



Report of the Eighth Session of the IOTC Working Party on Data Collection and Statistics

Mahé, Seychelles, 8–10 December 2011

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EXECUTIVE SUMMARY

The Eighth Session of the Indian Ocean Tuna Commission's (IOTC) Working Party on Data Collection and Statistics (WPDCS) was held in Victoria, Mahé, Seychelles, from 8 to 10 December 2011. A total of 21 participants attended the Session.

The following are a subset of the complete recommendations from the WPDCS08 to the Scientific Committee, which are provided at [Appendix IV](#).

IOTC Observer Trip Report Template

The WPDCS **AGREED** in principle, that from a technical point of view the existing standards for the collection and reporting of data by observers are appropriate, and **RECOMMENDED** that the Scientific Committee considers endorsing the data requirements of the observer trip report template with the amendments recommended in [paragraphs 17 to 24](#). ([para. 25](#))

Review of IOTC Minimum Requirements for Operational Catch and Effort Data (Logbook Templates)

Noting the Commission's request to evaluate the data provision needs for longline, purse seine, gillnet and pole-and-line gear types, notably regarding information relating to the vessel characteristics and the definition of the pole-and-line 'fishing event', which was requested in order to ensure that consistent and uniform information is collected to assist the IOTC to fulfil its mandate, the WPDCS **RECOMMENDED** that Recommendation 11/06 be modified to include the elements as provided in [Appendix VI](#), noting that the lists of species to be recorded, as detailed in section 2.3 of Annex II, should be modified to reflect recommendations arising from the species working parties and agreed to by the Scientific Committee. ([para. 43](#))

The WPDCS **RECOMMENDED** that the minimum recording requirements for handline and trolling provided in Appendix VI be incorporated into the revised proposal for minimum recording requirements as detailed in [para. 43](#). ([para. 46](#))

Election of a Vice-Chair of the WPDCS for the next biennium

The WPDCS **RECOMMENDED** that the Scientific Committee note the new Vice-Chair, Dr. Pierre Chavance (European Union), of the WPDCS for the next *biennium* ([para. 63](#))

1. OPENING OF THE MEETING

1. The Eighth Session of the Indian Ocean Tuna Commission's (IOTC) Working Party on Data Collection and Statistics (WPDCS) was held in Victoria, Mahé, Seychelles, from 8 to 10 December 2011. A total of 21 participants attended the Session. The WPDCS expressed **CONCERN** at the low number of scientists from developing coastal states in attendance at the meeting (Maldives, Thailand), despite the existence of the Meeting Participation Fund (IOTC Resolution10/05). The list of participants is provided at [Appendix I](#).
2. The meeting was opened on 8 December, 2011 by the Chair, Mr. Miguel Herrera, who subsequently welcomed participants to the Seychelles. The Chair notified participants that as there was no current Vice-Chair for the WPDCS, they would need to consider, and then elect a Vice-Chair at the end of the meeting.

2. ADOPTION OF THE AGENDA

3. The WPDCS **ADOPTED** the Agenda provided at [Appendix II](#). The documents presented to the WPDCS are listed in [Appendix III](#).

3. OUTCOMES OF THE THIRTEENTH SESSION OF THE SCIENTIFIC COMMITTEE AND THE FIFTEENTH SESSION OF THE COMMISSION

4. The WPDCS **NOTED** paper IOTC–2011–WPDCS08–03 which outlined the main outcomes of the Thirteenth Session of the Scientific Committee, and the Fifteenth Session of the Commission, specifically related to the work of the WPDCS.
5. The WPDCS **NOTED** the recommendations of the Thirteenth Session of the Scientific Committee on data collection and statistics and on the regional observer scheme and agreed to consider how best to progress these issues at the present meeting.
6. The WPDCS **NOTED** the outcomes of the Fifteenth Session of the Commission, in particular those listed below, and agreed to consider how best to provide the Scientific Committee with the information it needs in order to satisfy the Commission's requests, throughout the course of the meeting:
 - The Commission **noted** some minor improvements in the quantity of fisheries statistics available in 2010 but reiterated its concerns about the lack of fisheries data from some gears and fleets for target and bycatch species. Specifically, the Commission **noted** that many fisheries statistics are missing or incomplete for some industrial and artisanal fisheries, and **urged** all CPCs to improve their data collection and reporting to the IOTC, especially taking into account that the Commission has started the process of developing a quota allocation system. (para. 15 of the S15 report)
 - The Commission expressed concern that data and statistics for gillnet fisheries are still poor, while those fisheries are catching approximately 14% of the total catch in the Indian Ocean. The Commission **noted** that these fisheries are also believed to have substantial impacts on bycatch species and associated ecosystems. (para. 33 of the S15 report)
 - The Commission **reminded** CPCs of the importance of timely reporting of data and **requests** that each CPC review the data reporting requirements contained in IOTC Conservation and Management Measures. (para. 34 of the S15 report)
 - The Commission **requests** that all CPCs improve compliance with the various statistical reporting requirements and deadlines in order for the necessary analyses and assessments to be completed, on which the advice of the Scientific Committee will be based. (para. 35 of the S15 report)
 - The Commission **requests** the Scientific Committee in its 2011 Session, to evaluate the data provision needs for longline, purse seine, gillnet and pole-and-line gear types, notably regarding information relating to the vessel characteristics and the definition of the pole-and-line 'fishing event'. The evaluation is requested in order to ensure that consistent and uniform information is collected to assist the IOTC to fulfil its mandate. The Scientific Committee should make appropriate recommendations to the 2012 Commission meeting. (para. 45 of the S15 report)

4. PROGRESS ON THE RECOMMENDATIONS OF THE WPDCS07

7. The WPDCS **NOTED** paper IOTC–2011–WPDCS08–04 which provided an update on the progress made in implementing the recommendations from the previous WPDCS meeting, and provided

alternative recommendations taking into account progress made, for the consideration and potential endorsement by participants.

8. The WPDCS **AGREED** to a set of revised recommendations that are provided throughout this report and in the consolidated list of recommendations ([Appendix IV](#)), for the consideration of the Scientific Committee.

5. REVIEW OF CURRENT CONSERVATION AND MANAGEMENT MEASURES

9. The WPDCS **NOTED** paper IOTC–2011–WPDCS09–05 which aimed to encourage the WPDCS to review the existing Conservation and Management Measures (CMMs) on data collection and statistics, and as necessary to 1) provide recommendations to the Scientific Committee on whether modifications may be required; and 2) recommend whether other CMMs may be required.
10. The WPDCS **AGREED** that this was a useful document prepared by the IOTC Secretariat and encouraged it to be produced for future meetings.

6. REVIEW OF THE IOTC OBSERVER TRIP REPORT TEMPLATE

11. Noting the recommendation from the Scientific Committee in 2010, the WPDCS discussed collection and reporting by observers of the data items below:
 - Information on the type and numbers of branch lines and wire leaders used (longline)
 - Information on the number and type of electronic equipment used on board
 - Area resolution (1 degree square at present)
 - Information on the state of the sea and weather conditions
 - Information on depredation
 - Information on lost fishing gear
 - Information on the number of hooks used by type and size.
12. Noting the difficulties that some observers may have in collecting and reporting of the data items that are requested in the observer trip report template (seven items listed in [para. 11](#)), and further noting that collecting this information may compromise access to other basic data on board longline vessels, the WPDCS **RECOMMENDED** that the Scientific Committee considers requesting that the Commission allow for some flexibility in the collection and reporting of these data, until such a time where the CPCs concerned are in a position to collect and provide this information.
13. The WPDCS **AGREED** that it would be preferable to establish a deadline from which the collection and reporting of this information will become compulsory.

