

## Belize National Report to the Scientific Committee of the Indian Ocean Tuna Commission 2011

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### INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

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, for all fleets other than longline (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)	YES  27 <sup>TH</sup> JANUARY 2011
In accordance with IOTC Resolution 10/02, provisional longline data 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)	YES  10 <sup>TH</sup> FEBRUARY 2011
If no, please indicate the reason(s) and intended actions:	

## Executive Summary

Long line is the main fishing method used by Belize flagged vessels to target tuna and tuna like species in the Indian Ocean Tuna Commission (IOTC) Convention area. In 2010 our fleet consisted of 7 long line vessels. Together they caught 141.125 m/t of Albacore tuna (*Thunnus alalunga*), 14.362 m/t of yellowfin tuna (*Thunnus albacares*), 31.456 m/t of bigeye tuna (*Thunnus obesus*), 6.689 m/t of swordfish (*Xiphius gladius*), 1.663 m/t of black marlin (*Makaria indica*) and 6.317 of Wahoo (*Acanthocybium solandri*). There has been an 88% reductions in our overall catches from 1257 m/t in 2007 to 201 m/t in 2010. Albacore has always been the main target species for our vessels from 2007 to 2010 followed by bigeye tuna, yellowfin and swordfish. The number of active long liners and levels of fishing effort have declined significantly in recent years due to reduced profitability, principally resulting from reduced fish prices and increased operating cost. The average size of our vessels from 2007 to 2010 have fluctuated over the years from 162 gt in 2007 to 241 gt in 2008, 88 gt in 2009 and 179 gt in 2010. There has also been a reduction in the number of vessels operating in this area from 10 vessels in 2007, 9 in 2008, 6 in 2009 and 7 in 2010.

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## 1. BACKGROUND/GENERAL FISHERY INFORMATION

Belize statistical reports summarize the activities of our long line fleet which operates in the IOTC Convention Area. In 2010 our fleet consisted of 6 long line fishing vessels with a combined average of 179 gt. These vessels operated in Western Indian Ocean.

## 2. FLEET STRUCTURE

The fleet which operates in the IOTC Convention area generally comprises of lone line fishing vessels, which range between 80 to 628gt.

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

Year	Gear Type	Size				Number of vessels
		0-50	51-200	201-500	500+	
2010	Long Line		6		1	7
2009	Long Line		6			6
2008	Long Line		6	2	1	9
2007	Long Line		7	2	1	10
2006	Long Line		6	2		8

## 3. CATCH AND EFFORT (BY SPECIES AND GEAR)

Our fleet which operates in the Western part of the Convention area currently comprise of 7 long line tuna vessels which target mostly, albacore, bigeye tuna, yellowfin tuna, swordfish, marlin and shark as bycatches. This has been the main activities of our vessels for the past several years.

**Table 2:** Annual catch and effort by gear and primary species in IOTC

Year	Effort (Hooks)	No. of Vessels	Albacore (m/t)	Bigeye (m/t)	Yellowfin (m/t)	Swordfish (m/t)	Marlin (m/t)	Sharks (m/t)
2010		7	141.125	31.456	14.362	6.689	1.663	0
2009	86010	6	160.879	15.838	51.259	22.200	1.797	0
2008	184135	9	296.258	120.179	91.353	74.65	7.074	9.824
2007	203422	10	885.033	149.995	113.841	65.772	19.629	22.399
2006	1778	8	631	30	127	22	8	0

**NB:** Effort for the year 2006 is number of fishing days. Belize at that time had not yet implemented data requirements for number of hooks used.

