

Serial No.453Document No.12ANNUAL MEETING - MAY 1957Details of the PYSBE (Spain) Fishery 1932-1951

The following tables give a summary of the statistical data on the PYSBE otter trawl fishery in the Convention Area in 1932-1951 which has been reported to the Commission. The data were collected by PYSBE and reported to the Commission through the Direccion General de Pesca Maritima. The data as reported gave all the information by individual vessels and gave the exact dates of sailing and landing. It also identified the "other groundfish" landings by species. These data are now filed in the Secretariat.

1. The total catches per hour and the cod catch per hour in Sub-areas 3,4 (mostly Subarea 3) are given in Fig.1 for the years 1932-1955.

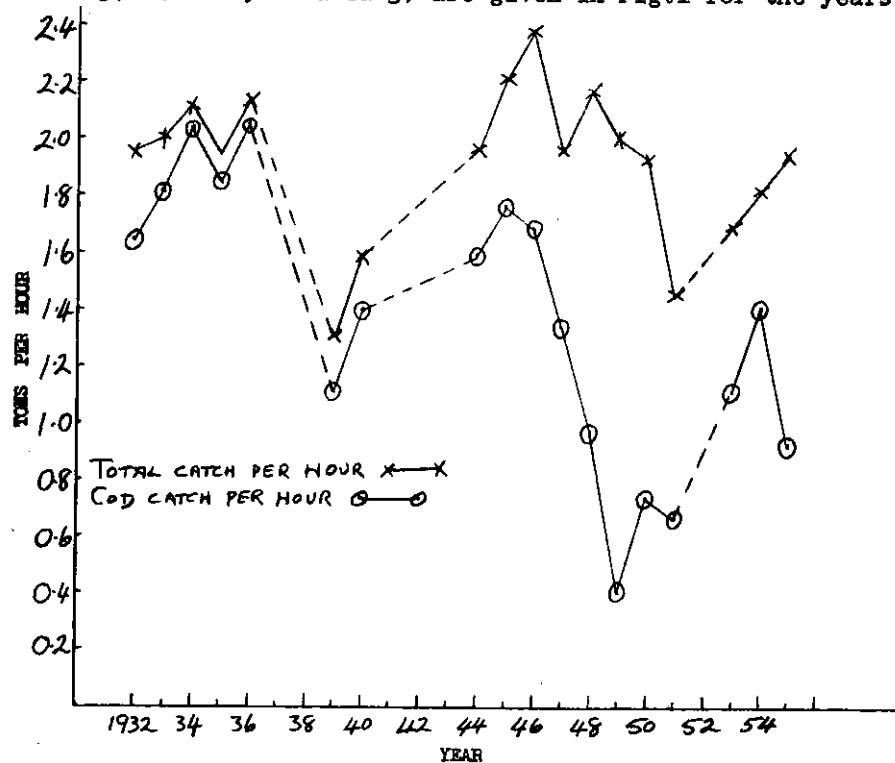


Fig.1 - The mean annual total catch per hour and cod catch per hour in Subareas 3 and 4 by Spanish otter trawlers for the years 1932-1955.

2. The total catches per hours fishing for each year are plotted against the total catches per days fishing (all areas together) in Fig.2. The relationship is clearly linear with no evidence of gear saturation in the catch per day. This may be due to the fact that the hours trawling is a refined equivalent of the number of days fished and is not an estimate of the time the trawl was actually on the bottom. (See footnote 1, page 6).

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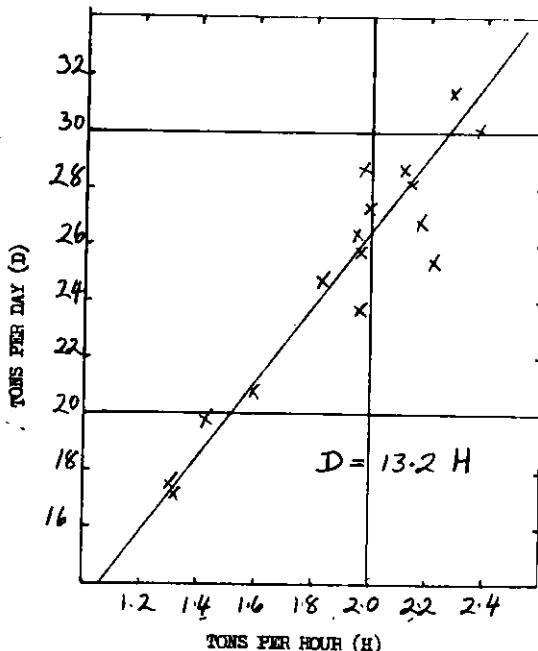


Fig.2 - Relationship between the mean annual catch per day and the mean annual catch per hour for Spanish otter trawlers.
Catch per day = 13.2 X Catch per hour.

