

EU MALTA UPDATES TO TASK I NOMINAL CATCH STATISTICS

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SUMMARY

A review carried out on Task I nominal catch data from ICCAT statistical databases and official landings data from the Maltese Department for Fisheries and Aquaculture showed that some updates to past nominal catch values submitted to ICCAT are required. Additional Task I nominal catch data extending way back to the 1920's were also retrieved from archived data and prepared for submission for the first time.

RÉSUMÉ

Un examen des données de capture nominale de la Tâche I provenant des bases de données statistiques de l'ICCAT et des données officielles des débarquements communiquées par le Département maltais des pêcheries et de l'aquaculture a fait apparaître le besoin d'actualiser les valeurs antérieures des captures nominales qui sont soumises à l'ICCAT. Des données additionnelles de capture nominale de la Tâche I remontant aux années 20 ont également été récupérées des données archivées et préparées afin d'être présentées pour la première fois.

RESUMEN

Una revisión de los datos de captura nominal de Tarea I de las bases de datos estadísticas de ICCAT y de los datos oficiales de desembarques del Departamento de Pesca y Acuicultura de Malta mostró que son necesarias algunas actualizaciones de pasados valores de captura nominal presentados a ICCAT. Se recuperaron también de los datos archivados datos de captura nominal de Tarea I que se remontan a los años 20 y se prepararon para enviarlos por primera vez.

KEYWORDS

Fish catch statistics, Logbooks, Fishery statistics, Data collections

1. Introduction

Submission of statistical data to ICCAT is essential for the assessment and management of resources. In accordance with article IX (Paragraph 2) of the Convention (further reinforced and endorsed by several Recommendations and Resolutions) ICCAT contracting parties are obliged to provide any statistical, biological and other scientific information the Commission may require in order to carry out the objectives of the ICCAT convention.

Malta was accepted as a member of ICCAT in 2003 and became part of the ICCAT European Commission contracting party when joining the European Union in 2004. Since then, Malta has been submitting the required fisheries information to ICCAT in line with Paragraph 2 of Article IX regularly. A recent review by Maltese fisheries officials and crosschecks carried out between Task I data from ICCAT statistical databases and official data from the Maltese Department for Fisheries and Aquaculture showed that some updates are necessary to some of the data in the ICCAT statistical database. Additional Task I data extending way back to the 1920's, that was up to now unavailable was also retrieved and prepared for submission. Updates up to the year 2010 are being submitted through ICCAT Task I forms for the following species: *Alopias vulpinus*, *Auxis spp.*,

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Centrophorus granulosus, *Coryphaena hippurus*, *Euthynnus alletteratus*, *Galeorhinus galeus*, *Hexanchus griseus*, *Lamna nasus*, *Prionace glauca*, *Sarda sarda*, *Scyliorhinus spp.*, *Sphyrna zygaena*, *Squalus spp.*, *Squatina squatina*, *Tetrapturus belone*, *Thunnus alalunga*, *Thunnus thynnus juv.*, The list of ICCAT Task I forms submitted can be found in **Appendix 1**.

2. Methodology

2.1 Data updates from 1920 - 1930

The information on landings submitted throughout these years was based on daily landing estimates per species as collected by fisheries officials at the Valletta fish market (Darmanin M, personal communication, December 2012). During this time, the Valletta fish market was the only official designated landing place, thus providing landing values which are representative of the overall catch made by the Maltese fishing fleet. Daily landing estimates were calculated by converting the total number of boxes and/or heads for each individual species fish presented at the fish market for auction into weight. During this period, each statistical year started from April and extended to the next April of the successive year.

2.2 Data updates from 1954 - 1984

Landings information during this period was retrieved from the data archives of the National Statistics Office (NSO) which consisted of data originally collected by the Fisheries Department. The NSO is responsible for the collection, compilation, analysis and publication of a wide range of statistical information and related matters. The NSO came into being in March 1947 and from 1954 onwards the Fisheries Department regularly submitted to it the annual landings in weight collected during the daily auction at the fish market.

2.3 Data updates from 1985 - 1993

Statistical landings information was available from hard copies of annual reports and fish sales vouchers filed at the Fisheries Department for the period 1985 – 1993. This information was compiled and inputted electronically for internal data use and necessary submission to external bodies and Regional Fisheries Management Organizations.

2.4 Data updates from 1994 - 2005

For this period, landings information was retrieved from electronic data sourced from fish market sales vouchers. This electronic information from fish auctioned at the sole official designated fish market in Valletta is stored in the Department of Fisheries sales vouchers database. This information available includes vessel registration number, landing place, landing date, buyer, species, weight, and value amongst others.

2.5 Data updates from 2006 – 2010

From 2006 - 2010, landing information collected was based on exhaustive data reported in logbooks for vessels over 10 meters length overall, from fish-market sales vouchers whenever the logbooks were not available and through a monthly questionnaire for vessels under 10 meters length overall. This approach provides a better picture of the overall landings than that from sales vouchers alone. ICCAT Task I nominal catch data updates submitted from 2006 onwards were thus standardized and retrieved from all of these sources.

2.5.1 Logbook and Sales voucher approach: By using extensive information from logbooks, data was collected on commercial landings in weight relating to the fleet of vessels over 10 meters.

2.5.2 Small scale fishery (<10 m) Questionnaire survey: A multivariate questionnaire sampling survey was carried out to estimate data on landings and fishing effort relating to the artisanal fishery (< 10 meter fleet). The target population was made up of the vessels under 10 meters length overall registered in the Maltese fishing fleet register that includes full-time commercial vessels and part-time commercial vessels. The sample was randomly selected from the fleet vessel register every quarter, with the sampling unit being the single vessel. Field recorders carried out interviews to vessel owners every week.

3. Results

Updated landings data from 1920 – 2010 retrieved from the sources mentioned in the previous section were compared to the landing values found in the ICCAT database and listed in **Table 1** per species. A '0' value in **Table 1** does not necessarily mean that there were no landings of a particular species in the respective year, but may also be due to unavailability of data during this period. When the difference between the values in the ICCAT database and the updated landing values exceeded 1 Metric Tonne (MT), landing values were marked in red. Landing values marked in green represent values that were previously not available and are being submitted to ICCAT for the first time. Line graphs graphically displaying these comparisons and sorted out by species can be found below. Updated Task I nominal catch data forms submitted to ICCAT were also disaggregated by gear, whenever this information was available. List of ICCAT Task I forms submitted can be found in **Appendix 1**.

4. Discussion and Conclusion

Low landings of *Auxis spp.* reported to ICCAT in 2007 and shown in **Figure 1** are linked to sourcing landings data solely from the National Statistics Office. The updated ICCAT Task I nominal catch values for this year now include the contribution from questionnaire surveys carried out for the small vessels under 10m which commonly target this species. Reasons for the other mismatches for years 1962, 1963, 1977, 1993 and 1998 are unknown as there is no current information on the sources of the landing values sent to ICCAT for these years. Having no species specific information for the updated landings; Task I nominal catches were reported to ICCAT at genus level (*Auxis spp.*)

High peaks in the landings of *Euthynnus alletteratus* shown in **Figure 2** reported in the past and available through the ICCAT database do not match the updated data for the years 1993, 1995, 1996 and 1997. This is mainly due to species misreporting as high peaks for the above mentioned years could be referring to landings of juvenile bluefin tuna (under one year of age). 'Little tunny' is actually the English name locally in use for *Euthynnus alletteratus*. Juvenile bluefin is referred to in the vernacular as 'Tunnaġġi' which literally means 'small /little tunny' which may have led to confusion and misreporting when submitting data by using the common English names instead of scientific names as a reference for these species. Furthermore, the high landings of *Euthynnus alletteratus* correspond to the landings of 'Tunnaġġi' for this period (separate records for juvenile bluefin were kept as in Maltese they have a different name to the adults) providing additional proof that misreporting was linked to confusion between the common species names in use locally. Reasons for the high peak reported in 2009 could not be found. This mismatch will be corrected with the newly updated data.

As can be seen in the landings of *Galeorhinus galeus* shown in **Figure 3**, no mismatches worth of note were found between the Task I nominal catch ICCAT database and the updated version of the data set for this species.

Reasons for the high peak of *Hexanchus griseus* as shown in **Figure 4** and reported to ICCAT in 2009 could not be traced, however this landing record should be updated with the new landings information sent. Additional information that was previously not available for this species was also submitted through the ICCAT task I forms.

For *Lamna nasus*, as can be seen in **Figure 5**, no mismatches were found between the Task I nominal catch ICCAT database values and the updated version of the data set for this species. Additional information on past landings showed that catches of this species were numerous in the past.

Reasons for the low values for *Prionace glauca* landings reported to ICCAT from 1997 - 2000 as shown in **Figure 6** could not be traced, however these landing records should be updated with the new landings information sent. Additional landings information for this species is now also available from 1954 and were submitted accordingly.

