

IOTC-2012-SC15-05[E]

REPORT OF THE SECRETARIAT – ACTIVITES IN SUPPORT OF THE IOTC SCIENCE PROCESS IN 2012

PREPARED BY: IOTC SECRETARIAT, 25 NOVEMBER 2012

PURPOSE

To inform the Scientific Committee (SC) of work undertaken by the IOTC Secretariat in 2012 in support of the IOTC Science process endorsed by the Commission.

DISCUSSION

Staffing

Fishery Officer (Stock Assessment): Dr. Rishi Sharma joined the Secretariat in July 2012. The Selection Panel consisted of the IOTC Executive Secretary, the IOTC Deputy Secretary/ Science Manager, and the Vice-Chair of the IOTC Scientific Committee (Mr. Jan Robinson).

Fishery Officer (Statistics): Mr. James Geehan joined the Secretariat in September 2012. The Selection Panel consisted of the IOTC Executive Secretary, the IOTC Deputy Secretary/ Science Manager, and the IOTC Data Coordinator.

IT Manager: Ms. Donna Piliotis joined the Secretariat in June 2012 as the IT Manager.

IOTC meetings – Working parties

In 2012, six Working Party meetings were organised and facilitated by the IOTC Secretariat ([Table 1](#)). The current Chairs and Vice-Chairs for each Committee and Working Party are provided at [Appendix A](#).

Table 1. Scientific Meetings held in 2011, prior to the 15th Session of the IOTC Scientific Committee meeting. Numbers in brackets represent numbers for the previous working party meeting.

Working Party	Date and place	No. of participants			Meeting Participation Fund			No. of documents (previous meeting)
		2010	2011	2012	2010	2011	2012	
Temperate Tunas	20–22 August, China	15*	16	26	–	2	3	Total: 28 (25) Working papers: 19 (19) Information papers: 9 (6)
Billfish	11–15 September, South Africa	12	27	23	0	5	5	Total: 33 (41) Working papers: 21 (28) Information papers: 12 (11)
Ecosystems and Bycatch	17–19 September, South Africa	37	49	48	9 ¹	7 ²	7	Total: 64 (92) Working papers: 40 (57) Information papers: 24 (35)
Methods	22–23 October, Mauritius	18*	–	22	–	–	1	Total: 15 (–) Working papers: 4 (–) Information papers: 11 (–)
Tropical Tunas	24–29 October, Mauritius	39	49	47	11	13	8	Total: 51 (84) Working papers: 40 (67) Information papers: 11 (17)
Neritic Tunas	19–21 November, Malaysia	–	28	35	–	9 ³	10	Total: 24 (42) Working papers: 23 (31) Information papers: 1 (11)
Scientific Committee	10–15 December, Seychelles	41	50		7		12	n.a.

*2008.

¹ 6 scientists attended both the WPTT and WPEB

² 3 scientists attended both the WPTT and WPEB

³ another 7 scientists were supported by IOTC through the Capacity Building funds as they were also attending the capacity building workshop

[Appendix B](#) lists the documents produced by the Secretariat in support of Working Party meetings held in 2012. In addition, the Secretariat produced revised Executive Summaries for all of the IOTC stocks, as well as for sharks, seabirds and marine turtles in association with various experts.

The Secretariat also supported the participation of invited experts that were selected to attend each of the Working Party meetings in 2012, with the exception of the Working Party Temperate Tunas and the Working Party on Methods. The names and affiliations of each of the Invited Experts for 2012 are provided in [Table 2](#).

Table 2. Invited Experts for Working Party meetings in 2011.

Working Party	Date and place	Name	Affiliation
Billfish	11–15 September, South Africa	Dr. Humber Andrade	Universidade Federal Rural de Pernambuco, Brazil
Ecosystems and Bycatch	17–19 September, South Africa	Dr. Robert Olsen	Inter-American Tropical Tuna Commission, USA
Tropical Tunas	24–29 October, Mauritius	Dr. Andrew Cooper	Simon Fraser University, Canada
Neritic Tunas	19–21 November, Malaysia	Dr. Shane Griffiths	CSIRO, Australia
		Dr. Terrance Dammannagoda	Queensland University of Technology, Australia

The Secretariat assisted in the coordination of Working Party activities for the IOTC species, contributing a number of supporting analyses, full stock assessments for skipjack tuna and discussion papers on improving the IOTC stock assessment process (see list of WPs in [Appendix B](#)). The Secretariat represented the IOTC in the broader fisheries community, e.g. by participating as an invited experts at various meetings.

IOTC meetings – Meeting Participation Fund

The IOTC Meeting Participation Fund (MPF) was established during the 14th Session of the Commission (2010), held in Busan, Republic of Korea, through Resolution 10/05 *on the establishment of a meeting participation fund for developing IOTC Members and Non-contracting Cooperating Parties (CPCs)*. The MPF was established for the purposes of supporting scientists and representatives from IOTC Members and Cooperating non-Contracting Parties (CPCs) who are developing States to attend and/or contribute to the work of the Commission, the Scientific Committee and its Working Parties. The MPF was initially financed by an allocation of USD\$200,000 from IOTC's accumulated funds in 2010 and was subsequently replenished to USD\$200,000 by the Commission at its 15th Session held in Colombo, Sri Lanka, and again at its 16th Session held in Fremantle, Australia.

Noting that the intention of the MPF was to utilise the funds, as a first priority, to support the participation of scientists from developing CPCs in scientific meetings of the IOTC, including Working Parties, in 2012, the Secretariat facilitated the participation of 46 (33 in 2011) individuals from 16 (15 in 2011) developing CPCs of IOTC to the six Working Party meetings held as detailed in [Table 1](#). The level of participation by MPF recipients has continued to increase in 2012, up from 33 in 2011 and 19 in 2010. MPF and capacity building recipients in 2012 presented 36 working documents and 12 National Reports (38 in total in 2011) and no (2 in 2011) information papers to the various Working Party meetings, as detailed in [Table 1](#).

Data-related activities – General

A large proportion of the time of the Data Section staff are currently devoted to the acquisition and editing of the data required under the IOTC Resolutions (2011 summary provided in [Appendix C](#)). These data are utilised in monitoring compliance or in scientific analyses necessary for the assessment of the status of stocks. The IOTC databases are constantly revised. The migration of data from the old structure to the new structure is under way and the Secretariat intends to finalise it by the end of 2013.

The regular suite of datasets have been supplied timely for all scientists engaged in stock assessment activities and reports on status of IOTC databases produced for relevant Working Parties and SC, and for the preparation of the Country Reports of the Compliance Committee. The Data Coordinator remains as the Chair of the Working Party on Data Collection and Statistics, illustrating the important role that the Secretariat continues to play in the data acquisition and analysis.

In addition to the standard fishery datasets, the Secretariat has completed an update of the tagging datasets. These included the integration of the data generated during the two tagging projects that took place in the Maldives in the early 1990s in the main IOTC tagging database, which was developed under the framework of the Regional Tuna Tagging Programme in the Indian Ocean (RTTP-IO). Further validation, verification and correction of the data from the small-scale projects, as well as for the RTTP-IO, was also undertaken in 2012.

Data-related activities – Compliance

There exists a substantial gap in the availability of fisheries statistics from the different fisheries and fishing gears employed in the IOTC Area. Nonetheless, at its 2012 Session, the Commission expressed its concerns on the generally low level of compliance to the submission of mandatory fisheries statistics. While there have been some recent improvements in the submission of fisheries statistics relating to nominal catch, and catch and effort, there is still a lack of data reported by CPCs in relation to size frequency data. The level of compliance also remains low with regards to the submission of data relating to species caught incidentally by tuna fishing operations, that is, marine turtles, seabirds and sharks. It should be noted that the Commission has adopted specific Conservation and Management Measures for these species.

