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Spanish Research Report for 2002

by

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### SUBAREA 3

#### A. Status of the fisheries

A total of 32 Spanish trawlers operated in NAFO fisheries in Divisions 3LMNO during 2002 corresponding to a fishing effort of 5.903 days (101.187 hours). Total catches for all species combined were 30.244 tons. Total effort and catches were estimated throughout the information of the EU observers on board. The best estimations of Spanish catches in 2002 are presented in Table 1 by species and Division. Table 2 shows the effort (days and hours) by quarter and Division as well as the percentage of the effort by mesh size. Table 3 shows total catches for the main species by Division and quarter.

The Spanish fishery in NAFO area is mainly directed to Greenland halibut (mainly in Div. 3LM), alternating with the skate fishery in the second half of the year (Div. 3NO), shrimp fishery (Div. 3M), and other species (Div. 3O).

In Div. 3L, the fishing activity was performed at depths greater than 600 m and using cod-end mesh size of 135 mm, indicating that the fleet targeted Greenland halibut. Regarding Div. 3M most of the effort was carried out in the strata of more than 600 m depth and using cod-end mesh size of 135 mm, also targeting Greenland halibut. Also for the same Division, the fishing effort carried out within the strata from 200 to 600 m depth belongs to the shrimp fishery using cod-end mesh size of 40 mm. In Div. 3N and during the first half of the year, the fishing activity was performed at depths greater than 600 m. and using cod-end mesh size of 135 mm, which indicates that the fleet targeting Greenland halibut. However, since July some fleet activity moved to depths less than 200 m. and with mesh size of 280 mm, where the skate fishery is performed. Fishing effort in Div. 3O was limited and targeting several species with mesh size of 135 mm and 280 mm.

In addition to those observers from the NAFO Scientific Observers Program, four observers from the Spanish Scientific Sampling Program were onboard, comprising a total of 440 days. Besides recording catches, discards and effort, these observers carried out biological sampling on Greenland halibut, thorny skate and the respective main by-catch species. This includes recording weight at length, sex-ratio, maturity stages and stomach analysis, and collecting material for reproductive studies on Greenland halibut, Roughhead grenadier and American plaice. Otoliths of those three species and caudal thorns skate were also taken for age determination.

The length and age distributions presented in this paper are based on the samplings carried out by these observers. The parameters used for the length-weight relationships by species are shown in Table 4.

***COD (Div. 3NO; Div. 3M)***

Spanish catches for this specie by Division and quarter are presented in Table 3. Main catches were taken in the Div. 3N and they were by-catch in the Greenland halibut and skate fisheries. No catches were record in Div. 3M.

Table 5 shows the Spanish length distributions samplings by month. Note that there was only one sample in July in Div. 3N.

***Redfish (Div. 3LN; Div. 3M; Div. 3O)***

Table 3 shows the catches for this specie by Division and quarter carried out by the Spanish fleet in the year 2002. Most catches were taken in the Div. 3LN as by-catch of Greenland halibut fishery.

The Spanish length distributions samplings by month in Div. 3LN are shows in Table 6, and Table 7 shows the total catches length distributions by Division.

Table 8 and 9 present the Spanish length distributions samplings by month, and the total catches length distributions for Div. 3M and 3O.

***American plaice (Div. 3LNO; Div. 3M)***

Spanish catches for this specie in 2002 are show in Table 3. Most catches were taken in the Div. 3LNO as by-catch of Greenland halibut and skate fisheries. Catches in Div. 3M reached only 35 tons and they were by-catch of the Greenland halibut fishery.

Tables 10, 11 and 12 show the length distributions of the Spanish samplings by month and Division. Table 13 shows the length distributions of the total catches for American plaice in Div. 3LNO. The Spanish length distributions samplings by month for Div. 3M are presented in Table 14.

***Witch flounder (Div. 2J and 3KL; Div. 3NO)***

Table 3 shows the Spanish catches by quarter and Division for this specie. This species is taken as by-catch of the Greenland halibut fishery. Spanish catches of Witch flounder (Div. 2J and 3KL) were taken only in Div. 3L.

The length distributions of Spanish catches by month for Div. 3L are shown in Table 15. Table 16 shows the same for Div. 3NO.

***Yellowtail flounder (Div. 3LNO)***

Table 3 presents the Spanish catches by quarter and Division for this specie. Main catches of this species were taken in Div. 3N, as by-catch of the skate fishery.

Table 17 shows the length distributions of Spanish catches by month for Div. 3LNO (only for second semester in Div. 3N).

***Greenland halibut (Subareas 2 and 3)***

Catches by quarter and Division for this specie are presented in Table 3. Greenland halibut is the main target specie for the Spanish fleet in NAFO area and most of the catches were taken in Flemish Pass area (Div. 3LM). The mesh size for this fishery is equal or greater than 135 mm.

Table 18 shows the length distributions of the Spanish total catches by Division for this specie. They were calculated quarterly for Div. 3L and 3M but they were calculated yearly for Div. 3NO since the quarterly sampling coverage was not sufficient. The corresponding age composition, mean weight and mean length by age of the Greenland halibut length distributions is presented in table 19. Most part of the Greenland halibut catches correspond to ages 5 to 8.

### ***Thorny skate (Div. 3LNO)***

Spanish catches by quarter and Division for the skates are presented in Table 3. In Div. 3LM, catches comprise three species (*Raja hiperborea*, *Raja radiata* and *Raja ferreiro*) and are taken as by-catch of the Greenland halibut fishery. Although the species ratio in catches is unknown, it could be assumed that it is the same that in Div. 3NO (i.e. 0.7%, 94.7%, 4.6%). Catches in Div. 3NO were only for *Raja radiata* and most of them came from a direct fishery for this specie. The mesh size used in this fishery was equal or greater than 280 mm.

The length distributions of the Spanish samplings by month for Div. 3L and 3N are presented in Table 20. Table 21 shows the length distributions of the Spanish total catches by Division for this species. They were calculated for Div. 3L applying the total length distribution of Div. 3L and 3N to total catches of this division. Regarding Div. 3NO, the length distribution of the Div. 3N was applied to the total catches of Div. 3NO. No samples from Div. 3M were available.

### ***Roughhead grenadier (Subarea 2 and 3)***

Table 3 shows the Spanish catches by quarter and Division for Roughhead grenadier. Roughhead grenadier is the main species in the by-catch of the Greenland halibut fishery and most of the catches are taken in Div. 3LM in the Flemish Pass area.

Table 22 shows the length distributions of Spanish total catches by Division for this specie. They were calculated quarterly for Div. 3L and 3M and for 3NO the total length distribution of the Div. 3N has been applied to total catches of Div. 3NO.

The corresponding age composition, mean weight and mean length by age of the length distribution is presented in table 23 and 24. Most part of the Roughhead grenadier catches are composed of ages 5 to 13.

