

**UK (British Indian Ocean Territory) National Report to the Scientific  
Committee of the Indian Ocean Tuna Commission, 2012**

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**INFORMATION ON FISHERIES, RESEARCH AND STATISTICS**

<p>In accordance with IOTC Resolution 10/02, final scientific data for the previous year was provided to the Secretariat by 30 June of the current year, <b>for all fleets other than longline</b> [e.g. for a National report submitted to the Secretariat in 2010, final data for the 2009 calendar year must be provided to the Secretariat by 30 June 2010)</p>	<p>YES</p> <p>Recreational fishery only (30/06/2011)</p>
<p>In accordance with IOTC Resolution 10/02, provisional <b>longline data</b> for the previous year was provided to the Secretariat by 30 June of the current year [e.g. for a National report submitted to the Secretariat in 2010, preliminary data for the 2009 calendar year was provided to the Secretariat by 30 June 2010].</p> <p><b>REMINDER:</b> Final longline data for the previous year is due to the Secretariat by 30 Dec of the current year [e.g. for a National report submitted to the Secretariat in 2010, final data for the 2009 calendar year must be provided to the Secretariat by 30 December 2010].</p>	<p>NO</p>
<p>If no, please indicate the reason(s) and intended actions:</p> <p>The UK (BIOT) Authority 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 were declared a Marine Protected Area (MPA) on 1 April 2010 and from 1 November 2010 became a no-take 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.</p>	

## Executive Summary

On 1 April 2010 the BIOT Commissioner proclaimed a Marine Protected Area (MPA) in the British Indian Ocean Territory [UK (BIOT)]. No fishing licences have been issued since that date and the last foreign fishing licences expired on 31 October 2010. Diego Garcia and its territorial waters are excluded from the MPA and include a recreational fishery. The United Kingdom National Report summarises fishing in its recreational fishery in 2010 and provides details of research activities undertaken.

UK (BIOT) does not operate a flag registry and has no commercial tuna fleet or fishing port. The recreational fishery landed 21.29t of tuna and tuna like species on Diego Garcia in 2011. Length frequency data were recorded for a sample of 748 yellowfin tuna from this fishery. The mean length was 76cm. Sharks caught in the recreational fishery are released alive.

IUU fishing remains one of the greatest threats to the BIOT ecosystem. Research was undertaken into the impact of the network of Indian Ocean MPAs. A Science Advisory Group has been formed to define a science strategy for BIOT and future research priorities, including those relevant to the pelagic ecosystem and IOTC fisheries. Recommendations of the Scientific Committee and those translated into Resolutions of the Commission have been implemented as appropriate by the BIOT Authorities and are reported.

## Contents

1. Background / General fishery information .....	3
2. Fleet structure.....	3
3. Catch and effort (by species and gear) .....	3
4. Recreational fishery .....	3
5. Ecosystem and bycatch issues .....	4
5.1. Sharks.....	4
5.2. Seabirds.....	5
5.3. Marine Turtles.....	5
5.4. Other ecologically related species (e.g. marine mammals, whale sharks).....	5
6. National data collection and processing systems.....	5
6.1. Logsheet data collection and verification.....	5
6.2. Vessel Monitoring System .....	5
6.3. Observer Programme.....	5
6.4. Port sampling programme .....	5
6.5. Unloading/Transshipment.....	6
7. National research programmes .....	6
8. Implementation of Scientific Committee Recommendations and Resolutions of the IOTC relevant to the SC.....	9

## 1. Background / General fishery information

The UK (BIOT) does not operate a flag registry, UK (BIOT) does not have a fleet of commercial fishing vessels and there is no commercial port in BIOT. The waters of the Territory were declared a Marine Protected Area (MPA) on 1 April 2010 and from 1 November 2010 became a no-take MPA to commercial fishing. Diego Garcia and its territorial waters are excluded from the MPA (the MPA exclusion zone).

Pelagic and demersal recreational fisheries are permitted by personnel stationed on Diego Garcia within the MPA exclusion zone. 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.

Licensed foreign fishing was permitted prior to the declaration of the MPA on 1st April 2010 and since that day no further fishing licenses were issued. The last longline licence expired on 18th June 2010 and the last purse seine licences expired on 31st October 2010.

## 2. Fleet structure

As stated above, UK (BIOT) does not have a flag registry and fleet of commercial fishing vessels. The recreational fishery is described in section 4.

