United Kingdom of Great Britain and Northern Ireland (UK) National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2023

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INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

In accordance with IOTC Resolution 15/02 (and other data related CMMs as noted below), final scientific data for the previous year were provided to the IOTC Secretariat by 30 June of the current year, **for all fleets other than longline** [e.g., for a National Report submitted to the IOTC Secretariat in 2023, final data for the 2022 calendar year must be provided to the Secretariat by 30 June 2023)	YES 22/06/2023
In accordance with IOTC Resolution 15/02, provisional **longline data** for the previous year was provided to the IOTC Secretariat by 30 June of the current year [e.g., for a National Report submitted to the IOTC Secretariat in 2023, preliminary data for the 2022 calendar year were provided to the IOTC Secretariat by 30 June 2023). **REMINDER:** Final longline data for the previous year are due to the IOTC Secretariat by 30 Dec of the current year [e.g., for a National Report submitted to the IOTC Secretariat in 2023, final data for the 2022 calendar year must be provided to the Secretariat by 30 December 2023).	NO DD/MM/YYYY
If no, please indicate the reason(s) and intended actions: The UK had no longline vessels operating within IOTC jurisdiction in 2022. The UK British Indian Ocean Territory (BIOT) Administration does not operate a flag registry, BIOT does not have a fleet of commercial fishing vessels, and there is no commercial port in BIOT. The waters of the Territory are a no-take Marine Protected Area (MPA) to commercial fishing. An MPA exclusion zone covering Diego Garcia and its territorial waters exists where pelagic and demersal recreational fisheries are permitted. The recreational fishery catches some tuna and tuna like species.	

Executive Summary [Mandatory]
This report is from the UK and primarily concerns the recreational fisheries in the British Indian Ocean Territory (BIOT). The UK had no commercial fleet operating during 2022.

BIOT waters are a no-take Marine Protected Area (MPA) to commercial fishing. Diego Garcia and its territorial waters are excluded from the MPA and include a recreational fishery. UK (BIOT) does not operate a flag registry and has no commercial tuna fleet or fishing port. The UK National Report summarises fishing in the BIOT recreational fishery in 2022 and provides details of research activities undertaken to date within the MPA.

The recreational fishery landed 7.5 tonnes of tuna and tuna like species on Diego Garcia in 2022. Principle target tuna species of the industrial fisheries (yellowfin and skipjack tunas) contributed to 21.3% of the total catch of tuna and tuna like species of the recreational fishery. Recognising that yellowfin tuna are currently overfished and subject to overfishing in the Indian Ocean and that Resolution 21/01 seeks to address this, UK(BIOT) have been taking action to reduce the number of yellowfin tuna caught in the BIOT recreational fishery and encouraging their live release. Length frequency data were recorded for a sample of 245 yellowfin tuna from this fishery. The mean length was 68.7cm. Sharks caught in the recreational fishery are released alive.

IUU fishing remains one of the greatest threats to the BIOT ecosystem but a range of other threats exist including invasive and pest species, climate change, coastal change, disease, and pollution, included discarded fishing gear such as Fish Aggregating Devices. During 2022 the BIOT Environment Officer continued to take forward the current conservation priorities. Recommendations of the Scientific Committee and those translated into Resolutions of the Commission have been implemented as appropriate by the BIOT Authorities.

Contents [*add a table of contents with page numbers*] **[Desirable]**

1. BACKGROUND/GENERAL FISHERY INFORMATION [MANDATORY]

UK did not have any vessels registered in the IOTC RAV in 2022.

The recreational fishery catches some tuna and tuna-like species. Permitted recreational fisheries also include visiting yachts that fish outside the exclusion zone within the waters of the MPA, but not within Strict Nature Reserves. Such fishing must be for consumption within three days. Yachts must apply for a permit to moor in designated areas.

2. FLEET STRUCTURE [MANDATORY]

N/A: As stated above, UK (BIOT) does not have a flag registry or fleet of commercial fishing vessels. The recreational fishery is described in Section 4.The number of UK flagged vessels operating over the last 6 years is shown in Table 1.

Table 1 Number of vessels operating in the IOTC area of competence, by gear type and size: 2017–2022

Year	*Number of Vessels Licensed*	*Number of Vessels Active*	*Length*
2022	*0*	*0*	*N/A*
2021	*1*	*1 (drifting longliners)*	*45 metres*
2020	*1*	*1 (drifting longliners)*	*45 Metres*
2019	*2*	*2 (drifting longliners)*	*39 metres – 45 metres*
2018	*2*	*2 (drifting longliners)*	*39 metres – 45 metres*
2017	*2*	*2 (drifting longliners)*	*40 metres – 47 metres*

3. CATCH AND EFFORT (BY SPECIES AND FISHERY) [Mandatory]

UK had no vessels registered on the RAV during 2022, catch and effort for primary species is shown in Table 2.

Table 2. Annual catch and effort of primary species in the IOTC area of competence, 2017 – 2022.

Year	Total Effort	Total Catch
2022	0	0
2021	0	0
2020	270000	411.9
2019	621600	881.8
2018	498100	989.3
2017	500300	579.8

Figure 1. Historical annual catch for the national fisheries by primary species, for the IOTC area of competence for the entire history of the fisheries.