Other requirements

14. The WPDCS **NOTED** that IRD (France) are nearing the completion of an open-source observer database for their purse seine fleet and are presently expanding it to accommodate longline fisheries data and requested that IRD provide an update and demonstration of the database at the next WPDCS meeting.
15. The WPDCS **NOTED** that SWIOFP is also developing a database for observer data and requested that SWIOFP provide an update and demonstration of the database at the next WPDCS meeting.
16. The WPDCS **AGREED** that it would be useful for IRD to pass the database framework to the IOTC Secretariat for potential use in developing a future database for IOTC observer data.
17. Noting that some countries in the Indian Ocean region, and others globally, have implemented a ban on the use of wire leaders based on research studies conducted, to mitigate catches of sharks, the WPDCS **RECALLED** the provisions of Resolution 05/05 (paragraph 8 “*CPCs shall, where possible, undertake research to identify ways to make fishing gears more selective (such as the implications of avoiding the use of wire traces)*”) that other CPCs should conduct similar research on their longline fleets.
18. Noting that the use of monofilament leaders may allow sharks to escape by biting through the line (removing the hook), in contrast to wire leaders which are not prone to ‘bite-off’, the WPDCS **RECOMMENDED** that, where possible for fleets that have not already prohibited the use of wire leaders, the number of ‘bite-off’ per leader type is added to the longline hauling information recorded by the observer (currently in the IOTC observer form FORM 4-LL – Fishing Event Longline).

19. Noting that the current observer trip reporting template includes summaries of catch and bycatch by 1° square as required in Resolution 11/04, and that there is no summary of the effort exerted during the trip at the same scale, the WPDCS **RECOMMENDED** that a new table is added to the observer trip reporting template that would ensure effort during the trip is recorded, as follows:

Year	Month	Square (1°x1°)	Effort deployed
			<i>Longline: number of hooks deployed</i> <i>Purse seine on free-schools: number of fishing sets</i> <i>Purse seine on associated schools: number of fishing sets, and number of new FADs deployed</i> <i>Gillnet: number of panels deployed</i> <i>Pole-and-line: number of fishing days</i> <i>Handline: number of fishing days</i> <i>Troll-line: number of fishing days</i>

20. The WPDCS **NOTED** that if detailed set by set information is submitted to the IOTC Secretariat as part of the observer trip report, effort, catch and bycatch summary tables should not be filled.
21. The WPDCS **RECOMMENDED** that the observer trip report is submitted in an electronic format, where possible, noting that the forms/tables in the observer trip report template are for illustrative purposes and that the complete information required could be reported in an different format.
22. The WPDCS **NOTED** that if effort is summarize by set type for the purse seine fishery, the catch and bycatch data could also be reported by set type, i.e. free or associated school.
23. Noting that at present, the observer reporting template includes obligatory reporting of information concerning waste management on board the fishing vessel (MARPOL), the WPDCS **RECOMMENDED** that the reporting of this information be made optional, as most fishing vessels are already bound by this international regulation.
24. Noting that the reporting of transshipment events have to be reported through the IOTC Transshipment Programme, and that the IOTC Transshipment Programme applies only where transshipments involve a fishing vessel with LOA 24 m or greater and carrier vessels, pointing out that transshipments between fishing vessels, in particular, fresh-tuna longliners, are very common, the WPDCS **AGREED** that in order to avoid duplication, observers under the IOTC Regional Observer Scheme can refrain from reporting Transshipments when those events are recorded by observers under the IOTC Transshipment Programme, **RECOMMENDING** that the Scientific Committee considers incorporating this exception in the observer report.
25. The WPDCS **AGREED** in principle, that from a technical point of view the existing standards for the collection and reporting of data by observers are appropriate, and **RECOMMENDED** that the Scientific Committee considers endorsing the data requirements of the observer trip report template with the amendments recommended in [paragraphs 17 to 24](#).
26. The WPDCS **RECOMMENDED** that the IOTC Secretariat makes an evaluation of the costs associated with data management of the observer data (e.g. development and maintenance of a database, data entry etc.).

7. PROGRESS REPORT OF THE SECRETARIAT ON DATA RELATED ISSUES

27. The WPDCS **NOTED** paper IOTC–2011–WPDCS08–06 which provided a summary of the standing of a range of information received in accordance with IOTC resolutions and recommendations from its technical groups.
28. The WPDCS expressed **CONCERN** at the status of the datasets available at the IOTC Secretariat for some of the important fleets that operate in the Indian Ocean, in particular, but not limited to:
- Uncertain estimates of total catch for the commercial longline fishery of India; driftnet fishery of Pakistan; handline fishery of Yemen; and coastal and longline fisheries of Madagascar.
 - Catches not reported by gear: gillnet and longline fishery of Sri Lanka.
 - Catches not reported by species: requirement to re-estimate the bigeye tuna catch for the pole-and-line fishery; uncertain catches of bigeye tuna for the driftnet fishery in the I.R. Iran; and uncertain catches of tropical tunas for the coastal fishery of India; and coastal fisheries of Indonesia, in particular those operating around anchored FADs (Rumpons).

- Very poor reporting of data on the level of discards of tuna and tuna-like species, and incidentally caught species, across all fisheries and time periods.
- Insufficient implementation of minimum requirements for operational catch-and-effort data, which compromise reporting of catch-and-effort statistics to the IOTC: longline fisheries of Indonesia, India, and Malaysia; driftnet fisheries of I.R. Iran and Pakistan; gillnet and longline fishery of Sri Lanka; and pole-and-line fishery of the Maldives.
- Poor reporting of catch-and-effort data, especially for neritic tuna species: all coastal fisheries, in particular those operating in India and Indonesia.
- Lack of size frequency data from many coastal fisheries, in particular those operating in Yemen, Indonesia, and India.
- Lack of size frequency data from the longline fishery of India; and the driftnet fishery of Pakistan.
- Size data not by the IOTC standards for the driftnet fishery of I.R. Iran and the gillnet and longline fishery of Sri Lanka.
- Very poor reporting on the activities of observers under the IOTC regional observer programme.

29. Noting that the above fisheries catch a substantial quantity of IOTC species, the WPDCS **URGED** all of the CPCs listed to address the issues identified, and to report progress made at the next WPDCS. In this regard, the WPDCS **ENDORSED** the proposal from the IOTC Secretariat to undertake the actions to address the issues for each fishery, as provided in [Appendix V](#).

Availability of IOTC statistics for 2010

30. The WPDCS **NOTED** the information presented on the status of reporting of data for the year 2010, a summary of which is reproduced in [Table 1](#). The WPDCS expressed **CONCERN** at the quantity of catch that the IOTC Secretariat has to estimate before each of the IOTC working party meetings, noting that these estimates would not be required if data were reported on time by all CPCs. In this regard, the WPDCS urged all CPCs having fisheries in the Indian Ocean to make the necessary arrangements so that data are reported before the deadline for data submission (30 June each year).

Table 1. Levels of reporting of nominal catches (NC), catch-and-effort (CE), and size frequency statistics (SF) at the IOTC Secretariat for the year 2010, compared with those estimated in 2009, by the deadline of data reporting (BD: 30 June) and by the time of the WPDCS meeting (WP) are presented.

