalaelurus regani	1.48	4	0.06	
Parapagurus pilosimanus	1.33	70	0.05	
Lucigadus ori	1.08	126	0.04	
Whelks	0.57	14	0.02	
Rossia enigmatica	0.38	14	0.01	
Argyropelecus gigas	0.01	14	0.00	
Total	2563.95		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 32
DATE :22/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°27.94
start stop duration Lon E 18°1.24
TIME :08:21:10 08:51:44 31.0 (min) Purpose : 3
LOG : 3633.93 3635.59 1.7 Region : 6100
FDEPTH: 306 308 Gear cond.: 0
BDEPTH: 306 308 Validity : 0
Towing dir: 0° Wire out : 650 m Speed : 3.3 kn
Sorted : 432 Total catch: 1215.57 Catch/hour: 2352.72

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Helicolenus dactylopterus	1154.90	20539	49.09	378
Merluccius paradoxus	408.97	3387	17.38	379
Merluccius capensis	259.16	128	11.02	375
Merluccius capensis	120.58	56	5.13	374
Merluccius paradoxus	104.90	130	4.46	377
Caelorinchus simorhynchus	87.48	1651	3.72	
Trachurus capensis	86.23	379	3.66	380
Brama brama	38.32	45	1.63	373
Merluccius paradoxus	30.77	25	1.31	376
Todaropsis eblanae	18.29	183	0.78	381
Lophius vomerinus	14.32	10	0.61	372
Emmelichthys nitidus	13.06	131	0.56	
Genypterus capensis	7.84	13	0.33	382
Octopus magnificus	4.84	4	0.21	
Paracallionymus costatus	2.46	157	0.10	
Whelks	0.59	26	0.03	
Total	2352.72		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 33
DATE :22/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°23.38
start stop duration Lon E 18°3.42
TIME :10:12:38 10:43:16 31.0 (min) Purpose : 3
LOG : 3644.20 3645.81 1.6 Region : 6100
FDEPTH: 282 286 Gear cond.: 0
BDEPTH: 282 286 Validity : 0
Towing dir: 0° Wire out : 690 m Speed : 3.2 kn
Sorted : 178 Total catch: 564.20 Catch/hour: 1092.00

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	509.03	3948	46.61	390
Helicolenus dactylopterus	230.32	2541	21.09	391
Trachurus capensis	116.13	445	10.63	389
Merluccius paradoxus	69.10	97	6.33	388
Brama brama	47.03	48	4.31	384
Caelorinchus simorhynchus	42.58	774	3.90	
Todaropsis eblanae	30.58	319	2.80	392
Merluccius capensis	15.68	14	1.44	386
Lophius vomerinus	13.55	8	1.24	383
Merluccius capensis	7.74	6	0.71	385
Parapagurus dimorphus	4.26	513	0.39	
Merluccius paradoxus	4.06	4	0.37	387
Holohalaelurus regani	0.97	2	0.09	
Paracallionymus costatus	0.97	68	0.09	
Total	1092.00		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 34
DATE :22/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°19.15
start stop duration Lon E 18°11.89
TIME :12:46:57 01:14:52 28.0 (min) Purpose : 3
LOG : 3658.82 3660.42 1.6 Region : 6100
FDEPTH: 284 282 Gear cond.: 0
BDEPTH: 284 282 Validity : 0
Towing dir: 0° Wire out : 700 m Speed : 3.4 kn
Sorted : 141 Total catch: 398.15 Catch/hour: 853.18

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	317.14	2563	37.17	397
Caelorinchus simorhynchus	138.86	1674	16.28	
Trachurus capensis	102.86	849	12.06	396
Helicolenus dactylopterus	96.00	506	11.25	395
Genypterus capensis	83.57	26	9.80	393
Zeus capensis	52.63	120	6.17	398
Octopus magnificus	19.71	2	2.31	
Sponges - loose	15.17	0	1.78	
Squalus megalops	5.44	13	0.64	
Brama brama	5.27	6	0.62	394
Todaropsis eblanae	4.89	69	0.57	399
Balanophyllia (hard coral)	4.29	0	0.50	
Whelks	2.91	77	0.34	
Sponges - round	2.03	0	0.24	
Holohalaelurus regani	1.03	2	0.12	
Merluccius paradoxus	0.47	43	0.06	400
JELLYFISH	0.27	9	0.03	
Exodromidia sp.	0.21	9	0.03	
Starfish - many arms	0.19	9	0.02	
Nudibranchs	0.15	9	0.02	
Mursia cristimanus	0.09	9	0.01	
Total	853.18		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 35
DATE :22/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°15.13
start stop duration Lon E 18°13.24
TIME :02:23:05 02:54:59 32.0 (min) Purpose : 3
LOG : 3665.72 3667.08 1.4 Region : 6100
FDEPTH: 167 166 Gear cond.: 0
BDEPTH: 167 166 Validity : 0
Towing dir: 0° Wire out : 420 m Speed : 2.5 kn
Sorted : 326 Total catch: 326.09 Catch/hour: 611.41

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Jasus lalandii	243.00	943	39.74	412
Trachurus capensis	155.63	2678	25.45	407
Callorhinchus capensis	54.38	41	8.89	
Merluccius capensis	51.56	96	8.43	403
Merluccius capensis	21.38	0	3.50	
Merluccius paradoxus	18.75	51	3.07	406
Raja straeleni	11.63	4	1.90	
Zeus capensis	11.06	244	1.81	409
Chelidonichthys capensis	10.13	22	1.66	402
Lophius vomerinus	4.88	11	0.80	408
Helicolenus dactylopterus	4.50	176	0.74	411
Merluccius paradoxus	4.31	8	0.71	405
Mustelus palumbes	4.13	2	0.67	
Squalus megalops	3.94	9	0.64	
Todaropsis eblanae	3.86	120	0.63	410
Etrumeus whiteheadi	2.25	56	0.37	
Paracallionymus costatus	1.35	107	0.22	
Merluccius capensis	0.94	0	0.15	0
Merluccius paradoxus	0.94	9	0.15	414
Mursia cristimanus	0.60	4	0.10	
Genypterus capensis	0.45	4	0.07	413
Starfish - many arms	0.45	41	0.07	
Caelorinchus simorhynchus	0.38	4	0.06	
Sepia australis	0.36	13	0.06	
Loligo reynaudi	0.26	2	0.04	416
Cynoglossus zanzibarensis	0.11	4	0.02	401
Ascidans	0.07	9	0.01	
Starfish (pentagon)	0.06	2	0.01	
Aphrodite pol	0.04	8	0.01	
Starfish red A	0.03	2	0.00	
Rochinia sp.	0.01	4	0.00	
Exodromidia sp.	0.01	2	0.00	
Total	611.41		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 36
DATE :23/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°20.68
start stop duration Lon E 17°40.96
TIME :04:39:17 05:09:47 30.0 (min) Purpose : 3
LOG : 3720.59 3722.41 1.8 Region : 6100
FDEPTH: 545 551 Gear cond.: 0
BDEPTH: 545 551 Validity : 0
Towing dir: 0° Wire out : 1120 m Speed : 3.6 kn
Sorted : 421 Total catch: 421.10 Catch/hour: 842.20

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	702.00	554	83.35	417
Caelorinchus braueri	90.00	1800	10.69	
Merluccius paradoxus	11.40	16	1.35	418
Centrophorus squamosus	9.60	2	1.14	
Raja leopardus	6.56	16	0.78	
Squalus mitsukurii	4.32	2	0.51	
Helicolenus dactylopterus	3.46	18	0.41	419
Bassanago albescens	3.42	6	0.41	
SALPS	2.98	0	0.35	
Lepidion capensis	1.42	4	0.17	
Plesionika martia	1.28	1828	0.15	
Malacocephalus laevis	1.06	2	0.13	
Notacanthus sexspinis	0.74	10	0.09	
Beryx splendens	0.68	4	0.08	
Lycoteuthis lorigera, male	0.54	2	0.06	
Chaceon maritae	0.50	12	0.06	
Lycoteuthis lorigera, female	0.43	8	0.05	
Oreosoma atlanticum	0.42	2	0.05	
Histioteuthis macrohista	0.40	2	0.05	
Tetragonurus atlanticus	0.28	2	0.03	
Hoplostethus mediterraneus	0.17	2	0.02	
Selachophidium guentheri	0.15	2	0.02	
Diaphus effulgens	0.09	4	0.01	
Lucigadus ori	0.05	4	0.01	
Diplophos taenia	0.05	4	0.01	
MYCTOPHIDAE	0.05	10	0.01	
Haliporoides triarthrus	0.05	4	0.01	
Stereomastis sp.	0.03	4	0.00	
Physiculus capensis	0.03	2	0.00	
Gymnoscopelus sp.	0.03	2	0.00	
Nezumia sp.	0.01	2	0.00	
Total	842.20		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 37
DATE :23/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°21.04
start stop duration Lon E 17°42.30
TIME :06:36:04 07:06:29 30.0 (min) Purpose : 3
LOG : 3726.68 3727.82 1.1 Region : 6100
FDEPTH: 507 505 Gear cond.: 0
BDEPTH: 507 505 Validity : 0
Towing dir: 0° Wire out : 1000 m Speed : 2.2 kn
Sorted : 392 Total catch: 392.44 Catch/hour: 784.88

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	670.00	638	85.36	420
Caelorinchus braueri	38.00	1266	4.84	
Merluccius paradoxus	36.80	50	4.69	421
Helicolenus dactylopterus	17.00	116	2.17	422
Octopus magnificus	10.00	2	1.27	
Bassanago albescens	2.00	14	0.25	
Tetragonurus atlanticus	1.62	6	0.21	
Caelorinchus simorhynchus	1.60	36	0.20	
Centrolophus niger	1.46	2	0.19	
Todaropsis eblanae	1.40	4	0.18	423
Raja leopardus	1.16	4	0.15	
Histioteuthis bonnellii	0.74	2	0.09	
SALPS	0.72	0	0.09	
Beryx splendens	0.60	4	0.08	424
Chaceon maritae	0.44	4	0.06	
Plesionika martia	0.28	0	0.04	
Physiculus capensis	0.19	8	0.02	
Rossia enigmatica	0.16	6	0.02	
Lucigadus ori	0.10	8	0.01	
MYCTOPHIDAE	0.09	20	0.01	
Tripterophycis gilchristi	0.08	4	0.01	
Haliporoides triarthrus	0.07	6	0.01	
Symbolophorus boops	0.07	4	0.01	
Photichthys argenteus	0.06	2	0.01	
Persparsia kopua	0.06	2	0.01	
Diaphus sp.	0.04	4	0.01	
Chauliodus sloani	0.03	4	0.00	
Howella sherborni	0.03	2	0.00	
Lycoteuthis lorigera	0.02	2	0.00	
Stereomastis sp.	0.02	2	0.00	
Argyropelecus aculeatus	0.02	8	0.00	
Electrona risso	0.01	2	0.00	
Starfish - many arms	0.01	4	0.00	
Diretmus argenteus	0.01	2	0.00	
Total	784.88		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 38
DATE :23/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°19.51
start stop duration Lon E 17°42.67
TIME :08:09:04 08:39:07 30.0 (min) Purpose : 3
LOG : 3731.59 3733.43 1.8 Region : 6100
FDEPTH: 446 444 Gear cond.: 0
BDEPTH: 446 444 Validity : 0
Towing dir: 0° Wire out : 900 m Speed : 3.7 kn
Sorted : 828 Total catch: 902.96 Catch/hour: 1805.92

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1126.00	2776	62.35	425
Merluccius paradoxus	348.00	274	19.27	426
Helicolenus dactylopterus	157.50	990	8.72	428
Caelorinchus simorhynchus	109.36	3418	6.06	
Merluccius paradoxus	41.20	48	2.28	427
Bassanago albescens	12.60	22	0.70	
XXXXXXX	3.72	2	0.21	
Genypterus capensis	3.40	4	0.19	429
Todaropsis eblanae	0.99	4	0.05	430
Lucigadus ori	0.81	54	0.05	
Beryx splendens	0.77	4	0.04	
Haliporoides triarthrus	0.45	36	0.02	
Histioteuthis bonnellii	0.19	4	0.01	
Physiculus capensis	0.16	4	0.01	
Paracallionymus costatus	0.15	18	0.01	
Tripterophycis gilchristi	0.14	9	0.01	
Symbolophorus boops	0.12	9	0.01	
Starfish white 5 arms	0.09	4	0.00	
Diaphus sp.	0.07	4	0.00	
Rossia enigmatica	0.07	4	0.00	
Epigonus sp.	0.05	4	0.00	
Starfish - many arms	0.03	4	0.00	
Stereomastis sp.	0.02	4	0.00	
MYCTOPHIDAE	0.02	4	0.00	
Total	1805.92		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 39
DATE :23/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°19.76
start stop duration Lon E 17°45.42
TIME :09:46:23 10:16:48 30.0 (min) Purpose : 3
LOG : 3737.46 3738.68 1.2 Region : 6100
FDEPTH: 398 400 Gear cond.: 0
BDEPTH: 398 400 Validity : 0
Towing dir: 0° Wire out : 850 m Speed : 2.4 kn
Sorted : 332 Total catch: 1197.03 Catch/hour: 2394.05

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1510.00	6562	63.07	436
Helicolenus dactylopterus	325.12	2458	13.58	437
Merluccius paradoxus	234.00	150	9.77	433
Caelorinchus simorhynchus	161.20	3430	6.73	
Brama brama	82.00	56	3.43	431
Todaropsis eblanae	27.26	179	1.14	438
Malacocephalus laevis	17.02	26	0.71	
Merluccius paradoxus	16.60	20	0.69	434
Todaropsis eblanae	10.24	77	0.43	439
Lophius vomerinus	4.20	2	0.18	435
Genypterus capensis	2.52	4	0.11	432
Bassanago albescens	1.64	2	0.07	
Scyliorhinus capensis	1.32	4	0.06	
Holohalaelurus regani	0.80	2	0.03	
Physiculus capensis	0.13	13	0.01	
Total	2394.05		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 40
DATE :23/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 34°7.08
start stop duration Lon E 17°50.08
TIME :12:12:58 12:43:06 30.0 (min) Purpose : 3
LOG : 3752.18 3753.74 1.6 Region : 6100
FDEPTH: 272 272 Gear cond.: 0
BDEPTH: 272 272 Validity : 0
Towing dir: 0° Wire out : 630 m Speed : 3.1 kn
Sorted : 114 Total catch: 421.28 Catch/hour: 842.56

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	616.80	5688	73.21	447
Helicolenus dactylopterus	47.52	600	5.64	446
Merluccius capensis	42.00	24	4.98	443
Caelorinchus simorhynchus	39.00	780	4.63	
Lophius vomerinus	23.80	12	2.82	441
Brama brama	23.60	20	2.80	440
Todaropsis eblanae	19.80	408	2.35	448
Parapagurus dimorphus	8.28	540	0.98	
Merluccius paradoxus	4.48	6	0.53	445
Raja straeleni	4.28	4	0.51	
Paracallionymus costatus	3.96	456	0.47	
Merluccius capensis	3.80	2	0.45	444
Octopus magnificus	1.60	2	0.19	
Trachurus capensis	1.20	12	0.14	449
SALPS	0.84	0	0.10	
Starfish white 5 arms	0.60	12	0.07	
Genypterus capensis	0.52	2	0.06	442
Whelks	0.36	12	0.04	
Gastropod nei	0.12	12	0.01	
Total	842.56		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 41
DATE :23/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°59.28
start stop duration Lon E 17°59.72
TIME :02:36:32 03:07:36 31.0 (min) Purpose : 3
LOG : 3767.76 3769.74 2.0 Region : 6100
FDEPTH: 192 190 Gear cond.: 0
BDEPTH: 192 190 Validity : 0
Towing dir: 0° Wire out : 480 m Speed : 3.8 kn
Sorted : 149 Total catch: 149.28 Catch/hour: 288.93

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Trachurus capensis	97.74	1821	33.83	455
Merluccius capensis	43.35	60	15.01	450
Chelidonichthys capensis	26.90	58	9.31	454
Thyrsites atun	17.03	8	5.89	453
Todaropsis eblanae	16.08	449	5.57	461
Merluccius paradoxus	12.58	95	4.35	452
Sponges - spiky	11.61	25	4.02	
Etrumeus whiteheadi	10.84	217	3.75	
Merluccius capensis	10.49	21	3.63	451
Callorhinchus capensis	10.30	6	3.56	
Helicolenus dactylopterus	8.42	273	2.91	456
Todaropsis eblanae	7.92	197	2.74	462
Raja straeleni	7.16	2	2.48	
Zeus capensis	3.99	60	1.38	459
Squalus megalops	0.85	2	0.29	
Whelks	0.77	23	0.27	
Paracallionymus costatus	0.74	70	0.26	
Lophius vomerinus	0.48	2	0.17	460
Parapagurus dimorphus	0.43	58	0.15	
JELLYFISH	0.34	14	0.12	
Cynoglossus zanzibarensis	0.27	4	0.09	457
Sepia australis	0.19	12	0.06	
Emmelichthys nitidus	0.14	2	0.05	
Sardinops ocellatus	0.14	2	0.05	
Lepidopus caudatus	0.08	2	0.03	
Starfish - many arms	0.04	2	0.01	
Merluccius paradoxus	0.02	6	0.01	458
Exodromidia sp.	0.01	2	0.00	
Rochinia sp.	0.01	2	0.00	
Total	288.93		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 42
DATE :24/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°52.89
start stop duration Lon E 17°25.82
TIME :04:30:57 05:01:12 30.0 (min) Purpose : 3
LOG : 3815.98 3817.61 1.6 Region : 6100
FDEPTH: 582 590 Gear cond.: 0
BDEPTH: 582 590 Validity : 0
Towing dir: 0° Wire out : 1200 m Speed : 3.2 kn
Sorted : 365 Total catch: 365.21 Catch/hour: 730.41

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	610.00	384	83.51	463
Caelorinchus braueri	72.00	972	9.86	
Merluccius paradoxus	17.28	18	2.37	464
Lepidion capensis	15.00	52	2.05	468
Helicolenus dactylopterus	5.12	26	0.70	466
Plesionika martia	2.40	364	0.33	
Trachyscorpia eschmeyeri	2.32	22	0.32	465
Raja leopardus	1.28	6	0.18	
Etmopterus pusillus	0.78	2	0.11	
Merluccius paradoxus	0.78	8	0.11	467
Notacanthus sexspinis	0.74	10	0.10	
Photichthys argenteus	0.64	14	0.09	
Selachophidium guentheri	0.62	10	0.08	
SALPS	0.40	0	0.05	
Funchalia woodwardi	0.22	16	0.03	
Physiculus capensis	0.20	8	0.03	
Nezumia sp.	0.20	34	0.03	
Diaphus effulgens	0.08	2	0.01	
Whelks	0.07	2	0.01	
Gymnoscopelus sp.	0.07	8	0.01	
Cubiceps sp.	0.05	2	0.01	
Symbolophorus boops	0.04	4	0.01	
PENAEIDAE	0.04	2	0.01	
Chauliodus sloani	0.03	4	0.00	
Diaphus sp.	0.03	6	0.00	
MYCTOPHIDAE	0.02	10	0.00	
Total	730.41		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 43
DATE :24/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°53.17
start stop duration Lon E 17°27.97
TIME :06:17:01 06:47:15 30.0 (min) Purpose : 3
LOG : 3821.89 3823.39 1.5 Region : 6100
FDEPTH: 475 486 Gear cond.: 0
BDEPTH: 475 486 Validity : 0
Towing dir: 0° Wire out : 950 m Speed : 3.0 kn
Sorted : 259 Total catch: 259.00 Catch/hour: 518.01

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	292.00	372	56.37	471
Merluccius paradoxus	121.00	244	23.36	472
Caelorinchus simorhynchus	46.00	1278	8.88	
Genypterus capensis	25.00	4	4.83	469
Helicolenus dactylopterus	12.00	76	2.32	470
Bassanago albescens	12.00	16	2.32	
Caelorinchus braueri	1.90	46	0.37	
Physiculus capensis	1.64	64	0.32	
Cyttus traversi	1.24	2	0.24	
Merluccius paradoxus	1.00	22	0.19	473
Raja leopardus	0.90	6	0.17	
Holohalaelurus regani	0.50	2	0.10	
SALPS	0.48	4	0.09	
Haliporoides triarthrus	0.38	30	0.07	
Beryx splendens	0.32	2	0.06	474
Symbolophorus boops	0.25	20	0.05	
Chaceon maritae	0.24	2	0.05	
Hoplostethus mediterraneus	0.22	6	0.04	
Lucigadus ori	0.20	24	0.04	
Paracallionymus costatus	0.18	20	0.03	
Gymnoscopelus sp.	0.17	18	0.03	
Stereomastis sp.	0.14	24	0.03	
Tripterophycis gilchristi	0.08	4	0.02	
Rossia enigmatica	0.06	2	0.01	
Champsodon capensis	0.03	2	0.01	
MYCTOPHIDAE	0.03	14	0.01	
Epigonus sp.	0.03	2	0.01	
Diaphus sp.	0.01	2	0.00	
Total	518.01		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 44
DATE :24/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°51.52
start stop duration Lon E 17°34.07
TIME :08:00:52 08:32:03 31.0 (min) Purpose : 3
LOG : 3830.07 3831.67 1.6 Region : 6100
FDEPTH: 303 301 Gear cond.: 0
BDEPTH: 303 301 Validity : 0
Towing dir: 0° Wire out : 650 m Speed : 3.1 kn
Sorted : 172 Total catch: 171.54 Catch/hour: 332.02

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Brama brama	162.58	135	48.97	478
Merluccius paradoxus	104.52	1059	31.48	484
Merluccius capensis	12.97	10	3.91	475
Merluccius capensis	9.87	6	2.97	476
Caelorinchus simorhynchus	7.32	149	2.20	
Merluccius paradoxus	6.70	6	2.02	477
Holohalaelurus regani	6.19	17	1.87	
Helicolenus dactylopterus	5.54	45	1.67	481
Raja straeleni	4.06	2	1.22	
Lophius vomerinus	3.52	4	1.06	479
Trachurus capensis	2.07	14	0.62	485
Todaropsis eblanae	2.01	37	0.61	486
Lepidopus caudatus	1.59	2	0.48	
Merluccius paradoxus	0.97	2	0.29	483
Genypterus capensis	0.77	2	0.23	480
Malacocephalus laevis	0.50	4	0.15	
Parapagurus dimorphus	0.41	43	0.12	
Paracallionymus costatus	0.19	23	0.06	
Emmelichthys nitidus	0.16	2	0.05	
Physiculus capensis	0.06	2	0.02	
Plagiogeneion rubignosus	0.03	2	0.01	
Total	332.02		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 45
DATE :26/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°35.44
start stop duration Lon E 17°56.41
TIME :01:55:13 02:25:15 30.0 (min) Purpose : 3
LOG : 3912.53 3914.05 1.5 Region : 6100
FDEPTH: 160 159 Gear cond.: 0
BDEPTH: 160 159 Validity : 0
Towing dir: 0° Wire out : 420 m Speed : 3.1 kn
Sorted : 171 Total catch: 312.40 Catch/hour: 624.80

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Lampanyctodes hectoris	150.00	57692	24.01	
Merluccius paradoxus	144.00	1184	23.05	488
Aequorea forskalea	60.00	0	9.60	
Merluccius paradoxus	45.60	6880	7.30	492
Chelidonichthys capensis	38.80	116	6.21	490
Merluccius capensis	38.00	192	6.08	487
Sepia australis	36.00	1162	5.76	
Callorhinchus capensis	22.60	20	3.62	
Chrysaora sp.	16.80	2	2.69	
Raja straeleni	16.80	8	2.69	
Paracallionymus costatus	12.00	800	1.92	
Pterygosquilla armata capensis	12.00	632	1.92	
Trachurus capensis	10.40	92	1.66	489
Maurolicus muelleri	6.00	0	0.96	
Raja alba	4.00	2	0.64	
Lolligoncula mercatoris	2.70	84	0.43	
Helicolenus dactylopterus	2.40	84	0.38	496
Todaropsis eblanae	2.16	108	0.35	493
Exodromidia sp.	1.48	12	0.24	
Cynoglossus zanzibarensis	1.32	12	0.21	495
Todaropsis eblanae	1.08	12	0.17	494
Lophius vomerinus	0.36	2	0.06	491
Lepidopus caudatus	0.30	36	0.05	
Total	624.80		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 46
DATE :26/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°36.88
start stop duration Lon E 17°49.63
TIME :03:42:58 04:14:10 31.0 (min) Purpose : 3
LOG : 3921.52 3923.09 1.6 Region : 6100
FDEPTH: 187 186 Gear cond.: 0
BDEPTH: 187 186 Validity : 0
Towing dir: 0° Wire out : 460 m Speed : 3.0 kn
Sorted : 96 Total catch: 416.58 Catch/hour: 806.28

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	370.45	11642	45.95	501
Merluccius paradoxus	267.10	2810	33.13	500
Callorhinchus capensis	40.65	29	5.04	
Merluccius paradoxus	33.68	4250	4.18	502
Paracallionymus costatus	19.97	1537	2.48	
Lampanyctodes hectoris	16.26	4279	2.02	
Sepia australis	12.66	844	1.57	
Chelidonichthys capensis	11.03	23	1.37	497
Lophius vomerinus	10.84	19	1.34	498
Merluccius capensis	6.97	23	0.86	499
Pterygosquilla armata capensis	3.72	290	0.46	
Cynoglossus zanzibarensis	3.60	105	0.45	503
Todaropsis eblanae	2.44	93	0.30	507
Etrumeus whiteheadi	1.96	46	0.24	
Maurolicus muelleri	1.16	774	0.14	
Lophius vomerinus	1.16	46	0.14	506
Helicolenus dactylopterus	0.70	23	0.09	508
Zeus capensis	0.52	12	0.06	509
Trachurus capensis	0.46	12	0.06	510
Holohalaelurus regani	0.44	12	0.05	
Caelorinchus simorhynchus	0.34	23	0.04	
Lamp shell	0.14	12	0.02	
Lolligoncula mercatoris	0.04	23	0.01	
Total	806.28		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 47
DATE :27/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°16.74
start stop duration Lon E 17°41.83
TIME :04:14:58 04:45:32 31.0 (min) Purpose : 3
LOG : 3996.68 3998.30 1.6 Region : 6100
FDEPTH: 190 200 Gear cond.: 0
BDEPTH: 190 200 Validity : 0
Towing dir: 0° Wire out : 475 m Speed : 3.2 kn
Sorted : 90 Total catch: 432.12 Catch/hour: 836.37

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	578.71	5750	69.19	505
Aequorea sp.	46.55	0	5.57	
Lampanyctodes hectoris	37.74	0	4.51	
Callorhinchus capensis	36.77	19	4.40	
Pterygosquilla armata capensis	26.42	2032	3.16	
Merluccius paradoxus	24.78	2127	2.96	513
Paracallionymus costatus	21.39	1645	2.56	
Sepia australis	16.35	958	1.96	
Lophius vomerinus	14.32	14	1.71	504
Helicolenus dactylopterus	6.29	239	0.75	514
Todaropsis eblanae	5.28	176	0.63	512
Maurolicus muelleri	3.77	0	0.45	
Holohalaelurus regani	2.64	101	0.32	
Caelorinchus simorhynchus	2.52	240	0.30	
Whelks	1.81	38	0.22	
Trachurus capensis	1.76	13	0.21	515
Lepidopus caudatus	1.63	89	0.19	
Zeus capensis	1.26	25	0.15	516
Exodromidia sp.	1.18	38	0.14	
Genypterus capensis	1.16	4	0.14	511
Solenocera sp.	1.13	13	0.14	
Octopus magnificus	0.77	2	0.09	
Lamp shell	0.63	89	0.08	
Sepia hieronis	0.50	13	0.06	
Heart urchin	0.38	13	0.05	
Starfish - dark	0.35	50	0.04	
Starfish	0.25	13	0.03	
Total	836.37		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 48
DATE :27/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°25.26
start stop duration Lon E 17°31.31
TIME :06:45:13 07:15:28 30.0 (min) Purpose : 3
LOG : 4012.76 4014.06 1.3 Region : 6100
FDEPTH: 417 415 Gear cond.: 0
BDEPTH: 417 415 Validity : 0
Towing dir: 0° Wire out : 850 m Speed : 2.6 kn
Sorted : 313 Total catch: 313.00 Catch/hour: 626.01

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Notacanthus sexspinis	240.00	1412	38.34	
Merluccius paradoxus	144.00	840	23.00	522
Merluccius paradoxus	94.00	86	15.02	518
Caelorinchus simorhynchus	72.00	924	11.50	
Genypterus capensis	26.20	10	4.19	517
Merluccius paradoxus	15.40	20	2.46	519
Bassanago albescens	7.80	16	1.25	
Helicolenus dactylopterus	6.20	74	0.99	523
Lophius vomerinus	4.40	4	0.70	521
Lampanyctodes hectoris	3.04	1266	0.49	
Etmopterus brachyurus	2.20	12	0.35	
Brama brama	1.72	4	0.27	
Merluccius paradoxus	1.26	136	0.20	526
Scyliorhinus capensis	1.24	2	0.20	
Squalus megalops	1.24	2	0.20	
Paracallionymus costatus	0.80	80	0.13	
Rossia enigmatica	0.78	28	0.12	
Holohalaelurus regani	0.48	8	0.08	
Todaropsis eblanae	0.46	8	0.07	525
Plesionika martia	0.39	78	0.06	
Whelks	0.35	10	0.06	
Aequorea sp.	0.32	2	0.05	
Zeus capensis	0.26	2	0.04	524
Trachurus capensis	0.22	2	0.04	527
Starfish red	0.18	2	0.03	
Physiculus capensis	0.18	10	0.03	
Stereomastis sp.	0.15	28	0.02	
Starfish white 5 arms	0.14	2	0.02	
Tripterophycis gilchristi	0.14	10	0.02	
Lucigadus ori	0.09	18	0.01	
JELLYFISH	0.06	2	0.01	
Haliporoides triarthrus	0.05	4	0.01	
Psychrolutes macrocephalus	0.05	2	0.01	
Nezumia sp.	0.04	8	0.01	
Starfish - dark	0.03	4	0.01	
Epigonus sp.	0.03	2	0.01	
Starfish - many arms	0.03	2	0.01	
Hoplostethus mediterraneus	0.02	2	0.00	
Paraliparis sp.	0.01	8	0.00	
Shark eggs	0.01	16	0.00	
Sepia sp. New SA	0.01	2	0.00	
Total	626.01		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 49
DATE :27/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°30.93
start stop duration Lon E 17°27.55
TIME :09:06:25 09:36:32 30.0 (min) Purpose : 3
LOG : 4023.07 4024.47 1.4 Region : 6100
FDEPTH: 487 486 Gear cond.: 0
BDEPTH: 487 486 Validity : 0
Towing dir: 0° Wire out : 950 m Speed : 2.8 kn
Sorted : 209 Total catch: 208.73 Catch/hour: 417.45