Species name	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Albacore	8.7	5.1	4.0	6.6	7.0	7.9	8.5	2.1	3.1	1.0	1.3	0.0	0.0
AmberJack	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Barracuda	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bigeye Tuna	0.0	3.5	3.2	3.3	0.0	0.0	0.0	0.0	2.5	2.3	1.9	0.0	0.0
Sailfish	21.7	24.4	4.6	1.7	0.0	0.0	0.0	0.0	3.3	3.9	0.8	0.0	0.0
Black Marlin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	13.1	12.3	4.3	0.0
Bonito	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blue Shark	427.1	379.3	333.0	326.4	193.4	251.8	215.3	172.4	195.7	369.5	371.8	157.1	0.0
Blue Marlin	0.0	1.3	9.3	20.4	16.5	11.7	7.9	3.5	4.1	0.0	0.0	0.0	0.0
Common dolphinfish	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.9	3.3	0.9	0.0
Silky Shark	0.4	2.5	1.3	1.5	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Other or mixed Demersal	1.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haddock	0.0	0.0	0.0	55.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Snake Mackerel	4.5	46.1	35.0	50.0	47.0	41.3	30.5	19.6	17.6	31.6	16.6	6.7	0.0
Longfin mako	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0
Mako Shark	44.3	52.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oilfish	32.7	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Indo-Pacific Sailfish	0.9	5.5	3.0	7.5	5.7	2.8	1.2	1.7	1.2	7.3	3.5	1.4	0.0
Sharks	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shortfin mako	16.7	17.0	62.1	70.2	46.5	54.0	26.1	22.8	68.2	87.4	72.0	32.9	0.0
Scalloped Hammerhead Shark	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Swordfish	646.3	684.0	679.6	687.3	558.9	527.2	365.0	203.7	284.2	523.0	383.2	202.4	0.0
Tuna - Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wahoo	0.0	1.8	1.5	3.5	2.1	2.8	1.7	0.4	0.7	1.6	0.8	0.0	0.0
Yellowfin tuna	120.4	51.6	42.7	56.8	53.9	85.9	85.4	41.8	20.6	9.1	14.2	6.2	0.0
Yellowtail Amberjack	3.8	10.0	20.8	10.5	8.3	18.7	4.0	1.4	7.2	0.5	0.0	0.0	0.0
Grand Total	1334.4	1295.5	1200.0	1300.8	939.2	1004.0	745.6	469.4	613.8	1053.4	881.8	411.9	0.0

Figure 2a. Map of the distribution of fishing effort, by national fishery in the IOTC area of competence (most recent year e.g., 2022). **[Mandatory]**

There was no commercial fishing activity by the UK fleet in IOTC area of competence in 2021 or 2022. Please refer to map under figure 2b for average catch between 2016-2020.

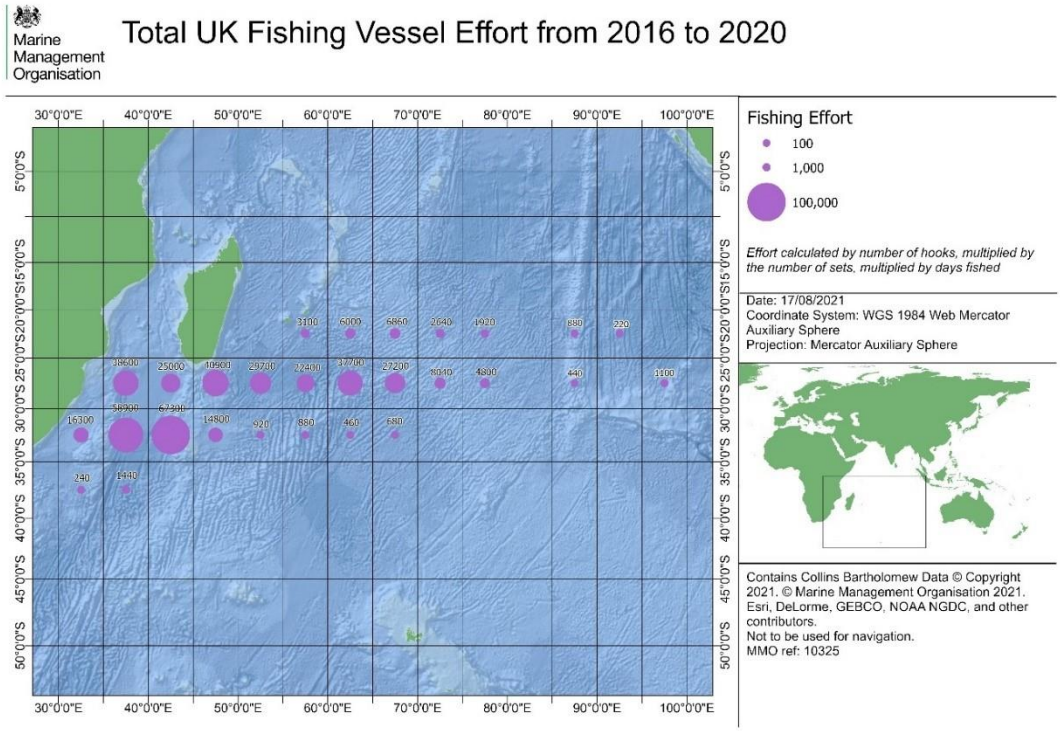


Figure 2b. Map of the distribution of fishing effort, by national fishery in the IOTC area of competence (average of the 5 previous years e.g., 2018–2022). **[Mandatory]**

Figure 3a. Map of distribution of fishing catch, by species for the national fisheries, in the IOTC area of competence (most recent year e.g., 2022). **[Mandatory]**

There was no commercial fishing activity by the UK fleet in IOTC area of competence in 2021 or 2022. Please refer to maps under figure 3b for average catch between 2016-2020.

Figure 3b (1). Distribution of UK catch of albacore tuna (tonnes) 5˚ area (average 2016-2020)