3. The following vessels took part in the fishery in the years indicated. There were eight motor vessels and five steam vessels.

Vessel Name	Motor or Steam	Gross Tonnage	Potential Indicated H.P.	1932	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	
Abrego	Motor	1241	1000								x	x	x	x	x	x	x	x	x	x	x	x		
Alisio	"	1359	1300																					
Aquilon	"	1360	1300																					
Cierzo	"	1241	1000																					
Mareiro	"	1359	1300								x	x	x	x	x	x	x	x	x	x	x	x	x	
Tifon	"	1350	1300																					
Tornado	"	1359	1300																					
Vendaval	"	1359	1300								x	x	x	x	x	x	x	x	x	x	x	x	x	
Baskal-Erria	Steam	1190	900								x	x	x	x	x	x	x	x	x	x	x	x	x	
Galerna	"	1204	940																					
Hispainia	"	1197	900								x	x												
Mistral	"	1252	950								x	x	x	x	x	x	x	x	x	x	x	x	x	x
Tramontana	"	1252	950								x	x	x	x	x	x	x	x	x	x	x	x	x	x
Total		1286	1111	6	6	6	6	3	4	7		2	4	9	11	13	13	13	13	13	13	13	13	
Motor	8	1328	1225	1	1	1	1	1	2	2		2	2	7	8	8	8	8	8	8	8	8	8	8
Steam	5	1219	928	5	5	5	5	2	2	5		-	2	2	3	5	5	5	5	5	5	5	5	5

4. The mean annual catches per hour of the motor trawlers and steam trawlers fishing in Subareas 3 and 4 are given in the following table for the years 1947-1951. This data is plotted in Fig.3. There is nothing to show that the two classes of vessels are not of equal fishing power.

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Total Catches per Hour of Spanish Otter Trawlers fishing in Subareas 3,4.

Year	Catches per Hour	
	Steam Trawlers	Motor Trawlers
1947	1.83	2.03
1948	2.28	2.11
1949	2.04	1.98
1950	1.84	1.99
1951	1.43	1.48
Mean	1.88	1.92

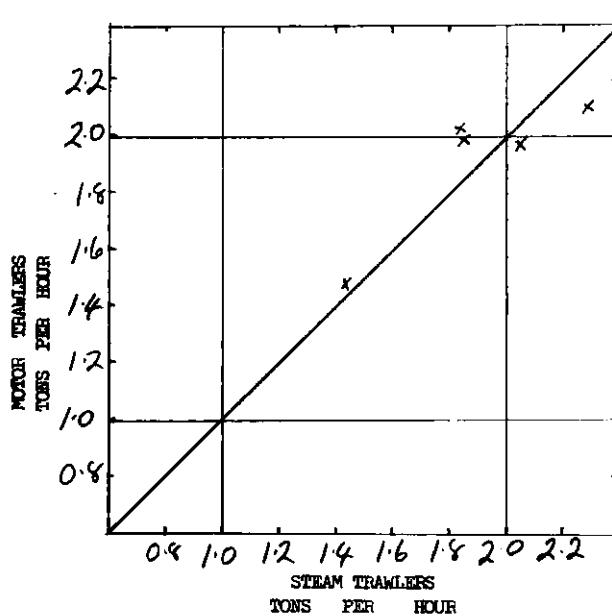


Fig.3 - Relationship between mean annual catch per hour for the Spanish motor otter trawlers and steam otter trawlers.

