REVIEW OF BLUEFIN TUNA, *THUNNUS THYNNUS* (L.), CATCHES MADE BY THE SPANISH BAITBOAT FLEET IN THE BAY OF BISCAY DURING THE 20TH CENTURY

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SUMMARY

Spanish catches of Atlantic bluefin tuna in the Bay of Biscay between 1901-2000 are reviewed, based on official statistics and publications. Large differences are found with the catches of ICCAT during the 1950s and in 1997, periods which coincide with the historical maximum catches of this fishery. The historical series reveals the importance of the French catches at the beginning of the use of baitboat in this fishery (1950s) and their gradual decline until the end of the 20th century, by which time they were practically null. The catches of the specialized fleet of Hondarribia are considered targeted; catches of other fleets, more specialized in albacore, are considered non-targeted. It is estimated that, at most, 1.5 % of bluefin tuna is caught using troll in this area.

RÉSUMÉ

Les prises espagnoles de thon rouge dans le golfe de Gascogne entre 1901 et 2000 sont examinées sur la base des statistiques et des publications officielles. De grandes différences apparaissent entre les prises de l'ICCAT durant les années 50 et celles de 1997, périodes qui coïncident avec les prises maximum historiques de cette pêcherie. La série historique révèle l'importance des prises françaises au début de l'utilisation des canneurs dans cette pêcherie (années 50) et leur déclin progressif jusqu'à la fin du XXe siècle, époque où ils avaient pratiquement disparu. Les captures de la flottille spécialisée de Hondarribia sont considérées comme ciblées ; les captures des autres flottilles, plus spécialisées dans le germon, sont considérées comme non ciblées. On estime que, tout au plus 1,5 % du thon rouge est capturé à la ligne dans cette zone.

RESUMEN

Se revisan las capturas españolas de atún rojo del Atlántico en el golfo de Vizcaya entre 1901-2000, basándose en publicaciones y estadísticas oficiales. Se han descubierto grandes diferencias con las capturas de ICCAT durante los 50 y en 1997, periodos que coinciden con las capturas máximas históricas de esta pesquería. Las series históricas revelan la importancia de las capturas francesas al inicio del uso del cebo vivo en esta pesquería (1950) y su descenso gradual hasta finales del siglo XX, momento en el que eran prácticamente nulas. Las capturas de la flota especializada de Hondarribia se consideran capturas objetivo, las capturas de las demás flotas, más especializadas en atún blanco, se consideran capturas no objetivo. Se estima que, como máximo, el 1,5% del atún rojo se captura utilizando curricán en esta zona.

KEYWORDS

Atlantic bluefin tuna, Bay of Biscay, Catch statistics, Targeted fishing

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Introduction

In order to incorporate the historical data recovered by ICCAT-GBYP Phase 2/2011, in 2013 the ICCAT Secretariat and GBYP presented a comparative review of total catch removals between Task I and the estimates derived from the different projects of the GBYP data recovery plan (Justel-Rubio *et al*., 2013). As a consequence of this comparison the SCRS adopted a series of recommendations from the Bluefin Species Group regarding integration of the GBYP data to the ICCAT databases (Appendix 10 of the 2013 SCRS report). The SCRS expressed the importance of this data and prioritized its availability to the Working Group for upcoming analyses.

Most of the data collected under GBYP have already been processed and validated by the Secretariat; however the revision of part of this data by national scientists was still pending at the time of its incorporation in the ICCAT databases following approval by the SCRS. This was the case of the EU-Spain baitboat fishery (BB) in the Bay of Biscay, for which GBYP data were provided by two different sources: Short-term Data Recovery contracts 2010/02: *Atlantic Bluefin Tuna Task II Data from Bizkaia and Gipuzkoa* and 2011/02: *Recuperación de datos de la pesquería española del mar Cantábrico y golfo de Vizcaya*; the latter focused on reconstructing the total catch for the period 1950 to 1996, while the former was mostly intended for catch rate analyses (SCRS/2012/100) and for this reason presented partial information on catches.

This document reviews the catch information provided by both GBYP Contracts and other sources of information to provide the best estimate of bluefin tuna, *Thunnus thynnus* -ABFT-, catches made by the Spanish fleet in the Bay of Biscay during the 20th century.

Sources of information and methods

Years 1901-2000.