Statistics available for 2010	Estim. Catch	NC		CE		SF	
		BD	WP	BD	WP	BD	WP
IOTC species (x1,000t)	1,405	827	508	828	822	901	750
% Estimated/not available for 2010		59	36	59	58	64	53
% Estimated/not available for 2009		57	34	59	52	63	61
Tropical tunas (x1,000t)	786	411	154	411	406	420	270
Temperate tunas (x1,000t)	50	22	22	22	22	29	29
Billfish (x1,000t)	63	36	14	36	34	46	46
Neritic tunas (x1,000t)	505	358	318	358	358	404	404

Nominal catch: Levels of NC that the IOTC Secretariat had to estimate for the year 2010, due to the late reporting of statistics by some parties. Catch-and-effort and size frequency data: Levels of catch for which CE and SF data were not available for the year 2010, due to the late reporting of statistics by some parties. Estim. Catch = Total catches estimated for the year 2010

Discrepancy in the size frequency data available from Japan and Taiwan, China for major IOTC species (yellowfin tuna, bigeye tuna, albacore, swordfish)

31. Noting the information presented by the IOTC Secretariat on the conflicting estimates of average weight derived from operational catch and size frequency datasets for the longline fisheries of Japan and Taiwan, China over their time series, and the concerning effect that the problems identified may have on the assessments of tuna and billfish species, the WPDCS **RECOMMENDED** that Japan and Taiwan, China work with the IOTC Secretariat in order to clarify these issues, and report on their findings at the next meeting of the WPDCS and any other relevant working party meetings (e.g. WPB, WPTmT and the WPTT).
32. The WPDCS further **NOTED** the comments from participants on the likely reasons for the difference in the average weights derived from catch-and-effort and size frequency datasets from longliners

flagged in Taiwan,China in recent years, which are due to the inconsistent reporting of weight information, with reporting of processed weights instead of round weights in the logbooks and catch-and-effort data reported to the Secretariat. The discrepancies identified for previous years also need to be further investigated.

8. UPDATE ON NATIONAL STATISTICS SYSTEMS

8.1 Updates to be provided by participants

33. The WPDCS **NOTED** the status of implementation of IOTC minimum requirements for operational data, as provided in [Table 2](#), and requested the IOTC Secretariat follow-up on the implementation of logbook programmes by CPCs, including levels of logbook coverage, and for an update to be presented at the next meeting of the WPDCS.

Table 2. Status of implementation of IOTC Minimum requirements for operational data.

Country	Fleet	No of Boat (2010)	Logbook Availability	Type of Report. System	Compliance with IOTC requirement	Remarks
Australia	Longline	4	Yes	Elect.	Yes	
	Purse seine	9	Yes	Elect.	Yes	
Belize	Longline	5				
China	Longline	20	Yes	Man.		
Taiwan,China	Longline	562	Yes	Man.	Yes	
Comoros						No fleet
Eritrea						No information
European Union	Longline	47	Yes	Man.	Yes	
	Purse seine	21	Yes	Elect.	Yes	
France (OT)	Purse seine	5	Yes	Man.	Yes	
Guinea	Longline	3		Unk.	Unk.	
India	Longline	53		Unk.	Unk.	
	Baitboat	7		Unk.	Unk.	
Indonesia	Longline	996	Yes	Man.	No	
I.R. Iran	Purse seine	8	Yes	Man.	No	
	Gillnet	863	Yes	Man.	n.a.	
Japan	Longline	83	Yes	Man.	Yes	
	Purse seine	1	Yes	Man.	Yes	
Kenya	Longline	1	Yes	Man.	No	
Korea, Rep of	Longline	13	Yes	Man.	Yes	
Madagascar	Longline	3	Unk.	Unk.	Unk.	
Malaysia	Longline	41	No	Man.	No	
	Purse seine	1	No	Man.	No	
Maldives, Rep. of	Baitboat	459	Yes	Man.	n.a.	
Mauritius	Longline	4	Yes	Man.	Yes	
Oman, Sultanate of	Longline	48	Yes	Man.	No	
Pakistan	Gillnet	10	No	Man.	n.a.	
Philippines	Longline	7	Unk.	Man.	Unk.	
Seychelles	Longline	35	Yes	Man.	No	Sharks not by species
	Purse seine	9	Yes	Man.	Yes	
Sierra Leone						No information
Sri Lanka	Gillnet/longline	3,346	Yes	Man.	No	
Sudan						No information
Tanzania, United Rep. of	Longline	3	Unk.	Man.	Unk.	
Thailand	Longline	2	Yes	Man.	Unk.	To be provided
	Purse seine	4	Yes	Man.	Yes	No activity in 2011
United Kingdom (OT)						No fleet
Vanuatu	Longline	4	Unk.	Unk.	Unk.	

Mozambique*						No information
Senegal*	Longline	3				No activity since 2007
South Africa*	Longline	23	Yes	Man.	Yes	

No of Boat (2010): Number of boats active (or authorized where number of active vessels is not available) in 2010; Type of Reporting System: Electronic logbook (Elect.); Manual reporting (Man.); Unknown (Unk.). *Cooperating non-contracting party. n.a. Not applicable as currently there are no minimum requirements.

Thailand

34. The WPDCS **NOTED** paper IOTC–2011–WPDCS08–08 which provided an overview of foreign tuna fleets unloading in Phuket, Thailand during 1995–2010, including the following abstract provided by the authors:

*“Both of unloaded tuna from longline and purse seine fisheries were examined in term of effort, catch and value, species composition, landing production categorized by flag countries, size of fish as well as the relevance information and activity of port sampling and sampling size. The objective of this study is to follow up the data on tuna fisheries in the Indian Ocean, thus the available data at first from the beginning of tuna longliners unloading in Phuket until the year of 2010 and the data of tuna purse seiners unloading in Phuket during 2003 to 2010. The trend of total landing in trip and weight from longline was increased from 187 trip and 1,416 mts in 1995 to be 575 trips and 9,230 mts in 2010, the main fleets was Taiwanese and Indonesia flags. The main species composition were yellowfin tuna, bigeye tuna, bill fish (*Makaira* spp., *Tetrapturus* spp., *Istiophorus* spp.) and swordfish (SWO) with the average composition 63 22 5 and 4% of total landing respectively, while miscellaneous species (Sharks, *Lepidocybium* spp., *Coryphaena* spp., *Thunnus alalunga*, *Molar* spp., *Ruretius pretiosus*, *Sphyraena* spp. and *Taractichtis* spp.) contributed 6% of the total landing during 1995 to 2010. Only Japanese tuna purse seiners landed in Phuket during 2003 to 2010 which were the six vessels. Catch and percentage composition of skipjack, yellowfin tuna and bigeye tuna during 2003 to 2010 were 17,089 (62.4%), 4,475 (16.5%) and 5,659 mts (21.1%). There was a few of bycatch which the most frequented observed species was triggerfish, *Abalistes stellaris*. Longline and purse seine fleets were the main fishing ground in the Eastern Indian Ocean and the peak of unloading occurred during northeast monsoon season (November to March).”*

35. The WPDCS **NOTED** that the information collected by Thailand is used by the IOTC Secretariat in addition to information reported by other parties for other ports in the region, to estimate the catches of longline vessels flagged to Malaysia and Indonesia that are not unloaded in ports in their territories, as these catches are not reported by the flag countries. The WPDCS reiterated the need for Malaysia and Indonesia to improve monitoring of vessels under their flag, in particular through the implementation of logbook systems, as required by the IOTC (Resolution 08/04).

