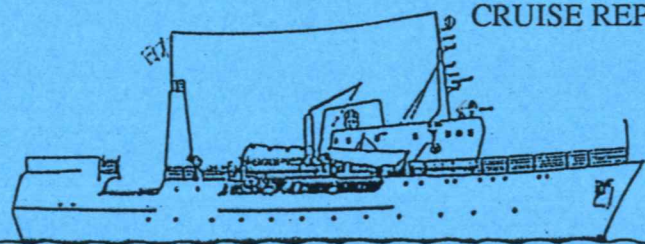


CRUISE REPORTS "DR FRIDTJOF NANSEN"



**SURVEYS OF THE FISH RESOURCES IN THE SHELF REGION BETWEEN
COLOMBIA AND SURINAME**

Preliminary Report Cruise No III.

Part 3: Venezuela, North Coast from Bocas del Dragon to Golfo de Venezuela
29 August to 27 September 1988.

1. Introduction.

Survey objectives.

The general objectives of the programme as discussed and agreed at the planning meeting in Trinidad, 12-14 January are summarized in the Preliminary Report of Cruise No. I Part I. In the following the objectives for Survey III are clarified and amended on the basis of experience from previous surveys and from discussions with representatives from the participating countries. In principle the programme should be a repetition of that of Survey I and II. The main objective of the acoustic survey is an estimate of biomass, composition and distribution of the pelagic stocks in the region. The experience of previous surveys indicate low catchability of sardinella in the pelagic trawling even at ~~nigh~~ ^{night}, and an attempt to improve the trawl method should be implemented during the survey. *bottom* The ground trawl survey is aiming at a biomass estimate based on a swept area method and trawling should be carried out mainly during daytime.

The following amendments of the programme should be made:

- 1) The hydrografic profile east of Margarita Island should be moved to Cabo tres Puntas; the profile Fosa de Cariaco should be moved east closer to Margarita Island and those made during Cruise II should be repeated.
- 2) The sampling effort with pelagic trawl in the sardine fishing area should be increased.
- 3) Intensify sampling effort on the Blanquilla platform and on the slope of the eastern coast.
- 4) Perform trawling in more than 400 m depth north of La Guaira and north and east of Margarita Island in order to look for octopuses.
- 5) Perform trawling in Placer de la Guaira including Los Roques Island to the north.
- 6) Perform trawling in the Golfo Triste on the 180 and 600 m depth.
- 7) Intensified fishing for shrimps in deep water and on the slope. Fishing for Penaeid shrimps at nigh in inshore waters should be repeated. Carapax and total length should be measured to establish conversion factors.
- 8) The inshore shelf inside Cariaco Trench west of Puerto La Cruz could be given low priority.

Participation.

The following scientific staff participated from Venezuela:

Port of Spain to La Guaira: Diana Zaera, Ayurami Alcalá, Ramon Guzman, Jesus Sergio, Luis Marcano, Efigenio Velazquez.

La Guaira to Punto Fijo: Diana Zaera, Ayurami Alcalá, Jesus Sergio, Roberto Cipriani, Marco Tulio Badaracco, Orlando Ferrer.

From FAO:

Alvaro Abella

The scientific staff from IMR, Bergen, was:

O. Hagstrøm, H. Ullebust, T. Haugland, E. Molvær.

2. Narrative.

The cruise plan of the vessel was:

Departure Port of Spain: 29 August

Arrival and departure La Guaira: 8 and 9 September respectively.

Arrival Punto Fijo: 15 September.

The course tracks and fishing stations, both with bottom trawl and pelagic trawl as well as hydrographic stations are shown in Figures 1 and 2.

Difficult bottom conditions on the shelf of Paria Peninsula prevented demersal trawling in the eastern part of the shelf. The survey effort was intensive from the Testigos Archipelago westwards past the Tortuga Island. The survey effort was also high in the Gulf of Venezuela, both areas are known to be important fishing areas. Results of the previous surveys corroborate the distribution pattern derived from the commercial fisheries that these areas are important for both pelagic and demersal stocks. The shelf area west of Puerto La Cruz was only surveyed in the western part and this survey effort was allocated to the shelf area of Blanquilla Island.

Cruise tracks were adjusted to work the bottom trawl stations for swept area biomass estimation during daytime. Pelagic trawl and deep water stations and hydrographic stations were preferably worked during night time. In areas with high pelagic abundance additional cruise tracks were run at night for pelagic fishing. In total 132 trawl stations were carried out of which 102 were made with bottom trawl and 30 with pelagic trawl. Deep water trawling was made at 15 stations. Five hydrographic sections or 27 stations were carried out. The integration covered 2889 miles.

The acoustic system was calibrated on the 2 September in the Gulf of Cariaco. The result of the calibration showed no changes in system sensitivity compared to previous calibrations.

3. Survey methods.

The integration was carried out with a 38 kHz echosounder connected to a digital integrator. The units of acoustic reflection is area backscattering $S_a \text{ m}^2/\text{n.m.}^2$ referred to 30 dB gain. The integration is carried out in predetermined depth channels down to 500 m. One channel is locked to the bottom. A sonar directed 90 degrees to the starbo-

ard side with a tilt of 5 degrees and a vertical range of 250 m were used to observe shoals close to the surface. The fish registration is identified mainly with pelagic trawling. In the case of shoals on the bottom catches of pelagic species in the bottom trawl were also used. A description of the pelagic trawl and trawl method applied in near surface or shallow water trawling is shown in Appendix 1. The additional buoyancy of the buoys allowed a warp length about 150 m without sinking tendency of the trawl. The longer warp length will give a better spread between the trawl doors and a better geometry of the trawl and thus an improved catchability. The aim is however to be able to tow the trawl more than 400 m behind the vessel at any depth to reduce the disturbance of the vessel. This could not be achieved with the available equipment.

The bottom trawl used for demersal trawling are shown in Appendix 2. The trawl stations are positioned in advance more or less randomly without using information from fishfinding systems. The standard trawling time is 30 minutes. The catch rates thus do not simulate those of commercial fishery.

The hydrographic sampling included salinity, temperature and oxygen at standard depths down to 500 meters.

4. Hydrography.

The hydrographic profiles of Punta Caribe and Margarita Island are shown in Figures 3. The distribution of salinity, temperature and oxygen do not indicate an upwelling above 100 m depth. The isolines of temperature and salinity are lifted on the slope North of Margarita Island indicating upwelling below 100 m. North of station 166 in the profile off Pta Caribe the salinity values in the surface layers shows influence of river outflow possibly from the Orinoco River. There is no vertical movements of water indicated in the profiles of Cabo Codera and Pta Sabana, Figure 4a. The salinity in surface layers in the profiles off Cabo San Roman and especially Gulf of Venezuela, Figure 4b, shows influence of freshwater. In both profiles a countercurrent with water of lower temperature and oxygen values is indicated.

5. Fish distribution.

The distribution of acoustic energy, area backscattering, are shown in Figures 5 and 6. The acoustic energy is dominated by pelagic species as sardines, anchovies, carangids and scombrids. The contributions of demersal species are minor. The dominating pelagic species are indicated in the Figures. The highest abundance was found around Margarita Island and in the Gulf of Venezuela. The distribution is conformable with the results of previous surveys, however, the area of high abundance is larger indicating a higher biomass estimate of the pelagic stocks. In general the registrations were highest on the shelf decreasing on the slope to zero in deep waters. The abundance was low from the Tortuga Island to the Peninsula de Paraguana. The integration was carried out in good

weather with good acoustic conditions except when surveying the Gulf of Venezuela. Some parts of the tracks in this area could not be integrated due to strong wind and the abundance of the pelagic stocks in the Gulf is likely to be underestimated. The catch rates of pelagic species in demersal and pelagic trawling are not representative of abundance and should not be compared with the distribution of acoustic energy. Judging from the catches and the netsonde recordings an improvement in the catchability is indicated in the pelagic trawling during night time. Attempts carried out during day time on shoals believed to be sardine gave negative results due to strong avoidance reactions to the trawl. Increased catchability during pelagic trawling at night time should not be expected with this type of trawl. The catches in the pelagic hauls are given in Appendix 3. Length frequency distribution of some of main pelagic species are shown in Appendix 4.

6. Results of the bottom trawl sampling.

The results of the individual hauls are given in Appendix 3 and length frequency distribution for some of the important demersal species are shown in Appendix 4. The catch rates are standardized to kg per hours trawling. The catches are aggregated in broad groups of fish. "Pelagic" comprises Clupeidae (sardine), Engraulidae (anchovies), Carangidae, Scombridae, Sphyraenidae (barracuda) and Trichiuridae (hairtails). "Demersal" includes the families Sciaenidae (croakers), Lutjanidae (snappers), Pomadasidae (grunts), Serranidae (groupers), Ariidae (catfish) and Priacanthidae (glasseyes). This grouping is used in the following description of the composition and catch rates in the bottom trawl fishing.

Oriente.

The area on the shelf between Bocas de Dragon and Cabo Cadera is grouped as in previous reports: the inner part of the shelf, inside the Testigos Archipelago and the Margarita Island and on the coastal side of the Cariaco Trench; the outer part outside the Testigos and the Margarita Island and westward past the Tortuga Island.

Table 1 shows the catch rates for outer and inner parts respectively. The catches of all groups are lower than in Survey 2 but comparable to the result of Survey 1 with the exception of squid which is the lowest recorded. In the inner part catfish and croakers dominated and in the outer part snappers and grunts were the most important demersal species as shown in Table 2. The highest catch rate of croakers 940 kg/h was obtained in haul 765. High catch rates of snappers, more than 100 kg/h were recorded in several hauls north of Margarita Island towards Tortuga Island. The catches of shrimp were generally low in the inner part. In the outer part catches of about 20 kg/h were made at 400-500 m (*Pleoticus robustus*) and at 800 m mostly noncommercial species.

The catch rates of pelagic species taken in bottom trawl Table 3 are very much dependant of the vertical distribution of the different species. Carangids and scombrids appear to be overrepresented in the bottom trawl catches compared to composition in the pelagic hauls. The result indicates higher abundance of sardines in the outer part which

Table 1. ORIENTE. Catch rates for main groups in bottom trawl stations standardized to kg/hour.

INNER

ST. NO.	DEP.	Pelagic	Demersal	Shark	Squids	Shrimp	Other
737	66	97.70	11.20	7.00	5.80	1.40	45.52
738	41	32.40	63.60		0.40	1.80	5.40
749	40	2.00	35.60		4.40		25.70
750	43	335.50	180.50				46.00
752	32	450.00	468.00	54.00			14.40
753	37	39.80	19.60		5.60		11.90
754	51	77.50	18.60	14.50	0.40		1.40
761	39	21.80	4.70		1.00		0.40
762	33	81.30	17.90	1.60	0.50		11.20
763	73	32.50	34.16	13.50	1.00		67.67
764	81	39.00	24.00		3.40		24.50
765	127	1540.00	985.10	25.00	17.50	1.40	8.44
769	59	169.00	111.20		2.40		64.20
770	48	2.80	10.40		20.80		201.10
MEAN		208.66	143.18	8.26	4.51	0.33	37.70

OUTER

ST. NO.	DEP.	Pelagic	Demersal	Shark	Squids	Shrimp	Other
736	94	6.90	45.20		2.80		20.70
742	438	1.44		25.32	1.92	10.44	26.16
743	843			1.80	7.74	20.88	61.98
744	43	0.40	119.04	1.20	2.40		10.64
745	40	4.60			15.40		0.60
746	42	10.40	213.60		10.50		1.20
771	70	2.24	157.78		3.98		73.74
772	70	987.60	565.60		5.00	14.00	15.60
776	162	2.10	34.20		1.00		15.90
777	206		35.58				32.02
778	26	18.50	11.50				194.74
779	62	1.00					28.60
780	306			1.50	18.00	5.25	830.55
783	37	12.20	26.00		4.20		10.10
784	65	118.80	184.10		8.40	0.20	25.40
785	73	4.00	162.90				52.60
786	45	1.50	250.60		1.60		73.00
787	56	561.30	114.60			0.20	2.20
788	97	22.40	533.40				162.40
789	137		33.80		2.60		5.20
790	411	0.05		3.05	23.00	19.30	76.30
791	100	1.60	22.80	10.60	0.40	0.40	42.80
792	128	153.30	139.50	1.50		1.74	32.22
794	73	8.30	212.00				48.60
795	78	5.00	54.40		0.40	0.40	51.80
796	532			4.90	19.50	21.50	52.90
797	68	315.00	98.88	8.00	1.40		23.00
798	27		239.80				707.74
799	83	954.80	207.20				22.40
800	660	2.50		11.00	9.00	8.75	118.25
801	69	93.40	243.30	8.60		0.40	75.80
802	117						
803	70	2.00	126.20		5.20	0.80	68.80
MEAN		99.74	116.12	2.35	4.38	3.16	89.82

is in disagreement with the acoustic result. The catches of pelagic species in the bottom trawl should be regarded as by-catches not reflecting abundance.

Western part from Cabo Codera to Peninsula de Guajira.

The results of bottom hauls between Cabo Codera and Cabo San Roman are summarized in Table 4. The mean catch of demersal species is 53 kg/h or less than half of the catch rates in Oriente and lower than in Survey 2 but comparable to catch rates in Survey 1. The family composition of pelagic and demersal species are shown in Tables 5

Table 2. ORIENTE. Catch rates by families for demersal fish in bottom trawl, kg/hour.

INNER

ST. NO.	DEP.	Croakers	Catfish	Grunts	Groupers	Glasseyes	Other
737	66				1.40	2.60	164.62
738	41	60.00	3.20		0.40		40.00
749	40			15.30	1.00	7.30	44.10
750	43			21.00	1.50	6.00	533.50
752	32		468.00				518.40
753	37			18.80			58.10
754	51	1.00	14.80	1.60	1.20		93.80
761	39				2.40	2.30	23.20
762	33		2.40	11.20	0.30	3.20	95.40
763	73			13.66	0.17	2.33	132.67
764	81			1.50		0.80	108.60
765	127	940.00		7.50	3.60	14.00	1612.34
769	59	5.60		56.80	2.20	5.20	277.00
770	48				6.00		229.10
MEAN		71.90	34.89	10.53	1.44	3.12	280.77

OUTER

ST. NO.	DEP.	Croakers	Snapper	Grunts	Groupers	Glasseyes	Other
736	94		45.20				30.40
742	438						63.28
743	843						92.40
744	43		46.80	42.20	0.04	30.00	14.64
745	40						20.60
746	42		71.20	142.20	0.20		22.10
771	70		145.24	4.80	5.00	2.74	79.96
772	70		152.80	412.80			1022.20
776	162		14.80		16.80	2.60	19.00
777	206		0.48		35.10		32.02
778	26				0.50	11.00	213.24
779	62						29.60
780	306						855.30
783	37		0.70	23.40	0.30	1.60	26.50
784	65		181.20		0.40	2.50	152.80
785	73		130.40	8.10		19.40	61.60
786	45		46.60	191.00	3.80	5.00	80.30
787	56		62.00	46.20	0.60	5.80	563.70
788	97	1.40	504.00			28.00	184.80
789	137		29.80		4.00		7.80
790	411						121.70
791	100		22.80				55.80
792	128	6.10	107.40	1.50	10.20	1.50	199.56
794	73		106.50	93.50		12.00	56.90
795	78		0.40	52.60		1.40	57.60
796	532						98.80
797	68		27.28	39.20	24.00		355.80
798	27		23.40	20.00	27.40		876.74
799	83		162.40	44.80			977.20
800	660						149.50
801	69		32.90	205.00	0.90	4.50	178.20
802	117						
803	70	0.80	11.60	81.20	8.00	22.80	78.60
MEAN		0.31	58.36	42.68	4.16	4.57	205.47

and 6 respectively. The demersal catches are dominated by snappers. Mean catches of shrimp and squids were less than 4 kg/h respectively.

In the Gulf of Venezuela the area have been divided in an inner and an outer part by a line from Punto Fijo and westward. The catches by selected groups are shown in Table 7. The mean catch of demersal is 21 kg/h in the inner part compared to 52 kg/h and 61 kg/h in previous surveys. In the outer part the average catch is 58 kg/h which is higher than in Survey 1 and 2. Catches of squids and shrimps are low. Catches by family groups are shown in Tables 8 and 9. Croakers dominated in the inner part and snappers in the outer part.

Table 3. ORIENTE. Catch rates by families of pelagic fish in bottom trawl hauls, kg/hour.

INNER

ST.NO.	DEP.	Sardines	Hairtails	Carangids	Scombrids	Barracuda	Other
737	66	4.40	63.40	25.40	2.50	2.00	70.92
738	41	1.80	2.00	28.00		0.60	71.20
749	40	0.30				1.70	65.70
750	43	202.00	38.00	64.00	31.50		226.50
752	32	432.00				18.00	536.40
753	37	3.20		21.50	9.00	6.10	37.10
754	51	20.80	0.50	55.80		0.40	34.90
761	39		5.70	5.90		10.20	6.10
762	33	0.20	59.40	13.80		2.50	36.60
763	73	0.83		21.00		10.67	116.33
764	61			28.60		10.40	71.90
765	127			1540.00			1037.44
769	59			169.00			177.80
770	48	0.40				2.40	232.30
MEAN		47.57	12.07	140.93	3.07	4.64	194.37

OUTER

ST.NO.	DEP.	Sardines	Hairtails	Carangids	Scombrids	Barracuda	Other
736	94			0.80	6.10		68.70
742	438		1.44				63.84
743	843						92.40
744	43			0.40			133.28
745	40			4.60			16.00
746	42			7.80	1.60	1.00	225.30
771	70	1.50		0.74			235.50
772	70	980.00		7.60			600.20
776	162			2.10			51.10
777	206						67.60
778	26			5.00		13.50	206.24
779	62			1.00			28.60
780	306						855.30
783	37	2.40	1.00	8.70	0.10		40.30
784	65	50.40		48.00	5.40	15.00	218.10
785	73			4.00			215.50
786	45					1.50	325.20
787	56	492.00		64.90	4.40		117.00
788	97			22.40			695.80
789	137						41.60
790	411		0.05				121.65
791	100				1.60		77.00
792	128	5.10		127.20	21.00		174.96
794	73			7.50	0.80		260.60
795	78	2.80		2.00	0.20		107.00
796	532						98.80
797	68	294.70		16.80	3.50		131.28
798	27						947.54
799	83	781.20		33.60	140.00		229.60
800	660		2.50				147.00
801	69	3.60		89.40	0.40		328.10
802	117						
803	70			1.40	0.60		201.00
MEAN		79.20	0.15	13.82	5.63	0.94	215.82

Table 4. VENEZUELA, WESTERN PART. Catch rates for main groups in bottom trawl stations standardized to kg/hour.

ST. NO.	DEP.	Pelagic	Demersal	Shark	Squids	Shrimp	Other
804	52		83.56				13.92
805	86	9.70	21.30				15.30
806	92	55.00	90.50	12.00	5.00		71.40
807	68		112.60				23.20
808	220	14.00	71.02	2.30	2.45	8.05	70.13
809	304		1.50		3.90	2.30	74.55
810	459	1.50		0.10	5.10	8.25	15.40
811	587	3.30		0.90	3.90	10.20	69.45
812	336		250.40	3.00			643.55
813	99	46.80	112.30				20.80
814	72	5.40	76.50	3.00	3.00	4.20	86.20
815	73	4.30	94.40		1.00	2.70	58.40
816	42	10.35	65.26				51.98
817	72	30.00	52.90	7.00		1.80	21.00
818	72	14.40	37.20		6.00		15.60
819	96						
820	78						
821	83		12.60			0.15	
822	401	0.15		1.50	40.80	8.10	58.05
823	344			1.70	1.20	1.85	43.06
824	156	13.00	21.94		3.60		8.80
825	52	16.80	95.76				53.76
826	276	29.40	6.45		8.70		34.80
827	25	2.20	43.00		1.80		3.20
828	53	7.00	99.00		5.80		28.40
829	47		37.60				14.80
MEAN		10.13	53.30	1.21	3.55	1.83	57.53

Table 5. VENEZUELA, WESTERN PART. Catch rates by families for pelagic fish in bottom trawl hauls, kg/hour.

ST. NO.	DEP.	Sardines	Hairtails	Carangids	Scombrids	Barracuda	Other
804	52						97.48
805	86			9.70			36.60
806	92			53.00	2.00		178.90
807	68						135.80
808	220			14.00			153.95
809	304						82.25
810	459		1.50				28.85
811	587		3.30				84.45
812	336						896.95
813	99			46.80			133.10
814	72		4.80	0.60			172.90
815	73		2.50	0.80		1.00	156.50
816	42			5.70		4.65	117.24
817	72			13.80	7.00	9.20	82.70
818	72	0.80		4.40	2.00	7.20	58.80
819	96						
820	78						
821	83						12.75
822	401		0.15				108.45
823	344						47.81
824	156		4.40	8.60			34.34
825	52			3.60	13.20		149.52
826	276		29.40				49.95
827	25				2.20		48.00
828	53			2.50	4.50		133.20
829	47						52.40
MEAN		0.03	1.77	6.29	1.19	0.85	117.42

Table 6. VENEZUELA, WESTERN PART. Catch rates by families for demersal fish in bottom trawl, kg/hour.

ST.NO.	DEP.	Croakers	Snappers	Grunts	Groupers	Glasseyes	Other
804	52		71.00	0.60	0.60	0.96	24.32
805	86		3.90			9.00	33.40
806	92		87.50				146.40
807	68		53.00	56.80	0.40	0.40	25.20
808	220		64.92		6.10		96.93
809	304				1.50		80.75
810	459						30.35
811	587						87.75
812	336	198.00			52.40		646.55
813	99		80.60		31.70		67.60
814	72		52.80	15.00	0.90		109.60
815	73		51.40	23.60	2.80		83.00
816	42		41.26	7.50	3.75	2.25	72.83
817	72		51.40		0.60	0.90	59.80
818	72		29.40			0.40	43.40
819	96						
820	78						
821	83		5.10				7.65
822	401						108.60
823	344						47.81
824	156		17.24	1.30	3.10	0.30	25.40
825	52		79.92		0.48	0.24	85.68
826	276		4.50		1.95		72.90
827	25		21.00				29.20
828	53		89.60			6.00	44.60
829	47		37.60				14.80
MEAN		7.62	32.39	4.03	4.09	0.79	78.64

Table 7. GULF OF VENEZUELA. Catch rates for main groups in bottom trawl stations standardized to kg/hour.

INNER PART

ST.NO.	DEP.	Pelagic	Demersal	Shark	Squids	Shrimp	Other
847	21	172.56	21.24	1.08	12.00		1.92
848	16	57.60	10.00	0.80	11.20		3.60
849	23	64.42	16.80		4.32		0.60
850	20	167.00	21.50		4.50		33.50
851	13	740.90	49.30		1.60		56.30
852	15						
853	24	204.00			19.50		
854	42	147.70	46.90		3.20	2.20	47.00
856	35	81.30	23.60		0.40		11.00
MEAN		181.72	21.04	0.21	6.30	0.24	17.10

OUTER PART

ST.NO.	DEP.	Pelagic	Demersal	Shark	Squids	Shrimp	Other
830	46	3.30	153.60			0.50	106.20
831	74	20.18	20.00			5.68	31.84
833	73	29.76	17.68			5.60	31.08
834	67	21.40	59.00			3.20	54.90
835	76	0.40	6.30				34.40
836	67	190.20	254.28		1.80		47.25
837	61	99.60	93.80	141.40			110.80
839	67	54.10	18.50		10.30	0.10	14.50
840	58	41.40	74.00		5.10		66.00
842	50	28.60	29.70		1.20	10.00	105.18
843	69	29.30	29.58		14.80	2.20	162.76
845	57	4.90	5.80		2.40	4.20	29.30
846	46	1022.40	20.00			3.20	17.20
858	47	20.76	26.80			10.80	82.36
860	27	180.50	9.20			0.40	9.50
861	41	292.20	72.90		19.20		3.90
862	48	36.00	35.50		6.00		12.00
863	30	19.80	69.70				37.60
864	52	66.80	91.70		2.00		25.70
865	68	8.10	13.20		5.20		14.40
866	63	9.80	126.30	1.60	0.60		29.60
MEAN		103.79	58.45	6.81	3.62	2.18	48.88

Table 8. GULF OF VENEZUELA. Catch rates by families for pelagic fish in bottom trawl, kg/hour.

INNER PART

ST.NO.	DEP.	Sardines	Scombrids	Carangids	Barracuda	Hairtails	Other
847	21	8.88	7.44	103.44	5.52	27.60	55.92
848	16	13.60	0.80	35.20		5.00	28.60
849	23	40.76	5.40	2.30		10.20	27.48
850	20	5.50	22.00	129.50	10.00		59.50
851	13	245.40	18.50	101.80	4.40	178.20	299.80
852	15						
853	24	76.20	6.00	35.40	31.80		74.10
854	42	4.80	0.80	132.40	9.70		99.30
856	35	46.40		6.10	9.30		54.50
MEAN		49.06	6.77	60.68	7.86	24.56	77.69

OUTER PART

ST.NO.	DEP.	Sardines	Scombrids	Carangids	Barracuda	Hairtails	Other
830	46	0.30		3.00			260.30
831	74	0.78		3.50	15.00	0.90	57.52
833	73	22.00	1.08	2.88	3.20	0.60	56.52
834	67	12.80		8.00		0.60	121.90
835	76			0.40			41.10
836	67	99.00	22.05	65.55	3.60		303.33
837	61	0.30	21.00	57.30	21.00		346.00
839	67	1.20	44.40	4.90	3.60		43.40
840	58	1.20	0.60	12.90	26.70		145.10
842	50	2.10		8.10	18.40		146.08
843	69	14.80		3.70	10.80		209.34
845	57	2.40		0.90	1.60		41.70
846	46	105.60	16.80	138.80	374.00		427.60
858	47	6.00		13.88			120.84
860	27	125.00	4.00	16.50	5.00	30.00	19.10
861	41	102.60	8.10	80.40	19.20	14.70	163.20
862	48	1.00	8.20	15.80	5.20	0.80	58.50
863	30	1.60	5.40	10.40	2.40		107.30
864	52	52.00	7.00	0.40	7.40		119.40
865	68		0.10	8.00			32.80
MEAN		27.53	6.94	22.77	25.86	2.38	141.05

Table 9. GULF OF VENEZUELA. Catch rates by families for demersal fish in bottom trawl, kg/hour.

INNER PART

ST.NO.	DEP.	Croakers	Snappers	Grunts	Groupers	Paprilus	Other
847	21	10.80	10.44			1.44	186.12
848	16	6.00	4.00			0.40	72.80
849	23	13.40	3.40				69.34
850	20	15.30	6.20			1.00	204.00
851	13	42.60	3.00			11.60	790.90
852	15						
853	24						223.50
854	42	23.50	13.70	3.70	6.00	1.70	198.40
856	35	14.90	1.70	2.00			97.70
MEAN		14.06	4.72	0.63	0.67	1.79	204.75

OUTER PART

ST.NO.	DEP.	Croakers	Snappers	Grunts	Groupers	Glasseyes	Other
830	46		79.20	9.30		20.10	155.00
831	74	0.78	10.52		6.90	1.80	57.70
832	35						181.00
833	73	0.40	12.24		3.60	1.44	68.60
834	67	2.40	34.40	14.40	0.80	7.00	84.30
835	76		3.00			3.30	35.20
836	67		174.48	60.75		12.00	246.30
837	61		66.20		4.30	12.00	363.10
839	67	0.30	2.60		0.10	15.20	79.30
840	58		27.80		2.10	42.00	114.60
842	50		11.40	5.70	7.50	5.10	144.98
843	69	1.84	9.24		18.50		209.06
845	57	0.30	3.10		0.60	1.80	40.80
846	46	18.80			1.20		1042.80
858	47	13.84	12.08		0.88		113.92
860	27	9.20					190.40
861	41	66.60	6.30				315.30
862	48		34.80		0.40	0.30	54.00
863	30		50.30		0.20	12.20	64.40
864	52		79.10		0.40	1.20	105.50
865	68		9.60		0.20	3.40	27.70
866	63		99.50	1.80		20.00	46.60
MEAN		5.20	32.99	4.18	2.17	7.22	170.03

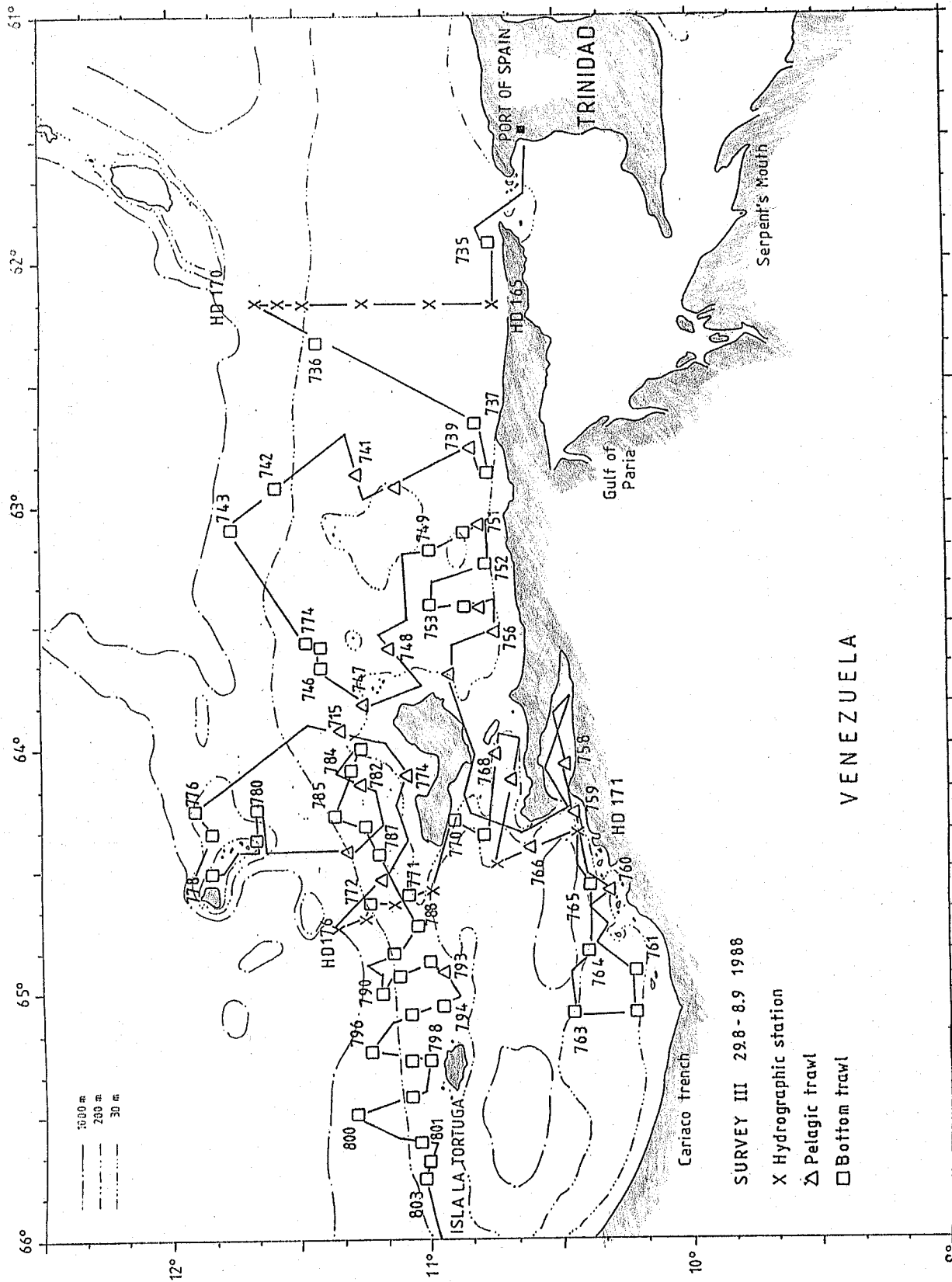


Figure 1. Course tracks, fishing stations and hydrographic profiles. Oriente coast.

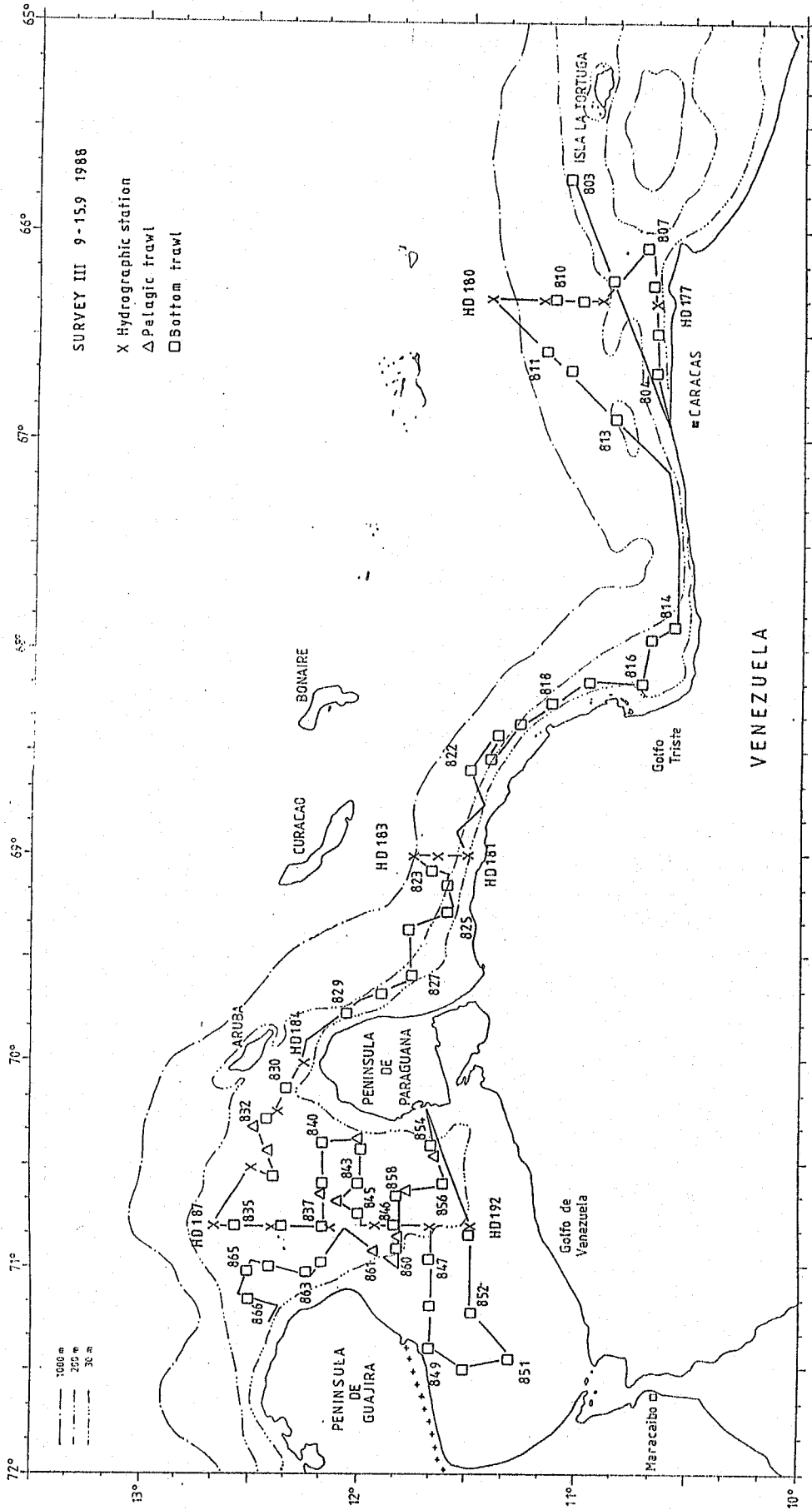
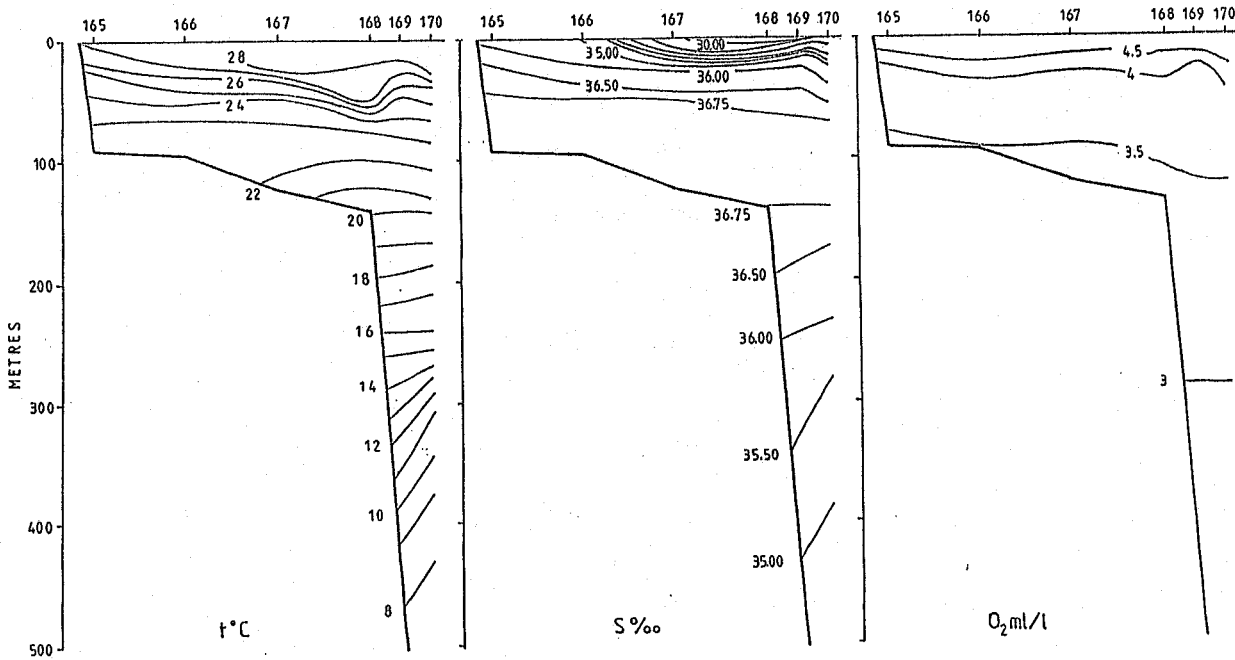
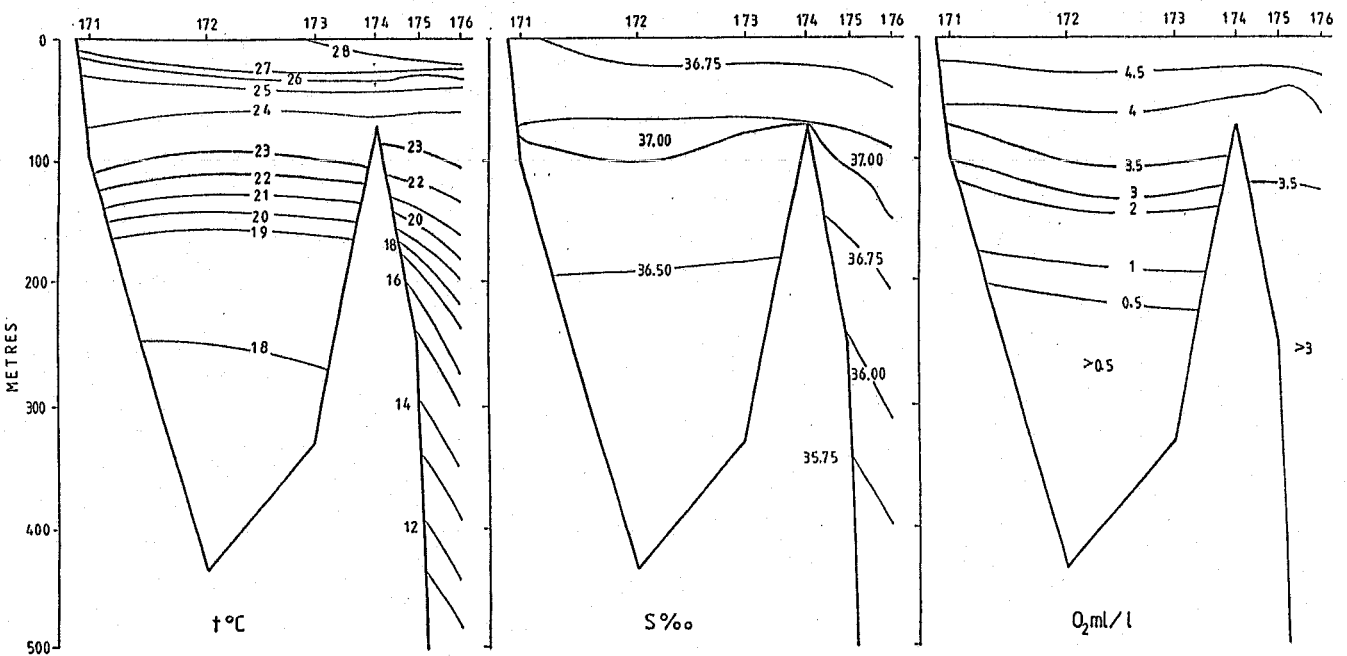


Figure 2. Course tracks, fishing stations and hydrographic profiles. Western coasts.