Data used for the estimation of total catch in the Bay of Biscay:

- Official Registry Books of the fishermen Associations, with the following exceptions: 1928: *Boletín de Pescas, diciembre 1929. Ministerio de Fomento. Alcalá, 31. Madrid*; 1926-1927 Lekeitio: *Archivo Municipal 2004/10*; 1961-1968.
- La pesca de superficie en Guipúzcoa y Vizcaya. Análisis y perspectivas. Caja Laboral, 170; 1901-1937 Ondarroa: Maíz, 1993; 1949-1950 Lekeitio: Actividades Económicas Banco de Vizcaya.
- Official Fishing Statistics (*Región Cantábrica*), and sales notes collected from fish auctions, years 1950-1985 (Cort, 1990). Between 1986-1996, systematically collected from fish auctions and compiled by IEO.
- Years 1995-2000: sales notes systematically collected from fish auctions and compiled by AZTI.

Data and information used for the characterization of fleet targeting vs no targeting ABFT

ABFT catches were assigned to targeting or no targeting according to the following criteria:

- Catches prior to 1948 are assigned to SURF fleets targeting ABFT. Troll fishing (TR) and *Txapa*[3] were traditionally used.
- Period 1949-1959. Ten years after the implantation of BB in Spain (1949), all catches were considered targeted ABFT.
- Period 1960-2000: Catches of the specialized fleet of Hondarribia were considered targeted; catches of other fleets, more albacore, *Thunnus alalunga* -ALB-, specialized, were considered non-targeted.

Data and information used for the estimation of the proportion of TR catches

- 1950-1996, sales notes systematically collected from fish auctions and compiled by IEO. These data were reported to ICCAT under *ICCAT Forms 1, 2 and 3-5* during years 1975-1996.
- 1995-2013: Sales notes systematically collected from fish auctions and compiled by AZTI. They contain per vessel data on sales per species in weight (kg) by date and port; gear and other vessel characteristics are included in the database.

[3] *Txapa* method consisted of a gear with a metallic spoon and a hook. A revolving shackle caused the spoon to turn over with rhythmic movements. The bluefin, attracted by the shine of the metal, bit the hook.

Results

Table 1 shows ABFT catches (t) by the targeting and non-targeting ABFT Spanish fleets in the Bay of Biscay (1950-2000). **Table 2** partially reconstructs the ABFT catches (t) made by the Spanish fleet in the Bay of Biscay by main port (1901-1949). **Table 3** shows the ABFT catches (t) made by the targeting and non-targeting Spanish fleets by main port in the Bay of Biscay (1950-2000) and **Table 4** provides the data of ABFT landings (kg) by gear in Basque ports (1995-2013) according to the sales notes systematically collected from fish auctions and compiled by AZTI.

Figure 1 shows the comparison of current estimates with ICCAT Task I database (1950-2000) and **Figure 2** the ABFT catches by the BB fleets of Spain and total catch in the Bay of Biscay (1950-2000).

Discussion

The column of catches reviewed, defined as *Fleet EU.ESP-ES-CANT_ALB* (**Table 1**), was compiled taking into account several known circumstances of this fishery; such as the case that in the first ten years after the introduction of the baitboat fishing system for tuna (BB) in 1949, ABFT catches were made targeting this species, as shown by the landings at ports other than Hondarribia; or that between 1966 and 1972 the fishermen of Hondarribia, specialists in ABFT fishing, landed a large part of their catches at ports other than their base port; and that in several years (1993 and 1996-1999) the fishermen of Guetaria (Getaria), specialists in ALB fishing, dedicated the first months of the fishing season (June and July) to catching ABFT intensively.

- With regard to the cell *GearGrp Fleet EU.ESP-ES-CANT_ALB* of the database of ABFT of ICCAT, which figures as TR, we propose to be substituted for BB in all the years of this database for the following reasons:

    a) Because between 1975 and 2008 10,365 t of ABFT are incorrectly assigned to a fishing system (TR) that is hardly used for the catch of this species in the area dealt with.

    b) In all the reports sent to ICCAT by the IEO between 1975-1996 (*ICCAT Forms 1, 2 and 3-5*), the fishing system notified for the fleet targeting its activities at ALB and which catches ABFT, was BB.

    c) Of the ABFT fishing in the study area we are referring to in this study (between 1950 and 2000) 97.1 % was made by fleets from Basque ports using BB almost exclusively.

    d) The AZTI´s database for ABFT in the Cantabrian Sea and Bay of Biscay that we have used (1996-2013) contains a total of 33,784 t of ABFT landed at Basque ports, of which 33,564 t (99.35 %) were taken using BB; 219 t (0.65 %) using TR, and 1 t using UNCL (**Table 4**).

    e) Even if, during the study period (1950-2000), all ABFT landings made at ports of Galicia and Asturias had been caught using TR (784 t), these would have made up only 0.9 % of the total.