Figure 1: Historical Annual Catch for Belize's Long Line Fleet

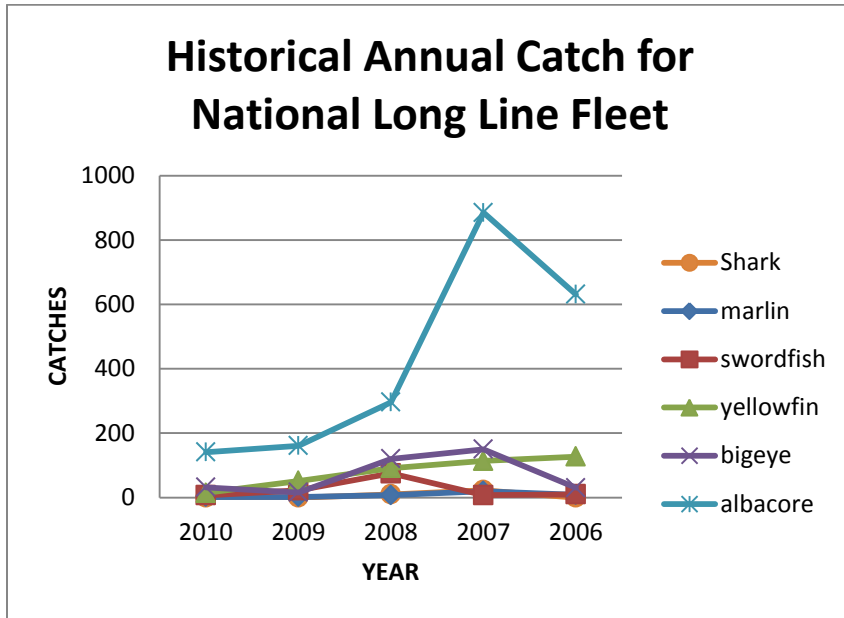
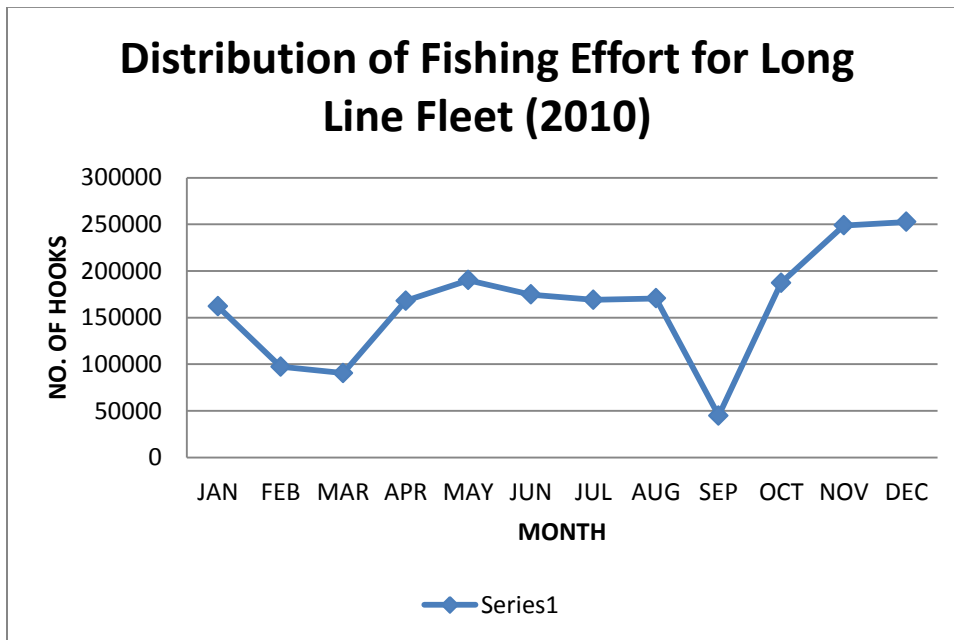
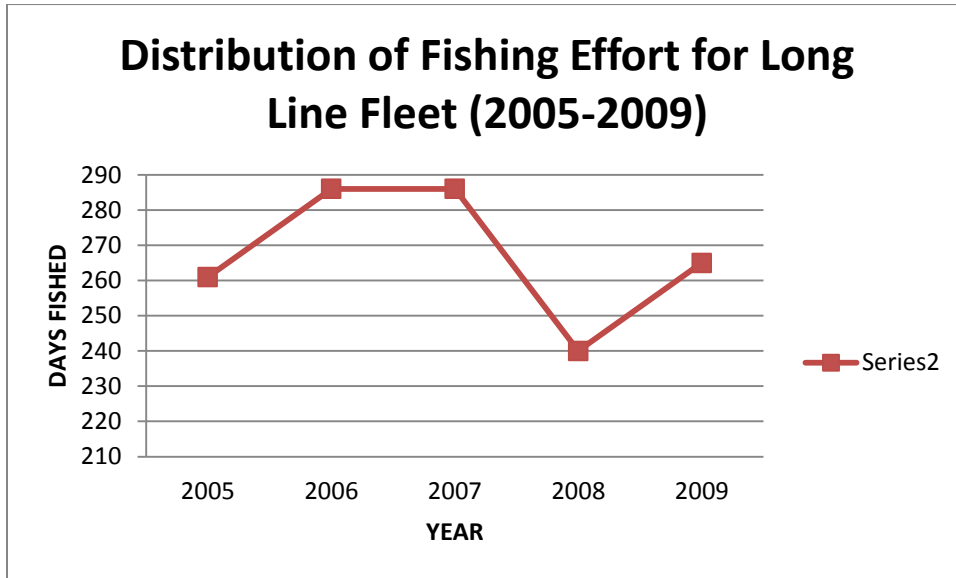