Data-related activities – IOTC-OFCF Project

The Secretariat continues offering support to developing coastal states through the IOTC-OFCF Project, which has provided resources and advice for the strengthening of data collection systems in more than 20 countries in the region since its inception in 2002.

In the context of the IOTC-OFCF Project, the Data Coordinator visited Sri Lanka (February 2012) to carry out the final evaluation of the implementation of a Centralised Database System for the fisheries of Sri Lanka; to Indonesia (March 2012) to organize *the Indian Ocean Tuna Fisheries of Indonesia Catch Estimation Workshop*; and again to Sri Lanka (October 2012), with the Fisheries Statistician, to finalize the terms for assistance from the Project to the implementation of sampling activities in this country; the Project Coordinator attended also a training organized by the MFARD of Sri Lanka (November 2012) in preparation of the sampling activities (Table 3). In addition, the Data Coordinator travelled to Indonesia in March 2012 following an invitation to attend a Workshop, extended by the Bay of Bengal Large Marine Ecosystems Programme (BOBLME); to Rome in June 2012, to Chair the tRFMO Second Technical Meeting on the Consolidation of Lists Of Authorized Vessels; and to the Republic of Korea (June 2012) following an invitation from the Government of Korea to act as a Speaker in the *Second Workshop on the Capacity Building of Developing States: The improvements in Fisheries Data Management*.

The Secretariat is also the leading agency in the establishment of a global list of tuna vessels, consolidated between the five tuna regional fishery management organisations, with the Data Coordinator acting as the Chair of the technical group coordinating these activities and coordinating updates of the Consolidated List of Authorised Vessels.

The Third Phase of the IOTC-OFCF⁴ Project continued its operations during 2012. This phase of the project is being conducted with a smaller budget than that available during the first phase and, therefore, the range of activities has been scaled down accordingly. The main activities conducted in 2012 were:

- a) Assisting the execution of a second fisheries census in Comoros (July–September 2012): At present, the IOTC Secretariat is assisting the “Centre National des Ressources Halieutiques” of Comoros to analyse the data collected through both Census events, and the sampling scheme implemented using funds from the Commission. These activities were carried out by the “Centre National des Ressources Halieutiques” of Comoros.
- b) Assisting the design and implementation of a Centralized Database System in Sri Lanka (October 2011–March 2012): The Project provided the Ministry of Fisheries and Aquatic Resources of Sri Lanka with the funds necessary to carry out this work, including: (i) execution of this work by a local consultant company; and (ii) purchase of the software and hardware required. A follow-up mission by the Project was carried out in February 2012 to evaluate the results of this activity.
- c) Assisting the strengthening of the Centralised Database System in the Islamic Republic of Iran (November 2011 – March 2012): The Project provided the Fisheries Organisation of Iran (SHILAT) with funds to purchase the software and hardware required for the execution of this activity. The Fisheries Organisation will use its own funds to hire a local consultant to extend the capabilities of the existing database, to facilitate data management and reporting of statistics as per the IOTC format in a timely manner.
- d) Organization of a Catch Estimation Workshop in Indonesia (March 2012): In 2012, the Directorate General of Capture Fisheries of Indonesia (DGCF) and the IOTC-OFCF Project agreed to conduct a Catch Estimation Workshop for the Fisheries of Indonesia, with focus on small and medium-scale fisheries. The workshop was held in March 13-15, 2012 with participation from DGCF, RCCF (Research Center for Capture Fisheries), RIMF (Research Institution for Marine Fisheries), the IOTC and OFCF. CSIRO (Commonwealth Scientific and Industrial Research organization of Australia), NRIFS (National Research

⁴ Overseas Fishery Cooperation Foundation of Japan

Institute of Far Seas Fisheries in Japan) and WWF (World Wide Fund for Nature). The objective of the Workshop was to review the current data collection and estimation procedures in Indonesia and revision of current and past catch figures, as required. Reports from the Workshop, in English or Indonesian, can be made available upon request.

- e) Assisting the strengthening of sampling activities in Sri Lanka (November 2012-February 2013): Following a request for assistance from the Ministry of Fisheries and Aquatic Resources Development of Sri Lanka (MFARD) to strengthen the existing sampling scheme for coastal and offshore fisheries, the IOTC-OFCF Project and MFARD exchanged a Memorandum of Understanding in October 22, 2012. In November 2012 the Project provided assistance for the organization of a workshop on species identification and data collection procedures; sampling activities were initiated in December 2012.

All these activities involved, in addition to the OFCF expert attached to the Secretariat, the participation of the Data Coordinator, and the Fisheries Expert.

More details on the activities of the IOTC-OFCF Project are presented in a separate document (IOTC–2012–SC15–INF01

Table 3. IOTC and IOTC–OFCF missions in 2012

Country	Date	Staff	Description
Comoros, Iran, Indonesia, Sri Lanka	Various	Project Manager	Administrative arrangements and evaluation of financial reports
Sri Lanka	Feb 14–17	Project Manager Data Coordinator	Evaluation of the Fisheries Centralized Database System
Indonesia	Mar 11–20	Project Manager Data Coordinator	Organization of Catch Estimation Workshop
Sri Lanka	Oct 1–5	Project Manager Fisheries Statistician Data Coordinator	Strengthening of data collection activities
Sri Lanka	Nov 11-16	Project Manager	Training on data collection

Data-related activities – Study on improvement of catch reporting systems including data collection on artisanal fisheries

At the 14th Session of the Commission Members agreed to set aside USD\$400,000 to support the implementation of port sampling schemes in accordance with Resolution 10/04, which was superseded by Resolution 11/04 *on a regional observer scheme*. In addition, the funds were to be used to support a pilot project to assess the feasibility of improving the data reporting from artisanal fisheries to produce reporting in near real time.

During 2010–12, the IOTC Secretariat, under the framework of the IOTC-OFCF Project or on its own, implemented activities in some countries of the IOTC Region with the objective to enhance data collection and reporting systems, as reported in the previous section.

In order to assist the feasibility study work, the Secretariat hired the services of a consultant, Dr. Guillermo Moreno, in April 2011, for a period of six months. Dr. Moreno visited nine coastal countries in the IOTC Region, namely India, Indonesia, Iran (IR), Kenya, Madagascar, Maldives, Mozambique, Sri Lanka, and Tanzania, all having important fisheries for tropical tunas. Document IOTC–2011–SC14–38, presented at the Scientific Committee Meeting in 2011, includes a summary of situation in the countries covered by the Consultant, plus assessment of the situation in other coastal countries or fisheries operated in the IOTC Region. During 2012, the IOTC Secretariat hired again the services of Dr. Moreno for a major revision of the time series of catch available in the IOTC database for the fisheries of India, Indonesia, and Sri Lanka. To carry out the referred work Dr. Moreno used information collected during the feasibility study and additional information collected through additional missions to the countries concerned. The results of this work are summarised in a separate document (IOTC–2012–SC15–38) and will be presented to the SC by Dr. Moreno.

Data-related activities – Yellowfin tuna – stock assessment

Following the recommendation of the Working Party on Tropical Tunas in 2011, which was endorsed by the Scientific Committee at its 14th Session, a Stock Assessment consultant (Dr. Adam Langley) was hired again to conduct stock assessment analyses on yellowfin tuna, which were presented and received favourably by participants at the 14th Session of the WPTT. As a result, the WPTT made the following recommendation:

WPTT14.12 (para. 212) The WPTT **THANKED** Mr. Adam Langley (consultant) for his contributions and expertise on integrated stock assessment models, and **RECOMMENDED** that his engagement be renewed for the coming year.

Data-related activities – Skipjack tuna – stock assessment

In collaboration with scientist from the Marine Research Center in the Maldives, the IOTC Stock Assessment officer conducted a CPUE analysis of the logbook data coming from the pole-and-line fishery in Maldives. The Secretariat supported the work of a local consultant to complete the preparation of the data. The CPUE analysis was followed by the second stock assessment on skipjack tuna conducted under IOTC, which was presented at the WPTT14.