## 3. Catch and effort (by species and gear)

As stated above, UK (BIOT) does not have a flag registry and fleet of commercial fishing vessels.

## 4. Recreational fishery

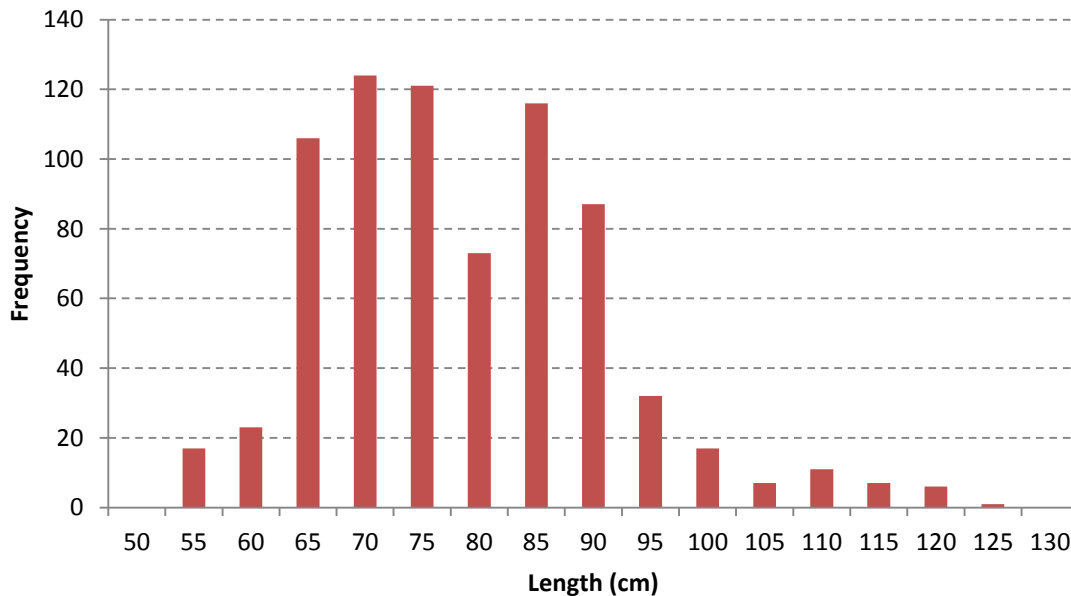
A small recreational (sports) fishery occurs under licence at Diego Garcia. A total of 21.35 tonnes of tuna and tuna like species were caught in 2011 representing 68% of the recreational catch (the remainder are reef associated species). Principle target tuna species of the industrial fisheries (yellowfin, bigeye and skipjack tunas) contributed 26.79% of the total catch of tuna and tuna like species of the recreational fishery (Table 1).

**Table 1 Catches of tuna and tuna like species landed from the UK (BIOT) recreational fishery during the period 2007-2011.**

Year	Estimated catch of tuna and tuna like species (Kg)										TOTAL (kg)		
	Blue Marlin	Dolphinfish	Kawakawa	Rainbow runner	Sailfish	Wahoo	Dogtooth tuna	Skipjack tuna	Yellowfin tuna	Other tuna nei	Tunas	Tuna like spp	All
2007	199	125	1643	342	45	10144	162	415	11397	116	12090	12497	24587
2008	0	908	102	16755	29	5671	419	317	729	308	1774	23465	25239
2009	386	166	469	130	68	13661	64	90	17542	1284	18980	14879	33859
2010	91	88	1056	196	300	17847	150	100	8573	36	8859	19578	28438
2011	363	113	1050	144	104	10757	406	24	8386	0	8815	12532	21347

Length data have been collected for yellowfin tuna (*T. albacares*) from the recreational fishery since June 2009. A minimum landing size of 45 cm has been imposed. A total of 748 fish were measured

in 2011. The data show that 77.54 % of the *T. albacares* sampled were below 85 cm and the mean length was 76.31 cm. For comparison, observer programmes on purse seiners (2005/6) and longliners (2003/4) operating in BIOT recorded mean lengths of 98 cm (n=378) and 123 cm (n=2385) respectively.