The importance of differentiating the Fleets *EU.ESP-ES-CANT_ALB* and *EU.ESP-ES-CANT_ABFT* is based on the fact that both components of the fleet (some targeting ALB and others ABFT) tend to catch different sizes of ABFT. Thus, the lengths of ABFT caught by the fleet targeting ALB (*EU.ESP-ES-CANT_ALB*) are significantly smaller (Rodríguez-Marín *et al*., 2005) mainly due to the smaller size of the live bait used (Cort, 1990).

With respect to **Figure 1**, considerable differences are observed between the revised version and the catches that appear in the database of ICCAT, as well as in a previous revision (Rodríguez-Marín *et al*., 2007), above all in the initial phase of the BB fishery (1950s) and in 1997. The catches taken between 1950 and 1985 presented here have been published by the IEO since 1990 (Cort, 1990).

From **Figure 2** we can see that in the initial phase of the BB fishery the mean catches of France and Spain were 2,200 and 2,100 t/year respectively; whereas at the end of the 20th century, between 1990 and 2000, an average of 3,100 t/year were caught in Spain and 560 t/year in France, confirming the decline of the French Bay of Biscay ABFT fishery with the almost total disappearance of BB and the continuing activity of the Spanish fishery with this fishing method.

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Table 1. ABFT catches (t) by the targeting and non targeting ABFT Spanish fleets in the Bay of Biscay (1950-2000).

PROPOSAL (IEO and AZTI-Tecnalia)				
Stock	ATE	ATE	ATE	ATE
Area	NE	NE	Bay of Biscay	Bay of Biscay
GearGrp	BB	BB	BB	BB
Year/Fleet	EU.ESP-ES-CANT_ABFT	EU.ESP-ES-CANT_ALB	TOTAL, Spain	Spain+France
1950	1,106	0	1,106	2,975
1951	979	0	979	3,872
1952	2,323	0	2,323	4,685
1953	1,771	0	1,771	4,135
1954	2,049	0	2,049	5,500
1955	3,528	0	3,528	6,559
1956	1,956	0	1,956	3,409
1957	2,467	0	2,467	4,017
1958	2,938	0	2,938	4,301
1959	1,769	0	1,769	3,800
1960	550	271	821	1,374
1961	514	176	690	1,597
1962	305	432	737	1,702
1963	520	318	838	1,381
1964	482	378	860	1,260
1965	582	584	1,166	1,787
1966	1,069	642	1,711	3,335
1967	543	368	911	1,771
1968	584	340	924	1,314
1969	901	325	1,226	1,760
1970	1,308	327	1,635	2,367
1971	1,450	125	1,575	2,255
1972	1,209	153	1,362	2,102
1973	1,471	399	1,870	2,421
1974	1,009	117	1,126	1,648
1975	945	275	1,220	1,912
1976	587	158	745	1,012
1977	1,035	164	1,199	1,791
1978	1,266	533	1,799	2,522
1979	1,000	173	1,173	1,448
1980	818	208	1,026	1,286
1981	428	357	785	938
1982	608	156	764	914
1983	1,114	1,245	2,359	2,759
1984	1,678	687	2,365	2,967
1985	1,488	360	1,848	2,338
1986	1,036	839	1,875	2,223
1987	1,202	311	1,513	2,046
1988	1,336	746	2,082	2,806
1989	1,399	714	2,113	2,573
1990	1,193	300	1,493	2,003
1991	938	203	1,141	1,706
1992	740	277	1,017	1,911
1993	3,219	321	3,540	4,639
1994	1,034	260	1,294	1,630
1995	2,397	375	2,772	3,497
1996	4,099	624	4,723	5,286
1997	5,139	921	6,060	6,329
1998	2,005	507	2,512	3,125
1999	1,112	82	1,194	1,782
2000	941	278	1,219	1,761
IEO´s historic data (Cort, 1990) contrasted and complemented by AZTI-Tecnalia´s data				
AZTI-Tecnalia´s data complemented by IEO´s data				

Table 2. ABFT catches (t) made the Spanish fleet in the Bay of Biscay by main port 1901-1949.