Other activities

As from early 2011, the IOTC Secretariat has been responsible for the coordination of activities concerning the global Consolidated List of Authorized Vessels (CLAV), a regularly updated list including the authorized vessels of the five t-RFMOs. The IOTC Data Coordinator acted as moderator in two joint t-RFMO technical meeting, held in February 2011, and June 2012, in Rome (Italy). ISSF provided funds to facilitate the assistance of some of the database experts from the t-RFMO. The first meeting agreed on a mechanism for the exchange of lists of authorized vessels for the CLAV, including standards for the exchange of data and frequency of updates (the report of the meeting can be downloaded from ([click here](#))). The CLAV has been updated regularly since the first Rome Meeting, and summaries of the work conducted and results disseminated on each update, including through the IOTC Newsletter. In addition, a progress report was presented to the KOBE III Meeting in San Diego (July 2011). Collaboration between the IOTC Secretariat and FAO-FIDI continued in 2012 and testing of the new CLAV software is currently under way. In 2013, the CLAV will be further enhanced using funds from a Global Environmental Facility Project on Sustainable Management of Tuna Fisheries and Biodiversity: Conservation in the Areas Beyond National Jurisdiction (ABNJ). The main objective of the CLAV component of the Project is ensuring that updates of the CLAV occur in as close-to real time as possible in the future.

In 2012, the IOTC Secretariat and the Project COI-SMARTFISH agreed to initiate cooperation in the implementation of capacity building activities in coastal countries of the Southwest Indian Ocean, in the areas of MCS and data collection. The Project will initiate activities in 2013, including strengthening of data collection systems in Madagascar and Comoros.

In the area of elasmobranch monitoring and management, the IOTC Secretariat is also collaborating with the Bay of Bengal Large Marine Ecosystems Project, and the Marine Resources Assessment Group in the UK (MRAG) and other partners, in the strengthening of sampling activities in Sri Lanka.

Tagging symposium

As requested by the Commission in 2011, the Secretariat organized the venue of the Indian Ocean Tuna Tagging Symposium which was held back to back with the WPTT14, 30th October - 2nd November 2012 in Mauritius. During the Symposium, 34 presentations on the outcomes and results from the Indian Ocean Tuna Tagging Programme were made by various experts and scientists. A total of 80 participants attended the symposium (from 18 IOTC CPCs, 2 tRFMOs (ICCAT and IATTC), FAO and other research institutions (SPC, NOAA, UBC). The proceedings of the Symposium shall be published in a special issue of Fisheries Research in 2013.

Contacts with other organizations

The Secretariat routinely maintains contacts with other organisations in the region with the purpose of coordinating scientific activities to the extent possible. This is essential to avoid duplication of efforts with similar organisations. The Executive Secretary and Deputy Secretary maintains regular contacts with the other tuna RFMOs (CCSBT, IATTC, ICCAT, and WCPFC), although in 2012, did not participate in the meetings of the other tuna RFMOs.

As mentioned above, the Secretariat maintains close links with the **Commission de l'Océan Indien** (COI) primarily through the discussions of possible future coordination and cooperation in fisheries projects involving tuna fisheries. The Secretariat is currently involved in a number of joint activities with the IOC Project Integrated

Regional Fisheries Strategy (IRFS), mostly on Compliance issues, but it is expected that there will be collaboration on data-collection activities between the IRFS and IOTC.

The **Southwest Indian Ocean Fishery Commission** (SWIOFC) is an advisory body under the FAO umbrella that deals with non-tuna species in the EEZ of the member countries. The **Southwest Indian Ocean Fishery Project** (SWIOFP) is a multinational project partly financed by the World Bank and Global Environment Fund. Although neither of these institutional arrangements have a mandate to manage tuna fisheries, they can contribute actively to the scientific work of IOTC and assist in its management actions, so coordination is essential. To the extent possible the Secretariat attends the meetings of these two organizations. As examples of cooperation, SWIOFC has convened the meeting of its Scientific Committee in conjunction the IOTC cooperation so that national scientists from common Members could attend both meetings. In the case of SWIOFP, it has supported participation of scientists from the region in various meetings of IOTC, and has supported training of observers that would participate in the Regional Observer Scheme.

The Secretariat continues its coordination with various intergovernmental and non-governmental organisations interested in the activities of the Commission, including:

- the **Indian Ocean Sea Turtle Memorandum of Understanding**, an intergovernmental organizations for the protection of sea turtles
- **BirdLife International**
- **World Wild Fund for Nature, Traffic**
- the **International Sustainability Seafood Foundation**, and has established contacts with the **Agreement on the Conservation of Albatrosses and Petrels** (ACAP) a multilateral agreement to coordinate international activity to mitigate threats to albatross and petrel populations.

IOTC publications and information products

Documents

In 2012, the Secretariat produced **49** papers/reports ([Appendix B](#)) in support of the IOTC Science process, not including the reports of the various working parties (**6**) or the Executive Summaries (**25**). It was not possible to complete the production of a Data Summary as the elevated workload did not allow the Secretariat to complete the task as planned. However, the Data Section of the IOTC Secretariat devoted a lot of time to extending the amount of information presented to the different IOTC meetings, in particular information on fisheries trends and other indicators. The IOTC Secretariat will use the information presented in these reports in the preparation of a Data Summary, as soon as time allows. In support of the work of the species' Working Parties, datasets in standard formats were distributed to scientists interested in conducting analyses. The main datasets were available for download from the IOTC website prior to the meeting of the Working Party.

IOTC Website

The IOTC website continues to be a portal for communicating science related information to a variety of audiences. The Secretariat has completed the development of a new website, as requested by the Commission, and is now working on completing the population of the website with content and documents (i.e. migration of 4000 documents currently published on the IOTC website).

Identification cards – sharks, seabirds and marine turtles

Following recommendations from the Working Party on Ecosystem and Bycatch and the Scientific Committee to develop identification cards for sharks, marine turtles and seabirds, the Secretariat has developed, finalized and printed the identifications cards for sharks, seabirds, marine turtles and billfish, thanks to the help of the following experts:

Sharks –Chairman of the WPEB, Dr. Chares Anderson and Vice-Chair Dr. Evgeny Romanov. These identification cards are developed with sharks and rays illustrations by Roger Swainston and from a collaborative work from the Institut de Recherche pour le Développement (IRD) and the French National Natural History Museum (MNHN).

Seabirds – Birdlife International – Dr. Ross Wanless, from the Secretariat of the Agreement on the Conservation of Albatrosses and Petrels – Mr. Barry Baker and from the Royal Society for the Protection of Birds – Ms. Cleo Small. These identification cards were developed with seabird drawings given by Random House Struik which has the copyright on the illustrations.

Marine turtles –IOASEA MoU - Mr. Douglas Hyke and his team, from IFREMER La Réunion – Mr. Jérôme Bourjea, and from KELONIA – Mr. Stephane Ciccione.

Billfish – IFREMER – Mr. Hughes Evano, ARDA – Dr. Evgeny Romanov

The identifications cards for sharks and marine turtles are joint publications of the IOTC and the SPC, as these

cards were based on the designs developed by SPC a few years ago and adapted to the context of the Indian Ocean. The identification cards are intended to be used primarily by scientific observers under the framework of the IOTC Regional Observer Scheme (Resolution 11/04 *on a Regional Observer Scheme*), however they could also be distributed and used by fishers in order to record and report interactions with sharks, marine turtles and seabirds. The identification cards have been produced in both English and French.

RECOMMENDATION

That the Scientific Committee **NOTE** the report of the IOTC Secretariat for 2012.