Year Area No. of Vessels	Sailings Ending Date	Days -										Hours on Banks -										Landings -										Catches per Unit Effort -																		
		Days					Lysing Fishing					Cod					Haddock					Groundfish					Degecho					Trawlings																		
		No.	5	6	7	8	No.	5	6	7	8	No.	5	6	7	8	No.	5	6	7	8	No.	5	6	7	8	No.	5	6	7	8	No.	5	6	7	8														
1932 1,3	1 Jul-Dec	95	42	148	1,630	52	598	480	486	984	1,950	228	-	-	-	2,178	1,20	1,34	22.9	17.2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
3 3	2 Feb-Jul	301	89	422	3,761	683	2,780	492	579	4,482	5,553	1,215	21	-	-	6,789	1,48	1,81	22.6	12.5	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
3 5	5 Jul-Dec	407	170	622	4,800	778	4,200	993	699	6,777	8,469	1,515	-	-	-	9,284	1,76	2,08	24.5	11.8	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Total 1932 6	Total	708	259	1,044	8,561	1,461	6,980	1,485	1,278	11,259	14,022	2,730	21	-	-	16,773	1,64	1,96	23.7	12.1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
1933 3	3 Feb-Jun	289	97	417	4,080	1,028	1,828	1,002	1,005	4,578	6,585	591	72	-	-	7,248	1,61	1,78	25.1	14.1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
3 6	6 Jun-Dec	473	215	761	6,750	558	4,044	894	2,361	12,681	12,966	1,470	3	-	-	14,439	1,92	2,14	30.5	14.3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Total 1933 6	Total	762	312	1,178	10,830	1,586	5,872	1,896	3,366	14,289	19,551	2,061	75	-	-	21,687	1,81	2,00	28.5	14.2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
1934 3	3 Jan-Jun	291	130	428	3,610	746	2,628	2,760	2,121	429	5,310	263	830	-	-	7,103	1,47	1,97	24.4	12.4	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									
3 4	4 Jun-Oct	279	119	431	3,820	803	2,073	1,257	1,788	4,167	7,212	423	102	-	-	7,737	1,89	2,03	27.7	13.7	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									
Total 1934 6	Total	617	261	964	8,335	959	5,514	3,333	4,587	9,216	17,136	621	102	22	22	10,144	2,20	2,25	30.0	15.4	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									
Total 1934 6	2 Jan-Nov	183	72	284	2,539	104	1,749	1,065	1,920	2,058	5,025	18	-	-	-	8	5,051	1,98	1,99	27.5	13.7	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
1935 3	3 Jan-Jul	249	121	416	3,126	983	1,867	1,401	3,129	3,348	7,848	24	-	-	-	639	102	102	30	22,932	2,04	2,11	23.7	13.6	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
3 6	6 Jun-Dec	266	222	884	7,875	661	5,048	2,562	4,743	5,157	12,462	1,065	53	2	2	7,927	2,51	2	54	31.0	12.6	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
Total 1935 6	Total	815	343	1,500	11,001	1,644	6,915	3,963	7,872	8,475	20,310	1,089	57	26	21,402	1,85	1,95	25.4	13.5	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									
1936 3,4	3 Jan-Jun	257	120	422	3,391	571	2,230	1,758	3,102	2,097	6,957	150	145	4	4	7,256	2,05	2,14	28.2	13.2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
1939 3	3 Jul-Dec	328	81	434	4,393	730	2,749	771	792	3,372	4,935	792	-	-	-	5,727	1,12	1,30	17.5	13.4	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
3,4	1 Jul-Dec	102	33	154	1,278	145	1,025	216	213	218	1,347	336	-	7	1,690	1,05	1,32	16.6	12.5	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									
Total 1939 4	Total	430	114	588	5,671	875	3,774	987	1,005	4,290	6,282	1,128	-	7	7,417	1,11	1,31	17.2	13.2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
