November 2004

iotc ctoi Indian Ocean Tuna Commission
Commission des Thons de l'Océan Indien

SEVENTH SESSION OF THE SCIENTIFIC COMMITTEE

MAHÉ, SEYCHELLES, 8-12 NOVEMBER 2004

UK national report

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Abstract

The UK National Report summarises tuna fishing in the British Indian Ocean Territory (Chagos Archipelago) Fisheries Conservation and Management Zone (FCMZ) during the 2003 / 2004 fishing season (April 2003 to March 2004). A total of 38 longline vessels have fished in the BIOT FCMZ during the 2003 / 2004 fishing season, taking up 54 fishing licences. These longline vessels have fished for a total of 1060 days, with a total estimated catch of 1162 t. In addition a total of 52 vessels were licensed during the 2003 / 2004 fishing season, comprising 46 purse seiners and 6 support vessels Total catches for the season of principal commercial species totalled 1320 tonnes. This catch was taken over a total of 104 days fishing (including both fishing and non-fishing days), at an overall catch rate of 12.69 tonnes day^{-1}.

The BIOT offshore observer programme for 2003 / 3004 ran from 4th December 2003 to the 12th January 2004 with a total of 21 days observation completed onboard longliners. In this programme, biological sampling is carried out and data collected on target tuna, bycatch and discard species. In addition, complete hook-by-hook surveys are carried out of selected longline sets, for which all fish caught were landed. Collection of these observer data fulfils recommendations made by the WPDCS and WPTT.

1. Introduction

This report summarises fishery statistics relating to the tuna fisheries in the British Indian Ocean Territory (Chagos Archipelago) Fisheries Conservation and Management Zone (FCMZ) during the 2003 / 2004[1] fishing season and provides a comparison against previous years. It also reports on implementation of recommendations of the Scientific Committee and on the research carried out by the UK on tuna and tuna-like species in the Indian Ocean.

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.

2. Fishery statistics

Three tuna fisheries operated in the British Indian Ocean Territory (Chagos Archipelago) Fisheries Conservation and Management Zone (FCMZ) during the 2003 / 2004 fishing season: a longline fishery, a purse seine fishery and a recreational fishery.

2.1 Longline Fishery in seasons 1998 / 1999 to 2003 / 2004

The 2002 / 2003 longline season ended with a total estimated catch of 1467 MT based upon logbooks and radio reports where logbooks have not been returned. Table 1 below, provides a summary for the period 1999 / 2000 to the previous season (2003 / 2004) showing the number of vessels licensed, total licences issued and total catch and effort.

A total of 38 longline vessels have fished in the BIOT FCMZ during the 2003 / 2004 fishing season, taking up 54 fishing licences. These longline vessels have fished for a total of 1060 days, with a total reported catch of 1162 t. These totals are based on logbooks and radio report data where logbooks have not yet been returned.

Table 1. BIOT FCMZ longline summary 1999 / 2000 to 2003 / 2004

Year	1999/2000	2000/2001	2001/2003	2002/2003	2003 / 2004
Number of Vessels	49	64	36	37	38
Number of Licences	62	91	49	51	54
Number of Days Fished	1661	2052	901	1379	1060
Total Catch (MT)	1939	1828	1034	1467	1162
CPUE (MT / day)	1.167	0.891	1.148	1.064	1.096
CPUE (MT / 1000 hooks)	0.389	0.297	0.382	0.399	0.406 [2]

The catch per unit effort in terms of t / day for 2003 / 2004 is similar to previous years at an average of 1.096 t / day or 0.406 t / 1000 hooks.

2.2 Purse Seine Fishery in 2003 / 2004

Total catches for the season of principal commercial species totalled 1320 tonnes. This catch was taken over 104 days of fishing activity inside the zone (fishing and searching), at an overall catch rate of 12.69 tonnes day^{-1}.

A summary of the 2003/2004 season against the previous five seasons is shown in Table 2.

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

Table 2. Summary of the last five purse seine seasons.

Year	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004
Number of Vessels	17	48	50	52	52
Number of Licences	19	48	50	54	53
Number of days fished	122	109	379	62	104
Total Catch (MT)	3145	1064	5795	722	1320

The species composition during the 2003 / 2004 season was dominated by yellowfin tuna which made up 71.74% of the total catch (947t), skipjack tuna 14.24% (188t), bigeye tuna 1.97% (26t) and albacore 11.89% (157t). The remaining two tonnes was reported as species other than the target tuna species.

2.3 Observer Programme

The BIOT offshore observer programme for 2003 / 3004 ran from 4th December 2003 to the 12th January 2004 with a total of 21 days observation completed onboard longliners. No observers were deployed onto purse seine vessels this year.

Work conducted was divided into two principle categories as described below as in previous years:

- Observations on the practical aspects of tuna fishing (search, effort and catch information, as well as environmental conditions); and

- Biological sampling, data collection and analysis of the target tuna, by-catch, and discarded species.