Figure 7 shows high peaks for the task I nominal catch landings reported for *Sarda sarda* to ICCAT between 1974 - 1983 mainly linked to confusion arising from the use of the local name for this species in landing reports. *Sarda sarda* and *Lamna nasus* are known in the vernacular as 'plamtu' and 'pixxiplamtu' respectively. High peaks reported to ICCAT in the past could be due to the contribution of *Lamna nasus* landings incorrectly reported as *Sarda sarda* landings. Low values for the task I nominal catch landings reported to ICCAT in 2007 are linked to sourcing the landings data solely from the National Statistics Office. The updated values submitted through the ICCAT Task I nominal catch forms for 2007 also include the contribution from the questionnaire survey carried out for the small vessels under 10meters.

All the updated ICCAT Task I nominal catch landings of the *Scyliorhinus* genus from 1985 – 2010 (**Figure 8**) were included as *Scyliorhinus spp.* to make up for the misreporting of *Scyliorhinus stellaris* and *Scyliorhinus canicula*. Landing values for the species within this genus were in the past based on the use of Maltese common names. *Scyliorhinus stellaris* and *Scyliorhinus canicula* were sometimes collectively reported under the local Maltese common name ‘gattarelli’ while sometimes *Scyliorhinus stellaris* was individually reported under the local Maltese common name ‘qtates’ (*S. stellaris* only). From 2005, ICCAT Task I nominal catch data were reported down to species level. However, in view of possible species misidentification as mentioned, the updated data set was reported up to genus level.

Figure 9 shows all the updated Task I nominal catch landings of the *Squalus* genus from 1954 - 2010 which includes mostly *Squalus blainvillei*, with minimal landings of *Squalus acanthias* and *Mustelus mustelus*. Updated landings information was again reported to genus level to make up for species misidentification.

New Task I landings for *Squatina squatina* (**Figure 10**) were retrieved from 1920’s and submitted for the first time to ICCAT through official Task I nominal catch forms.

Mismatches for the ICCAT task I nominal catch landings of *Tetrapturus belone* (**Figure 11**) were found between data reported to ICCAT in 2007 and the updated information. The updated value now includes the contribution from questionnaire surveys carried out for the small vessels under 10metres in line with the standardised reporting system now adopted for the period 2006 – 2010.

As can be seen in **Figure 12**, no mismatches worthy of note were found between the landing values in the Task I nominal catch ICCAT database and the updated version of the data set for *Thunnus alalunga*.

New Task I landings for juveniles of *Thunnus thynnus* (**Figure 13**) were retrieved from 1954 - 2006 and submitted for the first time to ICCAT through official Task I nominal catch forms. These values are of juvenile bluefin tuna landings under 1 year of age caught by trolling lines and rod and line as by-catch during fishing operations for *Coryphaena hippurus* around Fish Aggregating Devices (FADs).

New Task I landings (**Figure 14**) for *Sphyrna zygaena* were retrieved starting from the 1920’s and submitted for the first time to ICCAT through official Task I nominal catch forms.

New Task I landings (**Figure 15**) for *Coryphaena hippurus* were retrieved from 1920’s and submitted to ICCAT through official Task I nominal catch forms. This fishery mainly targets juveniles under 1 year of age by purse seining operations around specifically set Fish Aggregating Devices (FADs).

Low landings for *Centrophorus granulosus* reported to ICCAT in 2006 (**Figure 16**) are linked to sourcing the landings data from the National Statistics Office only. The updated values also include the contribution from the questionnaire surveys carried out for the small vessels under 10metres in line with the standardised reporting system now adopted for the period 2006 – 2010.

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Table 1. Updated landings data from 1920 – 2010 compared to the landing values found in the ICCAT database per species. Column A refers to updated landings while column B refers to landings reported to ICCAT (MT).

Species	<i>A. vulpinus</i>		<i>Auxis spp.</i>		<i>C. granulosis</i>		<i>E. alletteratus</i>	
	A	B	A	B	A	B	A	B
1920	0	0	4.8	0	0	0	1.2	0
1921	0	0	8	0	0	0	3.2	0
1922	0	0	7.2	0	0	0	5.2	0
1923	0	0	18	0	0	0	13.6	0
1924	0	0	20	0	0	0	7.2	0
1925	0	0	7.2	0	0	0	3.2	0
1926	0	0	14.8	0	0	0	2.4	0
1927	0	0	5.84	0	0	0	3.52	0
1928	0	0	14.08	0	0	0	4.56	0
1929	0	0	10.56	0	0	0	2.24	0
1954	0	0	0	0	0	0	4.724	0
1955	0	0	0	0	0	0	4.3624	0
1956	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0
1958	0	0	28.9096	0	0	0	0	0
1959	0	0	17.9	0	1.5584	0	0	0
1960	0	0	17.4	0	0.55	0	0	0
1961	0	0	5.5	0	2.35	0	0	0
1962	0	0	3.1	100	0.95	0	0	0
1963	0	0	19.65	100	3.55	0	0	0
1964	0	0	6.95	0	2.25	0	0	0
1965	0	0	12.65	0	0	0	0	0
1966	0	0	32.8	0	0	0	0	0
1967	0	0	67.4	0	0	0	0	0
1968	0	0	60.8	0	0	0	0	0
1969	0	0	6.75	0	7.6	0	0	0
1970	0	0	17.2	0	5.8	0	0	0
1971	0	0	11.65	0	3.05	0	0	0
1972	0	0	33.05	0	5.15	0	0	0
1973	0	0	20	0	4.65	0	0	0
1974	0	0	6.48	7	0.88	0	0	0
1975	0	0	18	18	2.4	0	0	0
1976	0	0	14.668	15	0	0	0	0
1977	0	0	3.997	9	0.582	0	0	0
1978	0	0	32.869	33	4.127	0	0	0
1979	0	0	10.915	11	4.369	0	0	0
1980	0	0	18.458	18	1.837	0	0	0
1981	0	0	3.072	4	1.111	0	0	0
1982	0	0	8.636	9	1.927	0	0	0
1983	0	0	11.039	11	3.696	0	0	0
1984	0	0	3.72	4	5.709	0	0	0
1985	0	0	1.145	1	8.203	0	0	0
1986	0	0	12.508	13	4.612	0	0	0
1987	0	0	4.467	5	6.702	0	0.211	0
1988	0	0	8.155	8	6.131	0	0	0
1989	0	0	17.713	18	7.356	0	0	0
1990	0	0	20.767	21	5.27	0	0.122	0
1991	0	0	20.17	20	5.28	0	0	8
1992	0	0	10.438	11	5.27	0	0	1
1993	0.194	0	8.921	10	6.137	0	0.46	8
1994	0	0	1.358	1	9.671	9.671	0	8
1995	0	0	2.299	2	4.907	4.907	0.409	8
1996	0.069	0	2.541	3	3.857	3.857	0.21	3
1997	0.056	0	5.582	6	4.794	4.794	0.338	3
1998	0.69	0	0.842	6	2.63	2.63	0.446	0
1999	0.162	0	3.373	3	1.103	1.103	0.428	0
2000	1.438	0	1.201	1	1.516	1.516	0.179	0
2001	0	0	1.402	0	3.346	3.346	0.363	0
2002	0	0	0.186	0	1.834	1.834	0.503	0
2003	0	0	2.35	0	0.48	0.48	1.257	0
2004	0	0	7.615	0	0.411	0.411	0.955	0
2005	0	0.678	4.373	0	0.528	0.528	1.335	0
2006	0	0	10.51889	0	2.6265	0.3	3.22985	0
2007	0.196	0.17	13.77973	3.817	0.3565	0.563	1.86458	1.063
2008	0.11883	0.118	11.87811	11.878	0.15975	0.187	4.71401	4.714
2009	0.314	0.314	6.61031	6.63281	0.65	0.65503	3.4787059	7.93066
2010	0.1	0.1	10.934	10.934	0.23567	0.235	6.62107	6.621

Table 1. Continued.

