

IOTC Thirteenth Session of the Scientific Committee Mahé, Seychelles, 6-10 December 2010

UK (BIOT) national report Information on fisheries, research and statistics

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<i>In accordance with IOTC Resolution 10/02, scientific data was provided to the IOTC by 30 June 2010 for all fleets other than longline.</i>	Yes – recreational fishery only (27 June 2010)
<i>Longline data was provided on 30 Dec 2009 for final data from longline fleets operating in the high seas, and 30 June 2010 for provisional data.</i>	No
<i>If no, please indicate the reason(s) and intended actions:</i>	
<p>The BIOT Authorities do not operate a flag registry, BIOT does not have a fleet of fishing vessels, and there is no commercial port in BIOT. A small recreational fishery exists which catches some tuna and tuna like species.</p> <p>Data on vessels licensed to fish in BIOT waters was provided to the Secretariat as required under Resolution 07/04 on 31/03/2009. Resolution 10/07 changed the reporting date to February each year and no request has been received for the most recent data. That for 2009 and 2010 will be submitted.</p>	

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1. ABSTRACT

The United Kingdom British Indian Ocean Territory [UK (BIOT)] National Report summarises fishing in its recreational fishery in 2009 and that undertaken by foreign vessels licensed to fish for tuna and tuna like species during the 2009 / 2010¹ fishing season and in the period up to 31 October 2010 when commercial fishing ceased. On 1 April 2010 the BIOT Commissioner proclaimed a Marine Protected Area (MPA) in the Territory. No further fishing licences have been issued since that date and the last fishing licences expired on 31 October 2010. Diego Garcia and its territorial waters are excluded from the MPA. The recreational fishery remains operational at present.

BIOT does not operate a flag registry and has no commercial tuna fleet or fishing port. 33.8t of tuna and tuna like species were landed by recreational fishers on Diego Garcia in 2009. Length frequency data were recorded for a sample of 418 yellowfin tuna from this fishery. The mean length was 78cm. Sharks caught in the recreational fishery are released alive. With respect to the licensed foreign tuna fisheries in 2009/10 57 licences were issued to 33 foreign longline vessels. The estimated total catch was 1,503t comprising 19% yellowfin tuna, 60% bigeye tuna, and 21% other species. 37 licences were issued to 36 foreign purse seine vessels and their total catch for the 2009/10 season was 5,255t. A further 30t was caught by a purse seiner between 1 April and 31 October 2010. The total purse seine catch consisted of yellowfin tuna (45.50%), skipjack tuna (37.96%), bigeye tuna (16.50%) and minor catches of albacore (0.04%). There was no BIOT observer programme during 2008/09 on the licensed foreign fishery. Some data on bycatch data is, however, available in BIOT longline logbooks (0.97% Albacore; 5.85% Swordfish; 5.83% Marlins; 4.75% Sharks; 4.04% Other fish nei). 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, as are details of research undertaken.

2. Background / General fishery information

The BIOT Authorities do not operate a flag registry, BIOT does not have a fleet of fishing vessels, and there is no commercial port in BIOT. A small recreational fishery exists on Diego Garcia which catches some tuna and tuna like species. Access was also granted to third parties to fish in the BIOT FCMZ under licence, with attached terms and conditions. These characteristics set the context in which IOTC resolutions are applied within the BIOT FCMZ.

On Thursday 1st April 2010 a Marine Protected Area (MPA) was proclaimed in the Territory and no further fishing licenses have been issued since that date. The last longline licence expired on 18th June 2010 the last purse seine licences expired on 31st October 2010. From 1 November 2010 onwards the whole of the BIOT environmental preservation and protection zone (EPPZ, to 200nm) is a no-take MPA to commercial fishing. Pelagic and demersal recreational fisheries remain operational at present.

1 For the purposes of this report, the fishing season for the BIOT FCMZ (Chagos Archipelago) is defined as running from the 1st of April through to the 31st of March the following year. This season definition is used because the main historical peaks in the purse seine and longline seasons in the BIOT FCMZ (Chagos Archipelago) occur during the months of December and January.

This paper reports only on fishing activity within the British Indian Ocean Territory (BIOT) Fisheries Conservation and Management Zone (FCMZ). Fishery statistics for the recreational fishery in BIOT are presented. Fishery statistics relating to vessels licensed to fish for tuna and tuna like species in the BIOT FCMZ during the April 2009 / March 2010 fishing season, and during the period April 2010 – 31 October 2010 when licensed fishing ceased are reported. Data are compared to the four previous years.