Republic of Maldives

36. The WPDCS **NOTED** the update on the Maldives fishery data collection system that includes logbooks from vessel skippers and commercial collection data obtained through web-enabled data entry forms. It was also **NOTED** that the Maldives is in the process of collating catch and effort information by geographic 1 x 1 degree to replace the old atoll-based reporting system.
37. Noting that while the data collection systems in the Maldives are considered to be appropriately designed, the system continues to rely on summary reports from Island/Atoll Offices until such time the logbook reporting is fully established. Given that quality of the reports from Island/Atoll Offices are deteriorating, the WPDCS **RECOMMENDED** that the Maldives considers implementing a sampling program in order to validate these reports, including the recent logbook data.
38. The WPDCS **RECOMMENDED** that the Maldives estimate the quantity of bigeye tuna being caught by its fisheries, in particular those operating around anchored FADs.

Sultanate of Oman

39. Noting the presentation on the data collection and reporting systems in the Sultanate of Oman, the WPDCS **AGREED** that the use of PDA devices was a major step forward in improving the data reporting process. It was suggested that other coastal state CPCs consider adopting a similar system noting that such a step will assist CPCs move towards real-time-reporting capabilities.

European Union (France)

40. The WPDCS **NOTED** the update provided for the EU,France fisheries, which included the following three points:
- The industrial purse seine fishery is monitored through logbooks (100% coverage), a vessel monitoring system (100% coverage) and port sampling for species composition and length frequency (~95% of trips). In 2011, extension of port sampling coverage has been realised with a sampling team working in Antsiranana (Madagascar) in collaboration with USTA (Unité Statistique Thonière d'Antsiranana) and a sampling team in Port Louis (Mauritius) in collaboration with Albion Fisheries Centre. The observer program has been stopped since mid-2009 for security reasons (piracy) and subsequently for the absence of room availability once military forces were accommodated. Solutions were found and observer coverage is expected to reach ~8% in 2011.
 - The longline fishery based in La Réunion is monitored through a logbook system and port sampling. No catch and effort data are available for 2009 and 2010 due to a reorganization of the EU,France statistical system that has delayed seriously the introduction and verification of logbook data. Data are presently in a validation stage and will be transmitted beginning of 2012. An observer program on longliners has been ongoing since April 2007 with 9% coverage in 2010. Auto sampling have been set in place in 2011 for small longliners not able to accommodate observers.
 - The small scale fishery of La Réunion is monitored through a statistical sampling scheme based on phone enquiries for effort statistics and stratified catch assessment surveys.

9. REVIEW OF IOTC MINIMUM REQUIREMENTS FOR OPERATIONAL CATCH AND EFFORT DATA (LOGBOOK TEMPLATES)

41. The WPDCS **NOTED** paper IOTC–2011–WPDCS08–10 which provided an outline of Australia's intention to present a proposal at the 16th Session of the Commission based on IOTC Recommendation 11/06 *Concerning the recording of catch and effort by fishing vessels in the IOTC area of competence*, incorporating and reconciling earlier Resolutions on catch recording and reporting, and taking into account the advice of WPDCS08 and the 14th Session of the Scientific Committee.
42. The WPDCS **AGREED** that there is a clear need to adopt a Resolution that specifies minimum data recording requirements across all relevant fisheries operating in the IOTC area of competence.

Purse seine, longline, pole-and-line and gillnet fleets

43. Noting the Commission's request to evaluate the data provision needs for longline, purse seine, gillnet and pole-and-line gear types, notably regarding information relating to the vessel characteristics and the definition of the pole-and-line 'fishing event', which was requested in order to ensure that consistent and uniform information is collected to assist the IOTC to fulfil its mandate, the WPDCS **RECOMMENDED** that Recommendation 11/06 be modified to include the elements as provided in [Appendix VI](#), noting that the lists of species to be recorded, as detailed in section 2.3 of Annex II, should be modified to reflect recommendations arising from the species working parties and agreed to by the Scientific Committee.
44. Noting that agreement could not be reached on whether to include the recording of leader material (wire, monofilament etc.) into a revised proposal to the Commission, the WPDCS **RECOMMENDED** that the Scientific Committee consider this issue at its 14th Session, taking into account relevant information tabled for discussion at the meeting.

Other fleets

45. The WPDCS **NOTED** paper IOTC–2011–WPDCS08–09 which provided the WPDCS with draft proposals of minimum requirements for the collection of catch data by fishing vessels in the IOTC Area, including separate requirements for vessels using handlines and trolling.
46. The WPDCS **RECOMMENDED** that the minimum recording requirements for handline and trolling provided in Appendix VI be incorporated into the revised proposal for minimum recording requirements as detailed in [para. 43](#).

- 10. RECOMMENDATIONS TO IMPROVE THE QUALITY OF THE STATISTICS AT THE IOTC**
47. The WPDCS recalled its **RECOMMENDATION** that as resources become available, the IOTC Secretariat commence the process to develop a scoring system to assess the quality of data being reported to the Secretariat, noting that the allocation of scores to all data items in the IOTC databases will require a substantial investment of resources by Secretariat. The process shall be implemented gradually, with yellowfin tuna, bigeye tuna and swordfish data as priorities.
 48. The WPDCS **RECOMMENDED** that countries having sampling schemes or planning to implement such schemes, assess the precision of estimates of catches from those schemes considering different levels of coverage and report the results to the WPDCS.
 49. Noting that paragraph 9 of Resolution 10/04 contains provisions for the reporting of numbers of fishing vessels monitored and the coverage achieved by gear type, by year to both, the Executive Secretary and the Scientific Committee, the WPDCS **RECOMMENDED** that this information is also provided along with the statistics reported to the IOTC (IOTC Resolution 10/02).
 50. The WPDCS recalled its **RECOMMENDATION** for scientists from the EU and Thailand to explore the use of size data collected on EU vessels for the same areas and periods to adjust the species composition from logbooks reported by Thai purse seiners, and to report progress to the next WPDCS meeting.
 51. The WPDCS **NOTED** that, to date, many countries have not completed questionnaires, encouraging countries to provide this information as soon as possible. The IOTC Secretariat should report progress to the next meeting of the WPDCS.
 52. The WPDCS recalled its **RECOMMENDATION** that Indonesia reported size frequency data for its longline fleet for 2009 and 2010.
 53. The WPDCS **ENCOURAGED** the provision of catch estimates for tuna, tuna-like species and associated species in recreational fisheries through the National Report presented to the Scientific Committee annually.
 54. The WPDCS **NOTED** the following three recommendations from other IOTC working party's to the WPDCS, agreeing that these matters had been addressed over the course of the WPDCS08 meeting and will be considered by the Scientific Committee at its 14th Session in 2011:
 - The WPB recommended that the WPDCS monitor that Members are ensuring that logbook coverage is appropriate to produce acceptable levels of precision (Coefficient of Variation to be initially set at less than 20%) in their catch and effort statistics for billfish species (IOTC–2011–WPB09–R; para. 54).
 - The WPTmT recommended that the WPDCS monitor that CPCs ensure that logbooks used for their fleets are compliant with the minimum data requirements contained in Resolutions 08/04 *concerning the recording of catch by longline fishing vessels in the IOTC area* and 10/03 *concerning the recording of catch by fishing vessels in the IOTC area* of the Commission (noting Recommendation 11/06 *concerning the recording of catch and effort by fishing vessels in the IOTC area of competence*), and to ensure that logbook coverage is appropriate to produce acceptable levels of precision (CV to be initially set at less than 20%) in their catch and effort statistics for temperate tuna species (IOTC–2011–WPTmT03–R; para. 23).
 - The WPEB recommended that the WPDCS review the data to be recorded in logbooks by fishing vessels in the IOTC area of competence as well as the mandatory statistical data to be reported (Resolution 10/02 *mandatory statistical requirements for IOTC Members and Cooperating non-Contracting Parties*), and in particular on the list of shark species for which catch, catch and effort and size data should be recorded and reported (IOTC–2011–WPEB08–R; para.39).