Species	<i>Sarda sarda</i>		<i>Scyliorhinus spp</i>		<i>Squalus spp.</i>		<i>S. squatina</i>	
	Year	A	B	A	B	A	B	A
1920	1.6	0	0	0	0	0	45.6	0
1921	3.2	0	0	0	0	0	48	0
1922	5.12	0	0	0	0	0	68	0
1923	6.4	0	0	0	0	0	56	0
1924	5.2	0	0	0	0	0	52.4	0
1925	7.6	0	0	0	0	0	24.8	0
1926	4.4	0	0	0	0	0	24	0
1927	3.28	0	0	0	0	0	12.56	0
1928	3.52	0	0	0	0	0	12	0
1929	3.68	0	0	0	0	0	10.72	0
1954	0	0	0	0	16.5184	0	5.624	0
1955	0	0	0	0	10.0144	0	3.8808	0
1956	0	0	0	0	15.5024	0	4.7032	0
1957	0	0	0	0	15.8832	0	3.144	0
1958	3.7944	0	0	0	23.4416	0	4.7056	0
1959	0	0	0	0	17.736	0	3.5104	0
1960	1.65	0	0	0	13.9	0	4.1	0
1961	2.35	0	0	0	21.05	0	2.45	0
1962	1.45	0	0	0	18.7	0	2.15	0
1963	1.5	0	0	0	23.55	0	6.4	0
1964	0.5	0	0	0	17	0	0.75	0
1965	2.7	0	0	0	27.55	0	0	0
1966	1	0	0	0	12.3	0	0	0
1967	0	0	0	0	14.2	0	0	0
1968	0	0	0	0	28.15	0	0	0
1969	0	0	0	0	26.65	0	0	0
1970	0	0	0	0	27.4	0	0	0
1971	0	0	0	0	19.65	0	0	0
1972	0	0	0	0	18.4	0	0	0
1973	0	0	0	0	15.25	0	0	0
1974	0	2	0	0	29.2	0	0	0
1975	0	5	0	0	23.84	0	0	0
1976	0	1	0	0	26.529	0	0	0
1977	0	2	0	0	49.2	0	0	0
1978	0	2	0	0	41.217	0	0	0
1979	0	1	0	0	54.912	0	0	0
1980	0	1	0	0	36.495	0	0	0
1981	0	0	0	0	47.955	0	0	0
1982	0	0	0	0	35.536	0	0	0
1983	0	1	0	0	36.24	0	0	0
1984	0	0	0	0	54.34	0	0	0
1985	0	0	5.123	0	56.274	0	1.041	0
1986	0	0	4.279	0	43.64	0	0.334	0
1987	0	0	3.75	0	34.446	0	0	0
1988	0	0	2.129	0	31.738	0	0.157	0
1989	0	0	2.196	0	41.73	0	0.284	0
1990	0	0	3.994	0	35.567	0	0.868	0
1991	0	0	2.223	0	14.844	0	0.334	0
1992	0	0	1.247	0	26.087	0	0.354	0
1993	0	0	2.234	0	32.74	0	0.031	0
1994	0	0	1.241	0	29.102	0	0.134	0
1995	0.239	0	0.776	0	23.563	0	0.112	0
1996	2.074	2	1.48	0	28.352	0	0.244	0
1997	6.651	7	1.153	0	28.32	0	0	0
1998	1.567	2	2.43	0	22.839	0	0.234	0
1999	1.828	2	2.025	0	18.241	0	0.261	0
2000	1.053	1	2.745	0	19.431	0	0.171	0
2001	0.426	0	2.329	0	17.428	0	0.138	0
2002	0.705	0	1.714	0	23.538	0	0	0
2003	0.27	0	0.408	0	17.049	0	0.111	0
2004	0.569	0	0.276	0	20.361	0	0	0
2005	1.045	0	1.09	0	18.61	0	0.202	0
2006	10.50971	0	3.04004	0	14.899	0	0.041	0
2007	6.62522	1.656	3.10129	0	19.928	20.282	0.089	0
2008	7.46342	7.463	2.957	0	19.277	19.277	0.077	0
2009	3.44185	5.28685	1.23422	1.234	13.233	18.96136	0	0
2010	6.268	6.268	0.52475	0	20.577	24.736	0	0

Table 1. Continued.

Species	<i>G. galeus</i>		<i>H. griseus</i>		<i>L. nasus</i>		<i>P. glauca</i>	
	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>
1920	0	0	0	0	0	0	0	0
1921	0	0	0	0	0	0	0	0
1922	0	0	0	0	0	0	0	0
1923	0	0	0	0	0	0	0	0
1924	0	0	0	0	0	0	0	0
1925	0	0	0	0	0	0	0	0
1926	0	0	0	0	0	0	0	0
1927	0	0	0	0	0	0	0	0
1928	0	0	0	0	0	0	0	0
1929	0	0	0	0	0	0	0	0
1954	0	0	0	0	6.192	0	6.3352	0
1955	0	0	0	0	6.7768	0	9.0072	0
1956	0	0	0	0	6.3784	0	10.9632	0
1957	0	0	0	0	6.2376	0	13.1176	0
1958	0	0	0	0	3.084	0	8.8048	0
1959	0	0	0	0	2.9256	0	5.0968	0
1960	0	0	0	0	0.95	0	3.35	0
1961	0	0	0	0	1.75	0	10.6	0
1962	0	0	0	0	2.3	0	8.3	0
1963	0	0	0	0	0.85	0	4.85	0
1964	0	0	0	0	5.2	0	17.05	0
1965	0	0	0	0	7.9	0	13.4	0
1966	0	0	0	0	2.7	0	9.85	0
1967	0	0	0	0	2.1	0	9.6	0
1968	0	0	0	0	2.2	0	7.05	0
1969	0	0	0	0	2.05	0	5.4	0
1970	0	0	0	0	0.35	0	6.1	0
1971	0	0	0	0	0.25	0	9.25	0
1972	0	0	0	0	1.85	0	16	0
1973	0	0	0	0	3.65	0	13.45	0
1974	0	0	0	0	2.48	0	9.52	0
1975	0	0	0	0	2.96	0	11.36	0
1976	0	0	0	0	1.739	0	11.42	0
1977	0	0	0	0	3.498	0	7.314	0
1978	0	0	0	0	3.443	0	8.18	0
1979	0	0	0	0	1.57	0	8.943	0
1980	0	0	0	0	0.621	0	11.039	0
1981	0	0	0	0	0.9	0	10.998	0
1982	0	0	0	0	0.759	0	6.694	0
1983	0	0	0	0	1.218	0	5.634	0
1984	0	0	0	0	1.086	0	4.986	0
1985	0	0	3.584	0	0.53	0	7.714	0
1986	0	0	0.951	0	0.427	0	6.067	0
1987	0	0	1.8	0	1.438	0	2.575	0
1988	0	0	4.125	0	0.304	0	2.805	0
1989	0	0	6.166	0	0.543	0	2.192	0
1990	0	0	5.087	0	0.138	0	1.286	0
1991	0	0	2.984	0	1.024	0	3.35	0
1992	0	0	1.653	0	0.075	0	0.976	0
1993	0	0	5.977	0	0.324	0	0.432	0
1994	0	0	7.886	7.886	0.11	0.11	0.581	0.581
1995	0	0	3.039	3.039	0.229	0.229	1.376	1.376
1996	0	0	2.72	2.72	0.98	0.98	1.389	0.768
1997	0	0	4.464	4.464	0.223	0.223	2.22	0.458
1998	0	0	4.862	4.862	0.907	0.907	2.151	0.193
1999	0	0	3.629	3.629	0.319	0.319	1.571	0.169
2000	0	0	4.867	4.867	0.502	0.502	1.151	0.011
2001	0	0	3.419	3.419	1.072	1.072	0.833	0.165
2002	0	0	8.529	8.529	0.043	0.043	0.556	0.018
2003	0	0	6.157	6.157	0.109	0.109	0.446	0.226
2004	0	0	4.151	4.151	0.469	0.469	0	0.338
2005	0.038	0	3.484	3.484	0.608	0.608	0.479	0.517
2006	0.014	0	5.1776	5.775	0	0	0.292	0.472
2007	0.0095	0	2.9305	3.393	0.3715	0.464	0.596	1.6
2008	0.121	0	0	2.086	0.397	0.229	1.488	1.686
2009	0.228	0.228	0.31255	2.0893	0.586	0.586	1.67825	1.678
2010	0.04	0.04	4.28875	4.288	0.248	0.2485	0.839	0.839

Table 1. Continued.