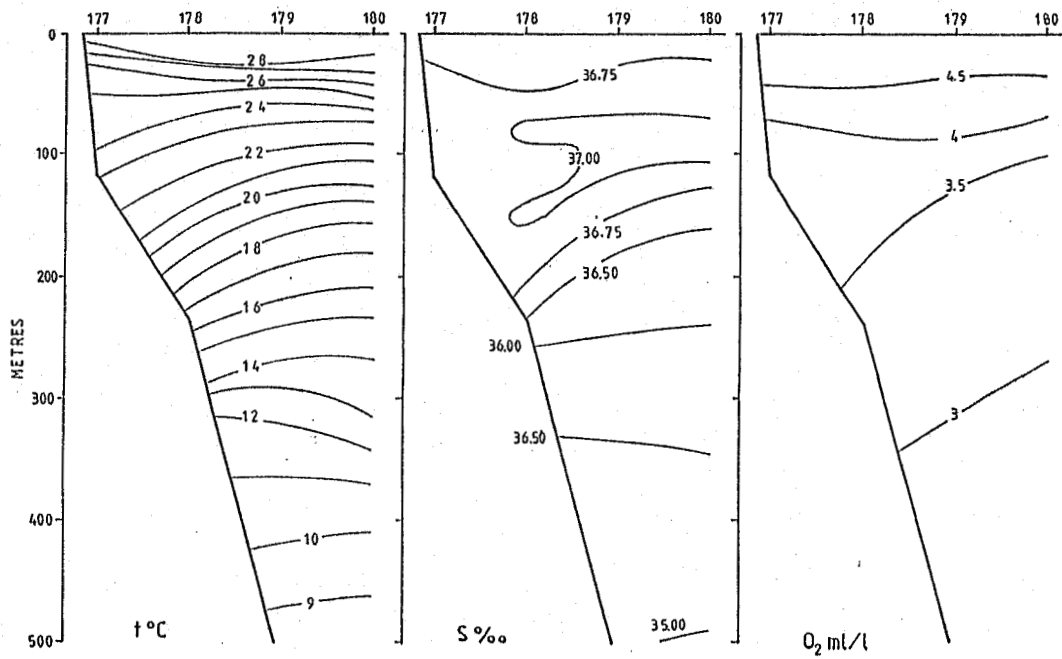


PUNTA CARIBE 29-30.8 1988

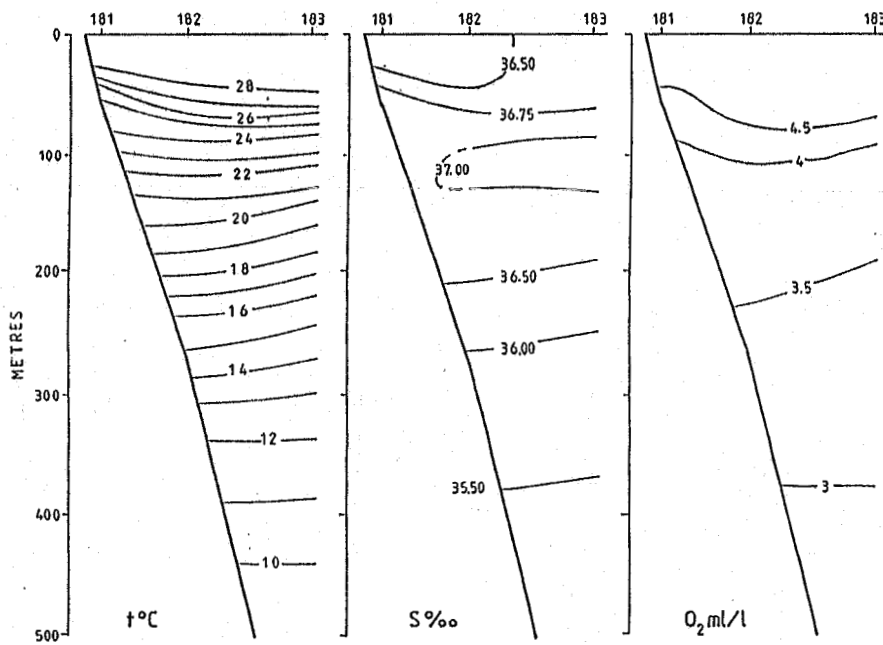


WEST OF ISLA DE MARGARITA 3-4.9 1988

Figure 3. Hydrographic profiles. Oriente coast.



CABO CODERA 9.9 1988



PTA SABANA 12.9 1988

Figure 4a. Hydrographic profiles. Western coasts.

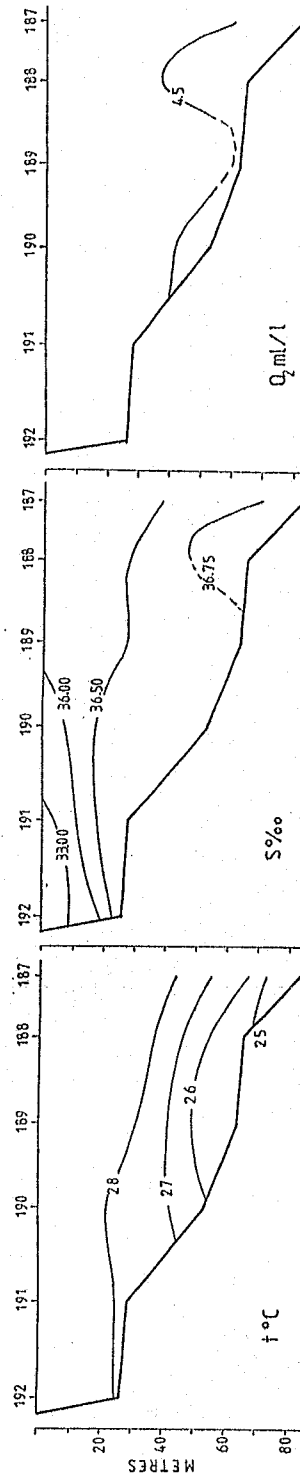
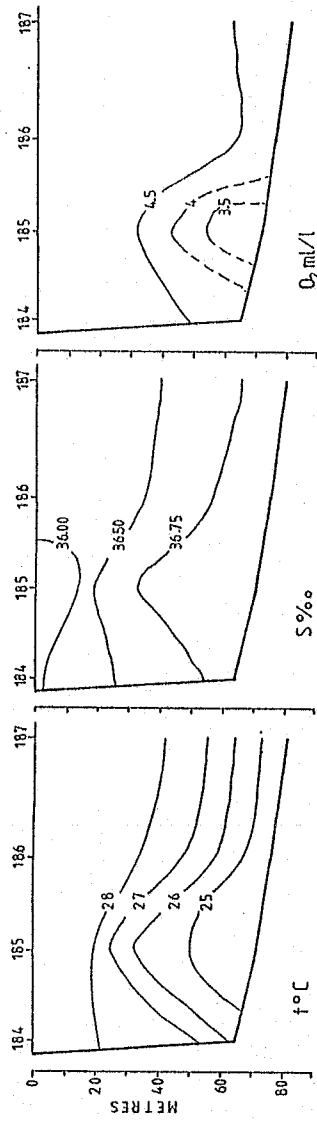


Figure 4b. Hydrographic profiles. Western coasts.

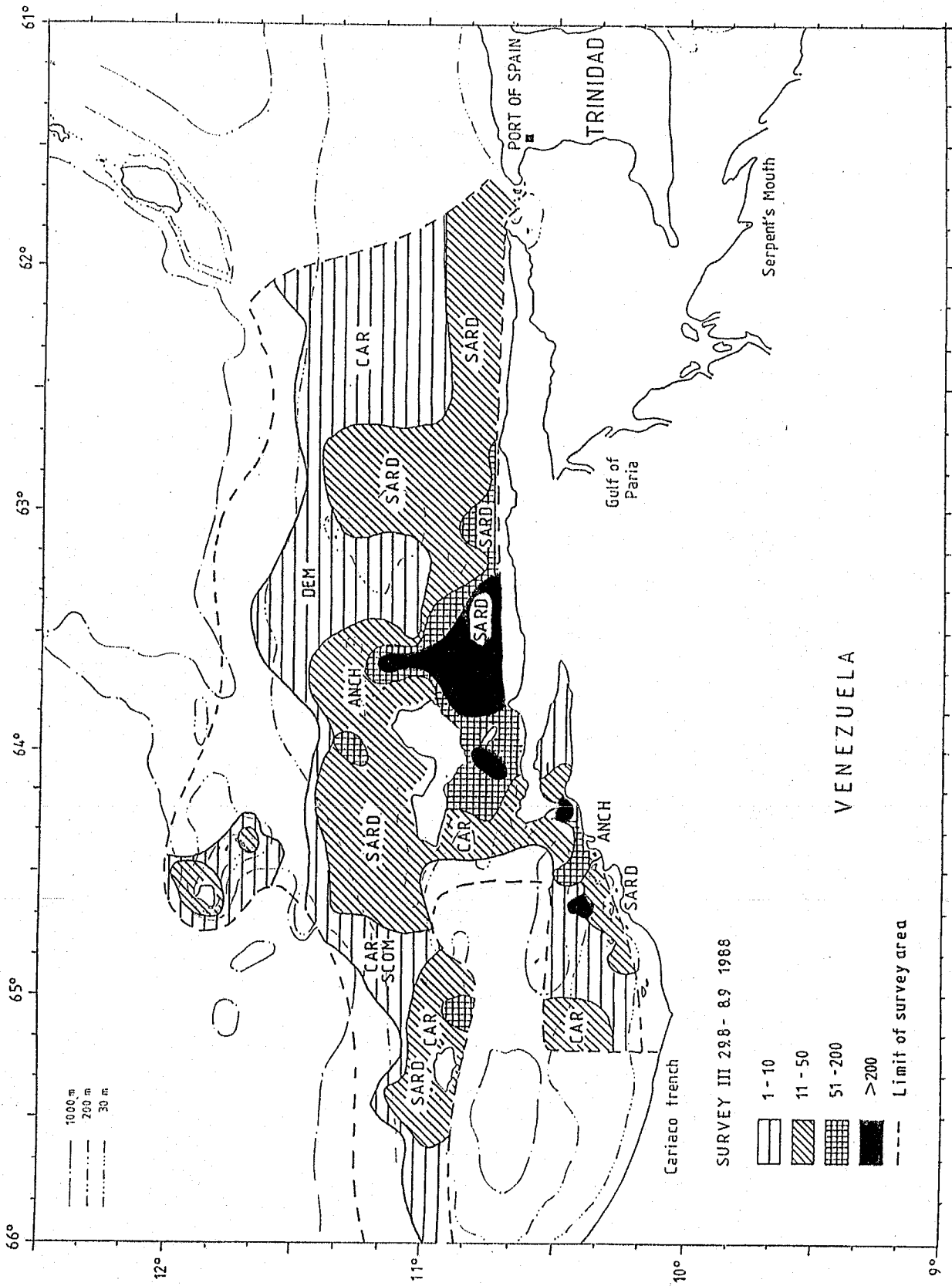


Figure 5. Distribution of pelagic fish from acoustic system. Oriente coast.

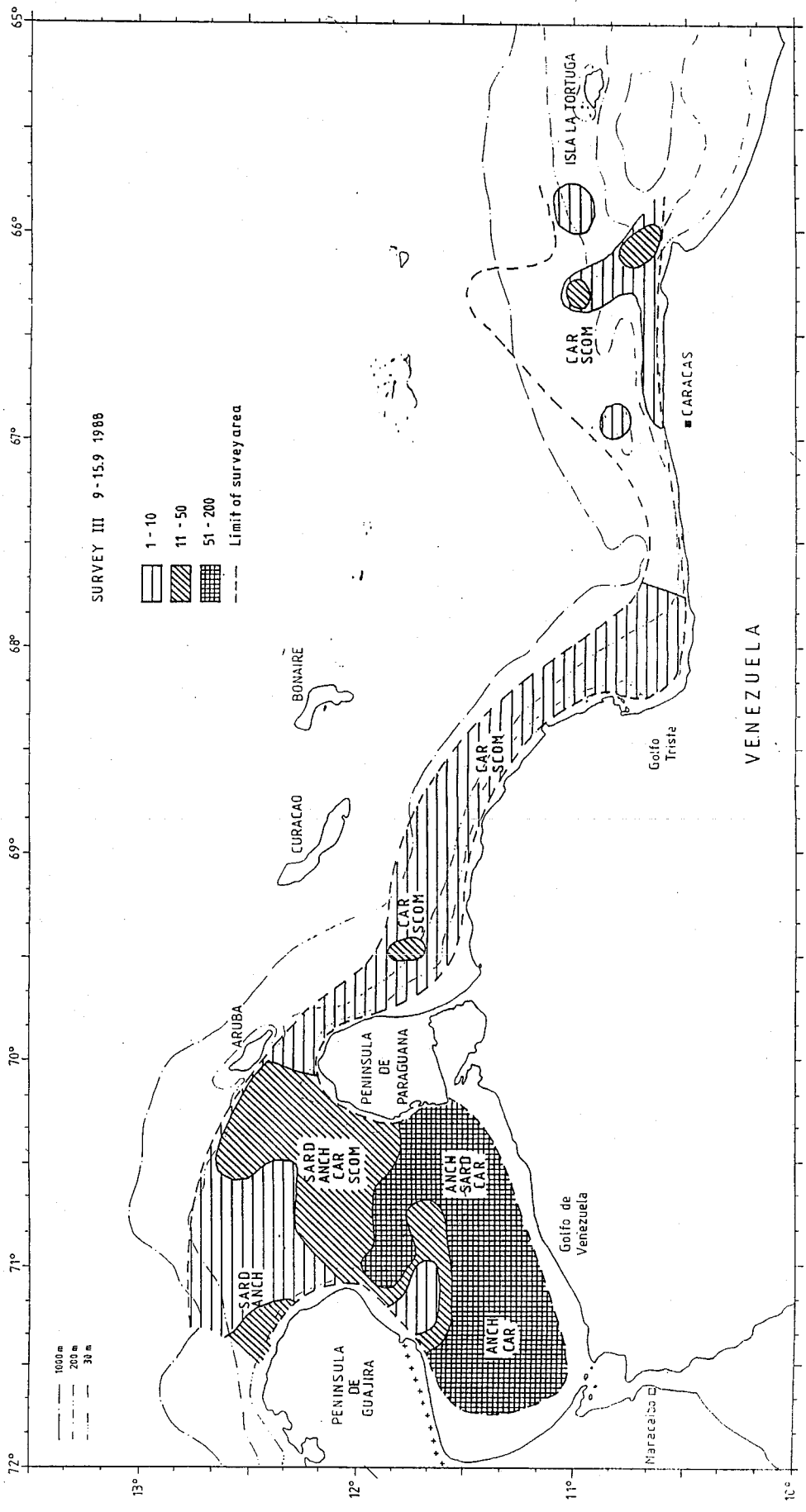


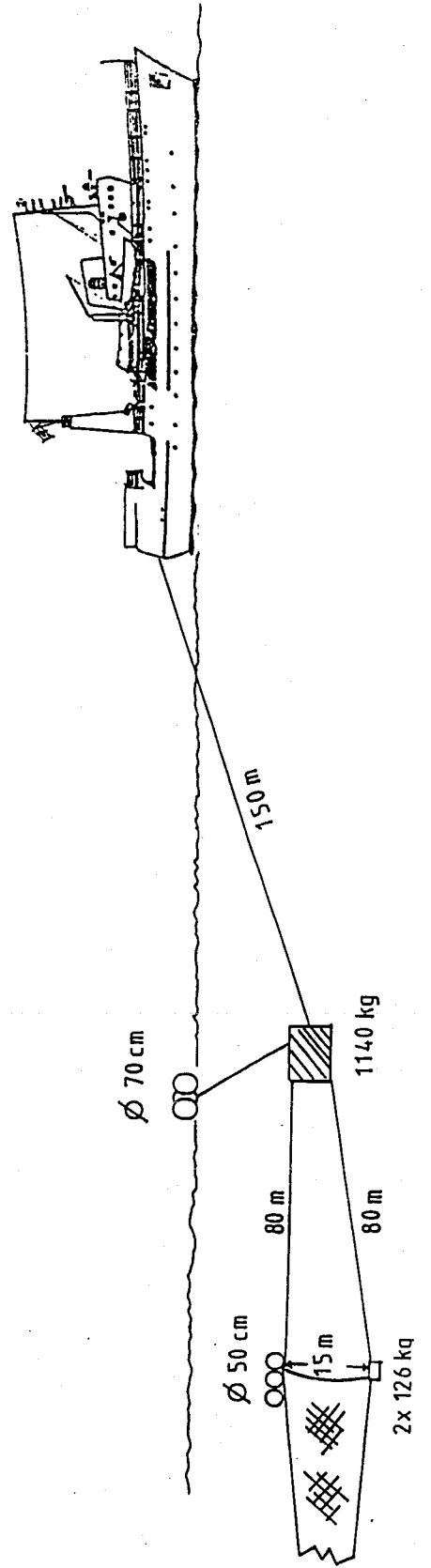
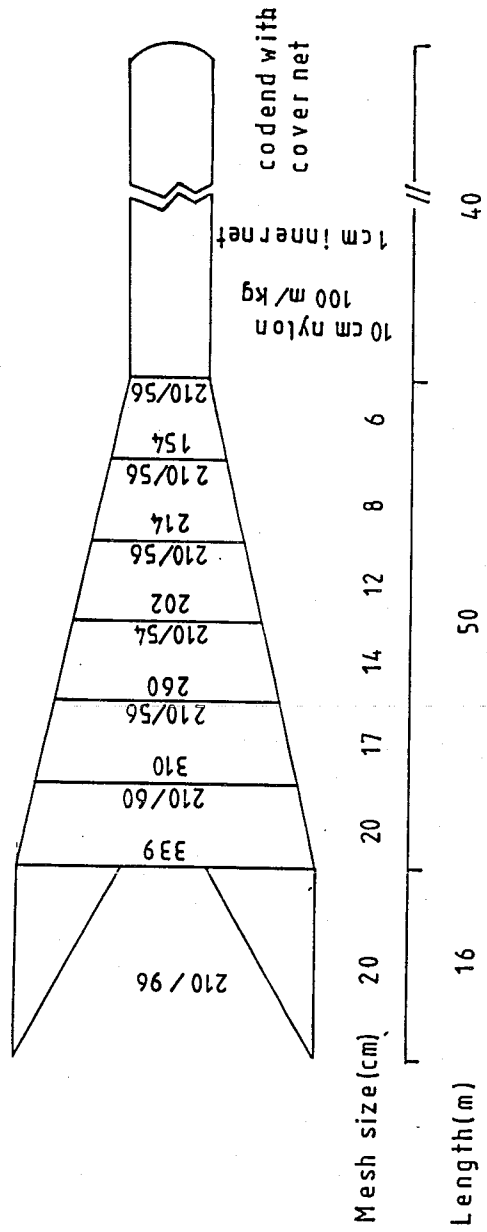
Figure 6. Distribution of pelagic fish from acoustic system. Western coasts.



ANNEX 1. DESCRIPTION AND RIGGING OF PELAGIC TRAWL.

PELAGIC TRAWL

Four equal parts





ANNEX 2. DESCRIPTION OF BOTTOM TRAWL

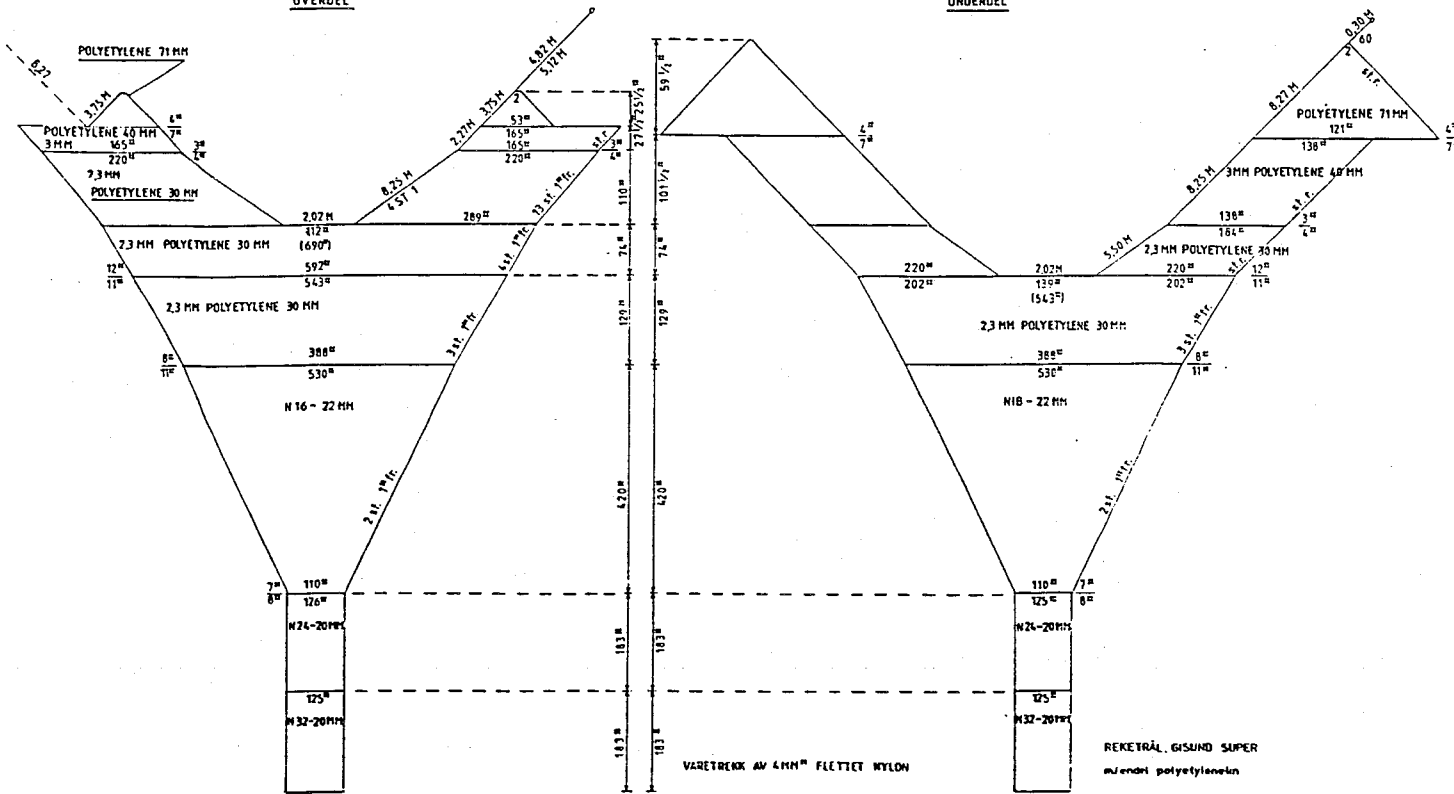
APENDICE 2. DESCRIPCION DE LA RED DE FONDO

Munning: 6" på 3 cm + 96" på 196 m + 6" på 3 cm = 202 m
 Fellt på 12 mm pp. R. og bændstet til 2 1/4 kombinasjonstau m/ fiberkjerne
 Headline 4000 m

OVERDEL

Munning: 19" på 5 cm + 101" på 192 m + 19" på 5 cm = 202 m
 Fellt på 12 mm og bændstet til 1 1/2 wire (kyllet)
 Fiskeline 47,26 m

UNDERDEL



Upper part
 Headline 41 m
 Sweep 40 m

Lower part
 Groundrope 47 m
 Sweep 40 m



ANNEX 3 . RECORDS OF FISHING STATIONS

DATE: 29/ 8/88 stop duration GEAR TYPE: PT No 4 PROJECT STATION: 735
 start stop duration POSITION: Lat N 1047
 TIME 19:30:00 20:00:00 30 (min) Purpose code: 1
 LOG 19593.00 9594.30 1.30 Area code 1 3
 FDEPTH: 0 0 GearCond.code: 1
 BDEPTH: 30 34 Validity code: 1
 Towing dir: 261° Wire out: 75 m Speed: 24 kn*10

Sorted: 4 Kg Total catch: 4.60 CATCH/HOUR: 9.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Etrumeus tares	7.40	318	90.43	257
Trichurus lepturus	1.20	2	13.04	
JUVENILE FISHES	0.40	6	4.35	
Trachurus lathami	0.20	2	2.17	
Loligo plei	0.00	2		
Porichthys pauciradiatus	0.00	4		
Total	9.20		99.99	

DATE: 30/ 8/88 stop duration GEAR TYPE: PT No 4 PROJECT STATION: 737
 start stop duration POSITION: Lat N 1047
 TIME 12:10:00 20:40:00 30 (min) Purpose code: 1
 LOG 19774.90 9776.20 1.30 Area code 1 3
 FDEPTH: 10 10 GearCond.code: 1
 BDEPTH: 48 47 Validity code: 1
 Towing dir: 250° Wire out: 150 m Speed: 25 kn*10

Sorted: 50 Kg Total catch: 156.79 CATCH/HOUR: 313.58

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Harengula jaguana	196.50	2982	62.66	269
Trichurus lepturus	62.60	144	19.96	268
Sardinella aurita	52.50	640	16.74	270
Sphyræna picudilla	1.24	6	0.40	
Engraulis eurystole	0.74	162	0.24	271
Octopus defilippi	0.00	6		
Total	313.58		100.00	

DATE: 30/ 8/88 stop duration GEAR TYPE: BT No 1 PROJECT STATION: 736
 start stop duration POSITION: Lat N 1126
 TIME 07:35:00 08:05:00 30 (min) Purpose code: 3
 LOG 19682.00 9682.60 0.30 Area code 1 3
 FDEPTH: 36 92 GearCond.code: 1
 BDEPTH: 36 92 Validity code: 1
 Towing dir: 270° Wire out: 450 m Speed: 3 kn*10

Sorted: 37 Kg Total catch: 37.80 CATCH/HOUR: 75.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Pristigaster macropthalmus	23.00	506	30.42	259
Upeneus parvus	18.40	372	24.34	258
Lutjanus vivax	12.00	2	15.87	
Rhombolites aurorubens	10.20	38	13.49	
Axius thazard	6.10	14	8.07	261
Loligo paelel	2.20	93	2.91	
Fistularia petimba	1.00	4	1.32	
Trachurus lathami	0.80	22	1.06	
Cauliolatilus cyanops	0.60	2	0.79	
Loligo plei	0.60	8	0.79	
Ococephalus nasutus	0.40	2	0.53	
Stacium papillosum	0.30	4	0.40	
Octopus vulgaris	0.00	2		
Ariomma bondi	0.00	2		
Scorpaena agassizi	0.00	2		
Prionotus punctatus	0.00	6		
Total	75.60		99.99	

DATE: 30/ 8/88 stop duration GEAR TYPE: PT No 2 PROJECT STATION: 740
 start stop duration POSITION: Lat N 1107
 TIME 12:40:00 00:10:00 30 (min) Purpose code: 1
 LOG 19799.40 9801.10 1.70 Area code 1 3
 FDEPTH: 17 10 GearCond.code: 1
 BDEPTH: 23 23 Validity code: 1
 Towing dir: 252° Wire out: 75 m Speed: 29 kn*10

Sorted: 52 Kg Total catch: 52.20 CATCH/HOUR: 104.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sardinella aurita	83.00	1486	79.50	272
Selar crumenophthalmus	7.00	60	6.70	273
Decapterus punctatus	4.00	104	3.83	276
Decapterus macarellus	4.00	122	3.83	275
Decapterus tabl	3.00	30	2.87	274
Loligo paelel	1.40	108	1.34	
Echeneis vamor	1.00	2	0.96	
Sphyræna picudilla	0.60	2	0.57	
Haemulon boschae	0.40	12	0.38	
Upeneus parvus	0.00	2		
Total	104.40		99.98	

DATE: 30/ 8/88 stop duration GEAR TYPE: BT No 1 PROJECT STATION: 737
 start stop duration POSITION: Lat N 1047
 TIME 15:35:00 16:05:00 30 (min) Purpose code: 3
 LOG 19747.70 9748.70 1.00 Area code 1 3
 FDEPTH: 67 65 GearCond.code: 1
 BDEPTH: 67 65 Validity code: 1
 Towing dir: 280° Wire out: 350 m Speed: 21 kn*10

Sorted: 84 Kg Total catch: 84.31 CATCH/HOUR: 168.62

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trichurus lepturus	63.40	288	37.60	262
Saurida normani	19.80	224	11.74	
Trachurus lathami	16.00	74	9.49	263
Gyanothorax ocellatus	11.00	12	8.52	
Selar crumenophthalmus	9.40	118	5.57	264
Pristigaster macropthalmus	6.00	260	3.56	
Rhizoprionodon porosus	4.40	4	2.61	
Cyclosetta chittidani	3.40	4	2.02	
Eucinoctonus gula	3.40	38	2.02	
Loligo paelel	3.20	390	1.90	
Mustelus hiomani	2.60	4	1.54	
Priacanthus arenatus	2.60	4	1.54	
Upeneus parvus	2.60	4	1.54	
Harengula jaguana	2.40	38	1.42	
Sarda sarda	2.20	2	1.30	
Paralichthys tropicus	2.20	8	1.00	
Sardinella aurita	2.00	16	1.19	
Sphyræna quachancho	2.00	8	1.19	
Octopus vulgaris	2.00	2	1.19	
Penaeus brasiliensis	1.40	14	0.83	
Serranus phoebe	1.40	60	0.83	
Rhombolites aurorubens	1.20	4	0.71	
CRABS	1.00	46	0.59	
Lepoehidius sp	0.60	2	0.36	
Loligo plei	0.60	10	0.36	
Scorpaena isthmensis	0.50	2	0.30	
Fistularia petimba	0.50	2	0.30	
Lonchopisthus hiomani	0.30	3	0.18	
Scomber japonicus	0.30	2	0.18	
Porichthys sp	0.12	24	0.07	
Dactylopterus volitans	0.10	2	0.06	
Total	168.62		100.01	

DATE: 31/ 8/88 stop duration GEAR TYPE: PT No 2 PROJECT STATION: 741
 start stop duration POSITION: Lat N 1115
 TIME 10:35:00 03:05:00 30 (min) Purpose code: 1
 LOG 19818.60 9819.60 1.00 Area code 1 3
 FDEPTH: 30 25 GearCond.code: 1
 BDEPTH: 45 41 Validity code: 1
 Towing dir: 250° Wire out: 100 m Speed: 22 kn*10

Sorted: 32 Kg Total catch: 64.20 CATCH/HOUR: 128.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sardinella aurita	120.00	2050	93.46	277
Selar crumenophthalmus	3.60	36	2.80	
Decapterus punctatus	2.00	24	1.56	
Scomber japonicus	1.20	12	0.93	
Decapterus tabl	1.20	12	0.93	
Decapterus macarellus	0.40	4	0.31	
Total	128.40		99.99	

DATE: 30/ 8/88 stop duration GEAR TYPE: BT No 1 PROJECT STATION: 738
 start stop duration POSITION: Lat N 1045
 TIME 17:45:00 18:15:00 30 (min) Purpose code: 3
 LOG 19761.10 9762.60 1.50 Area code 1 3
 FDEPTH: 44 37 GearCond.code: 1
 BDEPTH: 44 37 Validity code: 1
 Towing dir: 225° Wire out: 250 m Speed: 30 kn*10

Sorted: 23 Kg Total catch: 51.80 CATCH/HOUR: 103.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Otenosciena gracilicirrhus	50.80	3912	49.03	265
Trachurus lathami	28.00	340	27.03	266
Gyanothorax ocellatus	9.20	120	8.88	
Paralichthys tropicus	3.40	8	3.28	
Cathorops spixii	3.20	44	3.09	
Trichurus lepturus	2.00	16	1.93	
Harengula jaguana	1.80	29	1.74	
Penaeus notialis	1.80	46	1.74	267
Lepoehidius profundorum	0.60	4	0.58	
Sphyræna picudilla	0.60	4	0.58	
Synodus foetens	0.60	6	0.58	
Gyanothorax ocellatus	0.60	4	0.58	
Loligo paelel	0.40	80	0.39	
Diplacrum formosum	0.40	2	0.39	
Porichthys pauciradiatus	0.20	76	0.19	
Chirocentrodon bleekeri	0.00	18		
Total	103.60		100.01	

DATE: 31/ 8/88 stop duration GEAR TYPE: BT No 1 PROJECT STATION: 742
 start stop duration POSITION: Lat N 1136
 TIME 10:35:00 08:00:00 25 (min) Purpose code: 3
 LOG 19859.90 9860.70 0.80 Area code 1 3
 FDEPTH: 424 452 GearCond.code: 1
 BDEPTH: 424 452 Validity code: 1
 Towing dir: 340° Wire out: 1300 m Speed: 23 kn*10

Sorted: 27 Kg Total catch: 27.20 CATCH/HOUR: 65.28

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Dalatyca licha	21.36	2	32.72	
Steindachneria argenta	7.68	271	11.76	
Glyptocheilichthys sp	5.28	1680	8.09	
Chaulichthys bloani	5.04	322	7.72	
Bambroops anatrostris	3.60	48	5.51	
Aristaeomorpha foliacea	2.88	115	4.41	278
Hydroalagus alberti	2.40	5	3.68	
Promethichthys prometheus	2.40	132	3.68	
Leucocæna sp	2.40	36	3.68	
Illex coindatti	1.68	17	2.57	
Penaeopsis megalops	1.68	127	2.57	279
Hymenoccephalus italicus	1.20	130	1.84	
Lepidopus caudatus	1.20	26	1.84	
Scorpaenopsis blainvilliei	0.84	2	1.29	
EMOETTERUS	0.72	14	1.10	
EMOETTERUS pusillus	0.72	10	1.10	
Synagrops bellus	0.72	10	1.10	
POLYCHADIDAE	0.48	43	0.74	
Ariomma bondi	0.48	10	0.74	
Polyxixia nobilis	0.48	7	0.74	
Gurgesiella atlantica	0.48	2	0.74	
Paristidion sp	0.48	12	0.74	
Argyrops alatus	0.24	50	0.37	
Ornithoteuthis antillarum	0.24	2	0.37	
Benthodesmus ternius	0.24	34	0.37	
Diplophos maderensis	0.24	5	0.37	
OPLORHIDAE	0.12	53	0.18	
Zenon hololepis	0.00	17		
Hoplostethus occidentalis	0.00	7		
Cyttopsis roseus	0.00	2		
Plesionika edwardsii	0.00	2		
Pontinus sp.	0.00	7		
MYCTOPHIDAE	0.00	12		
Bregmaceros sp.	0.00	19		
Xenolepidichthys dalgleishi	0.00	7		
ARGENTINIDAE	0.00	2		
Total	65.28		100.02	

PROJECT STATION: 743
 DATE: 31/ 8/88 GEAR TYPE: BT No1 POSITION: Lat N 1145 Long W 6305
 TIME start stop duration
 LOG 110150:00 1150:00 30 (min) Purpose code: 3 Area code: 1 3
 LOG 1984.40 9885.30 0.90 GearCond.code: 1
 FDEPTH: 807 878 GearCond.code: 1
 BDEPTH: 807 878 Validity code: 1
 Towing dir: 292° Wire out: 2100 m Speed: 1 kn*10

Sorted: 30 Kg Total catch: 92.40 CATCH/HOUR: 92.40

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Miscellaneous fish	29.10	31.49	
Nezumia squilla	11.40	12.34	
Nezumia cyrano	9.30	10.06	
Dicrolene intronira	5.70	6.17	
Stereosthis sculpta	4.50	4.87	281
Acanthephyra eximia	4.50	4.87	
Ornithoteuthis antillarum	3.90	4.22	
Monomitus agassizii	3.60	3.90	
Benthiscyamus bartletti	3.30	3.57	
Pholidoteuthis adami	3.00	3.25	
Plesiopenaeus edwardsianus	2.85	3.08	280
Nematocarsinus rotundus	1.80	1.95	
OPLOPHORIDAE	1.80	1.95	
Glyphocrangon sp	1.80	1.95	
Hydrolaeus alberti	1.20	1.30	
Coelorrhinus occa	1.20	1.30	
Paristodion miniatum	0.90	0.97	
Bathynomus giganteus	0.75	0.81	
Illex coindetti	0.60	0.65	
SQUALIDAE	0.60	0.65	
Aristus sp	0.30	0.32	
OPHISTHOTEUTHIDAE	0.30	0.32	
Gnathophausia zoea	0.03	0.03	
Pasiphaea marriami	0.03	0.03	
Heterocheuthis atlantis	0.00	0.00	
Bragmaceros atlanticus	0.00	0.00	
Total	92.40	99.99	

PROJECT STATION: 747
 DATE: 31/ 8/88 GEAR TYPE: PT No14 POSITION: Lat N 1114 Long W 6350
 TIME start stop duration
 LOG 120135:00 2105:00 30 (min) Purpose code: 1 Area code: 1 3
 LOG 1994.10 9945.00 1.70 GearCond.code: 1
 FDEPTH: 13 13 Validity code: 1
 BDEPTH: 28 27
 Towing dir: 173° Wire out: 125 m Speed: 35 kn*10

Sorted: 25 Kg Total catch: 303.25 CATCH/HOUR: 606.50

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Anchoa filifera	284.60	46.92	292
Anchoa hepsetus	180.40	29.74	293
Loligo plei	46.80	7.72	294
Sardinella aurita	28.20	4.65	
Trichiurus lepturus	25.00	4.12	
Carcarhinus porosus	18.00	2.97	
Bagre marinus	12.00	1.98	
Harengula jaquana	6.80	1.12	
Opisthonema oglinum	2.20	0.36	
Sphyræna quachancho	2.00	0.33	
Scomberomorus cavalla	0.80	0.13	
JELLYFISH	0.00	0.00	
Total	606.50	99.99	

PROJECT STATION: 748
 DATE: 1/ 9/88 GEAR TYPE: PT No14 POSITION: Lat N 1107 Long W 6335
 TIME start stop duration
 LOG 100125:00 0105:00 40 (min) Purpose code: 1 Area code: 1 3
 LOG 1997.20 9975.60 2.40 GearCond.code: 1
 FDEPTH: 31 30 Validity code: 1
 BDEPTH: 31 30
 Towing dir: 235° Wire out: 125 m Speed: 32 kn*10

Sorted: 31 Kg Total catch: 404.50 CATCH/HOUR: 606.75

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Sardinella aurita	592.80	97.70	295
Dacaptarus punctatus	5.85	0.96	
Axius sp	5.85	0.96	
Bagre marinus	2.25	0.37	
Total	606.75	99.99	

PROJECT STATION: 744
 DATE: 31/ 8/88 GEAR TYPE: BT No1 POSITION: Lat N 1127 Long W 6332
 TIME start stop duration
 LOG 101001:00 10130:00 30 (min) Purpose code: 3 Area code: 1 3
 LOG 19920.00 9921.60 1.60 GearCond.code: 1
 FDEPTH: 43 42 GearCond.code: 1
 BDEPTH: 43 42 Validity code: 1
 Towing dir: 230° Wire out: 250 m Speed: 30 kn*10

Sorted: 20 Kg Total catch: 66.80 CATCH/HOUR: 103.60

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Lutjanus purpuraceus	39.00	29.19	282
Haemulon boschma	30.00	22.46	286
Priacanthus arenatus	30.00	22.46	284
Haemulon steindachneri	9.40	7.04	283
Rhombolites aurorubens	7.80	5.84	284
Upeneus parvus	7.00	5.24	285
Haemulon aurolineatum	2.80	2.10	
Loligo plei	2.40	1.80	
Cyclosetta chittendeni	1.60	1.20	
Mutellus canis	1.20	0.90	
Fistularia petimba	1.00	0.75	
Synodus foetens	0.80	0.60	
Euclinostomus havana	0.20	0.15	
Seriola rivolana	0.20	0.15	
Dacaptarus punctatus	0.04	0.03	
Saurida normani	0.04	0.03	
Diplacrum formosum	0.04	0.03	
Pristigaster macrophthalmus	0.00	0.00	
Diplacrum radiale	0.00	0.00	
Total	133.60	100.00	

PROJECT STATION: 749
 DATE: 1/ 9/88 GEAR TYPE: BT No1 POSITION: Lat N 1157 Long W 6310
 TIME start stop duration
 LOG 106130:00 07100:00 30 (min) Purpose code: 3 Area code: 1 3
 LOG 1101.10 22.20 1.10 GearCond.code: 1
 FDEPTH: 41 38 GearCond.code: 1
 BDEPTH: 41 38 Validity code: 1
 Towing dir: 152° Wire out: 200 m Speed: 27 kn*10

Sorted: 33 Kg Total catch: 33.85 CATCH/HOUR: 67.70

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Dactylopterus volitans	14.40	21.27	
Lutjanus purpuraceus	12.00	17.73	299
Haemulon steindachneri	12.00	17.73	296
Priacanthus arenatus	7.30	10.78	298
Octopus vulgaris	3.40	5.02	
Synodus foetens	3.20	4.73	
Gymnothorax ocellatus	3.00	4.43	
Haemulon aurolineatum	3.00	4.43	297
Dalissia betula	1.80	2.66	
Sphyræna picudilla	1.70	2.51	
Fistularia petimba	1.60	2.36	
Aluterus monoceros	1.20	1.77	
Diplacrum formosum	0.80	1.18	
Loligo plei	0.60	0.89	
Loligo pascii	0.40	0.59	
Ancylometta quadrocellata	0.40	0.59	
Sardinella aurita	0.30	0.44	
Haemulon boschma	0.30	0.44	
Diplacrum radiale	0.20	0.30	
Synodus poeyi	0.10	0.15	
Dacaptarus punctatus	0.00	0.00	
Upeneus parvus	0.00	0.00	
Penaeus brasiliensis	0.00	0.00	
Total	67.70	100.00	

PROJECT STATION: 745
 DATE: 31/ 8/88 GEAR TYPE: BT No1 POSITION: Lat N 1125 Long W 6336
 TIME start stop duration
 LOG 117051:00 17135:00 30 (min) Purpose code: 3 Area code: 1 3
 LOG 19925.00 9926.20 1.20 GearCond.code: 1
 FDEPTH: 40 40 GearCond.code: 1
 BDEPTH: 40 40 Validity code: 1
 Towing dir: 250° Wire out: 225 m Speed: 24 kn*10

Sorted: 10 Kg Total catch: 10.30 CATCH/HOUR: 20.60

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Loligo plei	10.80	52.43	287
Octopus vulgaris	4.60	22.33	
Caranx crysos	4.60	22.33	
Echeneis naucrates	0.60	2.91	
Total	20.60	100.00	

PROJECT STATION: 750
 DATE: 1/ 9/88 GEAR TYPE: BT No1 POSITION: Lat N 1049 Long W 6306
 TIME start stop duration
 LOG 109105:00 09135:00 30 (min) Purpose code: 3 Area code: 1 3
 LOG 138.90 40.30 1.40 GearCond.code: 1
 FDEPTH: 39 46 GearCond.code: 1
 BDEPTH: 39 46 Validity code: 1
 Towing dir: 290° Wire out: 250 m Speed: 27 kn*10

Sorted: 56 Kg Total catch: 281.00 CATCH/HOUR: 562.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Sardinella aurita	200.00	35.59	301
Rhombolites aurorubens	150.00	26.69	300
Trachurus lathami	64.00	11.39	302
Trichiurus lepturus	38.00	6.76	
Dactylopterus volitans	32.50	5.78	
Scomber japonicus	31.50	5.60	304
Haemulon boschma	20.00	3.56	303
Synodus foetens	8.00	1.42	
Priacanthus arenatus	6.00	1.07	
Euclinostomus argenteus	2.50	0.44	
Harengula jaquana	2.00	0.36	
Lutjanus purpuraceus	2.00	0.36	
Diplacrum formosum	1.50	0.27	
Sparisoma sp.	1.00	0.18	
Scaptholopsis hispidus	1.00	0.18	
Paralichthys tropicus	1.00	0.18	
Haemulon steindachneri	1.00	0.18	
Diplacrum radiale	0.00	0.00	
Total	562.00	100.01	