APPENDICES

Appendix A: [List of Chairs, Vice-Chairs and their respective terms for IOTC Science meetings.](#)

Appendix B: [List of papers with participation from Secretariat staff in the year 2012.](#)

Appendix C: [Update on the status of IOTC data for 2011.](#)

APPENDIX A

List of Chairs, Vice-Chairs and their respective terms for IOTC Science meeting

Group	Chair/Vice-Chair	Representative	CPC/Affiliation	Term commencement date	Term expiration date (End date is until replacement is elected)	Comments
SC	Chair	Dr. Tsutomu Nishida	Japan	17-Dec-11	End of SC in 2013	1st term
	Vice-Chair	Mr. Jan Robinson	Seychelles	17-Dec-11	End of SC in 2013	1st term
WPB	Chair	Mr. Jerome Bourjea	EU,France	8-Jul-11	End of WPB in 2013	1st term
	Vice-Chair	Mr. Miguel Santos	EU,Portugal	8-Jul-11	End of WPB in 2013	1st term
WPTmT	Chair	Dr. Zang Geun Kim	Korea, Rep. of	22-Sep-11	End of WPTmT in 2013	1st term
	Vice-Chair	Mr. Takayuki Matsumoto	Japan	6-Sep-12	End of WPTmT in 2014	2nd term
WPTT	Chair	Dr. Hilario Murua	EU,Spain	25-Oct-10	End of WPTT in 2012	2nd term
	Vice-Chair	Dr. Shiham Adam	Maldives, Rep. of	23-Oct-11	End of WPTT in 2013	1st term
WPEB	Chair	Dr. Charles Anderson	UK/Independent	14-Oct-10	End of WPEB in 2013	2nd term
	Vice-Chair	Dr. Evgeny Romanov	EU,France	27-Oct-11	End of WPEB in 2013	1st term
WPNT	Chair	Dr. Prathibha Rohit	India	27-Nov-11	End of WPNT in 2013	1st term
	Vice-Chair	Mr. Farhad Kaymaram	I.R. Iran	27-Nov-11	End of WPNT in 2013	1st term
WPDCS	Chair	Mr. Miguel Herrera	Secretariat	4-Dec-10	End of WPDCS 2012	2nd term
	Vice-Chair	Dr. Pierre Chavance	European Union	10-Dec-11	End of WPDCS 2013	1st term
WPM	Chair	Dr. Iago Mosqueira	European Union	18-Dec-11	Start of WPM 2012	Interim
	Vice-Chair	Dr. Toshihide Kitakado	Japan	18-Dec-11	Start of WPM 2012	Interim
WPFC	Chair	Not active	Not active	Not active	Not active	Not active
	Vice-Chair	Not active	Not active	Not active	Not active	Not active

APPENDIX B

List of papers with participation from IOTC Secretariat staff in the year 2012

Document number	Title
<i>Fourth Session of the Working Party on Temperate Tunas</i>	
IOTC-2012-WPTmT04-03	Outcomes of the Fourteenth Session of the Scientific Committee (Secretariat)
IOTC-2012-WPTmT04-04	Outcomes of the Sixteenth Session of the Commission (Secretariat)
IOTC-2012-WPTmT04-05	Review of Conservation and Management Measures relating to temperate tuna (Secretariat)
IOTC-2012-WPTmT04-06	Progress made on the recommendations of WPTmT03 (Secretariat & chair)
IOTC-2012-WPTmT04-07	Review of the statistical data and fishery trends for albacore (Miguel Herrera & Lucia Pierre - Secretariat)
IOTC-2012-WPTmT04-08	Status of Indian Ocean albacore resource (<i>Thunnus alalunga</i>) (Secretariat)
IOTC-2012-WPTmT04-INF04	Review: CPUE Standardizations for Japan for the Albacore Assessment (Dr. Rishi Sharma)
IOTC-2012-WPTmT04-INF05	Review: CPUE Standardizations for Korea for the Albacore Assessment (Dr. Rishi Sharma)
IOTC-2012-WPTmT04-INF06	Re: CPUE Standardizations for Taiwan,China for the Albacore Assessment and ASPM review (Dr. Rishi Sharma)
IOTC-2012-WPTmT04-INF07	Re: ASPM Model Review (Dr. Rishi Sharma)
IOTC-2012-WPTmT04-INF08	Re: ASPM Model Review (Dr. Rishi Sharma)
<i>Ninth Session of the IOTC Working Party on Billfish</i>	
IOTC-2012-WPB10-03	Outcomes of the Fourteenth Session of the Scientific Committee (Secretariat)
IOTC-2012-WPB10-04	Outcomes of the Sixteenth Session of the Commission (Secretariat)
IOTC-2012-WPB10-05	Review of Conservation and Management Measures relating to Billfish (Secretariat)
IOTC-2012-WPB10-06	Progress made on the recommendations of WPB09 (Secretariat & chair)
IOTC-2012-WPB10-07	Review of the statistical data and fishery trends for billfish (Miguel Herrera & Lucia Pierre - Secretariat)
IOTC-2012-WPB10-08	Draft billfish identification cards (Secretariat)
<i>Eighth Session of the Working Party on Ecosystems and Bycatch</i>	
IOTC-2012-WPEB08-03	Outcomes of the Fourteenth Session of the Scientific Committee (Secretariat)
IOTC-2012-WPEB08-04	Outcomes of the Sixteenth Session of the Commission (Secretariat)
IOTC-2012-WPEB08-05	Review of current Conservation and Management Measures relating to ecosystems and bycatch (Secretariat)
IOTC-2012-WPEB08-06	Progress made on the recommendations of WPEB07 (Secretariat & chair)
IOTC-2012-WPEB08-07	Status of development and implementation of National Plans for Action for Seabirds and Sharks (Secretariat)
IOTC-2012-WPEB08-08 Rev_1	Update on the implementation of the IOTC Regional Observer Scheme (Secretariat)
IOTC-2012-WPEB08-09	Review of the statistical data available for bycatch species (Miguel Herrera & Lucia Pierre - Secretariat)
<i>Fourth Session of the Working Party on Methods</i>	
IOTC-2012-WPM04-03	Outcomes of the Fourteenth Session of the Scientific Committee and the Sixteenth Session of the Commission (Secretariat)
<i>Fourteenth Session of the Working Party on Tropical Tunas</i>	
IOTC-2012-WPTT14-03	Outcomes of the Fourteenth Session of the Scientific Committee (Secretariat)
IOTC-2012-WPTT14-04	Outcomes of the Sixteenth Session of the Commission (Secretariat)
IOTC-2012-WPTT14-05	Review of Conservation and Management Measures relating to tropical tunas (Secretariat)
IOTC-2012-WPTT14-06	Progress made on the recommendations of WPTT13 (Secretariat & chair)
IOTC-2012-WPTT14-07 Rev_1	Review of the statistical data and fishery trends for tropical tunas (Miguel Herrera, Lucia Pierre, James Geehan and Julien Million - Secretariat)
IOTC-2012-WPTT14-23 Rev_1	Updated growth estimates for skipjack, yellowfin and bigeye tuna in the Indian Ocean using the most recent tag-recapture and otolith data (P. Eveson, J. Million, F. Sardenne and G. Le Croizier)
IOTC-2012-WPTT14-24 Rev_1	A hierarchical Bayesian integrated model incorporated direct ageing, mark-recapture and length-frequency data for yellowfin (<i>Thunnus albacares</i>) and bigeye (<i>Thunnus obesus</i>) of the Indian Ocean (E. Dortel, F. Sardenne, G. Le Croizier, J. Million, E. Rivot, N. Bousquet and E. Chassot)
IOTC-2012-WPTT14-29 Rev_1	Indian Ocean skipjack tuna stock assessment (1950–2011) (Stock Synthesis) (R. Sharma, M. Herrera, J. Million, A. Langley and I. Taylor)
IOTC-2012-WPTT14-31	Determining an appropriate tag mixing period for the Indian Ocean yellowfin tuna stock assessment (A. Langley and J. Million)
IOTC-2012-WPTT14-32 Rev_1	Application of the Brownie-Petersen method for estimating mortality rates and abundance to Indian Ocean

	yellowfin tuna tag-recapture and catch data (A. Langley and J. Million)
IOTC-2012-WPTT14-38 Rev_1	Stock assessment of yellowfin tuna in the Indian Ocean using MULTIFAN-CL (Adam Langley, Miguel Herrera and Julien Million)
IOTC-2012-WPTT14-41	Preliminary assessments of tuna mortality rates from a Bayesian Brownie-Petersen model (N. Bousquet, Chassot, E. Dortel, J. Million, P. Eveson and J.-P. Hallier)