## **B. Research studies**

The bottom trawl survey of NAFO Regulatory area in Div. 3NO was conducted in April and May 2002 on board R/V *Vizconde de Eza* using a Campelen gear with a stratified design. A total of 120 hauls were carry out up to a depth of 1450 m. Sixteen of those hauls were made in parallel with the Canadian R/V *Wilfred Templeman*, using also a Campelen gear. The results of the Spanish 3NO bottom trawl survey for all the period studied (1995-2002), including abundance and biomass indices, with their errors, and length distributions of American plaice, yellowtail flounder and Greenland halibut are presented in SCR 03/07, SCR 03/06, and SCR 03/08, respectively.

In 2001 the R/V *Vizconde de Eza* using a Campelen gear replaced the C/V *Playa de Menduña*, using a gear type Pedreira, as the research vessel of the survey. A catchability comparison experiment was carry out with 92 paired hauls between both vessels. Six different methods to convert the C/V *Playa de Menduña* abundance and biomass indices (1995-2000) into the R/V *Vizconde de Eza* indices were considered. Results are presented in SCR 03/05.

The EU bottom trawl survey on Flemish Cap (Div. 3M) was carried out in July 2002. A total of 120 valid hauls with the usual survey gear (Lofoten) were made up to 730 m depth. Survey results including abundance indices of the main commercial species and age distributions for cod, redfish, American plaice and Greenland halibut are presented in the SCR 03/..., and for Roughhead grenadier in SCR 03/13. Data on shrimp from this survey was presented in SCR 02/150. The results regarding the hydrographic conditions during the survey are presented in SCR 03/.. Feeding studies on the main species were continued, and samples for histological assessment of sexual maturity of cod, redfish, Greenland halibut and Roughhead grenadier have been also taken.

## **References**

Diana González Troncoso and Xabier Paz; "Testing Methods for Estimating the Factor Power Correction Obtained from the Comparative Fishing Trial: C/V *Playa de Menduña* Versus R/V *Vizconde de Eza*"; Serial No. N4811 - NAFO SCR Doc. 03/5

- X. Paz, D. González Troncoso and Esther Román.; “New time Series for Yellowtail Flounder from the Comparative Experience Between the C/V *Playa de Menguña* and the R/V *Vizconde de Eza* in the NAFO Regulatory Area of Divisions 3NO, 1995-2002”, Serial No. N4812 - NAFO SCR Doc. 03/6
- D. González Troncoso, X. Paz and Esther Román.; “Data Conversions for American Plaice from the Surveys Conducted by Spain in the NAFO Regulatory Area of Divisions 3NO, 1995-2002”, Serial No. N4813 - NAFO SCR Doc. 03/7
- D. González Troncoso, Esther Román and X. Paz.; “Transformed Results for Greenland Halibut from the Surveys Conducted by Spain in the NAFO Regulatory Area of Divisions 3NO, 1996-2002”, Serial No. N44814 - NAFO SCR Doc. 03/8
- H. Murua; “A Review on Roughhead Grenadier (*Macrourus berglax*) Biology and Population Structure on Flemish Cap (NAFO Division 3M), 1991-2002 Based on EU Flemish Cap Bottom Survey Data, Serial No. N4819 - NAFO SCR Doc. 03/13

Table 1-. Spanish catches in 2002 by species and Division in NAFO Area.

English Name	Code	Division				T. Catches (ton)
		3L	3M	3N	3O	
Greenland halibut	GHL	10401	3454	1836	177	15868
<i>Raja radiata</i>	RJR	0	0	4462	231	4693
Roughhead grenadier	RHG	1329	724	509	26	2588
<i>Urophycis. sp.</i>	Uro. sp.	593	349	128	463	1533
American plaice	PLA	268	35	438	148	889
Atlantic redfish	RED	393	159	121	87	761
<i>Raja sp.</i>	SKA	496	245	0	0	741
Witch flounder	WIT	166	138	178	50	532
Northern prawn	PRA	0	497	0	0	497
Northern wolffish	CAB	293	64	14	0	372
Dogfish sharks	DGX	152	66	82	26	326
Roundnose grenadier	RNG	104	179	9	1	294
Spinetail ray	RJQ	0	0	217	11	228
Groundfishes	GRO	32	24	65	8	129
Atlantic halibut	HAL	34	5	52	12	102
Yellowtail flounder	YEL	2	0	90	2	94
Various sharks	SKH	40	19	15	6	80
Cod	COD	1	0	34	2	37
Arctic skate	RJG	0	0	34	2	36
Atlantic wolffish	CAA	4	3	20	4	31
American angler	ANG	0	2	1	19	22
Blue antimora	ANT	13	3	2	0	18
Others	OTH	236	45	49	45	374
T. Catches (ton)		14553	6012	8357	1322	30244

Table 2. Spanish fleet effort, in days and hours, by quarter and Division, as well as the percentage of the effort by mesh size.

Division	1° Q	2° Q	3° Q	4° Q	Total	%	% by Mesh Size		
							< 90 mm	<200 mm	<302 mm
3L	849	516	434	865	2665	45	0.00	1.00	0.00
3M	445	473	216	361	1495	25	0.08	0.92	0.00
3N	140	161	499	653	1454	25	0.00	0.76	0.24
3O	53	29	114	92	288	5	0.00	0.98	0.02
Tot. Fishing Days	1487	1180	1264	1972	5903	100			
Division	1° Q	2° Q	3° Q	4° Q	Total	%			
3L	17275	10500	8828	17596	54199	54			
3M	6753	7183	3286	5478	22701	22			
3N	2110	2432	7526	9848	21915	22			
3O	433	240	938	760	2371	2			
Tot. hours	26572	20355	20578	33682	101187	100			

Table 3-. Spanish catches in 2002 for the main species by Division and quarter.