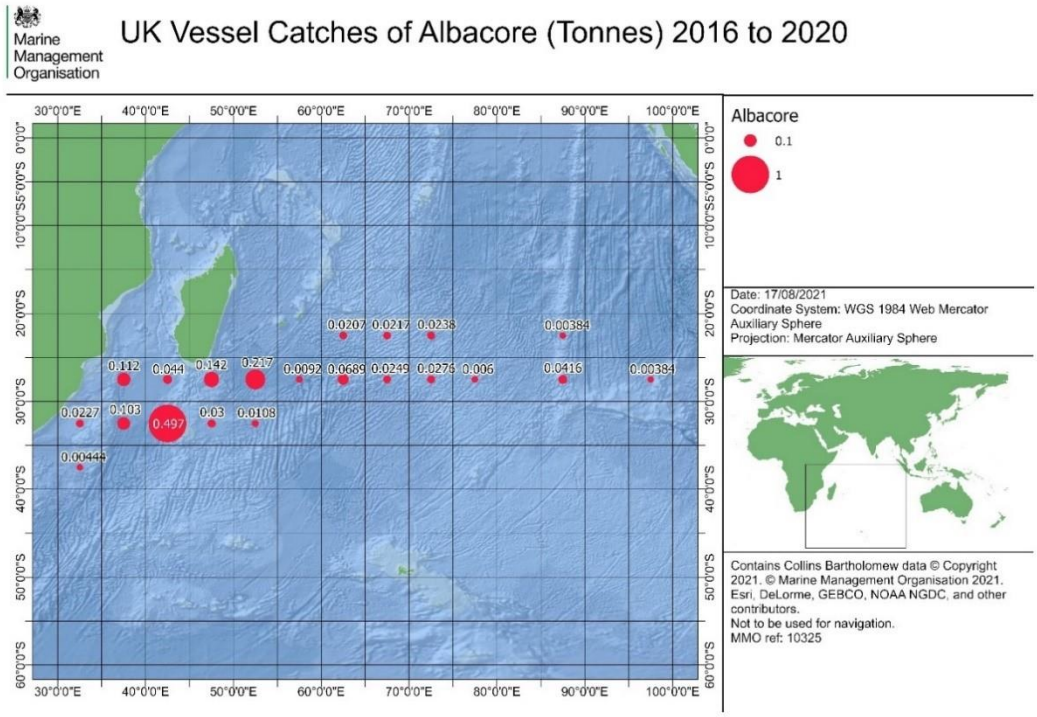


Figure 3b (2). Distribution of UK catch of blue shark (tonnes) by 5˚ area (average 2016-2020)

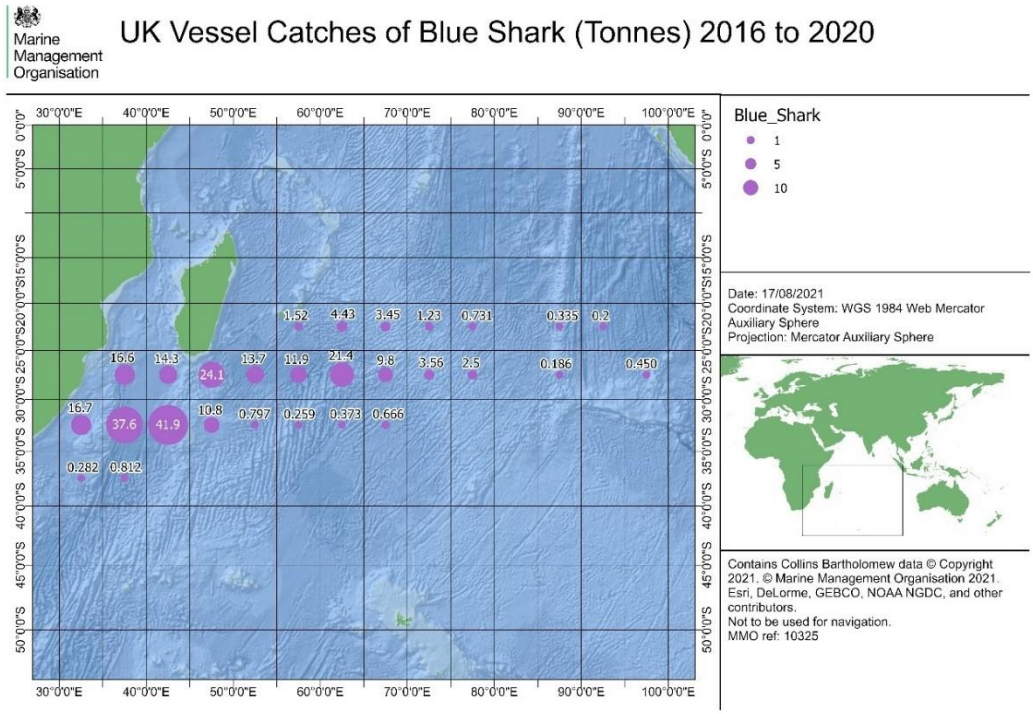


Figure 3b (3). Distribution of UK catch of shortfin mako (tonnes) by 5˚ area (average 2016-2020)

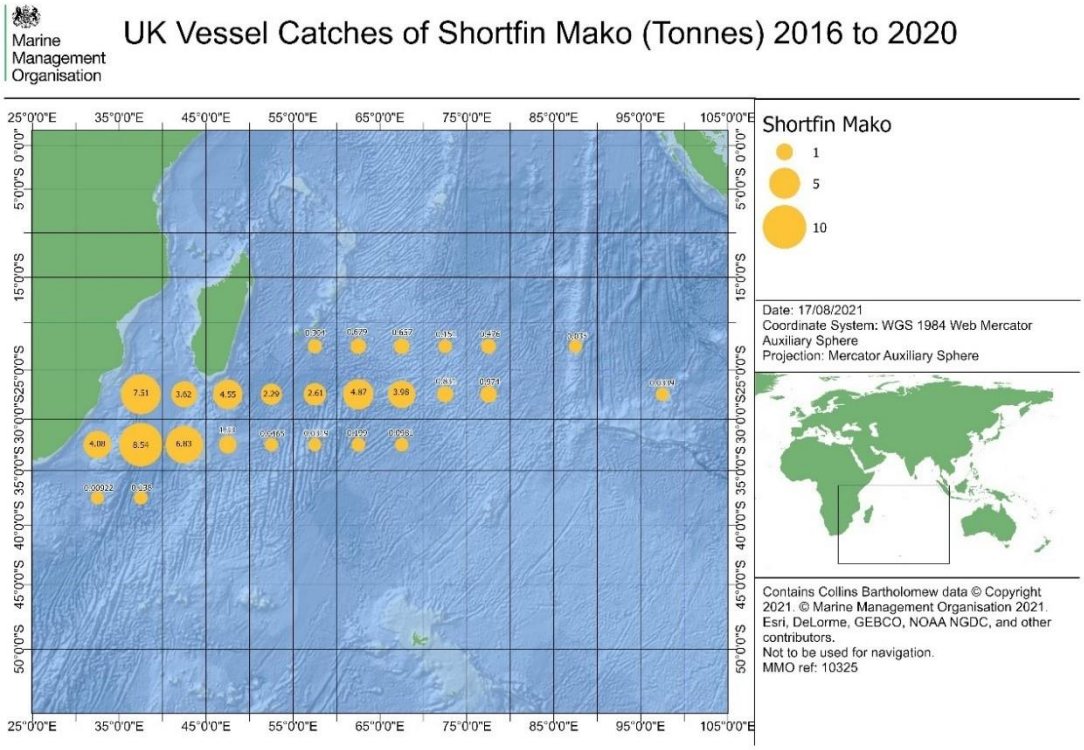


Figure 3b (4). Distribution of UK catch of swordfish (tonnes) by 5˚ area (average 2016-2020)