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	248.00	202	59.41	528
Merluccius paradoxus	48.00	238	11.50	530
Bassanago albescens	44.00	98	10.54	
Merluccius paradoxus	24.00	30	5.75	529
Notacanthus sexspinis	24.00	1200	5.75	
Caelorinchus simorhynchus	16.80	140	4.02	
Helicolenus dactylopterus	6.80	108	1.63	531
Plesionika martia	1.76	220	0.42	
Beryx splendens	0.95	6	0.23	532
Aequorea sp.	0.70	4	0.17	
Photichthys argenteus	0.56	18	0.13	
Etmopterus gracilispinis	0.33	2	0.08	
Etmopterus brachyurus	0.24	2	0.06	
Funchalia woodwardi	0.23	16	0.06	
Hoplostethus mediterraneus	0.20	2	0.05	
Caelorinchus braueri	0.15	18	0.03	
Starfish red	0.15	2	0.03	
Rossia enigmatica	0.12	6	0.03	
Paracallionymus costatus	0.08	18	0.02	
Lycoteuthis lorigera	0.08	4	0.02	
Physiculus capensis	0.06	2	0.02	
Symbolophorus boops	0.05	4	0.01	
Gymnoscopelus sp.	0.05	4	0.01	
Epigonus sp.	0.03	2	0.01	
Chauliodus sloani	0.03	2	0.01	
Tripterophycis gilchristi	0.02	2	0.01	
Lucigadus ori	0.02	2	0.00	
Stereomastis sp.	0.02	2	0.00	
Diretmus argenteus	0.01	2	0.00	
Diaphus sp.	0.01	2	0.00	
Nezumia sp.	0.01	2	0.00	
Total	417.45		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 50
DATE :27/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°14.99
start stop duration Lon E 17°15.56
TIME :12:38:48 01:09:34 31.0 (min) Purpose : 3
LOG : 4048.92 4050.44 1.5 Region : 6100
FDEPTH: 468 459 Gear cond.: 0
BDEPTH: 468 459 Validity : 0
Towing dir: 0° Wire out : 980 m Speed : 3.0 kn
Sorted : 398 Total catch: 397.96 Catch/hour: 770.24

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	292.26	557	37.94	535
Merluccius paradoxus	178.06	615	23.12	537
Merluccius paradoxus	112.26	312	14.57	536
Helicolenus dactylopterus	90.97	293	11.81	534
Lophius vomerinus	36.77	10	4.77	533
Bassanago albescens	29.03	33	3.77	
Caelorinchus simorhynchus	21.87	199	2.84	
Dead coral	2.13	0	0.28	
Basket star	1.35	2	0.18	
Notacanthus sexspinis	1.32	8	0.17	
Cyttus traversi	0.95	2	0.12	
Aequorea sp.	0.91	2	0.12	
Beryx splendens	0.75	2	0.10	
Plesionika martia	0.54	135	0.07	
Whelks	0.33	15	0.04	
Parapagurus pilosimanus	0.17	10	0.02	
Electrona risso	0.09	10	0.01	
Photichthys argenteus	0.08	4	0.01	
Lucigadus ori	0.07	8	0.01	
Chauliodus sloani	0.07	6	0.01	
Stereomastis sp.	0.07	14	0.01	
CRANCHIIDAE	0.04	2	0.00	
Diaphus sp.	0.03	8	0.00	
MYCTOPHIDAE	0.03	10	0.00	
Symbolophorus boops	0.03	2	0.00	
Starfish - dark	0.03	4	0.00	
Sepia sp. New SA	0.02	4	0.00	
Gastropod nei	0.01	4	0.00	
Total	770.25		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 51
DATE :27/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°12.80
start stop duration Lon E 17°17.74
TIME :02:28:37 02:51:25 23.0 (min) Purpose : 3
LOG : 4056.72 4058.01 1.3 Region : 6100
FDEPTH: 404 396 Gear cond.: 0
BDEPTH: 404 396 Validity : 0
Towing dir: 0° Wire out : 870 m Speed : 3.4 kn
Sorted : 248 Total catch: 248.04 Catch/hour: 647.05

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	279.13	350	43.14	542
Merluccius paradoxus	109.57	535	16.93	544
Merluccius paradoxus	106.96	188	16.53	543
Helicolenus dactylopterus	79.57	501	12.30	541
Zeus capensis	44.35	65	6.85	538
Caelorinchus simorhynchus	12.00	141	1.85	
Lophius vomerinus	7.04	5	1.09	539
Genypterus capensis	4.85	3	0.75	540
SALPS	1.28	1064	0.20	
Todaropsis eblanae	0.43	3	0.07	546
Whelks	0.37	13	0.06	
Aequorea sp.	0.28	3	0.04	
Plesionika martia	0.19	76	0.03	
Physiculus capensis	0.16	5	0.03	
Parapagurus dimorphus	0.16	5	0.02	
Funchalia woodwardi	0.12	10	0.02	
Lycoteuthis lorigera	0.09	3	0.01	
Stereomastis sp.	0.09	10	0.01	
Merluccius paradoxus	0.08	10	0.01	545
Parapagurus pilosimanus	0.07	5	0.01	
Symbolophorus boops	0.06	13	0.01	
Gonostoma sp.	0.05	5	0.01	
Photichthys argenteus	0.05	5	0.01	
Electrona risso	0.04	5	0.01	
Diretmus argenteus	0.03	10	0.00	
Rochinia sp.	0.02	8	0.00	
Starfish	0.02	3	0.00	
Argyropelecus aculeatus	0.01	3	0.00	
Argyropelecus hemigymnus	0.01	5	0.00	
Starfish	0.00	3	0.00	0
CRANCHIIDAE	0.00	3	0.00	
Total	647.05		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 52
DATE :27/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 33°5.58
start stop duration Lon E 17°30.95
TIME :04:49:02 05:19:35 31.0 (min) Purpose : 3
LOG : 4072.61 4074.31 1.7 Region : 6100
FDEPTH: 344 337 Gear cond.: 0
BDEPTH: 344 337 Validity : 0
Towing dir: 0° Wire out : 780 m Speed : 3.3 kn
Sorted : 111 Total catch: 125.03 Catch/hour: 241.99

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Caelorinchus simorhynchus	61.94	1376	25.59	
Genypterus capensis	54.19	12	22.39	547
Merluccius paradoxus	36.77	33	15.20	548
Merluccius paradoxus	27.68	170	11.44	550
Lampanyctodes hectoris	15.77	3213	6.52	
Brama brama	10.06	8	4.16	553
Aequorea sp.	4.74	0	1.96	
Helicolenus dactylopterus	4.65	41	1.92	552
Zeus capensis	3.87	2	1.60	551
Merluccius paradoxus	3.68	6	1.52	549
Myxine capensis	3.48	0	1.44	
Notacanthus sexspinis	3.10	17	1.28	
Whelks	2.48	155	1.02	
Starfish red	1.72	19	0.71	0
Parapagurus pilosimanus	1.08	39	0.45	
Starfish red	1.05	19	0.43	
Trachurus capensis	0.89	6	0.37	554
Emmelichthys nitidus	0.89	2	0.37	
Rochinia sp.	0.87	77	0.36	
Beryx splendens	0.74	2	0.30	555
Lucigadus ori	0.60	58	0.25	
Maurolicus muelleri	0.48	242	0.20	
Paracallionymus costatus	0.23	19	0.10	
Shrimps, small, non comm.	0.17	97	0.07	
Parapagurus dimorphus	0.14	19	0.06	
Starfish - twinkle	0.14	39	0.06	
Gorgonians	0.12	19	0.05	
Ophiuroidea	0.10	58	0.04	
Nezumia sp.	0.10	4	0.04	
Starfish	0.08	19	0.03	
ISOPODS	0.08	19	0.03	
Argyropelecus aculeatus	0.08	19	0.03	
B I V A L V E S	0.02	19	0.01	
Chaceon sp., juvenile	0.02	19	0.01	
Total	241.99		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 53
DATE :28/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°51.52
start stop duration Lon E 17°19.89
TIME :04:30:38 05:01:16 31.0 (min) Purpose : 3
LOG : 4122.60 4124.13 1.5 Region : 6100
FDEPTH: 307 308 Gear cond.: 0
BDEPTH: 307 308 Validity : 0
Towing dir: 0° Wire out : 730 m Speed : 3.0 kn
Sorted : 79 Total catch: 79.26 Catch/hour: 153.40

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	73.55	439	47.95	557
Caelorinchus simorhynchus	22.06	401	14.38	
Merluccius paradoxus	18.00	10	11.73	558
Lampanyctodes hectoris	7.94	3451	5.17	
Aequorea sp.	6.48	0	4.23	
Lophius vomerinus	6.19	4	4.04	556
Zeus capensis	4.06	6	2.65	561
Merluccius paradoxus	3.10	2	2.02	559
Rossia enigmatica	2.21	55	1.44	
Cruriraja parcomaculata	1.94	4	1.26	
Paracallionymus costatus	1.74	219	1.14	
Helicolenus dactylopterus	1.74	39	1.14	560
Holohalaelurus regani	0.85	23	0.56	
Todaropsis eblanae	0.58	6	0.38	563
Trachurus capensis	0.43	4	0.28	564
Beryx splendens	0.35	2	0.23	566
Bristle worms	0.30	62	0.20	
Notopogon macrosolen	0.22	4	0.15	
Todaropsis eblanae	0.19	2	0.13	562
Maurolicus muelleri	0.19	0	0.13	
Ophichthus bennettai	0.19	2	0.13	
Exodromidia sp.	0.12	15	0.08	
Rochinia sp.	0.10	39	0.07	
Electrona risso	0.09	12	0.06	
Nudibranchs	0.09	14	0.06	
Lepidopus caudatus	0.08	2	0.05	
Parapagurus dimorphus	0.08	12	0.05	
Chlorophthalmus punctatus	0.08	2	0.05	
Parapagurus pilosimanus	0.07	2	0.04	
Starfish yellow	0.06	2	0.04	
Hermits, mixed	0.06	4	0.04	
Merluccius paradoxus	0.05	6	0.03	565
Diretmus argenteus	0.03	15	0.02	
Epigonus sp.	0.03	2	0.02	
Argyropelecus aculeatus	0.02	6	0.01	
SALPS	0.02	2	0.01	
Physiculus capensis	0.02	2	0.01	
MYCTOPHIDAE	0.02	2	0.01	
E C H I N O D E R M A T A	0.01	4	0.01	
Gorgonians	0.01	0	0.01	
Pterygosquilla armata capensis	0.01	2	0.01	
Chaceon sp., juvenile	0.01	4	0.01	
Mursia cristimanus	0.01	2	0.00	
Argyropelecus hemigymnus	0.00	8	0.00	
Ophiuroidea	0.00	2	0.00	
ISOPODS	0.00	2	0.00	
Shark eggs	0.00	2	0.00	
URCHINS	0.00	2	0.00	
Total	153.40		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 54
DATE :28/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°55.89
start stop duration Lon E 17°42.08
TIME :07:43:20 08:13:22 30.0 (min) Purpose : 3
LOG : 4144.35 4146.01 1.7 Region : 6100
FDEPTH: 162 162 Gear cond.: 0
BDEPTH: 162 162 Validity : 0
Towing dir: 0° Wire out : 450 m Speed : 3.3 kn
Sorted : 295 Total catch: 1090.03 Catch/hour: 2180.05

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1504.00	14588	68.99	567
Chrysaora sp.	116.00	0	5.32	
Lampanyctodes hectoris	97.60	48800	4.48	
Callorhinchus capensis	82.00	60	3.76	
Merluccius paradoxus	77.50	5998	3.55	576
Pterygosquilla armata capensis	66.60	3700	3.05	
Lophius vomerinus	56.00	22	2.57	568
Merluccius paradoxus	44.00	78	2.02	572
Sepia australis	31.00	1034	1.42	
Trachurus capensis	27.28	202	1.25	575
Chelidonichthys capensis	18.00	50	0.83	569
Merluccius paradoxus	15.20	22	0.70	573
Caelorinchus simorhynchus	12.71	93	0.58	
Merluccius capensis	11.00	4	0.50	574
Brama brama	7.20	4	0.33	571
Helicolenus dactylopterus	5.27	186	0.24	577
Todaropsis eblanae	2.02	78	0.09	578
Raja straeleni	1.60	4	0.07	
Cruriraja parcomaculata	1.40	2	0.06	
Sponges - yellow	1.26	2	0.06	
Genypterus capensis	0.80	6	0.04	570
Whelks	0.78	16	0.04	
Paracallionymus costatus	0.62	62	0.03	
Octopus vulgaris	0.22	2	0.01	
Total	2180.05		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 55
DATE :28/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°41.21
start stop duration Lon E 17°36.93
TIME :09:58:16 10:29:37 31.0 (min) Purpose : 3
LOG : 4159.84 4161.57 1.7 Region : 6100
FDEPTH: 235 236 Gear cond.: 0
BDEPTH: 235 236 Validity : 0
Towing dir: 0° Wire out : 570 m Speed : 3.3 kn
Sorted : 97 Total catch: 306.05 Catch/hour: 592.36

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	400.65	3503	67.64	585
Caelorinchus simorhynchus	50.52	842	8.53	
Paracallionymus costatus	34.84	2177	5.88	
Chrysaora sp.	14.71	2	2.48	
Merluccius paradoxus	13.74	19	2.32	582
Lophius vomerinus	11.81	8	1.99	581
Brama brama	10.26	8	1.73	580
Todaropsis eblanae	8.62	139	1.46	589
Merluccius paradoxus	7.35	10	1.24	583
Helicolenus dactylopterus	5.31	183	0.90	586
Thyrsites atun	5.23	2	0.88	579
Zeus capensis	4.62	70	0.78	587
Parapagurus dimorphus	4.01	182	0.68	
Callorhinchus capensis	3.87	2	0.65	
Holohalaelurus regani	3.87	19	0.65	
Lampanyctodes hectoris	3.75	1043	0.63	
Pterygosquilla armata capensis	2.09	105	0.35	
Trachurus capensis	2.09	9	0.35	588
Todaropsis eblanae	1.57	9	0.26	590
Starfish - giant	1.25	9	0.21	
Genypterus capensis	0.66	2	0.11	584
Aequorea sp.	0.41	9	0.07	
Etrumeus whiteheadi	0.40	9	0.07	
Rossia enigmatica	0.27	9	0.05	
Sepia australis	0.17	9	0.03	
Engraulis capensis	0.10	26	0.02	
Maurolicus muelleri	0.09	0	0.01	
Lepidopus caudatus	0.09	9	0.01	
Lolligoncula mercatoris	0.03	9	0.00	
Total	592.36		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 56
DATE :28/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°32.68
start stop duration Lon E 17°46.69
TIME :12:12:03 12:42:27 30.0 (min) Purpose : 3
LOG : 4173.81 4175.36 1.6 Region : 6100
FDEPTH: 146 159 Gear cond.: 0
BDEPTH: 146 159 Validity : 0
Towing dir: 0° Wire out : 350 m Speed : 3.1 kn
Sorted : 179 Total catch: 346.75 Catch/hour: 693.50

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Lampanyctodes hectoris	216.00	41538	31.15	
Merluccius paradoxus	115.20	1488	16.61	595
Chrysaora sp.	112.00	0	16.15	
Callorhinchus capensis	72.00	74	10.38	
Thyrsites atun	58.00	22	8.36	591
Pterygosquilla armata capensis	44.40	2336	6.40	
Chelidonichthys capensis	39.20	102	5.65	592
Todaropsis eblanae	14.40	504	2.08	597
Lophius vomerinus	7.00	6	1.01	593
Sepia australis	4.80	240	0.69	
Exodromidia sp.	3.12	180	0.45	
Merluccius paradoxus	2.76	216	0.40	596
Paracallionymus costatus	1.62	144	0.23	
Genypterus capensis	1.20	10	0.17	594
Cynoglossus zanzibarensis	0.64	12	0.09	598
Raja straeleni	0.60	2	0.09	
Helicolenus dactylopterus	0.47	36	0.07	599
Starfish red	0.10	12	0.01	
Total	693.50		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 57
DATE :28/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°24.13
start stop duration Lon E 18°4.06
TIME :03:01:10 03:31:22 30.0 (min) Purpose : 3
LOG : 4194.30 4195.78 1.5 Region : 6100
FDEPTH: 96 96 Gear cond.: 0
BDEPTH: 96 96 Validity : 0
Towing dir: 0° Wire out : 240 m Speed : 2.9 kn
Sorted : 166 Total catch: 1399.17 Catch/hour: 2798.35

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Lampanyctodes hectoris	2475.00	727940	88.45	
Aequorea sp.	96.00	0	3.43	
Callorhinchus capensis	94.00	272	3.36	
Merluccius capensis	59.40	3828	2.12	605
Chelidonichthys capensis	45.00	138	1.61	600
Austroglossus microlepis	10.00	30	0.36	602
Pterygosquilla armata capensis	6.80	462	0.24	
Raja straeleni	6.20	6	0.22	
Merluccius capensis	1.84	6	0.07	604
XXXXXXX	1.72	66	0.06	
Sepia australis	0.79	66	0.03	
Lepidopus caudatus	0.53	66	0.02	
Genypterus capensis	0.52	2	0.02	601
Jasus lalandii	0.35	2	0.01	603
Lolligoncula mercatoris	0.20	66	0.01	
Total	2798.35		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 58
DATE :29/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°2.20
start stop duration Lon E 17°55.21
TIME :04:13:14 04:43:32 30.0 (min) Purpose : 3
LOG : 4236.61 4238.19 1.6 Region : 6100
FDEPTH: 124 124 Gear cond.: 0
BDEPTH: 124 124 Validity : 0
Towing dir: 0° Wire out : 310 m Speed : 3.1 kn
Sorted : 118 Total catch: 202.99 Catch/hour: 405.98

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Sponges - yellow	134.00	0	33.01	
Chelidonichthys capensis	81.20	252	20.00	606
Aequorea sp.	50.40	0	12.41	
Merluccius paradoxus	49.70	2548	12.24	608
Sepia australis	33.60	1528	8.28	
Pterygosquilla armata capensis	17.50	796	4.31	
Lepidopus caudatus	17.50	1522	4.31	
Lampanyctodes hectoris	7.70	2200	1.90	
Callorhinchus capensis	6.20	8	1.53	
Merluccius capensis	3.60	10	0.89	607
Todaropsis eblanae	1.61	0	0.40	
Etrumeus whiteheadi	0.81	28	0.20	
Exodromidia sp.	0.76	56	0.19	
Paracallionymus costatus	0.62	78	0.15	
Not found	0.51	28	0.13	
Caelorinchus simorhynchus	0.18	22	0.04	
Solenocera sp.	0.06	7	0.02	
Lolligoncula mercatoris	0.02	7	0.01	
Total	405.98		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 59
DATE :29/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°10.49
start stop duration Lon E 17°43.96
TIME :06:20:13 06:50:45 31.0 (min) Purpose : 3
LOG : 4251.22 4252.78 1.6 Region : 6100
FDEPTH: 155 153 Gear cond.: 0
BDEPTH: 155 153 Validity : 0
Towing dir: 0° Wire out : 400 m Speed : 3.1 kn
Sorted : 54 Total catch: 298.31 Catch/hour: 577.37

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	345.29	7200	59.80	614
Lampanyctodes hectoris	77.42	18883	13.41	
Sepia australis	48.00	2286	8.31	
Pterygosquilla armata capensis	21.68	1446	3.75	
Aequorea sp.	18.58	0	3.22	0
Aequorea sp.	17.42	0	3.02	
Merluccius paradoxus	12.39	821	2.15	616
Chelidonichthys capensis	11.81	29	2.04	609
Todaropsis eblanae	9.91	263	1.72	615
Chrysaora sp.	4.65	2	0.80	
Lepidopus caudatus	2.48	124	0.43	
Paracallionymus costatus	2.32	294	0.40	
Todarodes angolensis	1.66	2	0.29	611
Helicolenus dactylopterus	1.08	77	0.19	613
Maurolicus muelleri	0.77	0	0.13	
Genypterus capensis	0.74	4	0.13	610
Holohalaelurus regani	0.56	10	0.10	
Cynoglossus zanzibarensis	0.25	4	0.04	612
Solenocera sp.	0.20	31	0.03	
Exodromidia sp.	0.17	15	0.03	
Total	577.37		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 60
DATE :29/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°16.37
start stop duration Lon E 17°29.47
TIME :08:47:34 09:17:53 30.0 (min) Purpose : 3
LOG : 4267.50 4269.01 1.5 Region : 6100
FDEPTH: 179 181 Gear cond.: 0
BDEPTH: 179 181 Validity : 0
Towing dir: 0° Wire out : 450 m Speed : 3.0 kn
Sorted : 41 Total catch: 125.85 Catch/hour: 251.69

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	85.40	2044	33.93	621
Lampanyctodes hectoris	63.00	15750	25.03	
Sepia australis	41.30	1720	16.41	
Merluccius paradoxus	12.60	1862	5.01	622
Aequorea sp.	11.20	28	4.45	
Paracallionymus costatus	8.89	182	3.53	
Maurolicus muelleri	7.00	0	2.78	
Lophius vomerinus	4.60	16	1.83	618
Chelidonichthys capensis	4.40	12	1.75	617
Holohalaelurus regani	2.94	28	1.17	
Cynoglossus zanzibarensis	2.00	12	0.79	619
Todaropsis eblanae	1.75	84	0.70	624
Raja straeleni	1.60	2	0.64	
Helicolenus dactylopterus	1.19	63	0.47	625
Merluccius capensis	0.80	2	0.32	620
Caelorinchus simorhynchus	0.75	35	0.30	
Parapagurus dimorphus	0.53	49	0.21	
Lepidopus caudatus	0.49	42	0.19	
Cynoglossus zanzibarensis	0.42	7	0.17	626
Heart urchin	0.41	7	0.16	
Lophius vomerinus	0.27	7	0.11	623
Starfish yellow	0.16	14	0.06	
Total	251.69		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 61
DATE :29/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°21.01
start stop duration Lon E 17°17.40
TIME :11:17:00 11:47:34 31.0 (min) Purpose : 3
LOG : 4282.19 4283.80 1.6 Region : 6100
FDEPTH: 236 242 Gear cond.: 0
BDEPTH: 236 242 Validity : 0
Towing dir: 0° Wire out : 560 m Speed : 3.2 kn
Sorted : 69 Total catch: 416.38 Catch/hour: 805.90

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	532.26	8317	66.05	633
Lampanyctodes hectoris	140.52	48453	17.44	
Merluccius capensis	28.45	50	3.53	630
Holohalaelurus regani	25.12	170	3.12	
Paracallionymus costatus	14.90	1243	1.85	
Lophius vomerinus	13.94	31	1.73	628
Aequorea sp.	9.37	21	1.16	
Merluccius capensis	8.32	19	1.03	631
Chelidonichthys capensis	8.13	12	1.01	629
Caelorinchus simorhynchus	6.17	341	0.77	
Merluccius paradoxus	4.14	10	0.51	632
Heart urchin	2.62	128	0.32	
Maurolicus muelleri	2.13	0	0.26	
Todaropsis eblanae	1.92	64	0.24	636
Parapagurus dimorphus	1.66	149	0.21	
Genypterus capensis	1.63	6	0.20	627
Helicolenus dactylopterus	1.49	85	0.18	635
Merluccius paradoxus	1.49	341	0.18	634
Callorhinchus capensis	1.39	2	0.17	
Emmelichthys nitidus	0.25	2	0.03	
Total	805.90		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 62
DATE :29/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°29.12
start stop duration Lon E 17°4.12
TIME :01:56:44 02:27:17 31.0 (min) Purpose : 3
LOG : 4299.35 4301.02 1.7 Region : 6100
FDEPTH: 293 294 Gear cond.: 0
BDEPTH: 293 294 Validity : 0
Towing dir: 0° Wire out : 650 m Speed : 3.3 kn
Sorted : 82 Total catch: 221.93 Catch/hour: 429.54

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	250.65	2506	58.35	644
Caelorinchus simorhynchus	116.52	1266	27.13	
Genypterus capensis	19.94	35	4.64	637
Merluccius paradoxus	12.00	17	2.79	641
Helicolenus dactylopterus	5.92	39	1.38	639
Merluccius capensis	5.65	4	1.32	638
Holohalaelurus regani	4.76	14	1.11	
Lampanyctodes hectoris	3.25	1016	0.76	
Aequorea sp.	2.44	14	0.57	
Maurolicus muelleri	1.70	0	0.40	
Merluccius paradoxus	1.35	224	0.32	643
Merluccius paradoxus	1.08	2	0.25	642
Todarodes angolensis	1.01	2	0.23	640
Emmelichthys nitidus	0.81	2	0.19	
Paracallionymus costatus	0.68	89	0.16	
Todaropsis eblanae	0.60	14	0.14	645
Scomberesox saurus	0.47	14	0.11	
Malacocephalus laevis	0.39	7	0.09	
Rossia enigmatica	0.27	14	0.06	
Parapagurus dimorphus	0.04	7	0.01	
Total	429.54		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 63
DATE :29/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°31.11
start stop duration Lon E 16°57.45
TIME :03:41:40 04:12:57 31.0 (min) Purpose : 3
LOG : 4309.20 4310.81 1.6 Region : 6100
FDEPTH: 308 311 Gear cond.: 0
BDEPTH: 308 311 Validity : 0
Towing dir: 0° Wire out : 720 m Speed : 3.1 kn
Sorted : 147 Total catch: 688.37 Catch/hour: 1332.33

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1103.23	9046	82.80	654
Caelorinchus simorhynchus	42.29	586	3.17	
Holohalaelurus regani	36.19	116	2.72	
Merluccius capensis	34.45	17	2.59	648
Merluccius paradoxus	32.32	45	2.43	650
Merluccius capensis	20.13	14	1.51	649
Lampanyctodes hectoris	10.14	2741	0.76	
Raja straeleni	7.74	2	0.58	
Genypterus capensis	7.55	14	0.57	646
Helicolenus dactylopterus	6.77	37	0.51	652
Todaropsis eblanae	5.88	37	0.44	656
Zeus capensis	5.61	10	0.42	653
Brama brama	5.23	4	0.39	647
Aequorea sp.	5.15	0	0.39	
Merluccius paradoxus	2.21	276	0.17	655
Raja leopardus	1.94	2	0.15	
Merluccius paradoxus	1.47	2	0.11	651
Todarodes angolensis	1.26	2	0.09	657
Todarodes angolensis	1.10	2	0.08	658
Emmelichthys nitidus	1.01	2	0.08	
Parapagurus dimorphus	0.66	130	0.05	
Total	1332.33		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 64
DATE :30/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°49.15
start stop duration Lon E 16°59.16
TIME :04:26:48 04:57:09 30.0 (min) Purpose : 3
LOG : 4366.02 4367.61 1.6 Region : 6100
FDEPTH: 352 353 Gear cond.: 0
BDEPTH: 352 353 Validity : 0
Towing dir: 0° Wire out : 820 m Speed : 3.1 kn
Sorted : 124 Total catch: 242.85 Catch/hour: 485.69

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	174.00	1118	35.83	666
Caelorinchus simorhynchus	156.00	1734	32.12	
Genypterus capensis	23.80	12	4.90	659
Squalus mitsukurii	19.40	20	3.99	
Helicolenus dactylopterus	18.40	106	3.79	665
Octopus magnificus	17.00	4	3.50	
Merluccius paradoxus	15.00	16	3.09	662
Merluccius capensis	11.20	6	2.31	661
Malacocephalus laevis	8.52	30	1.75	
Merluccius capensis	8.00	4	1.65	660
Lampanyctodes hectoris	6.84	2974	1.41	
Zeus capensis	5.40	8	1.11	664
Sponges - spiky	5.00	6	1.03	
Todaropsis eblanae	3.66	24	0.75	667
Merluccius paradoxus	3.24	4	0.67	663
Todaropsis eblanae	3.06	30	0.63	668
Holohalaelurus regani	2.40	4	0.49	
Emmelichthys nitidus	1.00	2	0.21	
Rossia enigmatica	0.80	24	0.16	
Trachurus capensis	0.64	6	0.13	669
Whelks	0.58	18	0.12	
Paracallionymus costatus	0.44	60	0.09	
Rochinia sp.	0.34	6	0.07	
Maurolicus muelleri	0.30	0	0.06	
Sepia hieronis	0.28	6	0.06	
Chlorophthalmus sp.	0.21	6	0.04	
Physiculus capensis	0.16	24	0.03	
Starfish	0.02	6	0.00	
Argyropelecus aculeatus	0.01	6	0.00	
Shark eggs	0.00	6	0.00	
Total	485.69		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 65
DATE :30/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°47.89
start stop duration Lon E 16°47.56
TIME :06:32:16 07:02:46 30.0 (min) Purpose : 3
LOG : 4378.47 4379.91 1.4 Region : 6100
FDEPTH: 441 444 Gear cond.: 0
BDEPTH: 441 444 Validity : 0
Towing dir: 0° Wire out : 900 m Speed : 2.9 kn
Sorted : 492 Total catch: 492.30 Catch/hour: 984.61

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Notacanthus sexspinis	576.00	4114	58.50	
Merluccius paradoxus	248.00	1366	25.19	675
Merluccius paradoxus	62.00	46	6.30	671
Helicolenus dactylopterus	36.80	150	3.74	673
Genypterus capensis	26.40	10	2.68	670
Squalus mitsukurii	9.80	2	1.00	
Bassanago albescens	6.80	8	0.69	
Raja straeleni	5.80	2	0.59	
Caelorinchus simorhynchus	4.86	70	0.49	
Octopus magnificus	2.80	2	0.28	
Merluccius paradoxus	1.56	2	0.16	672
Etmopterus brachyurus	0.96	6	0.10	
Merluccius paradoxus	0.80	172	0.08	674
Stereomastis sp.	0.74	90	0.08	
Rossia enigmatica	0.40	16	0.04	
Lepidion capensis	0.26	2	0.03	
Hoplostethus mediterraneus	0.18	2	0.02	
Tripterophycis gilchristi	0.10	4	0.01	
Rochinia sp.	0.10	2	0.01	
Sergia sp.	0.06	12	0.01	
Epigonus sp.	0.06	4	0.01	
SALPS	0.06	2	0.01	
Haliporoides triarthrus	0.03	2	0.00	
Champsodon capensis	0.02	2	0.00	
Paracallionymus costatus	0.02	4	0.00	
Total	984.61		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 66
DATE :30/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°48.43
start stop duration Lon E 16°44.04
TIME :08:13:12 08:44:03 31.0 (min) Purpose : 3
LOG : 4385.69 4387.00 1.3 Region : 6100
FDEPTH: 505 501 Gear cond.: 0
BDEPTH: 505 501 Validity : 0
Towing dir: 0° Wire out : 950 m Speed : 2.5 kn
Sorted : 458 Total catch: 457.53 Catch/hour: 885.55