Second Session of the Working Party on Neritic Tunas

IOTC-2012-WPNT02-03	Outcomes of the Thirteenth Session of the Scientific Committee (Secretariat)
IOTC-2012-WPNT02-04	Outcomes of the Fifteenth Session of the Commission (Secretariat)
IOTC-2012-WPNT02-05	Review of the statistical data available for the neritic tuna species (M. Herrera and L. Pierre — Secretariat)
IOTC-2012-WPNT02-06	Template for a resource Executive Summary (Secretariat)
IOTC-2012-WPNT02-07	Review of current Conservation and Management Measures relating to neritic tuna species (Secretariat)
IOTC-2012-WPNT02-25 Rev_1	Indian Ocean neritic tuna stock assessments (kawakawa and longtail): using surplus production models with effort: an observation error based approach (R. Sharma, M. Herrera and J. Million)

Fifteenth Session of the Scientific Committee

IOTC–2012–SC15–03	Outcomes of the Sixteenth Session of the Commission (Secretariat)
IOTC–2012–SC15–04	Previous decisions of the Commission (Secretariat)
IOTC–2012–SC15–05	Report of the secretariat – Activities in support of the IOTC science process in 2012 (Secretariat)
IOTC–2012–SC15–06	Status of development and implementation of National Plans of Action for seabirds and sharks (Secretariat)
IOTC–2012–SC15–07	Examination of the effects of piracy on fleet operations and subsequent catch and effort trends (Chair and Secretariat)
IOTC–2012–SC15–33	National Implementation of the regional observer scheme by CPCs (Secretariat)
IOTC–2012–SC15–34	Update on progress regarding Resolution 09/01 – on the performance review follow-up (Secretariat and Chair)
IOTC–2012–SC15–35	Proposed priorities for Working Party’s and the Scientific Committee for 2013 and 2014 (Chair & Secretariat)
IOTC–2012–SC15–36	Proposed schedule of Working Party and Scientific Committee meetings for 2013 and 2014 (Secretariat)
IOTC–2012–SC15–37	Revision: ‘Guidelines for the Presentation of Stock Assessment Models’ (Chair & Secretariat)
IOTC–2012–SC15–38	Pilot project to improve data collection for tuna, sharks and billfish from artisanal fisheries in the Indian Ocean. Part II: Revision of catch statistics for India, Indonesia and Sri Lanka (1950-2011). Assignment of species and gears to the total catch and issues on data quality (G. Moreno, M. Herrera and L. Pierre)
IOTC–2011–SC14–INF01	IOTC-OFCF Project activities in 2012: Progress Report
IOTC–2011–SC14–INF03	Glossary of scientific terms, acronyms and abbreviations, and report terminology

APPENDIX C

Update on the status of IOTC data for 2011

1. OVERVIEW

This document summarises the standing of a range of information received in accordance with IOTC resolutions and recommendations from its technical groups, in particular:

- IOTC Resolution 10/02: **Mandatory statistical requirements for IOTC Members and Cooperating Non-Contracting Parties (CPC's): Defines IOTC's data reporting procedures for IOTC SPECIES and non-target, associated and dependent species.**
- IOTC Resolution 05/05 Concerning the conservation of **SHARKS** caught in association with fisheries managed by IOTC
 - Paragraph 1: Contracting Parties, Cooperating non-Contracting Parties (CPCs) shall annually report data for catches of sharks, in accordance with IOTC data reporting procedures, including available historical data.
 - Paragraph 2: The ratio of fin-to-body weight of sharks shall be reviewed by the Scientific Committee and reported back to the Commission in 2006 for revision, if necessary.
- IOTC Resolution 12/09 On The Conservation Of **THRESHER SHARKS** (Family Alopiidae) Caught In Association With Fisheries In The IOTC Area Of Competence
 - Paragraph 8: The Contracting Parties, Co-operating non-Contracting Parties, especially those directing fishing activities for sharks, shall submit data for sharks, as required by IOTC data reporting procedures.
- IOTC Resolution 12/06 On reducing the incidental bycatch of **SEABIRDS** in longline fisheries
 - Paragraph 1: CPCs shall record data on seabird incidental bycatch by species, notably through scientific observers in accordance with Resolution 11/04 and report these annually. Observers shall to the extent possible take photographs of seabirds caught by fishing vessels and transmit them to national seabird experts or to the IOTC Secretariat, for confirmation of identification..
- IOTC Resolution 12/04 On The Conservation Of **MARINE TURTLES**
 - Paragraph 3: CPCs shall collect (including through logbooks and observer programs) and provide to the IOTC Secretariat no later than 30 June of the following year in accordance with Resolution 10/02 (or any subsequent revision), all data on their vessels' interactions with marine turtles. The data shall include the level of logbook or observer coverage and an estimation of total mortality of marine turtles incidentally caught in their fisheries.
- IOTC Resolution 11/04 On a Regional **OBSERVER SCHEME**
 - Paragraph 9: CPCs shall provide to the Executive Secretary and the Scientific Committee annually a report of the number of vessels monitored and the coverage achieved by gear type in accordance with the provisions of this Resolution.
 - Paragraph 11: ... The CPCs shall send within 150 days at the latest each report, as far as continuous flow of report from observer placed on the longline fleet is ensured, which is recommended to be provided with 1°x1° format to the Executive Secretary, who shall make the report available to the Scientific Committee upon request. ...

The document describes the progress achieved in relation to the collection and verification of data, identifies problem areas and proposes actions that could be undertaken to improve them.

The report covers the following areas:

- Overview
- Availability of IOTC statistics for 2011 (timeliness and completeness of data)

Major data categories covered by the report

Nominal catches which are highly aggregated statistics for each species estimated per fleet, gear and year for a large area. If these data are not reported the Secretariat estimates a total catch from a range of sources (including: partial catch and effort data; data in the FAO FishStat database; catches estimated by the IOTC from data collected through port sampling; data published through web pages or other means; and data reported by other parties on the activity of vessels (IOTC Resolution 10/07; IOTC Resolution 10/08; IOTC Resolution 05/03; IOTC Resolution 08/02), data collected through sampling at the landing place or at sea by scientific observers (IOTC Resolution 10/04) or on imports of bigeye tuna from vessels under the flag concerned (IOTC Resolution 01/06).

Catch-and-effort data which refer to the fine-scale data – usually from logbooks, and reported per fleet, year, gear, type of school, month, grid and species. Information on the use of fish aggregating devices (FADs) and supply vessels is also collected.

Length frequency data: individual body lengths of IOTC species per fleet, year, gear, type of school, month and 5 degrees square areas.

2. AVAILABILITY OF IOTC STATISTICS FOR 2011

Tables 2i-2v (below) list the fleets for which the Secretariat received or estimated catches for the year 2011. The fleets are listed according to the size of their most recent catches. The standing of the catch, effort, size frequency and craft statistics information received is indicated using colours. Timeliness of reporting and data source are also shown. The availability and standing of statistics for tropical tunas (2i), temperate tunas (2ii), billfish (2iii), neritic tunas (2iv) and sharks, seabirds and sea turtles (2v) are presented separately. The availability of statistics on fishing crafts operating for each fleet is also presented in a separate table (2vi). Brief comments on bycatch, discards and Fishing craft statistics and active vessels are made at the end of this section.