PORT/ YEAR	HONDARRIBIA	PASAJES	S. SEBASTIAN/ DONOSTIA	GETARIA	MOTRICO	ONDARROA	LEKEITIO	BERMEO	SANTOÑA	TOTAL	SURF	BB	PORT/ YEAR
1901	-	-	-	-	-	4.6	-	-	-	5	5	-	1901
1902	-	-	-	-	-	5.3	-	-	-	5	5	-	1902
1903	-	-	-	-	-	32.7	-	5.6	-	38	38	-	1903
1904	-	-	-	-	-	26.3	10.2	2.1	-	39	39	-	1904
1905	-	-	-	-	-	34.0	33.8	1.7	-	70	70	-	1905
1906	-	-	-	-	-	25.5	34.3	4.5	-	64	64	-	1906
1907	-	-	-	-	-	14.8	31.2	3.4	-	49	49	-	1907
1908	-	-	-	-	-	4.4	37.8	3.6	-	46	46	-	1908
1909	-	-	-	-	-	7.8	19.1	11.2	-	38	38	-	1909
1910	-	-	-	-	-	5.8	24.5	-	-	30	30	-	1910
1911	-	-	-	-	-	23.6	17.9	5.3	-	47	47	-	1911
1912	-	-	-	-	-	3.4	6.3	2.4	-	12	12	-	1912
1913	-	-	-	-	-	16.8	22.4	2.9	-	42	42	-	1913
1914	-	-	-	-	-	4.9	3.9	1.8	-	11	11	-	1914
1915	-	-	-	-	-	3.7	4.1	0.9	-	9	9	-	1915
1916	-	-	-	-	-	4.7	4.7	6.6	-	16	16	-	1916
1917	-	-	-	-	-	6.6	7.4	17.9	-	32	32	-	1917
1918	-	-	140.2	-	-	48.3	16.5	0.3	-	205	205	-	1918
1919	-	-	-	-	-	45.2	6.5	97.4	-	149	149	-	1919
1920	-	-	-	-	-	43.0	27.7	89.6	-	160	160	-	1920
1921	-	-	-	-	-	77.0	15.7	-	-	93	93	-	1921
1922	-	-	-	-	-	7.3	4.9	-	-	12	12	-	1922
1923	-	-	-	-	-	20.6	8.8	-	-	29	29	-	1923
1924	-	-	-	-	-	12.6	10.4	-	-	23	23	-	1924
1925	-	-	-	-	-	5.4	15.4	-	-	21	21	-	1925
1926	-	-	-	-	-	44.3	11.5	-	-	56	56	-	1926
1927	-	-	-	-	-	11.4	5.2	11.3	-	28	28	-	1927
1928	73.1	107.4	418.9	7.3	7.3	9.9	5.3	34.7	-	664	664	-	1928
1929	122.6	-	-	-	-	15.0	3.0	25.6	-	166	166	-	1929
1930	310.0	-	-	-	-	32.3	14.2	54.9	-	411	411	-	1930
1931	457.9	-	-	-	-	45.4	13.8	-	-	517	517	-	1931
1932	133.7	-	-	-	-	13.7	10.1	-	-	157	157	-	1932
1933	208.3	-	-	-	-	62.0	37.7	56.6	-	365	365	-	1933
1934	-	-	-	-	-	17.8	24.6	67.7	-	110	110	-	1934
1935	-	-	-	-	-	48.2	30.8	36.1	-	115	115	-	1935
1936	-	-	-	-	-	91.6	27.9	39.2	-	159	159	-	1936
1937	-	-	-	-	-	37.6	3.7	11.1	-	52	52	-	1937
1938	-	-	-	-	-	96.3	17.7	88.8	-	203	203	-	1938
1939	-	-	-	-	-	41.7	11.4	56.0	-	109	109	-	1939
1940	-	-	-	-	-	98.7	31.2	37.4	-	167	167	-	1940
1941	-	-	-	-	-	33.1	7.5	6.3	-	47	47	-	1941
1942	-	-	-	-	-	16.9	4.4	7.0	-	28	28	-	1942
1943	263.2	-	-	-	-	27.5	12.8	31.9	-	335	335	-	1943
1944	447.1	-	-	-	-	1.8	12.0	6.1	0.5	467	467	-	1944
1945	539.3	-	-	-	-	19.1	23.8	12.2	0.7	595	595	-	1945
1946	628.3	-	-	-	-	33.9	19.4	30.3	6.1	718	718	-	1946
1947	514.9	-	72.6	-	-	12.3	13.0	10.8	0.0	624	624	-	1947
1948	536.7	-	91.2	-	-	11.7	3.8	34.7	4.4	683	683	-	1948
1949	1,107.7	-	579.3	-	-	294.4	25.7	80.8	3.7	2092	0	2092	1949
	HONDARRIBIA	PASAJES	S. SEBASTIAN/ DONOSTIA	GETARIA	MOTRICO	ONDARROA	LEKEITIO	BERMEO	SANTOÑA	TOTAL	SURF	BB	PORT/ YEAR

