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Details 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 Direcccion 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 Subareas 3,4 (mostly Subarea 3) are given in Fig.1 for the years 1932-1955.

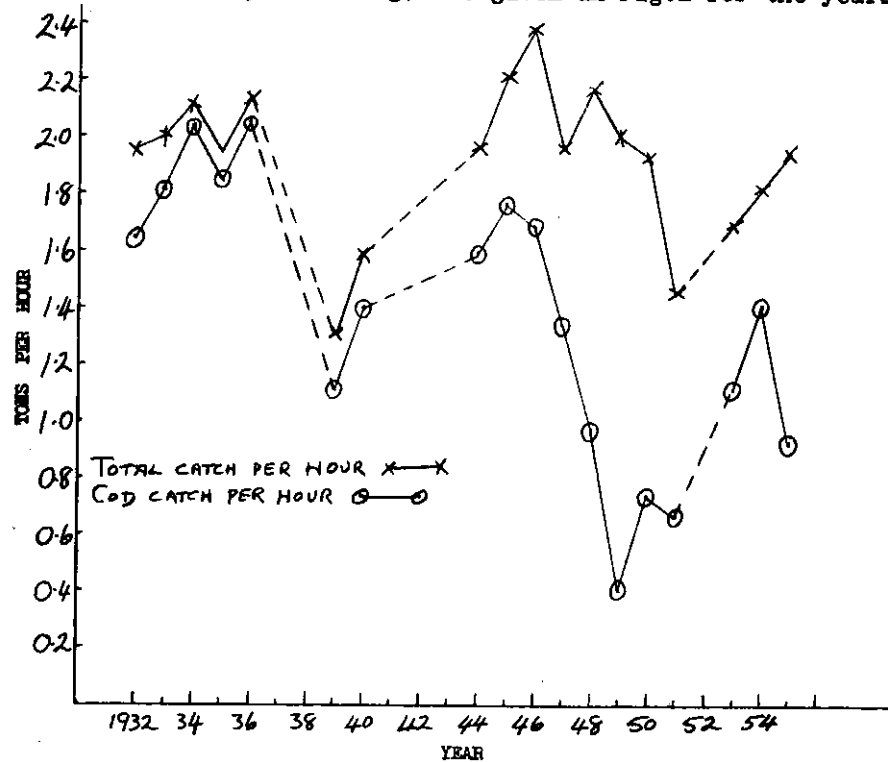


Fig.1 - The mean annual total catch per hour and cod catch per hour in Subareas 3 and 4 by Spanish otter trawlers for the years 1932-1954.

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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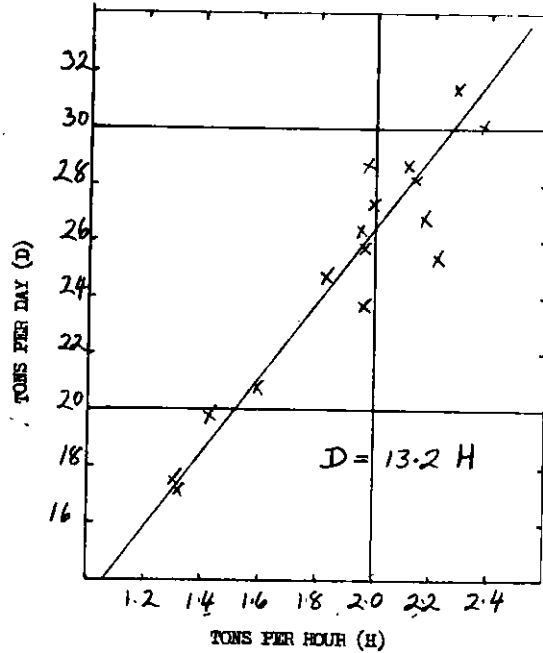


Fig.2 - Relationship between the mean annual catch per day and the mean annual catch per hour for Spanish otter trawlers.
Catch per day = 13.2 X Catch per hour.

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.	Year																		
				1932	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Abrego	Motor	1241	1000																			
Alisio	"	1359	1300							x	x			x	x	x	x	x	x	x	x	x
Aquilon	"	1360	1300																			
Cierzo	"	1241	1000																			
Mareiro	"	1359	1300							x	x											
Tifon	"	1350	1300																			
Tornado	"	1359	1300																			
Vendaval	"	1359	1300																			
Bisbal-Erria	Steam	1190	900																			
Galerna	"	1204	940																			
Hispania	"	1197	900																			
Mistral	"	1252	950																			
Tramontana	"	1252	950																			
Total		1286	1111																			
Motor	8	1328	1225																			
Steam	5	1219	928																			

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

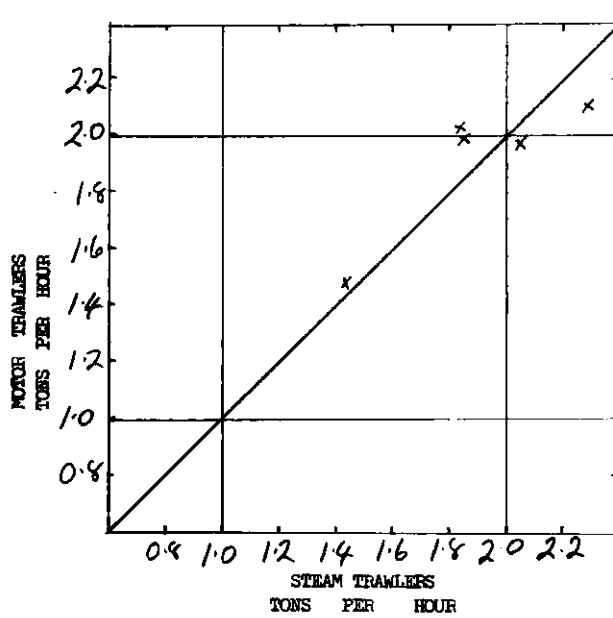


Fig.3 - Relationship between mean annual catch per hour for the Spanish motor otter trawlers and steam otter trawlers.