PROJECT STATION: 746
 DATE: 31/ 8/88 GEAR TYPE: BT No1 POSITION: Lat N 1126 Long W 6339
 TIME start stop duration
 LOG 118100:00 18130:00 30 (min) Purpose code: 3 Area code: 1 3
 LOG 19927.00 9928.50 1.20 GearCond.code: 1
 FDEPTH: 40 43 GearCond.code: 1
 BDEPTH: 40 43 Validity code: 1
 Towing dir: 270° Wire out: 250 m Speed: 23 kn*10

Sorted: 58 Kg Total catch: 117.90 CATCH/HOUR: 235.80

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Haemulon boschma	142.20	60.31	288
Lutjanus analis	46.80	19.85	
Lutjanus purpuraceus	12.60	5.34	291
Rhombolites aurorubens	11.80	5.00	290
Loligo plei	10.50	4.45	289
Selene spixii	5.40	2.29	
Hemicaranx amblyrhynchus	1.80	0.76	
Scomberomorus cavalla	1.60	0.68	
Sphyræna picudilla	1.00	0.42	
Holocentrus ascensionis	0.90	0.38	
Selar crumenophthalmus	0.60	0.25	
Upeneus parvus	0.30	0.13	
Diplacrum bivittatum	0.20	0.08	
Dacaptarus macarellus	0.00	0.00	
Total	235.70	99.94	

PROJECT STATION: 751
 DATE: 1/ 9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1047 Long W 6304
 start stop duration
 TIME 11:04:00 11:25:00 45 (min) Purpose code: 1
 LOG 46.10 48.20 2.10 Area code 1 3
 FDEPTH: 22 20 GearCond. code:
 BDEPTH: 38 40 Validity code:
 Towing dir: 290° Wire out: 100 m Speed: 23 kn*10
 Sorted: 500 Kg Total catch: 5000.00 CATCH/HOUR: 6666.67

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Trichiurus lepturus	6666.67	13979	100.00 305
Total	6666.67	100.00	

PROJECT STATION: 752
 DATE: 1/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1046 Long W 6313
 start stop duration
 TIME 12:45:00 13:15:00 30 (min) Purpose code: 3
 LOG 56.30 57.80 1.50 Area code 1 3
 FDEPTH: 28 35 GearCond. code:
 BDEPTH: 28 35 Validity code:
 Towing dir: 325° Wire out: 150 m Speed: 30 kn*10
 Sorted: 27 Kg Total catch: 493.20 CATCH/HOUR: 986.40

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Arius spixii	468.00	12402	47.45 306
Pellona harroweri	378.00	8442	38.32 307
Harengula jaguana	54.00	1116	5.47 308
Rhizoprionodon porosus	54.00	72	5.47
Peprilus paru	14.40	180	1.46
Sphyræna picudilla	12.60	72	1.28
Sphyræna quachancho	5.40	36	0.55
Loligo piei	0.00	36	
Loligo paeli	0.00	72	
Otenoscionea gracilicirrhus	0.00	72	
Total	986.40	100.00	

PROJECT STATION: 753
 DATE: 1/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1059 Long W 6324
 start stop duration
 TIME 15:35:00 16:05:00 30 (min) Purpose code: 3
 LOG 77.60 78.70 1.10 Area code 1 3
 FDEPTH: 36 37 GearCond. code:
 BDEPTH: 36 37 Validity code:
 Towing dir: 270° Wire out: 200 m Speed: 23 kn*10
 Sorted: 38 Kg Total catch: 38.45 CATCH/HOUR: 76.90

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Chloroscombrus chrysurus	21.20	102	27.57 310
Haemulon boschma	18.80	766	24.45 309
Scomberomorus cavalla	9.00	8	11.70 311
Peprilus paru	7.00	12	9.10
Sphyræna quachancho	5.80	6	7.54
Loligo piei	5.60	716	7.28
Sardinella aurita	3.20	38	4.16
Echeneis naucrates	2.80	6	3.64
Archosargus rhomboidalis	0.80	2	1.04
Synodus foetens	0.80	2	1.04
Acanthostracion quadricornis	0.50	2	0.65
Saurida normani	0.40	18	0.52
Selar crumenophthalmus	0.30	2	0.39
Sphyræna picudilla	0.20	2	0.26
Plectropterus volitans	0.20	2	0.26
Eucinostomus argenteus	0.20	2	0.26
Diplacrum bivittatum	0.00	2	
Total	76.90	99.95	

PROJECT STATION: 754
 DATE: 1/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1050 Long W 6325
 start stop duration
 TIME 17:30:00 18:00:00 30 (min) Purpose code: 3
 LOG 89.90 91.40 1.50 Area code 1 3
 FDEPTH: 50 51 GearCond. code:
 BDEPTH: 50 51 Validity code:
 Towing dir: 320° Wire out: 250 m Speed: 29 kn*10
 Sorted: 22 Kg Total catch: 56.20 CATCH/HOUR: 112.40

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Trachurus lathami	51.00	1440	45.37 312
Sardinella aurita	20.20	404	17.97 313
Cathorops spixii	14.60	272	13.17
Rhizoprionodon porosus	14.50	14	12.90
Trachinotus cavennensis	2.40	2	2.14
Trachinotus carolinus	2.40	2	2.14
Orthopristis ruber	1.60	4	1.42
Diplacrum formosus	1.20	8	1.07
Cynoscion jamaicensis	0.60	4	0.53
Eucinostomus argenteus	0.60	20	0.53
Trichiurus lepturus	0.50	2	0.44
Loligo piei	0.40	36	0.36
Sphyræna quachancho	0.40	4	0.36
Eucinostomus gula	0.40	16	0.36
Otenoscionea gracilicirrhus	0.40	20	0.36
Pellona harroweri	0.40	16	0.36
Synodus foetens	0.20	2	0.18
Etrumeus teres	0.20	36	0.18
Diapterus rhombus	0.20	4	0.18
Harengula jaguana	0.00	4	
Savilla sp	0.00	8	
Total	112.40	100.02	

PROJECT STATION: 755
 DATE: 1/ 9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1049 Long W 6324
 start stop duration
 TIME 19:05:00 19:45:00 40 (min) Purpose code: 1
 LOG 98.00 100.10 2.10 Area code 1 3
 FDEPTH: 20 10 GearCond. code:
 BDEPTH: 44 48 Validity code:
 Towing dir: 330° Wire out: 125 m Speed: 32 kn*10
 Sorted: 29 Kg Total catch: 1218.00 CATCH/HOUR: 1827.00

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Sardinella aurita	1827.00	25893	100.00 315
Bragmaceros sp.	0.00		
Total	1827.00	100.00	

PROJECT STATION: 756
 DATE: 1/ 9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1046 Long W 6329
 start stop duration
 TIME 12:21:00 12:45:00 35 (min) Purpose code: 1
 LOG 118.50 120.50 2.00 Area code 1 3
 FDEPTH: 13 13 GearCond. code:
 BDEPTH: 29 27 Validity code:
 Towing dir: 100° Wire out: 125 m Speed: 35 kn*10
 Sorted: 63 Kg Total catch: 255.20 CATCH/HOUR: 437.49

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Sardinella aurita	251.66	3775	57.52 316
Cathorops spixii	108.34	4461	24.76
Sphyræna picudilla	15.43	55	3.53
Trachinotus carolinus	12.34	7	2.82
Anchoa filifera	11.66	2914	2.67
Harengula jaguana	11.66	473	2.67
Trichiurus lepturus	10.97	27	2.51
Musil curama	4.80	7	1.10
Pomatomus saltatrix	3.43	7	0.78
Sphyræna quachancho	3.43	2	0.78
Loligo paeli	2.06	185	0.47
Echeneis naucrates	1.03	7	0.24
Panesus notialis	0.69	14	0.16
Total	437.50	100.01	

PROJECT STATION: 757
 DATE: 2/ 9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1054 Long W 6342
 start stop duration
 TIME 10:10:00 11:40:00 30 (min) Purpose code: 1
 LOG 140.10 141.40 1.30 Area code 1 3
 FDEPTH: 10 15 GearCond. code:
 BDEPTH: 35 36 Validity code:
 Towing dir: 80° Wire out: 100 m Speed: 31 kn*10
 Sorted: 32 Kg Total catch: 131.60 CATCH/HOUR: 263.20

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Sardinella aurita	226.80	4212	86.17 318
Sphyræna picudilla	15.20	40	5.78
Sphyræna quachancho	12.00	30	4.56
Trichiurus lepturus	2.80	16	1.06
Opisthonema oglinum	2.40	48	0.91
Harengula jaguana	2.40	48	0.91
Trachurus lathami	1.60	32	0.61
Total	263.20	100.00	

PROJECT STATION: 758
 DATE: 2/ 9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1029 Long W 6404
 start stop duration
 TIME 20:30:00 21:00:00 30 (min) Purpose code: 1
 LOG 262.60 264.30 1.70 Area code 1 3
 FDEPTH: 5 5 GearCond. code:
 BDEPTH: 35 43 Validity code:
 Towing dir: 151° Wire out: 125 m Speed: 32 kn*10
 Sorted: 43 Kg Total catch: 43.45 CATCH/HOUR: 86.90

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Anchoa parva	64.40	22218	74.11 319
Trichiurus lepturus	7.40	22	8.52 320
Chirocentron bleekeri	4.20	62	4.83
Sphyræna picudilla	2.80	20	3.22
Peprilus paru	2.50	12	2.88
Tylosurus cocodrilus	2.10	2	2.42
Loligo piei	2.00	374	2.30
Sphyræna quachancho	0.90	2	1.04
Harengula jaguana	0.30	20	0.35
Selar crumenophthalmus	0.20	2	0.23
Sardinella aurita	0.10	4	0.12
Etrumeus teres	0.00	2	
Total	86.90	100.02	

PROJECT STATION: 759
 DATE: 2/ 9/88 GEAR TYPE: PT No:2 POSITION: Lat N 1028 Long W 6415
 start stop duration
 TIME 23:05:00 23:35:00 30 (min) Purpose code: 1
 LOG 280.20 282.20 2.00 Area code 1 3
 FDEPTH: 59 58 GearCond. code:
 BDEPTH: 500 373 Validity code:
 Towing dir: 52° Wire out: 175 m Speed: 37 kn*10
 Sorted: 309 Kg Total catch: 309.75 CATCH/HOUR: 619.50

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Alopias superciliosus	560.00	4	90.40
Etrumeus teres	58.80	3276	9.49 321
Trachurus lathami	0.30	22	0.05
Sphyræna picudilla	0.30	2	0.05
Scomber japonicus	0.10	2	0.02
MYCTOPHIDAE	0.00		
Panesus brasiliensis	0.00		
Saurida normani	0.00	2	
Prionotus stearnsi	0.00	2	
Harengula jaguana	0.00	2	
Upeneus parvus	0.00	2	
Total	619.50	100.01	

PROJECT STATION: 760
 DATE: 3/ 9/88 GEAR TYPE: PT No:2 POSITION: Lat N 1023 Long W 6434
 start stop duration
 TIME 102:45:00 03:15:00 30 (min) Purpose code: 1
 LOG 308.90 310.10 1.20 Area code 1 3
 FDEPTH: 40 40 GearCond. code:
 BDEPTH: 130 139 Validity code:
 Towing dir: 310° Wire out: 150 m Speed: 23 kn*10
 Sorted: 31 Kg Total catch: 31.05 CATCH/HOUR: 62.10

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Etrumeus teres	60.40	3276	97.26 322
Saurida normani	0.50	80	0.81
Loligo paeli	0.40	10	0.64
Scomber japonicus	0.40	4	0.64
Prionotus stearnsi	0.40	4	0.64
Total	62.10	99.99	

PROJECT STATION: 761
 DATE: 3/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1013 Long W 6485
 start stop duration
 TIME 10610100 06:40:00 30 (min) Purpose code: 3
 LOG 334.80 335.90 1.10 Area code: 3
 FDEPTH: 40 38 GearCond.code: 1
 BDEPTH: 40 38 Validity code: 1
 Towing dir: 270° Wire out: 200 m Speed: 26 kn*10
 Sorted: 13 Kg Total catch: 13.95 CATCH/HOUR: 27.90

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Sphyræna guachancho	6.80 28	24.37	323
Trichurus lepturus	5.70 6	20.43	
Chloroscombrus chrysurus	4.20 122	15.05	325
Sphyræna picudilla	3.40 24	12.19	324
Priacanthus arenatus	2.30 4	8.24	
Dipllectrum radiale	1.80 14	6.45	
Salar crumenophthalmus	1.50 10	5.38	
Dipllectrum bivittatum	0.60 39	2.15	
Loligo paelei	0.50 88	1.79	
Synodus foetens	0.50 180	1.79	
Selene spixii	0.30 2	1.08	
Upeneus parvus	0.20 2	0.72	
Peneus notialis	0.10 6	0.36	
	0.00		
Total	27.90	100.00	

PROJECT STATION: 762
 DATE: 3/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1013 Long W 6506
 start stop duration
 TIME 107150:00 08:20:00 30 (min) Purpose code: 3
 LOG 346.30 347.50 1.20 Area code: 3
 FDEPTH: 32 34 GearCond.code: 1
 BDEPTH: 32 34 Validity code: 1
 Towing dir: Wire out: 150 m Speed: 27 kn*10
 Sorted: 56 Kg Total catch: 56.25 CATCH/HOUR: 112.50

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Trichurus lepturus	59.40 30	52.80	
Haemulon boschmae	11.20 620	9.96	327
Selene vomer	9.50 10	8.44	
Eucinostomus argenteus	5.60 198	4.98	
Anchoviella lepidontostole	5.40 523	4.80	326
Chloroscombrus chrysurus	4.20 34	3.73	
Priacanthus arenatus	3.20 6	2.84	
Balistes capricornis	3.00 4	2.67	
Bagre marinus	2.40 2	2.13	
Sphyræna guachancho	2.30 4	2.10	
Rhizoprionodon porosus	1.60 2	1.42	
Upeneus parvus	1.10 78	0.98	
Fistularia petimba	0.70 4	0.62	
Pristipomoides macrophthalms	0.60 52	0.53	
Echeneis naucrates	0.60 2	0.53	
Loligo paelei	0.50 56	0.44	
Dipllectrum bivittatum	0.30 18	0.27	
Synodus poeyi	0.20 2	0.18	
Lutjanus purpurus	0.20 2	0.18	
Sardinella aurita	0.20 10	0.18	
Sphyræna picudilla	0.20 2	0.18	
Decapterus punctatus	0.10 4	0.09	
Total	112.50	99.99	

PROJECT STATION: 763
 DATE: 3/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1027 Long W 6506
 start stop duration
 TIME 109155:00 10:13:00 18 (min) Purpose code: 3
 LOG 360.60 361.40 0.80 Area code: 3
 FDEPTH: 73 73 GearCond.code: 1
 BDEPTH: 73 73 Validity code: 1
 Towing dir: 270° Wire out: 350 m Speed: 24 kn*10
 Sorted: 44 Kg Total catch: 44.65 CATCH/HOUR: 148.83

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Eucinostomus argenteus	36.33 773	24.41	328
Trachurus lathami	21.00 853	14.11	331
Upeneus parvus	20.67 1033	13.89	
Pristipomoides macrophthalms	18.00 600	12.09	329
Rhizoprionodon porosus	13.50 7	9.07	
Haemulon boschmae	13.33 543	8.96	330
Sphyræna guachancho	10.67 20	7.17	
Aluterus monoceros	7.67 7	5.15	
Priacanthus arenatus	2.33 37	1.57	
Fistularia petimba	1.33 13	0.89	
Loligo paelei	1.00 23	0.67	
Sardinella aurita	0.83 17	0.56	
Dactylopterus volitans	0.83 3	0.56	
Lagocephalus laevigatus	0.67 3	0.45	
Haemulon staudacheri	0.33 3	0.22	
Saurida normani	0.17 3	0.11	
Dipllectrum bivittatum	0.17 3	0.11	
Total	148.83	99.99	

PROJECT STATION: 764
 DATE: 3/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1023 Long W 6450
 start stop duration
 TIME 11235:00 13:05:00 30 (min) Purpose code: 3
 LOG 382.80 384.10 1.30 Area code: 3
 FDEPTH: 82 80 GearCond.code: 1
 BDEPTH: 82 80 Validity code: 1
 Towing dir: 270° Wire out: 400 m Speed: 28 kn*10
 Sorted: 55 Kg Total catch: 55.45 CATCH/HOUR: 110.90

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Trachurus lathami	28.60 1198	25.79	332
Lutjanus griseus	18.80 2	16.95	
Pristipomoides macrophthalms	16.00 72	14.49	333
Sphyræna guachancho	10.40 18	9.38	
Lachnolaimus maximus	6.60 2	5.95	
Lutjanus analis	4.50 2	4.06	
Aetobatus narinari	4.10 2	3.70	
Eucinostomus argenteus	4.00 89	3.61	334
Cyclosetta chittidani	3.80 2	3.43	
Loligo paelei	3.40 130	3.07	
Fistularia petimba	2.80 24	2.52	
Caulolatilus chrysope	2.00 2	1.80	
Calanus pennatula	1.40 2	1.26	
Pagrus parvus	1.00 10	0.90	
Haemulon aurilineatum	1.00 10	0.90	
Upeneus parvus	1.00 42	0.90	
Priacanthus arenatus	0.80 10	0.72	
Haemulon boschmae	0.40 4	0.36	
Synodus poeyi	0.20 2	0.18	
Haemulon staudacheri	0.10 4	0.09	
Serranus phoebe	0.00 2		
Total	110.90	100.00	

PROJECT STATION: 765
 DATE: 3/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1024 Long W 6433
 start stop duration
 TIME 11550:00 16:20:00 30 (min) Purpose code: 3
 LOG 408.20 409.60 1.40 Area code: 3
 FDEPTH: 118 136 GearCond.code: 1
 BDEPTH: 118 136 Validity code: 1
 Towing dir: 280° Wire out: 600 m Speed: 27 kn*10
 Sorted: 102 Kg Total catch: 1288.95 CATCH/HOUR: 2577.90

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Trachurus lathami	1540.00 10265	59.74	337
Chloroscombrus chrysurus	25.00 12342	36.27	338
Pristipomoides macrophthalms	20.00 376	0.78	
Loligo paelei	17.50 400	0.68	
Priacanthus arenatus	14.00 42	0.54	336
Pomadasys croceus	7.50 26	0.29	
Paragus sp	3.60 26	0.19	
Serranus bawingari	3.60 26	0.14	
Fistularia petimba	3.60 26	0.14	
Pseudupeneus maculatus	3.60 26	0.14	
Peneus brasiliensis	1.40 22	0.05	335
Upeneus parvus	1.24 50	0.05	
Serranus phoebe	0.00 26		
Total	2577.44	99.98	

PROJECT STATION: 766
 DATE: 3/ 9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1036 Long W 6424
 start stop duration
 TIME 120140:00 21:10:00 30 (min) Purpose code: 1
 LOG 443.40 445.00 1.60 Area code: 3
 FDEPTH: 5 5 GearCond.code: 1
 BDEPTH: 263 550 Validity code: 1
 Towing dir: 166° Wire out: 125 m Speed: 31 kn*10
 Sorted: 3 Kg Total catch: 3.15 CATCH/HOUR: 6.30

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Trichurus lepturus	3.00 12	47.62	
Salar crumenophthalmus	2.40 28	38.10	339
Sardinella aurita	0.50 5	7.94	
Auxis thazard	0.40 4	6.35	
Bregmaceros sp.	0.00		
Total	6.30	100.01	

PROJECT STATION: 767
 DATE: 4/ 9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1041 Long W 6407
 start stop duration
 TIME 101140:00 02:15:00 35 (min) Purpose code: 1
 LOG 479.00 480.50 1.50 Area code: 3
 FDEPTH: 5 10 GearCond.code: 1
 BDEPTH: 34 38 Validity code: 1
 Towing dir: 280° Wire out: 100 m Speed: 25 kn*10
 Sorted: 9 Kg Total catch: 9.31 CATCH/HOUR: 15.96

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Chirocentrodon bleekeriensis	5.66 1767	35.46	
Anchoa lyolepis	4.63 2237	29.01	340
Loligo paelei	3.09 1368	19.36	
Hemiramphus balao	1.20 15	7.82	
Trichurus lepturus	0.86 2	5.39	
Sphyræna picudilla	0.51 36	3.20	
Engraulis eurystole	0.02 10	0.13	
Anchoviella lepidontostole	0.00 2		
Total	15.97	100.07	

PROJECT STATION: 768
 DATE: 4/ 9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1044 Long W 6400
 start stop duration
 TIME 10555:00 06:25:00 30 (min) Purpose code: 1
 LOG 511.10 512.40 1.30 Area code: 3
 FDEPTH: 8 15 GearCond.code: 1
 BDEPTH: 27 28 Validity code: 1
 Towing dir: 280° Wire out: 100 m Speed: 25 kn*10
 Sorted: 64 Kg Total catch: 64.85 CATCH/HOUR: 129.70

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Sardinella aurita	114.00 2906	87.90	341
Sarda sarda	15.70 20	12.10	342
Total	129.70	100.00	

PROJECT STATION: 769
 DATE: 4/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1047 Long W 6421
 start stop duration
 TIME : 08:50:00 09:20:00 30 (min) Purpose code: 3
 LOG : 533.50 535.10 1.60 Area code : 3
 FDEPTH: 62 56 GearCond.code: 1
 BDEPTH: 62 56 Validity code:
 Towing dir: 94° Wire out: 300 m Speed: 32 kn*10
 Sorted: 74 Kg Total catch: 173.40 CATCH/HOUR: 346.80

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.	
	weight numbers			
Trachurus lathami	169.00	97.0	343	
Haemulon steindachneri	39.60	290	11.42	346
Eucinostomus argentatus	27.00	564	7.79	345
Rhombolites aurorubens	23.20	308	6.69	344
Pristipomoides macrophthalmus	18.20	570	5.25	
Haemulon aurolineatum	17.20	140	4.96	347
Aluterus monoceros	9.40	10	2.71	
Synodus foetans	7.20	14	2.08	
Upeneus parvus	5.60	172	1.61	
Priacanthus arenatus	5.20	46	1.50	
Fistularia petimba	4.20	32	1.21	
Paraneus sp	3.80	24	1.10	
Holocentrus rufus	2.40	14	0.69	
Loligo plei	2.40	144	0.69	
Cauliolatilus cyanops	1.80	4	0.52	
Cyclopssetta chittendeni	1.80	4	0.52	
Dactylopterus volitans	1.80	4	0.52	
Equetus lanceolatus	1.80	18	0.52	
Scorpaena plumieri	1.60	4	0.46	
Diplacrum bivittatum	1.40	42	0.40	
Syacium micrurum	1.20	10	0.35	
Serranus dwingeri	0.80	4	0.23	
Chaetodon sedentarius	0.20	4	0.06	
Synodus poeyi	0.00	10		
Total	346.80	100.01		

PROJECT STATION: 770
 DATE: 4/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1055 Long W 6417
 start stop duration
 TIME : 10:25:00 10:55:00 30 (min) Purpose code: 3
 LOG : 543.80 545.30 1.50 Area code : 3
 FDEPTH: 51 44 GearCond.code: 1
 BDEPTH: 51 44 Validity code:
 Towing dir: 302° Wire out: 250 m Speed: 31 kn*10
 Sorted: 56 Kg Total catch: 117.55 CATCH/HOUR: 235.10

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.	
	weight numbers			
Diapterus rhombus	123.20	632	52.40	348
Synodus foetans	48.00	160	20.42	
Loligo plei	20.00	3520	8.31	
Lagodon rhomboides	16.00	32	6.31	
Paralichthys tropicus	9.30	14	3.96	
Diplacrum radiale	5.80	28	2.47	
Lutjanus synagris	4.00	4	1.70	
Scorpaena plumieri	2.40	3	1.02	
Sphyræna picudilla	2.00	16	1.02	
Prionotus punctatus	1.00	20	0.40	
Loligo paelei	0.90	44	0.34	
Eucinostomus gula	0.80	24	0.34	
Pristipomoides macrophthalmus	0.40	8	0.17	
Opisthonema oglinum	0.40	4	0.17	
Upeneus parvus	0.40	20	0.17	
Diplacrum bivittatum	0.20	12	0.09	
Paraneus brasiliensis	0.00	4		
Synodus poeyi	0.00	8		
Total	235.10	100.02		

PROJECT STATION: 771
 DATE: 4/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1105 Long W 6436
 start stop duration
 TIME : 14:20:00 14:50:00 30 (min) Purpose code: 3
 LOG : 571.60 573.30 1.70 Area code : 3
 FDEPTH: 68 72 GearCond.code: 1
 BDEPTH: 68 72 Validity code:
 Towing dir: 330° Wire out: 350 m Speed: 33 kn*10
 Sorted: 26 Kg Total catch: 118.37 CATCH/HOUR: 236.74

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.	
	weight numbers			
Lutjanus purpureus	100.00	56	42.24	349
Upeneus parvus	53.90	1392	22.60	351
Pristipomoides macrophthalmus	37.50	676	15.84	350
Aluterus monoceros	12.00	10	5.07	
Epinephelus morio	5.00	6	2.11	
Haemulon boschma	4.80	266	2.03	353
Rhombolites aurorubens	4.74	90	2.00	352
Fistularia petimba	3.24	20	1.37	
Lutjanus vivanus	3.00	2	1.27	
Priacanthus arenatus	2.74	20	1.16	
Octopus vulgaris	2.50	6	1.06	
Cauliolatilus chrysops	2.00	6	0.84	
Chilomycterus antillarum	1.50	6	0.63	
Sardinella aurita	1.50	46	0.63	
Loligo plei	1.24	36	0.52	
Ariomma bondi	1.00	10	0.42	
Trachurus lathami	0.74	16	0.31	
Eucinostomus gula	0.50	10	0.21	
Loligo paelei	0.24	10	0.10	
Total	237.74	100.41		

PROJECT STATION: 772
 DATE: 4/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1113 Long W 6438
 start stop duration
 TIME : 16:35:00 17:05:00 30 (min) Purpose code: 3
 LOG : 583.40 584.90 1.50 Area code : 3
 FDEPTH: 73 67 GearCond.code: 1
 BDEPTH: 73 67 Validity code:
 Towing dir: 150° Wire out: 400 m Speed: 27 kn*10
 Sorted: 120 Kg Total catch: 793.90 CATCH/HOUR: 1587.80

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.	
	weight numbers			
Sardinella aurita	980.00	24686	61.72	355
Haemulon flavolineatum	337.60	926	21.26	356
Rhombolites aurorubens	110.00	688	6.93	357
Haemulon boschma	62.60	3076	3.94	
Lutjanus analis	24.00	4	1.51	354
Pristipomoides macrophthalmus	18.80	176	1.18	
Panulirus argus	14.00	4	0.88	
Haemulon striatum	12.60	112	0.79	
Trachurus lathami	7.60	150	0.48	
Pseudupeneus maculatus	6.20	12	0.39	
Loligo paelei	5.00	238	0.31	
Upeneus parvus	3.80	26	0.24	
Syacium sp.	3.20	26	0.20	
Synodus poeyi	1.20	26	0.08	
Trachinocephalus myops	1.20	26	0.08	
Saurida noronai	0.00	12		
Serranus phoebe	0.00	12		
Total	1587.80	99.99		

PROJECT STATION: 773
 DATE: 4/ 9/88 GEAR TYPE: PT No:2 POSITION: Lat N 1111 Long W 6432
 start stop duration
 TIME : 21:35:00 22:05:00 30 (min) Purpose code: 1
 LOG : 614.90 616.30 1.40 Area code : 3
 FDEPTH: 30 30 GearCond.code: 1
 BDEPTH: 56 63 Validity code:
 Towing dir: 270° Wire out: 125 m Speed: 26 kn*10
 Sorted: 61 Kg Total catch: 185.25 CATCH/HOUR: 370.50

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.	
	weight numbers			
Sardinella aurita	336.00	11596	90.69	358
Trachurus lathami	17.10	882	4.62	359
Scomber japonicus	16.50	486	4.45	360
Etrumeus teres	0.90	12	0.24	
Upeneus parvus	0.00	6		
Rhombolites aurorubens	0.00	6		
Total	370.50	100.00		

PROJECT STATION: 774
 DATE: 5/ 9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1105 Long W 6407
 start stop duration
 TIME : 01:55:00 02:25:00 30 (min) Purpose code: 1
 LOG : 649.10 650.50 1.40 Area code : 3
 FDEPTH: 5 5 GearCond.code: 1
 BDEPTH: 24 23 Validity code:
 Towing dir: 47° Wire out: 50 m Speed: 25 kn*10
 Sorted: 7 Kg Total catch: 7.44 CATCH/HOUR: 14.88

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.	
	weight numbers			
Sphyræna picudilla	3.20	16	21.51	
Haemulon jaguana	3.10	144	20.83	361
Sardinella aurita	3.00	132	20.16	362
Pellona narowari	2.10	96	14.11	363
Anchoa lyolepis	1.10	322	7.39	
Selama spixi	1.00	28	6.72	
Anchoa parva	0.56	188	3.76	
Opisthonema oglinum	0.50	22	3.36	
Loligo paelei	0.16	102	1.08	
Bregmaceros sp.	0.16		1.08	
Total	14.88	100.00		

PROJECT STATION: 775
 DATE: 5/ 9/88 GEAR TYPE: PT No:2 POSITION: Lat N 1120 Long W 6356
 start stop duration
 TIME : 04:55:00 05:25:00 30 (min) Purpose code: 1
 LOG : 668.00 669.30 1.30 Area code : 3
 FDEPTH: 20 28 GearCond.code: 1
 BDEPTH: 45 50 Validity code:
 Towing dir: 18° Wire out: 100 m Speed: 25 kn*10
 Sorted: 32 Kg Total catch: 32.90 CATCH/HOUR: 65.80

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.	
	weight numbers			
Etrumeus teres	60.40	2858	91.79	364
Fish small non. comm.	2.00	96	3.04	
Loligo paelei	1.20	32	1.82	
Rhizoprionodon porosus	1.00	4	1.52	
Sphyræna picudilla	0.60	4	0.91	
Trachurus lathami	0.50	18	0.76	
Scomber japonicus	0.12	4	0.16	
Prionotus stearnsi	0.00	4		
Total	65.82	100.02		

PROJECT STATION: 776
 DATE: 5/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1152 Long W 6315
 start stop duration
 TIME : 09:30:00 10:00:00 30 (min) Purpose code: 3
 LOG : 706.60 708.10 1.50 Area code : 3
 FDEPTH: 159 164 GearCond.code: 1
 BDEPTH: 159 164 Validity code:
 Towing dir: 185° Wire out: 700 m Speed: 30 kn*10
 Sorted: 26 Kg Total catch: 26.60 CATCH/HOUR: 53.20

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.	
	weight numbers			
Rhombolites aurorubens	14.80	18	27.82	365
Epinephelus morio	12.80	2	24.06	
Antigonia capros	8.20	78	15.41	
Serranus phoebe	4.00	60	7.52	
Priacanthus argenteus	2.60	60	4.89	
Fistularia petimba	2.40	10	4.51	
Cauliolatilus chrysops	2.20	4	4.14	
Seriola rivolana	2.10	2	3.95	
Synodus poeyi	1.80	128	3.38	
Loligo paelei	1.00	34	1.88	
ANTHIDAE	0.50	22	0.94	
Synodus intermedius	0.30	20	0.56	
Scorpaena brasiliensis	0.30	2	0.56	
Ariomma bondi	0.20	28	0.38	
Decodon puellaris	0.00			
Total	53.20	100.00		

DATE: 5/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 777
 POSITION: Lat N 1151
 start stop duration Longitude W 6420
 TIME 11:03:00 11:33:00 30 (min) Purpose code: 3
 LOG 714.90 716.00 1.10 Area code 1 3
 FDEPTH: 168 244 GearCond. code:
 BDEPTH: 169 244 Validity code:
 Towing dir: 300° Wire out: 750 m Speed: 21 kn*10
 Sorted: 33 Kg Total catch: 33.80 CATCH/HOUR: 67.60

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Epinephelus morio	34.00 2	50.30	
Antigonia capros	22.00 220	32.54	
Saurida normani	3.20 4	5.77	
Caulolatilus chrysops	1.96 2	2.90	
Spheroides pachygaster	1.40 2	2.07	
ANTHIDAE	1.36 10	2.01	
Serranus phoebe	1.10 20	1.63	
Synodus intermedius	1.00 20	1.48	
Rhombolites aurorubens	0.48 2	0.71	
Myripristis jacobus	0.30 2	0.44	
Fistularia patimba	0.10 4	0.15	
Plectonika edwardsii	0.00 66		
Total	67.60	100.00	

DATE: 5/ 9/88 GEAR TYPE: PT No:4 PROJECT STATION: 781
 POSITION: Lat N 1118
 start stop duration Longitude W 6426
 TIME 12:50:00 00:20:00 30 (min) Purpose code: 1
 LOG 810.10 811.70 1.60 Area code 1 3
 FDEPTH: 10 10 GearCond. code:
 BDEPTH: 77 218 Validity code:
 Towing dir: 324° Wire out: 125 m Speed: 29 kn*10
 Sorted: 65 Kg Total catch: 65.38 CATCH/HOUR: 130.76

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Trichiurus lepturus	112.80 202	66.26	369
Trachurus lathami	13.30 526	10.17	370
Sardinella aurita	1.80 64	1.38	371
Engraulis eurystole	1.00 906	0.76	
Scorpaenidae	0.50 6	0.38	
Axius sp	0.40 2	0.31	
Salar crumenophthalmus	0.40 2	0.31	
Etrumeus tares	0.30 12	0.23	
Nealotus tripes	0.20 12	0.15	
MYCTOPHIDAE	0.06 94	0.05	
JUVENILE FISHES	0.00 38		
Axius sp	0.00 26		
Neopinnula americana	0.00 2		
Total	130.76	100.00	

DATE: 5/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 778
 POSITION: Lat N 1151
 start stop duration Longitude W 6430
 TIME 13:10:00 13:40:00 30 (min) Purpose code: 3
 LOG 729.90 731.10 1.20 Area code 1 3
 FDEPTH: 24 28 GearCond. code:
 BDEPTH: 24 28 Validity code:
 Towing dir: 360° Wire out: 100 m Speed: 29 kn*10
 Sorted: 44 Kg Total catch: 112.37 CATCH/HOUR: 224.74

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Balistes vetula	143.00 202	63.63	366
Pomacanthus paru	23.00 30	11.12	
Acanthostracion quadricornis	14.00 46	6.23	
Sphyrna barracuda	13.50 6	6.01	
Sparisoma viride	11.74 10	5.22	
Priacanthus arenatus	11.00 16	4.89	
Seriola rivolana	5.00 6	2.22	
Diodon holocanthus	1.00 6	0.44	
Serranus tortugarum	0.50 80	0.22	
Sepioteuthis sepioidea	0.00 6		
Total	224.74	99.98	

DATE: 6/ 9/88 GEAR TYPE: PT No:4 PROJECT STATION: 782
 POSITION: Lat N 1115
 start stop duration Longitude W 6408
 TIME 03:30:00 04:00:00 30 (min) Purpose code: 1
 LOG 837.50 838.80 1.30 Area code 1 3
 FDEPTH: 15 25 GearCond. code:
 BDEPTH: 52 58 Validity code:
 Towing dir: 10° Wire out: 125 m Speed: 27 kn*10
 Sorted: 5 Kg Total catch: 5.55 CATCH/HOUR: 11.10

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Trichiurus lepturus	8.00 10	72.07	
Etrumeus tares	1.80 112	16.22	372
Sardinella aurita	1.00 18	9.01	
Pacipiterus tabi	0.30 2	2.70	
Upeneus parvus	0.00 2		
Trachurus lathami	0.00 2		
Synodus poeyi	0.00 24		
Total	11.10	100.00	

DATE: 5/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 779
 POSITION: Lat N 1141
 start stop duration Longitude W 6422
 TIME 16:00:00 16:30:00 30 (min) Purpose code: 3
 LOG 752.20 753.40 1.20 Area code 1 3
 FDEPTH: 65 58 GearCond. code:
 BDEPTH: 65 58 Validity code:
 Towing dir: 250° Wire out: 325 m Speed: 28 kn*10
 Sorted: 14 Kg Total catch: 14.80 CATCH/HOUR: 29.60

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Dactylopterus volitans	14.80 32	50.00	
Acanthostracion quadricornis	6.00 22	20.27	
Balistes vetula	5.60 6	18.92	
Diodon holocanthus	2.00 6	6.76	
Seriola rivolana	1.00 4	3.38	
Synodus poeyi	0.20 8	0.68	
Total	29.60	100.01	

DATE: 6/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 783
 POSITION: Lat N 1116
 start stop duration Longitude W 6358
 TIME 06:10:00 06:40:00 30 (min) Purpose code: 3
 LOG 855.80 857.30 1.50 Area code 1 3
 FDEPTH: 34 39 GearCond. code:
 BDEPTH: 34 39 Validity code:
 Towing dir: 292° Wire out: 200 m Speed: 33 kn*10
 Sorted: 26 Kg Total catch: 26.25 CATCH/HOUR: 52.50

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Haemulon boschma	20.80 5748	39.62	373
Caranx crysos	4.60 2	8.76	
Synodus foetens	4.00 20	7.62	
Corodon nobilii	2.60 4	4.95	
Loligo plei	2.50 180	4.76	
Sardinella aurita	2.40 30	4.57	
Balistes vetula	2.00 2	3.81	
Upeneus parvus	1.80 86	3.43	
Octopus vulgaris	1.70 2	3.24	
Priacanthus arenatus	1.60 8	3.05	
Trachurus lathami	1.30 68	2.48	
Chloroscombrus chrysurus	1.20 8	2.29	
Trichiurus lepturus	1.00 4	1.90	
Selene setifer	1.00 14	1.90	
Decapterus punctatus	0.60 24	1.14	
Scorpaena sp.	0.50 2	0.95	
Dactylopterus volitans	0.50 2	0.95	
Ancylopsetta quadricellata	0.40 4	0.76	
Prionotus punctatus	0.40 2	0.76	
Synodus poeyi	0.40 32	0.76	
Pristipomoides macrophthalmus	0.40 28	0.76	
Lutjanus purpurus	0.30 2	0.57	
Diplacrum divitatum	0.20 12	0.38	
Scorpaenidae	0.10 2	0.19	
Eucinostomus argenteus	0.10 4	0.19	
Serranus flaviventris	0.10 2	0.19	
Total	52.50	99.98	

DATE: 5/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 780
 POSITION: Lat N 1140
 start stop duration Longitude W 6414
 TIME 18:00:00 19:00:00 60 (min) Purpose code: 3
 LOG 765.30 768.10 2.80 Area code 1 3
 FDEPTH: 300 312 GearCond. code:
 BDEPTH: 300 312 Validity code:
 Towing dir: 40° Wire out: 1180 m Speed: 30 kn*10
 Sorted: 56 Kg Total catch: 854.80 CATCH/HOUR: 854.80

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Steindachneria argenta	315.00 11550	36.85	
Ariomma melanum	309.00 8940	36.15	367
MACRURIDAE	93.00 4290	10.88	
Polyvalxia lowei	39.00 1080	4.56	
Antigonia combatia	19.50 1065	2.28	
Illex coindetii	18.00 210	2.11	
Synaegrops sp.	17.80 2010	2.08	
Pontinus longispinnis	9.00 165	1.05	
Argentina sp.	6.25 150	0.73	
Merluccius aibidus	6.00 15	0.70	
Peristedion sp.	5.25 465	0.61	
Pennaopsis magalops	5.25 780	0.61	368
Promethichthys promethus	4.50 45	0.53	
Zenopsis ocellata	2.10 1	0.25	
Bembrops anatrostris	1.50 300	0.18	
Etmopterus pusillus	1.50 15	0.18	
Hildebrandia sp.	1.50 30	0.18	
Cyrtopsis roseus	0.75 45	0.09	
Chloropthalmus sp.	0.00 60		
Solanocera sp.	0.00 30		
Poecilopsetta sp.	0.00 30		
Metanephrops binghami	0.00 1		
Saurida normani	0.00 120		
MYCTOPHIDAE	0.00 270		
Rossia sp.	0.00 15		
Bregmaceros sp.	0.00 120		
Synchiropus agassizii	0.00 15		
Total	854.80	100.07	

DATE: 6/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 784
 POSITION: Lat N 1119
 start stop duration Longitude W 6406
 TIME 07:30:00 08:00:00 30 (min) Purpose code: 3
 LOG 863.50 865.00 1.50 Area code 1 3
 FDEPTH: 64 66 GearCond. code:
 BDEPTH: 64 66 Validity code:
 Towing dir: 299° Wire out: 300 m Speed: 30 kn*10
 Sorted: 27 Kg Total catch: 168.45 CATCH/HOUR: 336.90

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Pristipomoides macrophthalmus	180.00 7404	53.43	374
Sardinella aurita	50.40 828	14.96	375
Trachurus lathami	42.50 1560	12.64	375
Schyrasna cucullia	15.00 108	4.45	
Synodus foetens	11.40 24	3.38	
Fistularia patimba	6.00 22	1.78	
Loligo plei	5.40 60	1.60	
Salar crumenophthalmus	5.40 108	1.60	
Scorpaenidae	5.40 96	1.60	
Loligo paeli	3.00 84	0.89	
Priacanthus arenatus	2.50 18	0.74	
Upeneus parvus	1.80 144	0.53	
Caulolatilus intermedius	1.80 36	0.53	
Saurida normani	1.20 12	0.36	
Rhombolites aurorubens	1.20 36	0.36	
Ancylopsetta quadricellata	0.80 4	0.24	
Ancylopsetta dilecta	0.60 24	0.18	
Synodus poeyi	0.60 24	0.18	
Oxococephalus nasutus	0.60 12	0.18	
Prionotus beani	0.60 84	0.18	
Epinephelus flavolimbatus	0.40 2	0.12	
Penaeus brasiliensis	0.20 2	0.06	
Eucinostomus argenteus	0.00 12		
Etrumeus tares	0.00 24		
Total	336.90	99.99	