11. ACTIVITIES TO ASSIST DATA COLLECTION AND PROCESSING IN COASTAL COUNTRIES

11.1 Activities under the IOTC-OFCF Project

55. The WPDCS **NOTED** paper IOTC–2011–WPDCS08–11 which provided a progress report on the Joint IOTC–OFCF Project in 2011.
56. Acknowledging the value of projects such as the IOTC-OFCF in the region, the WPDCS **NOTED** with thanks the support offered by the IOTC-OFCF project since 2002, and strongly **RECOMMENDED** that the activities carried out under the IOTC-OFCF project continue into future.

11.2 Activities funded by the IOTC

57. The WPDCS **NOTED** the activities implemented by the IOTC Secretariat using accumulated funds from the Commission, under the framework of the IOTC Pilot Project. It was noted that the main objective of this Project was to assess the status of data collection and reporting for artisanal fisheries in the IOTC area with the objective of assessing the ability of coastal countries to report catches for their artisanal fisheries in close-to-real time to the Commission in the event of implementation of a quota system.

12. DISSEMINATION OF THE IOTC DATA AND DOCUMENTS

12.1 Data for the IOTC Meetings and the general public

58. The WPDCS **NOTED** with thanks, the work of the IOTC Secretariat in preparing data sets for each IOTC meeting as required.

12.2 IOTC Data Summary and Field Manual

59. Noting that the IOTC Secretariat has not resumed the publication of the IOTC Data Summary due to a lack of resources, the WPDCS **RECOMMENDED** that the IOTC Secretariat design a new Data Summary and present an example at the next meeting of the WPDCS and for publication on the new IOTC website once completed.

13. OTHER BUSINESS

13.1 Date and place of the Ninth Session of the WPDCS

60. The WPDCS **AGREED** that there may not be a need for the WPDCS to be held in 2012, depending on the specific needs and requests that arise from the next Scientific Committee and Commission meetings. If a specific need or request arises, then the IOTC Secretariat should inform participants, and consider holding a shorter meeting in conjunction with one of the other working party meetings.

13.2 Development of priorities for an Invited Expert at the next WPDCS meeting (if necessary)

61. The WPDCS **AGREED** that there was no immediate need to have an invited expert at WPDCS meetings.

13.3 Election of a Vice-Chair of the WPDCS for the next biennium

62. The WPDCS **CONSIDERED** candidates for the position of Vice-Chair of the WPDCS for the next *biennium*. Dr. Pierre Chavance was nominated and elected as Vice-Chair of the WPDCS for the next *biennium*.
63. The WPDCS **RECOMMENDED** that the Scientific Committee note the new Vice-Chair, Dr. Pierre Chavance (European Union), of the WPDCS for the next *biennium*

13.4 Review of the draft, and adoption of the report of the Eighth session of the WPDCS

64. The WPDCS **RECOMMENDED** that the Scientific Committee consider the consolidated set of recommendations arising from WPDCS08, provided at [Appendix IV](#).
65. The report of the Eighth Session of the Working Party on Data Collection and Statistics (IOTC–2011–WPDCS08–R) was **ADOPTED** on the 10 December 2011.

APPENDIX I

LIST OF PARTICIPANTS

Chairperson

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APPENDIX II
AGENDA FOR THE EIGHTH WORKING PARTY ON DATA COLLECTION AND STATISTICS

Date: 8–10 December 2011

Location: International Conference Center, Victoria, Mahé, Seychelles

Time: 09:00 – 18:00 daily

Chair: Mr. Miguel Herrera

- 1. OPENING OF THE MEETING** (Chair)
- 2. ADOPTION OF THE AGENDA** (Chair)
 - IOTC-2011-WPDCS08-01a: Draft agenda for the Eighth Working Party on Data Collection and Statistics
 - IOTC-2011-WPDCS08-01b: Draft annotated agenda for the Eighth WPDCS
 - IOTC-2011-WPDCS08-02: Draft list of documents
- 3. OUTCOMES OF THE THIRTEENTH SESSION OF THE SCIENTIFIC COMMITTEE AND THE FIFTEENTH SESSION OF THE COMMISSION**
 - IOTC-2011-WPDCS08-03: Outcomes of SC13 and S15 (Secretariat)
- 4. PROGRESS ON THE RECOMMENDATIONS OF WPDCS07**
 - IOTC-2011-WPDCS08-04: Progress on recommendations from WPDCS07 (Chair)
- 5. REVIEW OF CURRENT CONSERVATION AND MANAGEMENT MEASURES** (Secretariat)
 - IOTC-2011-WPDCS08-05: Review of current Conservation and Management Measures relating to data collection and statistics (Secretariat)
- 6. REVIEW OF THE IOTC OBSERVER TRIP REPORT TEMPLATE**
 - 6.1 Information on the type and numbers of branch lines and wire leaders used (longline)
 - 6.2 Information on the number and type of electronic equipment used on board
 - 6.3 Area resolution (1 degree square at present)
 - 6.4 Information on the state of the sea and weather conditions
 - 6.5 Information on depredation
 - 6.6 Information on lost fishing gear
 - 6.7 Information on the number of hooks used by type and size
 - 6.8 Other requirements
- 7. PROGRESS REPORT OF THE SECRETARIAT ON DATA RELATED ISSUES**
 - 7.1 IOTC-2011-WPDCS08-06 Report on IOTC Data Collection and Statistics (Secretariat)
 - 7.2 Discrepancy in the size frequency data available from Japan and Taiwan, China for major IOTC species (yellowfin tuna, bigeye tuna, albacore, swordfish)
- 8. UPDATE ON NATIONAL STATISTICAL SYSTEMS**
 - 8.1 Updates to be provided by participants
- 9. REVIEW OF IOTC MINIMUM REQUIREMENTS FOR OPERATIONAL CATCH AND EFFORT DATA (LOGBOOK TEMPLATES)**
 - 9.1 Purse Seine
 - 9.2 Longline
 - 9.3 Pole-and-line
 - 9.4 Gillnet
 - 9.5 Other fleets
- 10. RECOMMENDATIONS TO IMPROVE THE QUALITY OF THE STATISTICS AT THE IOTC**
 - 10.1 New recommendations
- 11. ACTIVITIES TO ASSIST DATA COLLECTION AND PROCESSING IN COASTAL COUNTRIES**
 - 11.1 Activities under the IOTC-OFCF Project (IOTC-2010-WPDCS-08)
 - 11.2 Activities funded by the IOTC.
- 12. DISSEMINATION OF THE IOTC DATA AND DOCUMENTS**
 - 12.1 Data for the IOTC Meetings and the general public
 - 12.2 IOTC Data Summary and Field Manual