Species	<i>T. belone</i>		<i>T. alalunga</i>		<i>T. thynnus (juv.)</i>		<i>Sphyrna zygaena</i>		
	Year	A	B	A	B	A	B	A	B
1920	0	0	0	0	0	0	0	0	0
1921	0	0	0	0	0	0	0.48	0	0
1922	0	0	0.56	0	0	0	0.32	0	0
1923	0	0	1.2	0	0	0	0.24	0	0
1924	0	0	1.52	0	0	0	0.32	0	0
1925	0	0	1.6	0	0	0	0.24	0	0
1926	0	0	0.64	0	0	0	0.64	0	0
1927	0	0	0.56	0	0	0	0.8	0	0
1928	0	0	0.04	0	0	0	0.08	0	0
1929	0	0	0.24	0	0	0	0.56	0	0
1954	0	0	0	0	1.968	0	0	0	0
1955	0	0	0	0	6.1816	0	0	0	0
1956	0	0	0	0	45.3976	0	0	0	0
1957	0	0	0	0	5.7824	0	0	0	0
1958	0	0	0	0	38.9944	0	0	0	0
1959	0	0	0	0	2.9376	0	0	0	0
1960	0	0	0	0	0.8	0	0	0	0
1961	0	0	0	0	0.25	0	0	0	0
1962	0	0	0	0	9.05	0	0	0	0
1963	0	0	0	0	46.1	0	0	0	0
1964	0	0	0	0	4.95	0	0	0	0
1965	0	0	0	0	17.3	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	20.05	0	0	0	0
1971	0	0	0	0	1.9	0	0	0	0
1972	0	0	0	0	4.2	0	0	0	0
1973	0	0	0	0	56.4	0	0	0	0
1974	0	0	0	0	14.16	0	0	0	0
1975	0	0	0	0	39.28	0	0	0	0
1976	0	0	0	0	8.632	0	0	0	0
1977	0	0	0	0	30.441	0	0	0	0
1978	0	0	0	0	1.628	0	0	0	0
1979	0	0	0	0	11.193	0	0	0	0
1980	0	0	0	0	3.983	0	0	0	0
1981	0	0	0	0	9.572	0	0	0	0
1982	0	0	0	0	20.902	0	0	0	0
1983	0	0	0	0	10.047	0	0	0	0
1984	0	0	0	0	13.586	0	0	0	0
1985	0	0	0	0	54.25	0	0	0	0
1986	0	0	0	0	12.241	0	0	0	0
1987	0	0	0	0	11.133	0	0	0	0
1988	0.05	0	0	0	5.889	0	0	0	0
1989	0.009	0	0	0	8.933	0	0	0	0
1990	0.406	0	0	0	4.011	0	0	0	0
1991	0.675	0	0	0	7.75	0	0	0	0
1992	0.033	0	0	0	0.293	0	0	0	0
1993	0.044	0	0	0	8.014	0	0	0	0
1994	0.41	0	0	0	8.032	0	0	0	0
1995	0.894	1	0	0	2.421	0	0	0	0
1996	1.104	1	0	0	2.992	0	0	0	0
1997	1.197	1	0.673	1	3.103	0	0	0	0
1998	2.426	0	0.665	1	1.645	0	0	0	0
1999	2.39	0	6.077	0.946	1.912	0	0	0	0
2000	1.382	0	3.596	4	2.168	0	0	0	0
2001	1.844	0	3.94	0	4.997	0	0	0	0
2002	1.457	0	2.033	2	4.459	0	0	0	0
2003	0.929	0	4.666	0	2.971	0	0	0	0
2004	0.73	0	10.354	10.354	0.268	0	0	0	0
2005	0.972	0	14.565	14.565	4.084	0	0	0	0
2006	2.267	0	17.56545	0	6.34	0	0	0	0
2007	3.50038	5.159	1.48491	1.251	0	0	0	0	0
2008	2.55368	2.583	4.6701	4.67	0	0	0	0	0
2009	2.3692	2.3352	1.435	1.43589	0	0	0	0	0
2010	1.484	1.4844	2.45053	2.4505	0	0	0	0	0

Table 1. Continued.

Species	<i>C. hippurus</i>			
	Year	A		
1920	80	0		
1921	56	0		
1922	88	0		
1923	124	0		
1924	76	0		
1925	48	0		
1926	35.2	0		
1927	35.6	0		
1928	89.52	0		
1929	69.36	0		
1954	191.0456	0		
1955	151.368	0		
1956	140.344	0		
1957	100.5832	0		
1958	237.3872	0		
1959	259.9296	0		
1960	305.65	0		
1961	340.6	0		
1962	559.55	0		
1963	588.05	0		
1964	403.25	0		
1965	380.95	0		
1966	411.4	0		
1967	513.5	0		
1968	390.85	0		
1969	197	0		
1970	275.6	0		
1971	294.4	0		
1972	228.95	0		
1973	439.5	0		
1974	476.96	0		
1975	421.84	0		
1976	492.981	0		
1977	370.371	0		
1978	235.001	0		
1979	369.066	0		
1980	248.727	0		
1981	177.196	0		
1982	401.711	0		
1983	441.025	0		
1984	565.602	0		
1985	464.152	0		
1986	360.941	0		
1987	285.627	0		
1988	263.731	0		
1989	306.377	0		
1990	259.64	0		
1991	290.635	0		
1992	187.861	0		
1993	174.053	0		
1994	333.595	0		
1995	333.725	0		
1996	306.564	0		
1997	295.225	0		
1998	363.113	0		
1999	349.129	0		
2000	234.282	0		
2001	302.896	0		
2002	347.315	0		
2003	507.081	0		
2004	472.7	0		
2005	447.095	0		
2006	517.43	509		
2007	273.855	269		
2008	237.193	233		
2009	394.726	394		
2010	529.999	394		

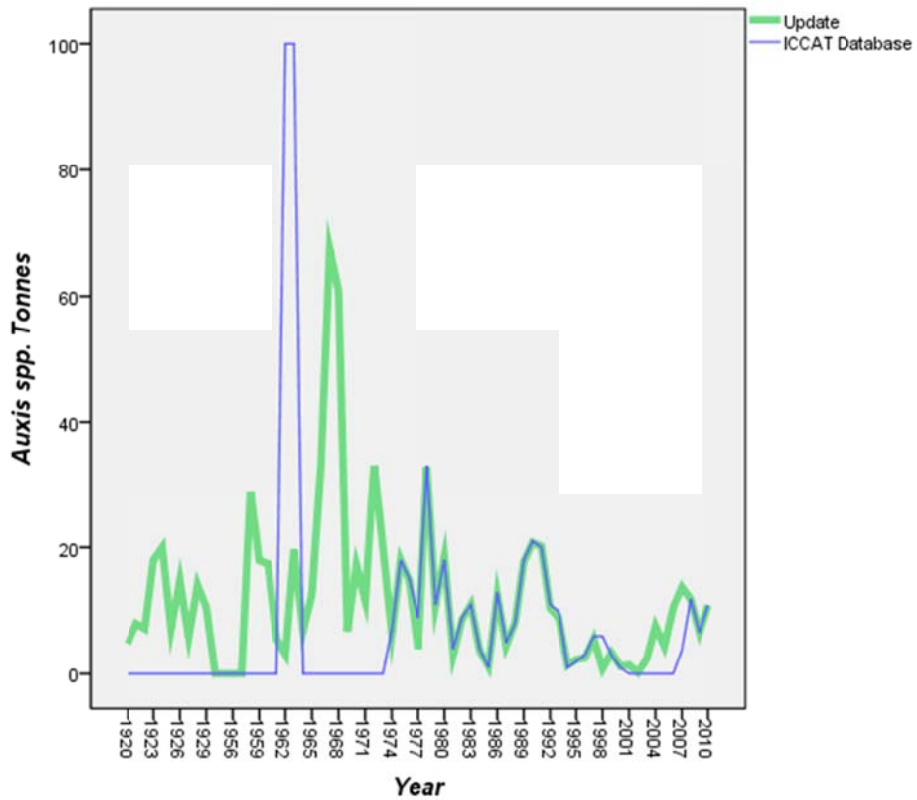


Figure 1. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Auxis spp.*

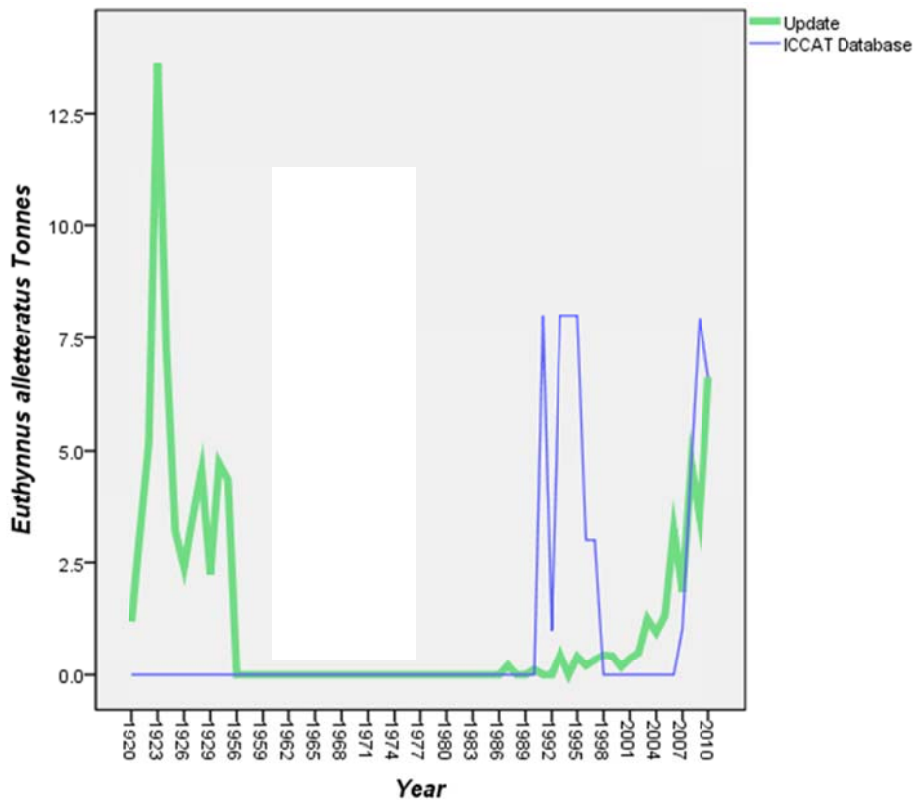


Figure 2. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Euthynnus alletteratus*.