DATE: 6/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 785
 start stop duration POSITION: Lat N 1122
 TIME :09:20:00 09:50:00 30 (min) Purpose code: 3 Long W 6417
 LOG : 876.10 877.70 1.60 Area code : 3
 FDEPTH: 74 72 GearCond.code: 1
 BDEPTH: 74 72 Validity code:
 Towing dir: 190° Wire out: 400 m Speed: 29 kn*10
 Sorted: 48 Kg Total catch: 109.75 CATCH/HOUR: 219.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Rhomboplites aurorubens	68.80	1364	31.34	377
Pristipomoides macrophthalms	61.60	1008	29.06	378
Upeneus parvus	32.80	634	14.94	379
Priacanthus arenatus	19.40	90	8.84	
Caulolatilus cyanops	8.60	40	3.92	
Haemulon boschmae	8.10	526	3.69	
Pagrus pagrus	5.00	4	2.28	
Trachurus lathami	4.00	140	1.82	
Dactylopterus volitans	3.60	14	1.64	
Scorpaena brasiliensis	3.00	10	1.37	
Saurida normani	2.00	28	0.91	
Fistularia petimba	0.90	10	0.41	
Syacium micrurum	0.90	4	0.41	
Sphaeroides sp	0.40	4	0.18	
Chaetodon sedentarius	0.40	4	0.18	
Prionotus beani	0.00	4		
Decapterus punctatus	0.00	4		
Diplectrum bivittatum	0.00	4		
Synodus poeyi	0.00	14		
Total	219.50		99.99	

DATE: 6/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 786
 start stop duration POSITION: Lat N 1115
 TIME :10:50:00 11:20:00 30 (min) Purpose code: 3 Long W 6419
 LOG : 895.30 896.90 1.50 Area code : 3
 FDEPTH: 43 46 GearCond.code: 1
 BDEPTH: 43 46 Validity code:
 Towing dir: 250° Wire out: 250 m Speed: 29 kn*10
 Sorted: 57 Kg Total catch: 163.35 CATCH/HOUR: 326.70

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Haemulon boschmae	114.00	10640	34.89	382
Haemulon steindachneri	77.00	346	23.57	380
Mulloidichthys martinicus	33.00	170	10.10	381
Lutjanus ariseus	23.80	2	7.28	
Dactylopterus volitans	16.60	60	5.08	
Lutjanus analis	16.00	2	4.90	
Balistes vetula	7.20	6	2.20	
Rhomboplites aurorubens	6.80	148	2.08	
Priacanthus arenatus	5.00	66	1.53	
Synodus foetens	4.80	16	1.47	
Pagrus pagrus	4.20	6	1.29	
Fistularia petimba	3.00	20	0.92	
Holocentrus rufus	3.00	6	0.92	
Caulolatilus cyanops	2.80	6	0.86	
Paranthias furcifer	2.00	10	0.61	
Diplectrum bivittatum	1.80	60	0.55	
Loligo plei	1.60	30	0.49	
Syacium micrurum	1.60	6	0.49	
Sphyræna picudilla	1.50	6	0.46	
Synodus poeyi	0.60	26	0.18	
Eucinostomus argenteus	0.20	10	0.06	
Chaetodon sedentarius	0.20	6	0.06	
Prionotus punctatus	0.00	6		
Total	326.70		99.99	

DATE: 6/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 787
 start stop duration POSITION: Lat N 1112
 TIME :12:00:00 12:30:00 30 (min) Purpose code: 3 Long W 6426
 LOG : 891.70 893.20 1.50 Area code : 3
 FDEPTH: 56 56 GearCond.code: 1
 BDEPTH: 56 56 Validity code:
 Towing dir: 240° Wire out: 300 m Speed: 32 kn*10
 Sorted: 31 Kg Total catch: 339.15 CATCH/HOUR: 678.30

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sardinella aurita	426.00	14716	62.80	385
Etrumeus teres	66.00	2402	9.73	386
Trachurus lathami	64.90	4232	9.57	387
Haemulon boschmae	46.20	4528	6.81	389
Pristipomoides macrophthalms	44.00	2244	6.49	388
Rhomboplites aurorubens	18.00	42	2.65	384
Priacanthus arenatus	5.80	16	0.86	383
Scomber japonicus	4.40	44	0.65	
Prionotus beani	2.20	22	0.32	
Epinephelus morio	0.60	2	0.09	
Penaeus brasiliensis	0.20	2	0.03	
Total	678.30		100.00	

DATE: 6/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 788
 start stop duration POSITION: Lat N 1102
 TIME :15:00:00 15:30:00 30 (min) Purpose code: 3 Long W 6445
 LOG : 914.70 916.10 1.40 Area code : 3
 FDEPTH: 97 96 GearCond.code: 1
 BDEPTH: 97 96 Validity code:
 Towing dir: 325° Wire out: 500 m Speed: 29 kn*10
 Sorted: 51 Kg Total catch: 359.10 CATCH/HOUR: 718.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Pristipomoides macrophthalms	378.00		52.63	390
Upeneus parvus	134.40		18.71	392
Rhomboplites aurorubens	126.00		17.54	391
Priacanthus arenatus	28.00		3.90	394
Trachurus lathami	22.40		3.12	393
Caulolatilus chrysoptus	11.20	14	1.56	
Caulolatilus cyanops	9.80	42	1.36	
Dactylopterus volitans	4.20	28	0.58	
Pareus sp	1.40	14	0.19	
Scorpaena agassizi	1.40	14	0.19	
Halichoeres bathyphilus	1.40	14	0.19	
Total	718.20		99.97	

DATE: 6/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 789
 start stop duration POSITION: Lat N 1107
 TIME :16:30:00 16:45:00 15 (min) Purpose code: 3 Long W 6451
 LOG : 922.10 922.70 0.60 Area code : 3
 FDEPTH: 112 161 GearCond.code: 1
 BDEPTH: 112 161 Validity code:
 Towing dir: 325° Wire out: 600 m Speed: 24 kn*10
 Sorted: 10 Kg Total catch: 10.40 CATCH/HOUR: 41.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Rhomboplites aurorubens	22.00	56	52.88	395
Pristipomoides macrophthalms	7.80	56	18.75	
Sarranus rhoebe	4.00	40	9.62	
Loligo plei	2.60	216	6.25	
Chaetodon guyanensis	1.00	12	2.40	
Chromis sp.	0.80	12	1.92	
Prionotus beani	0.80	16	1.92	
Upeneus parvus	0.80	12	1.92	
ANTHIDAE	0.80	16	1.92	
Trachinocephalus myops	0.60	20	1.44	
Scorpaena agassizi	0.40	4	0.96	
Ariomma bondi	0.00	4		
Illex coindetti	0.00	12		
Total	41.60		99.98	

DATE: 6/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 790
 start stop duration POSITION: Lat N 1111
 TIME :19:50:00 20:50:00 60 (min) Purpose code: 3 Long W 6500
 LOG : 948.50 951.10 2.60 Area code : 3
 FDEPTH: 396 426 GearCond.code: 1
 BDEPTH: 396 426 Validity code:
 Towing dir: 262° Wire out: 1250 m Speed: 22 kn*10
 Sorted: 122 Kg Total catch: 122.50 CATCH/HOUR: 122.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Miscellaneous fish	69.00		56.33	
Illex coindetti	23.00	127	18.78	396
Bathynomus robustus	13.90	316	11.35	397
Bathynomus giganteus	5.50	14	4.49	
Aristaeomorpha sp	3.50	118	2.86	398
Squatina dumeril	2.25	1	1.84	
Plesionika edwardsii	1.60	119	1.31	
RAPIDAE	0.80	10	0.65	
Hydroleagus alberti	0.80	1	0.65	
Torpedo nobiliana	0.50	1	0.41	
POLYCHADIDAE	0.30	20	0.24	
Peristodion miniatum	0.15	10	0.12	
Argentina sp.	0.15	7	0.12	
Barvix decadactylus	0.10	1	0.09	
Cyttopsis roseus	0.10	7	0.08	
Hollandia hollandia	0.05	1	0.04	
NEPHROPIDAE	0.00	5		
CRANGONIDAE	0.00	2		
PANDALIDAE	0.00	5		
Hoplostethus sp	0.00	5		
Xenolepidichthys daigleishi	0.00	1		
Zenion hololepsis	0.00	3		
Total	122.50		99.35	

DATE: 6/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 791
 start stop duration POSITION: Lat N 1107
 TIME :22:15:00 22:45:00 30 (min) Purpose code: 3 Long W 6456
 LOG : 959.50 961.20 1.70 Area code : 3
 FDEPTH: 102 98 GearCond.code: 1
 BDEPTH: 102 98 Validity code:
 Towing dir: 160° Wire out: 500 m Speed: 32 kn*10
 Sorted: 17 Kg Total catch: 39.30 CATCH/HOUR: 78.60

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Ariomma melanum	19.20	288	24.43	
Pristipomoides macrophthalms	18.00	484	22.90	399
Mustelus canis	10.60	10	13.49	
Synodus intermedius	9.80	108	12.47	
Rhomboplites aurorubens	4.80	20	6.11	
Upeneus parvus	2.40	172	3.05	
Scorpaena sp.	2.20	60	2.80	
Chilomycterus antillarum	2.00	24	2.54	
Scomber japonicus	1.60	20	2.04	
Prionotus beani	1.40	40	1.78	
APOGONIDAE	1.40	204	1.78	
Noeppinnula americana	1.20	20	1.53	
Lepophidium sp	0.80	64	1.02	
Raja cervisoni	0.80	4	1.02	
Lepophidium pheromystax	0.60	8	0.76	
Trachinocephalus myops	0.60	8	0.76	
Loligo plei	0.40	8	0.51	
Penaeus brasiliensis	0.40	16	0.51	
Torpedo sp	0.20	8	0.25	
Ancylopsis setta dilecta	0.20	4	0.25	
Solenocera sp	0.00	8		
Plesionika edwardsii	0.00	24		
Thalassophryne maculosa	0.00	24		
Haemulon boschmae	0.00	12		
Total	78.60		100.00	

PROJECT STATION: 792
 DATE: 6/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1100 Long W 6453
 start stop duration
 TIME : 123:45:00 00:15:00 30 (min) Purpose code: 3
 LOG : 967.90 969.70 1.80 Area code : 3
 FDEPTH: 120 135 GearCond. code: 1
 BDEPTH: 120 135 Validity code:
 Towing dir: 100° Wire out: 600 m Speed: 33 kn*10
 Sorted: 54 Kg Total catch: 164.13 CATCH/HOUR: 328.26

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Trachurus lathami	126.00	630	39.38	401
Pristipomoides macrophthalmaus	98.40	1034	29.98	400
Scomber japonicus	21.00	216	6.40	402
Upeneus parvus	13.50	258	4.11	403
Calamus penna	10.80	18	3.29	
Epinephelus morio	10.20	6	3.11	
Scorpaena agassizi	9.00	192	2.74	
Rhombolites aurorubens	9.00	12	2.74	
Parques sp	8.10	84	2.47	
Synodus intermedius	5.10	48	1.55	
Sardinella aurita	5.10	72	1.55	
Sphoeroides sp	1.80	12	0.55	
Lepohidium sp	1.50	102	0.46	
Haemulon aurolineatum	1.50	6	0.46	
Mustelus higmani	1.50	6	0.46	
Priacanthus arenatus	1.50	6	0.46	
Fistularia petimba	1.20	6	0.37	
Decapterus tabl	1.20	12	0.37	
Solenocera sp	0.90	396	0.27	
Plesionika edwardsii	0.60	366	0.18	
Penaeus brasiliensis	0.24	6	0.07	
Prionotus beani	0.12	6	0.04	
Paralichthys tropicus	0.00	30		
Loligo plei	0.00	6		
Serranus phoebe	0.00	6		
Exocoetus volitans	0.00	6		
Total	328.26		100.01	

PROJECT STATION: 795
 DATE: 7/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1105 Long W 6505
 start stop duration
 TIME : 05:00:00 05:30:00 30 (min) Purpose code: 3
 LOG : 997.70 999.20 1.50 Area code : 3
 FDEPTH: 74 81 GearCond. code: 1
 BDEPTH: 74 81 Validity code:
 Towing dir: 340° Wire out: 400 m Speed: 31 kn*10
 Sorted: 28 Kg Total catch: 56.00 CATCH/HOUR: 112.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Haemulon boschma	52.00	2632	46.43	410
Upeneus parvus	29.98	372	18.57	411
Synodus intermedius	15.40	204	13.75	
Scorpaena brasiliensis	4.00	172	3.57	
Sardinella aurita	2.80	40	2.32	
Trachinocephalus myops	2.60	36	2.32	
Decapterus punctatus	2.00	36	1.79	
Dactylopterus volitans	2.00	16	1.79	
Botus lunatus	2.00	64	1.79	
Chilomycterus antillarum	2.00	16	1.79	
Prionotus beani	1.80	32	1.61	
Priacanthus arenatus	1.40	44	1.25	
Haemulon aurolineatum	0.40	8	0.54	
Rhombolites aurorubens	0.40	4	0.36	
Penaeus brasiliensis	0.40	16	0.36	
Loligo plei	0.40	8	0.36	
Bellator riberoi	0.40	24	0.36	
Thalassophryne maculosa	0.40	28	0.36	
Hilairanda sp	0.20	8	0.18	
Scomber japonicus	0.20	4	0.18	
Holocentrus ascensionis	0.20	12	0.18	
Sphoeroides testudineus	0.00	4		
Sphoeroides dorsalis	0.00	6		
Coccolobus nasutus	0.00	4		
Diplobatys guanechensis	0.00	4		
Total	112.00		100.04	

PROJECT STATION: 793
 DATE: 7/ 9/88 GEAR TYPE: PT No:2 POSITION: Lat N 1057 Long W 6454
 start stop duration
 TIME : 01:10:00 01:40:00 30 (min) Purpose code: 1
 LOG : 973.80 975.20 1.40 Area code : 3
 FDEPTH: 50 70 GearCond. code: 1
 BDEPTH: 122 145 Validity code:
 Towing dir: 60° Wire out: 175 m Speed: 28 kn*10
 Sorted: 27 Kg Total catch: 27.50 CATCH/HOUR: 55.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sardinella aurita	42.20	688	76.73	404
Scomber japonicus	7.40	96	13.43	405
Trachurus lathami	3.00	38	5.45	406
Aukis sp	1.20	14	2.18	
Pristipomoides macrophthalmaus	0.80	4	1.45	
Selar crumenophthalmus	0.40	2	0.73	
Total	55.00		99.99	

PROJECT STATION: 796
 DATE: 7/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1114 Long W 6513
 start stop duration
 TIME : 07:25:00 08:25:00 60 (min) Purpose code: 3
 LOG : 1015.00 1017.20 2.20 Area code : 3
 FDEPTH: 501 562 GearCond. code: 1
 BDEPTH: 501 562 Validity code:
 Towing dir: 105° Wire out: 1550 m Speed: 24 kn*10
 Sorted: 44 Kg Total catch: 98.80 CATCH/HOUR: 98.80

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Miscellaneous fish	25.50		25.81	
Bathynomus giganteus	23.60	80	23.89	
Glyptocranon sp	11.30	30	11.44	
Pholidoteuthis adami	9.80	24	9.92	
Iliex colindetti	9.40	48	9.51	414
Aristaeomorpha foliacea	5.00	188	5.06	413
Centrophorus granulosus	4.90	3	4.96	
Merluccius albidus	3.80	3	3.85	
NEPHROPIDAE	2.00	80	2.02	
Pleuroteuthis robustus	1.60	41	1.62	412
POLYCHADIDAE	1.10	64	1.11	
Penaeopsis megalops	0.50	58	0.51	
Ornithoteuthis antillarum	0.30	4	0.30	
GALATHEIDAE	0.00	2		
Bathyporeia quadrifilis	0.00	2		
Dolicosudis fuliginosa	0.00	2		
Stemonosudis rotschildi	0.00	4		
Total	98.80		100.00	

PROJECT STATION: 794
 DATE: 7/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1107 Long W 6503
 start stop duration
 TIME : 03:40:00 04:10:00 30 (min) Purpose code: 3
 LOG : 990.50 992.20 1.70 Area code : 3
 FDEPTH: 72 74 GearCond. code: 1
 BDEPTH: 72 74 Validity code:
 Towing dir: 344° Wire out: 400 m Speed: 29 kn*10
 Sorted: 26 Kg Total catch: 134.45 CATCH/HOUR: 268.90

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Rhombolites aurorubens	104.00	1170	38.68	408
Haemulon boschma	72.50	4206	26.96	407
Haemulon aurolineatum	21.00	380	7.81	
Synodus intermedius	12.00	120	4.46	
Priacanthus arenatus	12.00	210	4.46	409
Upeneus parvus	10.00	230	3.72	
Sphoeroides sp	6.00	60	2.23	
Scorpaena agassizi	5.00	100	1.86	
Trachurus lathami	4.50	80	1.67	
Apono sp	3.00	370	1.12	
Decapterus punctatus	3.00	60	1.12	
Prionotus beani	3.00	30	1.12	
Pristipomoides macrophthalmaus	2.50	20	0.93	
Holocentrus ascensionis	2.00	40	0.74	
Thalassophryne maculosa	1.50	10	0.56	
Prionotus roseus	1.50	20	0.56	
Chilomycterus antillarum	1.00	10	0.37	
Dactylopterus volitans	1.00	12	0.37	
Lepohidium sp	0.80	40	0.30	
Scomber japonicus	0.80	10	0.30	
Trachinocephalus myops	0.80	12	0.30	
Paralichthys tropicus	0.40	10	0.22	
Porichthys pauciradiatus	0.40	10	0.15	
Syngnathus diomedianus	0.00	10		
Haemulon striatum	0.00	10		
Haemulon macrostoma	0.00	10		
Lepohidium pheromystax	0.00	10		
Exocoetus volitans	0.00	10		
Syngnathus micrurus	0.00	10		
Total	268.90		100.01	

PROJECT STATION: 797
 DATE: 7/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1106 Long W 6516
 start stop duration
 TIME : 10:20:00 10:50:00 30 (min) Purpose code: 3
 LOG : 1030.30 1031.70 1.40 Area code : 3
 FDEPTH: 69 67 GearCond. code: 1
 BDEPTH: 69 67 Validity code:
 Towing dir: 156° Wire out: 350 m Speed: 29 kn*10
 Sorted: 55 Kg Total catch: 223.14 CATCH/HOUR: 446.28

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sardinella aurita	294.70	5694	66.03	415
Haemulon striatum	30.10	582	6.74	417
Rhombolites aurorubens	25.54	742	5.72	418
Mycteroperca clid	24.00	2	5.38	
Decapterus punctatus	16.80	476	3.76	416
Lachnolaimus maximus	9.00	4	2.02	
Mustelus canis	8.00	6	1.79	
Haemulon boschma	7.00	260	1.57	
Calamus pennatula	6.40	8	1.43	
Scomber japonicus	3.50	6	0.78	
Synodus intermedius	3.50	28	0.78	
Aiuterus monoceros	3.50	14	0.78	
Dasyatis sp	2.80	6	0.63	
Haemulon melanurum	2.10	14	0.47	
Aiuterus schoepfi	2.10	6	0.47	
Chilomycterus antillarum	2.10	14	0.47	
Pagrus pagrus	2.00	2	0.45	
Lutjanus vivanus	1.74	6	0.39	
Loligo plei	1.40	42	0.31	
Sphoeroides testudineus	0.00	6		
Total	446.28		99.97	

PROJECT STATION: 796
 DATE: 7/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1102 Long W 6515
 start stop duration Purpose code: 3
 TIME 11130100 12:00:00 30 (min) Area code: 1 3
 LOG 11035.90 1037.60 1.70 GearCond.code: 1
 FDEPTH: 25 29 Validity code:
 BDEPTH: 25 29
 Towing dir: 270° Wire out: 200 m Speed: 31 kn*10
 Sorted: 49 Kg Total catch: 473.77 CATCH/HOUR: 947.54

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Balistes vetula	273.00	144	28.81	
Calamus pennatula	169.00	312	17.84	
Lachnolaimus maximus	104.00	50	10.98	
TURTLE	80.00	2	8.44	
Raja sp	60.00	2	6.33	
Acanthurus chirurgus	55.90	104	5.90	
Sparisoma chrysotopus	37.70	32	3.98	
Pomacanthus paru	31.20	26	3.29	
Sparisoma rubripinne	27.90	14	2.88	
Myctaroperca venenosa	21.40	4	2.26	
Haemulon album	20.00	4	2.11	
Acanthurus coeruleus	14.94	40	1.98	
Ocyurus chrysurus	13.00	14	1.37	
Rhinconus triquetter	13.00	40	1.37	
Lutjanus analis	10.40	8	1.10	
Lactophrys trigonus	6.50	14	0.69	
Epinephelus guttatus	6.00	6	0.63	
Sparisoma aurofrenatum	4.20	4	0.44	
Total	947.54		100.00	

PROJECT STATION: 799
 DATE: 7/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1105 Long W 6524
 start stop duration Purpose code: 3
 TIME 113130100 14:00:00 30 (min) Area code: 1 3
 LOG 11048.60 1050.00 1.40 GearCond.code: 1
 FDEPTH: 76 90 Validity code:
 BDEPTH: 76 90
 Towing dir: 342° Wire out: 450 m Speed: 30 kn*10
 Sorted: 42 Kg Total catch: 592.20 CATCH/HOUR: 1184.40

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Sardinella aurita	781.20	11328	65.96	420
Rhomboplites aurorubens	162.40	4088	13.71	422
Scomber japonicus	140.00	1344	11.82	421
Haemulon striatum	44.80	868	3.78	423
Decapterus punctatus	25.20	476	2.13	
Saurida normani	22.40	28	1.89	
Priacanthus macarellus	8.40	140	0.71	
Decapterus tabl	0.00	28		
Total	1184.40		100.00	

PROJECT STATION: 800
 DATE: 7/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1117 Long W 6530
 start stop duration Purpose code: 3
 TIME 115130100 16:30:00 60 (min) Area code: 1 3
 LOG 11061.00 1063.90 2.90 GearCond.code: 1
 FDEPTH: 646 674 Validity code:
 BDEPTH: 646 674
 Towing dir: 280° Wire out: 1850 m Speed: 27 kn*10
 Sorted: 28 Kg Total catch: 149.50 CATCH/HOUR: 149.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Xenodermichthys sp	47.50	1900	31.77	
Yarella sp	27.50	530	18.39	
GONOSTOMATIDAE	15.00	825	10.03	
Pholidoteuthis adami	9.00	60	6.02	
Bathynomus signatus	9.00	50	6.02	
Synagrops bellus	7.50	90	5.02	
Plesiopneustes edwardsianus	7.50	165	5.02	424
Centroscymnus owstoni	6.00	1	4.01	
Nezumia squilla	5.00	65	3.34	
Ectoporus sp	5.00	30	3.34	
Dentohedus tenuis	2.50	20	1.67	
HOLSAURIDAE	2.00	40	1.34	
MORIDAE	1.00	35	0.67	
Acanthocaris coeca	1.00	5	0.67	
ANCANTHOBATIDAE	1.00	20	0.67	
MACROURIDAE	0.75	25	0.50	
Leamonema sp	0.50	10	0.33	
Bathyporeus viridensis	0.50	5	0.33	
Nezumia cyrano	0.50	5	0.33	
Nemacarcinus rotundus	0.25	150	0.17	
Bathygadus melanobrandus	0.25	15	0.17	
Melanostomias sp.	0.25	5	0.17	
SCOMBROLABRACIDAE	0.00	5		
CHIARODONTIDAE	0.00	5		
FOLYCHADIDAE	0.00	25		
NEPHROPIDAE	0.00	15		
Neopinnula americana	0.00	10		
Total	149.50		99.98	

PROJECT STATION: 801
 DATE: 7/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1102 Long W 6537
 start stop duration Purpose code: 3
 TIME 118155100 19:25:00 30 (min) Area code: 1 3
 LOG 11081.70 1083.10 1.40 GearCond.code: 1
 FDEPTH: 72 66 Validity code:
 BDEPTH: 72 66
 Towing dir: 167° Wire out: 350 m Speed: 33 kn*10
 Sorted: 29 Kg Total catch: 210.25 CATCH/HOUR: 420.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Haemulon striatum	112.60	3772	26.78	426
Seriola rivolana	89.40	8	21.26	427
Haemulon boschma	51.40	9988	12.22	425
Haemulon album	25.80	4	6.85	
Synodus intermedius	28.80	406	6.85	
Lutjanus analis	27.00	4	6.42	
Holocentrus rufus	13.60	54	3.23	
Caulolatilus cyanops	12.60	46	3.00	
Haemulon melanurum	12.20	126	2.90	
Mustelus canis	8.60	6	2.05	
Holocentrus bullisi	7.20	234	1.71	
Astragopus alutus	6.80	702	1.62	
Rhomboplites aurorubens	4.50	82	1.07	
Priacanthus arenatus	4.50	72	1.07	
Sardinella aurita	3.60	54	0.86	
Cyclosetta chittendeni	1.80	18	0.43	
Trachinocephalus myops	1.40	18	0.33	
Lutjanus vivanus	1.40	10	0.33	
Dactylopterus volitans	1.40	10	0.33	
Fistularia petimba	0.90	18	0.21	
Serranus phoebe	0.90	172	0.21	
Syacium micurum	0.90	10	0.21	
Penaeus brasiliensis	0.40	10	0.10	
Scomber japonicus	0.40	100	0.10	
Scorpaena sp.	0.40	10	0.10	
Ophidion holbrookii	0.00	10		
Apogon sp	0.00	90		
Porichthys pauciradiatus	0.00	10		
Hildebrandia sp.	0.00	10		
Citharichthys cornutus	0.00	64		
Bothus lunatus	0.00	28		
Total	421.50		100.24	

PROJECT STATION: 802
 DATE: 7/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1101 Long W 6541
 start stop duration Purpose code: 3
 TIME 12125100 21:30:00 5 (min) Area code: 1 3
 LOG 11099.30 1099.50 0.20 GearCond.code: 9
 FDEPTH: 117 116 Validity code:
 BDEPTH: 117 116
 Towing dir: 105° Wire out: 600 m Speed: 30 kn*10
 Sorted: Kg Total catch: CATCH/HOUR:

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

PROJECT STATION: 803
 DATE: 7/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1102 Long W 6545
 start stop duration Purpose code: 3
 TIME 122135100 23:05:00 30 (min) Area code: 1 3
 LOG 11106.30 1108.00 1.70 GearCond.code: 1
 FDEPTH: 67 72 Validity code:
 BDEPTH: 67 72
 Towing dir: 349° Wire out: 350 m Speed: 30 kn*10
 Sorted: 50 Kg Total catch: 101.50 CATCH/HOUR: 203.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Haemulon striatum	62.80	786	30.94	
Holocentrus rufus	33.40	232	16.45	
Priacanthus arenatus	22.80	340	11.23	428
Haemulon melanurum	13.60	69	6.70	
Rhomboplites aurorubens	11.60	76	5.71	429
Synodus intermedius	10.40	144	5.12	
Serranus phoebe	8.00	280	3.94	
Dactylopterus volitans	5.60	24	2.76	
Scorpaena sp.	5.20	72	2.56	
Haemulon boschma	4.80	232	2.36	430
Octopus vulgaris	4.00	12	1.97	
Adioryx bullisi	1.80	108	0.89	
Pagrus pagrus	1.80	4	0.89	
Neopinnula americana	1.60	28	0.79	
NYCTOPHIDAE	1.20	616	0.59	
Loligo plei	1.20	12	0.59	
Acanthostracion quadricornis	1.20	16	0.59	
Selar crumenophthalmus	1.00	12	0.49	
Penaeus brasiliensis	0.80	12	0.39	
Equetus lanceolatus	0.80	4	0.39	
Trachinocephalus myops	0.80	8	0.39	
Aluterus schoepfi	0.80	4	0.39	
Hildebrandia sp.	0.80	36	0.39	
Gymnothorax ocellatus	0.80	12	0.39	
Sphaeroides dorsalis	0.80	24	0.39	
Scomber japonicus	0.60	16	0.30	
Thalassophryna maculosa	0.60	60	0.30	
Chilomycterus antillarum	0.40	4	0.20	
Syacium sp.	0.40	4	0.20	
Trachurus lathani	0.40	8	0.20	
Upenaeus parvus	0.40	8	0.20	
Porichthys pauciradiatus	0.40	8	0.20	
Apogon sp	0.40	112	0.20	
Narcine brasiliensis	0.40	8	0.20	
Chaetodon sedentarius	0.40	8	0.20	
Fistularia petimba	0.40	4	0.20	
Ophidion holbrookii	0.20	4	0.10	
Bothus lunatus	0.20	4	0.10	
Sphaeroides testudineus	0.20	4	0.10	
Total	203.00		100.00	

DATE: 9/ 9/88 GEAR TYPE: BT No11 POSITION: Lat N 1039 Long W 6641
 start stop duration
 TIME 1215:00 1245:00 30 (min) Purpose code: 3
 LOG 1207.50 1209.30 1.80 Area code: 3
 FDEPTH: 51 52 GearCond.code: 1
 BDEPTH: 51 52 Validity code: 1
 Towing dir: 71° Wire out: 250 m Speed: 32 kn*10
 Sorted: 48 Kg Total catch: 48.74 CATCH/HOUR: 97.48

SPECIES	CATCH/HOUR weight	% OF TOT. C	SAMP. NO.
Lutjanus analis	68.00 14	69.76	431
Calamus pennatula	7.70 10	7.90	
Fistularia patimba	7.40 28	7.59	
Eucinostomus gula	2.80 58	2.87	
Rhomboplites aurorubens	2.40 58	2.46	432
Calamus penna	1.60 2	1.64	
Aluterus naudlotii	1.38 4	1.42	
Balistes capricus	1.10 2	1.13	
Pagrus pagrus	1.10 2	1.13	
Dactylopterus volitans	1.04 4	1.07	
Priacanthus arenatus	0.96 8	0.98	
Diplectrum bivittatum	0.60 14	0.62	
Haemulon boschme	0.60 14	0.62	
Lutjanus purpurus	0.30 6	0.31	
Lutjanus vivanus	0.30 4	0.31	
Upeneus parvus	0.20 8	0.21	
Synodus foetens	0.00 2		
Total	97.48	100.02	

PROJECT STATION: 805
 DATE: 9/ 9/88 GEAR TYPE: BT No11 POSITION: Lat N 1039 Long W 6630
 start stop duration
 TIME 1140:00 1413:00 30 (min) Purpose code: 3
 LOG 1217.00 1218.20 1.20 Area code: 3
 FDEPTH: 80 91 GearCond.code: 1
 BDEPTH: 80 91 Validity code: 1
 Towing dir: 60° Wire out: 400 m Speed: 29 kn*10
 Sorted: 23 Kg Total catch: 23.15 CATCH/HOUR: 46.30

SPECIES	CATCH/HOUR weight	% OF TOT. C	SAMP. NO.
Priacanthus arenatus	9.00 26	19.44	433
Pagrus pagrus	8.40 12	18.14	
Fistularia patimba	7.60 22	16.41	
Upeneus parvus	5.40 338	11.66	434
Seriola rivoliana	3.80 4	8.21	
Alectis ciliaris	3.60 4	7.78	
Lutjanus purpurus	3.60 18	7.78	435
Caranx crysos	2.00 2	4.32	
Eucinostomus gula	0.80 16	1.73	
Paralichthys tropicus	0.70 2	1.51	
Balistes capricus	0.60 2	1.30	
Trachurus lathami	0.30 8	0.65	
Saurida normani	0.20 2	0.43	
Pristipomoides macrophthalmus	0.20 4	0.43	
Rhomboplites aurorubens	0.10 2	0.22	
Synodus foetens	0.00 6		
Sardinella aurita	0.00 2		
Total	46.30	100.01	

PROJECT STATION: 806
 DATE: 9/ 9/88 GEAR TYPE: BT No11 POSITION: Lat N 1041 Long W 6615
 start stop duration
 TIME 1231:00 1232:30 1:30 Purpose code: 3
 LOG 1231.00 1232.30 1:30 Area code: 3
 FDEPTH: 94 90 GearCond.code: 1
 BDEPTH: 94 90 Validity code: 1
 Towing dir: 90° Wire out: 500 m Speed: 23 kn*10
 Sorted: 27 Kg Total catch: 116.95 CATCH/HOUR: 233.90

SPECIES	CATCH/HOUR weight	% OF TOT. C	SAMP. NO.
Eucinostomus argenteus	45.00 1028	19.24	436
Lutjanus griseus	42.00 2	17.96	
Lutjanus analis	40.00 2	17.10	
Salar crumenophthalmus	27.50 1162	11.76	438
Trachurus lathami	25.00 1050	10.69	437
Upeneus parvus	20.00 894	3.55	439
Mustelus canis	12.00 4	3.13	
Pristipomoides macrophthalmus	5.50 60	2.35	
Loligo paelei	5.00 126	2.14	
Pagrus pagrus	3.00 6	1.28	
Dactylopterus volitans	2.00 6	0.86	
Scomber japonicus	2.00 20	0.86	
Aluterus monoceros	1.80 16	0.77	
Fistularia patimba	1.80 10	0.77	
Syacium papillosum	0.80 6	0.34	
Decapterus punctatus	0.50 10	0.21	
Ariomma bondi	0.00 6		
Rhomboplites aurorubens	0.00 20		
Total	233.90	100.01	

PROJECT STATION: 807
 DATE: 9/ 9/88 GEAR TYPE: BT No11 POSITION: Lat N 1042 Long W 6605
 start stop duration
 TIME 11845:00 19115:00 30 (min) Purpose code: 3
 LOG 1246.70 1248.40 1.70 Area code: 3
 FDEPTH: 67 69 GearCond.code: 1
 BDEPTH: 67 69 Validity code: 1
 Towing dir: 318° Wire out: 350 m Speed: 39 kn*10
 Sorted: 24 Kg Total catch: 67.90 CATCH/HOUR: 135.80

SPECIES	CATCH/HOUR weight	% OF TOT. C	SAMP. NO.
Lutjanus analis	36.50 10	26.95	443
Haemulon boschme	29.60 1460	21.80	440
Haemulon steindachneri	22.40 180	16.49	441
Rhomboplites aurorubens	10.00 92	7.36	442
Dasyatis americana	8.00 4	5.89	
Pristipomoides macrophthalmus	6.00 128	4.42	
Fistularia patimba	5.40 28	3.98	
Haemulon striatum	4.80 108	3.53	
Astrapogon alutus	2.80 224	2.06	
Cyclosetta chittendeni	2.40 8	1.77	
Pagrus pagrus	2.00 8	1.47	
Dactylopterus volitans	1.00 8	0.74	
Eucinostomus argenteus	0.80 12	0.59	
Holocentrus bullisi	0.60 20	0.44	
Trachinocephalus myops	0.60 40	0.44	
Upeneus parvus	0.60 128	0.44	
Syacium papillosum	0.40 12	0.29	
Priacanthus arenatus	0.40 4	0.29	
Synodus intermedius	0.40 4	0.29	
Serranus phoebe	0.40 20	0.29	
Lutjanus vivanus	0.40 8	0.29	
Synodus poeyi	0.20 28	0.15	
Bothus lunatus	0.00 8		
Sphaeroides testudineus	0.00 4		
Sphaeroides dorsalis	0.00 4		
Total	135.80	99.97	

PROJECT STATION: 808
 DATE: 9/ 9/88 GEAR TYPE: BT No11 POSITION: Lat N 1051 Long W 6614
 start stop duration
 TIME 12055:00 2155:00 60 (min) Purpose code: 3
 LOG 1262.00 1265.60 3.60 Area code: 3
 FDEPTH: 222 218 GearCond.code: 1
 BDEPTH: 222 218 Validity code: 1
 Towing dir: 270° Wire out: 1050 m Speed: 33 kn*10
 Sorted: 46 Kg Total catch: 167.95 CATCH/HOUR: 167.95

SPECIES	CATCH/HOUR weight	% OF TOT. C	SAMP. NO.
Pristipomoides macrophthalmus	64.40 483	38.34	444
Pontinus longispinnis	31.85 621	18.96	
Prionotus beani	19.95 308	11.88	
Trachurus lathami	14.00 60	8.34	
Solenocera sp	5.25 399	3.13	445
Lepophidium profundum	5.25 70	3.13	
MORIDAE	4.37 1103	2.60	
S H R I M P S	2.80 1190	1.67	
Synagrops bellus	2.45 329	1.46	
Pikea mexicana	2.45 144	1.46	
Mustelus higmani	2.30 1	1.37	
Loligo paelei	2.10 53	1.25	
Epinephelus flavolimbatus	1.90 1	1.13	
Ocanthias martinicensis	1.75 35	1.04	
Bombrops sp	1.22 46	0.73	
Peristedion miniatum	0.87 21	0.52	
Peristedion sp	0.87 60	0.52	
Hoplunnis sp	0.70 126	0.42	
Merluccius albidus	0.52 70	0.31	
Rhomboplites aurorubens	0.52 4	0.31	
Synchiropus aassizii	0.35 32	0.21	
Illex coindetti	0.35 4	0.21	
Zenopsis ocellata	0.35 7	0.21	
Monolepis sp	0.35 77	0.21	
Hildebrandia sp.	0.35 7	0.21	
Prionotus stearnsi	0.17 14	0.10	
Naepinnula americana	0.17 4	0.10	
Lonchopisthus sp	0.17 28	0.10	
Zaliastes mcintyi	0.17 84	0.10	
BOTHIDAE	0.00 7		
CYNOGLOSSIDAE	0.00 4		
Polymixia lowei	0.00 4		
Total	167.95	100.02	

PROJECT STATION: 809
 DATE: 10/ 9/88 GEAR TYPE: BT No11 POSITION: Lat N 1059 Long W 6620
 start stop duration
 TIME 0105:00 01105:00 60 (min) Purpose code: 3
 LOG 1276.80 1280.10 3.30 Area code: 3
 FDEPTH: 303 305 GearCond.code: 1
 BDEPTH: 303 305 Validity code: 1
 Towing dir: 270° Wire out: 900 m Speed: 32 kn*10
 Sorted: 27 Kg Total catch: 82.25 CATCH/HOUR: 82.25

SPECIES	CATCH/HOUR weight	% OF TOT. C	SAMP. NO.
Polymixia lowei	24.00 672	29.18	
Pontinus longispinnis	15.00 180	18.24	
Coelorhynchus caribbeus	10.80 414	12.65	
Steindachneria argenta	7.80 312	9.48	
Illex coindetti	3.90 30	4.74	446
Naepinnula americana	3.00 33	3.65	
Bombrops sp	2.70 9	3.28	
Merluccius albidus	2.10 84	2.58	
Argentina sp.	2.10 84	2.58	
Epionus sp	1.80 208	2.19	
S H R I M P S	1.50 366	1.82	
Ocanthias martinicensis	1.50 33	1.82	
Bombrops sp	1.50 33	1.82	
Lepophidium pteromystax	1.50 195	1.82	
Ariomma melanum	0.90 12	1.09	
Solenocera sp	0.80 31	0.97	447
Lepophidium profundum	0.60 6	0.73	
Synchiropus aassizii	0.60 18	0.73	
Cyttopsis roseus	0.45 6	0.55	
Peristedion miniatum	0.45 3	0.55	
Peristedion sp	0.45 15	0.55	
Hildebrandia sp.	0.30 24	0.36	
Monolepis sp	0.30 39	0.36	
Prionotus beani	0.30 3	0.36	
Hoplunnis sp	0.00 6		
CRANGONIDAE	0.00 12		
Total	82.25	99.97	

PROJECT STATION: 810
 DATE: 10/ 9/88 GEAR TYPE: BT No11 POSITION: Lat N 1107 Long W 6619
 start stop duration
 TIME 02145:00 03145:00 60 (min) Purpose code: 3
 LOG 1293.20 1296.20 3.00 Area code: 3
 FDEPTH: 457 460 GearCond.code: 1
 BDEPTH: 457 460 Validity code: 1
 Towing dir: 270° Wire out: 1250 m Speed: 27 kn*10
 Sorted: 10 Kg Total catch: 30.35 CATCH/HOUR: 30.35

SPECIES	CATCH/HOUR weight	% OF TOT. C	SAMP. NO.
Steindachneria argenta	8.10 301	26.69	
Plecticus robustus	6.00 140	19.77	448
Illex coindetti	5.00 28	16.47	450
Polymixia lowei	2.80 60	9.23	
Bombrops sp	1.50 69	4.94	
Merluccius albidus	1.40 2	4.61	
Glyphocrangon sp	1.00 363	3.29	
POLYCHADIDAE	0.75 7	2.47	
Coelorhynchus caribbeus	0.70 11	2.31	
BATHILOPEIDAE	0.60 16	1.98	
Aponus sp	0.50 12	1.65	
MORIDAE	0.50 16	1.65	
Aristaeomorpha foliacea	0.50 19	1.65	449
Bathynomus giganteus	0.40 4	1.32	
Pholidoteuthis sp.	0.40 1	0.33	
Etmopterus sp	0.10 3	0.33	
Bombrops anatrostris	0.10 1	0.33	
Synchiropus aassizii	0.10 1	0.33	
Peristedion miniatum	0.05 2	0.16	
Zaliastes mcintyi	0.05 3	0.16	
Peristedion sp	0.05 2	0.16	
Argyropilecus aculeatus	0.05 11	0.16	
CRANGONIDAE	0.00 3		
CHAULIODONTIDAE	0.00 3		
Hildebrandia sp.	0.00 3		
Total	30.35	99.99	

DATE: 10/9/88 GEAR TYPE: BT No.1 PROJECT STATION: 811
 POSITION: Lat N 1110 Long W 6634
 TIME start stop duration Purpose code: 3
 LOG 1101:15:00 11:15:30 60 (min) Area code: 1 3
 FDEPTH: 592 592 GearCond. code: 1
 BDEPTH: 592 592 Validity code:
 Towing dir: 76° Wire out: 1500 m Speed: 26 kn*10
 Sorted: 29 Kg Total catch: 97.75 CATCH/HOUR: 87.75

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Synagrops bellus	19.50	357	22.22	
Bathynomus giganteus	18.00	45	20.51	
Daramathus americanus	7.80	13	8.69	
Leamomama sp	5.40	48	6.15	
CHAULIODONTIDAE	4.50	264	5.13	
MYCTOPHIDAE	3.90	321	4.44	
Ornithotautis antillarum	3.00	63	3.42	
Acanthocaris coeca	2.25	12	2.56	
Pleoticus robustus	1.90	45	2.05	453
Benthodesmus tennius	1.80	91	2.03	
Bathypterois quadrifilis	1.80	126	2.05	
Plasioponaeus edwardsianus	1.50	24	1.71	452
BATHICLUPEIDAE	1.50	6	1.71	
Nematocarsinus rotundus	1.50	54	1.71	
Yarella blackfordi	1.50	27	1.71	
Lepidopus caudatus	1.50	3	1.71	
Stenodachneria argenta	1.20	36	1.37	
Aristaeomorpha sp	1.20	42	1.37	
Brama caribbea	1.20	36	1.37	451
CEPHALOPODA	0.90	9	1.03	
Squaliolus laticaudus	0.90	9	1.03	
Glyptocheirus sp	0.90	111	1.03	
Xenodermichthys socialis	0.90	36	1.03	
Argyropelecus aculeatus	0.75	79	0.85	
Aristaeus sp	0.45	15	0.51	
Ariomma melanura	0.30	3	0.34	
Ocelorhynchus caribbeus	0.30	15	0.34	
Hildebrandia sp.	0.30	9	0.34	
POLYCHADIDAE	0.30	9	0.34	
Setarches guentheri	0.30	3	0.34	
GALATHEIDAE	0.30	24	0.34	
Chaetax pictus	0.30	3	0.34	
Total	97.75		99.99	