Species	Division	1° Q.	2° Q.	3° Q.	4° Q.	Total (kg)
Cod (COD)	3L	558	139	0	21	718
	3M	0	0	0	0	0
	3N	291	3983	15489	14344	34107
	3O	1345	191	0	351	1887
Total (kg)		2194	4313	15489	14716	36712
Redfish (RED)	3L	96393	93977	137238	65818	393427
	3M	65577	48668	2441	42582	159268
	3N	43586	11477	1883	64533	121479
	3O	50215	9163	2229	24898	86505
Total (kg)		255771	163284	143791	197833	760678
American plaice (PLA)	3L	101506	45351	11238	109574	267669
	3M	18396	11216	0	5833	35445
	3N	121841	54152	92702	169297	437993
	3O	94919	19192	14929	18803	147843
Total (kg)		336662	129911	118870	303507	888949
Witch flounder (WIT)	3L	50393	30383	25139	59787	165702
	3M	70226	50534	399	16722	137881
	3N	29490	15578	32226	100907	178201
	3O	11194	5058	17755	16144	50151
Total (kg)		161304	101552	75520	193560	531936
Yelowtail flounder (YEL)	3L	1257	302	0	0	1558
	3M	0	2	0	5	7
	3N	8506	13068	43267	25369	90211
	3O	1981	234	0	100	2315
Total (kg)		11744	13606	43267	25475	94092
Greenland halibut (GHL)	3L	3242138	2003941	1739761	3414753	10400593
	3M	937465	1046786	525524	944307	3454083
	3N	334678	148982	255569	1096296	1835525
	3O	22393	7167	18630	129246	177435
Total (kg)		4536674	3206877	2539483	5584602	15867636
Skates (SKA)	3L	128547	105522	133785	127864	495717
	3M	72447	71668	27716	73173	245004
Thorny skate (RJR)	3N	140858	483135	1773257	2064907	4462157
	3O	22274	18613	84262	105828	230977
Total (kg)		364126	678938	2019019	2371772	5433855
Roughhead grenadier (RHG)	3L	313231	279184	380835	355605	1328855
	3M	194950	220139	112716	196239	724044
	3N	99917	36642	45255	327387	509202
	3O	6671	1531	1411	16284	25897
Total (kg)		614769	537497	540217	895515	2587998

Table 4-. Parameters of the length-weight relationships by species.

<b>Species</b>	<b>a</b>	<b>b</b>
Greenland halibut	0.007403	3.031
Redfish	0.019	2.906
Roughhead grenadier	0.1139	2.8921
Witch flounder	0.004	3.186
Cod	0.008	3.04
American plaice	0.004	3.186
Yellowtail flounder	0.0071	3.0903
Thorny skate	0.01115	2.9471

Table 5-. Spanish Cod length distributions samplings by Division and month.

<b>COD</b>	<b><u>DIVISION...: 3N</u></b>
<b>Length (cm)</b>	<b>Jul</b>
32 - 33	1
34 - 35	4
36 - 37	6
38 - 39	8
40 - 41	12
42 - 43	14
44 - 45	12
46 - 47	12
48 - 49	14
50 - 51	16
52 - 53	18
54 - 55	18
56 - 57	22
58 - 59	24
60 - 61	18
62 - 63	16
64 - 65	14
66 - 67	8
68 - 69	8
70 - 71	7
72 - 73	1
74 - 75	1
76 - 77	0
78 - 79	1
<b>TOTAL</b>	<b>255</b>
Samples.	1
Fish Measured	191
<b>Raised Catches (kg)</b>	<b>425</b>

Table 6-. Spanish Redfish length distributions samplings by and month for Divisions 3LN.

<b>Redfish</b> Length (cm.)	DIVISION...: 3L				DIVISION...: 3N			
	May	Jun	Dec	Total	May	Jun	Dec	Total
9	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	70	112
20	0	0	0	0	0	0	0	0
21	0	5	0	7	0	0	70	112
22	23	0	0	31	0	0	210	336
23	165	0	0	225	0	0	280	447
24	330	18	0	474	0	0	210	336
25	590	28	0	843	0	0	140	224
26	994	46	0	1419	0	0	350	559
27	1350	80	0	1952	0	0	560	895
28	1656	101	0	2399	0	0	490	783
29	1989	146	0	2915	0	0	840	1342
30	1748	189	0	2646	0	0	1049	1678
31	1369	220	0	2170	0	0	350	559
32	1109	242	0	1845	0	0	840	1342
33	942	248	0	1626	0	0	490	783
34	705	190	0	1223	0	0	420	671
35	471	124	0	813	0	0	70	112
36	283	95	0	517	0	0	140	224
37	165	53	0	297	0	0	140	224
38	23	32	0	75	0	0	210	336
39	0	24	0	33	0	0	140	224
40	0	8	0	11	0	0	210	336
41	0	0	0	0	0	0	70	112
<b>TOTAL</b>	13912	1849	0	21522	0	0	7349	11743
<b>Samples</b>	2	2	0	4	0	0	1	1
<b>Fish Measured</b>	392	268	0	660	0	0	105	105
<b>Raised Catches (Kg.)</b>	5405	873	0	8574	0	25	3094	4946



Table 7-. Redfish total catches length distributions for Divisions 3LN.

Redfish Length (cm)	Division		Total 3LN
	3L	3N	
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	0	0	0
14	0	0	0
15	0	0	0
16	0	0	0
17	0	0	0
18	0	0	0
19	0	2751	2751
20	0	0	0
21	321	2751	3072
22	1422	8252	9675
23	10324	10979	21303
24	21750	8252	30002
25	38682	5502	44184
26	65112	13730	78842
27	89569	21982	111552
28	110081	19231	129312
29	133758	32961	166719
30	121414	41213	162628
31	99573	13730	113302
32	84660	32961	117621
33	74611	19231	93842
34	56119	16480	72599
35	37305	2751	40056
36	23723	5502	29225
37	13628	5502	19130
38	3441	8252	11694
39	1514	5502	7016
40	505	8252	8757
41	0	2751	2751
<b>TOTAL</b>	987513	288518	1276030
Samples	4	1	5
Fish Measured	660	105	765
<b>Total Catches (Kg.)</b>	393427	121479	514905

Table 8-. Spanish Redfish length distributions samplings by month and total catches length distributions for Division 3M.

<u>Redfish</u>	DIVISION...: 3M				
	Length (cm)	Feb	Jun	Oct	Total
9	0	105	0	756	12343
10	0	105	0	756	12343
11	0	519	0	3724	60801
12	0	2386	0	17107	279303
13	0	7863	0	56364	920245
14	0	6410	0	45948	750185
15	0	1863	0	13356	218061
16	0	621	38	4727	77177
17	0	312	19	2377	38809
18	0	207	211	2996	48915
19	0	207	384	4233	69111
20	0	102	326	3065	50042
21	0	0	211	1512	24686
22	0	0	192	1375	22449
23	3	0	38	298	4865
24	32	0	38	505	8245
25	51	0	19	505	8245
26	77	0	38	826	13486
27	109	0	19	918	14988
28	102	0	77	1285	20980
29	83	0	0	597	9747
30	64	0	0	459	7494
31	42	0	0	298	4865
32	16	0	38	390	6367
33	13	0	0	92	1502
34	3	0	19	160	2612
35	10	0	19	206	3363
36	0	0	0	0	0
37	3	0	19	160	2612
38	0	0	0	0	0
39	0	0	0	0	0
40	0	0	0	0	0
41	0	0	0	0	0
<b>TOTAL</b>	608	20700	1705	164995	2693843
<b>Samples</b>	1	2	1	4	4
<b>Fish Measured</b>	190	200	89	479	479
<b>Raised Catches (Kg.)</b>	200	882	279	9755	159268

Table 9-. Spanish Redfish length distributions samplings by month and total catches length distributions for Division 30.