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Notacanthus sexspinis	452.90	2574	51.14	
Merluccius paradoxus	290.32	184	32.78	682
Merluccius paradoxus	32.90	163	3.72	679
Merluccius paradoxus	20.90	27	2.36	678
Caelorinchus matamua	10.84	99	1.22	
Octopus magnificus	10.65	2	1.20	
Caelorinchus braueri	9.29	217	1.05	
Genypterus capensis	8.52	2	0.96	676
Raja leopardus	8.52	2	0.96	
Bassanago albescens	6.97	17	0.79	
Helicolenus dactylopterus	6.77	35	0.76	680
Sergia sp.	6.39	1206	0.72	
Selachophidium guentheri	4.65	62	0.52	
Lophius vomerinus	3.29	2	0.37	677
Chaeceon macphersoni	2.46	27	0.28	
Histioteuthis miranda	2.25	2	0.25	
Brama brama	1.94	2	0.22	683
Etmopterus brachyurus	1.57	12	0.18	
Oreosoma atlanticum	0.83	10	0.09	
Starfish - many arms	0.75	143	0.09	
Malacocephalus laevis	0.58	2	0.07	
Stereomastis sp.	0.52	66	0.06	
Ancistrocheirus lesueuri	0.37	2	0.04	
Plesionika martia	0.25	39	0.03	
Whelks	0.19	4	0.02	
Lucigadus ori	0.19	17	0.02	
Hoplostethus mediterraneus	0.17	2	0.02	
Persparsia kopua	0.09	2	0.01	
Malacosteus niger	0.06	2	0.01	
Diaphus effulgens	0.05	2	0.01	
Gymnoscopelus sp.	0.04	4	0.00	
Merluccius paradoxus	0.04	8	0.00	681
SALPS	0.03	10	0.00	
Tripterophycis gilchristi	0.03	2	0.00	
Avocettina acuticeps	0.03	4	0.00	
Epigonus sp.	0.03	2	0.00	
Neoscopelus macrolepidotus	0.03	2	0.00	
Funchalia woodwardi	0.03	2	0.00	
G A S T R O P O D S	0.03	2	0.00	
Rossia enigmatica	0.02	2	0.00	
Xenodermichthys copei	0.02	4	0.00	
Pasiphaea sp.	0.01	4	0.00	
Diaphus sp.	0.01	2	0.00	
Stoloteuthis sp.	0.01	2	0.00	
Plastic bags	0.00	2	0.00	
Total	885.55		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 67
DATE :30/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°48.70
start stop duration Lon E 16°40.95
TIME :10:18:11 10:50:20 32.0 (min) Purpose : 3
LOG : 4392.49 4394.00 1.5 Region : 6100
FDEPTH: 622 628 Gear cond.: 0
BDEPTH: 622 628 Validity : 0
Towing dir: 0° Wire out : 1160 m Speed : 2.8 kn
Sorted : 173 Total catch: 173.26 Catch/hour: 324.86

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	52.13	30	16.05	685
Notacanthus sexspinis	44.06	251	13.56	
Caelorinchus braueri	32.06	1001	9.87	
Centrophorus squamosus	30.75	4	9.47	
Lophius vomerinus	29.63	9	9.12	688
Chaeceon macphersoni	28.13	390	8.66	
Histioteuthis miranda	26.06	19	8.02	
Caelorinchus matamua	17.63	41	5.43	
Lepidion capensis	11.55	47	3.56	689
Bristle worms (straws)	10.88	3624	3.35	
Sergia sp.	8.44	1508	2.60	
Etmopterus brachyurus	7.50	71	2.31	
Nezumia sp.	6.75	88	2.08	
Selachophidium guentheri	4.27	47	1.32	
Merluccius paradoxus	2.63	15	0.81	684
Anemone - purple 2	2.36	9	0.73	
Ancistrocheirus lesueuri	2.06	2	0.63	
Merluccius paradoxus	1.28	2	0.39	686
Todarodes angolensis	1.16	2	0.36	687
Whelks	0.89	17	0.27	
Megalocranchia sp.	0.88	2	0.27	
Merluccius paradoxus	0.49	6	0.15	690
Xenodermichthys copei	0.39	17	0.12	
Myxine capensis	0.38	8	0.12	
Neoscopelus macrolepidotus	0.33	8	0.10	
Malacocephalus laevis	0.30	2	0.09	
Oreosoma atlanticum	0.26	4	0.08	
Lampadena sp.	0.20	4	0.06	
Ctenopteryx sicula	0.19	2	0.06	
Discoteuthis sp.	0.18	2	0.05	
Psychrolutes macrocephalus	0.16	2	0.05	
Allocyttus verrucosus	0.14	6	0.04	
Chauliodus sloani	0.11	4	0.04	
Gymnoscopelus sp.	0.10	4	0.03	
Diaphus sp.	0.08	24	0.03	
Bathypolypus valdiviae	0.08	4	0.02	
MYCTOPHIDAE	0.08	4	0.02	
Diaphus effulgens	0.06	2	0.02	
Funchalia woodwardi	0.04	4	0.01	
Aristeus varidens	0.03	2	0.01	
Raja leopardus, juvenile	0.03	2	0.01	
Lucigadus ori	0.03	6	0.01	
Cruriraja parcomaculata, juvenile	0.02	2	0.01	
Symbolophorus boops	0.02	2	0.01	
Hoplostethus cadenati	0.02	4	0.01	
Pasiphaea sp.	0.02	2	0.01	
Champsodon capensis	0.02	2	0.01	
Lampichthys procerus	0.01	2	0.00	
G A S T R O P O D S	0.01	2	0.00	
Stoloteuthis sp.	0.01	2	0.00	
Chlorophthalmus sp., juvenile	0.01	2	0.00	
Chaeceon macphersoni, juvenile	0.00	2	0.00	
Total	324.86		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 68
DATE :30/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°41.48
start stop duration Lon E 16°34.60
TIME :12:40:49 01:11:07 30.0 (min) Purpose : 3
LOG : 4406.06 4407.46 1.4 Region : 6100
FDEPTH: 674 692 Gear cond.: 0
BDEPTH: 674 692 Validity : 0
Towing dir: 0° Wire out : 1320 m Speed : 2.8 kn
Sorted : 333 Total catch: 332.92 Catch/hour: 665.84

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Hoplostethus atlanticus	260.00	1306	39.05	691
Notacanthus sexspinis	54.80	434	8.23	
Apristurus saldanha	50.00	122	7.51	
Chaeceon macphersoni	46.00	384	6.91	
Etmopterus brachyurus	40.00	116	6.01	
Merluccius paradoxus	38.00	228	5.71	694
Lepidion capensis	20.00	46	3.00	695
Nezumia sp.	19.80	282	2.97	
Etmopterus sp.	19.00	34	2.85	
Merluccius paradoxus	18.80	16	2.82	693
Caelorinchus braueri	14.00	176	2.10	
Bathyraja smithii	13.60	2	2.04	
Allocyttus verrucosus	13.20	52	1.98	696
Lophius vomerinus	11.00	14	1.65	692
Raja leopardus	6.60	2	0.99	
Bristle worms (straws)	6.20	1550	0.93	
Caelorinchus matamua	4.80	4	0.72	
Histioteuthis miranda	4.40	4	0.66	
Coryphaenoides sp.	4.00	4	0.60	
Trachyscorpia eschmeyeri	4.00	8	0.60	698
Eptatretus profundus	2.60	4	0.39	
Selachophidium guentheri	2.54	32	0.38	
Todarodes angolensis	2.12	2	0.32	697
Sergia sp.	1.00	178	0.15	
Octopoteuthis sp.	0.92	2	0.14	
Todarodes angolensis	0.88	2	0.13	699
Synaphobranchus kaupii	0.88	8	0.13	
Anemone - purple 2	0.79	8	0.12	
Lycodes agulhensis	0.63	10	0.09	
Bathypolypus valdiviae	0.62	10	0.09	
Raja leopardus, juvenile	0.61	12	0.09	
Sea cucumber A	0.60	2	0.09	
Myxine capensis	0.56	10	0.08	
Psychrolutes macrocephalus	0.43	2	0.07	
Anemones, coral	0.38	2	0.06	
Whelks	0.33	6	0.05	
Chauliodus sloani	0.29	10	0.04	
Bathyuroconger vicinus	0.24	2	0.04	
Discoteuthis sp.	0.19	2	0.03	
XXXXXXX	0.19	4	0.03	0
Anemones, white	0.18	2	0.03	
Nettastoma parviceps	0.13	2	0.02	
Todaropsis eblanae	0.11	2	0.02	700
XXXXXXX	0.11	6	0.02	
Neoscopelus macrolepidotus	0.09	2	0.01	
Starfish - fleshy	0.07	2	0.01	
Chaeceon macphersoni, juvenile	0.06	4	0.01	
Halosaurus ovenii	0.05	2	0.01	
GONOSTOMATIDAE	0.04	2	0.01	
Starfish yellow	0.00	2	0.00	
Total	665.84		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 69
DATE :30/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°39.83
start stop duration Lon E 16°35.31
TIME :02:33:15 03:04:33 31.0 (min) Purpose : 3
LOG : 4412.88 4414.27 1.4 Region : 6100
FDEPTH: 582 576 Gear cond.: 0
BDEPTH: 582 576 Validity : 0
Towing dir: 0° Wire out : 1050 m Speed : 2.7 kn
Sorted : 161 Total catch: 585.09 Catch/hour: 1132.42

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Notacanthus sexspinis	374.52	2950	33.07	
Merluccius paradoxus	278.71	1508	24.61	704
Centrophorus squamosus	161.23	26	14.24	
Caelorinchus braueri	73.16	2286	6.46	
Merluccius paradoxus	30.19	27	2.67	703
Hoplostethus atlanticus	26.13	61	2.31	705
Nezumia sp.	24.39	786	2.15	
Lophius vomerinus	22.65	10	2.00	701
Etmopterus brachyurus	21.77	166	1.92	
Chaeceon macphersoni	20.03	223	1.77	
Caelorinchus matamua	12.19	44	1.08	
Sergia sp.	11.32	2023	1.00	
Selachophidium guentheri	10.02	139	0.88	
Bristle worms (straws)	9.58	3091	0.85	
Apristurus saldanha	9.58	17	0.85	
Raja leopardus	9.29	12	0.82	
Anemones, pink	8.71	35	0.77	
Merluccius paradoxus	6.19	10	0.55	702
Torpedo nobiliana	4.65	2	0.41	
Caelorinchus matamua	4.35	35	0.38	0
Lithodes ferox	3.10	4	0.27	
Starfish - fleshy	2.54	9	0.22	
Myxine capensis	2.09	44	0.18	
Helicolenus dactylopterus	1.39	26	0.12	706
Psychrolutes macrocephalus	1.03	17	0.09	
Photichthys argenteus	0.87	9	0.08	
Avocettina sp.	0.52	17	0.05	
Whelks	0.49	9	0.04	
Oreosoma atlanticum	0.45	0	0.04	
Neoscopelus macrolepidotus	0.38	9	0.03	
Lucigadus ori	0.31	17	0.03	
Plesionika martia	0.26	44	0.02	
Starfish white 5 arms	0.15	26	0.01	
Xenodermichthys copei	0.07	9	0.01	
Pasiphaea sp.	0.05	9	0.00	
Starfish - many arms	0.04	17	0.00	
Maurolicus muelleri	0.02	9	0.00	
Shark eggs	0.01	17	0.00	
Total	1132.42		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 70
DATE :30/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°40.40
start stop duration Lon E 16°39.49
TIME :04:21:55 04:56:54 35.0 (min) Purpose : 3
LOG : 4420.73 4422.49 1.8 Region : 6100
FDEPTH: 457 463 Gear cond.: 0
BDEPTH: 457 463 Validity : 0
Towing dir: 0° Wire out : 900 m Speed : 2.7 kn
Sorted : 337 Total catch: 462.76 Catch/hour: 793.31

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	348.00	255	43.87	707
Notacanthus sexspinis	144.00	900	18.15	
Merluccius paradoxus	62.40	360	7.87	710
Genypterus capensis	57.60	22	7.26	709
Merluccius paradoxus	41.14	62	5.19	708
Lophius vomerinus	39.43	21	4.97	711
Etmopterus pusillus	33.72	170	4.25	
Caelorinchus simorhynchus	24.60	379	3.10	
Helicolenus dactylopterus	18.24	60	2.30	713
Bassanago albescens	3.26	5	0.41	
Raja leopardus	3.09	2	0.39	
Chaeceon macphersoni	2.82	36	0.36	
Holohalaelurus regani	2.22	6	0.28	
Plesionika martia	1.51	243	0.19	
Hoplostethus mediterraneus	1.37	24	0.17	
Merluccius paradoxus	1.26	186	0.16	712
Caelorinchus braueri	1.22	170	0.15	
Starfish - many arms	1.15	255	0.14	
Octopoteuthis sicula	0.96	6	0.12	
Lucigadus ori	0.85	96	0.11	
Nezumia sp.	0.63	72	0.08	
Myxine capensis	0.60	6	0.08	
Sergia sp.	0.46	72	0.06	
Whelks	0.35	6	0.04	
Raja leopardus, juvenile	0.32	6	0.04	
Bathypolypus valdiviae	0.31	6	0.04	
Persparsia kopua	0.27	6	0.03	
Gymnoscopelus sp.	0.26	6	0.03	
SALPS	0.23	42	0.03	
Symbolophorus boops	0.16	6	0.02	
Epigonus sp.	0.16	6	0.02	
Diaphus effulgens	0.14	6	0.02	
Paracallionymus costatus	0.14	18	0.02	
Tripterophycis gilchristi	0.10	6	0.01	
Maurolicus muelleri	0.08	54	0.01	
Starfish white 5 arms	0.07	6	0.01	
Shark eggs	0.05	6	0.01	
Physiculus capensis	0.05	6	0.01	
Stereomastis sp.	0.05	6	0.01	
Xenodermichthys copei	0.03	6	0.00	
Pasiphaea sp.	0.01	12	0.00	
XXXXXXX	0.01	12	0.00	
Total	793.31		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 71
DATE :31/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°35.95
start stop duration Lon E 16°45.05
TIME :02:28:50 04:59:10 570.0(min) Purpose : 3
LOG : 4481.59 4483.16 1.6 Region : 6100
FDEPTH: 392 393 Gear cond.: 0
BDEPTH: 392 393 Validity : 0
Towing dir: 0° Wire out : 900 m Speed : 3.1 kn
Sorted : 930 Total catch: 1546.21 Catch/hour: 162.76

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	53.26	144	32.73	720
Merluccius paradoxus	51.79	36	31.82	714
Merluccius paradoxus	23.68	18	14.55	721
Notacanthus sexspinis	10.85	99	6.67	
Caelorinchus simorhynchus	10.00	455	6.14	
Genypterus capensis	4.42	3	2.72	716
Merluccius paradoxus	2.31	3	1.42	715
Helicolenus dactylopterus	1.26	4	0.78	717
Lophius vomerinus	0.72	1	0.44	719
Parapagurus pilosimanus	0.47	34	0.29	
Starfish yellow	0.44	55	0.27	
Merluccius paradoxus	0.41	76	0.25	722
Squalus mitsukurii	0.39	0	0.24	
Holohalaelurus regani	0.38	1	0.23	
Anemones, white	0.36	4	0.22	
Scyliorhinus capensis	0.23	0	0.14	
Bassanago albescens	0.23	1	0.14	
Emmelichthys nitidus	0.19	1	0.12	
Heart urchin	0.17	19	0.11	
Torpedo nobiliana	0.16	0	0.10	
Octopus magnificus	0.16	0	0.10	
Todarodes angolensis	0.14	1	0.08	723
Whelks	0.13	3	0.08	
Lucigadus ori	0.12	12	0.07	
Brama brama	0.09	0	0.05	718
Paracallionymus costatus	0.07	15	0.04	
Not found	0.06	5	0.04	
Rossia enigmatica	0.05	3	0.03	
Chlorophthalmus sp., juvenile	0.03	2	0.02	
Anemone - purple	0.03	9	0.02	
Starfish - many arms	0.03	12	0.02	
Tripterophycis gilchristi	0.02	1	0.01	
Lycoteuthis lorigera	0.02	1	0.01	
Parapagurus dimorphus	0.01	3	0.01	
Cone gastropod	0.01	1	0.01	
Sepia sp. New SA	0.01	1	0.01	
Amalda obtusa	0.01	3	0.01	
Plesionika martia	0.01	1	0.00	
G A S T R O P O D S	0.01	1	0.00	
Champsodon capensis	0.01	1	0.00	
Stereomastis sp.	0.01	1	0.00	
MELAMPHAIDAE	0.01	1	0.00	
Symbolophorus boops	0.00	1	0.00	
Maurolicus muelleri	0.00	2	0.00	
MYCTOPHIDAE	0.00	1	0.00	
Total	162.76		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 72
DATE :31/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°26.41
start stop duration Lon E 16°24.69
TIME :07:20:55 07:51:50 31.0 (min) Purpose : 3
LOG : 4501.95 4503.38 1.4 Region : 6100
FDEPTH: 626 628 Gear cond.: 0
BDEPTH: 626 628 Validity : 0
Towing dir: 0° Wire out : 1150 m Speed : 2.8 kn
Sorted : 252 Total catch: 252.04 Catch/hour: 487.82

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	75.48	77	15.47	727
Notacanthus sexspinis	62.90	594	12.89	
Merluccius paradoxus	47.03	91	9.64	728
Starfish	44.52	8	9.13	
Caelorinchus braueri	37.55	939	7.70	
Bassanago albescens	32.32	45	6.63	
Merluccius paradoxus	23.61	170	4.84	729
Raja leopardus	20.32	35	4.17	
Etmopterus brachyurus	18.19	95	3.73	
Lepidion capensis	16.06	52	3.29	732
Nezumia sp.	15.68	219	3.21	
Chaeceon macphersoni	15.48	209	3.17	
Caelorinchus matamua	13.16	33	2.70	
Hoplostethus atlanticus	11.42	23	2.34	730
Trachyscorpia eschmeyeri	10.26	83	2.10	731
Genypterus capensis	5.61	2	1.15	724
Helicolenus dactylopterus	5.50	15	1.13	726
Hydrolagus sp.	4.84	12	0.99	
Selachophidium guentheri	4.20	54	0.86	
Synaphobranchus kaupii	4.06	12	0.83	
Raja caudaspinosa	2.59	8	0.53	
Apristurus saldanha	2.13	6	0.44	
Starfish	1.94	484	0.40	0
Eptatretus profundus	1.55	4	0.32	
Lophius vomerinus	1.51	2	0.31	725
Raja confundens	1.24	2	0.25	
Myxine capensis	1.16	29	0.24	
Sergia sp.	0.74	122	0.15	
Emmelichthys nitidus	0.66	2	0.13	
Oreosoma atlanticum	0.66	12	0.13	
Lycodes agulhensis	0.62	6	0.13	
Bathypolypus valdiviae	0.51	8	0.10	
Photichthys argenteus	0.46	19	0.10	
Not found	0.43	2	0.09	
Malacocephalus laevis	0.39	2	0.08	
Kuronezumia leonis	0.37	6	0.08	
Whelks	0.31	6	0.06	
Sea cucumber A	0.27	2	0.06	
Plesionika martia	0.24	41	0.05	
Anemones, white	0.23	2	0.05	
Lycoteuthis lorigera	0.21	12	0.04	
Aequorea sp.	0.19	0	0.04	
Merluccius paradoxus	0.15	21	0.03	733
Starfish - fleshy	0.14	2	0.03	
Bristle worms (straws)	0.09	17	0.02	
Raja leopardus, juvenile	0.09	4	0.02	
Gorgonians	0.08	2	0.02	
Psychrolutes macrocephalus	0.07	2	0.01	
Scopelosaurus herwigi	0.06	2	0.01	
Symbolophorus boops	0.06	4	0.01	
Starfish yellow	0.05	2	0.01	
Lepidion capensis	0.05	6	0.01	734
Neoscopelus macrolepidotus	0.04	2	0.01	
Lucigadus ori	0.04	4	0.01	
Diaphus sp.	0.04	12	0.01	
Argyropelecus aculeatus	0.04	4	0.01	
Chauliodus sloani	0.04	4	0.01	
Aristeus varidens	0.03	2	0.01	
Starfish (pentagon)	0.03	2	0.01	
Electrona risso	0.02	2	0.00	
Raja confundens, juvenile	0.02	2	0.00	
Hoplostethus mediterraneus	0.02	2	0.00	
Lampanyctodes hectoris	0.02	8	0.00	
Chlorophthalmus sp., juvenile	0.01	2	0.00	
Total	487.82		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 73
DATE :31/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°23.73
start stop duration Lon E 16°25.23
TIME :09:03:57 09:34:21 30.0 (min) Purpose : 3
LOG : 4508.27 4509.62 1.4 Region : 6100
FDEPTH: 535 526 Gear cond.: 0
BDEPTH: 535 526 Validity : 0
Towing dir: 0° Wire out : 1050 m Speed : 2.7 kn
Sorted : 129 Total catch: 129.00 Catch/hour: 257.99

SPECIES	CATCH/HOUR weight	CATCH/HOUR numbers	% OF TOT. C	SAMP
Merluccius paradoxus	81.40	80	31.55	739
Merluccius paradoxus	49.60	220	19.23	735
Merluccius paradoxus	14.60	26	5.66	740
Helicolenus dactylopterus	14.60	52	5.66	738
Caelorinchus braueri	13.40	432	5.19	
Centrophorus squamosus	13.00	2	5.04	
Lophius vomerinus	11.00	4	4.26	736
Selachophidium guentheri	8.80	88	3.41	
Caelorinchus matamua	7.60	38	2.95	
Chaeceon macphersoni	7.40	102	2.87	
Etmopterus brachyurus	5.80	52	2.25	
Not found	4.00	4	1.55	
Raja leopardus, female	4.00	2	1.55	
Starfish - many arms	3.72	2188	1.44	
Brama brama	3.40	4	1.32	737
Raja leopardus, juvenile	3.20	14	1.24	
Psychrolutes macrocephalus	2.00	28	0.78	
Plesionika martia	1.92	290	0.74	
Holohalaelurus regani	1.40	2	0.54	
Notacanthus sexspinis	1.26	18	0.49	
Todarodes angolensis	1.08	2	0.42	741
Myxine capensis	0.86	14	0.33	
Bassanago albescens	0.85	6	0.33	
Bristle worms (straws)	0.46	92	0.18	
Photichthys argenteus	0.32	18	0.12	
Nezumia sp.	0.26	36	0.10	
Starfish	0.24	42	0.09	
Bathypolypus valdiviae	0.22	2	0.09	
Rossia enigmatica	0.21	10	0.08	
Anemones, white	0.20	2	0.08	
Not found	0.14	2	0.05	0
Lucigadus ori	0.13	14	0.05	
Diaphus sp.	0.12	36	0.04	
Symbolophorus boops	0.11	8	0.04	
Whelks	0.10	2	0.04	
Physiculus capensis	0.09	4	0.04	
Merluccius paradoxus	0.09	12	0.03	742
Ornithoteuthis antillarum	0.09	2	0.03	
Starfish	0.07	4	0.03	0
Starfish yellow	0.05	2	0.02	
Lampanyctodes hectoris	0.05	28	0.02	
Tripterophycis gilchristi	0.05	2	0.02	
Lycoteuthis lorigera	0.04	2	0.02	
Paracallionymus costatus	0.03	2	0.01	
Stereomastis sp.	0.01	2	0.01	
SALPS	0.00	2	0.00	
Shark eggs	0.00	2	0.00	
Total	257.99		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 74
DATE :31/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°20.60
start stop duration Lon E 16°28.89
TIME :10:49:04 11:19:14 30.0 (min) Purpose : 3
LOG : 4516.17 4517.74 1.6 Region : 6100
FDEPTH: 441 443 Gear cond.: 0
BDEPTH: 441 443 Validity : 0
Towing dir: 0° Wire out : 1050 m Speed : 3.1 kn
Sorted : 482 Total catch: 482.14 Catch/hour: 964.29

SPECIES	CATCH/HOUR weight	CATCH/HOUR numbers	% OF TOT. C	SAMP
Merluccius paradoxus	610.00	1538	63.26	746
Merluccius paradoxus	156.00	142	16.18	744
Genypterus capensis	42.00	22	4.36	743
Bassanago albescens	36.00	654	3.73	
Caelorinchus simorhynchus	31.00	348	3.21	
Helicolenus dactylopterus	24.80	128	2.57	749
Merluccius paradoxus	20.00	28	2.07	745
Lophius vomerinus	8.20	8	0.85	747
Starfish - many arms	6.72	1268	0.70	
Squalus mitsukurii	6.20	2	0.64	
Centrolophus niger	5.24	2	0.54	
Scyliorhinus capensis	4.40	4	0.46	
Raja leopardus	1.96	4	0.20	
Whelks	1.80	54	0.19	
Malacocephalus laevis	1.50	8	0.16	
Brama brama	1.36	2	0.14	752
Todarodes angolensis	1.30	2	0.13	748
Holohalaelurus regani	1.26	6	0.13	
Hoplostethus mediterraneus	1.03	16	0.11	
Notacanthus sexspinis	0.68	4	0.07	
Todaropsis eblanae	0.50	2	0.05	750
Chaeceon macphersoni	0.33	4	0.03	
Anemones, white	0.29	2	0.03	
Physiculus capensis	0.24	12	0.03	
Paracallionymus costatus	0.23	54	0.02	
Parapagurus pilosimanus	0.19	18	0.02	
Plesionika martia	0.17	50	0.02	
Myxine capensis	0.16	2	0.02	
Lampanyctodes hectoris	0.15	68	0.02	
Stereomastis sp.	0.08	20	0.01	
Rossia enigmatica	0.07	4	0.01	
Starfish white 5 arms	0.06	6	0.01	
Diaphus effulgens	0.06	2	0.01	
Photichthys argenteus	0.06	2	0.01	
Raja leopardus, juvenile	0.05	2	0.00	
Diaphus sp.	0.05	14	0.00	
Hoplostethus mediterraneus	0.04	4	0.00	0
Symbolophorus boops	0.03	2	0.00	
Munidopsis sp.	0.03	4	0.00	
Bathypolypus valdiviae	0.02	4	0.00	
Psychrolutes macrocephalus	0.02	2	0.00	
Total	964.29		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 75
DATE :31/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°15.96
start stop duration Lon E 16°32.71
TIME :12:54:29 01:25:54 31.0 (min) Purpose : 3
LOG : 4525.60 4527.27 1.7 Region : 6100
FDEPTH: 379 378 Gear cond.: 0
BDEPTH: 379 378 Validity : 0
Towing dir: 0° Wire out : 870 m Speed : 3.2 kn
Sorted : 283 Total catch: 876.67 Catch/hour: 1696.78

SPECIES	CATCH/HOUR weight	CATCH/HOUR numbers	% OF TOT. C	SAMP
Merluccius paradoxus	823.55	4099	48.54	760
Caelorinchus simorhynchus	300.00	3333	17.68	
Helicolenus dactylopterus	158.03	757	9.31	761
Merluccius paradoxus	145.16	116	8.56	754
Malacocephalus laevis	33.48	31	1.97	
Squalus mitsukurii	32.13	6	1.89	
Holohalaelurus regani	31.16	0	1.84	
Starfish - many arms	27.38	8555	1.61	
Genypterus capensis	26.32	19	1.55	753
Octopus magnificus	15.10	4	0.89	
Anemones, pink	14.02	300	0.83	
Scyliorhinus capensis	11.61	17	0.68	
Merluccius capensis	11.61	6	0.68	757
Brama brama	10.84	10	0.64	759
Todaropsis eblanae	9.15	78	0.54	762
Zeus capensis	8.13	22	0.48	764
Anemones, white	6.68	45	0.39	
Lophius vomerinus	6.58	4	0.39	756
Merluccius paradoxus	5.81	6	0.34	755
Lucigadus ori	2.89	445	0.17	
Paracallionymus costatus	2.78	434	0.16	
Beryx splendens	1.95	11	0.11	765
Parapagurus dimorphus	1.90	223	0.11	
Todaropsis eblanae	1.78	11	0.10	763
Starfish yellow	1.67	223	0.10	
Todarodes angolensis	1.43	4	0.08	
Not found	1.07	101	0.06	
Hermits, mixed	0.87	33	0.05	
Ophichthus bennettai	0.83	11	0.05	
Rossia enigmatica	0.82	45	0.05	
Whelks	0.52	11	0.03	
Cone gastropod	0.39	33	0.02	
Epigonus sp.	0.33	11	0.02	
Physiculus capensis	0.33	11	0.02	
CYPRAEIDAE (Bulia)	0.15	22	0.01	
Not found	0.12	15	0.01	
Stereomastis sp.	0.07	11	0.00	
Amalda obtusa	0.06	11	0.00	
Sepia sp. New SA	0.04	11	0.00	
SALPS	0.03	11	0.00	
Total	1696.78		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 76
DATE :31/01/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°13.52
start stop duration Lon E 16°46.08
TIME :03:28:08 03:59:06 31.0 (min) Purpose : 3
LOG : 4540.53 4542.15 1.6 Region : 6100
FDEPTH: 318 318 Gear cond.: 0
BDEPTH: 318 318 Validity : 0
Towing dir: 0° Wire out : 700 m Speed : 3.1 kn
Sorted : 391 Total catch: 681.81 Catch/hour: 1319.63