1940 3	3 Jan-Jul	286	112	480	3,353	724	2,787	861	795	2,670	4,326	786	49	-	5,161	1,29	1,54	18.0	11.7	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
3,4	4 Jan-Jul	403	126	581	5,673	1,140	2,859	1,779	1,962	4,557	8,298	717	186	-	9,201	1,46	1,62	22.8	14.1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
Total 1940 7	Total	689	238	1,061	9,026	1,864	5,646	2,640	2,757	7,227	12,624	1,503	235	-	14,162	1,40	1,59	20.8	13.1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
1943 1,3	2 Jul-Dec	198	67	271	2,736	678	1,338	1,831	2,867	1,170	5,888	354	6	-	6,228	2,14	2,28	31.4	13.8	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Year Area	No. of Vessels	Total Landing	Days			Hours on Banks			Landings			Catch per Unit Effort		
			Buoys		Absent	Trawls		Netting	Cod		Haddock		Ground Fish	
			Days	Hours		Days	Hours	Total	Days	Hours	Total	Days	Total	per Hour
1944 3 4	Mar-Dec	358 192 652	5,204	745	2,643	3,159	1,329	3,762	8,250	1,785	179	48	10,262	1.59 1.97 28.7
1945 3,4 7	Jan-Aug	634 216 1,054	7,936	1,114	5,839	5,874	2,529	7,314	15,717	2,700	317	2	18,736	1.98 2.36 29.6
3,4	Jun-Jan	687 302 1,267	7,143	3,437	5,888	2,952	2,016	5,929	10,887	3,708	166	1	14,762	1.52 2.97 21.5
Total 1945 9		1,321 518 2,321	15,079	4,851	11,727	8,826	4,545	13,233	26,604	6,408	483	3	33,498	1.76 2.22 25.4
1946 3 1	Apr-Sep	90 30 131	1,118	79	963	384	690	1,803	2,877	42	58	8	2,985	2.57 2.67 33.2
3 6	Jul-Dec	478 184 750	5,938	1,590	3,944	2,868	1,473	1,434	5,725	6,933	152	-	12,860	0.97 2.16 26.9
Total		568 214 881	7,056	1,669	4,907	3,252	2,163	3,237	8,652	6,975	210	8	15,045	1.23 2.25 27.9
3,4 10	Feb-Oct	836 296 1,278	11,034	1,876	7,154	3,534	3,390	15,693	23,217	3,000	1,029	38	27,284	2.10 2.47 32.6
3,4 2	Aug-Dec	144 61 216	1,497	937	1,032	594	285	150	1,029	2,379	75	-	3,483	0.69 2.24 24.2
Total		980 357 1,494	12,521	2,813	8,186	4,128	4,275	15,843	24,246	5,379	1,104	38	30,767	1.94 2.46 31.4
Total 1946 11		1,548 571 2,375	19,577	4,482	13,093	7,380	6,438	19,080	32,896	12,354	1,314	46	46,612	1.68 2.36 30.1
1947 2 9	Jul-Dec	708 264 1,100	8,613	2,976	5,403	3,993	3,390	3,201	10,584	7,620	145	-	18,349	1.23 2.13 25.9
3,4 11	Jan-Sep	1,355 464 2,204	18,513	3,301	10,706	7,320	5,127	1,772	1,636	6,771	2,428	-	34,834	1.38 1.38 25.7
Total 1947		2,083 728 3,304	27,126	6,277	16,109	11,322	8,517	16,380	36,219	14,394	2,573	-	53,183	1.34 1.96 25.8
1948 3 6	Jan-Sep	574 208 948	6,538	1,910	5,328	2,337	1,659	2,127	6,123	8,304	678	-	15,105	0.94 2.31 26.3
3 6	Jun-Dec	489 201 787	6,258	1,696	3,782	3,597	1,335	990	5,922	5,612	195	-	12,729	0.95 2.03 26.0
Total		1,063 409 1,735	12,796	3,606	9,110	5,934	2,994	3,117	12,045	14,916	873	-	27,834	0.94 2.18 26.2
3,4 7	Jan-Sep	765 232 1,145	9,192	2,606	6,562	4,026	2,760	9,576	11,376	535	-	21,487	1.04 2.34 28.1	
3,4 2	Jul-Dec	175 45 234	2,698	717	785	1,323	384	2,285	1,992	2,57	113	-	4,262	0.74 1.58 24.4
Total		940 277 1,379	11,890	3,323	7,347	5,349	3,144	3,075	11,588	13,533	648	-	25,749	0.97 2.17 27.4
Total 1948 13		2,003 686 3,114	24,686	6,929	16,457	11,283	6,138	6,192	23,613	28,449	1,521	-	53,583	0.95 2.17 26.6
1949 1,3 3	Jul-Nov	280 100 396	4,169	595	1,947	381	1,644	4,236	6,261	2,289	8	-	8,558	1.50 2.05 30.6
3 4	Feb-Jul	333 136 567	4,527	931	2,455	1,116	168	1,35	1,419	8,481	237	-	10,137	0.31 2.24 30.4
3 7	Jul-Dec	586 213 906	7,936	1,834	4,289	2,085	585	912	3,582	11,604	61	-	15,247	0.45 1.92 26.0
Total		919 349 1,473	12,463	2,765	6,744	3,201	753	1,047	5,001	20,085	298	-	25,384	0.40 2.04 27.6