Redfish Length (cm)	DIVISION...: 30		
	Jul	Total	Total 30
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	0	0	0
14	91	202	5252
15	202	447	11622
16	448	989	25715
17	875	1934	50286
18	1431	3162	82215
19	2397	5299	137779
20	2442	5397	140327
21	1887	4170	108424
22	1358	3001	78029
23	742	1641	42667
24	353	780	20281
25	193	428	11128
26	111	245	6370
27	99	220	5720
28	39	87	2262
29	20	44	1144
30	20	44	1144
31	20	44	1144
32	0	0	0
33	0	0	0
34	0	0	0
35	0	0	0
36	0	0	0
37	0	0	0
38	0	0	0
39	0	0	0
40	0	0	0
41	0	0	0
TOTAL	12728	28133	731509
Samples	3	3	3
Fish Measured	465	465	465
Raised catches (Kg.)	1505	3327	86505

Table 10-. Spanish American plaice length distributions samplings by month for Division 3L.

American Plaice Length (cm)	DIVISION.: 3L												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
16 - 17	0	0	0	0	0	0	0	0	0	0	0	0	0
18 - 19	0	0	0	0	0	0	0	0	0	0	0	0	0
20 - 21	0	0	0	0	0	0	0	0	0	0	0	0	0
22 - 23	0	0	0	0	0	0	0	0	0	0	0	0	0
24 - 25	0	0	0	0	38	0	0	0	0	0	0	0	44
26 - 27	0	7	0	28	57	0	0	0	0	0	0	0	106
28 - 29	0	22	0	28	152	0	0	0	0	0	0	0	231
30 - 31	0	36	0	114	257	0	0	0	0	0	34	0	505
32 - 33	0	50	0	283	425	0	0	0	0	0	34	0	909
34 - 35	0	166	0	453	611	0	0	0	0	0	57	0	1476
36 - 37	0	166	0	623	917	0	0	0	0	0	103	0	2075
38 - 39	0	267	0	878	695	0	0	0	0	0	239	0	2386
40 - 41	0	181	0	878	533	0	0	0	0	0	171	0	2022
42 - 43	0	86	0	566	403	0	0	0	0	0	194	0	1433
44 - 45	0	29	0	424	256	0	0	0	0	0	160	0	998
46 - 47	0	21	0	198	120	0	0	0	0	0	103	0	507
48 - 49	0	7	0	114	27	0	0	0	0	0	34	0	208
50 - 51	0	0	0	56	9	0	0	0	0	0	0	0	75
52 - 53	0	0	0	0	28	0	0	0	0	0	0	0	32
54 - 55	0	0	0	28	0	0	0	0	0	0	0	0	32
56 - 57	0	0	0	28	0	0	0	0	0	0	0	0	32
58 - 59	0	0	0	0	0	0	0	0	0	0	0	0	0
60 - 61	0	0	0	0	0	0	0	0	0	0	0	0	0
62 - 63	0	0	0	0	0	0	0	0	0	0	0	0	0
64 - 65	0	0	0	0	0	0	0	0	0	0	0	0	0
66 - 67	0	0	0	0	0	0	0	0	0	0	0	0	0
68 - 69	0	0	0	0	0	0	0	0	0	0	0	0	0
70 - 71	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	0	1038	0	4699	4528	0	0	0	0	0	1129	0	13074
Samples.	0	1	0	1	2	0	0	0	0	0	1	0	5
Fish Measured	0	144	0	166	333	0	0	0	0	0	99	0	742
Raised Catches (Kg)	0	474	0	2505	2191	0	0	0	0	0	641	0	6668

Table 11-. Spanish American plaice length distributions samplings by month for Division 3N.

American Plaice Length (cm)	DIVISION.: 3N												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
16 - 17	0	0	0	0	0	0	0	0	14	105	0	0	122
18 - 19	0	0	0	0	0	0	0	0	351	102	0	321	789
20 - 21	0	0	0	0	0	0	0	0	389	251	0	963	1633
22 - 23	0	0	0	0	0	0	0	0	375	105	0	4494	5072
24 - 25	0	0	0	0	0	0	0	106	2887	2437	0	13805	19612
26 - 27	0	0	0	0	0	0	0	600	7995	5428	304	24078	39160
28 - 29	0	0	0	0	0	0	0	458	9342	5704	969	16052	33166
30 - 31	0	0	0	0	0	0	0	423	6216	3666	1715	7393	19795
32 - 33	0	0	0	0	0	0	0	564	4253	3288	1240	2908	12494
34 - 35	0	0	0	0	0	0	0	282	3446	3692	666	2256	10545
36 - 37	0	0	0	0	0	0	0	212	3057	1351	526	698	5957
38 - 39	0	0	0	0	0	0	0	353	2989	2125	593	1085	7286
40 - 41	0	0	0	0	0	0	0	388	2925	3214	371	1426	8487
42 - 43	0	0	0	0	0	0	0	564	3491	2490	645	1274	8631
44 - 45	0	0	0	0	0	0	0	212	3172	3762	889	2114	10349
46 - 47	0	0	0	0	0	0	0	529	3848	3118	937	1236	9859
48 - 49	0	0	0	0	0	0	0	212	2378	2311	633	471	6125
50 - 51	0	0	0	0	0	0	0	106	2131	1277	711	1067	5396
52 - 53	0	0	0	0	0	0	0	70	1027	760	561	56	2525
54 - 55	0	0	0	0	0	0	0	35	1149	296	405	660	2597
56 - 57	0	0	0	0	0	0	0	0	759	619	191	28	1629
58 - 59	0	0	0	0	0	0	0	0	324	365	198	0	905
60 - 61	0	0	0	0	0	0	0	0	316	299	41	0	670
62 - 63	0	0	0	0	0	0	0	0	83	68	0	9	163
64 - 65	0	0	0	0	0	0	0	0	126	34	17	0	180
66 - 67	0	0	0	0	0	0	0	0	56	17	0	0	74
68 - 69	0	0	0	0	0	0	0	0	14	17	0	0	31
70 - 71	0	0	0	0	0	0	0	0	28	17	41	0	88
<b>TOTAL</b>	0	0	0	0	0	0	0	5114	63141	46918	11653	82394	213339
<b>Samples.</b>	0	0	0	0	0	0	0	1	8	5	2	2	18
<b>Fish Measured</b>	0	0	0	0	0	0	0	145	1583	919	342	411	3400
<b>Raised Catches (Kg)</b>	0	0	0	0	0	0	0	2415	32069	25009	7606	19691	88497

Table 12-. Spanish American plaice length distributions samplings by month for Division 30.