SPECIES	CATCH/HOUR weight	CATCH/HOUR numbers	% OF TOT. C	SAMP
Merluccius paradoxus	385.16	3327	29.19	774
Caelorinchus simorhynchus	232.26	5050	17.60	
Zeus capensis	203.23	385	15.40	766
Parapagurus dimorphus	101.61	6774	7.70	
Merluccius capensis	75.48	41	5.72	768
Holohalaelurus regani	61.94	132	4.69	
Thyrsites atun	40.65	17	3.08	767
Squalus mitsukurii	40.06	33	3.04	
Malacocephalus laevis	32.90	35	2.49	
Merluccius capensis	30.97	19	2.35	769
Merluccius paradoxus	27.10	31	2.05	770
Genypterus capensis	14.52	19	1.10	773
Lophius vomerinus	14.52	4	1.10	771
Helicolenus dactylopterus	11.47	73	0.87	775
Anemones, pink	10.45	37	0.79	
Starfish - spiky	8.57	1715	0.65	
Todaropsis eblanae	7.70	66	0.58	776
Raja straeleni	6.19	2	0.47	
Merluccius paradoxus	3.99	1177	0.30	777
Raja spinacidermis	1.94	2	0.15	
Raja leopardus	1.94	4	0.15	
Brama brama	1.55	2	0.12	772
Starfish - giant	1.45	7	0.11	
Trachurus capensis	0.73	7	0.06	778
Paracallionymus costatus	0.62	174	0.05	
Rossia enigmatica	0.56	37	0.04	
Chlorophthalmus sp.	0.42	7	0.03	
Whelks	0.34	7	0.03	
Mursia cristimanus	0.25	29	0.02	
Cone gastropod	0.18	29	0.01	
Starfish - many arms	0.16	7	0.01	
Xenolepidichthys dagleishi	0.15	7	0.01	
Bathypolypus valdiviae	0.15	21	0.01	
Not found	0.15	7	0.01	
Physiculus capensis	0.09	7	0.01	
Lucigadus ori	0.08	7	0.01	
Champsodon capensis	0.06	7	0.00	
Pterygosquilla armata capensis	0.05	7	0.00	
Maurolicus muelleri	0.00	0	0.00	
Total	1319.63		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 77
DATE :01/02/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 32°7.17
start stop duration Lon E 16°59.11
TIME :04:20:26 04:51:14 31.0 (min) Purpose : 3
LOG : 4585.35 4587.01 1.7 Region : 6100
FDEPTH: 268 269 Gear cond.: 0
BDEPTH: 268 269 Validity : 0
Towing dir: 0° Wire out : 670 m Speed : 3.2 kn
Sorted : 99 Total catch: 325.54 Catch/hour: 630.07

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	280.65	2971	44.54	785
Caelorinchus simorhynchus	186.77	4914	29.64	
Lophius vomerinus	27.68	17	4.39	780
Callorhinchus capensis	16.45	4	2.61	
Parapagurus dimorphus	12.48	780	1.98	
Starfish	11.90	3968	1.89	
Lampanyctodes hectoris	9.68	0	1.54	
Maurolicus muelleri	9.68	0	1.54	
Merluccius capensis	8.32	6	1.32	781
Paracallionymus costatus	7.84	712	1.24	
Chrysaora sp.	6.00	0	0.95	
Genypterus capensis	5.57	21	0.88	779
Merluccius paradoxus	5.23	8	0.83	783
Holohalaelurus regani	5.03	12	0.80	
Helicolenus dactylopterus	4.97	60	0.79	784
Todaropsis eblanae	4.84	48	0.77	786
Aequorea sp.	4.84	0	0.77	
Todaropsis eblanae	4.35	68	0.69	787
Starfish - giant	4.32	29	0.69	
Trachurus capensis	2.71	19	0.43	788
Whelks	2.32	48	0.37	
Not found	1.45	48	0.23	
Rossia enigmatica	1.11	48	0.18	
Squalus mitsukurii	1.08	2	0.17	
Pterygosquilla armata capensis	0.97	145	0.15	
Merluccius capensis	0.97	2	0.15	782
Not found	0.77	29	0.12	
Myxine capensis	0.68	10	0.11	
Exodromidia sp.	0.63	19	0.10	
Mursia cristimanus	0.21	39	0.03	
Starfish - many arms	0.17	10	0.03	
Physiculus capensis	0.14	19	0.02	
Sepia sp. New SA	0.11	29	0.02	
Amalda obtusa	0.08	10	0.01	
ISOPODS	0.04	10	0.01	
SALPS	0.02	10	0.00	
Plastic bags	0.00	2	0.00	
Total	630.07		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 78
DATE :01/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 32°1.59
start stop duration Lon E 17°12.30
TIME :06:42:34 07:13:43 31.0 (min) Purpose : 3
LOG : 4601.66 4603.16 1.5 Region : 6100
FDEPTH: 203 204 Gear cond.: 0
BDEPTH: 203 204 Validity : 0
Towing dir: 0° Wire out : 450 m Speed : 2.9 kn
Sorted : 141 Total catch: 851.17 Catch/hour: 1647.42

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	872.52	13088	52.96	794
Lampanyctodes hectoris	267.10	83468	16.21	
Paracallionymus costatus	93.48	7790	5.67	
Sepia australis	80.13	4217	4.86	
Lophius vomerinus	43.74	165	2.66	790
Chelidonichthys capensis	42.58	105	2.58	791
Holohalaelurus regani	33.48	523	2.03	
Aequorea sp.	33.48	0	2.03	
Callorhinchus capensis	29.03	15	1.76	
Caelorinchus simorhynchus	24.48	1065	1.49	
Maurolicus muelleri	22.26	18548	1.35	
Helicolenus dactylopterus	17.36	668	1.05	796
Cynoglossus zanzibarensis	13.80	201	0.84	798
Merluccius paradoxus	12.25	1804	0.74	797
Merluccius capensis	12.00	29	0.73	792
Lophius vomerinus	8.01	334	0.49	795
Todaropsis eblanae	6.23	156	0.38	800
Not found	5.52	134	0.34	
Raja straeleni	4.45	2	0.27	
Todaropsis eblanae	4.01	45	0.24	799
Genypterus capensis	3.33	12	0.20	
Mustelus palumbes	2.94	2	0.18	
Pterygosquilla armata capensis	2.76	246	0.17	
Rossia enigmatica	2.14	89	0.13	
Merluccius capensis	1.94	6	0.12	793
JELLYFISH	1.94	2	0.12	
Exodromidia sp.	1.91	45	0.12	
Zeus capensis	1.36	22	0.08	801
Etrumeus whiteheadi	1.14	22	0.07	
Starfish - many arms	0.87	22	0.05	
Lepidopus caudatus	0.53	22	0.03	
Anemones, pink	0.47	22	0.03	
Starfish	0.09	22	0.01	
Parapagurus dimorphus	0.09	22	0.01	
Total	1647.42		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 79
DATE :01/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°56.35
start stop duration Lon E 17°24.78
TIME :09:08:27 09:40:16 32.0 (min) Purpose : 3
LOG : 4616.83 4618.56 1.7 Region : 6100
FDEPTH: 155 153 Gear cond.: 0
BDEPTH: 155 153 Validity : 0
Towing dir: 0° Wire out : 400 m Speed : 3.3 kn
Sorted : 236 Total catch: 447.63 Catch/hour: 839.30

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Thyrsites atun	210.94	96	25.13	802
Merluccius paradoxus	198.19	5186	23.61	808
Sponges - yellow	110.63	0	13.18	
Sepia australis	86.63	4331	10.32	
Paracallionymus costatus	73.50	6682	8.76	
JELLYFISH	60.38	0	7.19	
Chelidonichthys capensis	19.69	54	2.35	803
Lophius vomerinus	16.28	197	1.94	809
Callorhinchus capensis	15.19	11	1.81	
Merluccius capensis	6.94	21	0.83	807
Merluccius capensis	6.56	19	0.78	806
Maurolicus muelleri	5.25	3281	0.63	
Lophius vomerinus	5.06	9	0.60	804
Merluccius paradoxus	4.56	499	0.54	810
Cynoglossus zanzibarensis	3.15	26	0.38	811
Todaropsis eblanae	3.02	66	0.36	814
Etrumeus whiteheadi	2.76	52	0.33	
Todaropsis eblanae	2.49	66	0.30	813
Trachurus capensis	1.71	13	0.20	815
Not found	1.34	315	0.16	
Helicolenus dactylopterus	1.18	92	0.14	812
Exodromidia sp.	1.09	52	0.13	
Macropipus australis	0.55	13	0.07	
Starfish red A	0.55	52	0.07	
Holohalaelurus regani, juvenile	0.53	26	0.06	
Not found	0.43	26	0.05	
Pterygosquilla armata capensis	0.35	39	0.04	
Chelidonichthys queketti	0.30	2	0.04	805
Starfish - dark	0.08	13	0.01	
Plastic bags	0.00	2	0.00	
Total	839.30		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 80
DATE :01/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°48.03
start stop duration Lon E 17°38.35
TIME :11:43:42 12:14:25 31.0 (min) Purpose : 3
LOG : 4634.09 4635.63 1.5 Region : 6100
FDEPTH: 137 136 Gear cond.: 0
BDEPTH: 137 136 Validity : 0
Towing dir: 0° Wire out : 320 m Speed : 3.0 kn
Sorted : 172 Total catch: 424.87 Catch/hour: 822.34

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Sponges - yellow	627.10	0	76.26	
Thyrsites atun	65.81	31	8.00	816
Sepia australis	44.90	2642	5.46	
Aequorea sp.	26.61	0	3.24	
Paracallionymus costatus	13.55	1935	1.65	
Merluccius paradoxus	11.18	606	1.36	819
Merluccius paradoxus	9.68	271	1.18	821
Lophius vomerinus	6.00	8	0.73	817
Todaropsis eblanae	4.55	131	0.55	820
Callorhinchus capensis	3.29	4	0.40	
Lampanyctodes hectoris	3.06	1020	0.37	
Exodromidia sp.	1.61	132	0.20	
Chelidonichthys capensis	1.43	4	0.17	818
Lophius vomerinus	0.61	24	0.07	822
Not found	0.55	15	0.07	
Maurolicus muelleri	0.48	302	0.06	
Lepidopus caudatus	0.42	29	0.05	
Pterygosquilla armata capensis	0.34	24	0.04	
Whelks	0.30	5	0.04	
Starfish - giant	0.27	39	0.03	
Helicolenus dactylopterus	0.25	15	0.03	823
Not found	0.14	5	0.02	
Not found	0.10	24	0.01	
Holohalaelurus regani	0.06	5	0.01	
Spatangus capensis	0.04	10	0.01	
Lolligoncula mercatoris	0.02	5	0.00	
Total	822.34		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 81
DATE :01/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°42.47
start stop duration Lon E 17°50.17
TIME :01:56:15 02:26:47 31.0 (min) Purpose : 3
LOG : 4648.36 4650.00 1.6 Region : 6100
FDEPTH: 123 123 Gear cond.: 0
BDEPTH: 123 123 Validity : 0
Towing dir: 0° Wire out : 300 m Speed : 3.2 kn
Sorted : 157 Total catch: 203.41 Catch/hour: 393.69

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Chelidonichthys capensis	118.06	356	29.99	824
Lampanyctodes hectoris	103.55	51774	26.30	
Callorhinchus capensis	58.06	66	14.75	
Sponges - yellow	28.06	0	7.13	
Pterygosquilla armata capensis	23.23	1055	5.90	
Merluccius capensis	19.94	68	5.06	829
Aequorea forskalea	8.23	0	2.09	
Austroglossus microlepis	6.39	19	1.62	825
Lepidopus caudatus	5.42	339	1.38	
Merluccius paradoxus	4.35	111	1.11	831
Lophius vomerinus	3.87	15	0.98	826
Raja straeleni	3.68	4	0.93	
Merluccius paradoxus	2.71	35	0.69	830
Genypterus capensis	2.13	2	0.54	828
Sufflogobius bibarbatus	1.94	151	0.49	
Whelks	0.92	77	0.23	
Sepia australis	0.51	35	0.13	
Maurolicus muelleri	0.48	0	0.12	
Starfish red A	0.38	54	0.10	
Etrumeus whiteheadi	0.37	35	0.09	
Jasus lalandii	0.31	2	0.08	827
Cynoglossus zanzibarensis	0.30	5	0.08	832
Squalus acanthias	0.22	5	0.06	
Paracallionymus costatus	0.18	15	0.05	
Lolligoncula mercatoris	0.17	48	0.04	
Exodromidia sp.	0.12	15	0.03	
Starfish - purple	0.08	10	0.02	
Not found	0.03	5	0.01	
PASIPHAEIDAE	0.00	0	0.00	
Total	393.69		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 82
DATE :01/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°33.44
start stop duration Lon E 17°26.51
TIME :04:45:13 05:15:38 30.0 (min) Purpose : 3
LOG : 4671.99 4673.58 1.6 Region : 6100
FDEPTH: 143 148 Gear cond.: 0
BDEPTH: 143 148 Validity : 0
Towing dir: 0° Wire out : 360 m Speed : 3.1 kn
Sorted : 472 Total catch: 716.97 Catch/hour: 1433.93

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Sponges - yellow	770.00	0	53.70	
Sepia australis	273.60	15200	19.08	
Pterygosquilla armata capensis	82.80	6370	5.77	
Raja alba	80.00	2	5.58	
Merluccius paradoxus	65.88	1314	4.59	837
Aequorea forskalea	36.00	0	2.51	
Merluccius paradoxus	36.00	1674	2.51	838
Lampanyctodes hectoris	27.54	0	1.92	
Callorhinchus capensis	13.60	10	0.95	
Paracallionymus costatus	11.34	2268	0.79	
Chelidonichthys capensis	9.40	20	0.66	833
Lophius vomerinus	6.40	26	0.45	836
Lepidopus caudatus	4.50	234	0.31	
Helicolenus dactylopterus	3.42	126	0.24	839
Todaropsis eblanae	3.15	162	0.22	840
Maurolicus muelleri	3.06	0	0.21	
Merluccius capensis	2.20	2	0.15	834
Genypterus capensis	2.00	14	0.14	835
Sardinops ocellatus	1.17	18	0.08	
Exodromidia sp.	0.68	54	0.05	
Starfish red A	0.68	126	0.05	
Caelorinchus simorhynchus	0.14	18	0.01	
Lolligoncula mercatoris	0.13	36	0.01	
Starfish - purple	0.13	18	0.01	
Solenocera sp.	0.11	18	0.01	
Total	1433.93		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 83
DATE :02/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°32.63
start stop duration Lon E 17°13.40
TIME :04:30:04 05:00:26 30.0 (min) Purpose : 3
LOG : 4715.10 4716.68 1.6 Region : 6100
FDEPTH: 234 236 Gear cond.: 0
BDEPTH: 234 236 Validity : 0
Towing dir: 0° Wire out : 575 m Speed : 3.1 kn
Sorted : 143 Total catch: 565.66 Catch/hour: 1131.33

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	696.00	9870	61.52	850
Parapagurus dimorphus	126.00	14000	11.14	
Caelorinchus simorhynchus	45.60	1342	4.03	
Paracallionymus costatus	39.20	2450	3.46	
Holohalaelurus regani	38.00	116	3.36	
Not found	38.00	0	3.36	
Trachurus capensis	22.00	106	1.94	842
Lophius vomerinus	18.00	30	1.59	841
Merluccius capensis	14.60	14	1.29	849
Spatangus capensis	12.00	0	1.06	
Cynoglossus zanzibarensis	11.78	126	1.04	854
Raja straeleni	10.40	4	0.92	
Lampanyctodes hectoris	9.62	2532	0.85	
Merluccius capensis	9.20	10	0.81	848
Aequorea forskalea	8.80	0	0.78	
Brama brama	8.00	4	0.71	845
Helicolenus dactylopterus	6.72	292	0.59	851
Todaropsis eblanae	3.86	76	0.34	852
Chelidonichthys capensis	2.00	4	0.18	843
Todarodes angolensis	1.60	2	0.14	846
Merluccius paradoxus	1.40	4	0.12	847
Exodromidia sp.	1.11	26	0.10	
Zeus capensis	0.89	13	0.08	855
Not found	0.84	26	0.07	
Genypterus capensis	0.80	6	0.07	844
Starfish red	0.79	254	0.07	
Giant bullia gastropod	0.76	2	0.07	
Merluccius paradoxus	0.76	152	0.07	853
Maurolicus muelleri	0.50	0	0.04	
Sepia hieronis	0.41	13	0.04	
Sepia australis	0.39	26	0.03	
Lophius vomerinus	0.28	13	0.02	857
Pterygosquilla armata capensis	0.24	26	0.02	
Lepidopus caudatus	0.24	140	0.02	
Mursia cristimanus	0.19	13	0.02	
Rochinia sp.	0.16	13	0.01	
Cynoglossus zanzibarensis	0.15	13	0.01	856
Rossia enigmatica	0.04	13	0.00	
Total	1131.33		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 84
DATE :02/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°39.91
start stop duration Lon E 17°4.15
TIME :06:53:32 07:24:52 31.0 (min) Purpose : 3
LOG : 4730.30 4731.87 1.6 Region : 6100
FDEPTH: 257 250 Gear cond.: 0
BDEPTH: 257 250 Validity : 0
Towing dir: 0° Wire out : 570 m Speed : 3.0 kn
Sorted : 163 Total catch: 784.79 Catch/hour: 1518.95

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1023.87	14156	67.41	864
Sponges - yellow	170.32	0	11.21	
Parapagurus dimorphus	97.94	9794	6.45	
Caelorinchus simorhynchus	44.52	1171	2.93	
Aequorea forskalea	37.84	0	2.49	
Not found	21.15	1059	1.39	
Malacocephalus laevis	20.92	68	1.38	
Helicolenus dactylopterus	18.04	335	1.19	865
Paracallionymus costatus	13.35	786	0.88	
Trachurus capensis	13.35	22	0.88	866
Genypterus capensis	10.06	6	0.66	859
Callorhinchus capensis	6.58	2	0.43	
Todaropsis eblanae	6.23	111	0.41	869
Spatangus capensis	5.79	22	0.38	
Brama brama	5.42	4	0.36	858
Merluccius capensis	3.29	4	0.22	862
Lampanyctodes hectoris	2.72	935	0.18	
Merluccius paradoxus	2.29	379	0.15	868
Rossia enigmatica	2.12	68	0.14	
Cynoglossus zanzibarensis	2.03	22	0.13	867
Lophius vomerinus	1.94	8	0.13	860
Myxine capensis	1.65	22	0.11	
Raja straeleni	1.28	2	0.08	
Pterygosquilla armata capensis	1.23	157	0.08	
Etrumeus whiteheadi	1.11	22	0.07	
Todarodes angolensis	1.01	2	0.07	861
Not found	0.93	22	0.06	
Merluccius paradoxus	0.58	2	0.04	863
Starfish red A	0.56	178	0.04	
Starfish white 5 arms	0.31	45	0.02	
Octopus magnificus	0.23	2	0.02	
Lophius vomerinus	0.16	22	0.01	870
Maurolicus muelleri	0.13	45	0.01	
Total	1518.95		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 85
DATE :02/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°45.31
start stop duration Lon E 16°57.21
TIME :09:01:33 09:32:36 31.0 (min) Purpose : 3
LOG : 4740.73 4742.30 1.6 Region : 6100
FDEPTH: 280 280 Gear cond.: 0
BDEPTH: 280 280 Validity : 0
Towing dir: 0° Wire out : 650 m Speed : 3.0 kn
Sorted : 89 Total catch: 645.15 Catch/hour: 1248.68

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	996.77	11642	79.83	876
Parapagurus dimorphus	64.22	4281	5.14	
Holohalaelurus regani	31.92	103	2.56	
Merluccius paradoxus	23.81	33	1.91	879
Helicolenus dactylopterus	22.35	225	1.79	882
JELLYFISH	20.32	0	1.63	
Lophius vomerinus	12.58	10	1.01	873
Merluccius paradoxus	8.54	1200	0.68	881
Todaropsis eblanae	7.52	122	0.60	884
Merluccius capensis	6.77	4	0.54	878
Lampanyctodes hectoris	6.10	2346	0.49	
Maurolicus muelleri	6.10	4355	0.49	
Trachurus capensis	5.08	20	0.41	871
Malacocephalus laevis	4.88	21	0.39	
Todaropsis eblanae	4.27	61	0.34	883
Starfish - fleshy	4.23	21	0.34	
Merluccius capensis	4.06	2	0.33	877
Genypterus capensis	3.29	10	0.26	872
Merluccius paradoxus	2.90	6	0.23	880
Raja pullopunctata, female	2.90	2	0.23	
Pterygosquilla armata capensis	1.93	203	0.15	
Starfish	1.53	163	0.12	
Todarodes angolensis	1.43	2	0.11	875
Rossia enigmatica	1.12	62	0.09	
Zeus capensis	0.97	2	0.08	874
Starfish - many arms	0.77	41	0.06	
Mursia cristimanus	0.51	41	0.04	
Paracallionymus costatus	0.51	122	0.04	
Physiculus capensis	0.49	21	0.04	
Starfish	0.43	21	0.03	0
Exodromidia sp.	0.20	41	0.02	
Sepia sp. New SA	0.06	21	0.00	
Starfish red	0.04	21	0.00	
Starfish yellow	0.04	21	0.00	
Starfish - twinkle	0.04	21	0.00	
Total	1248.68		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 86
DATE :02/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°56.21
start stop duration Lon E 16°37.98
TIME :12:33:50 01:04:53 31.0 (min) Purpose : 3
LOG : 4763.88 4765.44 1.6 Region : 6100
FDEPTH: 337 337 Gear cond.: 0
BDEPTH: 337 337 Validity : 0
Towing dir: 0° Wire out : 800 m Speed : 3.0 kn
Sorted : 209 Total catch: 509.01 Catch/hour: 985.18

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	325.16	2342	33.01	894
Caelorinchus simorhynchus	172.06	2967	17.47	
Zeus capensis	118.06	265	11.98	888
Helicolenus dactylopterus	107.03	921	10.86	893
Malacocephalus laevis	38.71	85	3.93	
Merluccius paradoxus	35.81	39	3.63	891
Brama brama	25.74	31	2.61	885
Not found	21.29	27	2.16	
Merluccius capensis	20.32	10	2.06	889
Parapagurus pilosimanus	13.55	677	1.38	
Whelks	10.84	352	1.10	
Octopus magnificus	10.06	4	1.02	
Merluccius capensis	9.29	6	0.94	890
Squalus mitsukurii	7.90	14	0.80	
Holohalaelurus regani	7.74	14	0.79	
Genypterus capensis	7.74	12	0.79	886
Todaropsis eblanae	5.28	41	0.54	895
Rossia enigmatica	5.15	203	0.52	
Merluccius paradoxus	4.76	8	0.48	892
Not found	4.28	108	0.43	
Lophius vomerinus	4.06	4	0.41	887
Echinus gilchristi ?	3.52	27	0.36	
Todaropsis eblanae	3.39	41	0.34	896
Balanophyllia (hard coral)	2.92	0	0.30	
Epigonus sp.	2.64	54	0.27	
Anemones, coral	2.26	14	0.23	
Paracallionymus costatus	2.17	379	0.22	
Sepia australis	2.03	41	0.21	
Mursia cristimanus	1.98	163	0.20	
Not found	1.72	190	0.17	
Starfish - many arms	1.60	108	0.16	
Lepidopus caudatus	1.28	2	0.13	
Starfish	0.95	14	0.10	
Exodromidia sp.	0.84	27	0.09	
Lucigadus ori	0.54	81	0.06	
Pterygosquilla armata capensis	0.54	14	0.06	
Starfish (pentagon)	0.54	14	0.06	
Starfish white 5 arms	0.41	41	0.04	
Physiculus capensis	0.34	14	0.03	
Not found	0.22	27	0.02	
Chlorophthalmus sp.	0.14	14	0.01	
Shrimps, small, non comm.	0.14	54	0.01	
Tripterophycis gilchristi	0.12	14	0.01	
Hoplostethus mediterraneus	0.04	14	0.00	
Plastic bags	0.00	0	0.00	
Total	985.18		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 87
DATE :02/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°58.46
start stop duration Lon E 16°25.66
TIME :02:52:38 03:22:23 30.0 (min) Purpose : 3
LOG : 4778.32 4779.73 1.4 Region : 6100
FDEPTH: 395 394 Gear cond.: 0
BDEPTH: 395 394 Validity : 0
Towing dir: 0° Wire out : 820 m Speed : 2.9 kn
Sorted : 309 Total catch: 308.74 Catch/hour: 617.47

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	197.00	754	31.90	898
Helicolenus dactylopterus	111.00	490	17.98	902
Caelorinchus simorhynchus	100.00	806	16.20	
Merluccius paradoxus	47.20	36	7.64	899
Malacocephalus laevis	28.00	26	4.53	
Anemones, pink	22.60	90	3.66	
Bassanago albescens	14.40	26	2.33	
Octopus magnificus	13.60	16	2.20	
Genypterus capensis	13.20	14	2.14	903
Merluccius capensis	12.00	2	1.94	897
Anemones, yellow	10.80	54	1.75	
Lophius vomerinus	9.00	4	1.46	901
Scyliorhinus capensis	7.40	10	1.20	
Squalus mitsukurii	6.40	4	1.04	
Epigonus sp.	3.20	64	0.52	
PORIFERA (Sponges)	2.80	70	0.45	
Starfish - fleshy	2.60	42	0.42	
Merluccius paradoxus	2.00	2	0.32	900
Todaropsis eblanae	1.90	18	0.31	905
Lucigadus ori	1.80	180	0.29	
Todarodes angolensis	1.60	2	0.26	904
Rossia enigmatica	1.34	58	0.22	
Holohalaelurus regani	1.20	4	0.19	
Not found	1.20	120	0.19	
Hoplostethus mediterraneus	1.05	18	0.17	
Paracallionymus costatus	1.00	140	0.16	
Starfish - many arms	0.92	92	0.15	
Anemones, white	0.72	8	0.12	
Beryx splendens	0.63	4	0.10	
Emmelichthys nitidus	0.23	2	0.04	
Tripterophycis gilchristi	0.17	12	0.03	
Not found	0.12	10	0.02	
Balanophyllia (hard coral)	0.09	2	0.01	
Bathynectes piperitus	0.08	2	0.01	
Champsodon capensis	0.07	8	0.01	
Starfish	0.03	2	0.01	
Parapagurus pilosimanus	0.03	4	0.01	
Cone gastropod	0.03	8	0.00	
Mursia cristimanus	0.02	2	0.00	
Rochinia sp.	0.01	4	0.00	
Chlorophthalmus sp.	0.01	4	0.00	
Sepia sp. New SA	0.01	4	0.00	
Not found	0.01	2	0.00	
SALPS	0.00	2	0.00	
Total	617.47		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 88
DATE :02/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 32°3.14
start stop duration Lon E 16°18.03
TIME :04:52:40 05:22:50 30.0 (min) Purpose : 3
LOG : 4789.46 4790.90 1.4 Region : 6100
FDEPTH: 458 459 Gear cond.: 0
BDEPTH: 458 459 Validity : 0
Towing dir: 0° Wire out : 930 m Speed : 2.9 kn
Sorted : 118 Total catch: 117.94 Catch/hour: 235.88

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	106.60	168	45.19	909
Merluccius paradoxus	37.40	96	15.86	910
Lophius vomerinus	32.20	18	13.65	907
Genypterus capensis	24.60	8	10.43	906
Helicolenus dactylopterus	9.60	42	4.07	908
Caelorinchus simorhynchus	8.16	94	3.46	
Malacocephalus laevis	4.54	16	1.92	
Raja leopardus	2.36	2	1.00	
Notacanthus sexspinis	2.20	22	0.93	
Brama brama	1.36	2	0.58	911
Bassanago albescens	1.14	4	0.48	
Hoplostethus mediterraneus	0.74	8	0.32	
Caelorinchus braueri	0.60	66	0.25	
Photichthys argenteus	0.44	16	0.19	
Paracallionymus costatus	0.44	86	0.19	
Not found	0.41	110	0.17	
Aequorea forskalea	0.41	2	0.17	
Todaropsis eblanae	0.40	4	0.17	912
Lucigadus ori	0.29	32	0.12	
Parapagurus pilosimanus	0.28	18	0.12	
Stereomastis sp.	0.21	36	0.09	
Physiculus capensis	0.17	6	0.07	
Symbolophorus boops	0.16	10	0.07	
Not found	0.16	28	0.07	
Rossia enigmatica	0.13	4	0.05	
Tripterophycis gilchristi	0.12	14	0.05	
Lycoteuthis lorigera	0.11	6	0.05	
CRANCHIIDAE	0.11	2	0.04	
Raja leopardus, juvenile	0.07	2	0.03	
Diaphus sp.	0.06	18	0.02	
Chauliodus sloani	0.04	2	0.02	
Starfish yellow	0.03	2	0.01	0
Gymnoscopelus sp.	0.03	2	0.01	
Anemones, pink	0.03	4	0.01	
SALPS	0.03	14	0.01	
Rochinia sp.	0.03	14	0.01	
Not found	0.02	2	0.01	
Not found	0.02	4	0.01	
Starfish yellow	0.02	4	0.01	
Lampanyctodes hectoris	0.02	12	0.01	
Not found	0.02	2	0.01	
Plesionika martia	0.02	4	0.01	
Shrimps, small, non comm.	0.02	16	0.01	
Electrona risso	0.01	2	0.01	
Hermits, mixed	0.01	2	0.01	
Paraliparis sp.	0.01	10	0.01	
Psychrolutes macrocephalus	0.01	2	0.01	
Champsodon capensis	0.01	2	0.00	
Coral	0.01	4	0.00	
Merluccius paradoxus	0.01	2	0.00	913
Sepia sp. New SA	0.01	2	0.00	
Total	235.88		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 89
DATE :03/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 32°7.77
start stop duration Lon E 16°13.60
TIME :04:33:19 05:03:42 30.0 (min) Purpose : 3
LOG : 4854.36 4855.86 1.5 Region : 6100
FDEPTH: 616 617 Gear cond.: 0
BDEPTH: 616 617 Validity : 0
Towing dir: 0° Wire out : 1220 m Speed : 3.0 kn
Sorted : 137 Total catch: 136.97 Catch/hour: 273.93