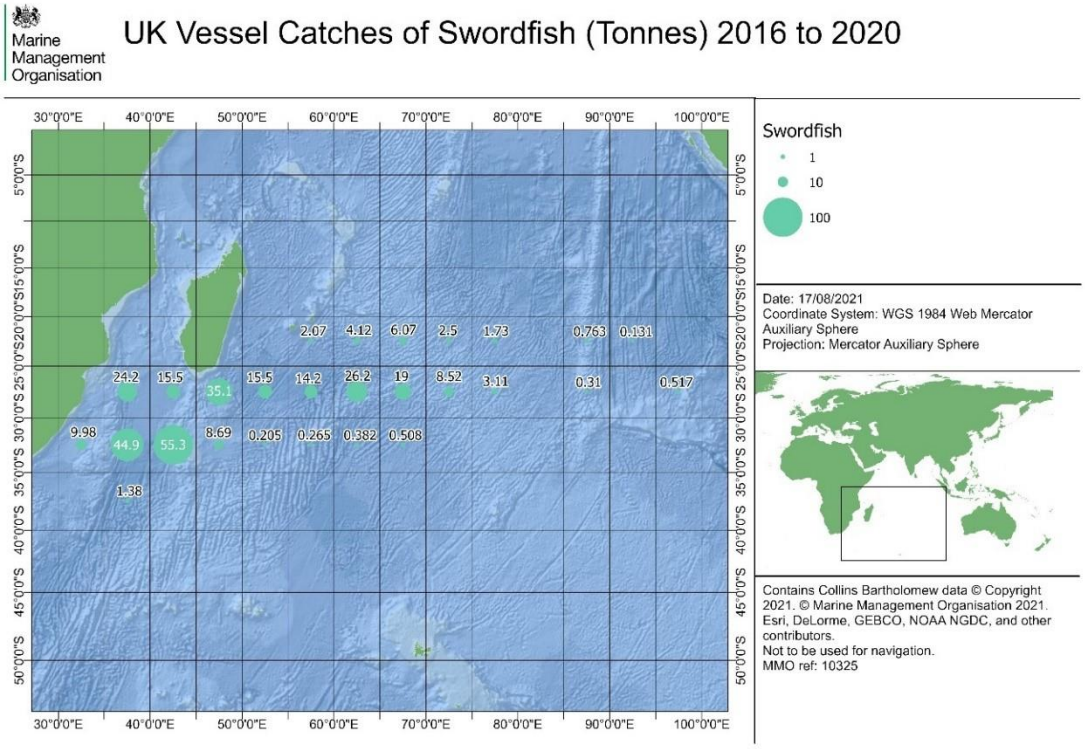
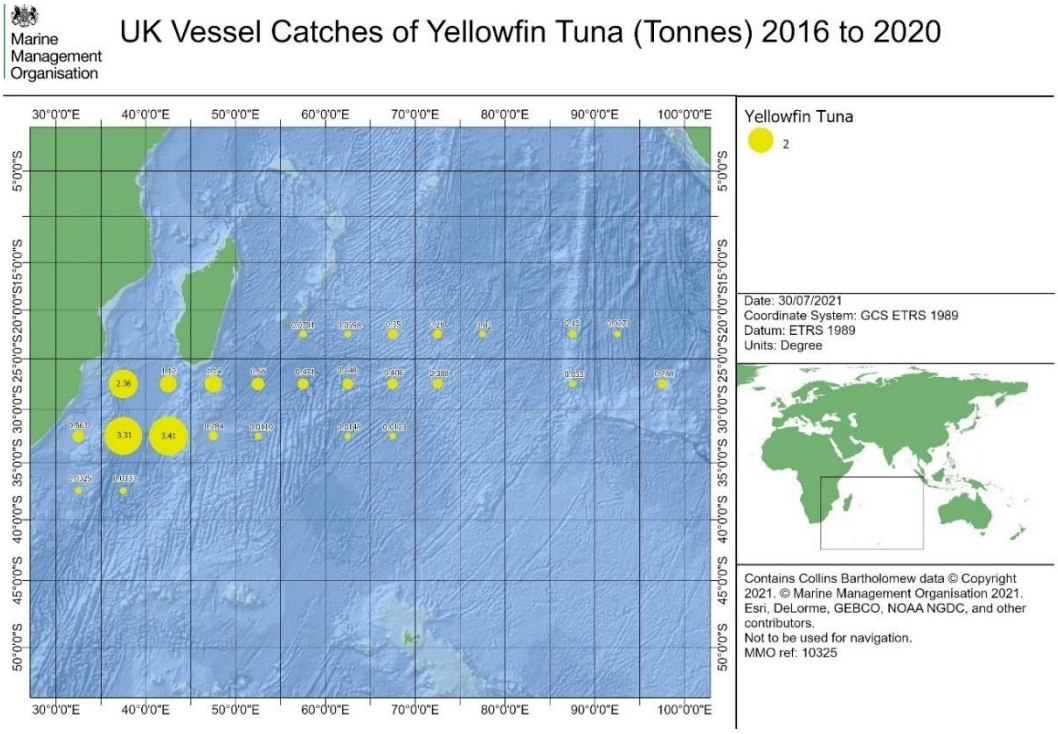


Figure 3b (5). Distribution of UK catch of yellowfin tuna (tonnes) 5˚ area (average 2016-2020)



4. RECREATIONAL FISHERY [Mandatory]

A small recreational fishery occurs in Diego Garcia. A total of 7.5 tonnes of tuna and tuna like species were caught in 2022, shown in the table below, reef associated species are also caught in this fishery. The principle commercial tuna species, yellowfin and skipjack tunas (no bigeye were landed), contributed 21.3% of the total catch of tuna and tuna like species of the recreational fishery.