American Plaice Length (cm)	DIVISION.: 30												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
16 - 17	0	0	0	0	0	0	0	0	0	0	0	0	0
18 - 19	0	0	0	0	0	0	0	0	11	0	0	0	12
20 - 21	0	0	0	0	0	0	0	0	0	0	0	0	0
22 - 23	0	0	0	0	0	0	0	0	11	0	0	0	12
24 - 25	0	0	0	0	0	0	46	0	11	0	0	0	62
26 - 27	0	0	0	0	0	0	57	0	54	0	0	0	121
28 - 29	0	0	0	0	0	0	79	0	168	0	0	0	271
30 - 31	0	0	0	0	0	0	34	0	211	0	0	0	269
32 - 33	0	0	0	0	0	0	0	0	262	0	0	0	287
34 - 35	0	0	0	0	0	0	84	0	142	0	0	0	248
36 - 37	0	0	0	0	0	0	157	0	131	0	0	0	317
38 - 39	0	0	0	0	0	0	201	0	296	0	0	0	545
40 - 41	0	0	0	0	0	0	484	0	565	0	0	0	1150
42 - 43	0	0	0	0	0	0	852	0	755	0	0	0	1764
44 - 45	0	0	0	0	0	0	1008	0	360	0	0	0	1500
46 - 47	0	0	0	0	0	0	1268	0	457	0	0	0	1892
48 - 49	0	0	0	0	0	0	1765	0	285	0	0	0	2249
50 - 51	0	0	0	0	0	0	1593	0	261	0	0	0	2034
52 - 53	0	0	0	0	0	0	1038	0	318	0	0	0	1489
54 - 55	0	0	0	0	0	0	461	0	347	0	0	0	887
56 - 57	0	0	0	0	0	0	260	0	217	0	0	0	523
58 - 59	0	0	0	0	0	0	96	0	197	0	0	0	321
60 - 61	0	0	0	0	0	0	84	0	65	0	0	0	164
62 - 63	0	0	0	0	0	0	0	0	87	0	0	0	97
64 - 65	0	0	0	0	0	0	0	0	11	0	0	0	12
66 - 67	0	0	0	0	0	0	34	0	0	0	0	0	37
68 - 69	0	0	0	0	0	0	0	0	0	0	0	0	0
70 - 71	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	0	0	0	0	0	0	9601	0	5222	0	0	0	16263
<b>Samples.</b>	0	0	0	0	0	0	4	0	2	0	0	0	6
<b>Fish Measured</b>	0	0	0	0	0	0	296	0	353	0	0	0	649
<b>Raised Catches (Kg)</b>	0	0	0	0	0	0	9908	0	4298	0	0	0	15587

Table 13-. Spanish American plaice total catches length distributions for Divisions 3LNO.

American Plaice Length (cm)	DIVISION			Total 3LNO
	3L	3N	3O	
16 - 17	0	604	0	604
18 - 19	0	3905	114	4019
20 - 21	0	8082	0	8082
22 - 23	0	25103	114	25216
24 - 25	1766	97064	588	99419
26 - 27	4255	193812	1148	199215
28 - 29	9273	164146	2570	175990
30 - 31	20272	97970	2551	120793
32 - 33	36489	61836	2722	101047
34 - 35	59250	52190	2352	113792
36 - 37	83295	29483	3007	115785
38 - 39	95780	36060	5169	137009
40 - 41	81168	42004	10908	134080
42 - 43	57524	42717	16732	116972
44 - 45	40062	51220	14228	105509
46 - 47	20352	48795	17946	87092
48 - 49	8350	30314	21332	59995
50 - 51	3011	26706	19292	49009
52 - 53	1285	12497	14123	27905
54 - 55	1285	12853	8413	22551
56 - 57	1285	8062	4961	14308
58 - 59	0	4479	3045	7524
60 - 61	0	3316	1556	4872
62 - 63	0	807	920	1727
64 - 65	0	891	114	1005
66 - 67	0	366	351	717
68 - 69	0	153	0	153
70 - 71	0	436	0	436
<b>TOTAL</b>	<b>524701</b>	<b>1055870</b>	<b>154255</b>	<b>1734826</b>
Samples.	5	18	6	29
Fish Measured	742	3400	649	4791
Total Catches (Kg)	267669	437993	147843	853505

Table 14-. Spanish American plaice length distributions samplings by month for Division 3M.

American Plaice Length (cm)	DIVISION...: 3M												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
16 - 17	0	0	0	0	0	0	0	0	0	0	0	0	0
18 - 19	0	0	0	0	0	0	0	0	0	0	0	0	0
20 - 21	0	0	0	0	0	0	0	0	0	0	0	0	0
22 - 23	0	0	0	0	0	0	0	0	0	0	0	0	0
24 - 25	0	0	0	0	0	0	0	0	0	0	0	0	0
26 - 27	0	0	0	0	0	0	0	0	0	0	0	0	0
28 - 29	0	0	0	0	0	0	0	0	0	0	0	0	0
30 - 31	0	0	0	0	0	0	0	0	0	0	4	0	5
32 - 33	0	0	0	0	0	0	0	0	0	0	7	0	9
34 - 35	0	0	0	7	0	0	0	0	0	0	19	0	36
36 - 37	0	0	0	20	0	0	0	0	0	0	36	0	78
38 - 39	0	0	0	54	0	0	0	0	0	0	32	0	119
40 - 41	0	0	0	73	0	0	0	0	0	0	53	0	176
42 - 43	0	0	0	73	0	0	0	0	0	0	36	0	152
44 - 45	0	0	0	93	0	0	0	0	0	0	18	0	155
46 - 47	0	0	0	133	0	0	0	0	0	0	20	0	213
48 - 49	0	0	0	153	0	0	0	0	0	0	2	0	216
50 - 51	0	0	0	120	0	0	0	0	0	0	4	0	172
52 - 53	0	0	0	73	0	0	0	0	0	0	0	0	102
54 - 55	0	0	0	33	0	0	0	0	0	0	0	0	47
56 - 57	0	0	0	7	0	0	0	0	0	0	0	0	9
58 - 59	0	0	0	0	0	0	0	0	0	0	0	0	0
60 - 61	0	0	0	0	0	0	0	0	0	0	0	0	0
62 - 63	0	0	0	0	0	0	0	0	0	0	0	0	0
64 - 65	0	0	0	0	0	0	0	0	0	0	0	0	0
66 - 67	0	0	0	0	0	0	0	0	0	0	0	0	0
68 - 69	0	0	0	0	0	0	0	0	0	0	0	0	0
70 - 71	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	0	0	0	839	0	0	0	0	0	0	231	0	1488
Samples.	0	0	0	1	0	0	0	0	0	0	1	0	2
Fish Measured	0	0	0	126	0	0	0	0	0	0	129	0	255
Raised Catches (Kg)	80	0	0	735	180	75	0	0	0	0	126	0	1197



Table 15-. Spanish Witch flounder length distributions samplings by month for Division 3L.