Year Area No. of Vessels	Sailings	Date		Days		Hours on Banks		Landing		Landing		Catches per Unit Effort								
		Banks	Banks	Out	In	Absent	Trawling	Lying	To Market	Cod	Haddock	Hake	Groundfish							
1949 3,4 (contd)	8	Jan-Dec	872	268	1,369	11,524	2,863	6,547	2,229	921	1,674	4,824	17,112	727	-	22,663	0.42	1.97	26.0	13.2
NK	1	...	...	...	...	...	...	...	192	567	1,422	2,181	648	-	-	2,829	-	-	-	-
Total 1949	13								6,003	3,885	8,379	18,267	40,134	1,033	-	59,434	-	-	-	-
1950 1,3	1	Apr-Oct	111	44	165	1,480	76	1,105	165	345	1,923	2,433	495	284	-	3,212	1.64	2.17	28.9	13.1
3	8	Jan-Aug	793	273	1,212	10,341	2,658	6,017	1,341	489	2,058	3,888	11,634	5,536	-	21,058	0.38	2.04	26.6	13.0
3	10	Jul-Dec	906	292	1,340	12,070	2,046	7,558	3,225	1,992	6,123	11,340	10,152	23	-	21,515	0.94	1.78	23.8	13.3
Total	1,699								4,566	2,481	8,181	15,288	21,786	5,559	-	42,573	0.68	1.90	25.1	13.2
3,4	1	Jan-Jun	110	24	144	1,443	505	676	213	66	408	687	1,989	532	-	3,208	0.48	2.22	29.2	13.1
3,4	1	Jul-Dec	106	40	155	1,506	271	760	207	442	1,725	2,373	564	-	-	2,937	1.58	1.95	27.7	14.2
Total	216								420	507	2,133	3,060	2,553	532	-	6,145	1.04	2.08	28.4	13.6
0,3	3	Feb-Sep	392	111	558	5,941	728	2,697	738	528	2,019	3,285	2,910	1,768	-	7,903	0.55	1.33	20.2	15.2
Total 1950	13								5,889	3,861	14,256	24,006	27,744	8,083	-	59,833	0.73	1.83	24.7	13.5
1951 1,3	1	Mar-Nov	187	43	246	2,382	442	1,671	231	390	1,758	2,179	567	148	-	3,094	1.00	1.30	16.6	12.7
2,3	11	Jul-Dec	998	363	1,512	13,490	2,887	7,604	915	555	7,572	9,042	9,570	8	-	18,620	0.67	1.38	18.7	13.5
3	3	Jan-Jul	337	88	463	4,977	1,035	2,077	162	270	1,968	2,400	5,027	1,252	-	6,679	0.48	1.34	19.8	14.8
3,4	9	Jan-Aug	1,078	268	1,463	15,366	2,285	8,186	1,104	1,254	8,574	10,932	10,185	1,976	-	23,093	0.71	1.50	21.4	14.2
Total 1951	13								2,412	2,469	19,872	24,753	23,399	3,384	-	51,486	0.68	1.42	19.8	13.9
TOTAL 1932-1951									78,492	68,505	162,568	309,645	165,459	20,041	164	495,309	-	-	-	-

Footnotes: (1)(a)Catches per unit effort are by Hours Trawling or Days on Banks. (b)Days on Banks are divided into Hours Trawling, Hours Lying To and Remainder. The sum of Hours on Banks is 24 X number of Days on Banks. (c)Hours Trawling may include time of shooting and hauling net as well as time actually dragging. (d)Days Absent also include days spent in port abroad.

(2)One or two campaigns were made each year. The months refer to these campaigns. In 1947 1 vessel was absent from Feb-Dec but 155 days were spent in port abroad.

(3)The areas are 1,3-ICNAF Subareas 1&3; 2,3-ICNAF Subareas 2&3; 3-ICNAF Subarea 3; 3,4-ICNAF Subareas 3&4; 0,3-Outside ICNAF Areas and Subareas 3.

(4)Factors to convert green salted weight to round fresh weight are given in ICNAF Statistical Bulletin Vol.5, p.13.