Series 1901-1949: AZTI-Tecnalia historic data complemented with IEO´s data.

Table 3. ABFT catches (t) by the targeting and non targeting ABFT Spanish fleets by main port in the Bay of Biscay (1950-2000).

PORT/ YEAR	HONDARRIBIA	PASAJES	S. SEBASTIAN/ DONOSTIA	GETARIA	MOTRICO	ONDARROA	LEKEITIO	BERMEO	SANTOÑA	CANTABRIA	ASTURIAS	GALICIA	TOTAL	Catches targeted to ABFT (BB)	Catches targeted to ALB (BB)	% Catches targeted to ABFT (BB)	% Catches targeted to ALB (BB)	PORT/ YEAR
1950	941	-	56	-	-	39	15	55	-	-	-	-	1,106	1,106	0	100	0	1950
1951	768	-	122	-	-	20	21	47	1	-	-	-	979	979	0	100	0	1951
1952	1,280	-	422	-	-	449	28	144	1	-	-	-	2,323	2,323	0	100	0	1952
1953	1,181	-	268	219	-	85	7	11	1	-	-	-	1,771	1,771	0	100	0	1953
1954	956	-	481	385	-	187	6	24	9	-	-	-	2,049	2,049	0	100	0	1954
1955	1,006	-	487	622	-	989	11	411	1	-	-	-	3,528	3,528	0	100	0	1955
1956	1,195	3	173	129	-	299	6	143	8	-	-	-	1,956	1,956	0	100	0	1956
1957	1,507	122	339	380	-	0	7	97	15	-	-	-	2,467	2,467	0	100	0	1957
1958	935	266	273	390	-	224	8	591	251	-	-	-	2,938	2,938	0	100	0	1958
1959	955	196	142	308	-	95	3	67	3	-	-	-	1,769	1,769	0	100	0	1959
1960	550	26	34	55	-	44	2	96	-	15	-	-	821	550	271	67.0	33.0	1960
1961	514	39	18	61	-	21	4	32	-	-	-	-	690	514	176	74.5	25.5	1961
1962	305	13	7	85	-	28	2	264	-	31	-	1	737	305	432	41.4	58.6	1962
1963	520	20	1	124	-	4	1	115	-	21	7	25	838	520	318	62.1	37.9	1963
1964	477	7	32	63	5	27	14	182	-	31	2	20	860	482	378	56.1	43.9	1964
1965	582	5	35	185	4	29	16	237	-	6	10	56	1,166	582	584	49.9	50.1	1965
1966	555	21	122	526	10	147	23	214	-	39	27	28	1,711	1,069	642	62.5	37.5	1966
1967	361	8	45	210	6	94	10	148	-	10	11	11	911	543	368	59.6	40.4	1967
1968	367	17	66	162	60	158	22	66	-	4	1	1	924	584	340	63.2	36.8	1968
1969	811	11	14	138	2	14	8	129	-	77	-	21	1,226	901	325	73.5	26.5	1969
1970	1,299	27	13	40	1	17	2	220	-	5	-	10	1,635	1,308	327	80.0	20.0	1970
1971	1,412	47	8	30	2	33	24	15	-	1	1	3	1,575	1,450	125	92.1	7.9	1971
1972	1,203	36	9	31	2	36	3	36	-	7	-	-	1,362	1,209	153	88.8	11.2	1972
1973	1,471	-	4	163	-	57	-	154	-	7	5	8	1,870	1,471	399	78.7	21.3	1973
1974	1,009	1	1	16	1	67	1	21	-	1	5	4	1,126	1,009	117	89.6	10.4	1974
1975	945	1	4	34	11	89	37	72	-	18	3	6	1,220	945	275	77.5	22.5	1975