Figure 2a. Distribution of fishing effort for our national long line fleet that fished in the IOTC area of competence (2010)

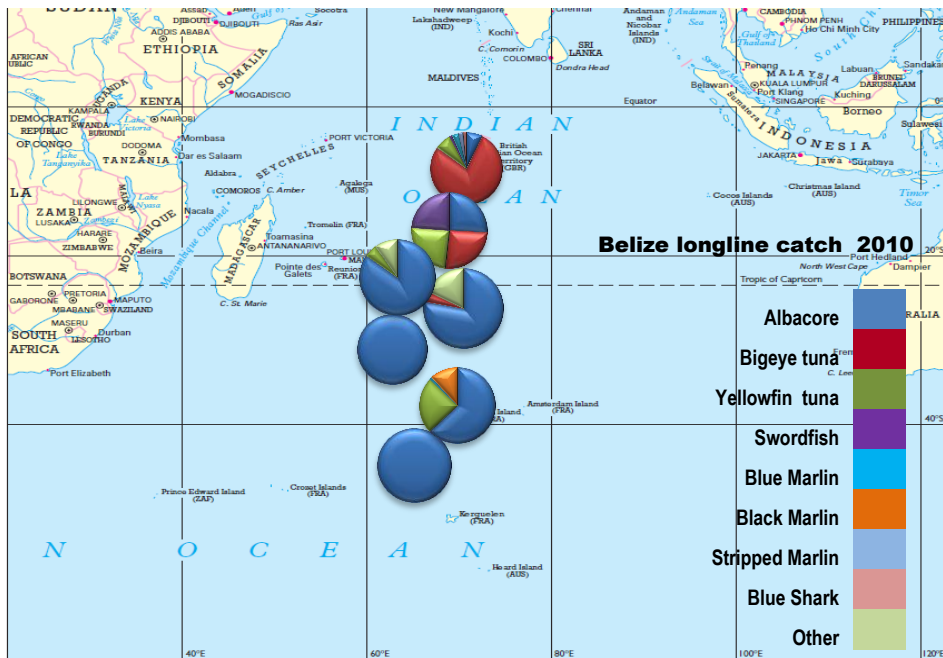


**Figure 2b.** Distribution of fishing effort for our national long line fleet that fished in the IOTC area of competence (Average 2005-2009)



The above figure details the distribution of fishing effort based on the fishing days as opposed to the number of hooks. Data on hooks are not available for the period 2005-2007.

**Figure 3a.** Map of distribution of fishing catch, by species for our long line fleet which operates in the IOTC area of competence for 2010



The vessels which operated in the IOTC area in 2010 consisted of 7 longline vessels whose combined operations ranged between 10-40 South and 55-75E

**Figure 3b:** Distribution of fishing catch, by species for our long line fleet which operated in the IOTC area of competence (Average of 5 previous years 2005-2009)



**4. RECREATIONAL FISHERY**

As Belize is not a coastal State within the IOTC area our vessels do not engage in recreational fisheries.

**5. ECOSYSTEM AND BYCATCH ISSUES**

Ecosystems monitoring was standardized and regularized in 2003. The Ecosystems Management Unit (EMU) of the Fisheries Department consists of the marine reserves and the Conservation Compliance Unit (CCU). The new management paradigm has shifted from specific species and site protection to the protection of entire ecosystems and the regulation of the activities within those systems.

Some of the key environmental issues affecting the Belize fisheries sector include unplanned urban and tourism development, introduction to invasive species, risk from climate change and water pollution by agricultural activities. These are all in relation to our domestic fisheries.