Year	Area	No. of Vessels	- Date -				- Days -				- Hours on Reels -				- Landings -				- Catch per Unit Effort -			
			Sailing	Landing	On Reels	At House	Absent	Trawling	Lying to	Remainder	Large	Medium	Small	Total	Headock	Other Groundfish	Degecho	Hotel Landings	Cod Total per Hour	Total Total Hours per Day		
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	14.5
1945	3,4	7	Jan-Aug		634	216	1,054	7,936	1,414	5,819	5,874	2,529	7,314	15,717	2,700	317	2	18,736	1.98	2.36	29.6	12.5
	3,4	8	Jun-Jan		687	302	1,267	7,143	3,437	5,888	2,952	2,016	5,919	10,887	3,708	166	1	14,762	1.52	2.07	21.5	10.4
	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	11.4
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	12.4
	3	6	Jul-Dec		478	184	750	5,938	1,590	3,944	2,868	1,471	1,434	5,775	6,933	152	-	12,860	0.97	2.16	26.9	12.4
	Total				568	214	881	7,056	1,669	4,907	3,252	2,163	3,237	8,652	6,975	210	8	15,104	1.23	2.25	27.9	12.4
3,4	10	2	Feb-Oct		836	296	1,278	11,034	1,876	7,154	3,534	3,990	15,693	23,217	3,000	1,029	38	27,284	2.10	2.47	32.6	13.2
3,4	2	2	Aug-Dec		144	61	216	1,487	937	1,032	594	285	150	1,029	2,379	75	-	3,483	0.69	2.34	24.2	10.3
	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	12.8
Total 1946	11	11			1,548	571	2,375	19,577	4,482	13,093	7,380	6,438	19,080	32,895	12,554	1,314	46	46,612	1.68	2.36	30.1	12.6
1947	3	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	12.2
	3,4	11	Jan-Sep		1,155	464	2,204	18,513	3,351	10,706	7,320	5,127	11,753	21,631	6,771	2,428	-	34,834	1.38	1.88	25.7	12.7
	Total 1947				2,063	728	3,304	27,126	6,277	16,109	11,322	8,517	16,380	36,219	14,391	2,573	-	53,183	1.34	1.96	25.8	13.2
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	11.4
	3	6	Jun-Dec		489	201	787	6,258	1,696	3,782	3,597	1,335	990	5,922	6,612	195	-	12,729	0.95	2.03	26.0	12.8
	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	12.0
3,4	7	7	Jan-Sep		765	232	1,145	9,192	2,606	6,562	4,026	2,760	2,790	9,576	11,376	535	-	21,487	1.04	2.34	28.1	12.0
3,4	2	2	Jul-Dec		175	45	234	2,698	717	785	1,323	384	285	1,992	2,157	113	-	4,262	0.74	1.58	24.4	15.4
	Total				940	277	1,379	11,890	3,323	7,347	5,349	3,144	3,075	11,568	13,533	648	-	25,749	0.97	2.17	27.4	12.6
Total 1948	13	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	26.8	12.3
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	14.9
3	4	7	Feb-Jul		333	136	567	4,527	931	2,455	1,116	168	135	1,419	8,481	237	-	10,137	0.31	2.24	30.4	13.6
	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	13.5
	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	13.6

Year Area	No. of Vessels	-Date-		-Days-		-Hours on Banks-		-Landings-			-Catch per Unit Effort-									
		Sailing	Landing	On Banks	In Route	Absent	Trawling	Lying to	Remainder	Large	Medium	Small	Total	Haddock	Other Groundfish	Degecko	Total Landings	Cod Total Hours per Hour Day	Total Hours per Hour Day	
1949 3,4	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
(cont'd)	1	...	...	...	...	...	...	...	192	567	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	10,311	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	7,658	3,225	1,922	6,123	11,340	10,152	23	21,515	0.94	1.78	23.8	13.3	
Total			1,699	565	2,552	22,381	4,704	13,675	4,566	2,481	8,181	15,228	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	441	1,725	2,373	564	-	2,937	1.58	1.95	27.7	14.2	
Total			216	64	299	2,949	776	1,436	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	1,708	7,903	0.55	1.33	20.2	15.2	
Total 1950	13		7,418	784	3,574	32,751	6,284	18,913	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	2,379	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	3,027	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		2,600	762	3,684	36,215	6,649	19,538	2,412	2,469	19,872	24,753	23,349	3,384	51,486	0.68	1.42	19.8	13.9	
TOTAL 1932-1951			...	...	...	...	...	...	78,492	68,505	162,648	309,645	165,459	20,041	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 Area and Subarea 3.

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