SPECIES	CATCH/HOUR weight	CATCH/HOUR numbers	% OF TOT. C	SAMP
Caelorinchus simorhynchus	77.60	2042	28.33	
Merluccius paradoxus	42.40	50	15.48	914
Lophius vomerinus	37.20	8	13.58	917
Bathyraja smithii	21.20	4	7.74	
Merluccius paradoxus	13.20	28	4.82	915
Genypterus capensis	12.80	4	4.67	918
Chaeceon macphersoni	11.80	196	4.31	
Etmopterus brachyurus	8.10	68	2.96	
Bristle worms (straws)	6.60	1650	2.41	
Brama brama	5.00	4	1.83	916
Selachophidium guentheri	4.60	64	1.68	
Malacocephalus laevis	3.80	12	1.39	
Anemones, pink	3.76	12	1.37	
Hydrolagus sp.	3.48	6	1.27	
Caelorinchus matamua	3.44	20	1.26	
Raja leopardus	3.20	4	1.17	
Nezumia sp.	1.92	240	0.70	
Todarodes angolensis	1.60	2	0.58	919
Synaphobranchus kaupii	1.40	10	0.51	
Raja confundens	1.40	2	0.51	
Lepidion capensis	1.28	12	0.47	
Psychrolutes macrocephalus	1.10	14	0.40	
Todarodes angolensis	1.00	2	0.37	920
Notacanthus sexspinis	0.76	8	0.28	
Raja confundens	0.72	2	0.26	0
Anemones, coral	0.66	2	0.24	
Myxine capensis	0.64	10	0.23	
Photichthys argenteus	0.53	24	0.19	
Anemones, white	0.46	4	0.17	
Raja leopardus, juvenile	0.43	14	0.16	
Trachyscorpia eschmeyeri	0.30	2	0.11	
Ophichthus bennettai	0.26	2	0.09	
Not found	0.20	60	0.07	
Whelks	0.19	4	0.07	
Bathypolypus valdiviae	0.18	6	0.07	
Funchalia woodwardi	0.14	10	0.05	
Not found	0.08	18	0.03	
Starfish red	0.07	2	0.03	
Symbolophorus boops	0.07	6	0.03	
Chauliodus sloani	0.07	8	0.02	
Lycoteuthis lorigera	0.04	2	0.01	
Neoscopelus macrolepidotus	0.04	2	0.01	
MYCTOPHIDAE	0.04	2	0.01	
Stereomastis sp.	0.03	8	0.01	
SALPS	0.03	18	0.01	
Lucigadus ori	0.02	2	0.01	
Plesionika martia	0.02	6	0.01	
Diaphus sp.	0.02	6	0.01	
Argyropelecus aculeatus	0.02	2	0.01	
Rochinia sp.	0.01	8	0.00	
Starfish yellow	0.01	2	0.00	
Phyllosoma	0.00	2	0.00	
Total	273.93		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 90
DATE :03/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 32°5.48
start stop duration Lon E 16°14.50
TIME :06:51:29 07:21:49 30.0 (min) Purpose : 3
LOG : 4863.27 4864.52 1.3 Region : 6100
FDEPTH: 556 555 Gear cond.: 0
BDEPTH: 556 555 Validity : 0
Towing dir: 0° Wire out : 1070 m Speed : 2.5 kn
Sorted : 112 Total catch: 112.44 Catch/hour: 224.87

SPECIES	CATCH/HOUR weight	CATCH/HOUR numbers	% OF TOT. C	SAMP
Merluccius paradoxus	82.00	112	36.47	923
Merluccius paradoxus	40.00	88	17.79	924
Lophius vomerinus	18.00	10	8.00	921
Bathyraja smithii	13.40	4	5.96	
Caelorinchus braueri	11.88	340	5.28	
Selachophidium guentheri	11.20	134	4.98	
Genypterus capensis	8.60	4	3.82	922
Ruvettus pretiosus	7.40	2	3.29	
Helicolenus dactylopterus	5.72	26	2.54	925
Malacocephalus laevis	5.20	18	2.31	
Raja leopardus	3.12	34	1.39	
Etmopterus brachyurus	2.18	20	0.97	
Chaeceon macphersoni	2.00	36	0.89	
Photichthys argenteus	1.70	66	0.76	
Brama brama	1.48	2	0.66	926
Anemone - purple	1.20	4	0.53	
Hydrolagus sp.	1.04	2	0.46	
Anemones, pink	1.02	2	0.45	
Bristle worms (straws)	0.88	146	0.39	
Notacanthus sexspinis	0.78	10	0.35	
Bathypolypus valdiviae	0.78	14	0.35	
Plesionika martia	0.76	126	0.34	
Lycoteuthis lorigera	0.70	30	0.31	
Not found	0.52	104	0.23	
Raja confundens	0.44	6	0.20	
Myxine capensis	0.38	6	0.17	
Merluccius paradoxus	0.34	4	0.15	927
Lampanyctodes hectoris	0.34	188	0.15	
Psychrolutes macrocephalus	0.33	4	0.15	
Aequorea forskalea	0.33	0	0.15	
Funchalia woodwardi	0.24	20	0.11	
Ophichthus bennettai	0.18	2	0.08	
Rossia enigmatica	0.17	8	0.07	
Lucigadus ori	0.11	10	0.05	
Nezumia sp.	0.10	30	0.04	
Starfish red	0.08	2	0.04	
Plesiopenaeus edwardsianus	0.05	2	0.02	
Not found	0.05	2	0.02	
Gonostoma sp.	0.03	6	0.02	
SALPS	0.03	6	0.01	
Merluccius paradoxus	0.02	6	0.01	928
Chauliodus sloani	0.02	2	0.01	
Histioteuthis sp., juvenile	0.01	2	0.01	
Rochinia sp.	0.01	2	0.01	
Shrimps, small, non comm.	0.01	20	0.01	
Diaphus sp.	0.01	4	0.00	
Stoloteuthis sp.	0.01	2	0.00	
Not found	0.01	2	0.00	958
Argyropelecus aculeatus	0.01	2	0.00	
Lampadena sp.	0.00	2	0.00	
Plastic bags	0.00	10	0.00	
Total	224.87		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 91
DATE :03/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°58.87
start stop duration Lon E 16°5.44
TIME :08:56:44 09:27:17 31.0 (min) Purpose : 3
LOG : 4873.78 4875.11 1.3 Region : 6100
FDEPTH: 669 668 Gear cond.: 0
BDEPTH: 669 668 Validity : 0
Towing dir: 0° Wire out : 1200 m Speed : 2.6 kn
Sorted : 123 Total catch: 122.55 Catch/hour: 237.19

SPECIES	CATCH/HOUR weight	CATCH/HOUR numbers	% OF TOT. C	SAMP
Merluccius paradoxus	79.35	48	33.46	931
Caelorinchus braueri	43.94	550	18.52	
Lophius vomerinus	24.00	6	10.12	929
Centrophorus squamosus	21.68	4	9.14	
Trachyscorpia eschmeyeri	9.29	27	3.92	933
Histioteuthis miranda	8.90	6	3.75	
Chaeceon macphersoni	6.70	93	2.82	
Selachophidium guentheri	6.50	95	2.74	
Photichthys argenteus	6.48	159	2.73	
Nezumia sp.	3.87	54	1.63	
Sergia sp.	3.29	844	1.39	
Coryphaenoides sp.	3.06	4	1.29	
Hoplostethus atlanticus	2.83	6	1.19	934
Schedophilus huttoni	2.52	2	1.06	
Lepidion capensis	2.11	15	0.89	936
Caelorinchus matamua	2.01	12	0.85	
Raja leopardus	1.72	14	0.73	
Todarodes angolensis	1.35	2	0.57	930
Psychrolutes macrocephalus	1.10	23	0.47	
Merluccius paradoxus	0.81	8	0.34	932
Not found	0.74	184	0.31	
Chauliodus sloani	0.58	23	0.24	
Merluccius paradoxus	0.58	4	0.24	
Gonostoma sp.	0.48	10	0.20	
Bathypolypus valdiviae	0.42	6	0.18	
Hoplostethus atlanticus	0.39	8	0.16	
Histioteuthis meleagroteuthis	0.30	2	0.13	
Lampichthys procerus	0.23	35	0.10	
CRANCHIIDAE	0.19	2	0.08	
GONOSTOMATIDAE	0.19	4	0.08	
MYCTOPHIDAE	0.18	12	0.08	
Howella sherborni	0.18	15	0.08	
Raja caudaspinosa	0.18	2	0.08	
Plesionika martia	0.13	41	0.05	
Idiacanthus atlanticus	0.12	4	0.05	
ONEON51	0.11	4	0.05	
Neoscopelus macrolepidotus	0.07	2	0.03	
Lampanyctodes hectoris	0.07	39	0.03	
Funchalia woodwardi	0.07	6	0.03	
Diretmus argenteus	0.07	2	0.03	
Allocyttus verrucosus	0.06	2	0.03	
Starfish red	0.06	2	0.03	
Xenodermichthys copei	0.06	4	0.03	
Melanocetus johnsoni	0.04	6	0.02	
MICROSTOMIDAE *	0.03	4	0.01	
Lucigadus ori	0.03	2	0.01	
Rossia enigmatica	0.02	2	0.01	
Lycoteuthis lorigera	0.02	2	0.01	
Merluccius paradoxus	0.01	4	0.01	935
Metelectrona ventralis	0.01	2	0.01	
Brachioteuthis sp.	0.01	2	0.01	
UNIDENTIFIED FISH	0.01	4	0.00	
Hoplostethus cadenati, juvenile	0.01	4	0.00	
Plesiopenaeus edwardsianus	0.01	2	0.00	
Symbolophorus boops	0.01	2	0.00	
Plastic bags	0.00	4	0.00	
Total	237.19		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 92
DATE :03/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°50.85
start stop duration Lon E 16°3.79
TIME :10:53:04 11:23:58 31.0 (min) Purpose : 3
LOG : 4882.55 4884.07 1.5 Region : 6100
FDEPTH: 562 561 Gear cond.: 0
BDEPTH: 562 561 Validity : 0
Towing dir: 0° Wire out : 1200 m Speed : 3.0 kn
Sorted : 200 Total catch: 199.79 Catch/hour: 386.69

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	174.19	75	45.05	938
Ruvettus pretiosus	81.29	6	21.02	
Helicolenus dactylopterus	30.00	118	7.76	941
Caelorinchus braueri	25.16	279	6.51	
Merluccius paradoxus	10.37	87	2.68	939
Selachophidium guentheri	10.26	122	2.65	
Bathyraja smithii	9.10	2	2.35	
Lophius vomerinus	8.67	4	2.24	937
Chaeceon macphersoni	6.31	87	1.63	
Etmopterus brachyurus	4.26	15	1.10	
Photichthys argenteus	3.33	48	0.86	
Raja confundens	3.29	6	0.85	
Deania profundorum	3.10	2	0.80	
Caelorinchus matamua	3.10	21	0.80	
Malacocephalus laevis	2.21	8	0.57	
Funchalia woodwardi	2.05	147	0.53	
Myxine capensis	1.51	25	0.39	
Histioteuthis miranda	1.50	2	0.39	
Bristle worms (straws)	1.47	211	0.38	
Sergia sp.	0.72	120	0.19	
Lycoteuthis lorigera	0.49	10	0.13	
Notacanthus sexspinis	0.45	6	0.12	
Bathypolypus valdiviae	0.45	10	0.12	
Scopelosaurus herwigi	0.33	10	0.09	
Nezumia sp.	0.29	10	0.08	
Bathophilus sp.	0.23	6	0.06	
Gymnoscopelus sp.	0.22	29	0.06	
Anemones, white	0.20	2	0.05	
Raja leopardus, juvenile	0.19	4	0.05	
Whelks	0.18	4	0.05	
Avocettina acuticeps	0.18	4	0.05	
Gonostoma elongatum	0.17	19	0.04	
Oreosoma atlanticum	0.17	2	0.04	
Psychrolutes macrocephalus	0.15	4	0.04	
Histioteuthis meleagroteuthis	0.14	2	0.04	
Neoscopelus macrolepidotus	0.13	6	0.03	
Merluccius paradoxus	0.12	2	0.03	940
Chauliodus sloani	0.12	6	0.03	
Megalocranchia sp.	0.07	4	0.02	
Astronesthes sp.	0.07	4	0.02	
MYCTOPHIDAE	0.07	10	0.02	
Scopelosaurus meadi	0.06	2	0.02	
Diretmus argenteus	0.04	2	0.01	
Rossia enigmatica	0.03	2	0.01	
Diaphus sp.	0.03	6	0.01	
Liocranchia reinhardti	0.03	2	0.01	
CRANCHIIDAE	0.03	2	0.01	
Cranchia scabra	0.02	2	0.01	
Symbolophorus boops	0.02	2	0.01	
Electrona risso	0.02	4	0.01	
Argyropelecus aculeatus	0.02	2	0.01	
Stoloteuthis sp.	0.02	4	0.01	
Spirula spirula	0.02	2	0.00	
Lucigadus ori	0.02	2	0.00	
Xenodermichthys copei	0.01	2	0.00	
Astronesthes sp.	0.01	2	0.00	0
Howella sherborni	0.01	2	0.00	
Bregmaceros sp.	0.00	2	0.00	
Total	386.69		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 93
DATE :03/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°43.30
start stop duration Lon E 16°11.20
TIME :01:15:47 01:46:42 31.0 (min) Purpose : 3
LOG : 4895.70 4897.16 1.5 Region : 6100
FDEPTH: 450 451 Gear cond.: 0
BDEPTH: 450 451 Validity : 0
Towing dir: 0° Wire out : 1000 m Speed : 2.8 kn
Sorted : 580 Total catch: 580.33 Catch/hour: 1123.22

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	392.90	1171	34.98	942
Bassanago albescens	193.55	308	17.23	
Merluccius paradoxus	170.32	153	15.16	948
Lepidion capensis	166.45	186	14.82	
Helicolenus dactylopterus	38.71	161	3.45	943
Lophius vomerinus	35.81	12	3.19	945
Caelorinchus simorhynchus	26.13	226	2.33	
Centrophorus squamosus	22.06	2	1.96	
Merluccius paradoxus	21.29	37	1.90	947
Malacocephalus laevis	12.58	29	1.12	
Squalus mitsukurii	9.68	6	0.86	
Not found	4.45	1204	0.40	
Caelorinchus braueri	4.06	151	0.36	
Genypterus capensis	3.87	2	0.34	944
Hydrolagus sp.	3.29	4	0.29	
Holohalaelurus regani	3.29	8	0.29	
Todarodes angolensis	2.90	4	0.26	946
Scyliorhinus capensis	2.90	2	0.26	
Hoplostethus mediterraneus	1.65	15	0.15	
Anemones, white	1.05	10	0.09	
Paracallionymus costatus	0.97	122	0.09	
Raja leopardus	0.91	8	0.08	
Selachophidium guentheri	0.85	17	0.08	
Parapagurus pilosimanus	0.55	39	0.05	
Lucigadus ori	0.55	50	0.05	
Symbolophorus boops	0.48	35	0.04	
Rossia enigmatica	0.41	23	0.04	
Not found	0.30	21	0.03	
Physiculus capensis	0.18	8	0.02	
Tripterophycis gilchristi	0.17	12	0.02	
Photichthys argenteus	0.12	6	0.01	
Chaeceon macphersoni	0.12	4	0.01	
Stereomastis sp.	0.09	17	0.01	
Aequorea forskalea	0.08	2	0.01	
Not found	0.08	2	0.01	
Avocettina acuticeps	0.07	4	0.01	0
Not found	0.07	8	0.01	
Whelks	0.06	2	0.01	
Plesiopenaeus edwardsianus	0.04	6	0.00	
Bathypolypus valdiviae	0.03	2	0.00	
Lycoteuthis lorigera	0.02	4	0.00	
Avocettina acuticeps	0.02	6	0.00	
Howella sherborni	0.02	2	0.00	
Not found	0.02	2	0.00	
MYCTOPHIDAE	0.01	4	0.00	
Not found	0.01	2	0.00	
Argyropelecus aculeatus	0.01	2	0.00	
ISOPODS	0.01	2	0.00	
Discoteuthis sp.	0.01	2	0.00	0
Plastic bags	0.00	4	0.00	
Total	1123.22		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 94
DATE :03/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°42.74
start stop duration Lon E 16°24.88
TIME :03:54:13 04:24:45 31.0 (min) Purpose : 3
LOG : 4911.81 4913.42 1.6 Region : 6100
FDEPTH: 368 365 Gear cond.: 0
BDEPTH: 368 365 Validity : 0
Towing dir: 0° Wire out : 860 m Speed : 3.2 kn
Sorted : 375 Total catch: 644.18 Catch/hour: 1246.80

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	480.97	2222	38.58	954
Caelorinchus simorhynchus	203.23	3331	16.30	
Zeus capensis	152.90	302	12.26	949
Malacocephalus laevis	141.29	128	11.33	
Merluccius paradoxus	89.03	91	7.14	953
Merluccius capensis	47.42	25	3.80	951
Genypterus capensis	17.42	19	1.40	950
Holohalaelurus regani	14.32	41	1.15	
Squalus mitsukurii	13.94	12	1.12	
Lophius vomerinus	12.39	4	0.99	956
Merluccius paradoxus	11.23	15	0.90	952
Helicolenus dactylopterus	9.68	46	0.78	955
Epigonus sp.	9.48	135	0.76	
Lepidion capensis	7.74	10	0.62	
Cyttus traversi	7.45	14	0.60	
Parapagurus pilosimanus	5.93	254	0.48	
Not found	4.03	937	0.32	
Todaropsis eblanae	2.85	20	0.23	957
Paracallionymus costatus	2.65	449	0.21	
Balanophyllia (hard coral)	2.11	0	0.17	
Anemones, coral	1.92	7	0.15	
Hoplostethus mediterraneus	1.66	75	0.13	
Rossia enigmatica	1.59	75	0.13	
Whelks	1.29	27	0.10	
Sponges - round	0.87	48	0.07	
Lucigadus ori	0.60	95	0.05	
Not found	0.59	54	0.05	
Mursia cristimanus	0.47	54	0.04	
Merluccius paradoxus	0.37	54	0.03	959
Starfish	0.22	7	0.02	
Not found	0.20	7	0.02	
Sepia sp. New SA	0.14	54	0.01	
Physiculus capensis	0.14	7	0.01	
Tripterophycis gilchristi	0.12	14	0.01	
Not found	0.10	7	0.01	
Champsodon capensis	0.10	7	0.01	
Cone gastropod	0.09	21	0.01	
Pterygosquilla armata capensis	0.08	14	0.01	
Diaphus sp.	0.07	7	0.01	
Symbolophorus boops	0.05	7	0.00	
Rochinia sp.	0.03	14	0.00	
Lampanyctodes hectoris	0.01	7	0.00	
Hoplostethus mediterraneus	0.01	7	0.00	0
SALPS	0.01	14	0.00	
Shrimps, small, non comm.	0.01	7	0.00	
Total	1246.80		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 95
DATE :04/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°53.91
start stop duration Lon E 17°3.56
TIME :04:19:08 04:49:33 30.0 (min) Purpose : 3
LOG : 4992.28 4993.86 1.6 Region : 6100
FDEPTH: 200 193 Gear cond.: 0
BDEPTH: 200 193 Validity : 0
Towing dir: 0° Wire out : 500 m Speed : 3.1 kn
Sorted : 69 Total catch: 422.21 Catch/hour: 844.42

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	360.80	9508	42.73	965
Merluccius paradoxus	123.20	11088	14.59	962
Sepia australis	95.70	3088	11.33	
JELLYFISH	39.60	0	4.69	
Chelidonichthys capensis	27.00	62	3.20	967
Paracallionymus costatus	26.40	1760	3.13	
Helicolenus dactylopterus	22.00	1650	2.61	968
Merluccius capensis	19.60	30	2.32	964
Lophius vomerinus	19.14	330	2.27	970
Parapagurus dimorphus	15.84	660	1.88	
Holohalaelurus regani	9.24	154	1.09	
Lampanyctodes hectoris	8.80	210	1.04	
Maurolicus muelleri	8.80	0	1.04	
Cynoglossus zanzibarensis	7.48	154	0.89	969
Pterygosquilla armata capensis	7.48	902	0.89	
Todaropsis eblanae	7.04	154	0.83	966
Sponges - yellow	7.00	6	0.83	
Spatangus capensis	6.82	44	0.81	
Not found	6.42	198	0.76	
Lophius vomerinus	5.40	22	0.64	960
Callorhinchus capensis	4.60	2	0.54	
Sepia hieronis	3.67	88	0.44	
Caelorinchus simorhynchus	3.63	110	0.43	
Merluccius capensis	2.88	8	0.34	963
Not found	1.14	88	0.14	
Starfish yellow	0.92	132	0.11	
Etrumeus whiteheadi	0.92	22	0.11	
Lepidopus caudatus	0.66	44	0.08	
Exodromidia sp.	0.57	44	0.07	
Genypterus capensis	0.48	4	0.06	961
CYPRAEIDAE (Bulia)	0.44	2	0.05	
Aphrodite pol	0.44	22	0.05	
Goneplax angulata	0.29	44	0.03	
Total	844.42		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 96
DATE :04/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°58.73
start stop duration Lon E 16°51.22
TIME :06:49:15 07:19:24 30.0 (min) Purpose : 3
LOG : 5008.33 5009.93 1.6 Region : 6100
FDEPTH: 227 227 Gear cond.: 0
BDEPTH: 227 227 Validity : 0
Towing dir: 0° Wire out : 550 m Speed : 3.2 kn
Sorted : 96 Total catch: 692.23 Catch/hour: 1384.47

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	760.00	11498	54.89	979
Not found	109.06	2948	7.88	
Etrumeus whiteheadi	91.20	1200	6.59	
Helicolenus dactylopterus	72.20	2090	5.21	980
Lampanyctodes hectoris	70.68	20788	5.11	
Lophius vomerinus	46.00	68	3.32	971
Paracallionymus costatus	44.46	4940	3.21	
Merluccius capensis	30.80	32	2.22	973
Aequorea forskalea	22.80	76	1.65	
Sepia australis	18.70	1064	1.35	
Parapagurus dimorphus	14.82	1216	1.07	
Spatangus capensis	11.40	38	0.82	
Holohalaelurus regani	9.40	32	0.68	
Merluccius paradoxus	8.36	912	0.60	981
Callorhinchus capensis	7.60	2	0.55	
Lophius vomerinus	7.60	38	0.55	983
Cynoglossus zanzibarensis	7.03	190	0.51	982
Rossia enigmatica	5.28	228	0.38	
Thyrsites atun	5.00	2	0.36	985
Pterygosquilla armata capensis	4.90	684	0.35	
Caelorinchus simorhynchus	4.64	228	0.33	
Not found	4.00	6	0.29	
Sponges - spiky	4.00	2	0.29	
Chelidonichthys capensis	3.80	6	0.27	975
Todarodes angolensis	3.20	4	0.23	972
Todaropsis eblanae	3.04	38	0.22	984
Starfish red	2.89	190	0.21	
Genypterus capensis	2.80	12	0.20	978
CYPRAEIDAE (Bulia)	2.66	38	0.19	
Merluccius capensis	2.40	4	0.17	974
Zeus capensis	1.88	2	0.14	976
Todarodes angolensis	1.00	2	0.07	977
Nudibranchs	0.34	76	0.02	
Sepia hieronis	0.27	76	0.02	
Ophiuroidea	0.27	76	0.02	
Total	1384.47		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 97
DATE :04/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°4.50
start stop duration Lon E 16°40.22
TIME :09:15:52 09:44:07 28.0 (min) Purpose : 3
LOG : 5023.15 5024.71 1.6 Region : 6100
FDEPTH: 254 253 Gear cond.: 0
BDEPTH: 254 253 Validity : 0
Towing dir: 0° Wire out : 570 m Speed : 3.3 kn
Sorted : 203 Total catch: 368.55 Catch/hour: 789.76

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	157.71	2036	19.97	997
Lophius vomerinus	90.86	71	11.50	987
Caelorinchus simorhynchus	85.71	1406	10.85	
Parapagurus dimorphus	68.57	4571	8.68	
Helicolenus dactylopterus	55.71	669	7.05	996
Merluccius capensis	39.64	30	5.02	994
Zeus capensis	34.29	79	4.34	992
Merluccius capensis	34.29	26	4.34	993
Spatangus capensis	32.57	251	4.12	
Raja straeleni	24.64	15	3.12	
Paracallionymus costatus	21.77	146	2.76	
Holohalaelurus regani	17.79	49	2.25	
Chelidonichthys capensis	14.79	21	1.87	989
Mustelus palumbes	13.93	6	1.76	
Brama brama	12.86	13	1.63	990
Squalus mitsukurii	11.36	6	1.44	
Cynoglossus zanzibarensis	11.14	146	1.41	998
Thyrsites atun	9.86	4	1.25	986
Not found	6.94	435	0.88	
Todaropsis eblanae	4.97	60	0.63	1001
Etrumeus whiteheadi	4.37	43	0.55	
Emmelichthys nitidus	4.20	43	0.53	
Raja wallacei	4.07	4	0.52	
Starfish yellow	3.77	26	0.48	
Todaropsis eblanae	3.34	51	0.42	1000
Genypterus capensis	3.21	9	0.41	991
Rossia enigmatica	2.66	94	0.34	
Trachurus capensis	2.40	17	0.30	999
Congiopodus spinifer	2.23	9	0.28	
JELLYFISH	2.11	0	0.27	
Lepidopus caudatus	1.59	2	0.20	
Not found	1.37	4	0.17	
Merluccius paradoxus	1.29	2	0.16	1002
Merluccius paradoxus	1.07	2	0.14	1003
Pterygosquilla armata capensis	0.51	103	0.07	
Ophichthus bennettai	0.47	9	0.06	
Merluccius paradoxus	0.39	49	0.05	995
Sepia hieronis	0.31	9	0.04	
Chelidonichthys queketti	0.28	19	0.04	988
Sepia australis	0.19	9	0.02	
Sepia sp. New SA	0.18	43	0.02	
Champsodon capensis	0.13	9	0.02	
Mursia cristimanus	0.07	9	0.01	
Maurolicus muelleri	0.04	26	0.01	
Sepia typica	0.04	9	0.01	
Anemones, pink	0.03	9	0.00	
Not found	0.03	9	0.00	
Total	789.76		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 98
DATE :04/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°8.13
start stop duration Lon E 16°29.80
TIME :11:37:31 12:08:11 31.0 (min) Purpose : 3
LOG : 5036.46 5037.95 1.5 Region : 6100
FDEPTH: 303 305 Gear cond.: 0
BDEPTH: 303 305 Validity : 0
Towing dir: 0° Wire out : 680 m Speed : 2.9 kn
Sorted : 259 Total catch: 541.84 Catch/hour: 1048.72

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	289.16	3428	27.57	1012
Zeus capensis	172.26	440	16.43	1004
Parapagurus dimorphus	145.16	7258	13.84	
Caelorinchus simorhynchus	99.29	902	9.47	
Merluccius capensis	58.06	27	5.54	1010
Merluccius capensis	38.71	21	3.69	1011
Helicolenus dactylopterus	38.71	290	3.69	1014
Callorhinchus capensis	23.23	6	2.21	
Holohalaelurus regani	19.94	101	1.90	
Brama brama	18.39	33	1.75	1005
Merluccius paradoxus	16.26	17	1.55	1008
Chelidonichthys queketti	15.74	73	1.50	1013
Lophius vomerinus	15.48	15	1.48	1015
Malacocephalus laevis	12.10	73	1.15	
Spatangus capensis	12.10	97	1.15	
Genypterus capensis	10.84	12	1.03	1007
Octopus vulgaris	9.14	4	0.87	
Todarodes angolensis	7.86	12	0.75	1016
Polyprion americanus	7.16	2	0.68	1006
Epigonus sp.	6.77	97	0.65	
Emmelichthys nitidus	5.81	24	0.55	
Raja straeleni	5.81	6	0.55	
Todaropsis eblanae	5.32	73	0.51	1017
Paracallionymus costatus	3.99	393	0.38	
Not found	3.39	375	0.32	
Trachurus capensis	1.48	12	0.14	1019
Merluccius paradoxus	1.43	2	0.14	1009
Cynoglossus zanzibarensis	1.21	24	0.12	1020
Rossia enigmatica	1.08	132	0.10	
Merluccius paradoxus	0.69	145	0.07	1018
Maurolicus muelleri	0.60	0	0.06	
Sepia hieronis	0.57	12	0.05	
Squalus mitsukurii	0.44	12	0.04	
Echinus gilchristi ?	0.18	24	0.02	
Mursia cristimanus	0.12	12	0.01	
Rochinia sp.	0.12	12	0.01	
Sepia sp.	0.09	12	0.01	
Sepia typica	0.06	12	0.01	
Total	1048.72		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 99
DATE :04/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°24.08
start stop duration Lon E 16°41.45
TIME :02:56:42 03:27:26 31.0 (min) Purpose : 3
LOG : 5055.77 5057.31 1.5 Region : 6100
FDEPTH: 299 302 Gear cond.: 0
BDEPTH: 299 302 Validity : 0
Towing dir: 0° Wire out : 680 m Speed : 3.0 kn
Sorted : 129 Total catch: 239.95 Catch/hour: 464.42

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	131.61	1301	28.34	1026
Zeus capensis	99.48	151	21.42	1021
Helicolenus dactylopterus	48.00	418	10.34	1027
Callorhinchus capensis	17.42	4	3.75	
Caelorinchus simorhynchus	17.03	155	3.67	
Merluccius capensis	15.48	10	3.33	1025
Parapagurus dimorphus	13.16	1965	2.83	
Merluccius capensis	12.39	8	2.67	1024
Epigonus sp.	11.07	1537	2.38	
Lophius vomerinus	9.29	6	2.00	1022
Holohalaelurus regani	9.29	27	2.00	
Chelidonichthys queketti	9.29	46	2.00	1029
Octopus magnificus	9.10	4	1.96	
Spatangus capensis	8.52	62	1.83	
Malacocephalus laevis	8.52	46	1.83	
Paracallionymus costatus	7.74	968	1.67	
Todaropsis eblanae	7.51	108	1.62	1030
PORIFERA (Sponges)	3.48	15	0.75	
Genypterus capensis	2.90	6	0.63	1028
Merluccius paradoxus	2.86	658	0.62	1031
Raja wallacei	2.40	2	0.52	
Sepia sp.	2.14	39	0.46	
Rossia enigmatica	1.94	93	0.42	
Echinus gilchristi ?	1.78	39	0.38	
Not found	1.68	0	0.36	
Sponges - round	1.66	108	0.36	
Merluccius paradoxus	1.66	4	0.36	1023
Squalus mitsukurii	1.32	8	0.28	
Aphrodite pol	0.95	217	0.21	
Cynoglossus zanzibarensis	0.92	8	0.20	1032
Anemones, pink	0.86	15	0.19	
Starfish red	0.65	8	0.14	
Not found	0.57	54	0.12	
CYPRAEIDAE (Bulia)	0.42	2	0.09	
Gorgonians	0.41	8	0.09	0
Not found	0.27	8	0.06	
Exodromidia sp.	0.20	15	0.04	
Gorgonians	0.19	2	0.04	
Lophius vomerinus	0.15	8	0.03	1033
Shrimps, small, non comm.	0.05	8	0.01	
Sepia typica	0.02	8	0.01	
Total	464.42		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 100
DATE :05/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°18.96
start stop duration Lon E 16°15.49
TIME :04:25:41 04:55:47 30.0 (min) Purpose : 3
LOG : 5141.56 5143.15 1.6 Region : 6100
FDEPTH: 431 432 Gear cond.: 0
BDEPTH: 431 432 Validity : 0
Towing dir: 0° Wire out : 970 m Speed : 3.2 kn
Sorted : 310 Total catch: 310.40 Catch/hour: 620.79