With respect to our fishing vessels operating on the high seas in the Convention area, we ensure that all fishing activities are conducted in accordance with the recommendations of the scientific committee in order to ensure sustainable harvest of these stock. Belize by-catch procedure is also determined based on the scientific recommendation eg. Our fishing vessels operators are encouraged to implement a catch and release system for seabirds and sea turtles, while other by catch species can be retained for sale or consumption.

## 5.1 Sharks

In an effort to comply with the FAO Code of Conduct, Belize has developed a NPOA shark and is currently conducting a national consultation on this document. Full adoption of the NPOA Sharks is expected by early 2012. In compliance with RFMO resolutions Belize has enacted legislation for the banning of shark finning as well as management measures for shark fishery.

**Table3.** Total number and weight of sharks by species retained by the national fleet for the last five years 2005-2010

Year	Blue Shark		Moro Shark	
	No	Weight (kg)	No.	Weight (kg)
2005	-	15190	-	16329
2006	-	33472	-	-
2007	-	9791	-	2621
2008	180	4693	149	3465
2009	-	-	-	-
2010	22	645	-	-

*Note: Our shark catches have decreased over the years. This is partially as a result of the lines currently being utilized by our vessels. Our longline fleet which operates in the Convention area utilizes nylon filament lines as opposed to the wire leaders normally used in shark fishing. Additionally our shark catches have only been caught as bycatches.*

## 5.2 Seabirds

Our Longline and Trawler Fishing Vessels are required to use mitigation measures in order to avoid or reduce the mortality of seabirds. Our Administration has implemented the FAO Guidelines to Reduce Sea Turtle Mortality in Fishing Operations as well as the relevant Resolutions/Recommendations of Regional Fisheries Management Organizations (RFMOs) on this topic.

Our Administration requires Longline Fishing vessels to implement one or more of the mitigation measures as outlines in the IOTC's Resolution on this topic. Currently our vessels operating in the Convention area utilizes weighted branch lines and night setting with minimum deck lighting measures for both seabirds and sea turtles.

Crewmembers are required to adopt measures aimed at ensuring that seabirds captured alive during longline fisheries are released alive and in as good condition as possible and that wherever possible hooks are removed without jeopardizing the life of the seabird concerned.

### 5.3 Marine Turtles

Belize is a contracting party to the Inter American Commission for the Conservation and Protection of Seas Turtles (IAC) and is in full compliance with all resolution and reporting obligations on sea turtles. We encourage a strict catch and release program for our vessels fishing on the high seas.

Our Administration has implemented the following measure in accordance with the relevant RFMO and international regulations.

For Longline Fishing Vessels we require:

- a. Use of circle hooks.
- b. Carry on board and, when sea turtle interactions occur, employ the necessary equipment, such as: de-hookers, line cutters, and scoop nets for the prompt release of incidentally caught sea turtles.
- c. Continue to improve fishing techniques, e.g.: appropriate combinations of circle hooks and bait, setting depth, gear specifications, fishing practices, as well as other measures to reduce the bycatch, injury and mortality of sea turtles.
- d. Crew members are required to adopt measures aimed at ensuring that sea turtles captured alive during long lining are released alive and in as good condition as possible and that wherever possible hooks are removed without jeopardizing the life of the sea turtle concerned.

## 6. NATIONAL DATA COLLECTION AND PROCESSESING SYTEMS

**6.1 Logsheet data collection and verification-** Belize commenced its data reporting requirements in 2003. Fishing vessel owners/operators are required to submit data of their fishing operations based on our format for such reporting which includes a detailed fishing log and fishing vessel voyage report showing the information regarding positions, times/dates, sets, catches by species including weights and sizes, start times, number of hooks etc., details of discards, by-catches etc., species unloaded, names of ports or details of transhipments. We have also implemented in 2011 a bonded logbook program for all our vessels which must be kept on-board the vessel at all times.

**6.2 Vessel Monitoring System** – In 2003, Belize successfully implemented a Vessel Monitoring System for all our High Seas Fishing and refrigerated cargo vessels which operate outside Belize’s territorial waters, irrespective of length or size. It is based on Inmarsat, utilizing Inmarsat C , Mini C and D+ equipments. Our provider is Polestar Space Applications Limited who utilizes and automatic, real time, internet based service called Purplefinder Vessel Management Solutions. This reporting system complies with the requirements of the RFMOs in whose Convention Areas we have a presence. Our system provides 6 positions reports daily and in some areas vessels are required to report on an hourly basis.