3. Catch and effort by species and gear

N/A

4. Fleet structure

N/A

5. Implementation of Scientific Committee recommendations

The BIOT Authorities participate actively in the Scientific Committee. The following recommendations of the Science Committee (as circulated by the Secretariat) are relevant to BIOT:

9. The Science Committee recommended that shark fins should be landed attached to the body, either naturally, or by other means. As noted previously, shark finning has been banned in BIOT since 2006.

10. The use of wire trace has been banned in BIOT since 2007 in order to reduce shark bycatch.

17. Formal stock assessments on skipjack. The BIOT Authorities participate actively in the Working Party on Tropical Tunas and contributed to the stock assessments made by that group (See section 8).

Some of the recommendations of the Science Committee were adopted in resolutions by the Commission in 2010, including those relating to data collection and fishing capacity / catch limits as indicated in the following table.

No.	Resolution	Application	BIOT Action
10/01	For the conservation and management of tropical tuna stocks in the IOTC area of competence	Applies to all vessels flagged to CPCs – measures include a spatio-temporal closed area and requirement for CPCs to submit proposals on quota allocation	BIOT does not operate a flag registry. BIOT will participate fully in the technical committee meeting on quota allocation.
10/02	Mandatory statistical requirements for IOTC members and cooperating non contracting parties	Updates the mandatory reporting requirements, including size frequency and fish aggregating devices	BIOT does not operate a flag registry. BIOT meets the mandatory reporting requirements for its recreational fishery and this will continue whilst recreational fishing is permitted within the MPA management regime.
10/04	On a regional observer scheme	Requires CPCs to place observers on all vessels fishing in the IOTC area. Artisanal fisheries should	NA BIOT does not operate a flag registry. BIOT meets the mandatory reporting

No.	Resolution	Application	BIOT Action
		also be monitored.	requirements for its recreational fishery and this will continue whilst recreational fishing is permitted within the MPA management regime.
10/06	On reducing the incidental bycatch of seabirds in longline fisheries.	Application of mitigation measures to reduce seabird catches on longlines south of 25 degrees south	NA BIOT is north of 25 degrees S
10/07	Concerning a record of licensed foreign vessels fishing for tunas and swordfish in the IOTC Area	CPCs that licence foreign vessels to fish to submit details to IOTC by February each year	BIOT meets the mandatory reporting requirements
10/12	On the conservation of thresher sharks (family Alopiidae) caught in association with fisheries in the IOTC area of agreement	Retention, transhipment, landing, storing or selling of thresher sharks is prohibited by commercial vessels. Thresher sharks caught in recreational fisheries will be released alive. Where thresher sharks are likely to be caught in recreational fisheries CPCs shall ensure that sports fishermen have the right equipment to release the sharks alive.	BIOT does not operate a flag registry and has no commercial vessels that may catch sharks. Shark fining is banned on licensed vessels and release of bycatch is encouraged. Since October 2010 no commercial fishing has occurred. The live release of all large fish caught in the recreational fishery is encouraged. Recreational fisheries continue to be permitted since the declaration of the BIOT MPA. The body organising the recreational fishery continues to enforce the release of sharks.

6. Ecosystem and bycatch issues

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

For the licensed foreign fishing fleets the removal of fins from sharks caught in BIOT was prohibited in 2006 and any sharks caught must be retained whole or released. Targeted shark fishing is not permitted, and wire trace is banned to minimise shark bycatch. All sharks found on board during an inspection must be accounted for in logbooks.

In 2009/10 21% of the licensed longline catch consisted of species other than Yellowfin or Bigeye Tuna (0.97% Albacore; 5.85% Swordfish; 5.83% Marlins; 4.75% Sharks; 4.04% Other fish nei). No information on bycatch or discards was available from returned licensed purse seine logbooks.

Since 1 November 2010 the whole of the BIOT environmental preservation and protection zone (EPPZ, to 200nm) is a no-take MPA to commercial fishing. The recreational fishery is currently permitted and is monitored. The remaining ecosystem threats relate significantly to illegal unreported and unregulated fishing of which a number of events have been detected by the BIOT Patrol Vessel and have resulted in successful prosecutions. This information is reported separately to the Compliance Committee.

7. National data collection and processing systems

a) Logbook data collection and verification.