1976	587	1	7	17	13	68	5	27	-	7	2	11	745	587	158	78.7	21.3	1976
1977	1,035	2	-	23	20	35	6	54	-	12	1	11	1,199	1,035	164	86.3	13.7	1977
1978	1,266	6	-	114	46	77	50	184	-	49	-	8	1,799	1,266	533	70.4	29.6	1978
1979	1,000	-	-	23	15	71	11	34	-	10	2	7	1,173	1,000	173	85.3	14.7	1979
1980	818	9	2	10	5	77	13	62	-	21	4	4	1,026	818	208	79.8	20.2	1980
1981	428	3	1	61	20	100	14	102	-	35	12	8	785	428	357	54.5	45.5	1981
1982	608	-	7	31	6	29	5	49	-	13	9	7	764	608	156	79.6	20.4	1982
1983	1,114	-	55	328	68	236	49	330	-	131	34	13	2,359	1,114	1,245	47.2	52.8	1983
1984	1,678	-	1	199	40	216	31	152	-	31	16	-	2,365	1,678	687	70.9	29.1	1984
1985	1,488	-	3	141	18	36	3	115	-	23	20	-	1,848	1,488	360	80.5	19.5	1985
1986	1,036	-	-	195	38	107	28	328	-	107	37	-	1,875	1,036	839	55.2	44.8	1986
1987	1,202	-	3	51	29	53	13	87	-	47	28	-	1,513	1,202	311	79.4	20.6	1987
1988	1,336	3	1	329	35	164	32	117	-	48	17	-	2,082	1,336	746	64.2	35.8	1988
1989	1,399	6	1	233	54	92	69	114	-	90	55	-	2,113	1,399	714	66.2	33.8	1989
1990	1,193	3	6	55	32	56	28	59	-	34	27	-	1,493	1,193	300	79.9	20.1	1990
1991	938	17	3	56	17	26	9	47	-	23	5	-	1,141	938	203	82.2	17.8	1991
1992	740	9	10	65	24	45	21	62	-	21	20	-	1,017	740	277	72.7	27.3	1992
1993	2,987	22	1	283	13	110	77	25	-	9	14	-	3,540	3,219	321	90.9	9.1	1993
1994	989	2	8	45	23	70	5	125	-	21	6	-	1,294	1,034	260	79.9	20.1	1994
1995	2,280	8	10	117	41	88	23	139	-	57	9	-	2,772	2,397	375	86.5	13.5	1995
1996	3,368	20	27	982	54	78	9	110	-	52	23	-	4,723	4,099	624	86.8	13.2	1996
1997	4,319	57	145	925	11	171	22	126	-	250	31	3	6,060	5,139	921	84.8	15.2	1997
1998	2,163	5	41	130	7	18	8	32	-	68	38	2	2,512	2,005	507	79.8	20.2	1998
1999	1,075	5	4	46	-	4	3	20	-	21	8	7	1,194	1,112	82	93.2	6.8	1999
2000	941	6	7	152	1	4	15	45	-	26	19	3	1,219	941	278	77.2	22.8	2000
De 1950-2000	59,093	1,049	3,520	8,965	732	5,287	830	6,137	291	1,480	506	277	88,170	72,141	16,029	81.8	18.2	
PUERTO/ AÑO	HONDARRIBIA	PASAJES	S. SEBASTIAN/ DONOSTIA	GETARIA	MOTRICO	ONDARROA	LEKEITIO	BERMEO	SANTOÑA	CANTABRIA	ASTURIAS	GALICIA	TOTAL	Catches targeted to ABFT (BB)	Catches targeted to ALB (BB)	% Catches targeted to ABFT (BB)	% Catches targeted to ALB (BB)	

Table 4. ABFT landings (kg) by gear in Basque ports (1995-2013).