Timeliness and completeness of data

IOTC statistics were available for 21 fishing parties before the deadline of June 30 (cf. 19 in 2011). Partial statistics were provided in some cases. Requests were sent to over fifty countries⁵ in April 2012. Second and third requests were needed in most cases. Levels of reporting concerning statistics for the year 2011 were better than those recorded in 2010.

Table 1 shows the extent to which 2011 catch data was available in the IOTC Nominal Catches (NC) database by the deadline for data submission (30 June) and before the SC Meeting (November 2012)⁶. 62% of the catch was available by 30 June and 70% of the catch was available by November. The proportion of statistics available for 2010 is shown for comparison. Levels of reporting were higher in 2011, for all data types.

Late reports compromise the validation, verification and utility of data, especially when data are submitted close to or during Working Party meetings.

⁵ Note that specific requests were sent to EU countries having vessels known to operate in the IOTC Area (France, Portugal, Spain and the UK)

⁶ Note that the IOTC Secretariat uses alternative sources to estimate the catches of non-reporting fleets; the percentages in this section represent the proportion that the NC, CE or SF available before the deadline or the SC represent over the totals estimated by the Secretariat. The amount of catches not reported is further reduced as countries that did not report statistics in time provide the missing datasets.

Table 1. Proportion of the NC, CE and SF statistics available at the IOTC Secretariat compared to the total catches estimated for 2011 (as of 20th November 2012).

Statistics available for 2011	Estim. Catch	NC		CE		SF	
		BD	SC	BD	SC	BD	SC
IOTC species (x1,000t)	1511	934	1059	727	849	659	754
% Available for 2011		62	70	48	56	44	50
% Available for 2010		41	64	41	42	36	47
Tropical tunas (x1,000t)	792	533	632	471	570	475	566
Temperate tunas (x1,000t)	45	25	25	25	25	17	17
Billfish (x1,000t)	73	55	58	41	42	15	15
Neritic tunas (x1,000t)	601	322	344	189	212	152	156

Estim. Catch: Total catches estimated

NC: Amount of catch available










CE: Amount of catch for which catches and effort are available

SF: Amount of catch for which size frequency data are available

Available before the deadline for data submission (**BD**, 30th June) and at the time of the Working Party on Data Collection and Statistics Meeting (**WP**)

Table 2: Availability of IOTC statistics for the year 2011

Key Tables 2i - 2vi

Gear	Industrial purse seine (PS), industrial longline (LL) and artisanal gears (ART)	NC	Nominal Catch		Fully available
Catch	Recent catches amounting to (thousands of tonnes)	CE	Catch and Effort		Partially available
		SF	Size Frequency		Not available
TI	Timeliness		Good (before 1st July)		Fair (within July)
			Poor (after 1st August)		
		SO	Data Source		Statistics fully available from flag country
					Statistics partially available from flag country
					Statistics available from sources other than flag country

2i – Tropical tunas (YFT, BET, SKJ)

Gear	Fleet	Availability of statistics				TI	SO	Comments
		Catch	Sps	NC	CE			
P S	EUROPEAN COMMUNITY	172.9	SY					
	SEYCHELLES	63.2	SY					
	FRANCE-TERRITORIES	26.3	SY					
	JAPAN	3.2	SB					
	IRAN I R	2.3	SY					CE and SF not reported by IOTC grid
L L	MALAYSIA	0.3	S					
	CHINA	0.4	BY					
	TAIWAN, CHINA	33.1	BY					Less than 1 fish per metric ton measured on fresh-tuna longliners
	INDONESIA	31.2	BY					
	JAPAN	7.4	BY					Lengths reported for two bigeye tuna exclusively
	SEYCHELLES	5.7	BY					SF not reported for the deep-freezing longline component
	INDIA	5.2	BY					NC and CE not reported for all active vessels
	OMAN	4.8	YS					CE not reported by IOTC grid
	NEI-FRESH	3.6	YB					
	NEI-FROZEN	3.1	BY					
	EUROPEAN COMMUNITY	1.0	BY					EU-France: no data reported; EU-Spain: no CE data reported
	KOREA REP	0.4	YB					
	SOUTH AFRICA	0.4	BY					
	THAILAND	0.3	BY					
	PHILIPPINES	0.1	BY					All CE reported in a single grid, per month; SF available for BET only
	MADAGASCAR	0.1	BY					CE not reported by IOTC grid
	TANZANIA	0.1	YB					
	MALAYSIA	0.1	BY					Data refers to vessels based in Malaysia only; SF refers to YFT only
	AUSTRALIA	0.1	BY					
	MAURITIUS	0.0	BY					
BELIZE	0.0	BY					All CE/SF reported in a single grid, per month and vessel	
MOZAMBIQUE	0.0	YB					NC data provided through pers.comm. (foreign consultant)	
SIERRA LEONE							Activity of longline fleet discontinued at unknown time	
O t h e r f l e e t s	SRI LANKA	105.4	SY					Data not fully reported by gear and species
	MALDIVES	93.2	SY					
	INDONESIA	91.3	SY					
	IRAN I R	44.1	Y					CE not reported by month
	INDIA	41.6	SY					
	PAKISTAN	20.2	YS					SF not reported by IOTC grid
	YEMEN AR RP	13.7	YS					
	COMOROS	12.6	YS					NC/CE/SF under preparation (IOTC-OFCE Project)
	OMAN	2.0	YS					
	MADAGASCAR	1.5	SY					
	FRANCE-TERRITORIES	0.8	SY					
	KENYA	0.2	Y					NC/CE not by gear type
	TANZANIA	0.1	Y					
	MAURITIUS	0.1	YS					
	MALAYSIA	0.1	S					
	EUROPEAN COMMUNITY	0.1	Y					
	JORDAN	0.0	S					
	UK-TERRITORIES	0.0	Y					
	SOUTH AFRICA	0.0	Y					
	EAST TIMOR	0.0	Y					
AUSTRALIA	0.0	Y						
SEYCHELLES	0.0	Y						
MOZAMBIQUE	0.0	Y						

Sps Yellowfin tuna (Y), bigeye tuna (B) and skipjack tuna (S)
Gear Industrial purse seine (PS), industrial longline (LL) or other gears (pole-and-line; small purse seines, large and small gillnets, and small lines)
1 Freezing longliners whose catches are not reported by the flag states concerned
2 Fresh-tuna longliners whose catches are not reported by the flag states concerned

NOTE: Senegal (longline) and Thailand (purse seine) reported no activity in 2011

2ii – Temperate tunas (ALB, SBF)

Gear	Fleet	Availability of statistics					TI	SO	Comments
		Catch	Sps	NC	CE	SF			
P S	AUSTRALIA	3.9	S						
	EUROPEAN COMMUNITY	0.4	A						
	FRANCE-TERRITORIES	0.3	A						
	SEYCHELLES	0.0	A						
L L	INDONESIA	15.5	A						
	CHINA	1.4	A						
	TAIWAN,CHINA	12.2	A						Less than 1 fish per metric ton measured on fresh-tuna longliners
	JAPAN	3.8	AS						
	NEI-FRESH	2.3	A						
	KOREA REP	1.0	A						
	SEYCHELLES	0.5	A						
	EUROPEAN COMMUNITY	0.5	A						EU-France: no data reported; EU-Spain: no CE data reported
	NEI-FROZEN	0.5	A						
	TANZANIA	0.3	A						
	THAILAND	0.3	A						
	INDIA	0.2	A						NC and CE not reported for all active vessels
	BELIZE	0.2	A						All CE/SF reported in a single grid, per month and vessel
	MADAGASCAR	0.1	A						CE not reported by IOTC grid
	SOUTH AFRICA	0.1	AS						
	MOZAMBIQUE	0.0	A						NC data provided through pers. comm. (foreign consultant)
	MAURITIUS	0.0	A						
	PHILIPPINES	0.0	A						All CE reported in a single grid, per month
AUSTRALIA	0.0	A							
MALAYSIA	0.0	A						NC/CE refers to vessels based in Malaysia only	
O T H	INDONESIA	1.2	A						
	MAURITIUS	0.1	A						
	SOUTH AFRICA	0.0	A						
	EUROPEAN COMMUNITY	0.0	A						
	AUSTRALIA	0.0	S						