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	158.00	154	25.45	1039
Merluccius paradoxus	123.00	632	19.81	1035
Helicolenus dactylopterus	96.00	272	15.46	1041
Merluccius paradoxus	60.00	90	9.67	1040
Genypterus capensis	52.60	30	8.47	1036
Caelorinchus simorhynchus	32.20	418	5.19	
Bassanago albescens	28.40	32	4.57	
Raja pullopunctata	13.60	0	2.19	
Lophius vomerinus	13.40	4	2.16	1034
Dead coral	10.80	0	1.74	
Holohalaelurus regani	4.00	10	0.64	
Not found	4.00	18	0.64	
Brama brama	3.40	2	0.55	1037
Rossia enigmatica	2.54	110	0.41	
Rochinia sp.	2.40	342	0.39	
Squalus mitsukurii	2.00	2	0.32	
Todaropsis eblanae	2.00	14	0.32	1038
Anemones, pink	1.84	4	0.30	
Anemones, white	1.82	26	0.29	
Raja spinacidermis	1.50	2	0.24	
Scyliorhinus capensis	1.00	2	0.16	
Epigonus sp.	0.96	54	0.15	
Hermits, mixed	0.70	44	0.11	
Paracallionymus costatus	0.62	78	0.10	
Lucigadus ori	0.58	76	0.09	
Malacocephalus laevis	0.48	2	0.08	
Whelks	0.44	10	0.07	
Sponges - round	0.42	20	0.07	
Parapagurus pilosimanus	0.30	30	0.05	
Not found	0.22	24	0.04	
Not found	0.20	18	0.03	
Selachophidium guentheri	0.20	2	0.03	
Physiculus capensis	0.19	8	0.03	
Holohalaelurus regani	0.18	2	0.03	0
Not found	0.15	2	0.02	
Hoplostethus mediterraneus	0.12	18	0.02	
Tripterophycis gilchristi	0.11	8	0.02	
Not found	0.09	20	0.01	
Starfish red	0.06	10	0.01	
Stereomastis sp.	0.04	6	0.01	
Parapagurus dimorphus	0.04	10	0.01	
Sepia sp. New SA	0.03	8	0.01	
Not found	0.03	32	0.01	
Photichthys argenteus	0.03	2	0.01	
Cone gastropod	0.02	4	0.00	
Anemone - purple 2	0.02	2	0.00	
Mursia cristimanus	0.02	2	0.00	
Amalda obtusa	0.01	4	0.00	
Lycoteuthis lorigera	0.01	2	0.00	
Hoplostethus mediterraneus, juvenile	0.01	4	0.00	
Starfish yellow	0.01	2	0.00	
Total	620.79		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 101
DATE :05/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°29.20
start stop duration Lon E 15°55.37
TIME :08:16:59 08:48:41 32.0 (min) Purpose : 3
LOG : 5166.87 5168.23 1.4 Region : 6100
FDEPTH: 524 525 Gear cond.: 0
BDEPTH: 524 525 Validity : 0
Towing dir: 0° Wire out : 1000 m Speed : 2.6 kn
Sorted : 612 Total catch: 612.41 Catch/hour: 1148.28

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	637.50	731	55.52	1042
Merluccius paradoxus	226.88	502	19.76	1047
Ruvettus pretiosus	61.88	8	5.39	
Merluccius paradoxus	61.88	103	5.39	1046
Helicolenus dactylopterus	52.50	249	4.57	1045
Lophius vomerinus	18.75	9	1.63	1044
Notacanthus sexspinis	16.88	287	1.47	
Funchalia woodwardi	13.88	992	1.21	
Genypterus capensis	13.13	4	1.14	1043
Caelorinchus braueri	12.19	81	1.06	
Raja caudaspinosa	7.50	11	0.65	
Selachophidium guentheri	6.94	92	0.60	
Dead coral	3.00	0	0.26	
Chaeceon macphersoni	2.63	30	0.23	
Malacocephalus laevis	2.25	8	0.20	
Photichthys argenteus	1.78	84	0.16	
Mesobius antipodum	1.33	2	0.12	
Not found	1.31	219	0.11	
Cruriraja parcomaculata	1.13	2	0.10	
Nezumia sp.	1.05	13	0.09	
Hydrolagus sp.	0.98	2	0.08	
Rochinia sp.	0.94	118	0.08	
Bassanago albescens	0.94	2	0.08	
Caelorinchus matamua	0.45	13	0.04	
Not found	0.17	41	0.02	
Lucigadus ori	0.17	15	0.01	
Nezumia sp.	0.07	2	0.01	0
Tripterophycis gilchristi	0.05	4	0.00	
Lycoteuthis lorigera	0.04	2	0.00	
Symbolophorus boops	0.03	2	0.00	
Starfish yellow	0.03	2	0.00	
Stereomastis sp.	0.03	4	0.00	
Gymnoscopelus sp.	0.01	2	0.00	
Lampanyctodes hectoris	0.01	2	0.00	
Paracallionymus costatus	0.01	2	0.00	
Not found	0.01	2	0.00	
Lampanyctodes hectoris	0.00	2	0.00	0
Total	1148.28		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 102
DATE :05/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°13.94
start stop duration Lon E 15°52.46
TIME :10:53:42 11:23:44 30.0 (min) Purpose : 3
LOG : 5182.68 5184.35 1.7 Region : 6100
FDEPTH: 486 487 Gear cond.: 0
BDEPTH: 486 487 Validity : 0
Towing dir: 0° Wire out : 1050 m Speed : 3.4 kn
Sorted : 938 Total catch: 937.78 Catch/hour: 1875.56

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1234.00	2840	65.79	1048
Merluccius paradoxus	230.80	168	12.31	1054
Lophius vomerinus	99.60	30	5.31	1052
Helicolenus dactylopterus	57.60	162	3.07	1049
Bassanago albescens	52.00	86	2.77	
Malacocephalus laevis	32.00	94	1.71	
Ruvettus pretiosus	30.00	8	1.60	
Solenocera sp.	28.00	38	1.49	
Caelorinchus simorhynchus	26.60	182	1.42	
Raja leopardus	11.00	4	0.59	
Merluccius paradoxus	10.00	12	0.53	1053
Parapagurus pilosimanus	8.80	326	0.47	
Genypterus capensis	8.20	6	0.44	1051
Scyliorhinus capensis	5.80	6	0.31	
Lepidopus caudatus	5.40	6	0.29	
Raja caudaspinosa	3.80	2	0.20	
Lucigadus ori	3.48	218	0.19	
Not found	3.44	840	0.18	
Brama brama	3.40	4	0.18	1050
Squalus mitsukurii	3.20	2	0.17	
Notacanthus sexspinis	3.06	36	0.16	
Selachophidium guentheri	2.72	36	0.15	
Todarodes angolensis	2.40	6	0.13	1055
Hoplostethus mediterraneus	1.68	16	0.09	
Photichthys argenteus	1.32	94	0.07	
Rossia enigmatica	1.04	44	0.06	
Beryx splendens	0.92	4	0.05	1056
Physiculus capensis	0.79	32	0.04	
Holohalaelurus regani	0.68	2	0.04	
Paracallionymus costatus	0.64	80	0.03	
Anemones, pink	0.61	2	0.03	
Todaropsis eblanae	0.35	2	0.02	1057
Rochinia sp.	0.34	54	0.02	
Caelorinchus braueri	0.33	28	0.02	
Psychrolutes macrocephalus	0.26	2	0.01	
Not found	0.23	18	0.01	
Not found	0.18	2	0.01	
Whelks	0.15	6	0.01	
Lycoteuthis lorigera	0.15	10	0.01	
Dead coral	0.13	0	0.01	
Gymnoscopelus sp.	0.09	12	0.00	
Persparsia kopua	0.08	2	0.00	
Tripterophycis gilchristi	0.06	2	0.00	
Stereomastis sp.	0.05	12	0.00	
Gymnoscopelus sp.	0.05	2	0.00	0
Not found	0.03	10	0.00	
Argyropelecus aculeatus	0.03	8	0.00	
Symbolophorus boops	0.03	2	0.00	
Diaphus sp.	0.02	6	0.00	
Stoloteuthis sp.	0.01	4	0.00	
Lampanyctodes hectoris	0.01	2	0.00	
Total	1875.56		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 103
DATE :05/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 31°3.11
start stop duration Lon E 15°55.55
TIME :01:23:39 01:53:51 30.0 (min) Purpose : 3
LOG : 5197.23 5198.86 1.6 Region : 6100
FDEPTH: 350 355 Gear cond.: 0
BDEPTH: 350 355 Validity : 0
Towing dir: 0° Wire out : 750 m Speed : 3.2 kn
Sorted : 817 Total catch: 1037.79 Catch/hour: 2075.57

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Zeus capensis	862.80	1728	41.57	1353
Merluccius capensis	390.00	122	18.79	1058
Merluccius paradoxus	172.00	1000	8.29	1066
Helicolenus dactylopterus	155.00	730	7.47	1067
Caelorinchus simorhynchus	115.00	1150	5.54	
Parapagurus dimorphus	88.00	17600	4.24	
Merluccius paradoxus	52.00	82	2.51	1061
Lophius vomerinus	34.80	22	1.68	1063
Epigonus sp.	27.40	570	1.32	
Not found	26.00	2	1.25	1065
Holohalaelurus regani	26.00	52	1.25	
Malacocephalus laevis	23.70	50	1.14	
Brama brama	17.60	22	0.85	1064
Genypterus capensis	16.40	22	0.79	1062
Merluccius capensis	15.00	6	0.72	1059
Squalus mitsukurii	11.20	8	0.54	
Todaropsis eblanae	10.60	90	0.51	1070
Todaropsis eblanae	6.00	70	0.29	1069
Cruriraja parcomaculata	4.40	10	0.21	
Scyliorhinus capensis	3.40	8	0.16	
Cynoglossus zanzibarensis	2.90	30	0.14	1068
Paracallionymus costatus	2.70	264	0.13	
Not found	2.66	10	0.13	
Lepidopus caudatus	2.00	6	0.10	
Hoplostethus mediterraneus	1.86	20	0.09	
Spatangus capensis	1.79	20	0.09	
Cyttus traversi	1.53	10	0.07	
Rossia enigmatica	1.08	50	0.05	
Not found	0.77	64	0.04	
Whelks	0.74	10	0.04	
Not found	0.20	30	0.01	
Rochinia sp.	0.04	10	0.00	
Total	2075.57		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 104
DATE :05/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°52.23
start stop duration Lon E 16°24.50
TIME :05:03:05 05:34:53 32.0 (min) Purpose : 3
LOG : 5227.61 5229.27 1.7 Region : 6100
FDEPTH: 274 272 Gear cond.: 0
BDEPTH: 274 272 Validity : 0
Towing dir: 0° Wire out : 650 m Speed : 3.1 kn
Sorted : 180 Total catch: 376.52 Catch/hour: 705.97

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Caelorinchus simorhynchus	118.13	2147	16.73	
Parapagurus dimorphus	88.69	19708	12.56	
Zeus capensis	85.63	244	12.13	1082
Chelidonichthys queketti	61.26	351	8.68	1083
Merluccius paradoxus	52.50	581	7.44	1080
Merluccius capensis	50.63	28	7.17	1074
Helicolenus dactylopterus	50.00	675	7.08	1081
Lophius vomerinus	33.75	24	4.78	1078
Squalus mitsukurii	30.00	22	4.25	
Cynoglossus zanzibarensis	21.25	431	3.01	1079
Malacocephalus laevis	18.75	118	2.66	
Holohalaelurus regani	15.19	51	2.15	
Merluccius capensis	12.38	8	1.75	1073
Thyrsites atun	12.00	4	1.70	1075
Paracallionymus costatus	9.99	909	1.42	
Emmelichthys nitidus	5.63	51	0.80	
Raja straeleni	4.88	4	0.69	
Callorhinchus capensis	4.88	2	0.69	
Merluccius paradoxus	4.37	876	0.62	1085
Todaropsis eblanae	4.19	56	0.59	1084
Merluccius paradoxus	3.75	4	0.53	1071
Todarodes angolensis	3.51	6	0.50	1086
Genypterus capensis	2.44	4	0.35	1077
Mustelus palumbes	2.25	2	0.32	
Chelidonichthys capensis	2.06	2	0.29	1076
Spatangus capensis	1.82	19	0.26	
Congiopodus spinifer	1.77	13	0.25	
Merluccius paradoxus	1.13	2	0.16	1072
Not found	0.81	163	0.11	
Rossia enigmatica	0.69	56	0.10	
Echinus gilchristi ?	0.49	38	0.07	
XXXXXXX	0.19	62	0.03	
Physiculus capensis	0.19	13	0.03	
Not found	0.16	24	0.02	
Hermits, mixed	0.14	6	0.02	
Sponges - round	0.13	6	0.02	
Not found	0.11	19	0.02	
Starfish red	0.08	6	0.01	
Maurolicus muelleri	0.06	0	0.01	
Rochinia sp.	0.04	6	0.01	
Sepia typica	0.04	6	0.01	
Idiosepius sp.	0.04	13	0.01	
Pterygosquilla armata capensis	0.02	6	0.00	
Aphrodite pol	0.01	6	0.00	
XXXXXXX	0.01	6	0.00	0
Plastic bags	0.00	2	0.00	
Total	705.98		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 105
DATE :06/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°44.82
start stop duration Lon E 16°41.65
TIME :04:32:33 04:58:21 26.0 (min) Purpose : 3
LOG : 5279.16 5280.48 1.3 Region : 6100
FDEPTH: 232 229 Gear cond.: 0
BDEPTH: 232 229 Validity : 0
Towing dir: 0° Wire out : 575 m Speed : 3.1 kn
Sorted : 94 Total catch: 262.24 Catch/hour: 605.17

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Parapagurus dimorphus	108.00	7200	17.85	
Paracallionymus costatus	96.92	5296	16.02	
Aequorea forskalea	91.38	0	15.10	
Merluccius paradoxus	65.77	824	10.87	1089
Cynoglossus zanzibarensis	40.15	942	6.64	1097
Merluccius paradoxus	32.54	3434	5.38	1098
Helicolenus dactylopterus	23.82	955	3.94	1101
Holohalaelurus regani	18.00	115	2.97	
Merluccius capensis	13.85	16	2.29	1095
Spatangus capensis	12.18	111	2.01	
Sepia australis	9.55	563	1.58	
Not found	7.62	277	1.26	
Raja straeleni	7.38	9	1.22	
Sea pens	6.92	37	1.14	
Not found	6.92	138	1.14	
Lophius vomerinus	6.46	12	1.07	1090
Todaropsis eblanae	6.23	97	1.03	1100
Chelidonichthys capensis	5.54	9	0.92	1092
Etrumeus whiteheadi	5.12	125	0.85	
Genypterus capensis	5.08	37	0.84	1087
Caelorinchus simorhynchus	4.29	125	0.71	
Rossia enigmatica	3.05	194	0.50	
Squalus mitsukurii	3.00	5	0.50	
Zeus capensis	2.91	28	0.48	1099
Mustelus palumbes	2.54	2	0.42	
Exodromidia sp.	2.53	152	0.42	
Hermits, mixed	2.22	111	0.37	
Merluccius capensis	1.85	2	0.31	1093
CYPRAEIDAE (Bulia)	1.80	14	0.30	
Congiopodus spinifer	1.66	14	0.27	
Myxine capensis	1.66	14	0.27	
Chelidonichthys queketti	1.57	7	0.26	1088
Sepia hieronis	1.45	69	0.24	
Zeus capensis	1.38	2	0.23	1091
Merluccius paradoxus	1.15	2	0.19	1094
Pterygosquilla armata capensis	0.80	97	0.13	
Not found	0.72	42	0.12	
Not found	0.47	14	0.08	
Sepia sp. New SA	0.18	28	0.03	
Maurolicus muelleri	0.14	0	0.02	
Goneplax angulata	0.14	14	0.02	
Lophius vomerinus	0.10	14	0.02	1102
Starfish - purple	0.07	28	0.01	
Sepia typica	0.04	14	0.01	
Total	605.17		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 106
DATE :06/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°36.54
start stop duration Lon E 16°52.26
TIME :06:29:03 06:59:25 30.0 (min) Purpose : 3
LOG : 5292.37 5293.94 1.6 Region : 6100
FDEPTH: 192 193 Gear cond.: 0
BDEPTH: 192 193 Validity : 0
Towing dir: 0° Wire out : 450 m Speed : 3.1 kn
Sorted : 300 Total catch: 430.75 Catch/hour: 861.50

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Sponges - yellow	484.00	0	56.18	
Merluccius paradoxus	150.00	2620	17.41	1113
Sepia australis	80.00	2758	9.29	
Paracallionymus costatus	32.00	2666	3.71	
Not found	15.00	500	1.74	
Caelorinchus simorhynchus	12.40	496	1.44	
Thyrsites atun	12.00	6	1.39	1104
Merluccius capensis	10.60	20	1.23	1109
JELLYFISH	10.00	0	1.16	
Lophius vomerinus	8.60	12	1.00	1108
Brama brama	8.00	6	0.93	1103
Helicolenus dactylopterus	6.80	490	0.79	1114
Chelidonichthys capensis	3.60	4	0.42	1112
Congiopodus spinifer	3.30	30	0.38	
Merluccius paradoxus	3.10	200	0.36	1116
Merluccius capensis	2.60	6	0.30	1110
Not found	2.60	10	0.30	
Todarodes angolensis	2.20	2	0.26	1105
Lophius vomerinus	2.17	110	0.25	1117
Cynoglossus zanzibarensis	1.80	50	0.21	1115
Not found	1.71	220	0.20	
Etrumeus whiteheadi	1.35	30	0.16	
Lepidopus caudatus	1.08	10	0.13	
Todarodes angolensis	1.00	2	0.12	1106
Merluccius paradoxus	1.00	2	0.12	1111
Genypterus capensis	1.00	8	0.12	1107
Exodromidia sp.	0.82	60	0.10	
Todaropsis eblanae	0.77	10	0.09	1118
Holohalaelurus regani	0.70	20	0.08	
Parapagurus dimorphus	0.41	20	0.05	
Macropipus australis	0.33	10	0.04	
Not found	0.22	10	0.03	
Pterygosquilla armata capensis	0.21	20	0.02	
Mursia cristimanus	0.08	10	0.01	
Starfish - purple	0.05	10	0.01	
Total	861.50		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 107
DATE :06/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°15.55
start stop duration Lon E 16°58.23
TIME :09:23:49 09:54:49 31.0 (min) Purpose : 3
LOG : 5314.73 5316.25 1.5 Region : 6100
FDEPTH: 151 152 Gear cond.: 0
BDEPTH: 151 152 Validity : 0
Towing dir: 0° Wire out : 380 m Speed : 2.9 kn
Sorted : 111 Total catch: 285.50 Catch/hour: 552.58

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Aequorea forskalea	185.81	0	33.63	
Thyrsites atun	110.32	50	19.96	1120
Pterygosquilla armata capensis	109.16	12130	19.75	
Maurolicus muelleri	25.55	21290	4.62	
Merluccius paradoxus	25.08	790	4.54	1125
Todaropsis eblanae	15.79	348	2.86	1127
Not found	13.59	226	2.46	
Lophius vomerinus	12.77	52	2.31	1124
Brama brama	10.65	8	1.93	1119
Sepia australis	10.45	348	1.89	
Chelidonichthys capensis	7.94	25	1.44	1121
Merluccius capensis	4.65	23	0.84	1126
Genypterus capensis	4.65	52	0.84	1122
Sponges - yellow	3.14	12	0.57	
Whelks	2.98	46	0.54	
Cynoglossus zanzibarensis	1.58	35	0.29	1128
Sepia hieronis	1.10	23	0.20	
Sufflogobius bibarbatus	1.03	151	0.19	
Paracallionymus costatus	0.98	163	0.18	
Helicolenus dactylopterus	0.97	15	0.18	1123
Not found	0.93	12	0.17	
Not found	0.88	70	0.16	
Ophichthus bennettai	0.63	0	0.11	
Macropipus australis	0.55	12	0.10	
Helicolenus dactylopterus	0.39	46	0.07	1129
Starfish red	0.34	70	0.06	
B I V A L V E S	0.16	35	0.03	
Physiculus capensis	0.14	12	0.03	
Lophius vomerinus	0.14	12	0.03	1130
Exodromidia sp.	0.13	12	0.02	
Lampanyctodes hectoris	0.12	0	0.02	
Total	552.58		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 108
DATE :06/02/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 30°17.35
start stop duration Lon E 16°46.30
TIME :11:35:10 12:05:14 30.0 (min) Purpose : 3
LOG : 5327.78 5329.27 1.5 Region : 6100
FDEPTH: 187 188 Gear cond.: 0
BDEPTH: 187 188 Validity : 0
Towing dir: 0° Wire out : 440 m Speed : 3.0 kn
Sorted : 359 Total catch: 696.32 Catch/hour: 1392.63

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Sponges - yellow	660.00	0	47.39	
Merluccius paradoxus	528.00	12342	37.91	1135
Sepia australis	92.40	4620	6.63	
Aequorea forskalea	33.00	0	2.37	
Merluccius paradoxus	11.44	1012	0.82	1136
Merluccius capensis	10.20	32	0.73	1131
Raja straeleni	8.00	2	0.57	
Todaropsis eblanae	7.48	110	0.54	1138
Callorhinchus capensis	7.00	2	0.50	
Helicolenus dactylopterus	6.60	242	0.47	1139
Genypterus capensis	5.60	36	0.40	1132
Lampanyctodes hectoris	3.96	0	0.28	
Cynoglossus zanzibarensis	2.64	44	0.19	1137
Holohalaelurus regani	2.53	66	0.18	
Not found	2.50	12	0.18	
Maurolicus muelleri	1.76	0	0.13	
Pterygosquilla armata capensis	1.67	220	0.12	
Not found	1.64	6	0.12	
Congiopodus spinifer	1.54	22	0.11	
Lophius vomerinus	1.40	16	0.10	1134
Caelorinchus simorhynchus	1.32	66	0.09	
Chelidonichthys capensis	1.20	4	0.09	1133
Paracallionymus costatus	0.62	44	0.04	
Starfish - purple	0.07	22	0.00	
Exodromidia sp.	0.07	22	0.00	
Total	1392.63		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 109
DATE :06/02/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 30°22.41
start stop duration Lon E 16°33.40
TIME :01:57:56 02:29:15 31.0 (min) Purpose : 3
LOG : 5342.48 5344.15 1.7 Region : 6100
FDEPTH: 211 214 Gear cond.: 0
BDEPTH: 211 214 Validity : 0
Towing dir: 0° Wire out : 470 m Speed : 3.2 kn
Sorted : 152 Total catch: 265.32 Catch/hour: 513.51

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Chelidonichthys capensis	139.35	273	27.14	1345
Merluccius paradoxus	58.06	852	11.31	1349
Paracallionymus costatus	52.26	4355	10.18	
Etrumeus whiteheadi	48.39	931	9.42	
Spatangus capensis	29.03	397	5.65	
Not found	17.71	933	3.45	
Merluccius capensis	17.42	21	3.39	1141
Sepia australis	15.48	619	3.02	
Callorhinchus capensis	15.48	4	3.02	
Lophius vomerinus	10.26	17	2.00	1350
Helicolenus dactylopterus	9.68	648	1.88	1140
Raja wallacei	9.29	6	1.81	
Raja straeleni	8.52	8	1.66	
Thyrsites atun	8.32	6	1.62	1347
Centrophorus squamosus	6.97	12	1.36	
Trachurus capensis	6.87	48	1.34	1146
Brama brama	6.77	4	1.32	1346
Cynoglossus zanzibarensis	4.84	77	0.94	1144
Todaropsis eblanae	4.65	77	0.90	1143
Anemones, pink	4.65	19	0.90	
Merluccius paradoxus	4.35	542	0.85	1145
Holohalaelurus regani	3.87	29	0.75	
Merluccius capensis	3.68	6	0.72	1142
Anemones, coral	3.60	68	0.70	
Mustelus palumbes	3.10	2	0.60	
Lepidopus caudatus	2.90	2	0.57	
Genypterus capensis	2.90	23	0.57	1344
JELLYFISH	2.90	0	0.57	
Rossia enigmatica	2.23	106	0.43	
Parapagurus dimorphus	1.70	126	0.33	
Merluccius paradoxus	1.55	4	0.30	1352
Zeus capensis	1.35	2	0.26	1348
Whelks	1.22	19	0.24	
Caelorinchus simorhynchus	1.02	19	0.20	
Not found	0.86	19	0.17	
Congiopodus spinifer	0.81	10	0.16	
Chelidonichthys queketti	0.77	6	0.15	1351
Physiculus capensis	0.26	19	0.05	
Mursia cristimanus	0.19	10	0.04	
Starfish - purple	0.12	19	0.02	
Not found	0.10	10	0.02	
Lolligoncula mercatoris	0.02	10	0.00	
Total	513.51		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 110
DATE :06/02/13 GEAR TYPE: BT NO: 2 POSITION:Lat S 30°34.05
start stop duration Lon E 16°18.60
TIME :04:44:21 05:16:35 32.0 (min) Purpose : 3
LOG : 5362.04 5363.70 1.7 Region : 6100
FDEPTH: 245 243 Gear cond.: 0
BDEPTH: 245 243 Validity : 0
Towing dir: 0° Wire out : 550 m Speed : 3.1 kn
Sorted : 125 Total catch: 461.26 Catch/hour: 864.87

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	385.13	5533	44.53	1150
Helicolenus dactylopterus	71.66	1414	8.29	1159
Caelorinchus simorhynchus	55.58	829	6.43	
Spatangus capensis	53.63	756	6.20	
Etrumeus whiteheadi	46.80	615	5.41	
Lophius vomerinus	45.94	39	5.31	1152
Merluccius capensis	30.00	21	3.47	1149
Zeus capensis	23.06	107	2.67	1155
Merluccius capensis	18.75	13	2.17	1148
Holohalaelurus regani	15.45	62	1.79	
Cynoglossus zanzibarensis	13.89	292	1.61	1157
Congiopodus spinifer	13.16	73	1.52	
Chelidonichthys capensis	13.13	13	1.52	1151
Paracallionymus costatus	12.19	1016	1.41	
Thyrsites atun	11.25	4	1.30	1147
Squalus mitsukurii	7.80	11	0.90	
Todaropsis eblanae	6.65	73	0.77	1160
Brama brama	6.00	4	0.69	1153
Callorhinchus capensis	5.63	2	0.65	
Emmelichthys nitidus	5.34	49	0.62	
JELLYFISH	4.07	0	0.47	
Nudibranchs	3.90	73	0.45	
Merluccius paradoxus	3.41	561	0.39	1158
Genypterus capensis	3.19	8	0.37	1156
Sponges - yellow	2.36	0	0.27	
Macropipus australis	2.05	24	0.24	
Raja wallacei	1.65	2	0.19	
Chelidonichthys queketti	0.75	4	0.09	1154
Rossia enigmatica	0.63	24	0.07	
Coral	0.61	24	0.07	
Not found	0.59	24	0.07	
Sepia australis	0.29	24	0.03	
Not found	0.15	24	0.02	
Starfish - purple	0.10	24	0.01	
Lolligoncula mercatoris	0.10	24	0.01	
Total	864.87		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 112
DATE :07/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°52.84
start stop duration Lon E 15°32.55
TIME :06:26:09 06:57:22 31.0 (min) Purpose : 3
LOG : 5445.31 5446.85 1.5 Region : 6100
FDEPTH: 456 449 Gear cond.: 0
BDEPTH: 456 449 Validity : 0
Towing dir: 0° Wire out : 900 m Speed : 3.0 kn
Sorted : 956 Total catch: 956.12 Catch/hour: 1850.56

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1004.52	2239	54.28	1165
Merluccius paradoxus	460.65	364	24.89	1169
Merluccius paradoxus	125.81	153	6.80	1170
Genypterus capensis	108.77	60	5.88	1168
Lophius vomerinus	31.94	17	1.73	1325
Not found	20.32	4065	1.10	
Raja caudaspinosa	20.32	17	1.10	
Centrophorus squamosus	12.58	2	0.68	
Helicolenus dactylopterus	11.61	37	0.63	1166
Caelorinchus simorhynchus	10.65	174	0.58	
Notacanthus sexspinis	8.83	110	0.48	
Chaeceon macphersoni	4.95	52	0.27	
Octopus magnificus	3.87	2	0.21	
Photichthys argenteus	2.63	147	0.14	
Todarodes angolensis	2.32	6	0.13	1171
Tripterophycis gilchristi	2.15	165	0.12	
Hoplostethus mediterraneus	2.09	21	0.11	
Anemones, white	1.86	12	0.10	
Todarodes angolensis	1.74	2	0.09	1167
Selachophidium guentheri	1.53	15	0.08	
Hydrolagus africanus	1.43	2	0.08	
Lucigadus ori	1.41	201	0.08	
Rossia enigmatica	1.37	58	0.07	
Physiculus capensis	1.14	62	0.06	
Bassanago albescens	1.06	2	0.06	
Epigonus sp.	0.99	110	0.05	
Lithodes ferox	0.90	2	0.05	
Caelorinchus braueri	0.70	93	0.04	
Paracallionymus costatus	0.64	161	0.03	
Todaropsis eblanae	0.58	4	0.03	1172
Malacocephalus laevis	0.31	2	0.02	
Etmopterus brachyurus	0.30	15	0.02	
Myxine capensis	0.17	2	0.01	
Lycoteuthis lorigera	0.14	6	0.01	
Funchalia woodwardi	0.08	19	0.00	
MYCTOPHIDAE	0.05	8	0.00	
Gymnoscopelus sp.	0.03	2	0.00	
Parapagurus pilosimanus	0.03	2	0.00	
Pterygosquilla armata capensis	0.02	4	0.00	
Paraliparis sp.	0.02	12	0.00	
Symbolophorus boops	0.02	2	0.00	
Champsodon capensis	0.01	2	0.00	
Lampanyctodes hectoris	0.01	4	0.00	
Stoloteuthis sp.	0.01	2	0.00	
Total	1850.56		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 111
DATE :07/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°52.10
start stop duration Lon E 15°29.29
TIME :04:43:30 05:14:03 31.0 (min) Purpose : 3
LOG : 5439.24 5440.77 1.5 Region : 6100
FDEPTH: 533 538 Gear cond.: 0
BDEPTH: 533 538 Validity : 0
Towing dir: 0° Wire out : 1100 m Speed : 3.0 kn
Sorted : 274 Total catch: 274.21 Catch/hour: 530.73