Logbook data collection for BIOT's recreational fisheries is completed by the vessel charterer. The system was introduced in June 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 is a condition of licensing for foreign fishing vessels within BIOT and has been implemented since 1991 with regular updates to meet IOTC resolutions.

b) 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.

c) Scientific observer programme

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

There was no scientific observer programme conducted on licensed foreign fishing vessels during 2009/10.

d) Port sampling programme

N/A

e) Unloading/Transshipment

N/A

8. National Research Programmes

Research has been conducted into the assessment of Skipjack tunas as part of the BIOT Authorities' contribution to the WPTT, reported in October 2010. Three papers were produced:

- IOTC-2010-WPTT-26 Updated analysis of 2006/07 RTTP-IO tagging data for Skipjack C. T. T. Edwards, P. A. de Bruyn, J. Million, R. M. Hillary
- IOTC-2010-WPTT-31 Analysis of 2008 RTTP-IO tagging data for Skipjack; C. T. T. Edwards, P. A. de Bruyn, J. Million, R. M. Hillary
- IOTC-2010-WPTT-49 Fishing mortality based reference point estimates for Skipjack; C. T. T. Edwards, P. A. de Bruyn, R. M. Hillary

A UK Darwin Initiative workshop was held with the objective of developing a strategic research programme to deliver answers to key questions on how to strengthen management and optimise conservation benefits for pelagic migratory species within the BIOT marine protected area (MPA) set in the context of the Indian Ocean.

Four areas were examined during the workshop:

1. Monitoring target and non-target species inside and outside of the Chagos/BIOT MPA.
2. Fishing, fisheries assessments and illegal, unreported and unregulated (IUU) fishing.
3. Pelagic MPAs and highly migratory species.
4. The contribution of a Chagos/BIOT MPA to a wider regional pelagic MPA network.

9. Recreational fishery

A small recreational (sports) fishery occurs under licence at Diego Garcia. 33.9 tonnes of tuna and tuna like species were caught in 2009 representing 73.3% of the recreational catch (the remainder are reef associated species). Principle target tuna species of the industrial fisheries (Yellowfin, bigeye, skipjack) contributed 52% 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 BIOT recreational fishery during the period 2006-2009 (data for 2006 are estimated based on extrapolation of information for 6 months July-December 2006)

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
2006	182	115	1601	301	41	8879	148	341	10220	142	10851	11120	21971
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

Length data has been collected for Yellowfin Tuna (*T. Albacares*) from the recreational fishery since June 2009 (Figure 1). A minimum landing size of 45 cm is imposed. The mean length of fish caught was 78 cm (n=418). 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.

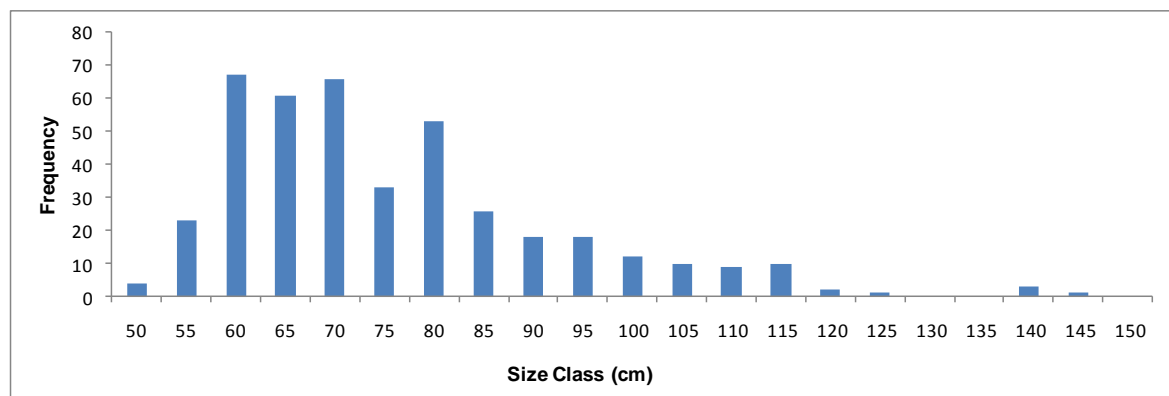


Figure 1: Yellowfin tuna length frequency plot using data from the recreational fishery

10. Record of licensed foreign vessels fishing for tunas and swordfish in the British Indian Ocean Territory

Two licensed tuna fisheries operated in the British Indian Ocean Territory (Chagos Archipelago) Fisheries Conservation and Management Zone (FCMZ) during the 2009 / 2010 fishing season: a longline fishery and a purse seine fishery. The longline

fishery continued until 18 June 2010 and the purse seine fishery until 31 October 2010.