Witch Flounder Length (cm)	DIVISION.: 3L									Totales
	Jan	Feb	Apr	May	Jul	Aug	Sep	Oct	Nov	
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0
26	0	0	0	14	0	0	0	0	0	46
27	0	0	0	28	0	0	0	0	0	92
28	0	0	0	14	0	0	0	0	0	46
29	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
31	0	0	0	28	0	0	0	0	0	92
32	0	0	0	42	0	0	0	0	0	138
33	0	0	0	56	0	0	0	0	0	184
34	0	0	0	99	0	0	0	0	0	322
35	0	0	0	141	0	0	0	0	0	460
36	0	0	0	197	0	0	0	0	0	644
37	0	0	0	282	0	0	0	0	0	920
38	0	0	0	268	0	0	0	0	0	874
39	0	0	0	282	0	0	0	0	0	920
40	0	0	0	254	0	0	0	0	0	828
41	0	0	0	240	0	0	0	0	0	782
42	0	0	0	197	0	0	0	0	0	644
43	0	0	0	155	0	0	0	0	0	506
44	0	0	0	113	0	0	0	0	0	368
45	0	0	0	99	0	0	0	0	0	322
46	0	0	0	70	0	0	0	0	0	230
47	0	0	0	42	0	0	0	0	0	138
48	0	0	0	28	0	0	0	0	0	92
49	0	0	0	14	0	0	0	0	0	46
50	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0
52	0	0	0	14	0	0	0	0	0	46
53	0	0	0	14	0	0	0	0	0	46
54	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	0	0	0	2691	0	0	0	0	0	8782
Samples.	0	0	0	1	0	0	0	0	0	1
Fish Measured	0	0	0	191	0	0	0	0	0	191
Raised Catches (Kg)	569	202	1370	1705	4	4	39	1	1670	5564

Table 16-. Spanish Witch flounder length distributions samplings by month Divisions 3NO.

Witch flounder Length (cm)	DIVISION...: 3N							DIVISION...: 3O				
	Jul	Aug	Sep	Oct	Nov	Dec	Total	Jul	Sep	Oct	Dec	Total
21	0	0	0	0	0	40	55	0	0	0	0	0
22	0	0	0	0	0	29	40	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	29	40	0	0	0	0	0
25	0	0	0	0	0	69	95	0	0	0	0	0
26	0	0	0	0	24	408	596	19	0	0	0	60
27	0	0	0	0	0	325	449	24	0	0	0	73
28	0	0	0	109	0	850	1325	58	0	0	0	179
29	0	0	0	0	24	1195	1683	101	0	0	0	311
30	0	0	0	109	24	1929	2846	105	0	7	0	346
31	0	0	0	150	24	2805	4112	124	0	21	0	448
32	0	0	0	410	0	3894	5942	129	0	28	0	483
33	0	0	0	738	0	2989	5145	167	0	28	0	602
34	0	0	0	902	71	2418	4682	193	0	0	0	596
35	0	0	0	2215	166	1979	6018	223	0	55	0	859
36	0	0	0	1832	308	1210	4624	233	0	62	0	914
37	0	0	0	3869	189	770	6665	304	0	69	0	1153
38	0	0	0	4020	284	220	6244	255	0	41	0	915
39	0	0	0	2871	331	137	4610	205	0	62	0	827
40	0	0	0	2516	308	392	4438	176	0	69	0	756
41	0	0	0	2037	142	69	3103	146	0	41	0	578
42	0	0	0	1504	189	162	2561	137	0	62	0	616
43	0	0	0	1203	71	141	1953	111	0	28	0	430
44	0	0	0	916	95	191	1659	73	0	35	0	332
45	0	0	0	916	118	108	1577	68	0	21	0	276
46	0	0	0	191	47	0	330	54	0	0	0	165
47	0	0	0	328	142	79	758	34	0	0	0	106
48	0	0	0	41	118	93	349	19	0	7	0	81
49	0	0	0	0	142	0	196	0	0	7	0	21
50	0	0	0	150	71	0	306	15	0	7	0	68
51	0	0	0	109	47	0	216	19	0	0	0	60
52	0	0	0	109	24	0	184	0	0	0	0	0
53	0	0	0	41	0	0	57	4	0	0	0	13
54	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	47	0	65	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	24	0	33	0	0	0	0	0
<b>TOTAL</b>	0	0	0	27286	3030	22531	72955	2996	0	650	0	11268
<b>Samples.</b>	0	0	0	2	1	3	6	2	0	1	0	3
<b>Fish Measured</b>	0	0	0	327	128	559	1014	292	0	94	0	386
<b>Raised Catches (Kg)</b>	591	456	8898	15804	2245	8087	36081	1600	2954	391	1209	6155

Table 17-. Spanish Yellowtail flounder length distributions samplings by month for Division 3N.

Yellowtail flounder Length (cm)	DIVISION.: 3N					
	Aug	Sep	Oct	Nov	Dec	Total
16	0	18	0	148	0	166
17	0	51	0	0	0	51
18	0	0	0	62	47	109
19	0	18	0	272	47	337
20	0	0	0	296	47	343
21	0	18	10	630	47	705
22	0	18	0	592	142	751
23	0	36	20	530	189	774
24	0	203	48	1270	47	1567
25	21	224	28	1824	331	2428
26	64	350	32	1528	236	2210
27	64	467	40	2491	473	3535
28	21	673	227	2305	236	3463
29	21	700	252	2071	236	3280
30	64	1154	343	2921	662	5145
31	64	1451	551	3059	898	6023
32	128	2121	414	3352	898	6914
33	171	1725	587	3451	757	6690
34	192	1598	760	3169	993	6712
35	213	1418	428	1848	851	4758
36	256	1364	455	2257	662	4995
37	299	945	324	740	709	3016
38	171	820	333	740	426	2489
39	384	651	245	616	189	2085
40	171	991	155	716	142	2175
41	64	1061	185	592	189	2091
42	128	695	135	272	0	1229
43	192	658	142	296	0	1288
44	128	567	31	62	142	930
45	192	513	108	0	0	813
46	256	349	37	272	47	961
47	43	391	22	0	0	456
48	21	166	12	62	0	261
49	21	85	10	186	0	302
50	43	76	0	0	0	119
51	0	119	0	0	0	119
52	0	0	0	0	0	0
53	21	0	0	0	0	21
<b>TOTAL</b>	<b>3413</b>	<b>21694</b>	<b>5934</b>	<b>38630</b>	<b>9643</b>	<b>79312</b>
Samples.	1	4	3	2	1	11
Fish Measured	160	885	436	521	204	2206
Raised Catches (Kg)	2110	10055	2640	12143	3602	30550

Table 18-. Spanish Greenland halibut total catches length distributions for Divisions 3LMNO.