Sps Southern bluefin tuna (S) and albacore (A)
Gear Industrial purse seine (PS), industrial longline (LL) or other gears (OTH: pole-and-line; small purse seines, large and small gillnets, and small lines)
1 Freezing longliners whose catches are not reported by the flag states concerned
2 Fresh-tuna longliners whose catches are not reported by the flag states concerned

NOTE: Vanuatu (longline) reported no activity in 2011

2iii – Billfish (SWO, MARL, SFA, SSP)

Gear	Fleet	Availability of statistics					TI	SO	Comments
		Catch	Sps	NC	CE	SF			
L L	CHINA	0.2	S						
	TAIWAN,CHINA	8.0	SM						Less than 1 fish per metric ton measured on fresh-tuna longliners
	EUROPEAN COMMUNITY	6.0	S						EU-France: reported SF-SWO only; EU-Spain: CE/SF only for SWO
	INDONESIA	5.2	SM						
	INDIA	1.5	SM						NC and CE not reported for all active vessels
	JAPAN	1.1	SM						
	TANZANIA	1.0	SM						
	SEYCHELLES	0.9	SM						SF not reported for the deep-freezing longline component
	NEI-FRESH	0.6	SM						
	NEI-FROZEN	0.6	SM						
	SOUTH AFRICA	0.4	SM						
	OMAN	0.4	M						CE not reported by IOTC grid
	MOZAMBIQUE	0.3	S						NC data provided through pers. comm. (foreign consultant)
	AUSTRALIA	0.2	S						
	MADAGASCAR	0.1	S						CE not reported by IOTC grid
	THAILAND	0.1	S						
	MAURITIUS	0.1	S						SF refers only to swordfish
	KOREA REP	0.1	S						
	PHILIPPINES	0.1	S						All CE reported in a single grid, per month
	BELIZE	0.0	S						CE reported in a single grid by vessel & month; SF refers only to SWO
MALAYSIA	0.0	S						All marlins reported aggregated	
O t h e r f l e e t s	SRI LANKA	14.1	FS						Data not fully reported by gear and species
	INDIA	10.0	F						
	IRAN I R	8.9	F						NC/CE not by species
	INDONESIA	4.1	FM						
	PAKISTAN	3.5	F						Marlins reported aggregated
	OMAN	1.8	F						NC Aggregated
	TANZANIA	1.3	M						
	MADAGASCAR	0.8	F						
	COMOROS	0.6	F						NC/CE/SF under preparation (IOTC-OFCF Project)
	UN ARAB EMIRATES	0.5	M						
	YEMEN AR RP	0.3	F						
	KENYA	0.1	F						NC/CE not by gear type
	EUROPEAN COMMUNITY	0.0	M						
	FRANCE-TERRITORIES	0.0	M						
	UK-TERRITORIES	0.0	F						
SAUDI ARABIA	0.0	F							
SEYCHELLES	0.0	F							
MOZAMBIQUE	0.0								

Sps Swordfish (S), blue marlin and/or black marlin and/or striped marlin (M), Indo-Pacific sailfish (F) and short-billed spearfish (P)
Gear Industrial purse seine (PS), industrial longline (LL) or other gears (pole-and-line; small purse seines, large and small gillnets, and small lines)
1 Freezing longliners whose catches are not reported by the flag states concerned
2 Fresh-tuna longliners whose catches are not reported by the flag states concerned

NOTE: Vanuatu (longline) reported no activity in 2011

2iv – Neritic tunas (FRZ, LOT, KAW, COM, GUT)

Gear	Fleet	Availability of statistics					TI	SO	Comments
		Catch	Sps	NC	CE	SF			
P S	IRAN I R	2.3	L						CE and SF not reported by IOTC grid
	AUSTRALIA	0.4	X						NC/CE not by species
	EUROPEAN COMMUNITY	0.0	F						Statistics incomplete; refers mostly to discards
	SEYCHELLES	0.0	F						Statistics incomplete; refers mostly to discards
O t h e r f l e e t s	IRAN I R	125.6	L						CE not reported by month
	INDONESIA	201.5	KL						
	INDIA	107.9	CK						
	MALAYSIA	26.4	LK						
	PAKISTAN	24.3	LC						SF not reported by IOTC grid
	THAILAND	19.7	KL						
	OMAN	18.3	LC						
	SRI LANKA	14.4	FC						Data not fully reported by gear and species
	MYANMAR	12.9	X						
	YEMEN AR RP	11.2	X						
	UN ARAB EMIRATES	10.2	KL						
	SAUDI ARABIA	7.0	CK						
	MADAGASCAR	6.0	CK						
	MALDIVES	4.1	KF						
	BANGLADESH	2.4	X						
	QATAR	2.1	C						
	TANZANIA	1.2	X						
	COMOROS	1.1	X						NC/CE/SF under preparation (IOTC-OFCE Project)
	EGYPT	0.6	CK						
	ERITREA	0.4	C						
	KENYA	0.3	CK						NC/CE not by gear type
	AUSTRALIA	0.3	C						
	KUWAIT	0.1	C						
DJIBOUTI	0.1	X							
SEYCHELLES	0.1	K							
JORDAN	0.1	K							
BAHRAIN	0.0	C							
SUDAN	0.0	C							
EUROPEAN COMMUNITY	0.0								
MAURITIUS	0.0								
UK-TERRITORIES	0.0								
MOZAMBIQUE	0.0								

Sps Longtail tuna (L), frigate tuna and/or bullet tuna (F), kawakawa (K), narrow-barred Spanish mackerel (C), Indo-Pacific king mackerel (G), Seerfish(X)
Gear Industrial purse seine (PS), industrial longline (LL) or other gears (pole-and-line; small purse seines, large and small gillnets, and small lines)
1 Freezing longliners whose catches are not reported by the flag states concerned
2 Fresh-tuna longliners whose catches are not reported by the flag states concerned

NOTE: Thailand (purse seine) reported no activity in 2011

2v – Sharks seabirds and sea turtles





Gear	Fleet	Species					Comments	
		Sharks			Sea Birds	Marine Turtles		
		NC	CE	SF				
P S	EUROPEAN COMMUNITY				n/a		Catches of sharks and sea turtles as reported by observers (not raised)	
	SEYCHELLES				n/a			
	IRAN I R				n/a			
	AUSTRALIA				n/a			
	FRANCE-TERRITORIES				n/a			
	JAPAN				n/a			
	MALAYSIA				n/a			
L L	EUROPEAN COMMUNITY						EU-France: no data reported; EU-Spain: no CE/SF data reported	
	CHINA							
	TAIWAN, CHINA							
	INDONESIA							
	TANZANIA							
	JAPAN							
	OMAN							NC/CE not reported by species
	SOUTH AFRICA							
	INDIA							NC and CE not reported for all active vessels
	SEYCHELLES							
	MOZAMBIQUE							
	KOREA REP							
	MADAGASCAR							CE not reported by IOTC grid
	PHILIPPINES							All CE reported in a single grid, per month
	BELIZE							CE not reported by IOTC standard
	AUSTRALIA							
	MALAYSIA							NC/CE aggregated by species
	MAURITIUS							
	MOZAMBIQUE							
	SIERRA LEONE							
NEI-FROZEN ¹								
NEI-FRESH ²								
O t h e r O f f s h o r e & C o a s t a l	INDONESIA				n/a		No data reported for coastal fisheries NC/CE not by species	
	SRI LANKA				n/a			
	OMAN				n/a			
	MADAGASCAR				n/a			
	YEMEN AR RP				n/a			
	PAKISTAN				n/a			NC Not by species
	BANGLADESH				n/a			
	UN ARAB EMIRATES				n/a			
	TANZANIA				n/a			
	MALAYSIA				n/a			NC/CE Not by species
	SAUDI ARABIA				n/a			
	ERITREA				n/a			
	COMOROS				n/a			Under preparation (IOTC-OFCE Project)
	MALDIVES				n/a			Maldives banned catches of sharks in 2010
	SUDAN				n/a			
	EGYPT				n/a			
	SEYCHELLES				n/a			NC/CE Not by species
	FRANCE-TERRITORIES				n/a			
	EUROPEAN COMMUNITY				n/a			
	MAURITIUS				n/a			NC/CE Not by species
	AUSTRALIA				n/a			
	UK-TERRITORIES				n/a			NC aggregated by species
	ERITREA				n/a			
	JORDAN				n/a			
	IRAN I R				n/a			
	BAHRAIN				n/a			
	DJIBOUTI				n/a			
	SUDAN				n/a			
	KUWAIT				n/a			
	SOUTH AFRICA				n/a			
	EAST TIMOR				n/a			
	INDIA				n/a			
KENYA				n/a				















































