The monitoring is carried out by our High Seas Fisheries Unit whose Head Office is loated in Belize. It enables us, inter alia, to track a vessel’s compliance with the geographical limits contained in their license and to check position data contained in their catch and effort/transhipment reports.

6.3 **Observer program** – Belize’s observer program is in its infancy and we are currently in the process of working on the logistics of this program.

6.4 **Port Sampling Program** – Belize is not a coastal state within the IOTC area. As a result we do not have any port sampling program.

6.5 **Unloading/transhipment** – Of the small fleet which Belize has operating in the IOTC area only 1/3 of our fleet engage in transhipment at sea. Belize is a member of IOTC’s ROP and utilizes their observers for transhipments. None of our vessels transhipment at port.

## 7. NATIONAL RESEARCH PROGRAM

Belize is not involved in any research programs within the IOTC Convention Area.

## 8. IMPLEMENTATION OF SCIENTIFIC COMMITTEE RECOMMENDATIONS AND RESOLUTIONS OF THE IOTC RELEVANT TO THE SCIENTIFC COMMITTEE

See table 9 for information on this topic.

## 9. LITERATURE CITED

Nil.

**Table 9.** *Scientific requirements contained in the Resolutions of the Commission, adopted from 2005 to 2011.*

No.	Resolution	Scientific requirement	Progress
05/05	Concerning the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 1–12.	Vessels operating in this area have caught sharks as by-catches only. All data on shark catches have been reported to IOTC. Belize has recently issued a shark finning ban to all vessel owners and operators. The banning of shark finning is also being incorporated into our revised fisheries legislation.
08/04	Concerning the recording of catch by longline fishing vessels in the IOTC area	Paragraph 1–3.	In early 2011 Belize implemented its bonded logbook program. All vessels are to have this logbook on board at all times which should be presented on demand from the Flag State.
09/06	On marine turtles	Paragraphs 2, 8, 11, 12, 13 and 14.	<p>Our vessels are required to submit together with their statistical data any interaction with sea turtles. We encourage our vessel operators to Carry on board and, when sea turtle interactions occur, employ the necessary equipment, such as: de-hookers, line cutters, and scoop nets for the prompt release of incidentally caught sea turtles</p> <p>Continue to improve fishing techniques, e.g.: appropriate combinations of circle hooks and bait, setting depth, gear specifications, fishing practices, as well as other measures to reduce the by-catch, injury and mortality of sea turtles.</p> <p>Crew members are required to adopt measures aimed at ensuring that sea turtles captured alive during long lining are released alive and in as good condition as possible and that wherever possible hooks are removed without jeopardizing the life of the sea turtle concerned.</p> <p>Belize do not currently undertake research trials of circle hooks but encourage their usage in our long liner fishery.</p>
10/02	Mandatory statistical requirements for IOTC members and cooperating non contracting parties	Paragraphs 1–7.	Belize has always provided its statistical data as required on a timely basis in accordance with this Regulation.
10/06	On reducing the incidental bycatch of seabirds in longline fisheries.	Paragraph 7.	<p>Our vessels are required to submit together with their statistical data any interaction with seabirds</p> <p>Our Administration requires Long-line Fishing vessels to implement one or more of the mitigation measures as outlined in the IOTC's Resolution on this topic. Currently our vessels operating in the Convention area utilizes weighted branch lines and night setting with minimum deck lighting measures for both seabirds and sea turtles.</p>

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No.	Resolution	Scientific requirement	Progress
10/12	On the conservation of thresher sharks (family Alopiidae) caught in association with fisheries in the IOTC area of agreement	Paragraphs 6 and 7.	We are not a coastal State within the IOTC area and therefore do not conduct any research activities. We report all our shark fisheries to IOTC and encourage compliance with all management and conservation measures applicable to this species.
11/04	On a regional observer scheme	Paragraph 9.	We have not yet initiated an observer scheme for our vessels in this year, but envisage this to be implemented by next year after which all data in this regard will be submitted to the Secretariat.