Greenland halibut Length (cm)	DIVISION				Total 3LMNO
	3L	3M	3N	3O	
22 - 23	0	0	370	0	370
24 - 25	0	0	1111	108	1219
26 - 27	1292	0	1838	108	3238
28 - 29	2795	0	23644	720	27159
30 - 31	8900	1691	37899	612	49102
32 - 33	21881	3739	42712	1333	69665
34 - 35	64286	12811	81708	558	159364
36 - 37	180891	35829	93345	5979	316044
38 - 39	390894	98529	149215	3277	641916
40 - 41	654951	208523	168944	17468	1049887
42 - 43	1073473	336043	244451	15001	1668968
44 - 45	1434161	433848	273821	24545	2166376
46 - 47	1717353	526048	289676	19251	2552327
48 - 49	1610254	525925	253893	24887	2414959
50 - 51	1258593	422467	188740	27102	1896903
52 - 53	878746	293180	110747	17558	1300232
54 - 55	495293	205403	76419	10985	788100
56 - 57	321906	118206	45251	5312	490675
58 - 59	194735	69100	25892	2053	291780
60 - 61	127857	46584	26910	4700	206051
62 - 63	78522	32449	13686	1441	126098
64 - 65	64165	22637	12655	1333	100790
66 - 67	40170	16842	12470	1225	70706
68 - 69	23356	8651	4734	1207	37948
70 - 71	29355	5954	4007	612	17796
72 - 73	9623	8764	6123	612	25121
74 - 75	9697	3534	1997	0	15228
76 - 77	9528	2880	2565	0	14974
78 - 79	12931	1246	1388	0	15565
80 - 81	4455	919	476	0	5850
82 - 83	3179	1445	661	0	5285
84	809	470	0	0	1279
85+	6372	2558	251	0	9182
<b>TOTAL</b>	<b>10730425</b>	<b>3448976</b>	<b>2199795</b>	<b>187988</b>	<b>16567184</b>
Samples	132	86	26	3	247
Number measured	23955	13243	4336	471	42005
Total Catches (Kg.)	10400593	3454083	1835525	177435	15867636

Table 19-. Greenland halibut total age distributions, mean length and mean weight of the Spanish catches for Divisions 3LMNO.

Greenland halibut AGE	3L			3M			3N		
	Numbers	M. L.	M. W.	Numbers	M. L.	M. W.	Numbers	M. L.	M. W.
1									
2	1100	28.9	190	54	31.5	242	5954	28.4	181
3	16405	32.3	268	2484	33.4	292	52939	30.8	231
4	160462	36.8	394	34248	37.1	404	140958	35.1	343
5	1092234	40.9	543	309691	41.2	554	355585	39.7	500
6	3100678	45.0	724	958558	45.0	726	629593	44.4	698
7	4208834	49.1	943	1365562	49.2	951	674926	48.7	924
8	1438927	53.2	1201	511798	53.3	1213	208857	53.0	1191
9	305099	57.7	1527	113265	57.7	1528	45516	57.9	1544
10	122267	60.8	1793	46458	60.8	1792	23262	60.9	1799
11	78652	63.4	2038	30252	63.4	2038	16416	63.7	2063
12	76833	65.9	2299	30033	66.0	2304	17270	66.2	2333
13	63984	68.8	2616	23633	68.5	2578	15173	68.9	2625
14	39997	74.1	3282	14458	73.1	3155	8932	72.8	3094
15	13114	78.7	3954	5021	77.9	3845	2640	76.0	3551
16	7451	79.6	4054	1624	80.1	4131	1269	79.1	3970
17	3324	83.7	4728	1411	84.7	4878	462	83.3	4655
18	1062	85.5	5022	426	85.5	5022	42	85.5	5022
Total	10730425			3448976			2199795		

Greenland halibut AGE	3O			Total 3LMNO		
	Numbers	M. L.	M. W.	Numbers	M. L.	M. W.
1						
2	247	27.5	165	7355	28.5	183
3	1257	30.6	228	73085	31.2	242
4	3984	35.8	363	339651	36.1	373
5	19523	40.6	532	1777033	40.7	536
6	48838	44.6	709	4737668	44.9	721
7	70881	49.5	971	6320204	49.1	943
8	27924	53.1	1194	2187506	53.2	1203
9	5418	57.8	1538	469298	57.7	1529
10	3377	60.9	1801	195365	60.8	1793
11	1883	63.5	2044	127203	63.5	2042
12	1932	66.1	2314	126069	66.0	2305
13	1897	68.3	2549	104687	68.7	2607
14	772	70.9	2851	64160	73.6	3222
15	56	70.5	2799	20830	78.2	3873
16				10343	79.7	4056
17				5197	83.9	4762
18				1530	85.5	5022
Total	187988			16567184		

Table 20-. Spanish Thorny skate length distributions samplings by month for Divisions 3LN.

Thorny skate Length (cm)	DIVISION...: 3L		DIVISION...: 3N				
	Dec	Total	Aug	Sep	Oct	Nov	Total
28 - 29	0	0	0	0	0	0	0
30 - 31	0	0	0	0	0	0	0
32 - 33	0	0	0	0	0	0	0
34 - 35	27	55	0	0	0	0	55
36 - 37	71	145	0	0	0	0	145
38 - 39	124	256	0	0	0	0	256
40 - 41	115	237	0	0	0	0	237
42 - 43	299	618	0	0	0	0	618
44 - 45	384	792	0	0	0	0	792
46 - 47	327	676	0	0	0	0	676
48 - 49	278	575	0	0	0	0	575
50 - 51	102	210	0	0	0	0	210
52 - 53	128	265	0	0	0	0	265
54 -55	177	366	0	0	0	0	366
56 - 57	80	165	0	0	0	0	165
58 - 59	49	100	0	0	0	0	100
60 - 61	49	100	0	0	0	0	100
62 - 63	102	210	0	0	0	0	210
64 - 65	49	100	0	0	0	0	100
66 - 67	49	100	0	0	0	0	100
68 - 69	80	165	0	0	0	0	165
70 - 71	22	45	0	0	0	0	45
72 - 73	22	45	0	0	0	0	45
74 - 75	75	155	0	0	0	0	155
76 - 77	22	45	0	0	0	0	45
78 - 79	27	55	0	0	0	0	55
80 - 81	0	0	0	0	0	0	0
82 - 83	0	0	0	0	0	0	0
84 - 85	0	0	0	0	0	0	0
86 - 87	0	0	0	0	0	0	0
88 -89	0	0	0	0	0	0	0
90 - 91	0	0	0	0	0	0	0
92 -93	0	0	0	0	0	0	0
TOTAL	2658	5482	13358	210931	143547	42658	411437
Samples.	2	2	2	7	4	2	15
Fish Measured	108	108	289	1263	781	331	2664
Raised Catches (Kg)	3770	7781	28628	422333	311976	71444	836308

Table 21-. Spanish Thorny skate total catches length distributions for Divisions 3LNO.