Recognising that yellowfin tuna are currently overfished and subject to overfishing in the Indian Ocean and that Resolution 21/01 seeks to address this, the UK have been taking action to reduce the number of yellowfin tuna caught in the recreational fishery and have been encouraging their live-release for a number of years.

Catches of tuna and tuna like species landed from the UK (BIOT) recreational fishery during the period 2017-2022

Year	Estimated catch of tuna and tuna like species (kg)										Total (kg)		
Species	Blue marlin	Dolphinfish	Kawakawa	Rainbow runner	Sailfish	Wahoo	Dogtooth tuna	Skipjack tuna	Yellowfin tuna	Other tuna nei	Tunas	Tuna like spp	All
2017	0	70	1525	288	0	7899	569	107	2425	0	3401	9783	13184
2018	0	94	1189	153	0	5163	189	176	4313	0	4678	6599	11277
2019	0	32	1201	186	0	3859	109	257	2770	299	3434	5279	8713
2020	0	31.8	345.2	76.2	141.1	2663.9	10.4	117.9	3110.7	45.4	3284.5	3258.2	13928.2
2021	9.1	22.2	582.4	39.9	0.0	5421.3	342.9	78.0	2622.7	0.0	3043.6	6075.0	9118.6
2022	0	59.0	199.1	61.7	0	5356.7	191.4	9.5	1580.5	4.5	1785.9	5676.5	7462.4

5. ECOSYSTEM AND BYCATCH ISSUES [Mandatory]

The BIOT zone, excluding territorial waters around Diego Garcia, is a no-take MPA closed to commercial fishing. The recreational fishery on Diego Garcia is monitored. Beyond the blanket protection of all species through the declaration of the MPA, there are currently no separate national plans of action in place for individual species or species groups. However, in its recreational fishery, all sharks and billfish caught must be released alive and fishers are encouraged to release yellowfin tuna.

The current ecosystem threats relate to illegal unreported and unregulated fishing of which a large number of events were detected by the BIOT Patrol Vessel in 2022 and are reported separately to the Compliance Committee (IOTC-2023-CoC20-09). Controlling IUU is a core element of the current conservation priorities (see https://biot.gov.io/environment/).

Other threats to the ecosystem that have been identified include invasive and pest species (introduced by visiting or IUU vessels), climate change (including weather changes; coral bleaching and mortality, sea level rise, likely increasing rates of erosion or inundation events; and oceanic chemical composition change), coastal change, disease (particularly of corals), and pollution. The latter includes lost and abandoned fishing gear including fish aggregating devices (FADs) which can have harmful impacts on species and habitats within BIOT, research has been undertaken on their potential impacts (MRAG 2019a) and how currents and oceanic conditions may influence their movement throughout BIOT (MRAG 2019c). Consequently, these also form a core element of the current conservation priorities and there are plans to continue this analysis using FAD position data made available by the Secretariat (https://iotc.org/documents/instrumented-buoy-data-january-2020-june-2023).

5.1 Sharks [Mandatory]

Sharks must be released alive when caught in the recreational fishery. Sharks continue to be caught illegally by IUU vessels in BIOT waters. No commercial fishery operated in 2022.

Research, including tagging of sharks in BIOT waters is ongoing through the Bertarelli Programme on Marine Science which has included scientific research expeditions in BIOT, although none were conducted in 2022.

5.1.1. NPOA sharks [Desirable]

N/A

5.1.2. Sharks finning regulation [Mandatory]

In 2020 the UK operated under Council Regulation (EU) No 605/2013 whereby all EU vessels wherever they fish are required to land sharks with their "fins naturally attached".

The UK has a limited capacity to conduct inspections at sea and during landing for those vessels that fish in the IOTC area and land into ports where we do not have an inspection presence.

With regards compliance this is not appliable during 2022 as no UK vessels were operational during this period.

5.1.3. Blue shark [Mandatory]

Statistical data on catch and effort relating to blue shark have been reported in line with the provision of Resolution 15/01. Biological data - size and discard data have been provided in accordance with the Resolution 15/02 between 2017 and 2020 when on board observers were deployed on UK vessels operating in the IOTC (Table 3 and Table 4).

Table 3. Total number and weight of sharks, by species, retained by the national fleet in the IOTC area of competence (2016–2022)

	Catches by Species (longline gear)							
Year	**Blue**	**Oceanic white tip**	**Scalloped hammerhead**	**Shortfin mako**	**Silky**	**Bigeye thresher**	**Pelagic thresher**	**Total**
2022	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0
2020	157.1	0	0	32.9	0	0	0	190.0
2019	378.8	0	0	72.0	0	0	0	450.8
2018	369.5	0	0	87.4	0	0	0	456.9
2017	195.7	0	0	68.2	0	0	0	263.9
2016	172.4	0	0	22.8	0	0	0	195.2

Table 4. Total number of sharks, by species, released/discarded by the national fleet in the IOTC area of competence (for the most recent five years at a minimum, e.g. 2017–2021). Where available, include life status upon released/discard

	Catches by Species (longline gear)							
Year	**Blue**	**Oceanic white tip**	**Scalloped hammerhead**	**Shortfin mako**	**Silky**	**Bigeye thresher**	**Pelagic thresher**	**Total**
2022	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0
2020								
2019								
2018								
2017								

5.2 Seabirds [Mandatory]

Seabird bycatch does not occur in the recreational fishery and has not been observed in IUU fisheries. No Commercial fishery operated in 2022.