10.1. Licensed Longline Fishery

In 2009/10 57 licences were issued to 33 individual longline vessels. No new longline licences were issued after the announcement of the BIOT Marine Protected Area (MPA) on the 1st April 2010. All vessels licensed prior to this date could continue fishing until licence expiry. Thus although fishing was permitted to 18 June 2010, the data are related to date of issue of licence and so information to the closure of the fishery has been fully reported in 2009/10 (see Table 2- Table 3). As was the case in 2008/09, during the 2009/2010 season a significant increase in the number of licensed longline vessels was atypically observed throughout the entire year and it is possible that this is a result of the fleet moving eastwards to avoid Somali piracy.

Table 2: BIOT FCMZ, Licensed longline summary 2005/06 to 2009/10

Year	2005/2006	2006/07	2007/08	2008/09	2009/10
Number of Vessels	24	26	41	22	33
Number of Licences	27	34	75	26	57
Number of Days Fished	1207	1147	1508	571	2379
Total Catch (t)	916	590.04	1366	371	1503
CPUE (t/day)	0.759	0.515	0.906	0.649	0.632
CPUE (t/1000 hooks)²	0.281	0.196	0.306	0.305	0.296

Table 3: BIOT FCMZ, Licensed longline summary species composition 2005/06 to 2009/10 for all vessels fishing within the zone.

Year	2005/2006	2006/07	2007/08	2008/09	2009/10
Yellowfin tuna	34%	45%	31%	23%	18.96%
Bigeye tuna	48%	41%	63%	57%	59.60%
Other species	28%	11%	6%	20%	21.43%
Total Catch (t)	916	590	1366	371	1503

10.2. BIOT Licensed Purse Seine Fishery

The total catch for the 2009/10 season by purse seiners inside the BIOT FCMZ was 5,255t (See Table 4). As typically observed, most catches occurred during December and January. The reported species composition (before correction) consisted of yellowfin tuna 45.50%, skipjack tuna at 37.96%, bigeye tuna 16.50% and minor catches of albacore (0.04% - 2t) (Table 5). The catch composition is markedly different to the previous two seasons where the fleet was able to target the large yellowfin tuna for the majority of the season. Total catches within BIOT are highly variable between years.

² Based on an average rate of 2700 hooks set per day

Table 4 : BIOT FCMZ licensed Purse Seine summary 2005 / 2006 to 2009 / 2010

Year	2005/2006	2006/07	2007/08	2008/09	2009/10
Number of Vessels	54	52	54	43	36
Number of Licences	56	53	57	45	37
Number of days fished	394	27	1294	424	293
Total catch (t)	13865	95	23418	14962	5255
Catch rate (t/day)	36.19	3.52	18.10	35.28	17.94

Table 5 : BIOT FCMZ licensed Purse Seine summary species composition 2005 / 2006 to 2009 / 2010

Year	2005/2006	2006/07	2007/08	2008/09	2009/10
Yellowfin tuna	77.93%	0.00%	79.09%	66.35%	45.50%
Skipjack tuna	20.95%	97.89%	12.70%	24.03%	37.96%
Bigeye tuna	1.08%	2.11%	7.44%	4.12%	16.50%
Albacore	0.00%	0.00%	07.77%	5.49%	0.04%
Total catch (t)	13865	95	23418	14962	5255

Summary of 2010 / 2011 Season

After the announcement of the BIOT MPA on 1st April 2010 extant licences were honoured until they expired on 31 October 2010. Table 4 and Table 5 do not include information for the period 1 April – 31 October 2010. During that period five purse seine vessels and three support vessels made exploratory ventures into the zone for a total of 17 and 14 days respectively, but only one set was made catching 30t of tuna (8t of yellowfin, 19t of skipjack and 3t of bigeye tuna). These figures are still provisional and currently from radio reports to the BIOT Patrol Vessel as logbooks have not been received and verified for this activity yet. Final figures will be provided to the Secretariat in due course.

11. Literature references

IOTC-2010-WPTT-26 Updated analysis of 2006/07 RTTP-IO tagging data for Skipjack C. T. T. Edwards, P. A. de Bruyn, J. Million, R. M. Hillary

IOTC-2010-WPTT-31 Analysis of 2008 RTTP-IO tagging data for Skipjack; C. T. T. Edwards, P. A. de Bruyn, J. Million, R. M. Hillary

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