Thorny skate Length (cm)	DIVISION		Total 3LNO
	3L	3NO	
28 - 29	0	505	505
30 - 31	0	8300	8300
32 - 33	0	16381	16381
34 - 35	3504	19254	22758
36 - 37	9238	46257	55495
38 - 39	16309	60736	77045
40 - 41	15099	84771	99870
42 - 43	39372	102111	141483
44 - 45	50457	117083	167540
46 - 47	43067	119844	162911
48 - 49	36632	122712	159344
50 - 51	13379	148273	161652
52 - 53	16883	143049	159931
54 - 55	23317	144889	168207
56 - 57	10512	115675	126187
58 - 59	6371	131556	137927
60 - 61	6371	113503	119874
62 - 63	13379	93166	106545
64 - 65	6371	93357	99728
66 - 67	6371	76667	83038
68 - 69	10512	90287	100799
70 - 71	2867	58311	61178
72 - 73	2867	63648	66515
74 - 75	9875	80910	90785
76 - 77	2867	70006	72873
78 - 79	3504	66263	69767
80 - 81	0	42413	42413
82 - 83	0	18912	18912
84 - 85	0	15920	15920
86 - 87	0	7727	7727
88 - 89	0	3025	3025
90 - 91	0	662	662
92 - 93	0	1145	1145
TOTAL	349123	2277318	2626442
Samples.	2	15	17
Fish Measured	108	2664	2772
Raised Catches (Kg)	495717	4693134	5188851

Table 22-. Spanish Roughhead grenadier total catches length distributions for Divisions 3LMNO.

Roughhead grenadier Length (cm)	DIVISION			Total 3LMNO
	3L	3M	3NO	
7	965	126	215	1306
8	2629	201	158	2988
9	7527	1534	1463	10524
10	17854	4543	6198	28595
11	34697	13574	10460	58731
12	84027	37545	18580	140152
13	164486	66680	46845	278011
14	293303	118104	85613	497019
15	429596	162896	130464	722957
16	431360	165782	149805	746947
17	400476	155730	78052	634258
18	311793	111289	67635	490717
19	180361	90349	40332	311042
20	101674	64481	37376	203531
21	57470	41508	23444	122423
22	40132	32544	16973	89649
23	19240	20588	11751	51579
24	16203	14680	11292	42174
25	15496	15028	12396	42920
26	9670	14701	13315	37686
27	9129	10465	9369	28963
28	13376	12391	9800	35566
29	11739	11326	11966	35031
30	10667	8890	8264	27822
31	11123	7205	6026	24354
32	4746	7617	7791	20154
33	6346	2561	5151	14058
34	6118	2538	2640	11297
35	1558	3105	3530	8192
36	2427	1443	2482	6352
37	2480	463	0	2943
38	413	552	0	965
39	1139	259	0	1398
40	963	0	0	963
<b>TOTAL</b>	2701182	1200699	829386	4731267
Samples.	47	33	16	96
Fish Measured	6809	5088	2097	13994
<b>Raised Catches (Kg)</b>	1328855	724044	535099	2587998



Table 23-. Roughhead grenadier total age distributions, mean length and mean weight of the Spanish catches by Division.

Roughhead grenadier	Div. 3L			Div. 3M			Div. 3NO		
	AGE	Total	M. L. (cm)	M. W. (gr)	Total	M. L. (cm)	M. W. (gr)	Total	M. L. (cm)
2	965	7.5	42.5	126	7.5	42.5	215	7.5	42.5
3	12310	9.5	83.0	2316	9.7	89.2	2674	9.9	92.9
4	34817	10.9	123.0	11234	11.1	128.5	9960	10.9	121.5
5	106738	12.5	181.3	44673	12.5	181.0	29302	12.6	183.9
6	389087	14.0	252.3	154841	14.0	250.4	113809	14.1	254.9
7	440449	15.3	319.2	172335	15.3	319.3	134973	15.3	319.6
8	577221	16.3	388.5	222603	16.4	389.3	164746	16.2	377.4
9	425017	17.4	465.9	165628	17.5	471.6	100449	17.3	458.5
10	221391	18.5	553.6	95586	18.8	580.6	54034	18.8	576.8
11	182761	19.1	611.4	94126	19.5	650.0	50589	19.5	649.2
12	119736	20.4	731.1	75105	20.7	768.9	40947	20.9	786.8
13	59026	21.4	849.1	41820	21.9	910.2	24478	22.5	981.7
14	31508	24.0	1172.0	31391	24.2	1207.7	22872	24.6	1262.9
15	18125	25.1	1348.9	19700	25.3	1364.5	14578	25.7	1434.1
16	18243	27.3	1713.0	17762	27.4	1716.8	14723	27.6	1760.8
17	21389	29.2	2037.6	19017	28.8	1954.2	17605	29.0	1991.2
18	15925	30.9	2408.3	14078	30.7	2369.6	14236	30.9	2411.3
19	9374	32.2	2701.6	7899	32.4	2756.0	8106	32.4	2765.9
20	5608	34.3	3218.6	2980	33.9	3111.2	4991	33.5	3020.0
21	4940	32.7	2823.7	4127	32.8	2828.7	3372	32.9	2850.4
22	2448	37.7	4240.2	1615	36.8	3954.1	1157	35.2	3451.4
23	2175	34.6	3378.9	1342	32.8	2859.0	1281	33.5	3045.5
24	1377	37.6	4177.6	396	36.0	3704.4	289	35.0	3396.7
25	550	40.5	5166.2	0			0		
<b>Total</b>	<b>2701182</b>			<b>1200699</b>			<b>829386</b>		

Table 24-. Roughhead grenadier total age distributions, mean length and mean weight of the Spanish catches for Divisions 3LMNO.

Roughhead grenadier AGE	Div. 3LMNO		
	Total	M. L. (cm)	M. W. (gr)
2	1306	7.5	42.5
3	17300	9.6	85.4
4	56012	10.9	123.8
5	180713	12.5	181.7
6	657736	14.0	252.3
7	747756	15.3	319.3
8	964570	16.3	386.8
9	691093	17.4	466.2
10	371011	18.6	563.9
11	327476	19.3	628.4
12	235788	20.6	752.8
13	125324	21.8	895.4
14	85771	24.2	1209.3
15	52403	25.3	1378.5
16	50728	27.4	1728.2
17	58012	29.0	1996.2
18	44239	30.9	2396.9
19	25380	32.3	2739.1
20	13578	33.9	3122.0
21	12440	32.8	2832.6
22	5220	36.9	3976.9
23	4798	33.8	3144.5
24	2062	36.9	3977.4
25	550	40.5	5166.2
<b>Total</b>	<b>4731267</b>		