Reporting period* or calendar year: 2022

Species _____

Fishery		Observed					Estimate
Area[1]	Total effort[2]	Total observed effort[2]	Observer coverage[3]	Captures (number)	Mortalities (number)	Live releases (number)	Mortality estimate (number)
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total							

*This field can be used to specify a temporal stratification to the data e.g. season

[1]Spatial stratification (5x5, 10x10 or other – to be determined)

[2]Number of hooks observed hauled

[3]Percentage of all hooks set that were observed hauled

1. How many vessels operated south of 25˚S in the period covered by this report? None
2. How many of those vessels used bird scaring lines (as a proportion of total effort)? N/A
3. How many of those vessels used line weighting (as a proportion of total effort)? N/A
4. How many of those vessels used night setting (as a proportion of total effort)? N/A

5.3 Marine Turtles [Mandatory]

No turtle bycatch / interaction was reported in the BIOT recreational fishery in 2022. The BIOT area includes undisturbed and recovering populations of hawksbill and green turtles. Island sweeps are conducted as part of the normal monitoring programme, where part or entire islands are inspected, turtle nesting tracks are regularly encountered and recorded.

No incidents have been reported to the UK Fisheries Monitoring Centre since 2019. In 2022 there was no commercial fishing activity by the UK fleet in the IOTC area.

	Fishery – Longlines (logbook data)			Observed ** (Observer reports)				
Year	Lat*	Lon	Total effort	Total effort observed	Species	Captures (number)	Mortalities (number)	Live releases (number)
2018	22.5	57.5	14400					
2018	22.5	62.5	13200					
2018	27.5	37.5	26400					
2018	27.5	42.5	34600					
2018	27.5	47.5	100400	2400				
2018	27.5	52.5	27200	6000	Loggerhead turtle (Caretta caretta)	1	0	1
2018	27.5	57.5	17600	3600				
2018	27.5	62.5	56900	21600				
2018	27.5	67.5	7700					
2018	27.5	72.5	20900					
2018	32.5	32.5	45600					
2018	32.5	37.5	39600	8400	Not identified	2	0	2
2018	32.5	42.5	95300					
2018	32.5	47.5	3400					
2018	32.5	52.5	2200					
2018	32.5	62.5	2200					
2018	32.5	67.5	4400					
2019	22.5	62.5	1200					
2019	22.5	67.5	4800					
2019	27.5	37.5	2400					
2019	27.5	42.5	58800	2400				
2019	27.5	47.5	74400	6000	Loggerhead turtle (*Caretta caretta*)	1	0	1
2019	27.5	52.5	81600	15600				
2019	27.5	57.5	46800					

	Fishery – Longlines (logbook data)			Observed ** (Observer reports)				
Year	Lat*	Lon	Total	Total effort	Species	Captures	Mortalities	Live releases
2019	27.5	62.5	26400					
2019	27.5	67.5	7200					
2019	27.5	72.5	3600					
2019	32.5	32.5	36000					
2019	32.5	37.5	148800					
2019	32.5	42.5	69600	19200				
2019	32.5	47.5	40800	2400				
2019	32.5	52.5	2400					
2019	37.5	32.5	1200					
2019	37.5	37.5	7200					

5.4 Other ecologically related species (e.g., cetaceans, mobulid rays, whale sharks) [Desirable]

See Table under section 5.3. Only marine turtles were caught by commercial vessels in the period covered by the table. No catches have been recorded since 2018 (or prior to this) although mobulid rays are caught by IUU vessels. No incidental mortality /annual catches on other ecologically related species such as marine mammals and whale sharks have been observed in the recreational fishery.

Table 5. Observed annual catches of species of special interest by species (seabirds, marine turtles and marine mammals) by gear for the national fleet, in the IOTC area of competence

	Catches by Species (longline gear)		
Year	**Seabirds**	**Marine mammals**	**Whale sharks**
2022	0	0	0
2021	0	0	0
2020	0	0	0
2019	0	0	0
2018	0	0	0

6. NATIONAL DATA COLLECTION AND PROCESSING SYSTEMS [Mandatory]

6.1. Logsheet data collection and verification (including date commenced and status of implementation)

No Commercial fisheries operated in the IOTC area of competence during 2022.

Logbook data collection for the recreational fishery is completed by the vessel charterer for each trip conducted. The system was introduced in 2006 and provides 100% coverage of all boat based recreational fishing activity. Prior to that a system of logbooks to be completed by fishers was utilised but proved less effective and did not achieve full coverage. A similar fisher-based system was introduced in 2016 for shore based recreational fishers, although they tend not to catch tuna and tuna like species and the reporting is inconsistent.

6.2. Vessel Monitoring System (including date commenced and status of implementation)

No Commercial fisheries operated in the IOTC area of competence during 2022.

6.3. Observer scheme (including date commenced and status; number of observer, include percentage of coverage by fishery. Also, a description of the protocols supporting the observer programs and sampling schemes mentioned in paragraphs 3, 5, 7 and 8 of Res [22-04])

The UK ran an observer programme in the Indian Ocean between 2017 and 2019, COVID prevented any coverage in 2020. A single observer covered the two EU(UK) flagged longline vessels, spending time on each vessel and transferring

between then to ensure that 5% Coverage was reached. The observers collected data according to the protocols set out in the IOTC Regional Observer Scheme and the data were submitted in the required format to the Secretariat. Table 6 shows the level of coverage achieved in those three years.

Table 6. Annual observer coverage by operation, e.g., longline hooks, purse seine sets (for the most recent five years at a minimum, e.g., 2018–2022 or to the extent available). [Mandatory]

Year	Hooks set	Hooks observed	Percent Observed
2022	0	0	0
2021	0	0	0
2020	270,000	0	0
2019	621,600	45,000	7.2
2018	498,100	42,000	8.4
2017	500,300	38,688	7.7

Figure 4. Map showing the spatial distribution of observer coverage. **[Mandatory]** *[Recommended spatial resolution = 1 x 1 degree grid]*

6.4. Port sampling programme [Mandatory]

The UK operated no commercial fisheries in the IOTC area of competence during 2022 and no port sampling regime has been in place (Table *7* and Table 8).