13. OTHER BUSINESS

- 13.1 Date and place of the Ninth Session of the WPDCS
- 13.2 Development of priorities for an Invited Expert at the next WPDCS meeting (if necessary)
- 13.3 Election of a Vice-Chair for the WPDCS for the next biennium.
- 13.4 Review of the draft, and adoption of the report of the eighth session of the WPDCS

APPENDIX III
LIST OF DOCUMENTS

Document	Title	Availability
IOTC-2011-WPDCS08-01a	Draft agenda of the Eighth Working Party on Data Collection and Statistics	✓(27 August)
IOTC-2011-WPDCS08-01b	Draft annotated agenda of the Eighth Working Party on Data Collection and Statistics	✓(22 November)
IOTC-2011-WPDCS08-02	List of documents	✓(22 November)
IOTC-2011-WPDCS08-03	Outcomes of the Thirteenth Session of the Scientific Committee and of the Fifteenth Session of the Commission (Secretariat)	✓(4 November)
IOTC-2011-WPDCS08-04	Progress made on the recommendations of WPDCS07 (Secretariat)	✓(1 December)
IOTC-2011-WPDCS08-05 Rev_1	Review of current Conservation and Management Measures relating to data collection and statistics (Secretariat)	✓(4 November) ✓(19 November)
IOTC-2011-WPDCS08-06	Report on IOTC Data Collection and Statistics (Secretariat)	✓(2 December)
IOTC-2011-WPDCS08-07	Evaluation of IOTC statistics for major longline fisheries in the Indian Ocean (Secretariat)	WITHDRAWN – incorporated into 6.
IOTC-2011-WPDCS08-08	Foreign Tuna Fleets Unloading in Phuket, Thailand During 1995–2010 (P. Nootmorn, T. Jaiyen and S. Rodpradit)	✓ (28 October)
IOTC-2011-WPDCS08-09	Draft proposal of minima data requirements for handline, trolling and sport fisheries (Secretariat)	✓(29 November)
IOTC-2011-WPDCS08-10	Recording and reporting of catch and effort by fishing vessels in the IOTC area of competence (D. Kirby and H. Patterson)	✓(30 November)
IOTC-2011-WPDCS08-11	Progress on the Joint IOTC-OFCE Project in 2011 (S. Fujiwara and M. Herrera)	✓(29 November)
IOTC-2011-WPDCS08-12	Iran's National Fishery Data Collection and Reporting System in the context of the IOTC (R.N. Dafrazi)	WITHDRAWN – INF paper.
INFORMATION PAPERS		
IOTC-2011-WPDCS08-INF01	Maldivian skipjack pole and line fishery catch rate standardization 2004–2010 (D. Kolody and S. Adam) [IOTC-2011-WPTT13-29]	✓(23 October)
IOTC-2011-WPDCS08-INF02	Japanese longline CPUE for yellowfin tuna in the Indian Ocean up to 2010 standardized by general linear model (H. Okamoto) [IOTC-2011-WPTT13-34 Rev_1]	✓(23 October)
IOTC-2011-WPDCS08-INF03	Updated CPUE standardizations for Yellowfin tuna caught by Taiwanese longline fishery in the Indian Ocean using generalized liner model (Y.-M. Yeh and S.-T. Chang) [IOTC-2011-WPTT13-35]	✓(23 October)
IOTC-2011-WPDCS08-INF04	WCPFC – Up-to-date CPUE for skipjack caught by Japanese distant and offshore pole and line in the western central Pacific Ocean (H. Kiyofuji, K. Uosaki and S. Hoyle)	✓(9 November)
IOTC-2011-WPDCS08-INF05	WCPFC – CPUE of skipjack for the Japanese offshore pole and line using GPS and catch data (S. Okamoto and H. Kiyofuji)	✓(9 November)
IOTC-2011-WPDCS08-INF06	WCPFC – A standardized CPUE analysis of the Japanese distant-water skipjack pole-and-line fishery in the western and central Pacific Ocean (WCPO), 1972–2009 (A. Langley, K. Uosaki, S. Hoyle, H. Shono and M. Ogura)	✓(9 November)
IOTC-2011-WPDCS08-INF07	Large-scale experiment shows that nylon leaders reduce shark bycatch and benefit pelagic longline fishers, 2008, Fisheries Research Volume 90, Issues 1-3, April 2008, Pages 100-108 (P. Ward, E. Lawrence, R. Darbyshire and S. Hindmarsh)	✓(22 November)
IOTC-2011-WPDCS08-INF08	Effects of wire leader use and species-specific distributions on shark catch rates off the southeastern United States (W.B. Driggers III, J.K. Carlson, E. Cortés and G.W. Ingram Jr.)	✓(29 November)
IOTC-2011-WPDCS08-INF09	Iran's National Fishery Data Collection and Reporting System in the context of the IOTC (R.N. Dafrazi)	✓(29 November)

APPENDIX IV
CONSOLIDATED RECOMMENDATIONS OF THE EIGHTH SESSION OF THE WORKING PARTY ON DATA COLLECTION AND STATISTICS

Note: Appendix references refer to the Report of the Eighth Session of the Working Party on Data Collection and statistics (IOTC-2011-WPDCS08-R)

IOTC Observer Trip Report Template

- WPDCS08.01 (para. 12): Noting the difficulties that some observers may have in collecting and reporting of the data items that are requested in the observer trip report template (seven items listed in [para. 11](#)), and further noting that collecting this information may compromise access to other basic data on board longline vessels, the WPDCS **RECOMMENDED** that the Scientific Committee considers requesting that the Commission allow for some flexibility in the collection and reporting of these data, until such a time where the CPCs concerned are in a position to collect and provide this information.
- WPDCS08.02 (para. 18): Noting that the use of monofilament leaders may allow sharks to escape by biting through the line (removing the hook), in contrast to wire leaders which are not prone to ‘bite-off’, the WPDCS **RECOMMENDED** that, where possible for fleets that have not already prohibited the use of wire leaders, the number of ‘bite-off’ per leader type is added to the longline hauling information recorded by the observer (currently in the IOTC observer form FORM 4-LL – Fishing Event Longline).
- WPDCS08.03 (para. 19): Noting that the current observer trip reporting template includes summaries of catch and bycatch by 1° square as required in Resolution 11/04, and that there is no summary of the effort exerted during the trip at the same scale, the WPDCS **RECOMMENDED** that a new table is added to the observer trip reporting template that would ensure effort during the trip is recorded, as follows:

Year	Month	Square (1°x1°)	Effort deployed
			<i>Longline: number of hooks deployed</i> <i>Purse seine on free-schools: number of fishing sets</i> <i>Purse seine on associated schools: number of fishing sets, and number of new FADs deployed</i> <i>Gillnet: number of panels deployed</i> <i>Pole-and-line: number of fishing days</i> <i>Handline: number of fishing days</i> <i>Troll-line: number of fishing days</i>

- WPDCS08.04 (para. 21): The WPDCS **RECOMMENDED** that the observer trip report is submitted in an electronic format, where possible, noting that the forms/tables in the observer trip report template are for illustrative purposes and that the complete information required could be reported in an different format.
- WPDCS08.05 (para. 23): Noting that at present, the observer reporting template includes obligatory reporting of information concerning waste management on board the fishing vessel (MARPOL), the WPDCS **RECOMMENDED** that the reporting of this information be made optional, as most fishing vessels are already bound by this international regulation.
- WPDCS08.06 (para. 24): Noting that the reporting of transshipment events have to be reported through the IOTC Transshipment Programme, and that the IOTC Transshipment Programme applies only where transshipments involve a fishing vessel with LOA 24 m or greater and carrier vessels, pointing out that transshipments between fishing vessels, in particular, fresh-tuna longliners, are very common, the WPDCS **AGREED** that in order to avoid duplication, observers under the IOTC Regional Observer Scheme can refrain from reporting Transshipments when those events are recorded by observers under the IOTC Transshipment Programme, **RECOMMENDING** that the Scientific Committee considers incorporating this exception in the observer report.
- WPDCS08.07 (para. 25): The WPDCS **AGREED** in principle, that from a technical point of view the existing standards for the collection and reporting of data by observers are appropriate, and **RECOMMENDED** that the Scientific Committee considers endorsing the data requirements of the observer trip report template with the amendments recommended in [paragraphs 17 to 24](#).