**Figure 1** Yellowfin tuna length frequency plot using data from the recreational fishery in 2011 (n=748)

## 5. Ecosystem and bycatch issues

The BIOT zone, excluding territorial waters around Diego Garcia, was declared an MPA on 1<sup>st</sup> April 2010 and since the 1st November 2010 the zone has been a no-take MPA that is closed to commercial fishing. The recreational fishery on Diego Garcia is currently permitted and is monitored.

The current ecosystem threats relate to illegal unreported and unregulated fishing of which a number of events have been detected by the BIOT Patrol Vessel and have resulted in a number of successful prosecutions. This information is reported separately to the Compliance Committee.

In particular IUU vessels target oceanic and reef associated sharks with longlines and gillnets. The surveillance strategy of the BIOT Patrol vessel is based on a combination of ecological risk assessment and intelligence on IUU activities. 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.

### 5.1. Sharks

Sharks must be released alive when caught in BIOT's recreational fishery.

## **5.2. Seabirds**

No seabird bycatch occurred in the BIOT recreational fishery in 2011. There are about 10 Important Bird Areas (IBAs) reported on the islands of the Chagos Archipelago with some of the Indian Ocean's densest populations of several seabird species.

## **5.3. Marine Turtles**

No turtle bycatch has occurred in the BIOT recreational fishery in 2011. 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 and regularly encounter and record turtle nesting tracks. Research into the location and frequency of turtle nesting is currently in progress.

## **5.4. Other ecologically related species (e.g. marine mammals, whale sharks)**

No incidental mortality / annual catches on other ecologically related species such as marine mammals and whale sharks has been observed.

# **6. National data collection and processing systems**

## **6.1. Logsheet data collection and verification**

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 100% coverage.

Logbook data collection was a condition of licensing for foreign fishing vessels within BIOT and was implemented since 1991 with regular updates to meet IOTC resolutions. With the end of commercial fishing no logbooks have been received since October 2010.

## **6.2. Vessel Monitoring System**

A vessel monitoring system was introduced during 2009 for all licensed foreign fishing vessels. There have been no licensed vessels since 31 October 2010. As there are no vessels flagged by the BIOT Authorities the BIOT VMS is currently not operational.

## **6.3. Observer Programme**

Length frequency data collection was initiated for the recreational fishery on Diego Garcia in June 2009.

As commercial fishing has not occurred since the closure of the fishery to commercial fishing on 31<sup>st</sup> October 2010, no observer programme has occurred during 2011.

## **6.4. Port sampling programme**

As BIOT has no commercial ports there is no opportunity for a port sampling programme.

#### **6.5. Unloading/Transshipment**

As BIOT has no commercial ports there is no unloading or transshipment allowed.

### **7. National research programmes**

Since the declaration of the MPA and up to the end of licensed fishing in October 2010 there have been no observer programmes conducted on the licensed industrial fishing vessels. To date no fishery independent studies have been established within the MPA related to target and non target species. Research activities conducted this year that related to IOTC target species have included an assessment of the impact of the network of Indian Ocean MPAs<sup>1</sup> on yellowfin tuna stocks in order to contribute to the requirement of IOTC Resolution 10/01 that the Scientific Committee provide at its 2011 plenary session an evaluation of the closures and impacts on yellowfin and bigeye stocks looking at catching of juveniles and spawners taken by all fisheries. This is presented as an Information Paper to the 2011 Science Committee.

A Science Advisory Group has been set up to make recommendations on a research strategy for BIOT. With the establishment of the Science Advisory Group a more strategic approach to implementation of environmental monitoring and research within the MPA has begun.

The islands, reef systems and waters of BIOT in terms of preservation and biodiversity are among the richest on the planet and contain about half of all the reefs of the Indian Ocean which remain in good condition. There are about 10 Important Bird Areas (IBAs), with some of the Indian Ocean's most dense populations of several seabird species. The area also includes undisturbed and recovering populations of Hawksbill and Green Turtles. The territory thus offers great scope for the future development of research in all fields of oceanography, biodiversity, aspects of climate change, in both the pelagic ecosystems relevant to the IOTC and the reef systems of the Chagos Archipelago.

The BIOT Administration is receiving an increasing number of requests to carry out research.