Table 7. Number of vessel trips or vessels active monitored, by species and fishery [Mandatory]

	Port sampling (all gears)	
Year	**Vessel trips**	**Trips monitored**
2022	0	0

Table 8. Number of fish measured, by species and fishery] [Mandatory]

	Port sampling (all gears)	
Year	**Individuals landed**	**Individuals measured**
2022	0	0

6.5. Unloading/Transhipment of flag vessels [including date commenced and status of implementation] [Mandatory]

The UK operated no commercial fisheries in the IOTC area of competence during 2022 and no fish have been unloaded or transhipped (Table 9 and Table 10).

Table 9. Quantities by species and fishery landed in ports located in the IOTC area of competence [Mandatory]

	Port landings (all gears)	
Year	**Vessel port landings**	**Species landed**
2022	0	N/A

Table 10. Quantities by species and fishery transhipped in ports located in the IOTC area of competence [Mandatory]

	Port transhipments (all gears)	
Year	**Vessel port transhipments**	**Species transhipped**
2022	0	N/A

6.6. Actions taken to monitor catches & manage fisheries for Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish [Mandatory]

The UK operated no commercial fisheries in the IOTC area of competence during 2022 and none of these species have been landed.

Within the recreational fishery gaffing billfish and sailfish is prohibited under the licence terms and conditions and all should be unhooked and released if caught

6.7. Gillnet observer coverage and monitoring [Desirable]

The UK operated no commercial fisheries in the IOTC area of competence during 2022 and has never operated a gillnet fishery in the area.

6.8 Sampling plans for mobulid rays [Mandatory]

The UK operated no commercial fisheries in the IOTC area of competence during 2022 and has no sampling plan in place.

7. NATIONAL RESEARCH PROGRAMS [Desirable]

Currently most research is conducted within BIOT through a series of expeditions funded under the Bertarelli Programme in Marine Science (BPMS, see Table 11) Research under the BPMS links to conservation priorities through 'Key Species' research. The UKs Darwin funding programme also supports research in the territory including that on invasive species and recreational fishing.

Outputs of past research conducted in BIOT can be accessed through the Chagos Information Portal (ChIP, https://chagosinformationportal.org/), more recent research through the BPMS website (www.marine.science) and the BIOT website https://biot.gov.io/ where details of expeditions up to those conducted in 2020 are currently available https://biot.gov.io/science/2020-science-expeditions/.Table 11 summarises the expeditions conducted during 2022.

7.1. National research programs on blue shark

There is no National research programme specifically on blue shark, any caught in the IUU fisheries are measured and reported to IOTC.

7.2. National research programs on Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish

There is no National research programme specifically on these species.

7.3. National research programs on sharks

There is no National research programme specifically on sharks taken in fisheries, however there has been some general research programmes with BIOT (see for example publications 9, 11, 13, 15, 20, 22, 23 and 35 in Section 9).

7.4. National research programs on oceanic whitetip sharks

There is no National research programme on whitetip sharks taken in the IOTC area of competence, however there has been some DNA studies conducted on sharks within BIOT during research expeditions.

7.5. National research programs on marine turtles

There is no National research programme on marine turtles, however research is undertaken within BIOT on their global movements and the effects plastic has on them (see Table 11 – 1. Turtle survey and tagging, 3. BIOT plastics).

7.6. National research programs on thresher sharks

There is no National research programme specifically to look at potential nursery areas, research has been undertaken to look at the effects of the landings ban on thresher sharks in Sri Lanka (see publication 9, section 9).

Table 11. Summary table of national research programs, including dates

Project title	Dates	Team	Objectives
1. Reefs and Islands	7 Jan – 5 Feb	**Marine Science expedition 28** **1. Chris Perry (Exeter)** 2. Ines Lange (Exeter) 3. Ronan Roche (Bangor) 4. Jyodee Sannassy Pilly (Bangor) 5. Yadvinder Malhi (Oxford) 6. Eleanor Thompson (Oxford) 7. Andrew Mogg (Tritonia) 8. Nathan Hudson-Peacock (ZSL - Doctor) 9. Ruth Dunne (Lancaster) 10. Jennifer Apoo (Lancaster/Seychelles)	**Overall objective:** Phase II project – Island and reef connections **Specific objectives:** 1. Setting up experimental work on reefs and islands habitats to monitor nutrient flows over the next three years 2. Conducting surveys of native forest and other vegetation 3. Conducting a complete archipelago wide bird census