WPDCS08.08 (para. 26): The WPDCS **RECOMMENDED** that the IOTC Secretariat makes an evaluation of the costs associated with data management of the observer data (e.g. development and maintenance of a database, data entry etc.).

Discrepancy in the size frequency data available from Japan and Taiwan, China for major IOTC species (yellowfin tuna, bigeye tuna, albacore, swordfish)

WPDCS08.09 (para. 31): Noting the information presented by the IOTC Secretariat on the conflicting estimates of average weight derived from operational catch and size frequency datasets for the longline fisheries of Japan and Taiwan, China over their time series, and the concerning effect that the problems identified may have on the assessments of tuna and billfish species, the WPDCS **RECOMMENDED** that Japan and Taiwan, China work with the IOTC Secretariat in order to clarify these issues, and report on their findings at the next meeting of the WPDCS and any other relevant working party meetings (e.g. WPB, WPTmT and the WPTT).

Update on national Statistics Systems

WPDCS08.10 (para. 37): Noting that while the data collection systems in the Maldives are considered to be appropriately designed, the system continues to rely on summary reports from Island/Atoll Offices until such time the logbook reporting is fully established. Given that quality of the reports from Island/Atoll Offices are deteriorating, the WPDCS **RECOMMENDED** that the Maldives considers implementing a sampling program in order to validate these reports, including the recent logbook data.

WPDCS08.11 (para. 38): The WPDCS **RECOMMENDED** that the Maldives estimate the quantity of bigeye tuna being caught by its fisheries, in particular those operating around anchored FADs.

Review of IOTC Minimum Requirements for Operational Catch and Effort Data (Logbook Templates)

WPDCS08.12 (para. 43): Noting the Commission's request to evaluate the data provision needs for longline, purse seine, gillnet and pole-and-line gear types, notably regarding information relating to the vessel characteristics and the definition of the pole-and-line 'fishing event', which was requested in order to ensure that consistent and uniform information is collected to assist the IOTC to fulfil its mandate, the WPDCS **RECOMMENDED** that Recommendation 11/06 be modified to include the elements as provided in [Appendix VI](#), noting that the lists of species to be recorded, as detailed in section 2.3 of Annex II, should be modified to reflect recommendations arising from the species working parties and agreed to by the Scientific Committee.

WPDCS08.13 (para. 44): Noting that agreement could not be reached on whether to include the recording of leader material (wire, monofilament etc.) into a revised proposal to the Commission, the WPDCS **RECOMMENDED** that the Scientific Committee consider this issue at its 14th Session, taking into account relevant information tabled for discussion at the meeting.

WPDCS08.14 (para. 46): The WPDCS **RECOMMENDED** that the minimum recording requirements for handline and trolling provided in Appendix VI be incorporated into the revised proposal for minimum recording requirements as detailed in [para. 43](#).

Recommendations to Improve the Quality of the Statistics at the IOTC

WPDCS08.15 (para. 47): The WPDCS recalled its **RECOMMENDATION** that as resources become available, the IOTC Secretariat commence the process to develop a scoring system to assess the quality of data being reported to the Secretariat, noting that the allocation of scores to all data items in the IOTC databases will require a substantial investment of resources by Secretariat. The process shall be implemented gradually, with yellowfin tuna, bigeye tuna and swordfish data as priorities.

WPDCS08.16 (para. 48): The WPDCS **RECOMMENDED** that countries having sampling schemes or planning to implement such schemes, assess the precision of estimates of catches from those schemes considering different levels of coverage and report the results to the WPDCS.

WPDCS08.17 (para. 49): Noting that paragraph 9 of Resolution 10/04 contains provisions for the reporting of numbers of fishing vessels monitored and the coverage achieved by gear type, by year to both, the Executive Secretary and the Scientific Committee, the WPDCS **RECOMMENDED** that this information is also provided along with the statistics reported to the IOTC (IOTC Resolution 10/02).

WPDCS08.18 (para. 50): The WPDCS recalled its **RECOMMENDATION** for scientists from the EU and Thailand to explore the use of size data collected on EU vessels for the same areas and periods to adjust the species composition from logbooks reported by Thai purse seiners, and to report progress to the next WPDCS meeting.

WPDCS08.19 (para. 52): The WPDCS recalled its **RECOMMENDATION** that Indonesia reported size frequency data for its longline fleet for 2009 and 2010.

Activities under the IOTC-OFCF Project

WPDCS08.20 (para. 56): Acknowledging the value of projects such as the IOTC-OFCF in the region, the WPDCS **NOTED** with thanks the support offered by the IOTC-OFCF project since 2002, and strongly **RECOMMENDED** that the activities carried out under the IOTC-OFCF project continue into future.

IOTC Data Summary and Field Manual

WPDCS08.21 (para. 59): Noting that the IOTC Secretariat has not resumed the publication of the IOTC Data Summary due to a lack of resources, the WPDCS **RECOMMENDED** that the IOTC Secretariat design a new Data Summary and present an example at the next meeting of the WPDCS and for publication on the new IOTC website once completed.

Election of a Vice-Chair of the WPDCS for the next biennium

WPDCS08.22 (para. 63): The WPDCS **RECOMMENDED** that the Scientific Committee note the new Vice-Chair, Dr. Pierre Chavance (European Union), of the WPDCS for the next *biennium*

Review of the draft, and adoption of the report of the Eighth session of the WPDCS

WPDCS08.23 (para. 64): The WPDCS **RECOMMENDED** that the Scientific Committee consider the consolidated set of recommendations arising from WPDCS08, provided at [Appendix IV](#).