The target species for the longline fleet were bigeye and yellowfin tunas. Valuable by-catch species that were retained this year included albacore, skipjack, swordfish, blue marlin (*Makaira mazara*), black marlin (*Makaira indica*), striped marlin (*Tetrapturus audax*), Indo-pacific sailfish, wahoo, dorado, opah and a number of shark species. The discarded species included escolar, oil fish (*Ruvettus pretiosus*), opah, bigscale pomfret (*Taractichthys longipinnis*), longnose lancet fish, pelagic stingray and snake mackerel (*Gempylus serpens*).

A summary of the observed catch composition can be seen in Table 2 in terms of numbers and live weight.

Table 3. Percentage catch composition by number and weight from longliners

Common Name	Number	% by number	Live Wt. (kg)	% by weight
Bigeye tuna	854	31.24	23644	54.77
Yellowfin tuna	321	11.74	8351	19.34
Longnose lancet fish	923	33.72	3163	7.33
Blue shark	27	0.99	1627	3.77
Swordfish	52	1.90	1416	3.28
Pelagic stingray	288	10.53	1019	2.36
Escolar	106	3.88	780	1.81
Black marlin	7	0.26	466	1.08
Opah	10	0.37	405	0.94
Pelagic thresher shark	6	0.22	326	0.76
Striped marlin	8	0.29	299	0.69
Oceanic white tip shark	7	0.26	258	0.60
Albacore	10	0.37	242	0.56
Indo-Pacific sailfish	15	0.55	225	0.52
Bigscale pomfret	35	1.28	221	0.50
Blue marlin	3	0.11	173	0.40
Wahoo	13	0.48	161	0.37
Skipjack	18	0.66	119	0.28
Silky shark	7	0.26	111	0.26
Oilfish	7	0.26	109	0.25
Dorado	6	0.26	34	0.07
Unknown	2	0.07	17	0.04
Snake mackerel	6	0.26	6.5	0.02
Cookie cutter shark	1	0.04	2	0

2.1.1. Length – Weight Relationships

Length-weight relationships were calculated for the target tuna species, and for those by-catch and discard species when the sample size permitted. These species comprised bigeye tuna, yellowfin tuna, swordfish, blue shark, pelagic thresher shark (*Alopias pelagicus*), oceanic white tip shark (*Carcharhinus longimanus*), silky shark (*Carcharhinus falciformis*), yugan (escolar), pelagic stingray and longnose lancet fish.

2.1.2. Sex and Maturity

Data on sex and maturity was collected from 829 bigeye tuna. Of these, 43% were female and 57% male. Both males and females were staged predominately at 2 and 4, and no stage 7 or stage 8 fish were sampled. Sex and maturity data was also collected on a total of 316 yellowfin tuna. Females constituted 46% and males 54% of sampled fish. As for bigeye tuna, the overwhelming majority of both male and female yellowfin examined were at stages 2 and 4. Only one stage 7 female yellowfin was sampled, but no stage 8 fish were observed.

2.1.3. Conversion Factors

Conversion factors were calculated for each retained species. Individual bigeye tuna, yellowfin tuna and the majority of by-catch species were weighed before and after processing. No conversion factors were recorded for shark species that had only the fins removed before being discarded.

Conversion factors for retained species and a comparison with previous seasons is given in Table 3.

Table 4. Conversion factors from 2003 / 2004 compared against previous seasons

Species	Product Code	CF 03/04	CF 02/03	CF 01/02	CF 00/01	CF 99/00
Yellowfin tuna	GGT	1.15	1.17	1.16	1.14	1.14
Bigeye tuna	GGT	1.17	1.19	1.18	1.14	1.14
Albacore	OTH	1.05	-	-	-	-
Skipjack	FIL	1.64	-	-	-	-
Swordfish	HTG	1.55	1.36	1.52	1.3	1.21
Swordfish	FIL	1.72				
Indo-Pacific sailfish	HTG	1.37	1.31	1.43	-	-
Wahoo	HTG	1.29	1.34	-	-	-
Black marlin	HTG	1.24	-	-	-	-
Blue marlin	HTG	1.34	-	-	-	-
Striped marlin	HTG	1.3	-	-	-	-
Dorado	FIL	2.34	-	-	-	-

Key: gilled, gutted and tailed (GGT), head, tailed and gutted (HTG), filleted (FIL), tailed and finned (OTH).

3. Implementation of recommendations of the Scientific Committee

Recommendations of the Scientific Committee and its various Working Parties implemented by the UK are listed briefly below. It should be noted that as a non-fishing nation, many of the recommendations do not apply directly to the UK

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The observer sampling programme includes complete hook-by-hook surveys of selected longline sets, for which by arrangement with the skipper all fish were landed. This allows a completely unbiased species composition of the catch to be determined, as well as hook occupancy and predation rates. In addition, detailed information is collected on setting and hauling practices. These data should be valuable in helping clarify issues related to the targeting of tuna longlines, help in interpretation of CPUE series (Recommendation 2003.2) and estimation or predation rates (Recommendation 2003.7).

4. National research programme

UK research activities on Indian Ocean tuna and tuna-like species are confined to the collection and analysis of data in its observer programme. This is described in earlier sections.