Project title	Dates	Team	Objectives
		11. Nia Stevens (Lancaster)	
2.Seabirds	23 Jan – 25 Feb	**Marine Science expedition 29** 1. Steve Votier (Herriot-Watt) 2. Robin Freeman (ZSL) 3. Alice Trevail (Exeter) 4. Hannah Wood (ZSL)	**Overall objective:** Phase II project – Chagos seabirds **Specific objectives:** 1. Repeat RFB tagging and census at Barton point 2. Tagging and sampling of RFB, shearwaters and frigatebirds at Nelson Island
3.Oceanography and Mantas	27 Feb – 28 March	**GWF/ Marine Science expedition 30** **1.** Phil Hosegood (Plymouth) 2. Edward Robinson (Plymouth) 3. Nicola Foster (Plymouth) 4. Clara Diaz (Plymouth) 5. Benjamin Williamson (Plymouth) 6. Peter Arber ((Plymouth) 7. Joanna Harris (Manta Trust) 8. Patricia Murray (Manta Trust) 9. Danielle Eager (Plymouth) 10. Kerry Howell (Plymouth) 11. Alain Diaz (Doctor)	**Overall objective:** To study seamounts and mesophotic reefs as hotspots of biodiversity and sources of recovery for damaged shallow reefs **Specific objectives** To study the oceanography, mesophotic coral reef ecology and animal behaviour by using: 1. moored oceanographic instrumentation 2. ship-based oceanographic instrumentation 3. surveys using a remotely-operated vehicle (ROV) 4. multibeam acoustic surveys
4. Sea turtles	18 June – 16 July	**Marine Science expedition 31** 1. Nicole Esteban (Swansea) 2. Holly Stokes (Swansea)	**Overall objective**: To study the nesting ecology and hatching success of sea turtles for an extended period during the hawksbill nesting season – PhD student to stay on site for up to 3 months. **Specific objectives:** 1. Tagging nesting female green turtles 2. Tagging juvenile hawksbill turtles 3. Surveying nesting beaches and activity for plastic impacts 4. Surveying foraging habitats in lagoon
5. DG plastics	18 June – 16 July	**Darwin/ Marine Science expedition 32** 1. Rachel Jones (ZSL) 2. Fiona Llewelyn (ZSL) **3.** Jessica Savage (ZSL)	**Overall objective:** Study effects of plastics on turtles, reduce SUP use on DG, make recommendations on suitable recycling options – final field trip for this project **Specific objectives:** 1. Review changes in SUP use due to campaign activity 2. Stakeholder interviews and drinking water infrastructure /retail alternatives audit 3. Marine debris transects and plots on turtle nesting beaches in DG and Egmont atoll 4. Take group of volunteers to Egmont for 2-day beach clean **5.** Discuss logistics of plastics recycling infrastructure with CO/BIOT HQ
6. DG rec. fisheries	8 Nov – 29 Nov	**Darwin Plus/BF** 1. David Curnick (ZSL) 2. Claire Collins (ZSL) 3. Kat Dawson (Tritonia) 4. Ronan Rocher (Bangor) 5. Jyodee Sanassy-Pilly (Bangor) **6.** Brett Taylor (UoG)	**Overall objective:** Assess sustainability of DG recreational fisheries **Specific objectives:** Locate and observe spawning aggregations for target species 1. Describe extent of suitable habitat for target species 2. Collect otoliths from catch 3. Conduct social science research with fishers
7.REV Deep Sea	In: Male	**REV Ocean/ Marine Science expedition**	**Overall objective:** Deep sea exploration and sample collection

Project title	Dates	Team	Objectives
	Out: Reunion	REV team led by Alex Rodgers Marine science team: 1. Bry Wilson (Oxford) 2. Damaris (Oxford) 3. Clara Diaz (Plymouth) 4. Nicola (Plymouth) 5. Jyodee Sanassy Pilly (Bangor)	
8.Wildlife Observer	12 Oct- 12 Dec	**Marine Science Expedition** **1. Isha**	**Overall objective:** Post doc completing first rotation of new Wildlife Observer position Specific objective: 1. Standardised transects for cetaceans 2. Seabird counts at sea
9. Reef 2	12 Oct – 8 Nov	**Marine Science expedition** 1. Rob Dunbar (Stanford) 2. Dave Muccarione (Stanford) 3. Alexy Khrizman (Stanford) 4. Margaux Steyeart (ZSL/Oxford) 5. Rosie Dowell (ZSL) 6. Hannah Wood (ZSL) 7. Craig Miller (ZSL-Doctor) 8. Ronan Roche (Bangor) 9. Danielle (Bangor) 10. Isha (WO – Plymouth)	**Overall objective**: Assessing the composition and structure of reef communities in BIOT pre and post bleaching event and to explore their relationship with reef resilience and the value of the MPA. **Specific objectives:** 1.Reef fish surveys 2.Sampling and studying of fish otoliths and gut contents to assess nutrient flows 3.Retrieving plates to study recruitment rates 4.Retrieval and processing of ARMS devices 5.Deployment of BEAMS instruments to measure reef productivity 6. 2 month deployment of cetacean observer

8. Implementation of Scientific Committee Recommendations and Resolutions of the IOTC relevant to the SC. [Mandatory]

Table 9. Scientific requirements contained in Resolutions of the Commission, adopted between 2012 and 2022.

Res. No.	Resolution	Scientific requirement	CPC progress
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6–10	All mandatory statistical reports, including null reports are submitted.
12/06	On reducing the incidental bycatch of seabirds in longline fisheries.	Paragraphs 3–7	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022.
12/09	On the conservation of thresher sharks (family alopiidae) caught in association with fisheries in the IOTC area of competence	Paragraphs 4–8	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022.
13/04	On the conservation of cetaceans	Paragraphs 7– 9	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022.
13/05	On the conservation of whale sharks (*Rhincodon typus*)	Paragraphs 7– 9	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022.
13/06	On a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries	Paragraph 5–6	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022. Sharks are released alive in the recreational fishery.
15/01	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 1–10	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022.
15/02	Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)	Paragraphs 1–7	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022.

Res. No.	Resolution	Scientific requirement	CPC progress
17/05	On the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 6, 9, 11	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022.
18/02	On management measures for the conservation of blue shark caught in association with IOTC fisheries	Paragraphs 2-5	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022.
18/05	On management measures for the conservation of the Billfishes: Striped marlin, black marlin, blue marlin and Indo-Pacific sailfish	Paragraphs 7 – 11	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022.
18/07	On measures applicable in case of non-fulfilment of reporting obligations in the IOTC	Paragraphs 1, 4	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022.
19/01	On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence (*If not provided under Res 21/01 below*)	Paragraph 22	
19/03	On the Conservation of Mobulid Rays Caught in Association with Fisheries in the IOTC Area of Competence	Paragraph 11	Not applicable as the UK had no commercial fishery operational in the IOTC area of competence 2022, and therefore does not intentionally or incidentally catch mobulid rays. They are not caught in the recreational fishery, there is no National monitoring programme in place, however research has been undertaken (see publication 1 under section 9).
21/01	On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence (*If not provided under Res 19/01 above*)	Paragraph 23	The UK had no commercial fishery operational in 2022. Small amounts of tuna are caught in the recreation fishing in BIOT but since 2018 it has been mandatory to release these (Section 4).
22/04	On a regional observer scheme	Paragraph 12	The UK ran an observer programme between 2017 and 2019 (Section 6.3), this was suspended in 2020 due to COVID-19 and the vessels did not operate in 2021 or 2022

9. LITERATURE CITED [Mandatory]

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MRAG (2019b) Ocean Currents in structuring FAD and ALDFG beaching in BIOT.

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2022 Other projects (involving funded Marine Science researchers)

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