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	197.42	563	37.20	1343
Merluccius paradoxus	139.35	137	26.26	1163
Merluccius paradoxus	54.19	68	10.21	1164
Lophius vomerinus	21.29	6	4.01	1161
Centrophorus squamosus	16.45	4	3.10	
Helicolenus dactylopterus	12.97	45	2.44	1162
Not found	12.58	3145	2.37	
Selachophidium guentheri	12.19	132	2.30	
Raja caudaspinosa	9.68	17	1.82	
Chaeceon macphersoni	9.10	116	1.71	
Raja leopardus	6.77	10	1.28	
Notacanthus sexspinis	6.39	118	1.20	
Anemones, coral	5.42	10	1.02	
Etmopterus brachyurus	4.84	116	0.91	
Hydrolagus sp.	4.84	0	0.91	
Deania profundorum	4.06	6	0.77	
Photichthys argenteus	3.87	130	0.73	
Neoscopelus macrolepidotus	1.90	12	0.36	
Hoplostethus mediterraneus	1.72	2	0.32	
Nezumia sp.	1.16	41	0.22	
Lucigadus ori	0.93	10	0.18	
Bassanago albescens	0.58	2	0.11	
Plesionika martia	0.58	116	0.11	
Myxine capensis	0.48	6	0.09	
Ophichthus bennettai	0.46	2	0.09	
Caelorinchus braueri	0.46	29	0.09	
Tripterophycis gilchristi	0.27	2	0.05	
Physiculus capensis	0.23	10	0.04	
Psychrolutes macrocephalus	0.21	6	0.04	
Bristle worms (straws)	0.12	19	0.02	
Rossia enigmatica	0.09	4	0.02	
Lycoteuthis lorigera	0.05	2	0.01	
Pasiphaea sp.	0.02	2	0.00	
Gymnoscopelus sp.	0.02	15	0.00	
Shark eggs	0.02	2	0.00	
Not found	0.01	2	0.00	
ISOPODS	0.00	2	0.00	
Total	530.73		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 113
DATE :07/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°43.44
start stop duration Lon E 15°20.92
TIME :08:47:57 09:18:19 30.0 (min) Purpose : 3
LOG : 5459.31 5460.73 1.4 Region : 6100
FDEPTH: 592 584 Gear cond.: 0
BDEPTH: 592 584 Validity : 0
Towing dir: 0° Wire out : 1120 m Speed : 2.8 kn
Sorted : 473 Total catch: 2147.26 Catch/hour: 4294.52

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Notacanthus sexspinis	3360.00	37334	78.24	
Merluccius paradoxus	326.00	756	7.59	1173
Merluccius paradoxus	212.00	334	4.94	1176
Merluccius paradoxus	124.00	256	2.89	1177
Caelorinchus braueri	57.50	858	1.34	
Centrophorus squamosus	40.00	4	0.93	
Selachophidium guentheri	31.74	336	0.74	
Caelorinchus matamua	25.80	150	0.60	
Nezumia sp.	22.02	262	0.51	
Bathyraja smithii	22.00	4	0.51	
Etmopterus brachyurus	15.00	560	0.35	
Lophius vomerinus	11.00	2	0.26	1174
Hoplostethus mediterraneus	8.06	112	0.19	
Plesionika martia	6.65	896	0.15	
Hydrolagus sp.	5.28	14	0.12	
Raja leopardus	4.60	6	0.11	
Photichthys argenteus	4.38	188	0.10	
Neoscopelus macrolepidotus	3.17	112	0.07	
Chaeceon macphersoni	3.16	38	0.07	
Histioteuthis miranda	2.60	4	0.06	
Raja caudaspinosa	2.20	8	0.05	
Anemones, coral	1.60	4	0.04	
Deania profundorum	1.60	2	0.04	
Parapagurus pilosimanus	0.93	38	0.02	
Todarodes angolensis	0.92	2	0.02	1178
Helicolenus dactylopterus	0.80	2	0.02	1175
MYCTOPHIDAE	0.52	38	0.01	
Anemones, white	0.38	2	0.01	
Pasiphaea sp.	0.37	38	0.01	
Myxine capensis	0.22	2	0.01	
Total	4294.52		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 114
DATE :07/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°40.56
start stop duration Lon E 15°22.99
TIME :10:43:33 11:14:09 31.0 (min) Purpose : 3
LOG : 5466.23 5467.81 1.6 Region : 6100
FDEPTH: 400 399 Gear cond.: 0
BDEPTH: 400 399 Validity : 0
Towing dir: 0° Wire out : 960 m Speed : 3.1 kn
Sorted : 927 Total catch: 1127.53 Catch/hour: 2182.31

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	919.35	1767	42.13	1185
Merluccius paradoxus	270.97	180	12.42	1180
Genypterus capensis	249.68	176	11.44	1179
Notacanthus sexspinis	233.61	1825	10.70	
Caelorinchus simorhynchus	126.68	1736	5.80	
Lophius vomerinus	77.42	39	3.55	1182
Bassanago albescens	65.81	91	3.02	
Epigonus sp.	65.32	695	2.99	
Helicolenus dactylopterus	50.32	149	2.31	1183
Merluccius paradoxus	34.84	39	1.60	1181
Scyliorhinus capensis	21.29	23	0.98	
Lepidopus caudatus	13.55	14	0.62	
Squalus mitsukurii	9.10	6	0.42	
Raja caudaspinosa	8.52	8	0.39	
Torpedo nobiliana	5.81	2	0.27	
Thyrsites atun	5.42	2	0.25	1184
Holohalaelurus regani	5.42	14	0.25	
Raja leopardus	3.87	4	0.18	
Malacocephalus laevis	3.62	16	0.17	
Anemones, white	2.48	16	0.11	
Lucigadus ori	2.15	428	0.10	
Physiculus capensis	1.97	66	0.09	
Starfish - purple	1.65	165	0.08	
Brama brama	1.45	2	0.07	1186
Tripterophycis gilchristi	0.66	16	0.03	
Parapagurus pilosimanus	0.66	16	0.03	
Paracallionymus costatus	0.66	16	0.03	
Hoplostethus mediterraneus	0.05	16	0.00	
Total	2182.31		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 115
DATE :07/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°40.01
start stop duration Lon E 15°24.28
TIME :12:36:01 01:06:07 30.0 (min) Purpose : 3
LOG : 5472.68 5474.20 1.5 Region : 6100
FDEPTH: 352 347 Gear cond.: 0
BDEPTH: 352 347 Validity : 0
Towing dir: 0° Wire out : 860 m Speed : 3.0 kn
Sorted : 322 Total catch: 715.87 Catch/hour: 1431.74

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	340.00	2032	23.75	1197
Caelorinchus simorhynchus	306.00	4858	21.37	
Zeus capensis	187.00	340	13.06	1196
Lophius vomerinus	176.00	102	12.29	1192
Epigonus sp.	73.96	1192	5.17	
Merluccius capensis	66.40	30	4.64	1188
Genypterus capensis	52.00	54	3.63	1187
Malacocephalus laevis	29.24	42	2.04	
Bristle worms	25.50	0	1.78	
Not found	25.50	0	1.78	0
Merluccius paradoxus	25.20	26	1.76	1190
Helicolenus dactylopterus	22.60	70	1.58	1195
Dead coral	17.00	0	1.19	
Merluccius paradoxus	11.60	14	0.81	1191
Raja wallacei	10.00	2	0.70	
Todaropsis eblanae	9.01	76	0.63	1198
Merluccius capensis	8.00	4	0.56	1189
Holohalaelurus regani	6.80	20	0.47	
Thyrsites atun	5.60	2	0.39	1193
Brama brama	5.20	6	0.36	1194
Squalus mitsukurii	4.80	4	0.34	
Rossia enigmatica	4.08	178	0.28	
Scyliorhinus capensis	4.00	8	0.28	
Not found	3.06	382	0.21	
Spatangus capensis	2.55	26	0.18	
Cruriraja parcomaculata	2.16	4	0.15	
Paracallionymus costatus	1.87	246	0.13	
Raja leopardus	1.48	2	0.10	
Anemones, white	0.75	8	0.05	
Parapagurus pilosimanus	0.67	34	0.05	
Whelks	0.65	8	0.05	
Nudibranchs	0.56	34	0.04	
Not found	0.54	18	0.04	
Starfish red	0.54	8	0.04	
Starfish yellow	0.29	18	0.02	
Hermits, mixed	0.23	18	0.02	
Mursia cristimanus	0.21	18	0.01	
Lycoteuthis lorigera	0.15	26	0.01	
Not found	0.11	8	0.01	
Sepia sp. New SA	0.11	26	0.01	
Parapagurus dimorphus	0.09	18	0.01	
Champsodon capensis	0.08	8	0.01	
Physiculus capensis	0.08	8	0.01	
Lampanyctodes hectoris	0.02	8	0.00	
Rochinia sp.	0.02	8	0.00	
CHCPYCN	0.02	8	0.00	
Amalda obtusa	0.02	8	0.00	
Total	1431.74		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 116
DATE :07/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°30.78
start stop duration Lon E 15°24.96
TIME :02:38:23 03:09:35 31.0 (min) Purpose : 3
LOG : 5483.15 5484.77 1.6 Region : 6100
FDEPTH: 301 301 Gear cond.: 0
BDEPTH: 301 301 Validity : 0
Towing dir: 0° Wire out : 670 m Speed : 3.1 kn
Sorted : 143 Total catch: 473.82 Catch/hour: 917.07

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	402.58	4055	43.90	1204
Caelorinchus simorhynchus	152.32	1858	16.61	
Lophius vomerinus	89.03	46	9.71	1199
Malacocephalus laevis	38.50	139	4.20	
Helicolenus dactylopterus	36.23	215	3.95	1205
Epigonus sp.	27.93	465	3.05	
Merluccius capensis	19.35	6	2.11	1202
Spatangus capensis	14.48	101	1.58	
Holohalaelurus regani	13.20	41	1.44	
Not found	11.95	2988	1.30	
Todaropsis eblanae	11.83	114	1.29	1209
Todarodes angolensis	7.05	13	0.77	1211
Merluccius capensis	6.97	4	0.76	1201
Paracallionymus costatus	6.79	617	0.74	
Callorhinchus capensis	6.54	2	0.71	
Anemones, coral	6.54	25	0.71	
Anemone - purple	6.43	64	0.70	
Merluccius paradoxus	6.00	4	0.65	1200
Zeus capensis	5.91	13	0.64	1206
Trachurus capensis	5.91	13	0.64	1207
Raja straeleni	5.61	4	0.61	
Squalus mitsukurii	5.61	8	0.61	
Genypterus capensis	4.84	6	0.53	1203
Not found	3.77	126	0.41	
Sea pens	3.27	13	0.36	
Raja pullopunctata	2.71	2	0.30	
Chelidonichthys queketti	2.64	13	0.29	1212
Rossia enigmatica	2.14	101	0.23	
Raja caudaspinosa	2.13	2	0.23	
Dead coral	1.76	0	0.19	
Scyliorhinus capensis	1.55	4	0.17	
Aequorea forskalea	1.51	0	0.16	
Cruriraja parcomaculata	0.97	2	0.11	
Merluccius paradoxus	0.88	75	0.10	1208
Sepia hieronis, juvenile	0.73	89	0.08	
Hermits, mixed	0.63	25	0.07	
Cynoglossus zanzibarensis	0.50	25	0.05	1210
Not found	0.15	13	0.02	
Sepia robsoni	0.06	13	0.01	
Pterygosquilla armata capensis	0.04	13	0.00	
Maurolicus muelleri	0.01	13	0.00	
Total	917.07		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 117
DATE :07/02/13 GEAR TYPE: BT NO: 21 POSITION:Lat S 30°25.18
start stop duration Lon E 15°36.98
TIME :05:06:14 05:36:40 30.0 (min) Purpose : 3
LOG : 5499.57 5501.30 1.7 Region : 6100
FDEPTH: 274 269 Gear cond.: 0
BDEPTH: 274 269 Validity : 0
Towing dir: 0° Wire out : 650 m Speed : 3.4 kn
Sorted : 154 Total catch: 382.23 Catch/hour: 764.46

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	310.00	3066	40.55	1220
Caelorinchus simorhynchus	119.00	1190	15.57	
Epigonus sp.	41.00	602	5.36	
Zeus capensis	40.60	72	5.31	1216
Helicolenus dactylopterus	39.00	930	5.10	1221
Lophius vomerinus	34.00	14	4.45	1214
Anemones, pink	30.60	210	4.00	
Holohalaelurus regani	25.20	80	3.30	
Merluccius capensis	24.40	12	3.19	1218
Mustelus palumbes	23.00	18	3.01	
Genypterus capensis	11.80	24	1.54	1213
Squalus mitsukurii	11.20	2	1.47	
Malacocephalus laevis	9.10	40	1.19	
Thyrsites atun	7.00	4	0.92	1215
Callorhinchus capensis	6.00	2	0.78	
Sea pens	3.80	18	0.50	
Emmelichthys nitidus	3.80	10	0.50	
Nudibranchs	3.70	160	0.48	
Cynoglossus zanzibarensis	3.70	110	0.48	1222
Raja leopardus	3.68	2	0.48	
Not found	2.73	1012	0.36	
Paracallionymus costatus	2.40	230	0.31	
Trachurus capensis	1.76	10	0.23	1217
Merluccius paradoxus	1.52	2	0.20	1219
Galeus polli	1.00	4	0.13	
Todaropsis eblanae	0.90	10	0.12	1223
Notopogon macrosolen	0.90	10	0.12	
Todaropsis eblanae	0.90	10	0.12	1354
Spatangus capensis	0.75	10	0.10	
Rossia enigmatica	0.40	30	0.05	
Pterygosquilla armata capensis	0.35	70	0.05	
Not found	0.19	10	0.02	
Sepia sp. New SA	0.08	20	0.01	
Total	764.46		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 118
DATE :08/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 30°19.61
start stop duration Lon E 15°58.37
TIME :04:36:59 05:07:23 30.0 (min) Purpose : 3
LOG : 5546.01 5547.65 1.6 Region : 6100
FDEPTH: 227 231 Gear cond.: 0
BDEPTH: 227 231 Validity : 0
Towing dir: 0° Wire out : 560 m Speed : 3.2 kn
Sorted : 83 Total catch: 174.30 Catch/hour: 348.60

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Etrumeus whiteheadi	56.80	788	16.29	
Helicolenus dactylopterus	44.48	784	12.76	1231
Sepia australis	36.80	2300	10.56	
Thyrsites atun	28.60	14	8.20	1224
Merluccius paradoxus	27.20	352	7.80	1228
Not found	19.52	0	5.60	
Zeus capensis	18.40	112	5.28	1229
Merluccius capensis	16.80	18	4.82	1226
Lophius vomerinus	16.80	12	4.82	1225
Holohalaelurus regani	16.00	58	4.59	
Caelorinchus simorhynchus	14.24	216	4.08	
Squalus mitsukurii	10.00	10	2.87	
Emmelichthys nitidus	8.00	64	2.29	
Octopus magnificus	6.40	2	1.84	
Todaropsis eblanae	6.24	136	1.79	1234
Lepidopus caudatus	5.80	6	1.66	
Cynoglossus zanzibarensis	3.68	88	1.06	1230
Genypterus capensis	3.60	22	1.03	1227
Aequorea forskalea	3.20	0	0.92	
Todaropsis eblanae	3.12	88	0.90	1235
Rossia enigmatica	0.68	40	0.20	
Paracallionymus costatus	0.50	80	0.14	
Anemones, pink	0.44	32	0.13	
Notopogon macrosolen	0.44	8	0.13	
Merluccius paradoxus	0.40	112	0.11	1232
Lophius vomerinus	0.35	16	0.10	1233
Pterygosquilla armata capensis	0.07	8	0.02	
Exodromidia sp.	0.03	8	0.01	
Lolliguncula mercatoris	0.02	8	0.01	
Total	348.62		100.01	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 119
DATE :08/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 30°15.67
start stop duration Lon E 16°6.03
TIME :06:28:34 06:59:44 31.0 (min) Purpose : 3
LOG : 5557.43 5559.10 1.7 Region : 6100
FDEPTH: 216 213 Gear cond.: 0
BDEPTH: 216 213 Validity : 0
Towing dir: 0° Wire out : 530 m Speed : 3.2 kn
Sorted : 255 Total catch: 661.56 Catch/hour: 1280.43

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Etrumeus whiteheadi	841.94	12027	65.75	
Lepidopus caudatus	141.29	141	11.03	
Thyrsites atun	30.97	17	2.42	1237
Helicolenus dactylopterus	29.03	561	2.27	1247
Brama brama	28.26	17	2.21	1236
Merluccius capensis	27.29	29	2.13	1241
Lophius vomerinus	25.55	39	2.00	1239
Sepia australis	20.32	1355	1.59	
Zeus capensis	19.35	145	1.51	1244
Emmelichthys nitidus	16.45	77	1.28	
Merluccius paradoxus	15.87	281	1.24	1245
Aequorea forskalea	13.55	39	1.06	
Chelidonichthys capensis	12.97	15	1.01	1238
Merluccius capensis	7.55	10	0.59	1242
Raja straeleni	7.16	6	0.56	
Todaropsis eblanae	6.97	194	0.54	1249
Trachurus capensis	5.81	39	0.45	1246
Paracallionymus costatus	5.61	703	0.44	
Callorhinchus capensis	5.42	2	0.42	
Genypterus capensis	4.84	23	0.38	1240
Holohalaelurus regani	3.58	17	0.28	
Merluccius paradoxus	2.13	619	0.17	1248
Cynoglossus zanzibarensis	2.03	29	0.16	1250
Merluccius capensis	1.94	10	0.15	1252
Chelidonichthys queketti	1.45	10	0.11	1251
Congiopodus spinifer	1.02	10	0.08	
Merluccius paradoxus	0.97	2	0.08	1243
Sardinops ocellatus	0.58	10	0.05	
Squalus megalops	0.54	2	0.04	
Total	1280.43		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 120
DATE :08/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 30°11.37
start stop duration Lon E 16°22.82
TIME :09:21:19 09:51:27 30.0 (min) Purpose : 3
LOG : 5577.45 5579.21 1.8 Region : 6100
FDEPTH: 192 191 Gear cond.: 0
BDEPTH: 192 191 Validity : 0
Towing dir: 0° Wire out : 450 m Speed : 3.5 kn
Sorted : 250 Total catch: 789.80 Catch/hour: 1579.61

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Etrumeus whiteheadi	1088.00	15542	68.88	
Merluccius capensis	140.00	132	8.86	1255
Chelidonichthys capensis	120.00	240	7.60	1257
Merluccius capensis	114.00	124	7.22	1256
Merluccius paradoxus	19.20	224	1.22	1260
Helicolenus dactylopterus	16.32	448	1.03	1262
Lepidopus caudatus	14.80	12	0.94	
Sepia australis	12.80	704	0.81	
Lophius vomerinus	12.40	14	0.79	1254
Thyrsites atun	9.00	6	0.57	1253
Cynoglossus zanzibarensis	4.80	64	0.30	1261
Paracallionymus costatus	4.48	544	0.28	
Zeus capensis	4.40	0	0.28	
Squalus mitsukurii	4.00	4	0.25	
Congiopodus spinifer	3.52	32	0.22	
Raja straeleni	3.20	2	0.20	
Mustelus palumbes	3.12	2	0.20	
Sardinops ocellatus	1.92	32	0.12	
Holohalaelurus regani	1.68	8	0.11	
Lophius vomerinus	0.77	32	0.05	1265
Chelidonichthys queketti	0.72	6	0.05	
Todaropsis eblanae	0.19	32	0.01	1263
Merluccius paradoxus	0.16	32	0.01	1264
Hermits, mixed	0.13	32	0.01	
Total	1579.61		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 121
DATE :08/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 30°1.26
start stop duration Lon E 16°30.99
TIME :11:44:31 12:14:33 30.0 (min) Purpose : 3
LOG : 5592.64 5594.18 1.5 Region : 6100
FDEPTH: 180 179 Gear cond.: 0
BDEPTH: 180 179 Validity : 0
Towing dir: 0° Wire out : 420 m Speed : 3.1 kn
Sorted : 96 Total catch: 226.46 Catch/hour: 452.91

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	200.00	5726	44.16	1271
Sepia australis	41.00	1530	9.05	
Thyrsites atun	35.00	16	7.73	1266
Lophius vomerinus	28.80	166	6.36	1270
Merluccius paradoxus	27.00	1992	5.96	1272
Paracallionymus costatus	25.40	1558	5.61	
Aequorea forskalea	20.00	0	4.42	
Merluccius capensis	18.00	56	3.97	1269
Sponges - yellow	14.00	0	3.09	
Callorhinchus capensis	6.00	2	1.32	
Lophius vomerinus	5.10	200	1.13	1276
Todarodes angolensis	4.10	10	0.91	1277
Lampanyctodes hectoris	4.00	1176	0.88	
Helicolenus dactylopterus	4.00	220	0.88	1273
Todaropsis eblanae	3.70	80	0.82	1274
Not found	3.46	150	0.76	
Cynoglossus zanzibarensis	3.40	100	0.75	1275
Genypterus capensis	2.60	14	0.57	1268
Holohalaelurus regani	2.57	50	0.57	
Chelidonichthys capensis	2.20	6	0.49	1267
Spatangus capensis	0.71	10	0.16	
Zeus capensis	0.61	10	0.13	1278
Caelorinchus simorhynchus	0.60	30	0.13	
Lepidopus caudatus	0.36	10	0.08	
Maurolicus muelleri	0.30	0	0.07	
Total	452.91		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 122
DATE :08/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 29°55.22
start stop duration Lon E 16°41.04
TIME :02:18:00 02:48:27 30.0 (min) Purpose : 3
LOG : 5606.80 5608.42 1.6 Region : 6100
FDEPTH: 157 158 Gear cond.: 0
BDEPTH: 157 158 Validity : 0
Towing dir: 0° Wire out : 400 m Speed : 3.2 kn
Sorted : 46 Total catch: 115.17 Catch/hour: 230.34

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	122.40	3428	53.14	1285
Aequorea forskalea	42.00	0	18.23	
Sepia australis	27.00	900	11.72	
Pterygosquilla armata capensis	7.80	488	3.39	
Callorhinchus capensis	6.40	2	2.78	
Merluccius capensis	5.40	20	2.34	1282
Merluccius paradoxus	3.78	384	1.64	1286
Brama brama	3.00	2	1.30	1284
Maurolicus muelleri	2.16	1200	0.94	
Chelidonichthys capensis	2.00	6	0.87	1279
Lophius vomerinus	1.80	8	0.78	1280
Todarodes angolensis	1.68	2	0.73	1281
Helicolenus dactylopterus	1.38	84	0.60	1287
Todaropsis eblanae	1.20	30	0.52	1288
Merluccius paradoxus	1.20	6	0.52	1283
Sufflogobius bibarbatus	0.31	8	0.13	
Lophius vomerinus	0.18	6	0.08	1289
Heart urchin	0.16	6	0.07	
Caelorinchus simorhynchus	0.15	12	0.07	
Physiculus capensis	0.08	6	0.03	
Paracallionymus costatus	0.07	12	0.03	
Lepidopus caudatus	0.07	6	0.03	
Lampanyctodes hectoris	0.06	0	0.03	
Turitella	0.06	6	0.03	
Total	230.34		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 123
DATE :08/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 29°36.93
start stop duration Lon E 16°36.47
TIME :04:47:02 05:17:47 31.0 (min) Purpose : 3
LOG : 5625.65 5627.31 1.7 Region : 6100
FDEPTH: 149 148 Gear cond.: 0
BDEPTH: 149 148 Validity : 0
Towing dir: 0° Wire out : 400 m Speed : 3.2 kn
Sorted : 65 Total catch: 65.18 Catch/hour: 126.16

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
JELLYFISH	58.06	0	46.02	
Merluccius paradoxus	14.71	434	11.66	1291
Maurolicus muelleri	13.55	2710	10.74	
Merluccius capensis	11.23	62	8.90	1290
Merluccius paradoxus	9.68	637	7.67	1292
Callorhinchus capensis	6.77	2	5.37	
Sufflogobius bibarbatus	5.30	792	4.20	
Sepia australis	1.86	56	1.47	
Todaropsis eblanae	1.74	91	1.38	1294
Chelidonichthys capensis	1.26	4	1.00	1293
Pterygosquilla armata capensis	0.72	56	0.57	
Genypterus capensis	0.32	6	0.26	1295
Lampanyctodes hectoris	0.19	39	0.15	
Sardinops ocellatus	0.11	2	0.09	
Cynoglossus zanzibarensis	0.11	2	0.09	1296
Paracallionymus costatus	0.11	8	0.09	
Chelidonichthys queketti	0.09	2	0.08	1297
Chelidonichthys queketti	0.09	2	0.07	
Etrumeus whiteheadi	0.08	2	0.06	
Lolliguncula mercatoris	0.05	17	0.04	
Not found	0.03	2	0.02	
Engraulis capensis	0.03	2	0.02	
Caelorinchus simorhynchus	0.02	2	0.02	
Funchalia woodwardi	0.02	2	0.02	
Hermits, mixed	0.01	2	0.01	
Helicolenus dactylopterus	0.01	4	0.00	1298
Exodromidia sp.	0.00	2	0.00	
Total	126.16		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 124
DATE :09/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 29°50.38
start stop duration Lon E 16°10.98
TIME :04:28:14 04:58:39 30.0 (min) Purpose : 3
LOG : 5665.22 5666.75 1.5 Region : 6100
FDEPTH: 184 183 Gear cond.: 0
BDEPTH: 184 183 Validity : 0
Towing dir: 0° Wire out : 455 m Speed : 3.0 kn
Sorted : 56 Total catch: 283.18 Catch/hour: 566.35

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	211.20	5380	37.29	1309
Sepia australis	76.80	3200	13.56	
Merluccius paradoxus	60.48	4824	10.68	1308
Helicolenus dactylopterus	51.84	2096	9.15	1306
Etrumeus whiteheadi	35.20	676	6.22	
Aequorea forskalea	27.20	112	4.80	
Paracallionymus costatus	24.32	1870	4.29	
Merluccius capensis	22.40	56	3.96	1304
Lophius vomerinus	16.20	58	2.86	1303
Todaropsis eblanae	14.40	32	2.54	1310
Spatangus capensis	6.24	48	1.10	
Cynoglossus zanzibarensis	5.60	144	0.99	1307
Not found	3.84	80	0.68	
Chelidonichthys capensis	2.40	4	0.42	1299
Todarodes angolensis	2.40	2	0.42	1301
Raja wallacei	2.04	2	0.36	
Genypterus capensis	1.12	6	0.20	1300
Holohalaelurus regani	0.72	4	0.13	
Trachurus capensis	0.52	2	0.09	1302
Lophius vomerinus	0.43	16	0.08	1311
Sepia hieronis	0.42	16	0.07	
Merluccius paradoxus	0.36	2	0.06	1305
Lampanyctodes hectoris	0.10	32	0.02	
Maurolicus muelleri	0.08	48	0.01	
Lolliguncula mercatoris	0.05	16	0.01	
Total	566.35		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 125
DATE :09/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 29°42.93
start stop duration Lon E 16°19.59
TIME :06:25:46 06:55:48 30.0 (min) Purpose : 3
LOG : 5678.53 5680.09 1.6 Region : 6100
FDEPTH: 168 169 Gear cond.: 0
BDEPTH: 168 169 Validity : 0
Towing dir: 0° Wire out : 420 m Speed : 3.1 kn
Sorted : 161 Total catch: 207.76 Catch/hour: 415.52

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Sponges - yellow	220.00	0	52.95	
Merluccius paradoxus	83.50	2056	20.10	1319
Sepia australis	28.50	1584	6.86	
Aequorea forskalea	13.00	0	3.13	
Lophius vomerinus	10.36	62	2.49	1313
Paracallionymus costatus	8.25	434	1.99	
Callorhinchus capensis	8.20	2	1.97	
Chelidonichthys capensis	7.00	18	1.68	1314
Merluccius paradoxus	6.50	546	1.56	1322
Merluccius capensis	6.28	20	1.51	1316
Helicolenus dactylopterus	5.00	266	1.20	1320
Maurolicus muelleri	2.50	0	0.60	
Brama brama	2.32	2	0.56	1312
Not found	2.30	56	0.55	
Todaropsis eblanae	2.10	65	0.51	1323
Genypterus capensis	1.68	26	0.40	1315
Cynoglossus zanzibarensis	1.45	25	0.35	1321
Merluccius paradoxus	1.20	6	0.29	1317
Holohalaelurus regani	1.20	28	0.29	
Exodromidia sp.	0.90	70	0.22	
Whelks	0.85	10	0.20	
Todarodes angolensis	0.64	2	0.15	1318
Zeus capensis	0.35	10	0.08	1324
Lampanyctodes hectoris	0.30	0	0.07	
Congiopodus spinifer	0.30	2	0.07	
Macropipus australis	0.27	5	0.06	
Pterygosquilla armata capensis	0.19	5	0.05	
Starfish	0.15	5	0.04	
Engraulis capensis	0.11	5	0.03	
Sufflogobius bibarbatus	0.07	10	0.02	
Lamp shell	0.06	10	0.01	
Total	415.52		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 126
DATE :09/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 29°58.55
start stop duration Lon E 15°56.50
TIME :10:01:02 10:31:38 31.0 (min) Purpose : 3
LOG : 5707.02 5708.65 1.6 Region : 6100
FDEPTH: 197 197 Gear cond.: 0
BDEPTH: 197 197 Validity : 0
Towing dir: 0° Wire out : 480 m Speed : 3.2 kn
Sorted : 157 Total catch: 299.27 Catch/hour: 579.24