Catches of seabirds are not likely to occur (n/a) or may occur (?)

1 Freezing longliners whose catches are not reported by the flag states concerned

2 Fresh-tuna longliners whose catches are not reported by the flag states concerned

2vi – Fishing craft statistics and list of active vessels

Gear	Industrial purse seine (PS), industrial longline (LL) and artisanal gears (ART)	Availability		Fully available
Catch	Recent catches amounting to (thousands of tonnes)			Partially available
Craft	Number of craft operated (2006) (blank if unknown)	SO		Statistics fully available from flag country
FC	Fishing craft			Statistics available from sources other than flag country
AV	List of active vessels			

Gear	Fleet	Availability				SO	Comments
		Catch	Craft	FC	AV		
P S	EUROPEAN COMMUNITY	173.2	23				
	SEYCHELLES	63.2	8				
	FRANCE-TERRITORIES	26.6	5				
	IRAN I R	4.6	7				
	AUSTRALIA	4.3	7				
	JAPAN	3.2	1				
	MALAYSIA	0.3	1				
	SUPPLY VESSELS-NEI		9				Reported by flag countries and/or third parties
L L	CHINA	2.2	15				
	TAIWAN,CHINA	56.3	447				
	INDONESIA	54.4	1,174				
	JAPAN	13.2	68				
	EUROPEAN COMMUNITY	12.8	22				
	SEYCHELLES	7.5	28				
	INDIA	7.2	55				
	NEI-FRESH	6.6	19				
	OMAN	5.9	52				
	NEI-FROZEN	4.6	22				
	TANZANIA	2.4	3				
	KOREA REP	1.8	7				
	SOUTH AFRICA	1.5	15				
	THAILAND	0.6	2				
	MOZAMBIQUE	0.5	1				
	MADAGASCAR	0.3	4				
	AUSTRALIA	0.3	2				
	PHILIPPINES	0.2	2				
BELIZE	0.2	7					
MAURITIUS	0.1	4					
MALAYSIA	0.1	9					
O t h e r O f f s h o r e & C o a s t a l	INDONESIA	319.0			n/a		
	IRAN I R	178.5	6,468				
	INDIA	159.5			n/a		
	SRI LANKA	140.3					Some vessels are known to operate outside of the EEZ
	MALDIVES	97.3					Some vessels are known to operate outside of the EEZ
	PAKISTAN	52.6	3,126				Some vessels are known to operate outside of the EEZ
	YEMEN AR RP	30.8			n/a		
	MALAYSIA	27.6			n/a		
	OMAN	22.1	14,424		n/a		
	THAILAND	19.7	925		n/a		
	COMOROS	14.5			n/a		Under preparation (IOTC-OFCF Project)
	MADAGASCAR	14.0			n/a		
	MYANMAR	12.9			n/a		
	UN ARAB EMIRATES	12.1			n/a		
	SAUDI ARABIA	7.8			n/a		
	BANGLADESH	6.4			n/a		
	TANZANIA	4.1			n/a		
	QATAR	2.1			n/a		
	FRANCE-TERRITORIES	0.8			n/a		
	ERITREA	0.7			n/a		
EGYPT	0.6			n/a			
KENYA	0.6	155		n/a			
AUSTRALIA	0.3	38		n/a			
MAURITIUS	0.2			n/a			
EUROPEAN COMMUNITY	0.1			n/a			
KUWAIT	0.1			n/a			
SUDAN	0.1			n/a			
JORDAN	0.1			n/a			
SEYCHELLES	0.1			n/a			
DJIBOUTI	0.1			n/a			
SOUTH AFRICA	0.1			n/a			
BAHRAIN	0.0			n/a			
UK-TERRITORIES	0.0	47		n/a			
EAST TIMOR	0.0			n/a			

- 1 Freezing longliners whose catches are not reported by the flag states concerned
- 2 Fresh-tuna longliners whose catches are not reported by the flag states concerned

FADs and supply vessels: EU-Spain provided information on the amount of Fish Aggregating Devices (FADs) set by purse seiners under its flag, by type and quarter, for 2010, and 2011. In addition, EU-Spain provided information on the activity of supply vessels for 2009-11. EU-France provided total numbers of FADs set by purse seiners under its flag for the years 2008, and 2009-11. EU-France also indicated that it has not had supply vessels in operation in recent years. Australia indicated that purse seiners under its flag do not set FADs or use other vessels in support of fishing activities. No data was received for other fleets on FADs (France OT, Seychelles, Japan, Iran), or activities of supply vessels (Seychelles, Japan).

By-catch levels: Australia and South Africa provided estimates of total bycatch levels for their fisheries for 2011, including bycatch levels for sharks, seabirds and marine turtles. In spite of the better reporting levels recorded for bycatch data during 2012, few statistics are still available for sharks, seabirds and sea turtles (Table 2v) (and other non-IOTC species caught by fleets targeting tunas and/or tuna-like species); for this reason, the quality of the data available is still poor. The statistics are seldom available by species and refer usually to the shark carcasses that are retained on board, not including the amounts of sharks that are discarded. Almost no historical data are available for other shark products, such as shark fins.

Discard levels: Table 2vii presents the information available for discards for the year 2011. Discard levels are only available for the Republic of Korea, Australia, South Africa, EU-France, France-OT (nil discards), Sri Lanka (nil discards) and the UK (nil discards) in 2011. Discard rates are believed to be high for fisheries using longlines and oceanic gillnets (Iran, Pakistan) and moderate for purse seine sets on associated schools (mainly with FADs).

2vii – Discards

Fleet	Units	Catch
EU-France PS		nil
France-OT PS		nil
Australia-LL	# Fish	ALB 8; BET 506; BUM 1 KGX 243; SSP 1 ; SBF 7; MLS 2; SWO 122; YFT 10; SKH: 13661
UK-OT (Chagos)		nil
Korea Rep LL	# Fish	ALB 1107; SBF 682; YFT 15; SKH 193
Sri Lanka		nil
South Africa (Japan chartered vessels)	# fish	DKK 2; TTL 4; DCR 9; DCU 12; DIC 4; DIM 5; PRO 174; TQH 50

Fishing craft statistics and active vessels (2vi): The number of vessels fishing for IOTC species in the Indian Ocean is thought to be more accurate in recent years thanks to the information collected after the implementation of IOTC Resolutions that call for countries to report yearly lists of domestic and foreign fishing vessels, information collected through the IOTC Transshipment Programme and market data provided by the International Seafood Sustainability Foundation (ISSF). Fishing craft statistics are generally available for industrial fleets whose catches are available. Craft statistics are not available, incomplete or inaccurate for many artisanal fleets. The number of non-reporting vessels operating in the Indian Ocean was re-estimated this year from new information collected through the IOTC Sampling Programs and new vessel records.