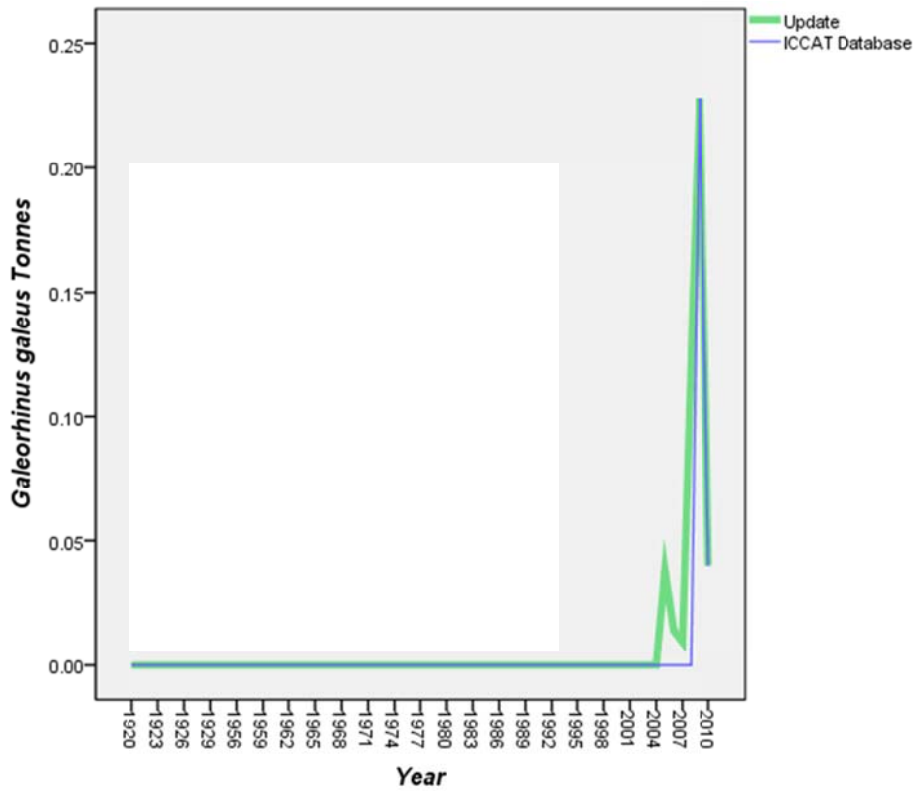


Figure 3. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Galeorhinus galeus*.

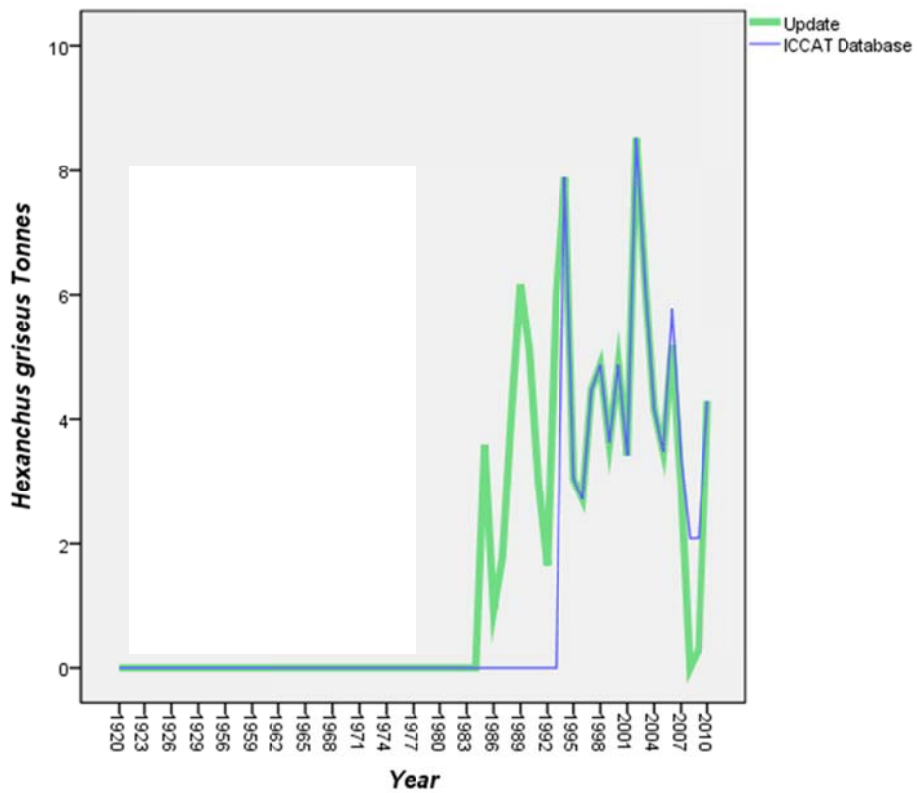


Figure 4. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Hexanchus griseus*.

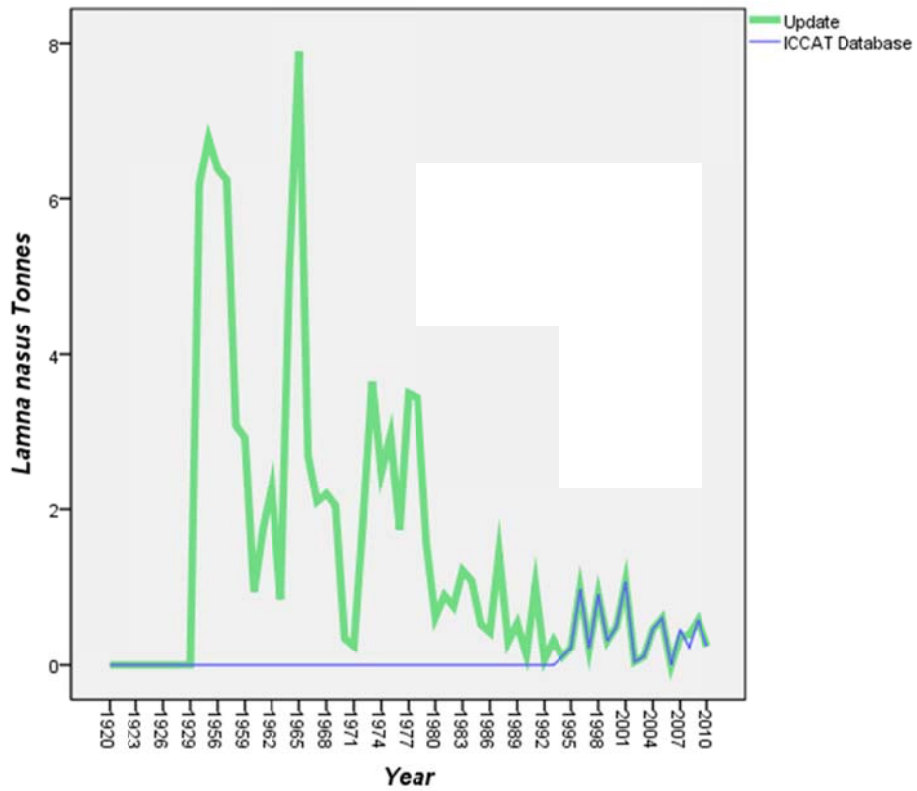


Figure 5. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Lamna nasus*.

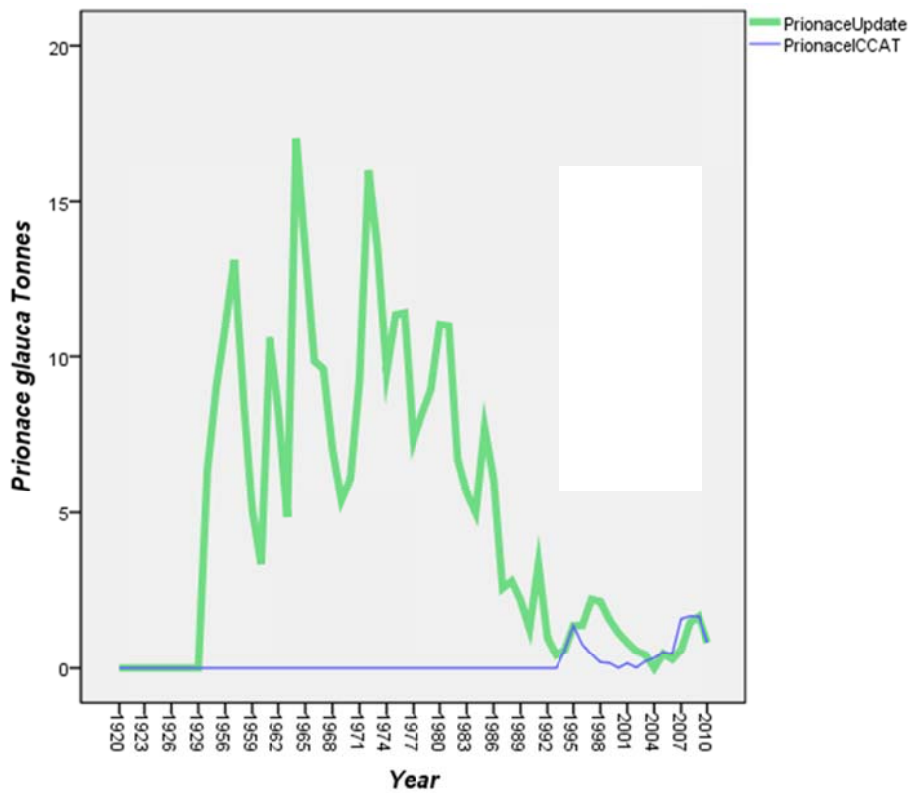


Figure 6. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Prionace glauca*.