DATE: 10/9/88 GEAR TYPE: BT No.1 PROJECT STATION: 812
 POSITION: Lat N 1102 Long W 6639
 TIME start stop duration Purpose code: 3
 LOG 1130:00 14:20:00 60 (min) Area code: 1 3
 FDEPTH: 1360.60 1363.10 2.50 GearCond. code: 1
 BDEPTH: 328 343 Validity code:
 Towing dir: 80° Wire out: 1150 m Speed: 24 kn*10
 Sorted: 58 Kg Total catch: 896.95 CATCH/HOUR: 896.95

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Ariomma bondi	495.00	12238	55.19	454
SCIAENIDAE	198.00	420	22.07	455
Halcolemus dactylopterus	102.00	90	11.37	
Pronotogrammus eos	37.50	15	4.18	
Epinephelus morio	14.90	1	1.66	
Zanopsis ocellata	10.50	15	1.51	
Hoplostethus occidentalis	9.20	5	1.03	
APOGONIDAE	4.50	210	1.00	
Synagrops ballus	4.50	465	0.50	
Epigonus macrops	3.75	165	0.42	
Ocelorhynchus caribbeus	3.00	120	0.33	
Polyvaixia lowei	3.00	75	0.33	
Haptranchias perlo	1.50	2	0.17	
Oxygnathus sp	1.50	1	0.17	
Neopinnula americana	0.30	60	0.03	
Bembrops sp	0.30	45	0.03	
Total	896.95		99.99	

DATE: 10/9/88 GEAR TYPE: BT No.1 PROJECT STATION: 813
 POSITION: Lat N 1050 Long W 6654
 TIME start stop duration Purpose code: 3
 LOG 1386.60 1389.30 1.70 Area code: 1 3
 FDEPTH: 97 101 GearCond. code: 1
 BDEPTH: 97 101 Validity code:
 Towing dir: 235° Wire out: 500 m Speed: 31 kn*10
 Sorted: 89 Kg Total catch: 89.95 CATCH/HOUR: 179.90

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Lutjanus vivanus	80.60	12	44.80	456
Seriola rivolana	46.80	12	26.01	457
Ocanthias martinicensis	31.50	3246	17.51	459
Upeneus parvus	19.50	2722	10.28	458
Dactylopterus volitans	1.20	4	0.67	
Fistularia petimba	0.60	4	0.33	
Chromis sp.	0.50	18	0.28	
Pronotogrammus eos	0.20	6	0.11	
Total	179.90		99.99	

DATE: 11/9/88 GEAR TYPE: BT No.1 PROJECT STATION: 814
 POSITION: Lat N 1033 Long W 6752
 TIME start stop duration Purpose code: 3
 LOG 11453.20 1454.80 1.60 Area code: 1 3
 FDEPTH: 72 72 GearCond. code: 1
 BDEPTH: 72 72 Validity code:
 Towing dir: 280° Wire out: 400 m Speed: 30 kn*10
 Sorted: 28 Kg Total catch: 89.15 CATCH/HOUR: 178.30

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Pristipomoides macrophthalmus	42.60	792	23.89	461
Eucinostomus argenteus	19.50	540	10.34	460
Saurida normani	17.40	350	9.76	
Aluterus monoceros	15.00	18	8.41	
Fish small non. comm.	12.00		6.73	
Haemulon aurolineatum	9.60	96	5.38	
Calamus pennatula	7.80	12	4.37	
Calanus pennatula	7.20	12	4.04	
Lutjanus synagris	4.80	6	2.69	
Trichiurus lepturus	4.80	36	1.68	
Haemulon boschma	4.20	246	2.36	
Prionotus stearnsi	4.00	102	2.24	462
Penaeus brasiliensis	3.00	30	1.68	
Loligo paelei	3.00	48	1.68	
Rhombolites aurorubens	3.00	6	1.35	
Mustelus higmani	3.00	6	1.35	
Aluterus sp	2.40	6	1.35	
GEMPYLIDAE	2.40	48	1.35	
Prionotus punctatus	2.40	6	1.35	
APOGONIDAE	2.40	366	1.35	
Upeneus parvus	2.40	66	1.35	
Lepophidium pheromystax	1.80	72	1.01	
Neopinnula americana	0.90	12	0.50	
Fistularia petimba	0.60	6	0.34	
Cyclosetta sp.	0.60	6	0.34	
Serranus phoebe	0.60	120	0.34	
Trachurus lathami	0.60	30	0.34	
Scorpaena sp	0.60	18	0.34	
Prionotus beani	0.60	42	0.34	
Caulolatilus cyanops	0.60	6	0.34	
Haemulon steindachneri	0.60	6	0.34	
Gymnothorax ocellatus	0.40	4	0.22	
Diplectrum radiale	0.30	18	0.17	
Penaeus nobilialis	0.20	8	0.11	
Hildebrandia sp.	0.00	6		
OPHIDIIDAE	0.00	48		
Porichthys sp	0.00	18		
Sphoeroides sp	0.00	354		
DACTYLOPTERIDAE	0.00	12		
Chaetodon guyanensis	0.00	6		
Total	178.30		100.02	

DATE: 11/9/88 GEAR TYPE: BT No.1 PROJECT STATION: 815
 POSITION: Lat N 1040 Long W 6756
 TIME start stop duration Purpose code: 3
 LOG 11462.70 1464.40 1.70 Area code: 1 3
 FDEPTH: 80 66 GearCond. code: 1
 BDEPTH: 80 66 Validity code:
 Towing dir: 273° Wire out: 400 m Speed: 31 kn*10
 Sorted: 20 Kg Total catch: 79.95 CATCH/HOUR: 159.90

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Pristipomoides macrophthalmus	25.00	2566	15.63	464
APOGONIDAE	18.50	2316	11.57	
Calamus pennatula	16.60	20	10.39	
Haemulon melanurum	16.50	300	10.32	
Lutjanus analis	12.00	4	7.50	
Paralichthys tropicus	8.00	6	5.00	
Lutjanus synagris	7.80	12	4.88	
Fish small non. comm.	7.60		4.75	
Eucinostomus argenteus	7.50	240	4.69	
Saurida normani	6.00	180	3.75	
Haemulon boschma	5.50	566	3.44	
Rhombolites aurorubens	5.00	60	3.13	
Prionotus punctatus	3.80	6	2.38	
Trichiurus lepturus	2.50	6	1.56	
Upeneus parvus	2.50	106	1.56	
Diplectrum bivittatum	1.80	66	1.13	
Haemulon aurolineatum	1.60	2	1.00	
Lutjanus purpureus	1.60	6	1.00	
Plesionika edwardsii	1.50	366	0.94	
Lepophidium sp	1.50	170	0.94	
Penaeus brasiliensis	1.20	52	0.75	465
Sphyræna quachancho	1.00	6	0.63	
Loligo paelei	1.00	26	0.63	
Serranus phoebe	1.00	46	0.63	
Prionotus stearnsi	1.00	40	0.63	
GEMPYLIDAE	0.80	16	0.63	
Trachurus lathami	0.80	16	0.63	
Fistularia petimba	0.50	10	0.31	
Prionotus roseus	0.50	10	0.31	
Hoplunnis sp	0.00	76		
Porichthys sp	0.00	10		
Holocentrus ascensionis	0.00	10		
Caulolatilus cyanops	0.00	6		
Parucus sp	0.00	6		
Lepophidium pheromystax	0.00	10		
Total	160.80		100.67	

PROJECT STATION: 816
 DATE: 11/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1042 Long W 6809
 start stop duration
 TIME 10:42:00 05:05:00 40 (min) Purpose code: 3
 LOG 1477.00 1478.70 1.70 Area code: 1 3
 FDEPTH: 40 44 GearCond. code: 9
 BDEPTH: 40 44 Validity code: 9
 Towing dir: 10° Wire out: 200 m Speed: 35 kn*10
 Sorted: 20 Kg Total catch: 85.05 CATCH/HOUR: 127.58

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP. NO.
Lutjanus synagris	23.78 60	18.64	466
Diapterus rhombus	22.50 163	17.64	
Prionotus punctatus	14.70 53	11.52	
Lutjanus analis	13.95 14	10.93	467
Calamus pennatula	10.50 18	8.23	468
Eucinostomus argenteus	5.70 128	4.47	
Haemulon aurolineatum	5.10 170	4.00	
Chloroscombrus chrysurus	5.10 38	4.00	
Sphyræna picudilla	3.75 30	2.94	
Diplectrum bivittatum	3.75 405	2.94	
Ophidion holbrooki	3.60 410	2.82	
RHOMBONTIDAE	2.95 815	2.23	
Synoplistes aurorubens	2.70 15	2.12	
Priacanthus arenatus	2.25 5	1.76	
Conodon nobilis	1.50 5	1.18	
Holocentrus rufus	1.20 5	0.94	
Aluterus monoceros	1.13 5	0.89	
Sphyræna guachancho	0.90 5	0.71	
Haemulon boschma	0.90 210	0.71	
Selar crumenophthalmus	0.60 8	0.47	
Lutjanus purpureus	0.45 3	0.35	
Pristipomoides macrophthalmus	0.38 177	0.30	
Upeneus parvus	0.15 68	0.12	
Dactylopterus volitans	0.15 5	0.12	
Apogon sp	0.00 12		
Astrapogon alutus	0.00 23		
Lutjanus vivanus	0.00 8		
Dacasterus macarellus	0.00 8		
Porichthys pauciradiatus	0.00 15		
Leopoldium pheromystax	0.00 5		
Penaeus brasiliensis	0.00 20		
Syacium micrurum	0.00 8		
Loligo paelei	0.00 38		
Penaeus sp	0.00 72		
Saurida sp	0.00 5		
Synodus poeyi	0.00 5		
Total	127.55	100.00	

PROJECT STATION: 817
 DATE: 11/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1056 Long W 6808
 start stop duration
 TIME 10:45:00 07:15:00 30 (min) Purpose code: 3
 LOG 1492.00 1493.30 1.30 Area code: 1 3
 FDEPTH: 71 73 GearCond. code: 9
 BDEPTH: 71 73 Validity code: 9
 Towing dir: 327° Wire out: 350 m Speed: 31 kn*10
 Sorted: 9 Kg Total catch: 56.35 CATCH/HOUR: 112.70

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP. NO.
Pristipomoides macrophthalmus	18.00 522	15.97	469
Lutjanus analis	17.40 4	15.44	
Lutjanus synagris	16.00 20	14.20	470
Sphyræna barracuda	9.20 2	8.16	
Caulolatilus intermedius	8.40 24	7.45	
Scomberomorus cavalla	7.00 2	6.21	
Rhizoprionodon porosus	7.00 2	6.21	
Eucinostomus argenteus	5.40 96	4.79	
Selar crumenophthalmus	4.80 42	4.26	
Selene vomer	4.80 6	4.26	
Upeneus parvus	3.60 150	3.19	
Selene spixii	2.40 6	2.13	
Cyclosetta chittendeni	2.40 6	2.13	
Penaeus nobilis	1.80 36	1.60	
Chloroscombrus chrysurus	1.80 24	1.60	
Saurida normani	0.90 36	0.80	
Priacanthus arenatus	0.90 6	0.80	
Serranus atrobanchus	0.30 48	0.27	
Diplectrum bivittatum	0.30 18	0.27	
Synodus poeyi	0.30 12	0.27	
Syacium sp.	0.00 6		
Ococephalus vespertilio	0.00 12		
Total	112.70	100.01	

PROJECT STATION: 818
 DATE: 11/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1105 Long W 6814
 start stop duration
 TIME 10:40:00 09:10:00 30 (min) Purpose code: 3
 LOG 1504.30 1505.90 1.60 Area code: 1 3
 FDEPTH: 68 75 GearCond. code: 9
 BDEPTH: 68 75 Validity code: 9
 Towing dir: 327° Wire out: 350 m Speed: 32 kn*10
 Sorted: 36 Kg Total catch: 36.60 CATCH/HOUR: 73.20

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP. NO.
Lutjanus analis	12.40 4	16.94	
Eucinostomus argenteus	11.00 210	15.03	472
Calamus penna	7.40 6	10.11	
Sphyræna barracuda	7.20 2	9.84	
Lutjanus synagris	7.00 10	9.56	
Lutjanus purpureus	6.30 28	8.61	471
Loligo paelei	6.00 1596	8.20	
Pristipomoides macrophthalmus	3.20 52	4.37	
Chloroscombrus chrysurus	3.00 36	4.10	
Scomberomorus cavalla	2.00 2	2.73	
Trachurus lathami	1.40 52	1.91	
Albula neoptera	1.20 2	1.64	
Cyclosetta chittendeni	1.00 2	1.37	
Opisthonema oglinum	0.90 4	1.09	
Caulolatilus intermedius	0.80 2	1.09	
Fistularia petimba	0.60 2	0.82	
Ococephalus laevisatus	0.60 2	0.82	
Lutjanus buccella	0.50 2	0.68	
Priacanthus arenatus	0.40 2	0.55	
Saurida normani	0.30 6	0.41	
Upeneus parvus	0.10 4	0.14	
Loligo paelei	0.00 2		
Selar crumenophthalmus	0.00 2		
Total	73.20	100.01	

PROJECT STATION: 819
 DATE: 11/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1114 Long W 6821
 start stop duration
 TIME 10:30:00 10:31:00 1 (min) Purpose code: 3
 LOG 1517.20 1517.20 0.00 Area code: 1 3
 FDEPTH: 89 102 GearCond. code: 9
 BDEPTH: 89 102 Validity code: 9
 Towing dir: 312° Wire out: 450 m Speed: 30 kn*10
 Sorted: Kg Total catch: CATCH/HOUR:

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

PROJECT STATION: 820
 DATE: 11/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1123 Long W 6831
 start stop duration
 TIME 12:25:00 12:35:00 10 (min) Purpose code: 3
 LOG 1530.50 1533.60 0.10 Area code: 1 3
 FDEPTH: 78 78 GearCond. code: 9
 BDEPTH: 78 78 Validity code: 9
 Towing dir: 295° Wire out: 400 m Speed: 32 kn*10
 Sorted: Kg Total catch: CATCH/HOUR:

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

PROJECT STATION: 821
 DATE: 11/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1121 Long W 6827
 start stop duration
 TIME 15:00:00 15:20:00 20 (min) Purpose code: 3
 LOG 1541.30 1542.30 0.80 Area code: 1 3
 FDEPTH: 80 85 GearCond. code: 9
 BDEPTH: 80 85 Validity code: 9
 Towing dir: 310° Wire out: 350 m Speed: 35 kn*10
 Sorted: 4 Kg Total catch: 4.25 CATCH/HOUR: 12.75

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP. NO.
Calamus penna	7.50 3	58.82	
Lutjanus purpureus	1.95 3	15.29	
Lutjanus synagris	1.80 3	14.12	
Lutjanus vivanus	1.35 3	10.59	
Penaeus subtilis	0.15 3	1.18	
Total	12.75	100.00	

PROJECT STATION: 822
 DATE: 11/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1129 Long W 6826
 start stop duration
 TIME 17:35:00 17:55:00 20 (min) Purpose code: 3
 LOG 1556.70 1558.10 1.40 Area code: 1 3
 FDEPTH: 392 409 GearCond. code: 9
 BDEPTH: 392 409 Validity code: 9
 Towing dir: 285° Wire out: 1150 m Speed: 37 kn*10
 Sorted: 36 Kg Total catch: 36.20 CATCH/HOUR: 108.60

SPECIES	CATCH/HOUR weight numbers	% OF TOT. C	SAMP. NO.
Illex coindatti	40.80 333	37.57	473
Synagrops ballus	20.10 384	18.51	
Steindachneria argenta	19.50 342	17.96	
Nezumia sp	4.50 96	4.14	
Bathynomus giganteus	3.90 6	3.59	
Nematocarcinus rotundus	3.60 576	3.31	
Bembrops sp	3.30 39	3.04	
Pleoticus robustus	3.00 72	3.04	474
Ariomma melanum	2.55 24	2.35	
Merluccius albidus	1.50 3	1.38	
Etaoapterus pusillus	1.50 24	1.38	
MORIIDAE	0.90 18	0.83	
Plesionika edwardsii	0.75 42	0.69	
Paristadion sp	0.60 42	0.55	
Neocaprinula americana	0.45 3	0.41	
NEPHROPIDAE	0.45 15	0.41	
Xenolepidichthys dalgleishi	0.30 27	0.28	
Zenion hololepsis	0.30 27	0.28	
Argentina sp.	0.15 9	0.14	
Lepidionus caudatus	0.15 3	0.14	
MYCTOPHIDAE	0.00 45		
Lestrolepis intermedia	0.00 6		
Leamonema sp	0.00 3		
Arsyropsalecus sp.	0.00 21		
Chlorophthalmus sp.	0.00 3		
Total	108.60	100.00	

DATE: 12/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 823
 POSITION: Lat N 1140
 TIME 104:25:00 05:35:00 60 (min) Purpose code: 3
 LOG 1612.40 1615.80 3.40 Area code: 1 3
 FDEPTH: 337 350 GearCond.code: 1
 BDEPTH: 337 350 Validity code:
 Towing dir: 280° Wire out: 1050 m Speed: 32 kn*10
 Sorted: 19 Kg Total catch: 47.81 CATCH/HOUR: 47.81

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Coelorinchus sp	18.40 364	38.49	
Steindachneria argenta	5.00 214	10.46	
Pontinus longispinnis	4.00 24	8.37	
Argentina sp.	4.00 232	8.37	
Lophius gastrophus	4.00 1	8.37	
Polymixia lowei	3.40 36	7.11	
Torpedo nobiliana	2.50 1	5.23	
Squalus biainvilei	1.70 1	3.56	
Illex coindacti	1.20 8	2.51	
Hildebrandia sp.	1.00 220	2.09	476
Merluccius albidus	1.00 3	2.09	
Parapenaeus longirostris	0.80 140	1.67	475
Bembrops anatrostris	0.30 14	0.63	
Hildebrandia sp.	0.20 4	0.42	
Synagrops sp.	0.10 12	0.21	
Cyrtopsis roseus	0.10 20	0.21	
Argyropolecus aculeatus	0.06 48	0.13	
NEPHROPIDAE	0.05 5	0.10	
Symphurus sp	0.00 2		
Pocillopsetta sp	0.00 2		
Gonostoma elongatum	0.00 8		
MYCTOPHIDAE	0.00 8		
PANDALIDAE	0.00 3		
Plesionika edwardsii	0.00 6		
Zenion hololepis	0.00 2		
Epigonus sp	0.00 24		
Total	47.81	100.02	

DATE: 12/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 824
 POSITION: Lat N 1135
 TIME 107:05:00 07:25:00 30 (min) Purpose code: 3
 LOG 1626.10 1627.80 1.70 Area code: 1 3
 FDEPTH: 159 153 GearCond.code: 1
 BDEPTH: 159 153 Validity code:
 Towing dir: 282° Wire out: 750 m Speed: 34 kn*10
 Sorted: 23 Kg Total catch: 23.67 CATCH/HOUR: 47.34

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Pristipomoides macrocephalus	12.60 92	26.62	477
Trachurus lathami	8.00 36	16.30	478
Caulolatilus intermedius	5.20 14	10.98	
Rhombolites aurorubens	4.60 18	9.80	
Trichurus lepturus	4.40 6	9.29	
Loligo paelai	2.80 8	5.91	
Hemanthias leptus	2.30 8	4.86	
Pomadasys croco	1.30 2	2.75	
Fistularia petimba	1.20 8	2.53	
Octopus vulgaris	0.80 2	1.69	
Epinephelus flavolimbatus	0.80 2	1.69	
Pontinus longispinnis	0.60 2	1.27	
Saurida normani	0.60 10	1.27	
Selene spixii	0.60 2	1.27	
Prionotus beani	0.50 6	1.06	
Synodus poeyi	0.40 8	0.84	
Priacanthus arenatus	0.30 2	0.63	
Pontinus castor	0.20 2	0.42	
Peristedion sp	0.10 4	0.21	
Penaeus brasiliensis	0.00 2		
Total	47.34	93.99	

DATE: 12/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 825
 POSITION: Lat N 1135
 TIME 108:45:00 09:10:00 25 (min) Purpose code: 3
 LOG 1636.20 1637.20 1.00 Area code: 1 3
 FDEPTH: 49 54 GearCond.code: 1
 BDEPTH: 49 54 Validity code:
 Towing dir: 300° Wire out: 250 m Speed: 30 kn*10
 Sorted: 22 Kg Total catch: 59.90 CATCH/HOUR: 166.32

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Lutjanus synagris	52.80 115	31.75	481
Eucinostomus argenteus	26.40 595	15.87	479
Rhombolites aurorubens	19.20 43	11.54	480
Scomberomorus cavalla	13.20 2	7.94	
Calanus penaeus	12.72 14	7.65	
Upeneus parvus	9.36 566	5.63	
Albula nemoptera	5.28 10	3.17	
Acanthostracion quadricornis	4.80 19	2.89	
Paralichthys tropicus	4.32 2	2.60	
Selene vomer	3.60 6	2.16	
Calanus penna	2.40 5	1.44	
Lutjanus analis	2.40 2	1.44	
Pristipomoides macrocephalus	2.40 48	1.44	
Lutjanus purpureus	1.92 7	1.15	
Sycaeus paeillosum	1.44 67	0.87	
Fistularia petimba	1.44 5	0.87	
Lutjanus vivanus	1.20 7	0.72	
Serranus atrobranchus	0.48 67	0.29	
Synodus foetens	0.48 5	0.29	
Prionotus punctatus	0.24 10	0.14	
Priacanthus arenatus	0.24 5	0.14	
Penaeus notialis	0.00 5		
Selar crumenophthalmus	0.00 5		
Penaeus brasiliensis	0.00 19		
Total	166.32	99.99	

DATE: 12/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 826
 POSITION: Lat N 1145
 TIME 110:43:00 11:03:00 20 (min) Purpose code: 3
 LOG 1649.80 1650.80 1.00 Area code: 1 3
 FDEPTH: 252 299 GearCond.code: 1
 BDEPTH: 252 299 Validity code:
 Towing dir: 306° Wire out: 1000 m Speed: 31 kn*10
 Sorted: 20 Kg Total catch: 26.45 CATCH/HOUR: 79.35

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Trichurus lepturus	29.40 72	37.05	482
Synagrops sp.	23.40 1725	29.49	
Saurida normani	7.20 27	9.07	
Illex coindacti	6.00 195	7.56	483
Loligo paelai	2.70 36	3.40	
Pristipomoides macrocephalus	2.40 9	3.02	
Lutjanus synagris	2.10 3	2.65	
Hemanthias leptus	1.95 15	2.46	
Zeniopsis ocellata	1.20 15	1.51	
Acanthostracion quadricornis	0.75 3	0.95	
Peristedion sp	0.75 27	0.95	
Pontinus longispinnis	0.60 6	0.76	
Fistularia petimba	0.30 3	0.38	
Nezumia squilla	0.30 9	0.38	
Peristedion minutum	0.15 3	0.19	
Antigonia combata	0.15 15	0.19	
Argentina sp.	0.00 3		
Bembrops anatrostris	0.00 3		
Pythoichthys sangsinaus	0.00 3		
NEPHROPIDAE	0.00 3		
Antigonia capros	0.00 3		
Total	79.35	100.01	

DATE: 12/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 827
 POSITION: Lat N 1144
 TIME 112:45:00 13:15:00 30 (min) Purpose code: 3
 LOG 1664.40 1666.00 1.60 Area code: 1 3
 FDEPTH: 26 24 GearCond.code: 1
 BDEPTH: 26 24 Validity code:
 Towing dir: 320° Wire out: 150 m Speed: 31 kn*10
 Sorted: 25 Kg Total catch: 25.10 CATCH/HOUR: 50.20

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Calanus penna	22.00 76	43.82	484
Lutjanus analis	17.00 18	33.86	485
Lutjanus synagris	4.00 16	7.97	
Scomberomorus cavalla	2.20 2	4.38	
Loligo paelai	1.80 336	3.59	
Acanthostracion quadricornis	1.20 4	2.39	
Fistularia petimba	1.20 4	2.39	
Eucinostomus argenteus	0.80 8	1.59	
Total	50.20	99.99	

DATE: 12/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 828
 POSITION: Lat N 1154
 TIME 114:15:00 14:45:00 30 (min) Purpose code: 3
 LOG 1674.00 1675.40 1.40 Area code: 1 3
 FDEPTH: 53 53 GearCond.code: 1
 BDEPTH: 53 53 Validity code:
 Towing dir: 335° Wire out: 250 m Speed: 29 kn*10
 Sorted: 70 Kg Total catch: 70.10 CATCH/HOUR: 140.20

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Lutjanus synagris	35.00 74	24.96	486
Lutjanus analis	29.40 28	20.97	487
Eucinostomus argenteus	17.40 82	12.41	488
Rhombolites aurorubens	15.00 144	10.70	489
Lutjanus purpureus	8.60 36	6.13	490
Priacanthus arenatus	6.00 16	4.28	
Loligo paelai	5.80 706	4.14	
Scomberomorus cavalla	4.50 2	3.21	
Upeneus parvus	4.30 270	3.07	
Ballistes vetula	4.00 2	2.85	
Calanus penna	3.40 8	2.43	
Lutjanus vivanus	1.60 4	1.14	
Selar crumenophthalmus	1.30 46	0.93	
Acanthostracion quadricornis	1.00 2	0.71	
Selene spixii	1.00 2	0.71	
Prionotus punctatus	1.00 4	0.71	
Saurida normani	0.40 2	0.29	
Fistularia petimba	0.30 4	0.21	
Caranx crysos	0.20 2	0.14	
Total	140.20	99.99	

DATE: 12/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 829
 POSITION: Lat N 1203
 TIME 116:05:00 16:20:00 15 (min) Purpose code: 3
 LOG 1686.60 1687.10 0.50 Area code: 1 3
 FDEPTH: 50 44 GearCond.code: 8
 BDEPTH: 50 44 Validity code: 9
 Towing dir: 320° Wire out: 250 m Speed: 23 kn*10
 Sorted: 13 Kg Total catch: 13.10 CATCH/HOUR: 52.40

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Lutjanus analis	37.60 36	71.76	491
Lachnolaimus maximus	8.00 4	15.27	
Ballistes vetula	6.80 4	12.98	
Total	52.40	100.01	

PROJECT STATION: 830
 DATE: 12/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1220 Long W 7008
 TIME : 20:00:00 20:30:00 30 (min) Purpose code: 3
 LOG : 1714.40 1715.80 1.40 Area code : 1 3
 FDEPTH: 38 53 GearCond. code: 1
 BDEPTH: 38 53 Validity code:
 Towing dir: 294° Wire out: 200 m Speed: 26 kn*10
 Sortad: 28 Kg Total catch: 131.80 CATCH/HOUR: 263.60

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Calanus penna	32.70	84	12.41
Eucinostomus argenteus	32.10	1030	12.18
Lutjanus analis	28.80	40	10.93
Priacanthus arenatus	20.10	156	7.63
Lutjanus griseus	19.60	26	7.44
Balistes capricornis	18.00	24	6.83
Acanthostracion quadricornis	18.00	60	6.83
Rhombolites aurorubens	16.90		6.41
Lutjanus synagris	13.00	36	4.93
Colinus pennatula	12.30	30	4.67
Albula vulpes	12.00	18	4.25
Trachinocephalus myops	12.00	156	4.55
Upeneus parvus	11.70	602	4.44
Haemulon steindachneri	9.00	54	3.41
Sarola rivoliensis	2.40	12	0.91
Syacium micurum	2.10	84	0.80
Pristipomoides macrophthalmus	0.90	30	0.34
Chloroscombrus chrysurus	0.60	6	0.23
Penaeus brasiliensis	0.50	14	0.19
Sardinella aurita	0.30	6	0.11
Haemulon boschmae	0.30	24	0.11
Ophidion holbrookii	0.30	12	0.11
Symphurus sp	0.00	12	
Bothus lunatus	0.00	12	
Porichthys pauciradiatus	0.00	192	
Synodus poeyi	0.00	66	
Prionotus stearnsi	0.00	30	
Prionotus punctatus	0.00	6	
Diplectrum formosum	0.00	36	
Diplectrum bivittatum	0.00	18	
Dactylopterus volitans	0.00	12	
Lepohidium pharomystax	0.00	24	
Total	263.60	100.01	

PROJECT STATION: 833
 DATE: 12/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1223 Long W 7025
 TIME : 01:05:00 02:05:00 30 (min) Purpose code: 3
 LOG : 1739.40 1741.00 1.60 Area code : 1 3
 FDEPTH: 73 73 GearCond. code: 1
 BDEPTH: 73 73 Validity code:
 Towing dir: 270° Wire out: 350 m Speed: 31 kn*10
 Sortad: 10 Kg Total catch: 43.14 CATCH/HOUR: 86.28

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Etrumeus teres	22.00	896	25.50
Upeneus parvus	14.40	1180	16.89
Pristipomoides macrophthalmus	12.24	402	14.19
Lepohidium profundorum	5.76	468	6.68
Penaeus brasiliensis	5.00	132	5.80
Serranus phoebe	3.60	122	4.17
Sphyræna picudilla	3.20	20	3.71
Trachurus lathami	2.88	44	3.34
Porichthys pauciradiatus	2.88	280	3.34
Loligo paelei	2.16	44	2.50
Prionotus stearnsi	2.16	172	2.50
Eucinostomus argenteus	1.44	23	1.67
Hoplinnis sp	1.44	94	1.67
Priacanthus arenatus	1.44	9	1.67
Synodus poeyi	1.20	32	1.39
Scomber japonicus	1.08	8	1.25
Hildebrandia sp.	1.08	22	1.25
Caulolatilus intermedius	0.72	6	0.83
Trichurus lepturus	0.60	2	0.70
Penaeus subtilis	0.60	8	0.70
Equetus lanceolatus	0.40	2	0.46
Total	86.28	100.01	

PROJECT STATION: 834
 DATE: 12/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1223 Long W 7033
 TIME : 03:00:00 03:30:00 30 (min) Purpose code: 3
 LOG : 1746.60 1748.30 1.70 Area code : 1 3
 FDEPTH: 67 67 GearCond. code: 1
 BDEPTH: 67 67 Validity code:
 Towing dir: 270° Wire out: 325 m Speed: 30 kn*10
 Sortad: 7 Kg Total catch: 71.65 CATCH/HOUR: 143.30

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Eucinostomus argenteus	28.80	624	20.10
Pristipomoides macrophthalmus	24.00	768	16.75
Haemulon steindachneri	11.20	64	7.82
Rhombolites aurorubens	9.40	84	6.56
Etrumeus teres	8.00	208	5.58
Trachurus lathami	8.00	256	5.58
Upeneus parvus	8.00	224	5.58
Priacanthus arenatus	7.00	36	4.88
Sardinella aurita	4.80	96	3.35
Saurida normani	4.00	8	2.79
Haemulon boschmae	3.20	144	2.23
APOGONIDAE	3.20	352	2.23
Synodus poeyi	3.20	16	2.23
Penaeus brasiliensis	3.20	80	2.23
Parques sp	2.40	32	1.67
Paralichthys tropicus	2.00	4	1.40
Cyclopssetta chittendeni	2.00	6	1.40
Dactylopterus volitans	1.60	32	1.12
Lutjanus synagris	1.00	2	0.70
Lagocephalus laevigatus	1.00	2	0.70
Porichthys pauciradiatus	0.80	80	0.56
Serranus phoebe	0.80	64	0.56
Trichurus lepturus	0.60	2	0.42
Fistularia petimba	0.30	2	0.21
Paracottus brachypterus	0.00	16	
Prionotus roseus	0.00	32	
Prionotus stearnsi	0.00	48	
Total	143.30	100.00	

PROJECT STATION: 835
 DATE: 12/ 9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1234 Long W 7047
 TIME : 08:05:00 08:35:00 30 (min) Purpose code: 3
 LOG : 1784.70 1786.10 1.40 Area code : 1 3
 FDEPTH: 75 75 GearCond. code: 1
 BDEPTH: 75 75 Validity code:
 Towing dir: 190° Wire out: 400 m Speed: 31 kn*10
 Sortad: 20 Kg Total catch: 20.75 CATCH/HOUR: 41.50

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Upeneus parvus	32.00	1858	77.11
Priacanthus arenatus	3.30	36	7.95
Pristipomoides macrophthalmus	3.00	112	7.23
Eucinostomus argenteus	1.70	30	4.10
Trachurus lathami	0.40	18	0.96
Fistularia petimba	0.40	6	0.96
Saurida normani	0.20	2	0.48
Loligo paelei	0.20	10	0.48
Loligo plei	0.20	8	0.48
Synodus poeyi	0.10	4	0.24
Hoplinnis sp	0.00	4	
Hippocampus sp	0.00	2	
Prionotus stearnsi	0.00	2	
Dactylopterus volitans	0.00	2	
Total	41.50	99.99	

PROJECT STATION: 832
 DATE: 12/ 9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1227 Long W 7019
 TIME : 23:30:00 24:00:00 30 (min) Purpose code: 1
 LOG : 1729.40 1730.80 1.40 Area code : 1 3
 FDEPTH: 35 35 GearCond. code: 1
 BDEPTH: 75 75 Validity code:
 Towing dir: 270° Wire out: 175 m Speed: 32 kn*10
 Sortad: 36 Kg Total catch: 90.50 CATCH/HOUR: 181.00

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Etrumeus teres	121.50	7922	67.13
Anchoa lyolepis	42.00	4952	23.20
Auxis thazard	10.00	6	5.32
Sphyræna guachancho	3.00	6	1.66
Scomber japonicus	3.00	50	1.66
Engraulis eurystole	1.00	106	0.55
Sardinella aurita	0.50	10	0.28
Priacanthus arenatus	0.00	6	
Prionotus stearnsi	0.00	10	
Total	181.00	100.00	

DATE: 13/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 836
 start stop duration POSITION: Lat N 1223
 TIME 110130:00 10150:00 20 (min) Purpose code: 3 Long W 7047
 LOG 11799.90 1800.70 0.80 Area code 1 3
 FDEPTH: 67 67 GearCond.code: 1
 BDEPTH: 67 67 Validity code:
 Towing dir: 190° Wire out: 350 m Speed: 32 kn*10
 Sorted: 29 Kg Total catch: 164.51 CATCH/HOUR: 493.53

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Lutjanus analis	111.90 42	22.67	506
Sardinella aurita	39.00 2871	20.06	508
Seriola dumerilii	43.50 12	8.91	
Haemulon boschma	29.25 33	5.93	
Scomber japonicus	22.05 657	4.47	
Lutjanus purpurus	21.75 27	4.41	504
Haemulon aurolineatum	21.15 162	4.29	
Upeneus parvus	19.35 1701	3.92	
Lutjanus synagris	18.63 39	3.77	505
Eucinostomus argenteus	15.45 432	3.37	
Rhombolites aurorubans	15.00 195	3.04	507
Trachurus lathami	13.50 666	2.74	
Priacanthus arenatus	12.00 39	2.43	
Pristipomoides macrophthalms	7.20 432	1.46	
Fistularia pinnata	5.85 36	1.19	
Haemulon striatum	5.85 99	1.19	
Saurida normani	5.40 18	1.09	
Pagrus pagrus	5.25 12	1.06	
Selar crumenophthalmus	4.95 180	1.00	
Haemulon steindachneri	4.50 36	0.91	
Sphyræna picudilla	3.60 9	0.73	
Decapterus punctatus	3.60 171	0.73	
Loligo plei	1.80 90	0.36	
Calamus penna	1.80 9	0.36	
Diplactrum bivittatum	0.00 9		
Total	493.53	99.99	

DATE: 13/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 837
 start stop duration POSITION: Lat N 1209
 TIME 112130:00 13100:00 30 (min) Purpose code: 3 Long W 7049
 LOG 11816.00 1817.60 1.60 Area code 1 3
 FDEPTH: 63 59 GearCond.code: 1
 BDEPTH: 63 59 Validity code:
 Towing dir: 360° Wire out: 350 m Speed: 31 kn*10
 Sorted: 27 Kg Total catch: 222.80 CATCH/HOUR: 445.60

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Rhizoprionodon porosus	141.40 108	31.73	
Upeneus parvus	90.00 678	20.20	
Lutjanus synagris	28.00 54	6.28	511
Selena vomer	27.00 30	6.06	
Chloroscombrus chrysurus	26.00 10	5.88	510
Lutjanus analis	26.00 12	5.88	
Scomberomorus cavalla	21.00 19	4.71	
Eucinostomus argenteus	12.00 258	2.69	
Priacanthus arenatus	12.00 24	2.69	
Sphyræna guachancho	11.30 16	2.63	
Lutjanus purpurus	10.00 10	2.24	509
Sphyræna picudilla	9.20 29	2.06	
Pagrus pagrus	7.00 20	1.57	
Calamus penna	4.30 8	0.96	
Trachurus lathami	4.20 60	0.94	
Myceroneura venosa	4.00 2	0.90	
Lachnolaimus maximus	4.00 4	0.90	
Synodus foetens	2.40 18	0.54	
Ocyurus chrysurus	1.60 2	0.36	
Saurida normani	1.20 12	0.27	
Diasterus rhombus	1.20 12	0.27	
Pristipomoides macrophthalms	0.60 21	0.13	
Diplactrum bivittatum	0.30 6	0.07	
Sardinella aurita	0.30 18	0.07	
Loligo plei	0.00 6		
Selar crumenophthalmus	0.00 6		
Decapterus punctatus	0.00 6		
Total	445.60	99.98	

DATE: 13/ 9/88 GEAR TYPE: PT No:2 PROJECT STATION: 838
 start stop duration POSITION: Lat N 1209
 TIME 115130:00 16100:00 30 (min) Purpose code: 1 Long W 7037
 LOG 11835.40 1836.90 1.50 Area code 1 3
 FDEPTH: 40 40 GearCond.code: 3
 BDEPTH: 65 67 Validity code:
 Towing dir: 270° Wire out: 150 m Speed: 31 kn*10
 Sorted: Kg Total catch: CATCH/HOUR:

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

DATE: 13/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 839
 start stop duration POSITION: Lat N 1208
 TIME 116130:00 17105:00 30 (min) Purpose code: 3 Long W 7039
 LOG 11839.60 1841.10 1.50 Area code 1 3
 FDEPTH: 65 68 GearCond.code: 1
 BDEPTH: 65 68 Validity code:
 Towing dir: 90° Wire out: 300 m Speed: 28 kn*10
 Sorted: 48 Kg Total catch: 48.75 CATCH/HOUR: 97.50

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Scomberomorus cavalla	44.00 4	45.13	
Priacanthus arenatus	15.20 142	15.59	512
Loligo plei	10.00 260	10.26	515
Saurida normani	6.00 36	6.15	
Upeneus parvus	6.00 180	6.15	513
Trachurus lathami	4.40 294	4.51	514
Sphyræna picudilla	3.00 16	3.08	
Rhombolites aurorubans	1.40 4	1.44	
Pristipomoides macrophthalms	1.20 28	1.23	
Osichthys colinum	1.00 4	1.03	
Laococephalus laevigatus	1.00 2	1.03	
Eucinostomus argenteus	1.00 18	1.03	
Sphyræna guachancho	0.60 2	0.62	
Chloroscombrus chrysurus	0.50 10	0.51	
Prionotus stearnsi	0.40 10	0.41	
Scomber japonicus	0.40 4	0.41	
Loligo plei	0.30 26	0.31	
Calamus cervicini	0.30 2	0.31	
Ctenosciens gracilicirrhus	0.30 6	0.31	
Sardinella aurita	0.20 2	0.21	
Penaeus brasiliensis	0.10 2	0.10	
Diplactrum bivittatum	0.10 2	0.10	
Prionotus punctatus	0.10 2	0.10	
Total	97.50	100.02	

DATE: 13/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 840
 start stop duration POSITION: Lat N 1208
 TIME 118150:00 19120:00 30 (min) Purpose code: 3 Long W 7023
 LOG 11853.60 1854.30 0.70 Area code 1 3
 FDEPTH: 58 58 GearCond.code: 1
 BDEPTH: 58 58 Validity code:
 Towing dir: 60° Wire out: 300 m Speed: 13 kn*10
 Sorted: 27 Kg Total catch: 93.25 CATCH/HOUR: 186.50

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Priacanthus arenatus	42.00 156	22.52	517
Lutjanus analis	19.40 4	10.40	
Sphyræna picudilla	18.90 90	10.13	
Paralichthys tropicus	16.50 18	8.85	
Upeneus parvus	15.90 852	8.53	516
Synodus poeyi	15.00 1092	8.04	
Sphyræna guachancho	7.80 12	4.18	
Trachurus lathami	6.30 246	3.38	
Selar crumenophthalmus	5.70 42	3.06	
Pomatomus saltatrix	5.70 12	3.06	
Eucinostomus argenteus	5.10 234	2.73	
Synodus foetens	5.10 108	2.73	
Pristipomoides macrophthalms	3.90 18	2.09	
Rhombolites aurorubans	3.90 144	2.09	
Prionotus punctatus	2.40 30	1.29	
Pagrus pagrus	2.10 6	1.13	
Lutjanus synagris	2.10 2	1.13	
Serranus atrorhynchus	1.20 120	0.64	
Prionotus stearnsi	0.90 30	0.48	
Leopoldium profundorum	0.90 54	0.48	
Diplactrum bivittatum	0.90 48	0.48	
Sardinella aurita	0.90 24	0.48	
Chloroscombrus chrysurus	0.90 12	0.48	
Scomber japonicus	0.60 24	0.32	
Styxius micrum	0.30 30	0.16	
Brachyceros sp.	0.00 6		
Brachyceros sp.	0.00 30		
Porichthys pauciradiatus	0.00 36		
Monacanthus ciliatus	0.00 6		
Penaeus notialis	0.00 6		
Total	186.50	99.99	