Landing port-gear	BB	OTH	TR	Total
Bermeo	832,674		79,392	912,066
Donostia	568,843		4,477	573,320
Elantxobe	64		4,996	5,060
Getaria	5,353,827		21,948	5,375,774
Hondarribia	23,721,570		81,633	23,803,203
Lekeitio	378,420		708	379,128
Mundaka			1,637	1,637
Mutriku	875,327		6,758	882,086
Ondarroa	222,225	625	9,527	232,377
Orio	1,470,563		478	1,471,041
Pasajes de San Pedro	140,824	361	6,125	147,309
Santurtzi	32		918	950
Total	**33,564,369**	**986**	**218,596**	**33,783,951**

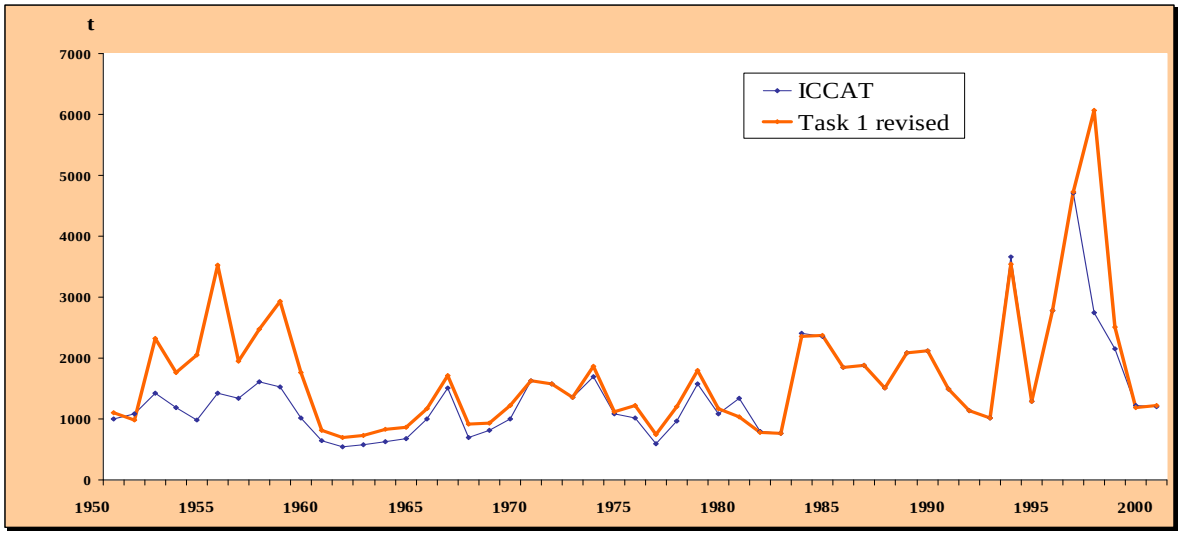

Figure 1. Comparison of current estimates with ICCAT Task I database (1950-2000).

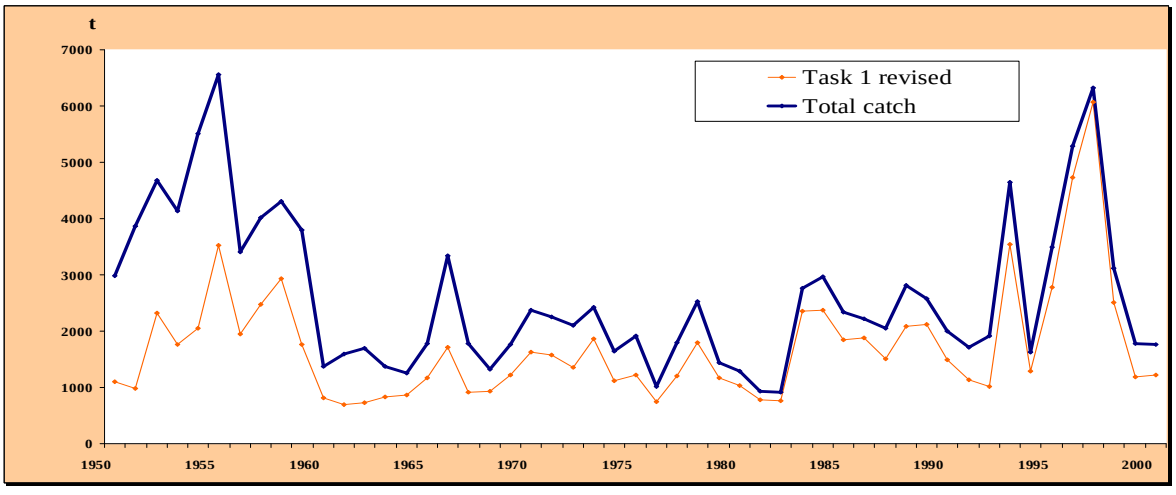

Figure 2. ABFT catches (t) by the BB fleets of Spain and total catch (France+Spain) in the Bay of Biscay (1950-2000).