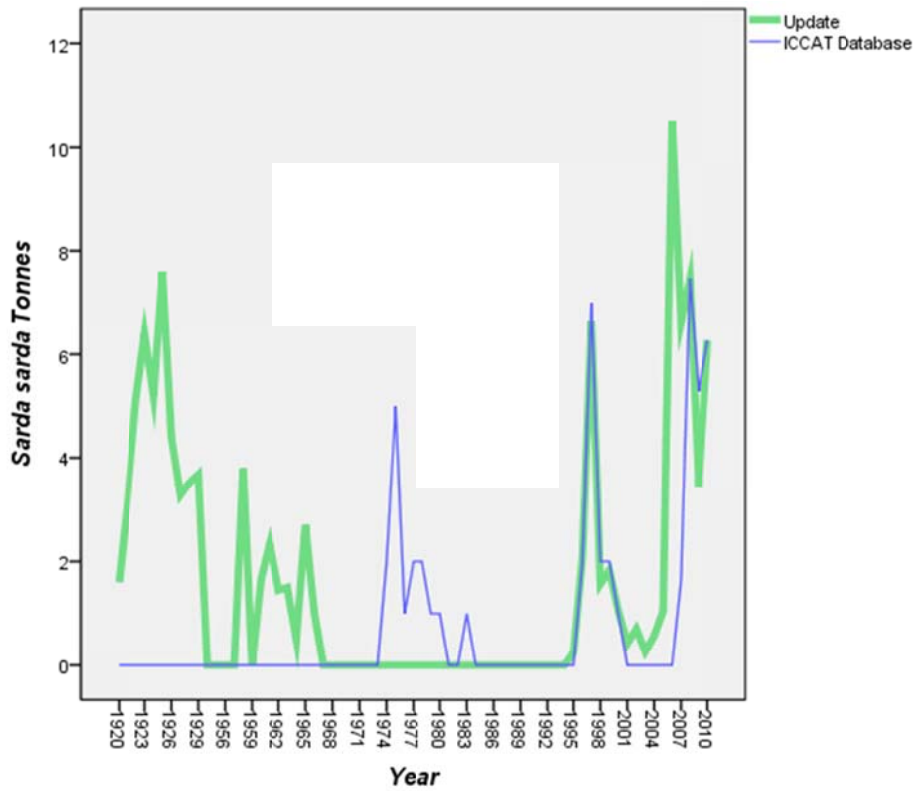


Figure 7. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Sardina sarda*.

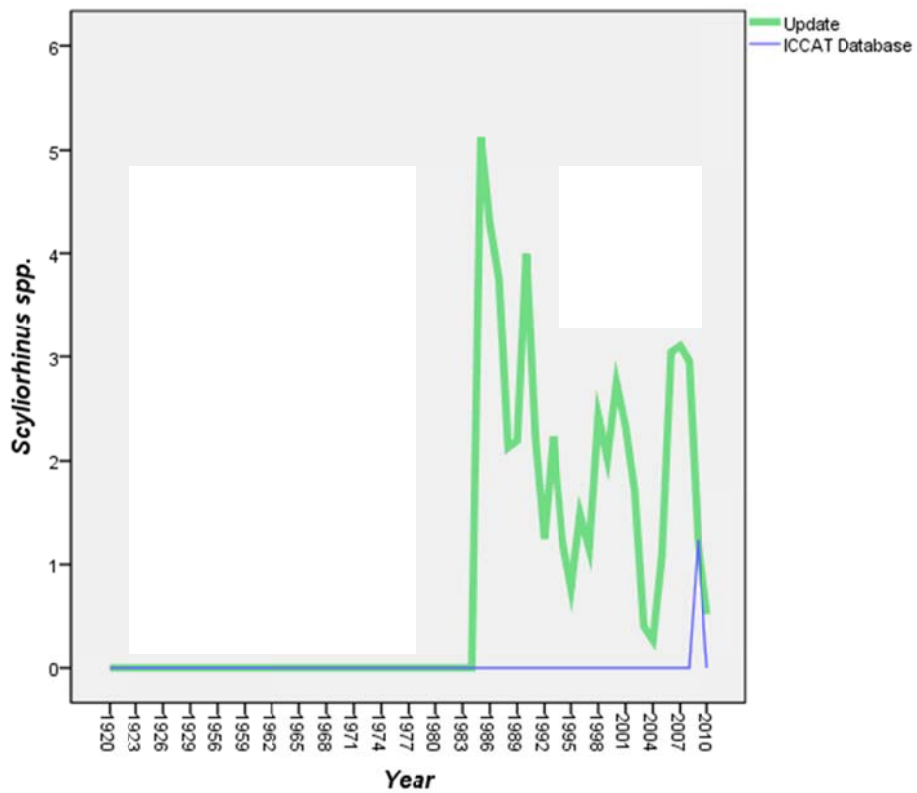


Figure 8. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Scylliorhinus spp.*