DATE: 13/ 9/88 GEAR TYPE: PT No:4 PROJECT STATION: 841
 start stop duration POSITION: Lat N 1157
 TIME 121130:00 21145:00 30 (min) Purpose code: 1 Long W 7022
 LOG 11869.50 1871.50 2.00 Area code 1 3
 FDEPTH: 25 15 GearCond.code: 1
 BDEPTH: 42 46 Validity code:
 Towing dir: 207° Wire out: 125 m Speed: 41 kn*10
 Sorted: 47 Kg Total catch: 47.76 CATCH/HOUR: 95.52

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Opisthonema oglinum	64.80 1138	67.84	518
Sardinella aurita	9.70 194	10.15	519
Anchoviella lepidentostole	8.50 1122	8.90	520
Sphyræna guachancho	7.70 12	8.06	
Chloroscombrus chrysurus	1.60 44	1.68	
Sphyræna picudilla	1.40 8	1.47	
Eucinostomus argenteus	0.60 24	0.63	
Orthopristis ruber	0.40 2	0.42	
Selar crumenophthalmus	0.20 2	0.21	
Brachyceros sp.	0.20 290	0.21	
Saurida normani	0.12 2	0.13	
Upeneus parvus	0.10 22	0.10	
Decapterus macarellus	0.00 10		
Decapterus punctatus	0.00 2		
Dactylopterus volitans	0.00 2		
Prionotus stearnsi	0.00 1		
Trachurus lathami	0.00 2		
Total	95.52	100.01	

DATE: 13/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 842
 start stop duration POSITION: Lat N 1156
 TIME 122125:00 22155:00 30 (min) Purpose code: 3 Long W 7024
 LOG 11870.00 1874.30 1.30 Area code 1 3
 FDEPTH: 49 51 GearCond.code: 1
 BDEPTH: 49 51 Validity code:
 Towing dir: 272° Wire out: 250 m Speed: 30 kn*10
 Sorted: 24 Kg Total catch: 37.34 CATCH/HOUR: 174.68

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Upeneus parvus	41.10	23.53	
Synodus poeyi	27.00	15.46	
Sphyræna picudilla	18.40	10.4	
Sphyræna picudilla	14.10	6.6	
Eucinostomus argenteus	11.10	3.84	
Penaeus brasiliensis	8.60	4.92	521
Pristipomoides macrophthalms	8.10	4.64	
Trachurus lathami	5.10	2.92	
Priacanthus arenatus	5.10	2.92	
Haemulon steindachneri	4.80	2.75	
Diplactrum bivittatum	3.30	1.89	
Rhombolites aurorubans	3.30	1.89	
Chloroscombrus chrysurus	3.00	1.72	
Serranus atrorhynchus	3.00	1.72	
Leopoldium profundorum	2.70	1.55	
Prionotus punctatus	2.40	1.37	
Sardinella aurita	2.10	1.20	
Penaeus subtilis	1.20	0.69	522
Ophiodon sp.	1.20	0.69	
Loligo plei	1.20	0.69	
Ariosoma anale	1.20	0.69	
Sarranus phoebe	1.20	0.69	
Ancylometta quadrocellata	0.90	0.52	
Porichthys pauciradiatus	0.90	0.52	
Orthopristis ruber	0.90	0.52	
Symphurus diomedianus	0.60	0.34	
Prionotus stearnsi	0.60	0.34	
Hildebrandia flava	0.60	0.34	
Haemulon sp.	0.30	0.17	
Pseudupeneus maculatus	0.30	0.17	
Penaeus notialis	0.20	0.11	523
Diplobatus guamachensis	0.12	0.07	
Sphaeroides testudineus	0.06	0.03	
Loligo plei	0.00		
Cyclopaetta chittendani	0.00		
Scorpaena sp.	0.00		
Dactylopterus volitans	0.00		
Anchoviella lepidentostole	0.00		
Total	174.68	100.01	

DATE: 11/4/98 PROJECT STATION: 843
 start stop duration GEAR TYPE: BT No:1 POSITION: Lat N 1159 Long W 7036
 TIME 10:10:00 10:40:00 30 (min) Purpose code: 3
 LOG 1895.10 1896.70 1.60 Area code: 1 3
 FDEPTH: 68 70 GearCond. code: 1
 BDEPTH: 68 70 Validity code: 1
 Towing dir: 280° Wire out: 350 m Speed: 34 kn*10
 Sorted: 8 Kg Total catch: 119.32 CATCH/HOUR: 238.64

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Leopoldium sp	66.60	27.91	
Synodus poeyi	37.00	15.50	
Upeneus parvus	25.90	10.85	
Serranus atrobranchus	19.50	8.14	
Loligo paelei	14.90	6.20	
SHELLFISH	14.80	6.20	
Sphyrana picudilla	10.80	4.53	
Prionotus stearnsi	9.24	3.87	
Pristigaster macropthalmus	9.24	3.87	
Chirocentron bleekermanus	7.40	3.10	
Sardinella aurita	7.40	3.10	
Hildebrandia flava	5.54	2.32	
Trachurus lathami	3.70	1.55	
Penaeus notialis	2.00	0.84	524
Prionotus roseus	1.84	0.77	
Eucinostomus argenteus	1.84	0.77	
Ctenosciencia gracilicirrhus	1.84	0.77	
Penaeus subtilis	0.20	0.08	
Cauloastilus sp	0.00	0.00	
Saurida normani	0.00	0.00	
Porichthys pauciradiatus	0.00	0.00	
Total	238.64	99.98	

DATE: 11/4/98 PROJECT STATION: 847
 start stop duration GEAR TYPE: BT No:1 POSITION: Lat N 1139 Long W 7058
 TIME 10:10:00 10:40:00 30 (min) Purpose code: 3
 LOG 1943.60 1944.80 1.20 Area code: 1 3
 FDEPTH: 22 20 GearCond. code: 1
 BDEPTH: 22 20 Validity code: 1
 Towing dir: 270° Wire out: 100 m Speed: 27 kn*10
 Sorted: 87 Kg Total catch: 87.00 CATCH/HOUR: 208.60

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Chloroscombrus chrysurus	101.28	48.51	529
Trichiurus lepturus	27.60	13.22	
Anchoa filifera	19.68	9.43	
Loligo paelei	12.00	5.75	
Lutjanus synagris	10.44	5.00	
Chirocentron bleekermanus	7.68	3.68	
Microgogonias furnieri	7.68	3.68	
Scomberomorus brasiliensis	7.44	3.56	
Sphyrana picudilla	5.82	2.64	
Cynoscion leirarchus	2.64	1.26	
Oligoplites paloneta	1.80	0.86	
Peprilus paru	1.44	0.69	
Opisthonema oglinum	1.20	0.57	
Rhizoprionodon porosus	1.08	0.52	
Cynoscion jamaicensis	0.48	0.23	
Selene spixii	0.36	0.17	
Synodus foetens	0.24	0.11	
Diapterus rhombus	0.24	0.11	
Total	208.60	99.99	

DATE: 11/4/98 PROJECT STATION: 844
 start stop duration GEAR TYPE: PT No:4 POSITION: Lat N 1205 Long W 7041
 TIME 10:21:00 10:30:00 30 (min) Purpose code: 1
 LOG 1894.90 1896.40 1.50 Area code: 1 3
 FDEPTH: 0 0 GearCond. code: 1
 BDEPTH: 64 64 Validity code: 1
 Towing dir: 70° Wire out: 75 m Speed: 29 kn*10
 Sorted: Kg Total catch: CATCH/HOUR:

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

DATE: 11/4/98 PROJECT STATION: 848
 start stop duration GEAR TYPE: BT No:1 POSITION: Lat N 1119 Long W 7111
 TIME 11:20:00 11:50:00 30 (min) Purpose code: 3
 LOG 1956.80 1958.20 1.40 Area code: 1 3
 FDEPTH: 15 16 GearCond. code: 1
 BDEPTH: 15 16 Validity code: 1
 Towing dir: 260° Wire out: 100 m Speed: 27 kn*10
 Sorted: 41 Kg Total catch: 41.60 CATCH/HOUR: 83.20

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Chloroscombrus chrysurus	32.00	38.46	530
Opisthonema oglinum	13.60	16.35	531
Lolligoncula brevis	11.20	13.46	
Microgogonias furnieri	6.00	7.21	
Trichiurus lepturus	5.00	6.01	
Lutjanus synagris	4.00	4.81	
Lycengraulis grossidens	3.00	3.61	532
Trachinotus carolinus	2.80	3.37	
Pomatomus saltatrix	1.40	1.68	
Diapterus rhombus	1.20	1.44	
Rhizoprionodon porosus	0.80	0.96	
Scomberomorus cavalla	0.80	0.96	
Acanthostracion quadricornis	0.40	0.48	
Peprilus paru	0.40	0.48	
Synodus poeyi	0.20	0.24	
Selene spixii	0.20	0.24	
Selene vomer	0.20	0.24	
Total	83.20	100.00	

DATE: 11/4/98 PROJECT STATION: 845
 start stop duration GEAR TYPE: BT No:1 POSITION: Lat N 1159 Long W 7044
 TIME 10:41:50 10:44:50 30 (min) Purpose code: 3
 LOG 1908.40 1909.90 1.50 Area code: 1 3
 FDEPTH: 57 56 GearCond. code: 1
 BDEPTH: 57 56 Validity code: 1
 Towing dir: 270° Wire out: 250 m Speed: 31 kn*10
 Sorted: 23 Kg Total catch: 23.20 CATCH/HOUR: 46.40

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Leopoldium sp	8.00	17.24	
Saurida normani	6.80	14.66	
Synodus poeyi	6.80	14.66	
Prionotus punctatus	3.20	6.90	
Lutjanus synagris	2.80	6.03	
Loligo paelei	2.40	5.17	
Hildebrandia flava	2.40	5.17	
Sardinella aurita	2.40	5.17	
Penaeus notialis	2.00	4.31	525
Shrimps, small, non comm.	1.80	3.88	
Priacanthus arenatus	1.60	3.45	
Sphyrana guachancho	1.60	3.45	
Eucinostomus argenteus	0.90	1.94	
Diapterus rhombus	0.60	1.29	
Serranus phoebe	0.60	1.29	
Upeneus parvus	0.60	1.29	
Ctenosciencia gracilicirrhus	0.30	0.65	
Pristigaster macropthalmus	0.30	0.65	
Chloroscombrus chrysurus	0.30	0.65	
Trachurus lathami	0.30	0.65	
Decapterus punctatus	0.30	0.65	
Penaeus brasiliensis	0.20	0.43	527
Pomatus subtilis	0.20	0.43	526
Bragmaceros sp.	0.00	0.00	
Diplectrum bivittatum	0.00	0.00	
Porichthys pauciradiatus	0.00	0.00	
Prionotus stearnsi	0.00	0.00	
Total	46.60	100.44	

DATE: 11/4/98 PROJECT STATION: 849
 start stop duration GEAR TYPE: BT No:1 POSITION: Lat N 1139 Long W 7123
 TIME 13:10:00 13:40:00 30 (min) Purpose code: 3
 LOG 1968.60 1970.30 1.70 Area code: 1 3
 FDEPTH: 22 23 GearCond. code: 1
 BDEPTH: 22 23 Validity code: 1
 Towing dir: 230° Wire out: 100 m Speed: 30 kn*10
 Sorted: 3 Kg Total catch: 43.07 CATCH/HOUR: 86.14

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Chirocentron bleekermanus	23.00	26.70	
Opisthonema oglinum	14.40	16.72	
Microgogonias furnieri	13.40	15.56	533
Trichiurus lepturus	7.20	8.36	
Anchoa sp. n.	5.76	6.64	
Scomberomorus cavalla	5.40	6.27	
Lolligoncula brevis	4.32	5.02	
Lutjanus synagris	3.40	3.95	
Trichiurus lepturus	3.00	3.48	
Harengula jaguana	2.16	2.51	
Opisthonema oglinum	1.20	1.39	
Caranx hippos	1.00	1.16	
Chloroscombrus chrysurus	0.70	0.81	
Oligoplites saliens	0.60	0.70	
Synodus poeyi	0.60	0.70	
Pellona harroweri	0.00	0.00	
Total	86.14	100.02	

DATE: 11/4/98 PROJECT STATION: 846
 start stop duration GEAR TYPE: BT No:1 POSITION: Lat N 1149 Long W 7047
 TIME 10:54:00 11:24:00 30 (min) Purpose code: 3
 LOG 1922.00 1922.40 0.40 Area code: 1 3
 FDEPTH: 45 47 GearCond. code: 1
 BDEPTH: 45 47 Validity code: 1
 Towing dir: 360° Wire out: 200 m Speed: 13 kn*10
 Sorted: 46 Kg Total catch: 265.70 CATCH/HOUR: 1062.80

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Anchoa filifera	397.20	36.43	
Sphyrana picudilla	374.00	35.19	528
Chirocentron bleekermanus	104.40	9.82	
Chloroscombrus chrysurus	62.80	5.91	
Selene spixii	55.20	5.19	
Salar crumenophthalmus	20.80	1.96	
Microgogonias furnieri	18.80	1.77	
Scomberomorus cavalla	13.40	1.26	
Peprilus paru	11.20	1.05	
Scomberomorus brasiliensis	3.40	0.32	
Penaeus notialis	3.20	0.30	
Opisthonema oglinum	2.40	0.23	
Leopoldium profundorum	1.20	0.11	
Synodus poeyi	1.20	0.11	
Porichthys pauciradiatus	1.20	0.11	
Opisthonema oglinum	1.20	0.11	
Diplectrum radiale	1.20	0.11	
Symphurus diomedianus	0.00	0.00	
Syacium sp.	0.00	0.00	
Ctenosciencia gracilicirrhus	0.00	0.00	
Selene vomer	0.00	0.00	
Total	1062.80	99.98	

DATE: 11/4/98 PROJECT STATION: 850
 start stop duration GEAR TYPE: BT No:1 POSITION: Lat N 1131 Long W 7129
 TIME 11:45:00 15:25:00 30 (min) Purpose code: 3
 LOG 1980.50 1982.00 1.50 Area code: 1 3
 FDEPTH: 20 19 GearCond. code: 1
 BDEPTH: 20 19 Validity code: 1
 Towing dir: 210° Wire out: 100 m Speed: 30 kn*10
 Sorted: 20 Kg Total catch: 113.25 CATCH/HOUR: 226.50

SPECIES	CATCH/HOUR weight	% OF TOT. C numbers	SAMP. NO.
Chloroscombrus chrysurus	129.50	57.17	538
Scomberomorus cavalla	22.00	9.71	535
Elops saurus	18.00	7.95	536
Microgogonias furnieri	15.30	6.75	534
Sphyrana guachancho	10.00	4.42	537
Rhinoptera bonasus	7.00	3.09	
Lutjanus synagris	6.20	2.74	
Diapterus rhombus	6.00	2.65	
Opisthonema oglinum	5.50	2.43	
Lolligoncula brevis	4.50	1.99	
Synodus poeyi	1.50	0.66	
Peprilus paru	1.00	0.44	
Trichiurus lepturus	0.00	0.00	
Echeneis naucrates	0.00	0.00	
Total	226.50	100.00	

PROJECT STATION: 855
 DATE: 14/9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1117 Long W 7127
 TIME 17:00:00 17:30:00 30 (min) Purpose code: 3
 LOG 1995.60 1997.00 1.40 Area code: 1 3
 FDEPTH: 13 13 GearCond. code: 9
 BDEPTH: 13 13 Validity code: 1
 Towing dir: 80° Wire out: 100 m Speed: 28 kn*10
 Sorted: 69 Kg Total catch: 424.05 CATCH/HOUR: 848.10

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Anchoa sp	192.60	716	22.71	
Trichlorurus lepturus	178.20	716	21.01	
Chirocentrodon bleakerianus	91.40	17042	10.78	
Pellona harroweri	82.60	32572	9.74	
Chloroscombrus chrysurus	75.40	426	8.59	539
Harengula jaguana	45.60	1926	5.38	
Microgogonias furnieri	42.60	94	5.02	540
Diapterus rhombus	36.30	826	4.28	
Opisthonema oglinum	25.80	286	3.04	
Scomberomorus brasiliensis	18.30	22	2.18	
Oligoplites saurus	12.10	56	1.43	541
Oligoplites palometa	12.10	34	1.43	
Peprilus paru	11.60	100	1.37	
Elops saurus	9.40	6	0.99	
Sphyræna guachancho	4.40	4	0.52	
Cathorops spixii	3.70	4	0.44	
Lutjanus synagris	3.00	2	0.35	
Selene spixii	2.20	22	0.26	
Loligo sp	1.60	1100	0.19	
Cetengraulis edentulus	0.00	1012		
Total	848.10		100.01	

PROJECT STATION: 855
 DATE: 15/9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1138 Long W 7026
 TIME 20:20:00 20:50:00 30 (min) Purpose code: 1
 LOG 2105.80 2107.50 1.70 Area code: 1 3
 FDEPTH: 15 15 GearCond. code: 9
 BDEPTH: 42 40 Validity code: 1
 Towing dir: 255° Wire out: 150 m Speed: 34 kn*10
 Sorted: 62 Kg Total catch: 224.60 CATCH/HOUR: 449.20

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Opisthonema oglinum	324.80	4320	72.31	551
Anchoa hepsetus	81.20	45396	18.08	552
Sphyræna guachancho	20.00	28	4.45	
Sphyræna picudilla	10.80	36	2.40	
Scomberomorus cavalla	8.50	5	1.89	
Selar crumenophthalmus	2.40	6	0.93	
Chloroscombrus chrysurus	1.00	28	0.22	
Sardinella aurita	0.40	8	0.09	
Total	449.10		99.97	

PROJECT STATION: 856
 DATE: 15/9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1135 Long W 7035
 TIME 22:00:00 22:30:00 30 (min) Purpose code: 3
 LOG 2114.10 2115.40 1.30 Area code: 1 3
 FDEPTH: 35 35 GearCond. code: 9
 BDEPTH: 35 35 Validity code: 1
 Towing dir: 254° Wire out: 150 m Speed: 26 kn*10
 Sorted: 58 Kg Total catch: 58.50 CATCH/HOUR: 117.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Opisthonema oglinum	41.00	454	35.04	555
Anchoa hepsetus	19.50	1344	16.67	553
Cynoscion jamaicensis	14.60	54	12.48	554
Sphyræna picudilla	6.30	42	5.12	
Chloroscombrus chrysurus	6.10	134	5.21	556
Pomatomus saltatrix	5.00	12	4.27	
Chirocentrodon bleakerianus	4.70	1438	4.02	
Bagre marinus	4.40	2	3.76	
Synodus foetens	3.30	16	2.82	
Sphyræna guachancho	3.00	4	2.56	
Conodon nobilis	2.00	6	1.71	
Lutjanus analis	1.70	2	1.45	
Eucinostomus argenteus	1.70	42	1.45	
Prionotus punctatus	0.70	10	0.60	
Sardinella aurita	0.70	10	0.60	
Priacanthus arenatus	0.60	2	0.51	
Loligo sp	0.40	62	0.34	
Ctenosciæna gracilicirrhus	0.30	12	0.26	
Porichthys pauciradiatus	0.20	16	0.17	
Synodus poeyi	0.10	14	0.09	
Diplectrum bivittatum	0.00	4		
Lepophidium profundorum	0.00	4		
Total	116.30		99.39	

PROJECT STATION: 852
 DATE: 14/9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1128 Long W 7113
 TIME 19:25:00 19:30:00 5 (min) Purpose code: 3
 LOG 2012.80 2013.10 0.30 Area code: 1 3
 FDEPTH: 15 15 GearCond. code: 9
 BDEPTH: 15 15 Validity code: 9
 Towing dir: 45° Wire out: 100 m Speed: 30 kn*10
 Sorted: Kg Total catch: CATCH/HOUR:

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

PROJECT STATION: 853
 DATE: 15/9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1128 Long W 7048
 TIME 20:03:00 20:55:00 20 (min) Purpose code: 3
 LOG 2044.90 2045.60 0.70 Area code: 1 3
 FDEPTH: 24 23 GearCond. code: 9
 BDEPTH: 24 23 Validity code: 1
 Towing dir: 260° Wire out: 100 m Speed: 19 kn*10
 Sorted: 22 Kg Total catch: 74.50 CATCH/HOUR: 223.50

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Anchoa fillifera	54.60	22569	24.43	
Opisthonema oglinum	45.00	534	20.13	543
Chloroscombrus chrysurus	32.40	162	14.50	542
Opisthonema oglinum	23.40	2023	10.47	
Loligo brevis	19.50	1755	8.72	
Sphyræna guachancho	16.80	24	7.52	
Sphyræna picudilla	15.00	126	6.71	544
Chirocentrodon bleakerianus	7.80	1716	3.49	
Scomberomorus brasiliensis	6.00	6	2.68	
Caranx hippos	4.80	6	0.81	
Oligoplites palometa	1.20	6	0.54	
Harengula jaguana	0.00	39		
Total	223.50		100.00	

PROJECT STATION: 857
 DATE: 15/9/88 GEAR TYPE: PT No:4 POSITION: Lat N 1147 Long W 7038
 TIME 23:15:00 23:45:00 30 (min) Purpose code: 1
 LOG 2128.30 2129.70 1.40 Area code: 1 3
 FDEPTH: 21 21 GearCond. code: 9
 BDEPTH: 48 48 Validity code: 1
 Towing dir: 270° Wire out: 175 m Speed: 28 kn*10
 Sorted: 112 Kg Total catch: 112.00 CATCH/HOUR: 224.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Opisthonema oglinum	224.00	4032	100.00	557
Total	224.00		100.00	

PROJECT STATION: 854
 DATE: 15/9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1138 Long W 7024
 TIME 19:00:00 19:30:00 30 (min) Purpose code: 3
 LOG 2100.70 2102.20 1.50 Area code: 1 3
 FDEPTH: 42 42 GearCond. code: 9
 BDEPTH: 42 42 Validity code: 1
 Towing dir: 254° Wire out: 200 m Speed: 28 kn*10
 Sorted: 22 Kg Total catch: 129.50 CATCH/HOUR: 247.00

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Chloroscombrus chrysurus	132.40	5896	53.60	545
Cynoscion leirarchus	16.00	14	6.48	549
Lutjanus analis	13.70	18	5.33	550
Lepophidium profundorum	12.00	624	4.86	
Synodus poeyi	10.80	936	4.37	
Sphyræna guachancho	9.70	16	3.39	
Diplectrum bivittatum	6.00	256	2.43	
Pomatomus saltatrix	5.70	14	2.31	
Prionotus punctatus	5.10	14	2.06	
Orthopristis ruber	3.70	10	1.50	
Sardinella aurita	3.60	64	1.46	
Microgogonias furnieri	2.70	2	1.09	
Cynoscion jamaicensis	2.70	6	1.09	
Synodus foetens	2.40	16	0.97	
Prionotus punctatus	2.00	80	0.81	
Peprilus paru	1.70	2	0.69	
Hemicirrhus americanus	1.70	6	0.69	
Eucinostomus argenteus	1.60	72	0.65	
Loligo pallei	1.60	152	0.65	
Loligo plei	1.60	64	0.65	
Porichthys pauciradiatus	1.60	104	0.65	
Prionotus stearnsi	1.60	128	0.65	
Hemiramphus balao	1.30	2	0.53	
Opisthonema oglinum	1.20	16	0.49	
Penaeus brasiliensis	0.90	24	0.36	546
Paralichthys tropicus	0.80	8	0.32	
Scomber japonicus	0.80	8	0.32	
Penaeus subtilis	0.70	28	0.28	547
Penaeus notialis	0.60	12	0.24	548
Ctenosciæna gracilicirrhus	0.40	40	0.16	
Upeneus parvus	0.40	32	0.16	
Paprilus paru	0.00	8		
Diplectrum radiale	0.00	8		
Serranus atrobanchus	0.00	16		
Total	247.00		100.00	

PROJECT STATION: 858
 DATE: 16/9/88 GEAR TYPE: BT No:1 POSITION: Lat N 1148 Long W 7040
 TIME 00:40:00 01:10:00 30 (min) Purpose code: 3
 LOG 2131.00 2132.70 1.70 Area code: 1 3
 FDEPTH: 46 48 GearCond. code: 9
 BDEPTH: 46 48 Validity code: 1
 Towing dir: 270° Wire out: 250 m Speed: 27 kn*10
 Sorted: 5 Kg Total catch: 70.36 CATCH/HOUR: 140.72

SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Lepophidium profundorum	26.40	1584	18.76	
Synodus poeyi	26.40	2306	18.76	
Chloroscombrus chrysurus	13.00	174	9.24	559
Prionotus punctatus	12.32	18	8.75	
Microgogonias furnieri	11.20	10	7.96	
Shrimps, small, non comm.	8.80	2640	6.25	
Prionotus punctatus	7.00	28	4.97	
Opisthonema oglinum	6.00	66	4.26	558
Lutjanus analis	5.00	6	3.55	
Ctenosciæna gracilicirrhus	3.52	18	2.50	
Synodus poeyi	3.20	14	2.27	
Porichthys pauciradiatus	2.64	52	1.88	
Hildebrandia flava	2.64	300	1.88	
Eucinostomus argenteus	1.76	246	1.25	
Penaeus notialis	1.76	36	1.25	
Penaeus subtilis	1.00	10	0.71	
Lutjanus griseus	1.00	2	0.71	
Rhomboplites aurorubens	0.88	18	0.63	
Upeneus parvus	0.88	18	0.63	
Anchoa fillifera	0.88	176	0.63	
Pristipomoides macrophthalmus	0.88	106	0.63	
Diplectrum bivittatum	0.88	36	0.63	
Trachurus lathami	0.88	18	0.63	
Ocyurus chrysurus	0.80	2	0.57	
Serranus atrobanchus	0.00	18		
Bragmaceros sp.	0.00	88		
Total	140.72		100.01	

PROJECT STATION: 859
 DATE: 16/9/88 GEAR TYPE: PT No: 2 POSITION: Lat N 1149 Long W 7051
 start stop duration
 TIME 10:30:00 03:00:00 30 (min) Purpose code: 1
 LOG 12141.70 2143.00 1.30 Area code: 1 3
 FDEPTH: 20 20 GearCond. code:
 BDEPTH: 40 30 Validity code:
 Towing dir: 270° Wire out: 100 m Speed: 28 kn*10
 Sorted: 33 Kg Total catch: 152.45 CATCH/HOUR: 304.90

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Chirocentrodon bleekeriensis	165.60	120888	54.31
Anchoa filifera	49.40	35568	16.20
Opisthonema oglinum	36.00	352	11.81
Trichurus lepturus	24.20	100	7.94
Sphyræna guachancho	16.00	16	5.90
Scomberomorus brasiliensis	8.10	10	2.66
Peprilus paru	3.60	18	1.18
Total	304.90	100.00	

PROJECT STATION: 860
 DATE: 16/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1150 Long W 7054
 start stop duration
 TIME 10:45:00 04:15:00 30 (min) Purpose code: 3
 LOG 12144.50 2146.20 1.70 Area code: 1 3
 FDEPTH: 31 23 GearCond. code:
 BDEPTH: 31 23 Validity code:
 Towing dir: 270° Wire out: 125 m Speed: 35 kn*10
 Sorted: 36 Kg Total catch: 99.80 CATCH/HOUR: 199.60

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Chirocentrodon bleekeriensis	120.00	31200	60.12
Trichurus lepturus	30.00	130	15.03
Chloroscombrus chrysurus	10.00	36	5.01
Diapterus olisthotomus	9.00	16	4.51
Opisthonema oglinum	5.00	32	2.51
Hemicaranx amblyrhynchus	5.00	10	2.51
Sphyræna guachancho	5.00	4	2.51
Scomberomorus brasiliensis	4.00	6	2.00
Cynoscion leiarchus	3.00	2	1.50
Microponias furnieri	2.60	4	1.30
Cynoscion jamaicensis	2.00	20	1.00
Macrondon ancylodon	1.60	2	0.80
Selene spixii	1.50	10	0.75
Eucinostomus gula	0.50	5	0.25
Penaeus schmitti	0.40	4	0.20
Total	199.60	100.00	

PROJECT STATION: 861
 DATE: 16/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1156 Long W 7055
 start stop duration
 TIME 10:30:00 07:00:00 30 (min) Purpose code: 3
 LOG 12161.00 2162.80 1.80 Area code: 1 3
 FDEPTH: 45 37 GearCond. code:
 BDEPTH: 45 37 Validity code:
 Towing dir: 240° Wire out: 250 m Speed: 32 kn*10
 Sorted: 64 Kg Total catch: 194.10 CATCH/HOUR: 388.20

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Chirocentrodon bleekeriensis	81.60	72696	21.02
Anchoa filifera	67.20	4682	17.31
Chloroscombrus chrysurus	59.10	334	15.22
Cynoscion leiarchus	42.00	48	10.82
Microponias furnieri	22.50	48	5.80
Selene spixii	21.30	252	5.49
Opisthonema oglinum	21.00	168	5.41
Lolliguncula sp	19.20	3168	4.95
Sphyræna picudilla	19.20	138	4.95
Trichurus lepturus	14.70	294	3.79
Scomberomorus brasiliensis	8.10	12	2.09
Lutjanus analis	6.50	6	1.62
Peprilus paru	2.40	12	0.62
Cynoscion jamaicensis	2.10	30	0.54
Albula vulpes	1.50	6	0.39
Synodus foetans	0.00	6	
Eucinostomus melanopterus	0.00	6	
Total	388.20	100.02	

PROJECT STATION: 862
 DATE: 16/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1210 Long W 7058
 start stop duration
 TIME 10:50:00 10:20:00 30 (min) Purpose code: 3
 LOG 12195.30 2166.70 1.40 Area code: 1 5
 FDEPTH: 50 45 GearCond. code:
 BDEPTH: 50 45 Validity code:
 Towing dir: 300° Wire out: 250 m Speed: 27 kn*10
 Sorted: 44 Kg Total catch: 44.75 CATCH/HOUR: 89.50

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Lutjanus synagris	15.20	28	16.98
Lutjanus analis	12.60	2	14.08
Selene vomer	8.40	10	9.39
Scomberomorus brasiliensis	8.20	10	9.16
Chloroscombrus chrysurus	7.40	132	8.27
Lutjanus purpurus	7.00	24	7.82
Loligo sp	6.00	3210	6.70
Upeneus parvus	5.40	428	6.03
Anchoa mitchilli	5.00	626	5.59
Synodus foetans	4.40	28	4.92
Sphyræna guachancho	3.20	4	3.58
Eucinostomus argenteus	2.20	86	2.46
Sphyræna picudilla	2.00	20	2.23
Opisthonema oglinum	1.00	62	1.12
Trichurus lepturus	0.80	8	0.89
Diplactrum bivittatum	0.40	12	0.45
Priacanthus arenatus	0.30	2	0.34
Penaeus notialis	0.00	2	
Trachurus lathami	0.00	2	
Sardinella aurita	0.00	2	
Total	89.50	100.01	

PROJECT STATION: 863
 DATE: 16/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1215 Long W 7002
 start stop duration
 TIME 11:15:00 11:45:00 30 (min) Purpose code: 3
 LOG 12193.50 2194.70 1.20 Area code: 1 5
 FDEPTH: 30 30 GearCond. code:
 BDEPTH: 30 30 Validity code:
 Towing dir: 50° Wire out: 150 m Speed: 23 kn*10
 Sorted: 63 Kg Total catch: 63.55 CATCH/HOUR: 127.10

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Lutjanus synagris	45.60	118	35.88
Balistes capricus	13.00	28	10.86
Priacanthus arenatus	12.20	80	9.60
Calamus penna	7.00	52	5.51
Eucinostomus argenteus	7.00	136	5.51
Lagocephalus laevigatus	7.00	14	5.51
Selene vomer	4.60	6	3.62
Lutjanus analis	4.40	6	3.46
Caranx crysos	4.20	4	3.30
Balistes vetula	4.20	10	3.30
Scomberomorus brasiliensis	3.40	2	2.69
Pomacanthus paru	2.20	18	1.73
Scomberomorus cavalla	2.00	2	1.57
Sphyræna guachancho	1.60	2	1.26
Opisthonema oglinum	1.60	8	1.26
Albula vulpes	1.00	2	0.79
Echeneis naucrates	1.00	2	0.79
Chloroscombrus chrysurus	1.00	18	0.79
Fistularia petimba	0.80	2	0.63
Sphyræna picudilla	0.80	2	0.63
Selar crumenophthalmus	0.60	6	0.47
Rhomboplites aurorubens	0.30	2	0.24
Chionyx taurus	0.20	2	0.16
Acanthostracion quadricornis	0.20	2	0.16
Hemipteronotus novacula	0.20	2	0.16
Diplactrum formosum	0.20	2	0.16
Total	127.10	100.03	

PROJECT STATION: 864
 DATE: 16/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1224 Long W 7100
 start stop duration
 TIME 13:05:00 13:35:00 30 (min) Purpose code: 3
 LOG 12204.20 2205.70 1.50 Area code: 1 5
 FDEPTH: 51 52 GearCond. code:
 BDEPTH: 51 52 Validity code:
 Towing dir: 230° Wire out: 250 m Speed: 33 kn*10
 Sorted: 93 Kg Total catch: 99.10 CATCH/HOUR: 198.20

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Lutjanus analis	53.00	26	28.46
Sardinella aurita	52.00	898	27.93
Rhomboplites aurorubens	13.40	17	7.20
Eucinostomus argenteus	13.40	368	7.20
Lutjanus synagris	8.00	12	4.30
Sphyræna picudilla	7.40	32	3.97
Scomberomorus cavalla	7.00	6	3.76
Upeneus parvus	6.00	320	3.22
Calamus penna	6.00	12	3.22
Lachnolaimus maximus	5.50	2	2.95
Calamus penna	5.00	10	2.69
Ocyurus chrysurus	4.70	8	2.52
Loligo paeleii	2.00	244	1.07
Calamus penna	1.20	12	0.64
Synodus poeyi	0.80	4	0.43
Diplactrum bivittatum	0.40	4	0.21
Trachurus lathami	0.40	4	0.21
Total	186.20	99.98	

PROJECT STATION: 865
 DATE: 16/9/88 GEAR TYPE: BT No: 1 POSITION: Lat N 1230 Long W 7101
 start stop duration
 TIME 15:00:00 15:30:00 30 (min) Purpose code: 3
 LOG 12215.10 2216.60 1.50 Area code: 1 5
 FDEPTH: 66 70 GearCond. code:
 BDEPTH: 66 70 Validity code:
 Towing dir: 280° Wire out: 300 m Speed: 29 kn*10
 Sorted: 20 Kg Total catch: 20.45 CATCH/HOUR: 40.90

SPECIES	CATCH/HOUR	% OF TOT. C	SAMP. NO.
	weight numbers		
Upeneus parvus	9.20	594	22.49
Trachurus lathami	6.60	264	16.14
Loligo paeleii	5.20	300	12.71
Rhomboplites aurorubens	3.60	42	8.80
Priacanthus arenatus	3.40	28	8.31
Lutjanus purpurus	3.00	2	7.33
Eucinostomus argenteus	2.60	68	6.36
Lutjanus synagris	2.00	2	4.89
Fistularia petimba	1.40	6	3.42
Dactylopterus volitans	1.20	2	2.93
Dacapterus punctatus	1.20	24	2.93
Pristigaster macropthalmus	1.00	20	2.44
Diplactrum bivittatum	0.20	4	0.49
Selar crumenophthalmus	0.20	2	0.49
Scomber japonicus	0.10	2	0.24
Total	40.90	99.97	

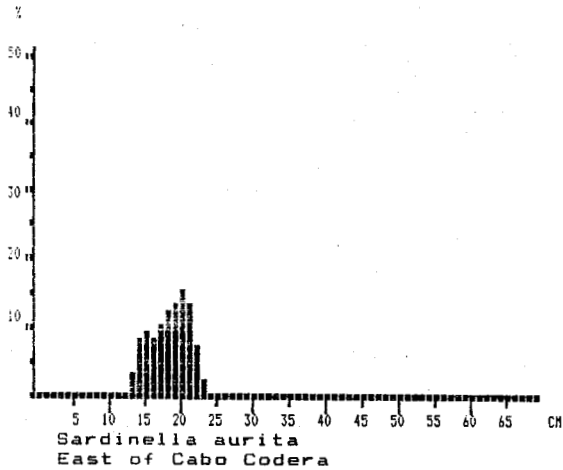
DATE: 16/ 9/88 GEAR TYPE: BT No:1 PROJECT STATION: 866
 start stop duration POSITION: Lat N 1230
 TIME 116140:00 17110:00 30 (min) Purpose code: 3
 LONG 12225.80 2227.30 1.50 Area code: 1 5
 FDEPTH: 63 62 GearCond: code: 1
 BDEPTH: 63 62 Validity code: 1
 Towing dir: 195* Wire out: 325 m Speed: 32 kn*10

Sorted: 83 Kg Total catch: 83.95 CATCH/HOUR: 167.90

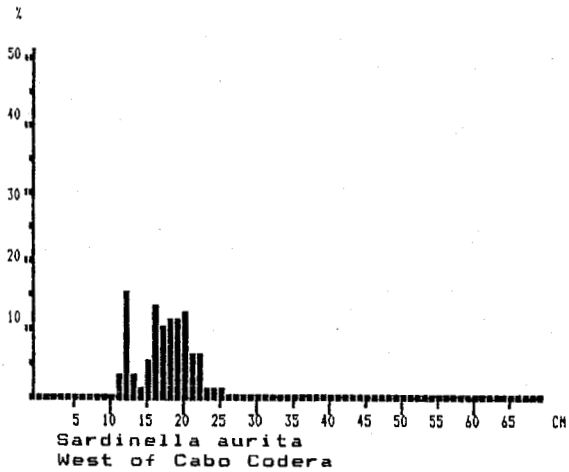
SPECIES	CATCH/HOUR		% OF TOT. C	SAMP. NO.
	weight	numbers		
Lutjanus purpureus	85.80	108	51.10	583
Priacanthus arenatus	20.00	62	11.91	592
Eucinostomus argenteus	11.00	374	6.85	
Bolitaera setulifera	9.80	12	2.24	
Upeneus parvus	5.60	372	3.34	
Calamus pennatula	4.20	8	2.50	
Pristipomoides macrophthalmus	4.00	32	2.38	
Sphyræna guachancho	3.00	6	1.79	
Trachurus lathami	3.00	180	1.79	584
Rhomboilites aurorubens	2.00	78	1.19	
Selar crumenophthalmus	2.00	70	1.19	
Fistularia petimba	1.80	14	1.07	
Mustelus canis	1.60	2	0.95	
Uraspis secunda	1.60	2	0.95	
Caulolatilus intermedius	1.20	10	0.71	
Haemulon steindachneri	1.00	6	0.60	
Haemulon boschnia	0.80	26	0.48	
Pagrus pagrus	0.80	2	0.48	
Ocyurus chrysurus	0.70	4	0.42	
Bacilypterus volitans	0.60	2	0.36	
Loligo pailai	0.60	30	0.36	
Saurida normani	0.30	4	0.18	
Pseudupeneus maculatus	0.30	4	0.18	
Scomber japonicus	0.20	2	0.12	
Diplectrum bivittatum	0.00	12		
Prionotus stearnsi	0.00	2		
Chaetodon sp	0.00	4		
Penaeus notialis	0.00	2		
Synodus poyi	0.00	6		
Synodus foetans	0.00	2		
Total	167.90		100.01	



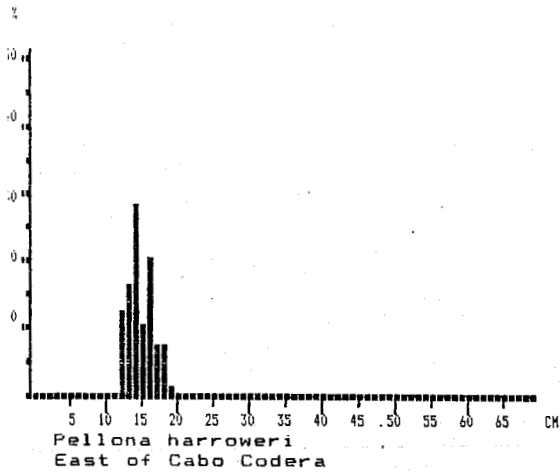
ANNEX 4. POOLED LENGTH DISTRIBUTIONS OF MAIN SPECIES CAUGHT, VENEZUELA.