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	166.65	2669	28.77	1337
Etrumeus whiteheadi	140.52	2162	24.26	
Sepia australis	47.03	2613	8.12	
Helicolenus dactylopterus	36.77	238	6.35	1331
SALPS	27.10	0	4.68	
Merluccius paradoxus	26.71	2795	4.61	1336
Aequorea forskalea	23.23	0	4.01	
Lophius vomerinus	21.87	15	3.78	1330
Merluccius capensis	18.77	29	3.24	1332
Mustelus palumbes	17.42	2	3.01	
Brama brama	15.87	12	2.74	1329
Chelidonichthys capensis	10.84	23	1.87	1328
Thyrsites atun	5.81	2	1.00	1341
Todaropsis eblanae	4.18	87	0.72	1338
Caelorinchus simorhynchus	3.72	52	0.64	
Merluccius capensis	3.48	8	0.60	1333
Chelidonichthys queketti	2.32	15	0.40	1327
Holohalaelurus regani	1.55	8	0.27	
Cynoglossus zanzibarensis	1.28	12	0.22	1339
Merluccius paradoxus	1.16	4	0.20	1326
Todarodes angolensis	1.16	2	0.20	1334
Trachurus capensis	0.58	2	0.10	1335
Genypterus capensis	0.39	2	0.07	1342
Paracallionymus costatus	0.28	35	0.05	
Scomber japonicus	0.28	2	0.05	1340
Lepidopus caudatus	0.26	6	0.05	
Lampanyctodes hectoris	0.02	6	0.00	
Total	579.24		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 127
DATE :09/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 30°4.22
start stop duration Lon E 15°41.42
TIME :12:48:07 01:18:28 30.0 (min) Purpose : 3
LOG : 5724.73 5726.35 1.6 Region : 6100
FDEPTH: 218 214 Gear cond.: 0
BDEPTH: 218 214 Validity : 0
Towing dir: 0° Wire out : 520 m Speed : 3.2 kn
Sorted : 87 Total catch: 86.60 Catch/hour: 173.21

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
SALPS	48.00	0	27.71	
Merluccius paradoxus	35.40	470	20.44	1358
Lophius vomerinus	20.00	10	11.55	1359
Merluccius capensis	13.40	16	7.74	1360
Aequorea forskalea	12.00	0	6.93	
Emmelichthys nitidus	7.60	62	4.39	
Helicolenus dactylopterus	6.20	152	3.58	1357
Sarda sarda	5.00	4	2.89	1355
Holohalaelurus regani	4.20	18	2.42	
Sepia australis	3.60	190	2.08	
Caelorinchus simorhynchus	3.00	24	1.73	
Merluccius paradoxus	2.82	588	1.63	1361
Chelidonichthys queketti	2.80	14	1.62	1356
Etrumeus whiteheadi	1.80	24	1.04	
Cynoglossus zanzibarensis	1.48	32	0.85	1364
Lampanyctodes hectoris	1.10	0	0.64	
Chelidonichthys capensis	1.00	4	0.58	1363
Trachurus capensis	0.94	8	0.54	1362
Malacocephalus laevis	0.60	2	0.35	
Zeus capensis	0.59	4	0.34	1366
Maurolicus muelleri	0.55	0	0.32	
Paracallionymus costatus	0.44	58	0.26	
Todaropsis eblanae	0.28	12	0.16	1365
Congiopodus spinifer	0.19	2	0.11	
Lolliguncula mercatoris	0.14	4	0.08	
Rossia enigmatica	0.06	4	0.03	
ISOPODS	0.00	4	0.00	
Total	173.21		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 128
DATE :09/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 30°3.99
start stop duration Lon E 15°34.76
TIME :02:27:10 02:58:04 31.0 (min) Purpose : 3
LOG : 5732.52 5734.19 1.7 Region : 6100
FDEPTH: 219 221 Gear cond.: 0
BDEPTH: 219 221 Validity : 0
Towing dir: 0° Wire out : 520 m Speed : 3.3 kn
Sorted : 173 Total catch: 173.33 Catch/hour: 335.49

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Helicolenus dactylopterus	55.35	861	16.50	1372
Merluccius paradoxus	54.19	528	16.15	1371
Zeus capensis	39.48	242	11.77	1375
Merluccius capensis	20.52	17	6.12	1369
Emmelichthys nitidus	17.61	275	5.25	
Thyrsites atun	16.84	10	5.02	1367
Trachurus capensis	14.71	91	4.38	1373
Etrumeus whiteheadi	14.13	176	4.21	
Caelorinchus simorhynchus	12.77	120	3.81	
Merluccius capensis	12.39	15	3.69	1370
Galeorhinus galeus	11.61	2	3.46	
Brama brama	11.23	10	3.35	1368
Lophius vomerinus	10.26	8	3.06	1379
Holohalaelurus regani	9.10	33	2.71	
Chelidonichthys capensis	7.35	12	2.19	1374
Mustelus palumbes	5.23	4	1.56	
Todarodes angolensis	4.65	6	1.38	1376
Chelidonichthys queketti	3.10	17	0.92	1378
Cynoglossus zanzibarensis	2.32	68	0.69	1380
Sepia australis	2.03	106	0.61	
Congiopodus spinifer	1.94	14	0.58	
Genypterus capensis	1.47	8	0.44	1382
Merluccius paradoxus	1.43	225	0.43	1383
Todaropsis eblanae	1.20	19	0.36	1381
Lepidopus caudatus	1.14	8	0.34	
Todarodes angolensis	0.97	2	0.29	1377
JELLYFISH	0.97	0	0.29	
Paracallionymus costatus	0.58	58	0.17	
Squalus mitsukurii	0.41	2	0.12	
Spatangus capensis	0.39	4	0.12	
Rossia enigmatica	0.10	8	0.03	
Whelks	0.02	2	0.01	
Total	335.49		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 129
DATE :09/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 30°11.36
start stop duration Lon E 15°27.66
TIME :04:21:05 04:51:52 31.0 (min) Purpose : 3
LOG : 5743.55 5745.18 1.6 Region : 6100
FDEPTH: 242 240 Gear cond.: 0
BDEPTH: 242 240 Validity : 0
Towing dir: 0° Wire out : 550 m Speed : 3.2 kn
Sorted : 233 Total catch: 935.66 Catch/hour: 1810.95

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Emmelichthys nitidus	1278.97	19378	70.62	
Etrumeus whiteheadi	169.08	1879	9.34	
Lepidopus caudatus	111.64	569	6.16	
Merluccius capensis	87.68	45	4.84	1386
Zeus capensis	48.77	205	2.69	1388
Helicolenus dactylopterus	28.18	368	1.56	1390
Merluccius capensis	27.48	17	1.52	1387
Callorhinchus capensis	20.71	6	1.14	
Caelorinchus simorhynchus	11.16	98	0.62	
Brama brama	4.84	4	0.27	1384
Holohalaelurus regani	4.76	19	0.26	
Chelidonichthys queketti	4.66	33	0.26	1389
Squalus mitsukurii	4.26	6	0.24	
Genypterus capensis	4.06	6	0.22	1385
PORIFERA (Sponges)	2.59	0	0.14	
Raja wallacei	0.97	2	0.05	
Congiopodus spinifer	0.70	2	0.04	
Paracallionymus costatus	0.43	54	0.02	
Total	1810.95		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 130
DATE :10/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 30°20.53
start stop duration Lon E 15°6.92
TIME :04:37:02 05:07:27 30.0 (min) Purpose : 3
LOG : 5824.63 5826.18 1.6 Region : 6100
FDEPTH: 412 410 Gear cond.: 0
BDEPTH: 412 410 Validity : 0
Towing dir: 0° Wire out : 925 m Speed : 3.1 kn
Sorted :1121 Total catch: 1120.91 Catch/hour: 2241.81

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	1250.00	1200	55.76	1394
Merluccius paradoxus	424.00	376	18.91	1392
Merluccius paradoxus	266.00	386	11.87	1393
Helicolenus dactylopterus	72.00	274	3.21	1395
Bassanago albescens	58.00	76	2.59	
Caelorinchus simorhynchus	35.20	352	1.57	
Epigonus sp.	30.00	448	1.34	
Genypterus capensis	28.80	14	1.28	1391
Malacocephalus laevis	25.00	24	1.12	
Lepidopus caudatus	13.40	16	0.60	
Holohalaelurus regani	10.00	30	0.45	
Scyliorhinus capensis	9.00	14	0.40	
Lophius vomerinus	8.00	6	0.36	1396
Squalus mitsukurii	6.00	2	0.27	
Todarodes angolensis	3.00	4	0.13	1397
Beryx splendens	1.30	6	0.06	1399
Todarodes angolensis	0.68	2	0.03	1398
Rossia enigmatica	0.60	28	0.03	
Todaropsis eblanae	0.46	4	0.02	1400
Lycoteuthis lorigera	0.12	4	0.01	
Lucigadus ori	0.10	12	0.00	
Physiculus capensis	0.07	4	0.00	
Paracallionymus costatus	0.07	8	0.00	
Lampanyctodes hectoris	0.01	4	0.00	
Maurolicus muelleri	0.01	4	0.00	
Total	2241.81		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 131
DATE :10/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 30°26.12
start stop duration Lon E 15°2.67
TIME :06:46:33 07:17:14 31.0 (min) Purpose : 3
LOG : 5836.23 5837.69 1.5 Region : 6100
FDEPTH: 528 527 Gear cond.: 0
BDEPTH: 528 527 Validity : 0
Towing dir: 0° Wire out : 1050 m Speed : 2.9 kn
Sorted : 112 Total catch: 111.54 Catch/hour: 215.89

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	78.00	95	36.13	1402
Helicolenus dactylopterus	46.45	176	21.52	1401
Merluccius paradoxus	31.74	50	14.70	1403
Caelorinchus braueri	18.77	606	8.70	
Funchalia woodwardi	11.42	879	5.29	
Thyrsites atun	7.35	2	3.41	
Selachophidium guentheri	6.77	85	3.14	
Malacocephalus laevis	4.26	14	1.97	
Todarodes angolensis	2.71	6	1.26	1405
Holohalaelurus regani	1.94	6	0.90	
Bassanago albescens	1.32	4	0.61	
Hydrolagus sp.	1.32	2	0.61	
Photichthys argenteus	1.28	91	0.59	
Todarodes angolensis	0.52	2	0.24	1404
Oreosoma atlanticum	0.52	2	0.24	
Caelorinchus matamua	0.50	2	0.23	
Rossia enigmatica	0.34	17	0.16	
Kuronezumia leonis	0.16	2	0.07	
Symbolophorus boops	0.13	10	0.06	
Chauliodus sloani	0.07	4	0.03	
Tripterophycis gilchristi	0.07	2	0.03	
Gymnoscopelus sp.	0.04	8	0.02	
Lampadena sp.	0.04	2	0.02	
Lucigadus ori	0.03	6	0.01	
SALPS	0.03	4	0.01	
Howella sherborni	0.03	2	0.01	
Not found	0.02	8	0.01	
MYCTOPHIDAE	0.02	6	0.01	
Stereomastis sp.	0.01	4	0.01	
Diaphus sp.	0.01	2	0.00	
Lampanyctodes hectoris	0.01	4	0.00	
Oreosoma atlanticum, juvenile	0.01	2	0.00	
Argyropelecus gigas	0.00	2	0.00	
Total	215.89		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 132
DATE :10/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 30°21.93
start stop duration Lon E 14°53.13
TIME :08:44:55 09:15:25 30.0 (min) Purpose : 3
LOG : 5845.62 5847.02 1.4 Region : 6100
FDEPTH: 599 598 Gear cond.: 0
BDEPTH: 599 598 Validity : 0
Towing dir: 0° Wire out : 1150 m Speed : 2.7 kn
Sorted : 164 Total catch: 164.31 Catch/hour: 328.63

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	148.00	150	45.04	1406
Helicolenus dactylopterus	58.00	194	17.65	1408
Caelorinchus braueri	52.00	838	15.82	
Merluccius paradoxus	17.40	26	5.29	1407
Selachophidium guentheri	11.80	154	3.59	
Malacocephalus laevis	10.40	28	3.16	
Ruvettus pretiosus	10.40	2	3.16	
Todarodes angolensis	5.40	4	1.64	1409
Funchalia woodwardi	3.12	222	0.95	
Trachyscorpia eschmeyeri	2.68	6	0.82	1411
Oreosoma atlanticum	2.50	14	0.76	1413
Caelorinchus matamua	1.48	12	0.45	
Lepidion capensis	0.94	6	0.29	1412
Todarodes angolensis	0.88	2	0.27	1410
Photichthys argenteus	0.80	38	0.24	
Lycoteuthis lorigera	0.47	10	0.14	
Raja caudaspinosa	0.44	2	0.13	
Hydrolagus sp.	0.42	2	0.13	
Hoplostethus mediterraneus	0.32	4	0.10	
Raja leopardus	0.30	8	0.09	
Kuronezumia leonis	0.26	2	0.08	
Rossia enigmatica	0.22	10	0.07	
Chaeceon macphersoni	0.14	4	0.04	
Symbolophorus boops	0.09	6	0.03	
Aristaeomorpha foliacea	0.05	2	0.02	
Lucigadus ori	0.05	6	0.01	
PARALEPIDIDAE	0.03	2	0.01	
Raja caudaspinosa, juvenile	0.02	2	0.01	
Diaphus sp.	0.01	2	0.00	
Argyropelecus hemigymnus	0.00	2	0.00	
Total	328.63		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 133
DATE :10/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 30°6.75
start stop duration Lon E 14°48.68
TIME :11:23:41 11:53:45 30.0 (min) Purpose : 3
LOG : 5862.06 5863.60 1.5 Region : 6100
FDEPTH: 493 492 Gear cond.: 0
BDEPTH: 493 492 Validity : 0
Towing dir: 0° Wire out : 1080 m Speed : 3.1 kn
Sorted : 539 Total catch: 538.85 Catch/hour: 1077.70

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	620.00	1950	57.53	1417
Merluccius paradoxus	146.00	110	13.55	1415
Helicolenus dactylopterus	80.00	410	7.42	1418
Brama brama	28.60	28	2.65	1420
Caelorinchus simorhynchus	28.60	318	2.65	
Hydrolagus sp.	25.00	38	2.32	
Merluccius paradoxus	23.60	34	2.19	1416
Lophius vomerinus	22.00	14	2.04	1419
Genypterus capensis	18.40	8	1.71	1414
Bassanago albescens	16.20	36	1.50	
Caelorinchus braueri	12.20	204	1.13	
Raja doutrei	11.40	2	1.06	
Raja confundens	10.40	10	0.97	
Genypterus capensis	7.00	88	0.65	
Lepidopus caudatus	5.60	6	0.52	
Malacocephalus laevis	5.00	14	0.46	
Todarodes angolensis	3.34	10	0.31	1422
Psychrolutes macrocephalus	2.76	8	0.26	
Holohalaelurus regani	2.20	6	0.20	
Epigonus sp.	1.84	80	0.17	
Nezumia sp.	1.34	44	0.12	
Todarodes angolensis	1.22	2	0.11	1421
Hoplostethus mediterraneus	1.08	12	0.10	
Lucigadus ori	0.96	68	0.09	
Symbolophorus boops	0.54	40	0.05	
Anemones, coral	0.44	8	0.04	
Rossia enigmatica	0.43	20	0.04	
Todaropsis eblanae	0.35	2	0.03	1423
Caelorinchus matamua	0.34	2	0.03	
Parapagurus pilosimanus	0.27	12	0.03	
Tripterophycis gilchristi	0.25	12	0.02	
Paracallionymus costatus	0.23	34	0.02	
Photichthys argenteus	0.04	2	0.00	
Lampanyctodes hectoris	0.02	8	0.00	
Hermits, mixed	0.02	2	0.00	
SALPS	0.02	12	0.00	
Not found	0.00	2	0.00	
Total	1077.70		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 134
DATE :10/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 29°58.17
start stop duration Lon E 15°4.71
TIME :02:20:14 02:53:14 33.0 (min) Purpose : 3
LOG : 5883.31 5885.05 1.7 Region : 6100
FDEPTH: 368 369 Gear cond.: 0
BDEPTH: 368 369 Validity : 0
Towing dir: 0° Wire out : 750 m Speed : 3.2 kn
Sorted : 483 Total catch: 483.45 Catch/hour: 879.00

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	198.18	1071	22.55	1430
Helicolenus dactylopterus	131.82	604	15.00	1429
Merluccius paradoxus	125.45	125	14.27	1426
Zeus capensis	89.09	120	10.14	1432
Merluccius paradoxus	59.09	69	6.72	1427
Caelorinchus simorhynchus	44.18	307	5.03	
Genypterus capensis	41.45	25	4.72	1424
Brama brama	40.00	42	4.55	1431
Squalus mitsukurii	26.18	15	2.98	
Holohalaelurus regani	20.00	60	2.28	
Scyliorhinus capensis	17.09	36	1.94	
Lepidopus caudatus	15.82	65	1.80	
Merluccius capensis	11.64	5	1.32	1425
Epigonus sp.	10.91	129	1.24	
Malacocephalus laevis	10.73	25	1.22	
Todaropsis eblanae	7.05	60	0.80	1435
Thyrsites atun	6.73	2	0.77	1428
Lophius vomerinus	5.45	7	0.62	1433
Galeus polli	4.91	33	0.56	
Todaropsis eblanae	4.22	33	0.48	1434
Octopus magnificus	2.62	2	0.30	
Todarodes angolensis	1.60	2	0.18	1436
Anemones, pink	1.42	2	0.16	
Raja caudaspinosa	1.27	2	0.14	
Hoplostethus mediterraneus	1.04	5	0.12	
Rossia enigmatica	0.32	18	0.04	
MYCTOPHIDAE	0.17	0	0.02	
Sea pens	0.15	2	0.02	
Lucigadus ori	0.10	7	0.01	
Cyttus traversi	0.08	2	0.01	
Maurolicus muelleri	0.07	0	0.01	
Aequorea forskalea	0.07	0	0.01	
Parapagurus pilosimanus	0.05	2	0.01	
Paracallionymus costatus	0.03	4	0.00	
Rochinia sp.	0.01	4	0.00	
Not found	0.01	2	0.00	
Stoloteuthis sp.	0.00	2	0.00	
Phyllosoma	0.00	2	0.00	
Total	879.00		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 135
DATE :10/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 29°46.98
start stop duration Lon E 15°13.64
TIME :04:37:02 05:07:03 30.0 (min) Purpose : 3
LOG : 5898.73 5900.27 1.5 Region : 6100
FDEPTH: 230 228 Gear cond.: 0
BDEPTH: 230 228 Validity : 0
Towing dir: 0° Wire out : 500 m Speed : 3.1 kn
Sorted : 549 Total catch: 548.59 Catch/hour: 1097.18

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Zeus capensis	654.00	4070	59.61	1440
Emmelichthys nitidus	62.00	794	5.65	
Callorhinchus capensis	57.00	8	5.20	
Lepidopus caudatus	49.00	422	4.47	
Merluccius capensis	47.00	38	4.28	1437
Galeorhinus galeus	37.00	2	3.37	
Thyrsites atun	27.20	16	2.48	1439
Merluccius paradoxus	23.40	600	2.13	1445
Squalus mitsukurii	22.00	18	2.01	
Holohalaelurus regani	21.20	82	1.93	
Merluccius capensis	20.00	12	1.82	1438
Lophius vomerinus	13.40	4	1.22	1441
Malacocephalus laevis	11.60	58	1.06	
Helicolenus dactylopterus	11.00	152	1.00	1444
Sepia australis	7.88	876	0.72	
Epigonus sp.	6.00	86	0.55	
Chelidonichthys capensis	4.00	4	0.36	1442
Todarodes angolensis	3.80	10	0.35	1443
Merluccius paradoxus	3.04	240	0.28	1446
Squalus megalops	2.88	6	0.26	
Chelidonichthys queketti	2.88	12	0.26	1447
Todaropsis eblanae	2.46	32	0.22	1448
Congiopodus torvus	2.00	2	0.18	
Caelorinchus simorhynchus	2.00	16	0.18	
Cynoglossus zanzibarensis	1.54	14	0.14	1449
Congiopodus spinifer	0.74	4	0.07	
Etrumeus whiteheadi	0.66	8	0.06	
Squalus mitsukurii	0.46	4	0.04	0
Notopogon macrosolen	0.36	14	0.03	
Paracallionymus costatus	0.35	50	0.03	
Arnoglossus capensis	0.32	14	0.03	
Starfish	0.01	2	0.00	
Total	1097.18		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 136
DATE :11/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 29°33.57
start stop duration Lon E 15°42.60
TIME :04:28:27 04:58:46 30.0 (min) Purpose : 3
LOG : 5938.12 5939.72 1.6 Region : 6100
FDEPTH: 180 179 Gear cond.: 0
BDEPTH: 180 179 Validity : 0
Towing dir: 0° Wire out : 450 m Speed : 3.2 kn
Sorted : 169 Total catch: 548.45 Catch/hour: 1096.90

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Merluccius paradoxus	226.20	5512	20.62	1456
Merluccius paradoxus	213.20	17216	19.44	1457
Sepia australis	169.00	8048	15.41	
Chelidonichthys capensis	135.00	260	12.31	1450
Caelorinchus simorhynchus	88.40	884	8.06	
Merluccius capensis	61.20	100	5.58	1454
Paracallionymus costatus	40.56	3120	3.70	
Lophius vomerinus	32.80	48	2.99	1458
Merluccius capensis	28.00	44	2.55	1455
Etrumeus whiteheadi	26.00	390	2.37	
Cynoglossus zanzibarensis	16.90	312	1.54	1462
Helicolenus dactylopterus	13.26	858	1.21	1461
Emmelichthys nitidus	11.96	26	1.09	
Todaropsis eblanae	7.02	182	0.64	1463
Holohalaelurus regani	5.98	26	0.55	
Raja straeleni	4.60	14	0.42	
Sponges - yellow	4.40	0	0.40	
Thyrsites atun	3.40	2	0.31	1453
Spatangus capensis	2.96	26	0.27	
Chelidonichthys queketti	2.00	12	0.18	1460
Merluccius paradoxus	1.72	4	0.16	1451
Trachurus capensis	0.80	2	0.07	1452
Lepidopus caudatus	0.68	26	0.06	
Genypterus capensis	0.60	4	0.05	1459
Maurolicus muelleri	0.26	0	0.02	
Total	1096.90		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 137
DATE :11/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 29°26.16
start stop duration Lon E 15°57.62
TIME :07:15:15 07:45:27 30.0 (min) Purpose : 3
LOG : 5957.40 5958.93 1.5 Region : 6100
FDEPTH: 178 177 Gear cond.: 0
BDEPTH: 178 177 Validity : 0
Towing dir: 0° Wire out : 450 m Speed : 3.0 kn
Sorted : 132 Total catch: 220.33 Catch/hour: 440.67

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Etrumeus whiteheadi	225.00	4412	51.06	
Brama brama	36.40	24	8.26	1465
Merluccius capensis	28.00	82	6.35	1469
Sepia australis	27.00	1126	6.13	
Thyrsites atun	24.60	10	5.58	1464
Merluccius paradoxus	21.16	418	4.80	1471
Lophius vomerinus	15.00	22	3.40	1468
Paracallionymus costatus	13.00	812	2.95	
Chelidonichthys capensis	12.60	28	2.86	1467
Merluccius paradoxus	7.20	540	1.63	1472
Helicolenus dactylopterus	6.76	440	1.53	1470
Aequorea forskalea	4.50	9	1.02	

Lepidopus caudatus	3.60	2	0.82	
Lampanyctodes hectoris	3.60	1566	0.82	
Caelorinchus simorhynchus	2.21	68	0.50	
Todaropsis eblanae	1.76	59	0.40	1473
Genypterus capensis	1.60	16	0.36	1466
Holohalaelurus regani	1.44	14	0.33	
Maurolicus muelleri	1.35	900	0.31	
Raja straeleni	1.00	2	0.23	
Cynoglossus zanzibarensis	0.81	22	0.18	1474
Macropipus australis	0.78	18	0.18	
Sardinops ocellatus	0.39	4	0.09	
Spatangus capensis	0.35	14	0.08	
Lepidopus caudatus	0.23	9	0.05	0
Lophius vomerinus	0.10	4	0.02	1475
Zeus capensis	0.07	4	0.02	1476
Not found	0.07	4	0.02	
Congiopodus spinifer	0.05	4	0.01	
Exodromidia sp.	0.04	4	0.01	
Total	440.67		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 138
DATE :11/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 29°19.25
start stop duration Lon E 16°16.80
TIME :10:21:01 10:51:05 30.0 (min) Purpose : 3
LOG : 5979.78 5981.41 1.6 Region : 6100
FDEPTH: 157 157 Gear cond.: 0
BDEPTH: 157 157 Validity : 0
Towing dir: 0° Wire out : 380 m Speed : 3.3 kn
Sorted : 57 Total catch: 1201.90 Catch/hour: 2403.80

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Etrumeus whiteheadi	2312.00	44462	96.18	
Merluccius capensis	20.40	86	0.85	1477
Todaropsis eblanae	19.92	544	0.83	1481
Sponges - yellow	12.80	8	0.53	
Sardinops ocellatus	7.00	136	0.29	
Paracallionymus costatus	5.64	408	0.23	
Callorhinchus capensis	5.40	2	0.22	
Macropipus australis	3.60	68	0.15	
Sufflogobius bibarbatus	3.47	340	0.14	
Pterygosquilla armata capensis	2.65	68	0.11	
Helicolenus dactylopterus	2.52	68	0.10	1482
JELLYFISH	2.00	0	0.08	
Engraulis capensis	1.63	68	0.07	
Chelidonichthys capensis	1.60	4	0.07	1479
Sepia australis	1.16	68	0.05	
Genypterus capensis	1.00	10	0.04	1478
Merluccius paradoxus	1.00	32	0.04	1480
Total	2403.80		100.00	

R/V Dr. Fridtjof Nansen SURVEY:2013401 STATION: 139
DATE :11/02/13 GEAR TYPE: BT NO: 26 POSITION:Lat S 29°8.32
start stop duration Lon E 16°28.04
TIME :12:48:36 01:20:12 32.0 (min) Purpose : 3
LOG : 5997.24 5998.92 1.7 Region : 6100
FDEPTH: 133 131 Gear cond.: 0
BDEPTH: 133 131 Validity : 0
Towing dir: 0° Wire out : 320 m Speed : 3.2 kn
Sorted : 171 Total catch: 171.02 Catch/hour: 320.67

SPECIES	CATCH/HOUR weight	numbers	% OF TOT. C	SAMP
Euphausiacea	206.25	0	64.32	
Aequorea forskalea	30.38	0	9.47	
Merluccius capensis	28.88	182	9.00	1484
Chelidonichthys capensis	19.31	62	6.02	1483
Sepia australis	10.31	368	3.22	
Sufflogobius bibarbatus	9.75	2438	3.04	
Etrumeus whiteheadi	7.88	135	2.46	
Lepidopus caudatus	3.75	221	1.17	
Todaropsis eblanae	1.44	45	0.45	1486
Thyrsites atun	0.94	2	0.29	
Lampanyctodes hectoris	0.66	131	0.20	
Pterygosquilla armata capensis	0.54	64	0.17	
Cynoglossus zanzibarensis	0.32	4	0.10	1485
Lolligoncula mercatoris	0.18	51	0.06	
Caelorinchus simorhynchus	0.05	2	0.02	
Not found	0.01	2	0.00	
Exodromidia sp.	0.01	2	0.00	
Paracallionymus costatus	0.01	2	0.00	
Total	320.67		100.00	

Annex 5 Depth strata in MN^2 by latitude in Namibia and South Africa.

NAMIBIA. Depth strata by 1^o latitude in NM^2

(Based on echo soundings from Nansen surveys 1996-2003. Depths from surface to bottom). 02.02.2003 OBA

	0-50 m	50-100 m	100-200m	200-300m	300-400m	400-500m	500-600m	600-700m	700-800m	800-900m	900-1000m	Total	0-600m
$17^o15'$-18^o	47	162	490	243	95	63	65	46	46	54	47	1360	1165
18-19^o	287	324	783	822	154	128	119	101	100	87	128	3033	2618
19-20^o	186	435	1259	810	1090	328	287	266	*192*	*241*	*220*	5314	4396
20-21^o	229	401	1378	883	987	286	265	258	*272*	*281*	*280*	5519	4429
21-22^o	372	547	1644	563	893	257	201	200	*199*	*184*	*179*	5238	4477
22-23^o	479	709	2196	1086	929	154	126	127	108	97	*142*	6153	5678
23-24^o	244	376	2006	1074	670	238	153	175	139	*136*	*130*	5340	4760
24-25^o	394	433	1343	822	753	238	149	161	162	166	144	4764	4131
25-26^o	204	415	1580	1102	529	227	166	155	161	153	*125*	4817	4223
26-27^o	216	184	894	986	1408	744	140	*133*	*139*	*131*	*119*	5095	4573
27-28^o	119	244	1269	527	858	480	205	170				3872	3702
28-29^o	211	390	4207	*391*	153	123	164					5639	5639
29-30^o	0	0	1042	533	327	276	162	167	107	121	121	2859	2341
30^o-S	0	0	0	0	0	0	0	0	0	3	5	8	0
North	750	1322	3911	2759	2326	806	736	670	610	663	675	15226	12608
Central	1489	2064	7189	3544	3245	887	627	664	608	582	595	21494	19046
South	750	1234	8992	3540	3276	1850	837	625	408	407	371	22290	20478
Total	2988	4620	20091	9842	8848	3543	2200	1960	1625	1652	1642	59003	52132

Areas in *Italics*: few soundings, interpolated

Open areas: no or very few soundings

South Africa. Depth strata by 1° latitude in NM²

(Based on echo soundings from Nansen surveys 1996-2004. Depths from surface to bottom). *10.03.2004 OBA*

	0-100 m	100-200m	200-300m	300-400m	400-500m	500-600m	600-700m	700-800m	800-900m	900-1000m	Total	0-500 m	0-600m
28°40'-29°	186	303	0	0	0	0	0	0	0	0	489	489	489
29-30°	359	4348	451	195	202	23	7	2	0	0	5588	5556	5579
30-31°	200	2481	3443	460	465	262	177	135	193	149	7965	7049	7311
31-32°	288	2187	1794	1209	894	493	211	173	180	149	7577	6371	6864
32-33°	839	1308	1318	1303	432	156	122	111	109	116	5815	5201	5357
33-34°	654	833	546	375	381	247	243	117	120	102	3617	2789	3036
34-35°	1280	1376	662	496	259	134	80	69	53	66	4475	4074	4208
35-36°	25	1901	778	168	143	131	89	86	59	84	3464	3015	3146
36-37°													
Total	3830	14737	8992	4207	2777	1446	929	692	714	666	38989	34543	35989

South Africa. Depth strata by regions in NM² *26.08.2005 OBA*

	0-100 m	100-200m	200-300m	300-400m	400-500m	500-600m	600-700m	700-800m	800-900m	900-1000m	Total	0-500 m	0-600m
Oranjemund-S. Hondeklip Bay	742	6835	4262	1062	1152	634	314	262	282	230	15776	14054	14688
S. Hondeklip Bay-n Saldanha	1169	3593	2685	2257	1088	454	392	224	242	230	12333	10792	11245
n Saldanha-C. of Good Hope	746	982	935	598	325	154	89	83	59	77	4047	3586	3740
C. of Good Hope-C. Agulhas	1131	3098	998	473	202	167	104	81	58	87	6397	5901	6068
Total	3787	14508	8881	4390	2767	1409	898	650	641	624	38554	34333	35741