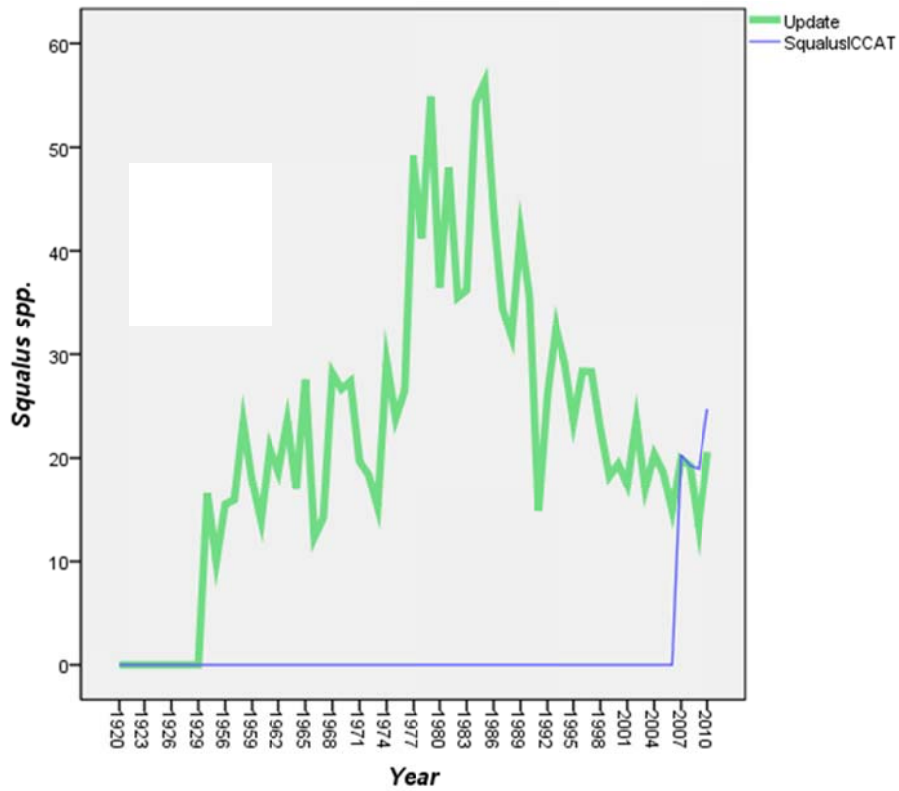


Figure 9. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Squalus spp.*

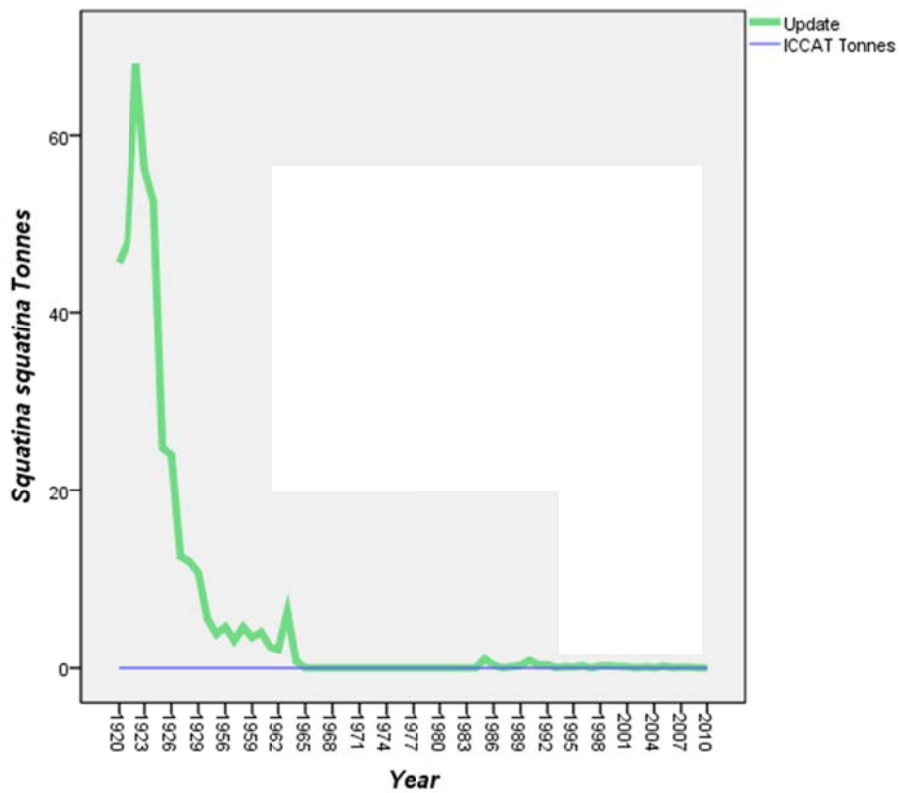


Figure 10. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Squatina squatina*.

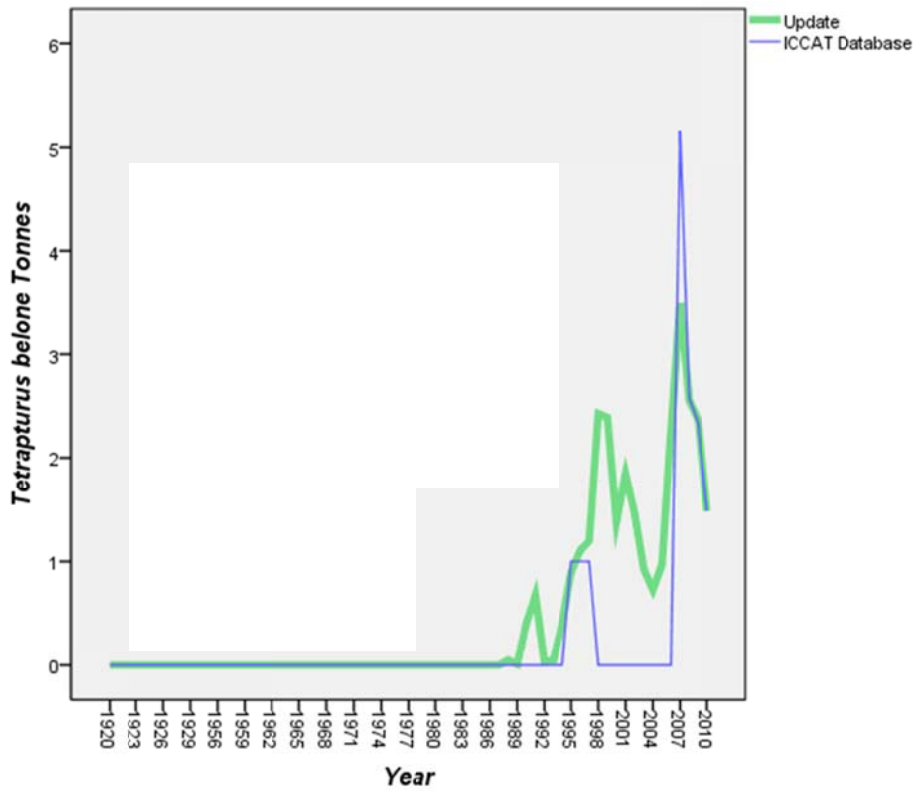


Figure 11. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Tetrapturus belone*.

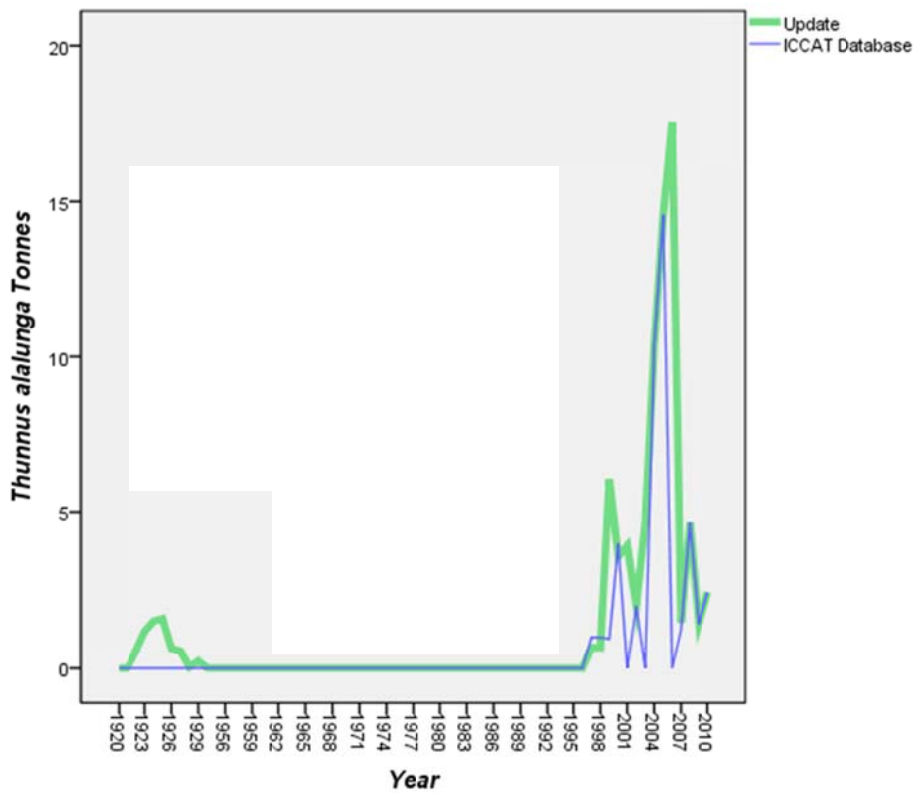


Figure 12. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Thunnus alalunga*.

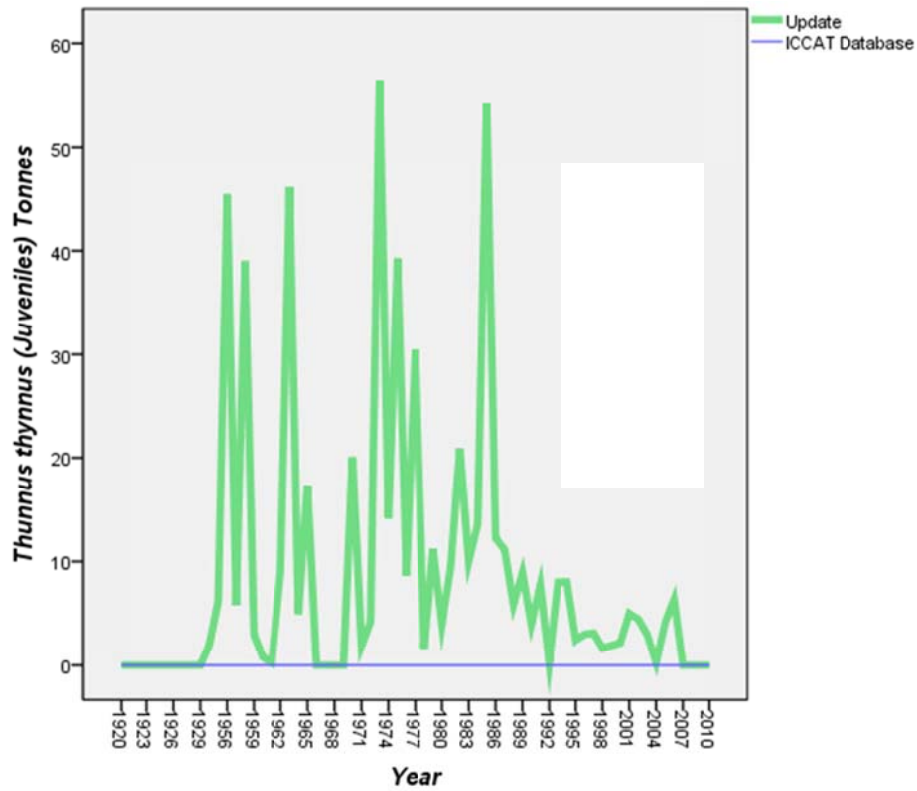


Figure 13. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Thunnus thynnus* (under 1 year of age).