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<sup>1</sup> This includes the BIOT MPA, the IOTC area (Resolution 10/01) and the area of the Maldives EEZ from 75-200nm [The Maldivian government suspended all longline fishing licences from March 2010 (IOTC, 2010)]

**Table 2** Summary table of national research programme, including dates.

Project title	Period	Countries involved	Budget total	Funding source	Objectives	Short description
An evaluation of the impact of pelagic MPAs in the Indian Ocean with respect to highly migratory species	2011	UK (BIOT)	n/a	Internal	Evaluation of the impacts of recently created MPAs on the stocks of pelagic species.	An evaluation of the impact of pelagic MPAs in the Indian Ocean with respect to highly migratory species such as tunas including the Chagos/BIOT MPA, the IOTC spatio-temporal closure, and the Maldives outer area closed to commercial fishing was investigated. This was presented as a paper to the IOTC Science Committee <sup>2</sup> .
Exploring the uncertainties surrounding the implementation of large-scale marine protected areas in the open ocean	2011-2014	UK	n/a		The aim of this PhD to understand how spatial management affects the effort allocation dynamics of a large commercial offshore fishery and to quantify the ecological impacts resulting from these changes. More generally this work will contribute to reducing uncertainty in how resource users respond to spatial management, an area of research that remains underdeveloped	The PhD is centred around a case study of the western Indian Ocean tuna purse seine fishery and the spatial restrictions associated with that fishery (e.g. Indian Ocean Tuna Commission time-area closures, coastal state marine reserves etc.). The research has three objectives, as follows: 1.To identify the factors that govern fishing effort dynamics in the Indian Ocean tuna purse seine fishery 2.To develop a model that predicts the reallocation of fishing effort in response to spatial management 3.To investigate the ecological consequences resulting from effort reallocation (e.g. changes in bycatch rates) under a number of alternative spatial management scenarios
Monitoring programme to assess the sea turtle population in BIOT	2012-	UK	n/a	Darwin Initiative Scoping Award	Assessment of sea turtle populations in BIOT, including an assessment of nesting locations.	The University of Swansea has undertaken a Darwin Initiative Scoping Award to establish a monitoring programme to assess the sea turtle population in BIOT. A number of turtles

<sup>2</sup> IOTC–2011–SC14–40[E]: A preliminary investigation into the effects of Indian Ocean MPAs on yellowfin tuna, *Thunnus Albacares*, with particular emphasis on the IOTC closed area. S. Martin, C. Mees, C. Edwards, and L. Nelson, November 2011.

Project title	Period	Countries involved	Budget total	Funding source	Objectives	Short description
						were tagged during October 2012. The Senior Fisheries Protection Officer has assisted in implementing this project.
Use of underwater video technology to explore pelagic communities.	2011-2013	UK / Australia	n/a		The aim is to also explore pelagic tuna and shark communities.	The University of Western Australia and the Zoological Society of London (ZSL) have collaborated on using underwater video technology to explore communities below 15m depth and the aim is to also explore pelagic tuna and shark communities.,
Long term marine and island ecosystem monitoring	Ongoing	UK	n/a	Darwin Initiative	Setting of baseline monitoring against which change can be assessed in the BIOT MPA.	The University of Bangor has a Darwin initiative project to develop a comprehensive approach to long term marine and island ecosystem monitoring against which change can be assessed, and develop an understanding to assess the magnitude and significance of potential impacts from several scenarios, including climate change, island ecosystem restoration and possible human resettlement.



## 8. Implementation of Scientific Committee Recommendations and Resolutions of the IOTC relevant to the SC.

**Table 3** Scientific requirements contained in the Resolutions of the Commission, adopted from 2005 to 2011.

No.	Resolution	Scientific requirement	CPC progress
05/05	Concerning the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 1–12	No sharks are retained in BIOT. Sharks caught in the recreational fishery are released alive.  Sharks caught by IUU fishing vessels are reported in communications to the Compliance Committee.
10/02	Mandatory statistical requirements for IOTC members and cooperating non contracting parties	Paragraphs 1–7	Data have been submitted as per the requirements of 10/02.
10/06	On reducing the incidental bycatch of seabirds in longline fisheries.	Paragraphs 3–7	Not applicable as BIOT does not have a flag registry.
11/04	On a regional observer scheme	Paragraph 9	Not applicable as BIOT does not have a flag registry.
12/03	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 1–9	Not applicable as BIOT does not have a flag registry.
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6–10	Parts relating to flag vessels are not applicable as BIOT does not have a flag registry. Nesting sites in BIOT are monitored on island visits.
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 BIOT does not have a flag registry. All sharks caught in the recreational fishery are released alive.