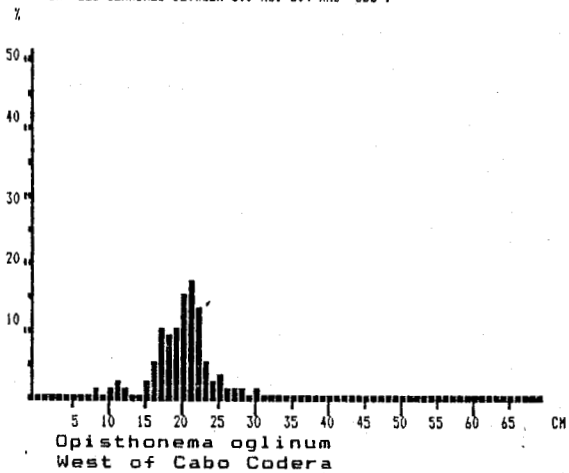
Pooled sample (simple adding)
MEAN LENGTH = 18.23cm N= 1953
NUMBER OF SUBSAMPLES : 20
SAMPLES FOUND BETWEEN ST. NO. 739 AND 799.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



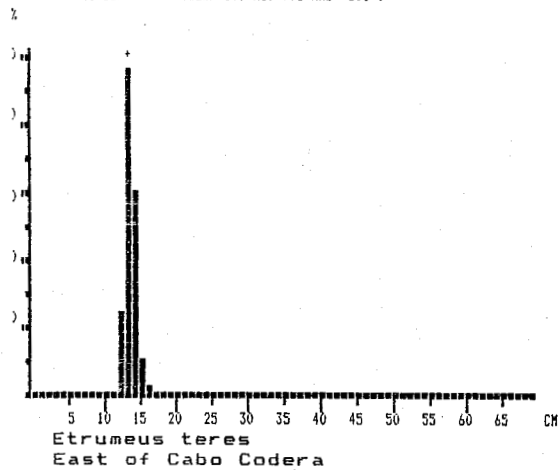
Pooled sample (simple adding)
MEAN LENGTH = 17.10cm N= 224
NUMBER OF SUBSAMPLES : 3
SAMPLES FOUND BETWEEN ST. NO. 836 AND 864.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



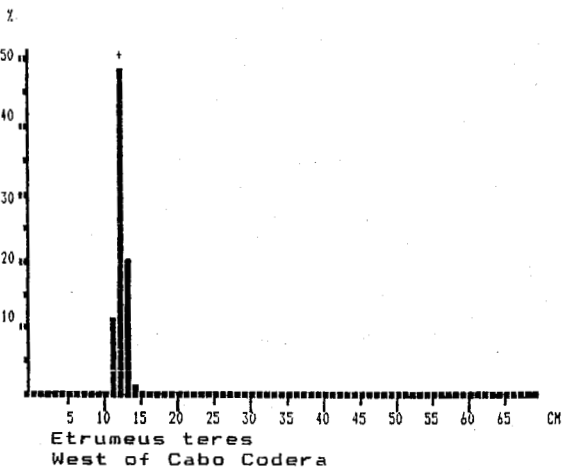
Pooled sample (simple adding)
MEAN LENGTH = 14.63cm N= 115
NUMBER OF SUBSAMPLES : 2
SAMPLES FOUND BETWEEN ST. NO. 752 AND 774.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



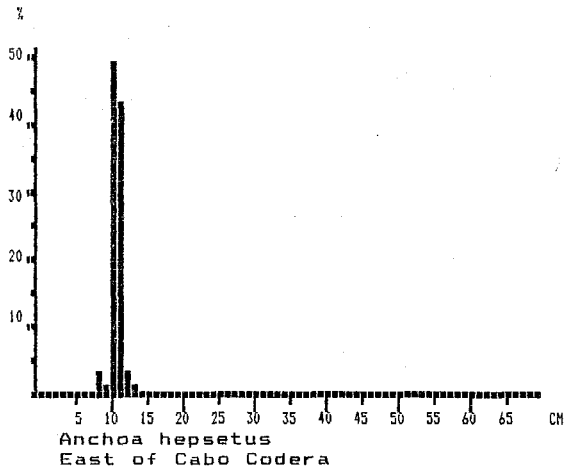
Pooled sample (simple adding)
MEAN LENGTH = 19.77cm N= 767
NUMBER OF SUBSAMPLES : 7
SAMPLES FOUND BETWEEN ST. NO. 841 AND 858.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



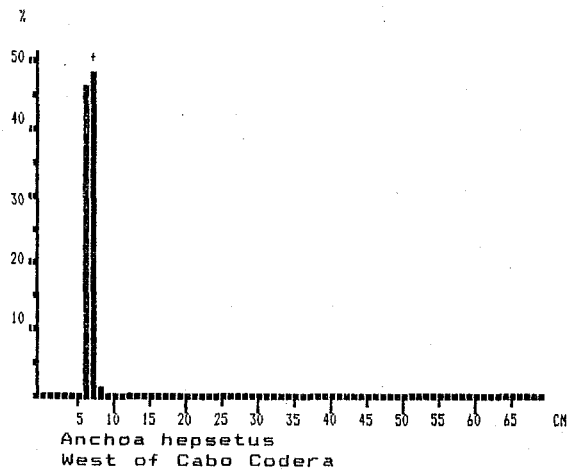
Pooled sample (simple adding)
MEAN LENGTH = 13.30cm N= 573
NUMBER OF SUBSAMPLES : 6
SAMPLES FOUND BETWEEN ST. NO. 735 AND 787.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



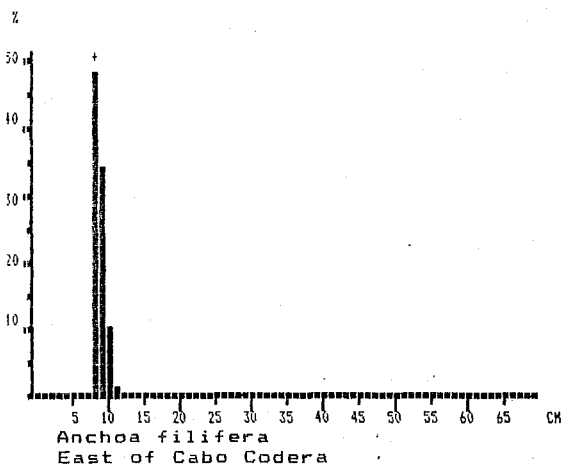
Pooled sample (simple adding)
MEAN LENGTH = 12.11cm N= 163
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 832 AND 832.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



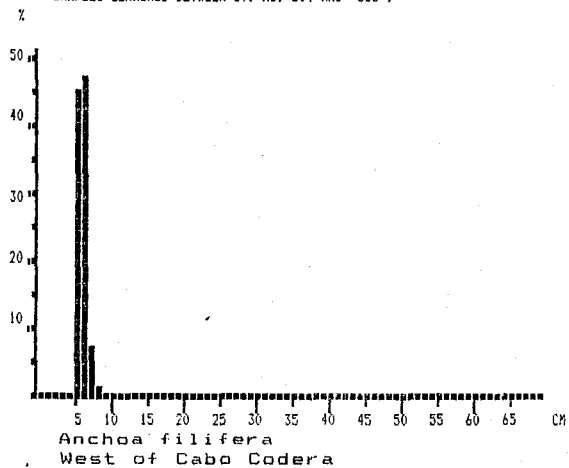
Pooled sample (simple adding)
 MEAN LENGTH = 10.46cm N= 79
 NUMBER OF SUBSAMPLES : 1
 SAMPLES FOUND BETWEEN ST. NO. 747 AND 747.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



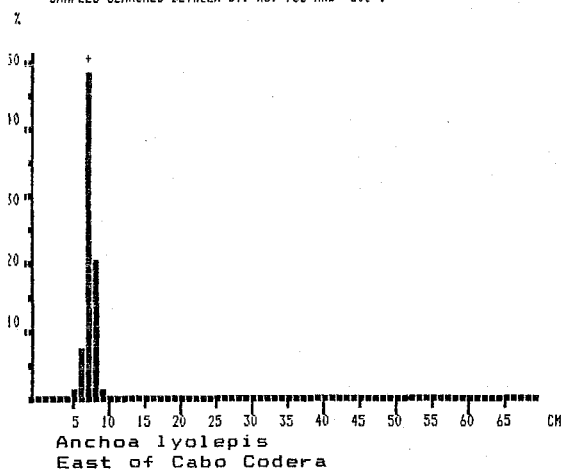
Pooled sample (simple adding)
 MEAN LENGTH = 6.55cm N= 223
 NUMBER OF SUBSAMPLES : 2
 SAMPLES FOUND BETWEEN ST. NO. 855 AND 856.
 SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



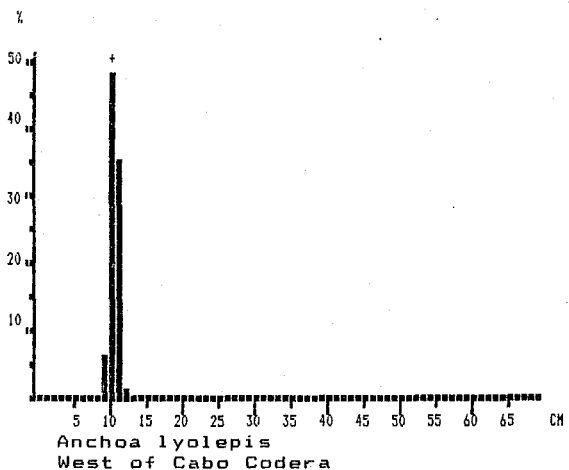
Pooled sample (simple adding)
 MEAN LENGTH = 8.58cm N= 90
 NUMBER OF SUBSAMPLES : 1
 SAMPLES FOUND BETWEEN ST. NO. 747 AND 747.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



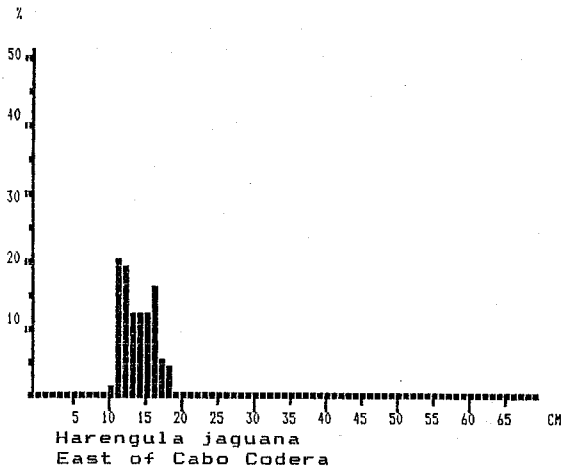
Pooled sample (simple adding)
 MEAN LENGTH = 5.65cm N= 83
 NUMBER OF SUBSAMPLES : 1
 SAMPLES FOUND BETWEEN ST. NO. 861 AND 861.
 SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



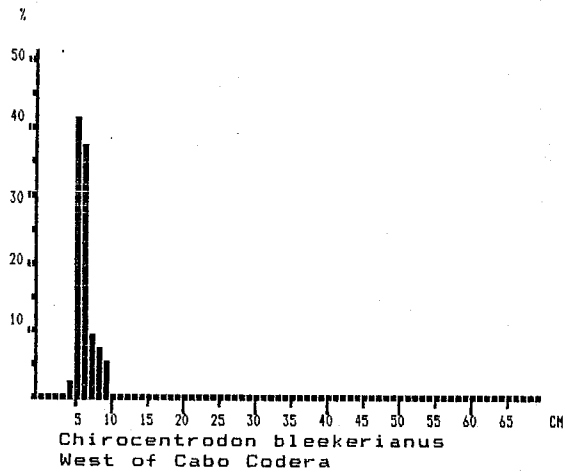
Pooled sample (simple adding)
 MEAN LENGTH = 7.13cm N= 145
 NUMBER OF SUBSAMPLES : 1
 SAMPLES FOUND BETWEEN ST. NO. 767 AND 767.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



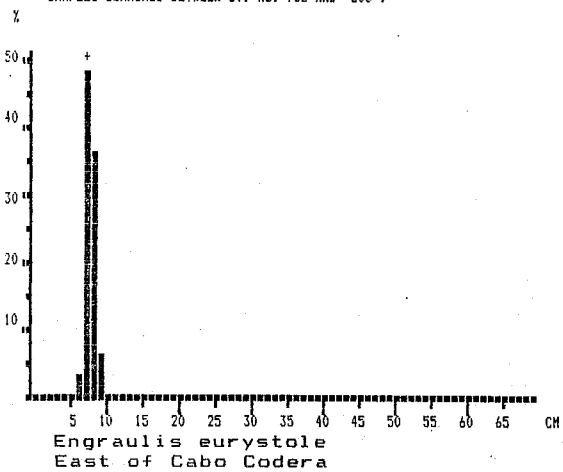
Pooled sample (simple adding)
 MEAN LENGTH = 10.32cm N= 231
 NUMBER OF SUBSAMPLES : 1
 SAMPLES FOUND BETWEEN ST. NO. 832 AND 832.
 SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



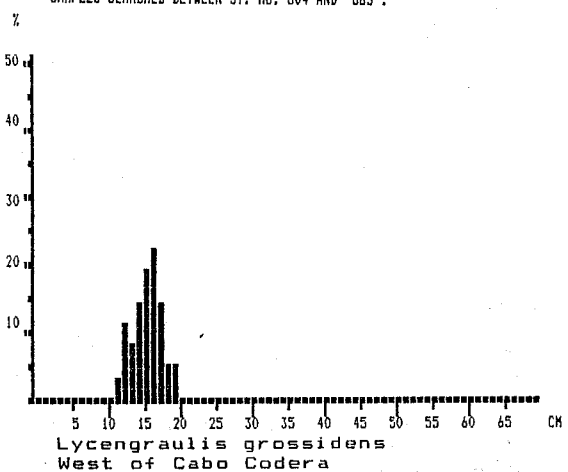
Pooled sample (simple adding)
MEAN LENGTH = 13.64cm N= 256
NUMBER OF SUBSAMPLES : 4
SAMPLES FOUND BETWEEN ST. NO. 739 AND 774.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



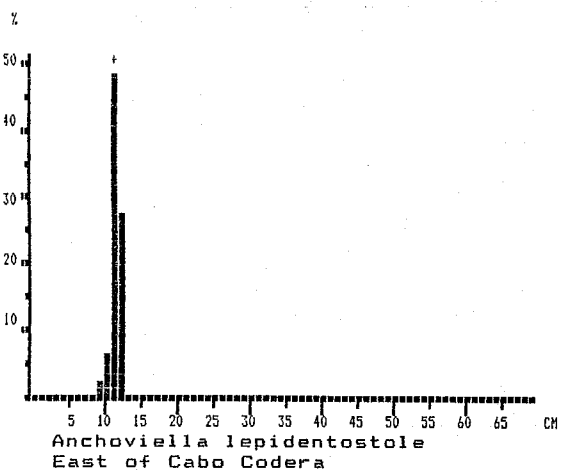
Pooled sample (simple adding)
MEAN LENGTH = 5.90cm N= 197
NUMBER OF SUBSAMPLES : 3
SAMPLES FOUND BETWEEN ST. NO. 859 AND 861.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



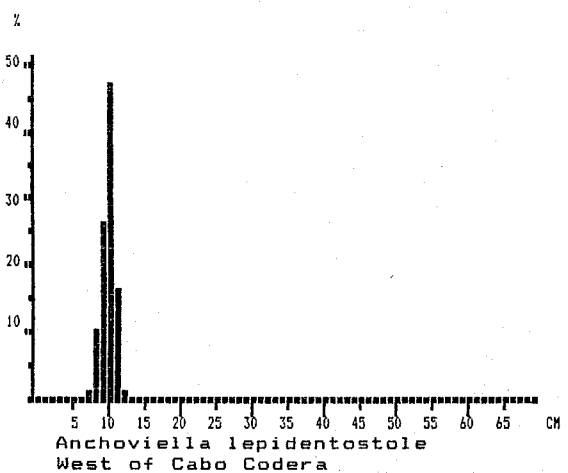
Pooled sample (simple adding)
MEAN LENGTH = 7.45cm N= 33
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 739 AND 739.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



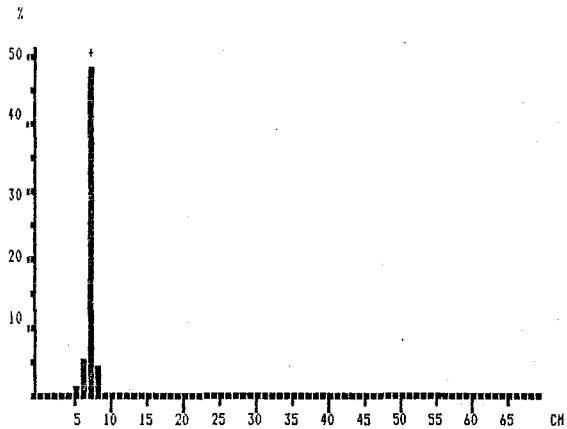
Pooled sample (simple adding)
MEAN LENGTH = 15.14cm N= 37
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 848 AND 848.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



Pooled sample (simple adding)
MEAN LENGTH = 11.16cm N= 93
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 762 AND 762.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .

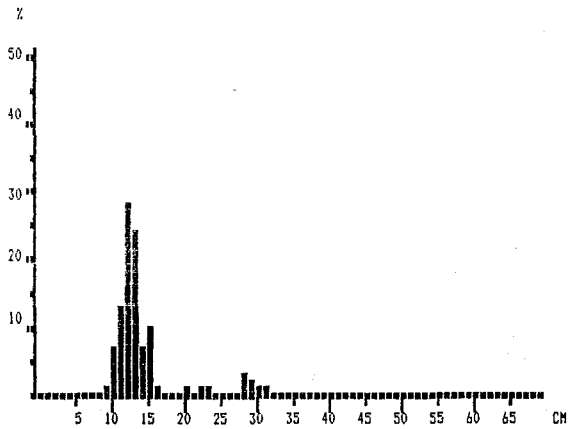


Pooled sample (simple adding)
MEAN LENGTH = 9.71cm N= 199
NUMBER OF SUBSAMPLES : 2
SAMPLES FOUND BETWEEN ST. NO. 841 AND 862.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



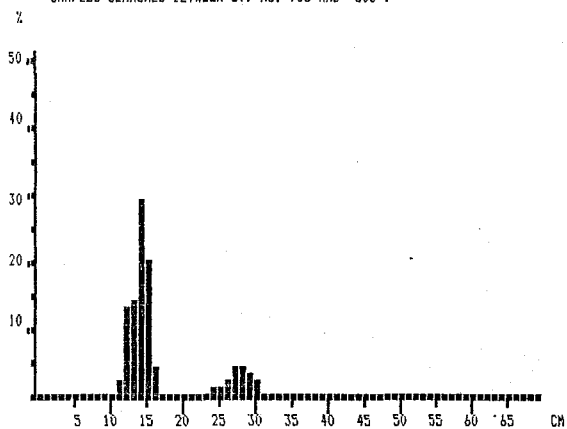
Anchoa parva
East of Cabo Codera

Pooled sample (simple adding)
MEAN LENGTH = 6.98cm N= 138
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 758 AND 758.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



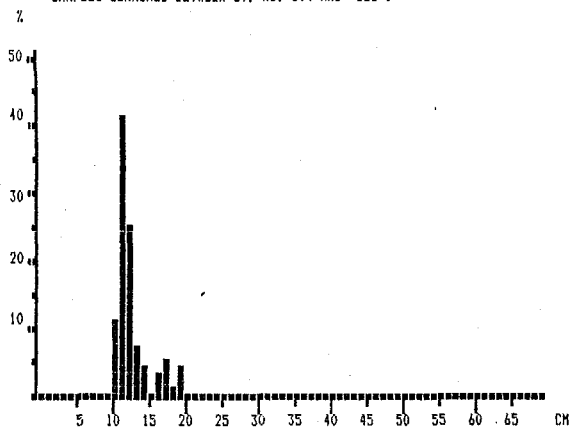
Trachurus lathami
West of Cabo Codera

Pooled sample (simple adding)
MEAN LENGTH = 13.99cm N= 176
NUMBER OF SUBSAMPLES : 4
SAMPLES FOUND BETWEEN ST. NO. 806 AND 865.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



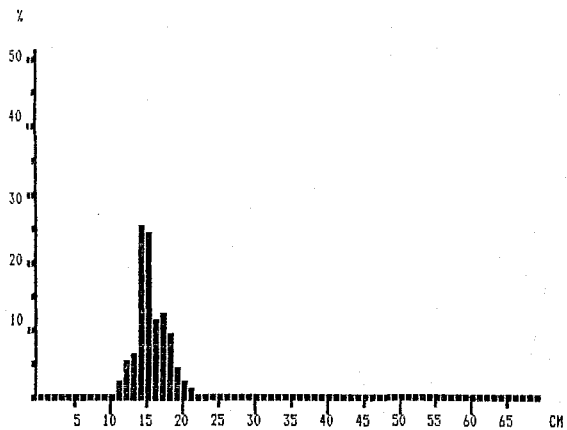
Trachurus lathami
East of Cabo Codera

Pooled sample (simple adding)
MEAN LENGTH = 16.18cm N= 1093
NUMBER OF SUBSAMPLES : 15
SAMPLES FOUND BETWEEN ST. NO. 737 AND 793.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



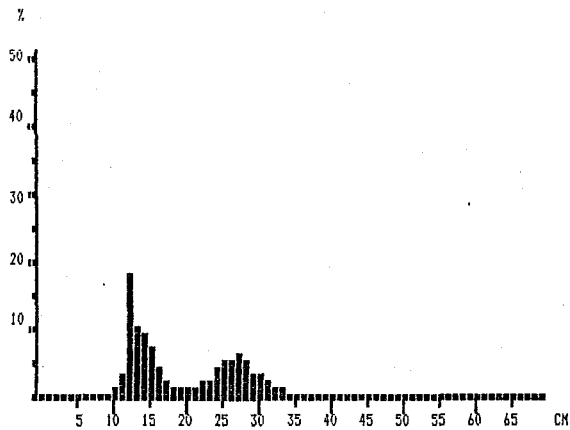
Selar crumenophthalmus
West of Cabo Codera

Pooled sample (simple adding)
MEAN LENGTH = 12.25cm N= 76
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 806 AND 806.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



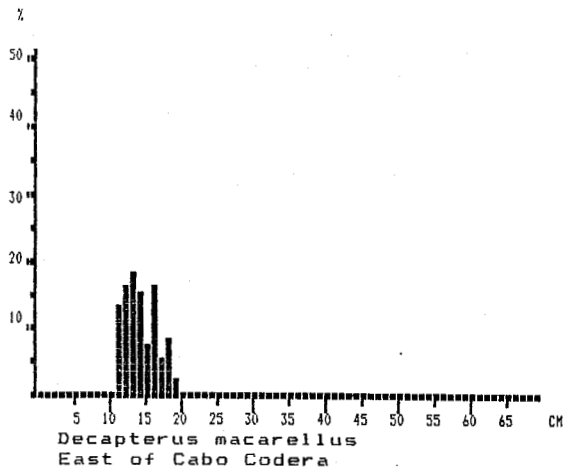
Decapterus punctatus
East of Cabo Codera

Pooled sample (simple adding)
MEAN LENGTH = 15.34cm N= 122
NUMBER OF SUBSAMPLES : 2
SAMPLES FOUND BETWEEN ST. NO. 740 AND 797.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .

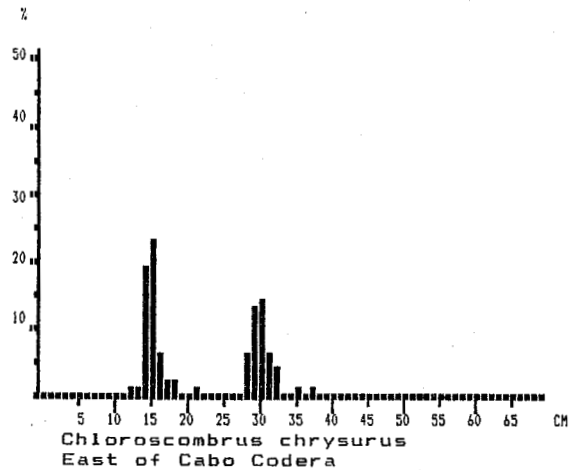


Chloroscombrus chrysurus
West of Cabo Codera

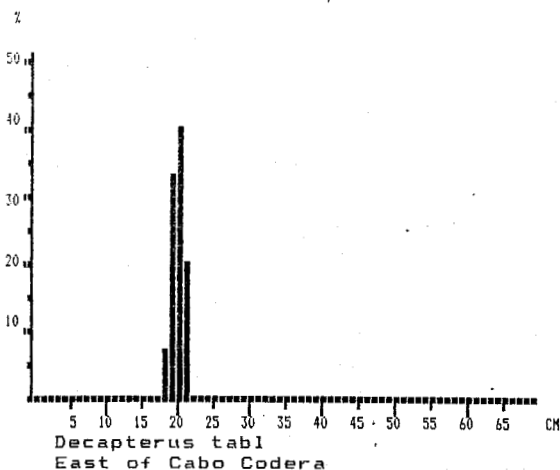
Pooled sample (simple adding)
MEAN LENGTH = 19.24cm N= 805
NUMBER OF SUBSAMPLES : 10
SAMPLES FOUND BETWEEN ST. NO. 847 AND 862.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



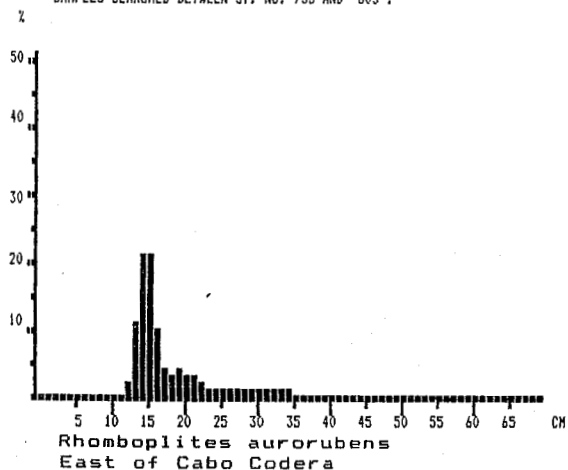
Pooled sample (simple adding)
MEAN LENGTH = 14.05cm N= 61
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 740 AND 740.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



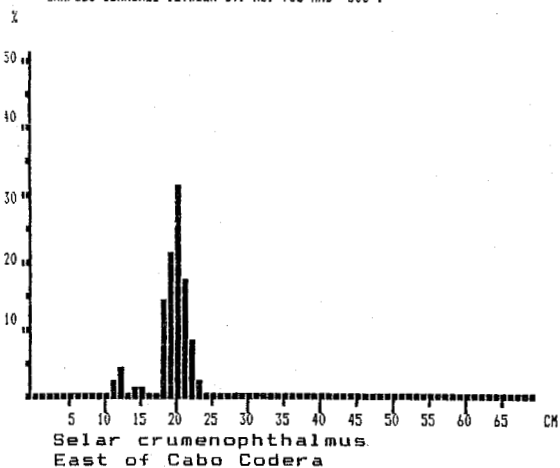
Pooled sample (simple adding)
MEAN LENGTH = 21.81cm N= 112
NUMBER OF SUBSAMPLES : 2
SAMPLES FOUND BETWEEN ST. NO. 753 AND 761.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



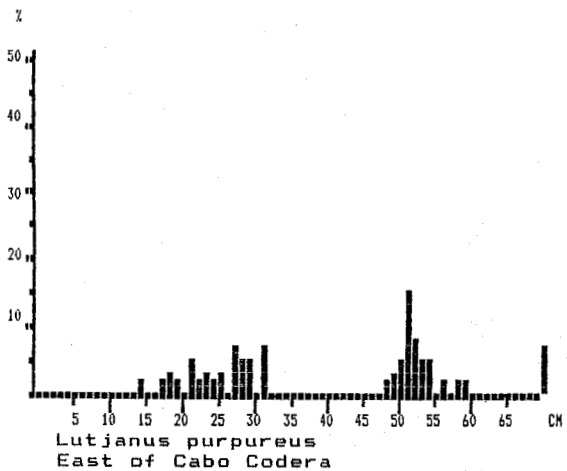
Pooled sample (simple adding)
MEAN LENGTH = 19.73cm N= 15
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 740 AND 740.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



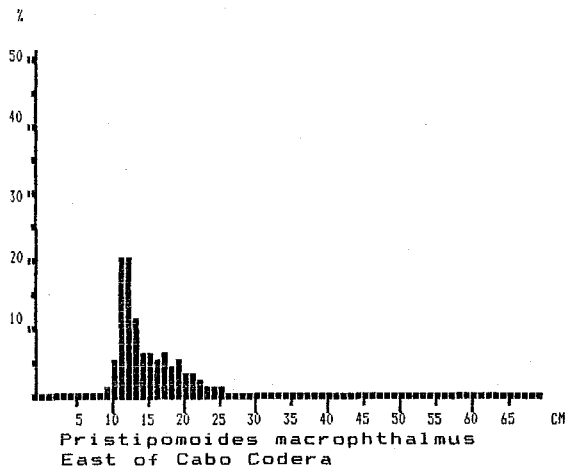
Pooled sample (simple adding)
MEAN LENGTH = 17.53cm N= 1017
NUMBER OF SUBSAMPLES : 16
SAMPLES FOUND BETWEEN ST. NO. 736 AND 803.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



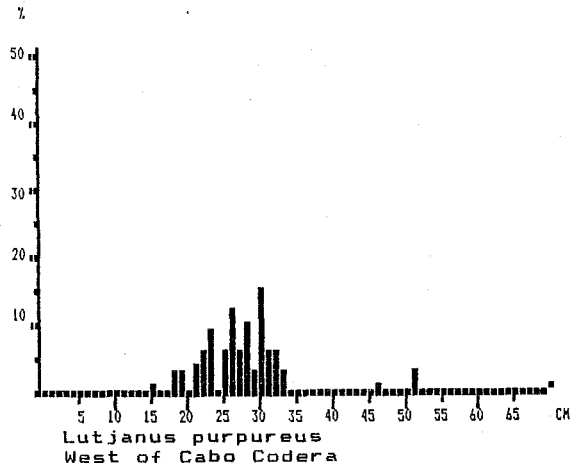
Pooled sample (simple adding)
MEAN LENGTH = 19.30cm N= 103
NUMBER OF SUBSAMPLES : 3
SAMPLES FOUND BETWEEN ST. NO. 737 AND 766.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



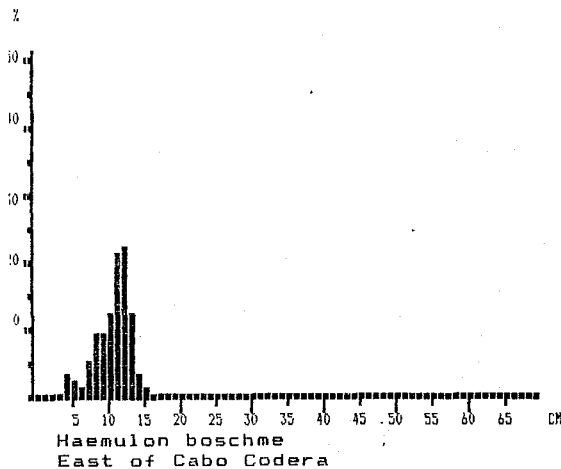
Pooled sample (simple adding)
MEAN LENGTH = 40.70cm N= 61
NUMBER OF SUBSAMPLES : 4
SAMPLES FOUND BETWEEN ST. NO. 744 AND 771.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



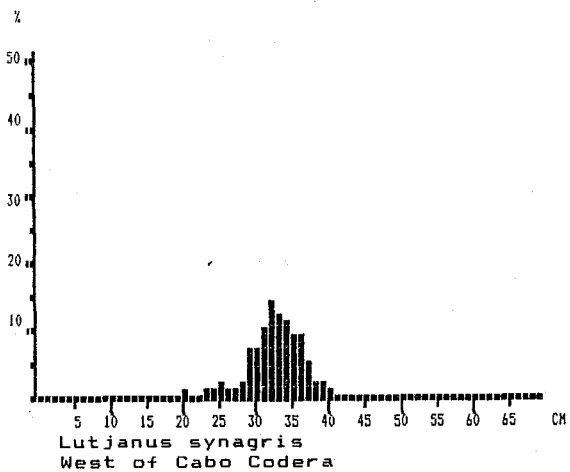
Pooled sample (simple adding)
MEAN LENGTH = 14.23cm N= 779
NUMBER OF SUBSAMPLES : 10
SAMPLES FOUND BETWEEN ST. NO. 736 AND 792.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



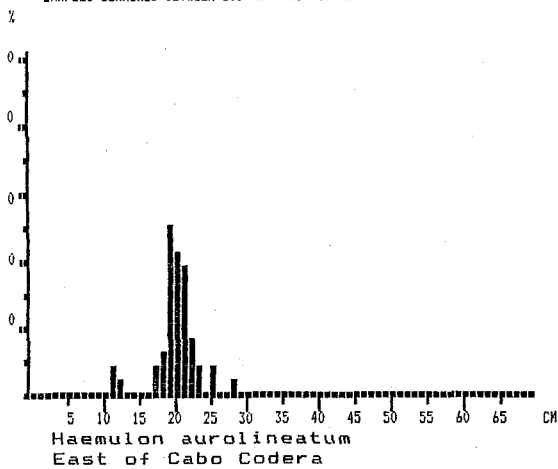
Pooled sample (simple adding)
MEAN LENGTH = 28.12cm N= 67
NUMBER OF SUBSAMPLES : 6
SAMPLES FOUND BETWEEN ST. NO. 805 AND 862.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



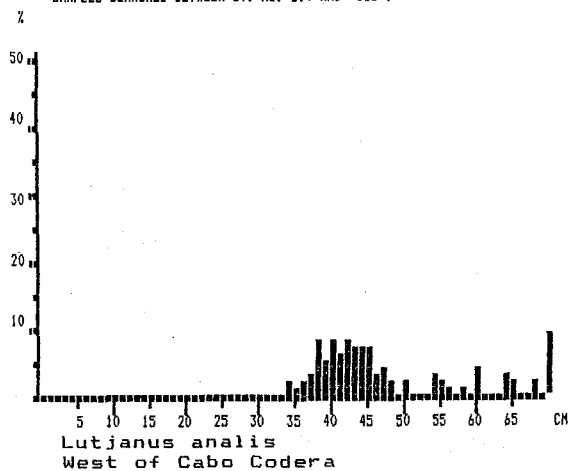
Pooled sample (simple adding)
MEAN LENGTH = 10.44cm N= 1330
NUMBER OF SUBSAMPLES : 14
SAMPLES FOUND BETWEEN ST. NO. 744 AND 803.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



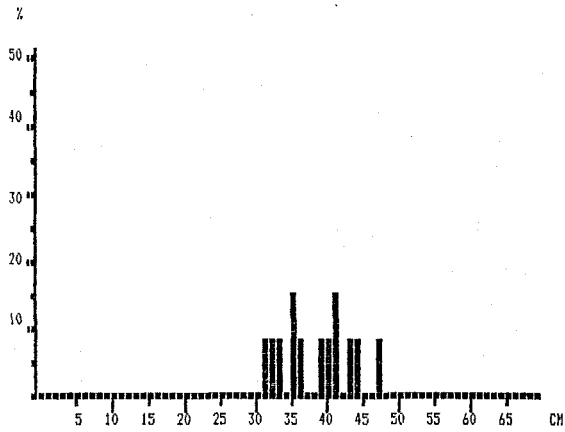
Pooled sample (simple adding)
MEAN LENGTH = 32.34cm N= 268
NUMBER OF SUBSAMPLES : 9
SAMPLES FOUND BETWEEN ST. NO. 816 AND 863.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



Pooled sample (simple adding)
MEAN LENGTH = 19.81cm N= 48
NUMBER OF SUBSAMPLES : 2
SAMPLES FOUND BETWEEN ST. NO. 749 AND 769.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .

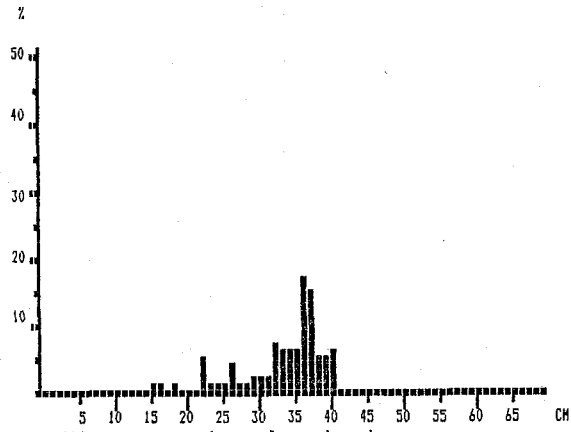


Pooled sample (simple adding)
MEAN LENGTH = 47.30cm N= 115
NUMBER OF SUBSAMPLES : 11
SAMPLES FOUND BETWEEN ST. NO. 804 AND 864.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



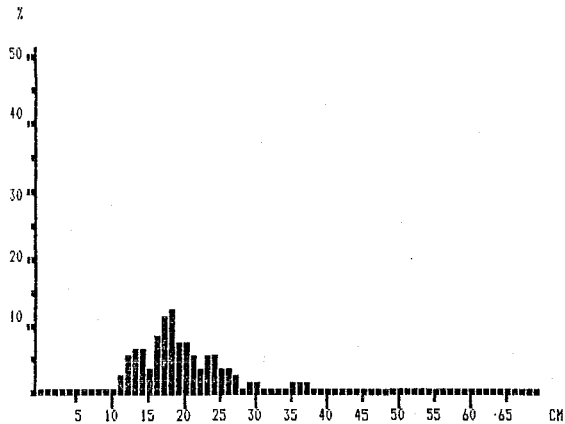
Lutjanus griseus
West of Cabo Codera

Pooled sample (simple adding)
MEAN LENGTH = 38.23cm N= 13
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 830 AND 830.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



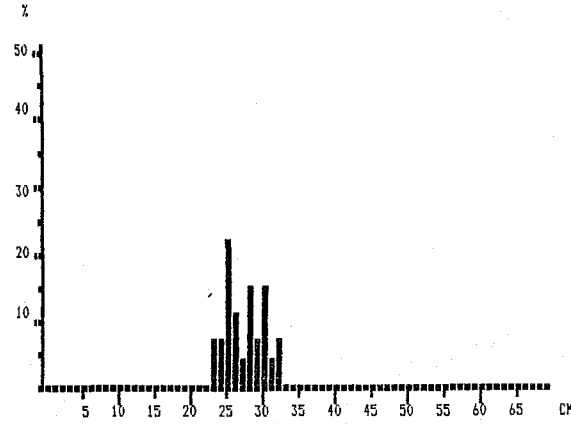
Micropogonias furnieri
West of Cabo Codera

Pooled sample (simple adding)
MEAN LENGTH = 33.09cm N= 81
NUMBER OF SUBSAMPLES : 3
SAMPLES FOUND BETWEEN ST. NO. 849 AND 851.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



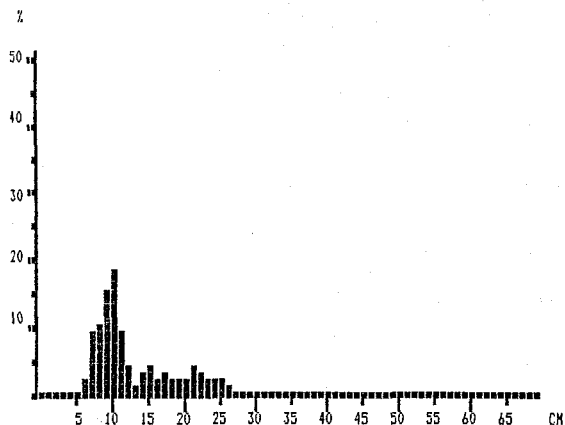
Rhomboplites aurorubens
West of Cabo Codera

Pooled sample (simple adding)
MEAN LENGTH = 19.32cm N= 288
NUMBER OF SUBSAMPLES : 8
SAMPLES FOUND BETWEEN ST. NO. 804 AND 865.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



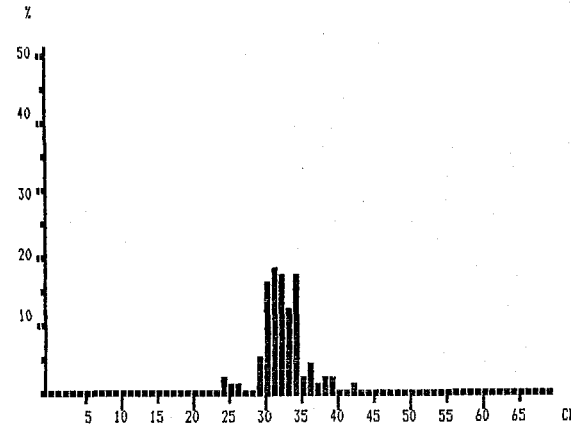
Cynoscion jamaicensis
West of Cabo Codera

Pooled sample (simple adding)
MEAN LENGTH = 27.19cm N= 27
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 856 AND 856.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



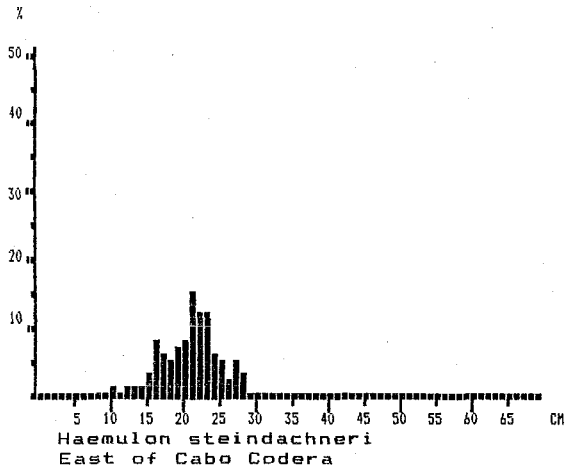
Pristipomoides macrophthalmus
West of Cabo Codera

Pooled sample (simple adding)
MEAN LENGTH = 12.45cm N= 497
NUMBER OF SUBSAMPLES : 6
SAMPLES FOUND BETWEEN ST. NO. 808 AND 835.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .

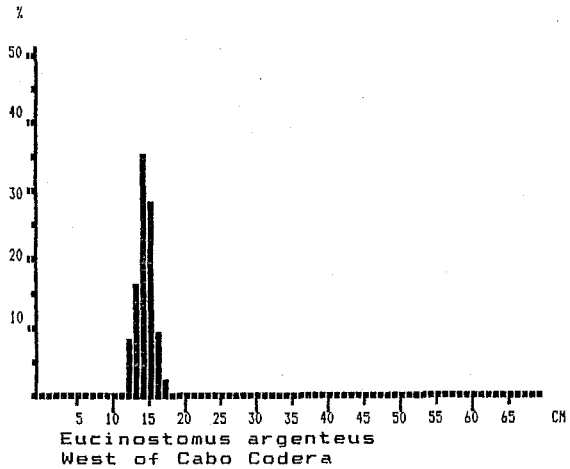


Sphyræna picudilla
West of Cabo Codera

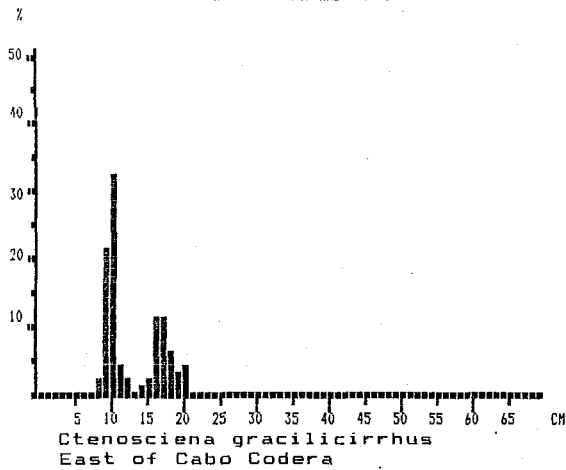
Pooled sample (simple adding)
MEAN LENGTH = 32.10cm N= 144
NUMBER OF SUBSAMPLES : 3
SAMPLES FOUND BETWEEN ST. NO. 846 AND 861.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



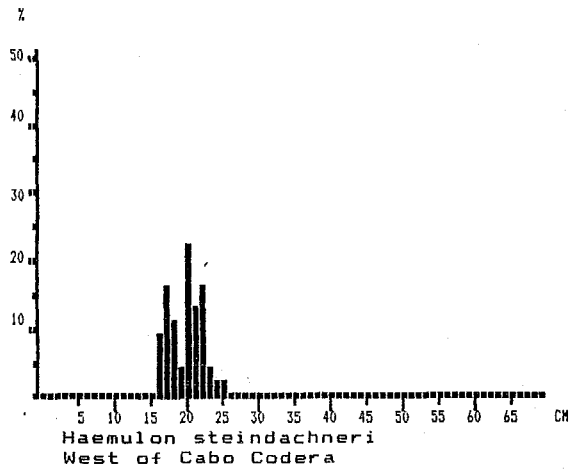
Pooled sample (simple adding)
MEAN LENGTH = 20.72cm N= 155
NUMBER OF SUBSAMPLES : 3
SAMPLES FOUND BETWEEN ST. NO. 749 AND 786.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



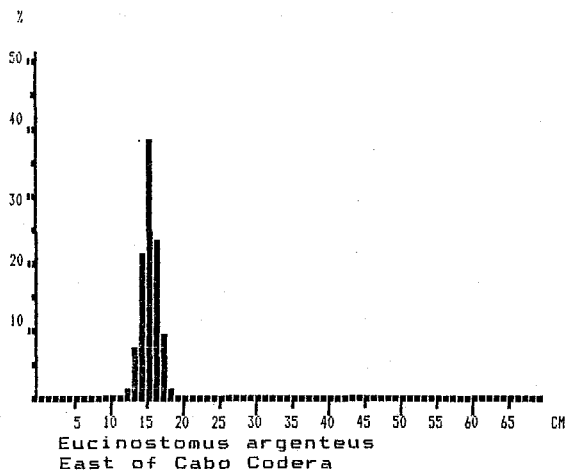
Pooled sample (simple adding)
MEAN LENGTH = 14.19cm N= 474
NUMBER OF SUBSAMPLES : 6
SAMPLES FOUND BETWEEN ST. NO. 806 AND 865.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



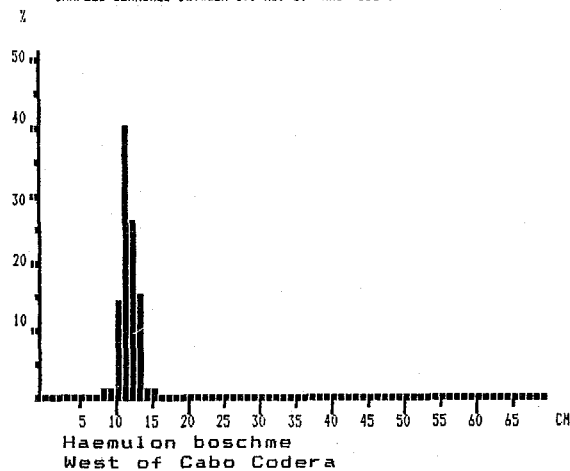
Pooled sample (simple adding)
MEAN LENGTH = 12.62cm N= 170
NUMBER OF SUBSAMPLES : 2
SAMPLES FOUND BETWEEN ST. NO. 738 AND 765.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



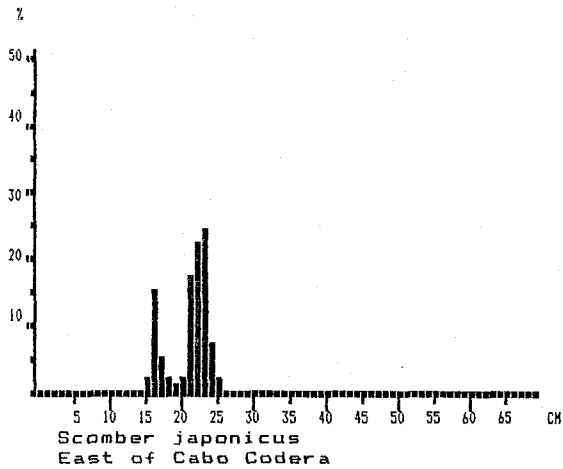
Pooled sample (simple adding)
MEAN LENGTH = 19.69cm N= 45
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 807 AND 807.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



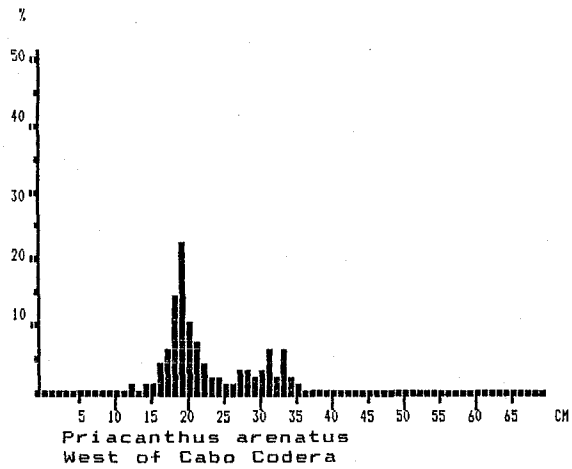
Pooled sample (simple adding)
MEAN LENGTH = 15.05cm N= 247
NUMBER OF SUBSAMPLES : 3
SAMPLES FOUND BETWEEN ST. NO. 763 AND 769.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



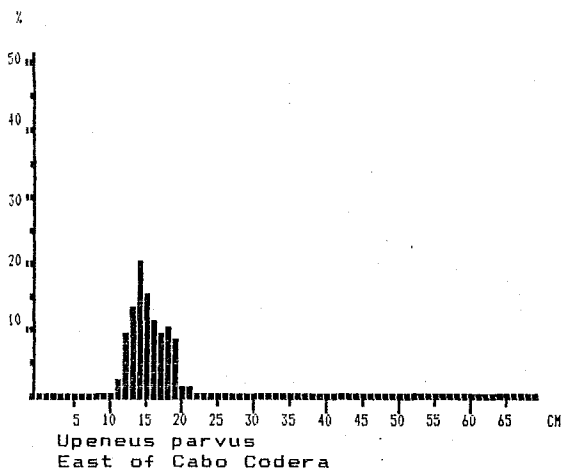
Pooled sample (simple adding)
MEAN LENGTH = 11.45cm N= 78
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 807 AND 807.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



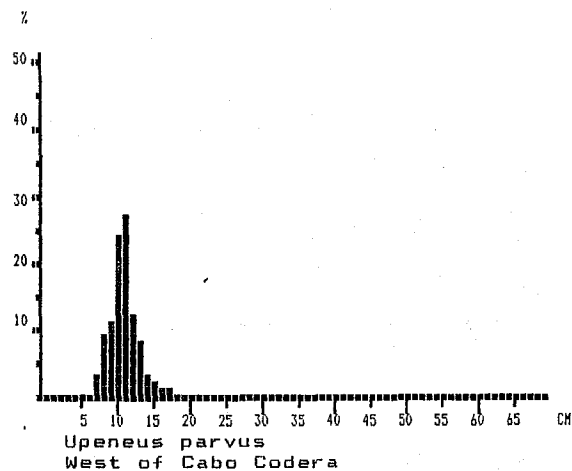
Pooled sample (simple adding)
MEAN LENGTH = 20.80cm N= 330
NUMBER OF SUBSAMPLES : 5
SAMPLES FOUND BETWEEN ST. NO. 750 AND 799.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



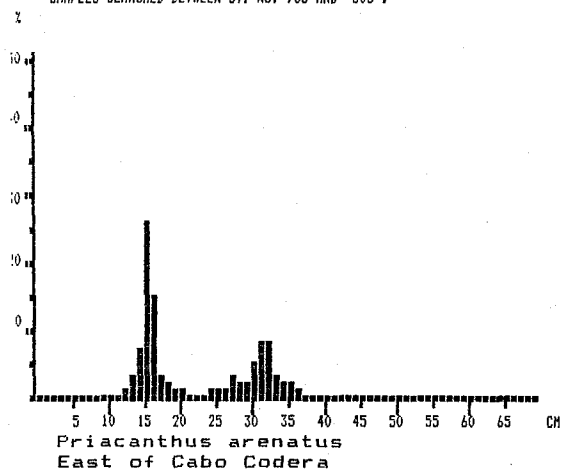
Pooled sample (simple adding)
MEAN LENGTH = 22.13cm N= 180
NUMBER OF SUBSAMPLES : 4
SAMPLES FOUND BETWEEN ST. NO. 805 AND 863.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



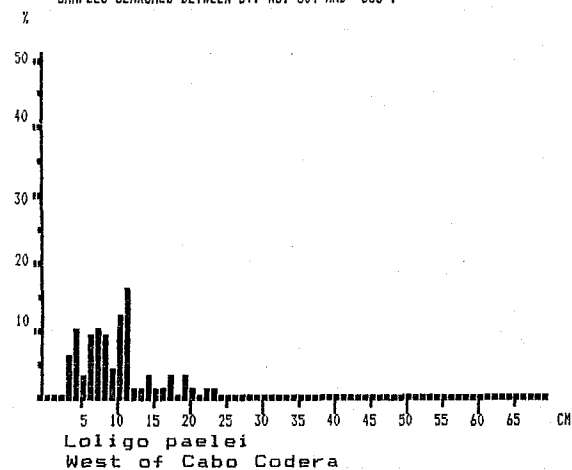
Pooled sample (simple adding)
MEAN LENGTH = 15.24cm N= 490
NUMBER OF SUBSAMPLES : 7
SAMPLES FOUND BETWEEN ST. NO. 736 AND 795.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



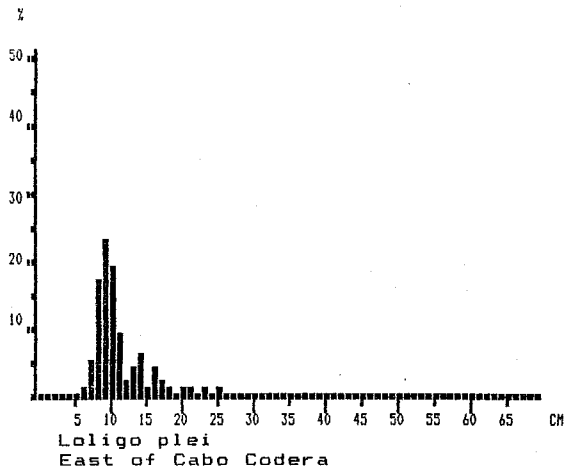
Pooled sample (simple adding)
MEAN LENGTH = 10.68cm N= 622
NUMBER OF SUBSAMPLES : 7
SAMPLES FOUND BETWEEN ST. NO. 805 AND 862.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



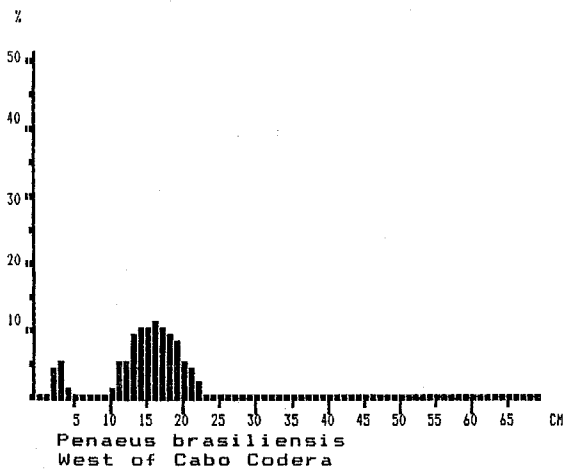
Pooled sample (simple adding)
MEAN LENGTH = 21.55cm N= 221
NUMBER OF SUBSAMPLES : 7
SAMPLES FOUND BETWEEN ST. NO. 744 AND 803.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



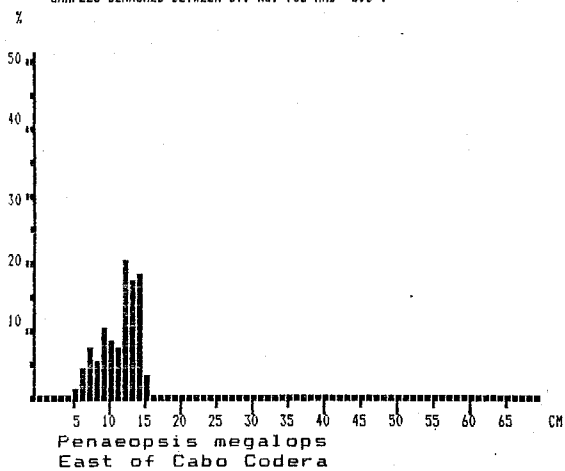
Pooled sample (simple adding)
MEAN LENGTH = 9.43cm N= 67
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 839 AND 839.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



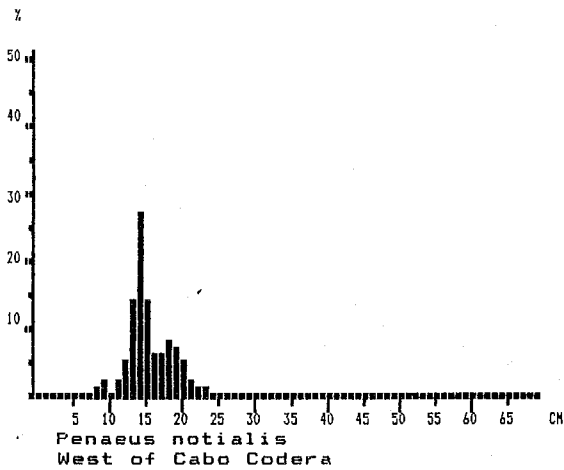
Pooled sample (simple adding)
 MEAN LENGTH = 10.77cm N= 149
 NUMBER OF SUBSAMPLES : 2
 SAMPLES FOUND BETWEEN ST. NO. 745 AND 746.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



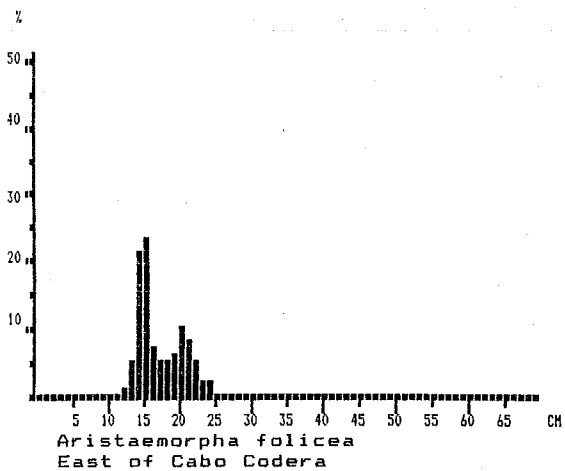
Pooled sample (simple adding)
 MEAN LENGTH = 14.48cm N= 241
 NUMBER OF SUBSAMPLES : 8
 SAMPLES FOUND BETWEEN ST. NO. 814 AND 854.
 SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



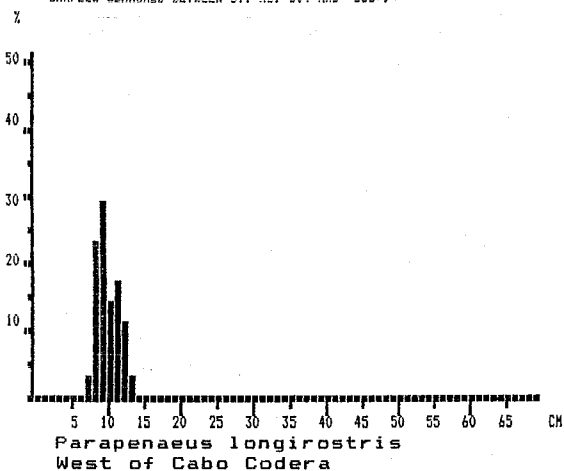
Pooled sample (simple adding)
 MEAN LENGTH = 11.21cm N= 108
 NUMBER OF SUBSAMPLES : 2
 SAMPLES FOUND BETWEEN ST. NO. 742 AND 780.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



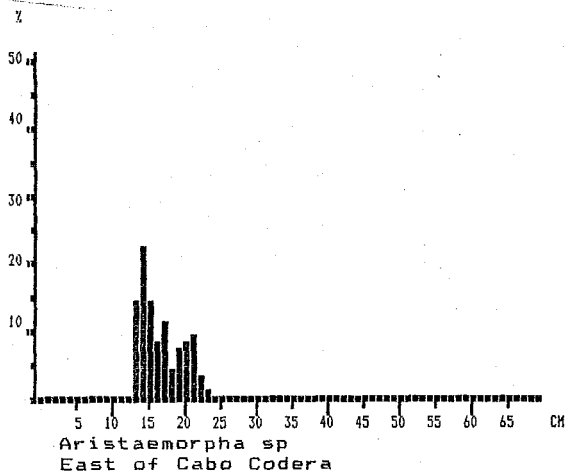
Pooled sample (simple adding)
 MEAN LENGTH = 15.30cm N= 132
 NUMBER OF SUBSAMPLES : 5
 SAMPLES FOUND BETWEEN ST. NO. 831 AND 854.
 SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



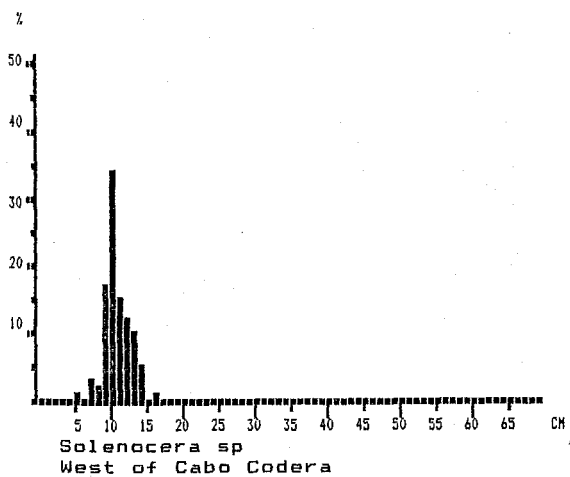
Pooled sample (simple adding)
 MEAN LENGTH = 16.84cm N= 129
 NUMBER OF SUBSAMPLES : 2
 SAMPLES FOUND BETWEEN ST. NO. 742 AND 796.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803 .



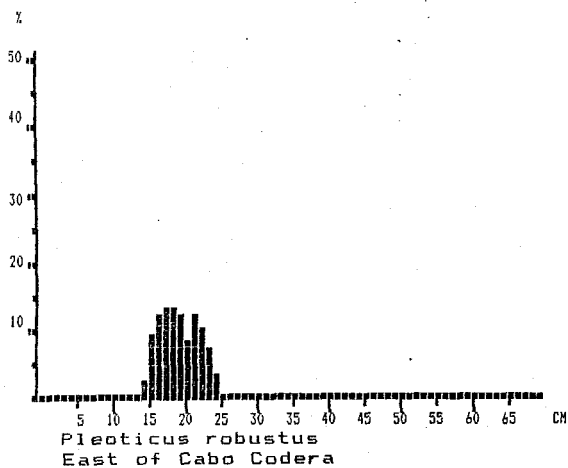
Pooled sample (simple adding)
 MEAN LENGTH = 9.66cm N= 35
 NUMBER OF SUBSAMPLES : 1
 SAMPLES FOUND BETWEEN ST. NO. 823 AND 823.
 SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865 .



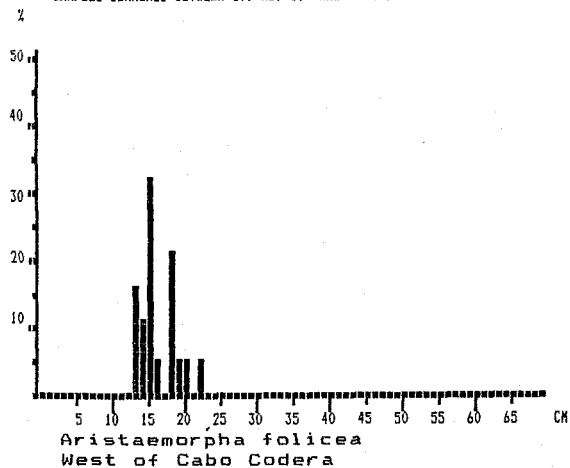
Pooled sample (simple adding)
MEAN LENGTH = 16.43cm N= 118
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 790 AND 796.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803.



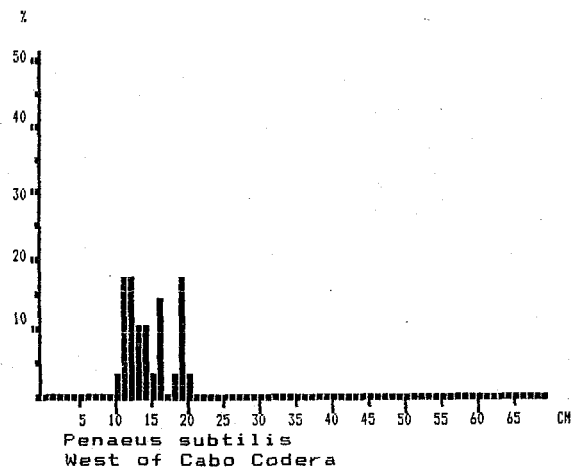
Pooled sample (simple adding)
MEAN LENGTH = 10.59cm N= 145
NUMBER OF SUBSAMPLES : 2
SAMPLES FOUND BETWEEN ST. NO. 808 AND 809.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865.



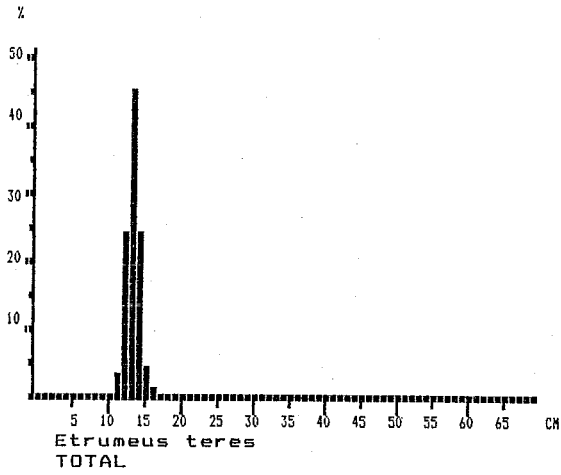
Pooled sample (simple adding)
MEAN LENGTH = 18.87cm N= 207
NUMBER OF SUBSAMPLES : 2
SAMPLES FOUND BETWEEN ST. NO. 790 AND 796.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 803.



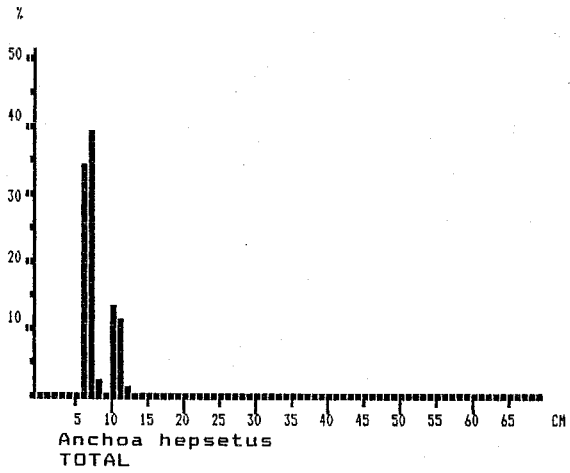
Pooled sample (simple adding)
MEAN LENGTH = 16.11cm N= 19
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 810 AND 810.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865.



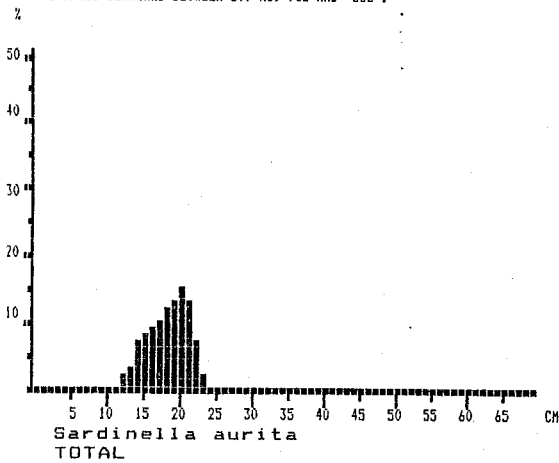
Pooled sample (simple adding)
MEAN LENGTH = 14.41cm N= 29
NUMBER OF SUBSAMPLES : 3
SAMPLES FOUND BETWEEN ST. NO. 842 AND 854.
SAMPLES SEARCHED BETWEEN ST. NO. 804 AND 865.



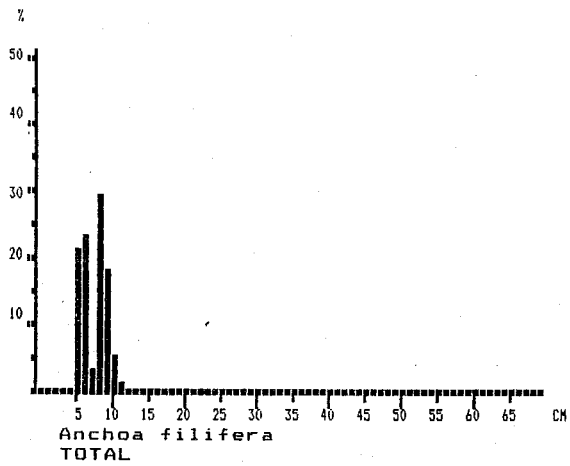
Pooled sample (simple adding)
 MEAN LENGTH = 13.04cm N= 736
 NUMBER OF SUBSAMPLES : 7
 SAMPLES FOUND BETWEEN ST. NO. 735 AND 832.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



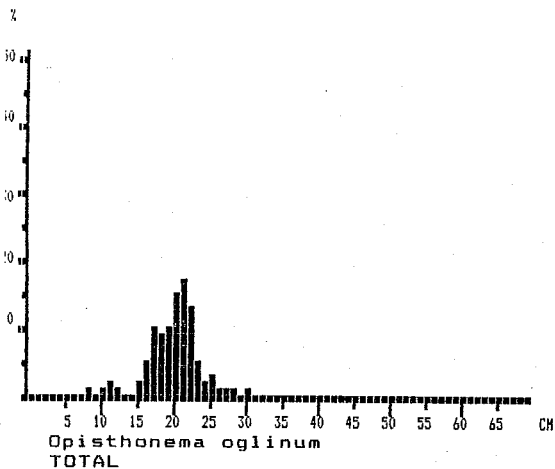
Pooled sample (simple adding)
 MEAN LENGTH = 7.57cm N= 302
 NUMBER OF SUBSAMPLES : 3
 SAMPLES FOUND BETWEEN ST. NO. 747 AND 856.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



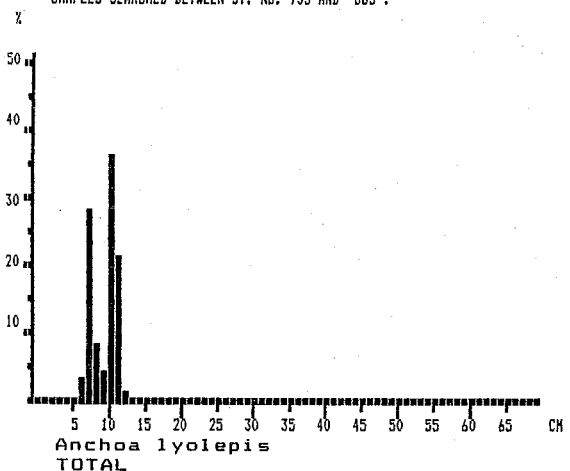
Pooled sample (simple adding)
 MEAN LENGTH = 18.11cm N= 2177
 NUMBER OF SUBSAMPLES : 23
 SAMPLES FOUND BETWEEN ST. NO. 739 AND 864.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



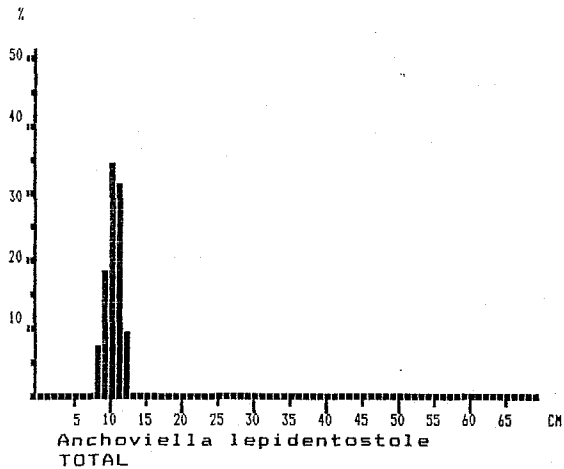
Pooled sample (simple adding)
 MEAN LENGTH = 7.17cm N= 173
 NUMBER OF SUBSAMPLES : 2
 SAMPLES FOUND BETWEEN ST. NO. 747 AND 861.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



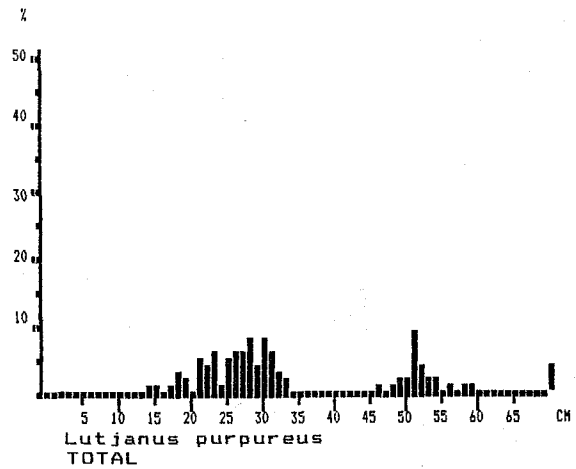
Pooled sample (simple adding)
 MEAN LENGTH = 19.77cm N= 767
 NUMBER OF SUBSAMPLES : 7
 SAMPLES FOUND BETWEEN ST. NO. 841 AND 858.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



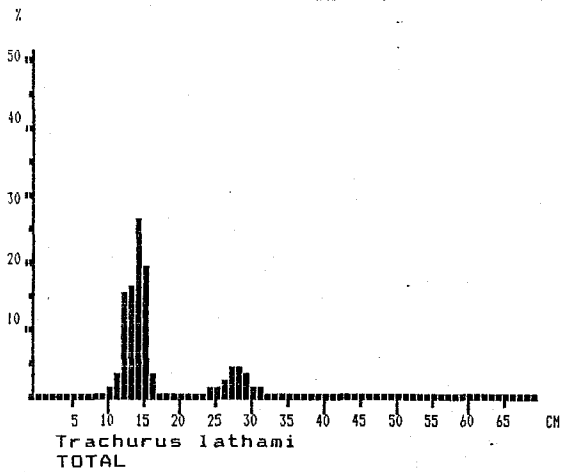
Pooled sample (simple adding)
 MEAN LENGTH = 9.09cm N= 376
 NUMBER OF SUBSAMPLES : 2
 SAMPLES FOUND BETWEEN ST. NO. 767 AND 832.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



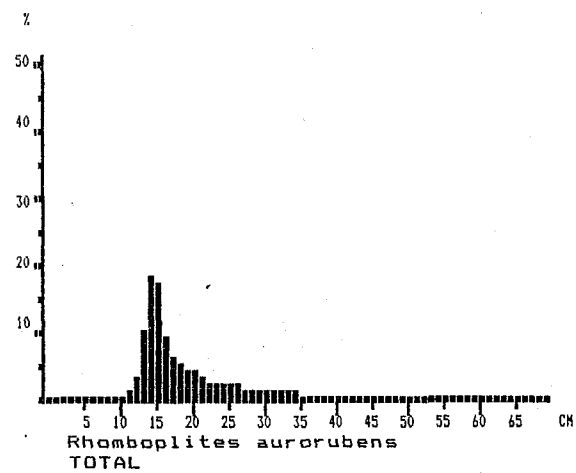
Pooled sample (simple adding)
MEAN LENGTH = 10.17cm N= 292
NUMBER OF SUBSAMPLES : 3
SAMPLES FOUND BETWEEN ST. NO. 762 AND 862.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



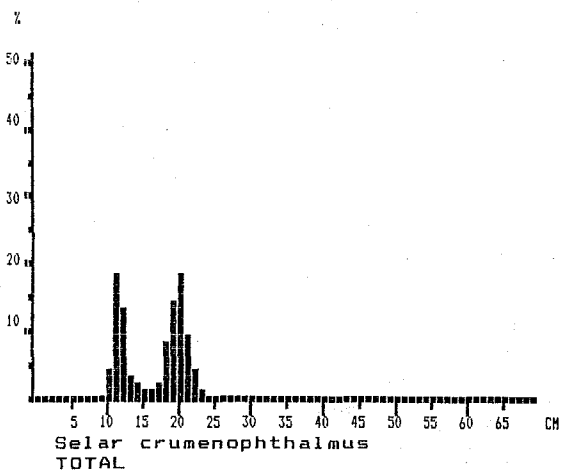
Pooled sample (simple adding)
MEAN LENGTH = 34.12cm N= 128
NUMBER OF SUBSAMPLES : 10
SAMPLES FOUND BETWEEN ST. NO. 744 AND 862.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



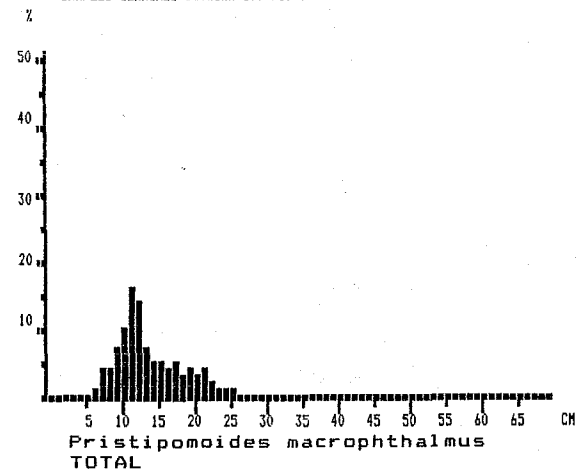
Pooled sample (simple adding)
MEAN LENGTH = 15.88cm N= 1269
NUMBER OF SUBSAMPLES : 19
SAMPLES FOUND BETWEEN ST. NO. 737 AND 865.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



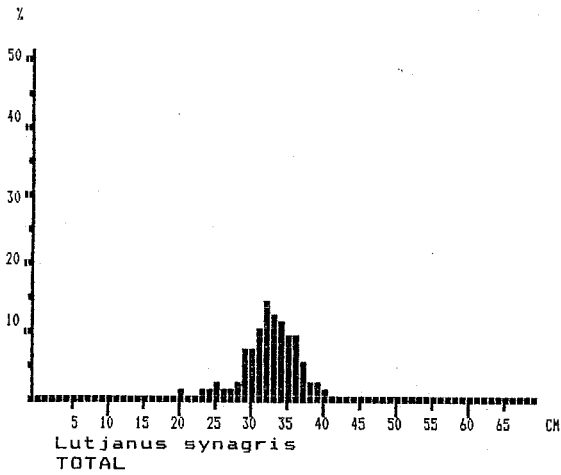
Pooled sample (simple adding)
MEAN LENGTH = 17.93cm N= 1305
NUMBER OF SUBSAMPLES : 24
SAMPLES FOUND BETWEEN ST. NO. 736 AND 865.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



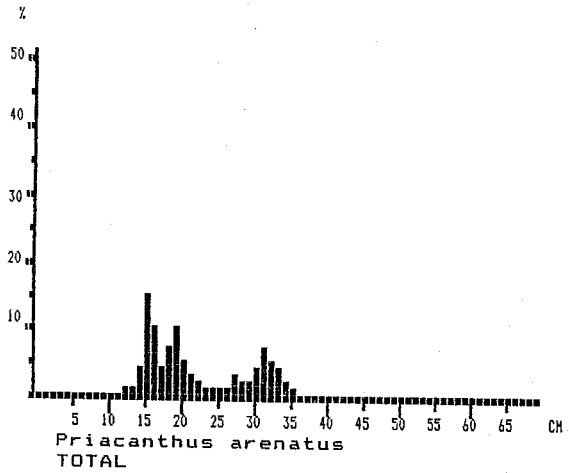
Pooled sample (simple adding)
MEAN LENGTH = 16.31cm N= 179
NUMBER OF SUBSAMPLES : 4
SAMPLES FOUND BETWEEN ST. NO. 737 AND 806.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



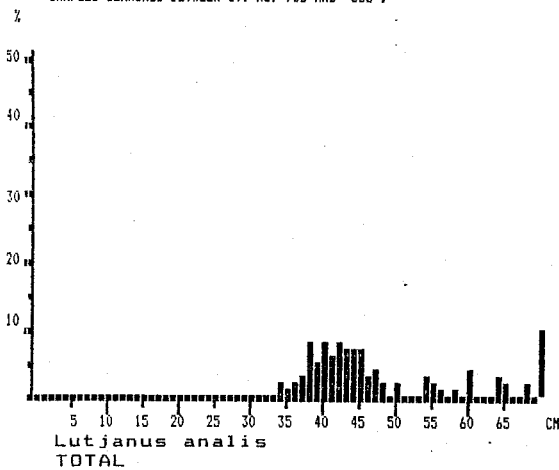
Pooled sample (simple adding)
MEAN LENGTH = 13.53cm N= 1276
NUMBER OF SUBSAMPLES : 16
SAMPLES FOUND BETWEEN ST. NO. 736 AND 835.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



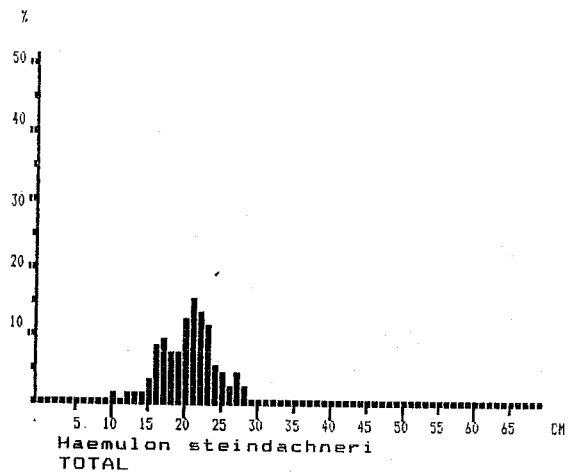
Pooled sample (simple adding)
MEAN LENGTH = 32.34cm N= 268
NUMBER OF SUBSAMPLES : 9
SAMPLES FOUND BETWEEN ST. NO. 816 AND 863.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



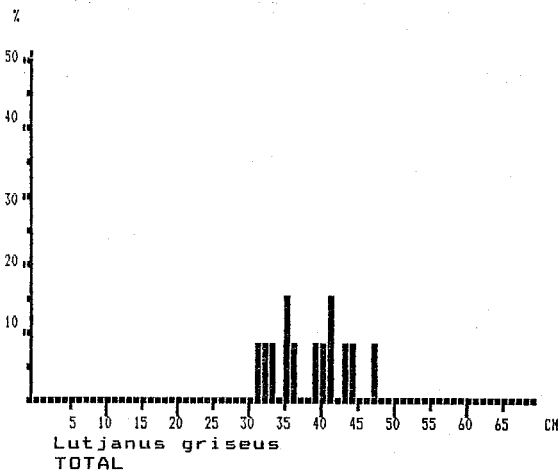
Pooled sample (simple adding)
MEAN LENGTH = 21.81cm N= 401
NUMBER OF SUBSAMPLES : 11
SAMPLES FOUND BETWEEN ST. NO. 744 AND 863.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



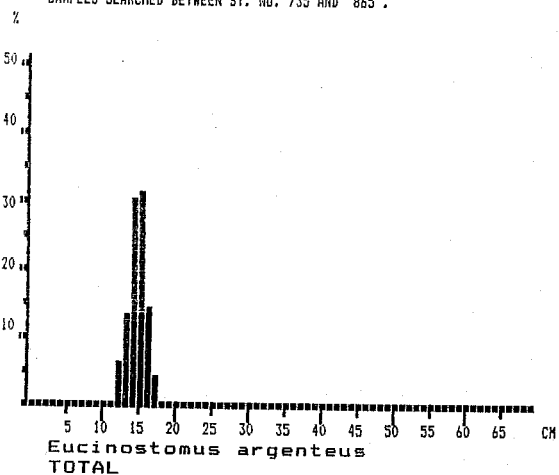
Pooled sample (simple adding)
MEAN LENGTH = 47.68cm N= 117
NUMBER OF SUBSAMPLES : 12
SAMPLES FOUND BETWEEN ST. NO. 772 AND 864.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



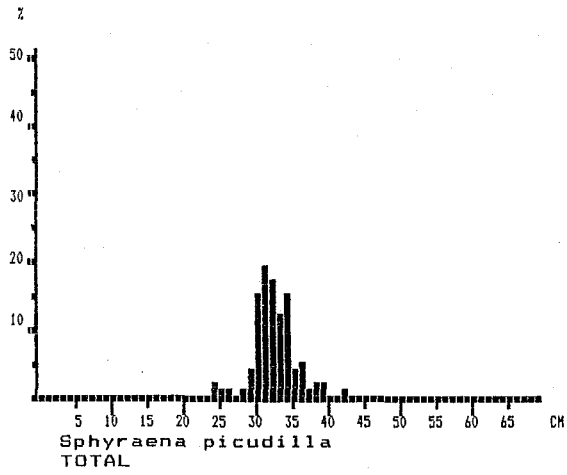
Pooled sample (simple adding)
MEAN LENGTH = 20.49cm N= 200
NUMBER OF SUBSAMPLES : 4
SAMPLES FOUND BETWEEN ST. NO. 749 AND 807.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



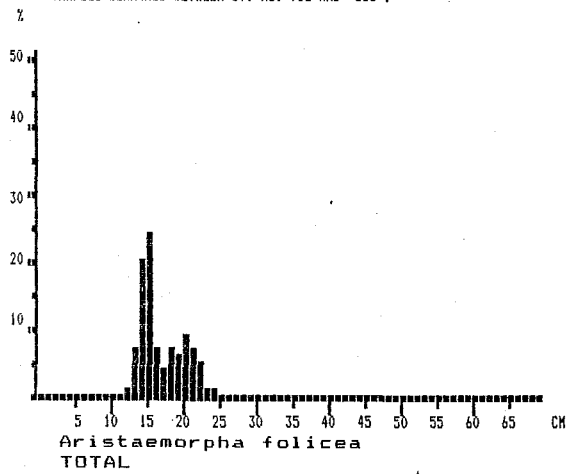
Pooled sample (simple adding)
MEAN LENGTH = 38.23cm N= 13
NUMBER OF SUBSAMPLES : 1
SAMPLES FOUND BETWEEN ST. NO. 830 AND 830.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



Pooled sample (simple adding)
MEAN LENGTH = 14.48cm N= 721
NUMBER OF SUBSAMPLES : 9
SAMPLES FOUND BETWEEN ST. NO. 763 AND 865.
SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



Pooled sample (simple adding)
 MEAN LENGTH = 32.17cm N= 156
 NUMBER OF SUBSAMPLES : 4
 SAMPLES FOUND BETWEEN ST. NO. 761 AND 861.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .



Pooled sample (simple adding)
 MEAN LENGTH = 16.75cm N= 148
 NUMBER OF SUBSAMPLES : 3
 SAMPLES FOUND BETWEEN ST. NO. 742 AND 810.
 SAMPLES SEARCHED BETWEEN ST. NO. 735 AND 865 .