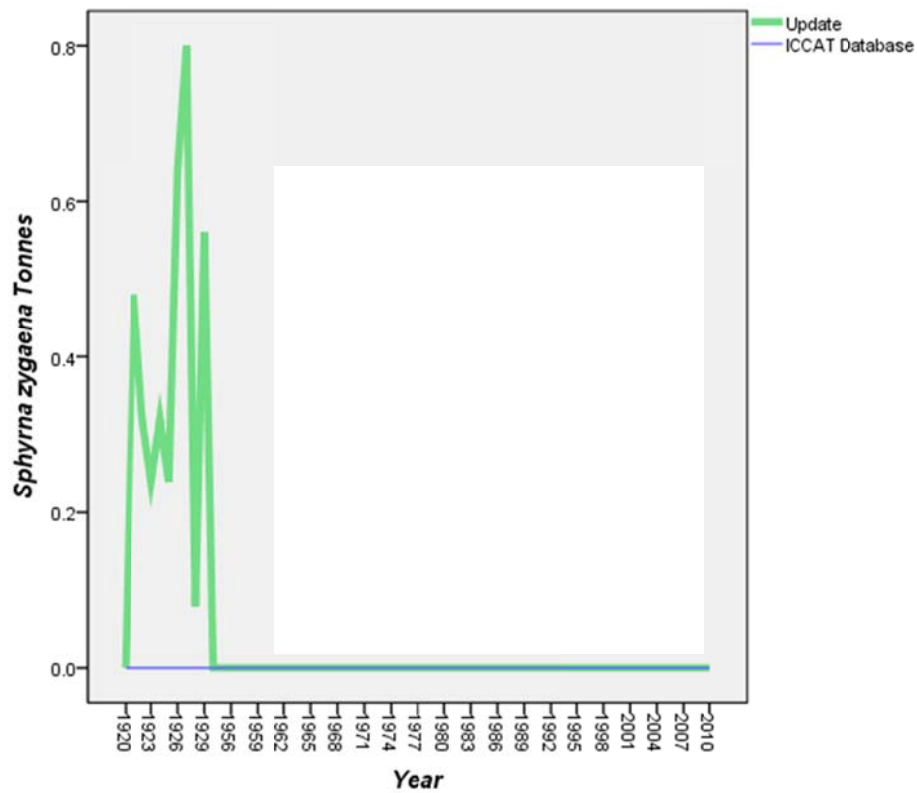


Figure 14. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Sphyrna zygaena*.

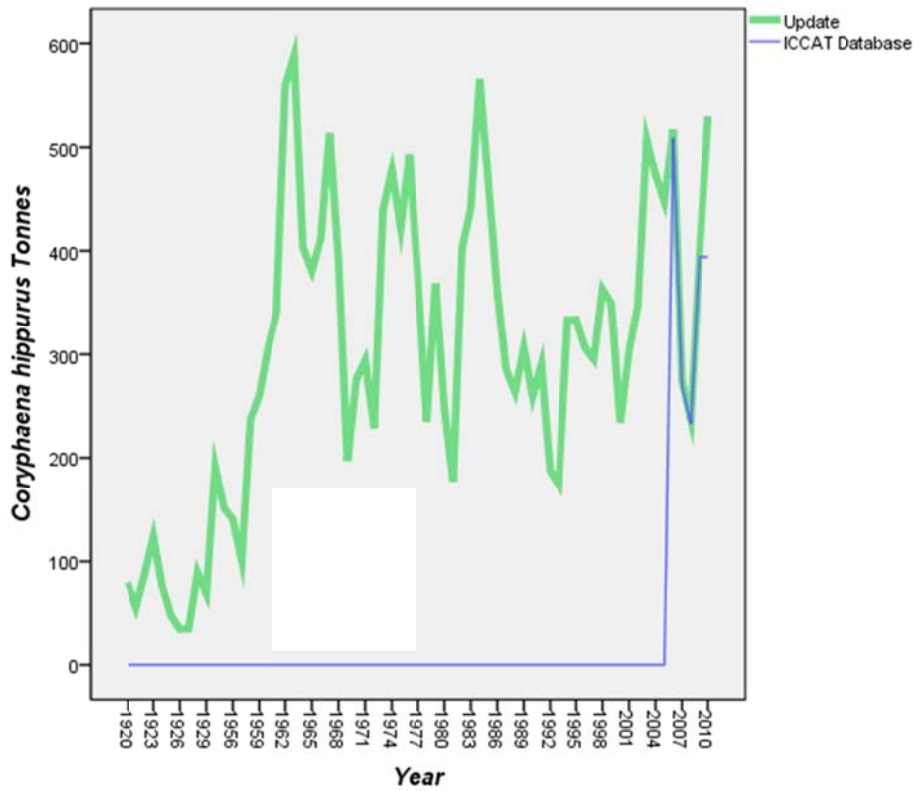


Figure 15. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Coryphaena hippurus*.

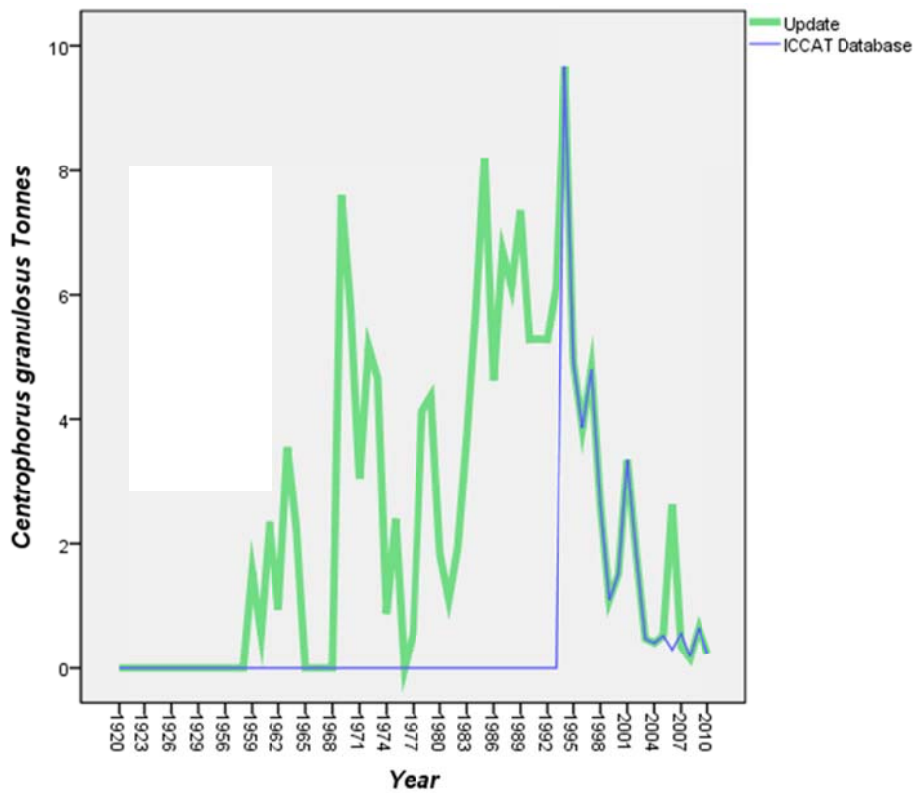


Figure 16. Comparison between the current ICCAT database Task I nominal catch information and the updated Task I nominal catches for *Centrophorus granulosus*.

Dolphinfish data in Microsoft Excel format for:

- ST02-T1NC *Alopias vulpinus* 1993-2010.xlsx
- ST02-T1NC *Auxis spp.* 1920-2010.xlsx
- ST02-T1NC *Centrophorus granulosus* 1920-2010.xlsx
- ST02-T1NC *Coryphaena hippurus* 1920-2010.xlsx
- ST02-T1NC *Euthynnus alletteratus* 1920-2010.xlsx
- ST02-T1NC *Galeorhinus galeus* 2005-2010.xlsx
- ST02-T1NC *Hexanchus griseus* 1985-2010.xlsx
- ST02-T1NC *Lamna nasus* 1954-2010.xlsx
- ST02-T1NC *Prionace glauca* 1954-2010.xlsx
- ST02-T1NC *Sarda sarda* 1920-2010.xlsx
- ST02-T1NC *Scyliorhinus spp.* 1985-2010.xlsx
- ST02-T1NC *Sphyrna zygaena* 1920-1929.xlsx
- ST02-T1NC *Squalus spp.* 1954-2010.xlsx
- ST02-T1NC *Squatina squatina* 1920-2010.xlsx
- ST02-T1NC *Tetrapturus belone* 1988-2010.xlsx
- ST02-T1NC *Thunnus alalunga* 1920-2010.xlsx
- ST02-T1NC *Thunnus thynnus* (juvenile) 1954-2006.xlsx