APPENDIX V
MAIN DATA ISSUES IDENTIFIED BY THE WPDCS AND ACTIONS PROPOSED TO ADDRESS THEM

Nominal catches	
Main Issues	Proposed Actions
<i>Assess total catches</i>	
Handline fishery of Yemen	Use previous estimates and trends in catches for handlines in Oman
Driftnet fishery of Pakistan	Liaise with WWF Project in Pakistan to gather more information
Commercial longline fishery of India	Address concerns to IOTC SC
Coastal and longline fisheries of Madagascar	Consider assistance from IOTC-OFCF Project
<i>Assess catches by gear and species</i>	
Catch of juvenile tunas around Rumpons in Indonesia (liftnet, purse seine)	IOTC-OFCF March 2012 Workshop
Coastal and offshore fisheries of Sri Lanka (gillnet, longline, handline, trolling)	Address concerns to IOTC SC
Catches of bigeye tuna by baitboat (Maldives) and driftnet fisheries (Iran)	Consider Implementation Pilot Sampling to assess catches of bigeye tuna
Coastal fisheries of India (tropical tunas)	Address concerns to IOTC SC

Catch-and-Effort	
Main Issues	Proposed Actions
<i>Implementation of minimum requirements for operational data (logbook)</i>	
All countries	Liaise with countries to assess the status of implementation
Longlines of Indonesia	Joint WCPFC-IOTC mission planned to Indonesia
Longlines of India, Malaysia	Address concerns to IOTC SC
Driftnets of Iran	IOTC-OFCF assistance to database management in Iran
Driftnets of Pakistan	Liaise with WWF Project in Pakistan to gather more information
Gillnet and longline fishery of Sri Lanka	Assess availability of data from NARA's Fisheries Forecasting Project
Pole-and-line fishery of Maldives	Logbook falls short of requirements; extend requirements
<i>Catch-and-effort not available for coastal fisheries</i>	
Data available but not reported for the coastal fisheries of India and Indonesia, in particular neritic tunas	Address concerns to IOTC SC

Size Frequency	
Main Issues	Proposed Actions
<i>Data not reported</i>	
Coastal fisheries of India (neritic tunas), Indonesia, and Yemen (yellowfin tuna)	Address concerns to IOTC SC
Driftnets of Pakistan	Liaise with WWF Project in Pakistan to gather more information
Longlines of India	Address concerns to IOTC SC
<i>Data poor quality</i>	
Longline fisheries of Japan and Taiwan,China: Catch-and-effort and size data conflicting over the time series	The IOTC Secretariat to complete the study and present results to the next species Working Party meeting s
Data not by IOTC standards for the gillnet & longline fishery of Sri Lanka and the driftnet fishery of Iran	Urge countries to extend data requirements and coverage Address concerns to IOTC SC
Observer Programmes	
Observer reports: Very poor rates of reporting: 11 observer reports out of \approx 3,000 due	Urge countries to initiate/resume observer programmes Explore ways to facilitate reporting of data (e.g. web based reports) Address concerns to IOTC SC

APPENDIX VI
REVISED PROPOSAL FOR MINIMUM REPORTING REQUIREMENTS

*Note: “Noting the Commission’s request to evaluate the data provision needs for longline, purse seine, gillnet and pole-and-line gear types, notably regarding information relating to the vessel characteristics and the definition of the pole-and-line ‘fishing event’, which was requested in order to ensure that consistent and uniform information is collected to assist the IOTC to fulfil its mandate, the WPDCS **RECOMMENDED** that Recommendation 11/06 be modified to include the elements as provided in Appendix VI, noting that the lists of species to be recorded, as detailed in section 2.3 of Annex II, should be modified to reflect recommendations arising from the species working parties and agreed to by the Scientific Committee.”*

Record once per trip (unless gear configuration changes)

1.1 REPORT INFORMATION

- 1) Date of the submission of logbook
- 2) Name of reporting person

1.2 VESSEL INFORMATION

- 1) Vessel name and/or registration number
- 2) IOTC number, where available
- 3) Call sign: if call sign is not available, other unique identifying code such as registration or fishing license number should be used
- 4) Vessel size: gross tonnage and/or overall length (meters)

1.3 CRUISE INFORMATION

For multiday fishing operations record the

- 1) Departure date and port
- 2) Arrival date and port

1.4 OTHER REQUIRED INFORMATION

Longline (Gear Configuration):

- 1) Average branch line length (meters): straight length in meters between snap and hook (Figure 1)
- 2) Average float line length (meters): straight length in meters from the float to the snap
- 3) Average length between branch (meters): straight length of main line in meters between successive branch lines
- 4) Main line material classified into four categories:

a. Thick rope (Cremona rope)	c. Nylon braided
b. Thin rope (PE or other materials)	d. Nylon monofilament

Purse Seine

Gear configuration:

- 1) Length and height of the purse seine net
- 2) Stretched mesh size

Search information:

- 1) Days searched
- 2) Spotter plane used (Yes/No)
- 3) Supply vessel (Yes/No)

Gillnet (Gear Configuration):

- 1) Minimum and maximum fishing depth of assembled net (meters): record the maximum and minimum of the depth range fished
- 2) Mesh size of net (millimetres): record the mesh size used during the trip
- 3) Height of assembled net (meters): height on assembled net in meters
- 4) Netting material: e.g. nylon braid, nylon monofilament, etc.
- 5) Total length of net lost and not recovered (meters): record the total length lost during the trip

Pole and line (Gear configuration)

- 1) Number of poles onboard
- 2) Number of fishermen

Record once per set/shot/operation**2.1 OPERATION****For longline:**

- 1) Date of set (YYYY/MM/DD)
- 2) Position in latitude and longitude: either at noon (GMT) position or position of start of gear, area code of operation (e.g. Seychelles EEZ, High seas, etc.) may be optionally used
- 3) GMT (24 hr) of starting setting the gear
- 4) Sea surface temperature at noon with one decimal point, if available (XX.X°C)
- 5) Number of hooks between floats: if there are different hooks counts between floats in a single set then record the most representative (average) number
- 6) Total number of hooks used in the set
- 7) Number of light-sticks used in the set
- 8) Type of bait used in the set

For purse seine:

- 1) Date of event (YYYY/MM/DD)
- 2) Type of event: **fishing set** or **deployment of a new FAD**
- 3) Position in latitude and longitude and time of event, or if no event during the day, at noon (GMT)
- 4) If fishing set: specify if the set was successful, nil, well, type of school (FAD association, specify the type (e.g. object, beacon, whale shark, whale, etc.) and/or free swimming school)
- 5) Sea surface temperature at noon with one decimal point, if available (XX.X°C)

For gillnet:

- 1) Date of set (YYYY/MM/DD): record the date for each set of day at sea (for days without sets)
- 2) Total length of net (meters): length floatline used for each set in meters
- 3) Start fishing time: record the UCT time (24 hr) when starting each set
- 4) Start and end position in latitude and longitude: record start and end latitude and longitude that represent the area that your gear is set between. Record the latitude and longitude at noon for days with no set.
- 5) Depth at which net is set (meters): approximate depth at which the gillnet is set

For Pole and Line:

- 1) Date of activity: record the day. Each day should be recorded separately.
- 2) Position: record the latitude and longitude at noon
- 3) Number of fishing gears used: Record the number of fishing gears used during the day
- 4) Start fishing time (record the UTC time (24 hr) immediately after bait fishing is complete and the

vessel heads to the ocean for fishing. For multiple days, the time at which search starts should be recorded) and end fishing time (record the UTC time (24 hr) immediately after fishing is complete from the last school. This is the time that the captain decides to head home. On multiple days this is the time fishing stopped from the last school.

- 5) Type of school: FAD associated and/or free school

2.2 CATCH

- 1) Catch weight (kg) or number by species per set/shot/fishing event for each of the species and form of processing in section 2.3:
 - a. For longline by number and weight;
 - b. For purse seine by weight;
 - c. For gillnet by weight;
 - d. For pole and line by weight or number

2.3 SPECIES

*Note: “Noting the Commission’s request to evaluate the data provision needs for longline, purse seine, gillnet and pole-and-line gear types, notably regarding information relating to the vessel characteristics and the definition of the pole-and-line ‘fishing event’, which was requested in order to ensure that consistent and uniform information is collected to assist the IOTC to fulfil its mandate, the WPDCS **RECOMMENDED** that Recommendation 11/06 be modified to include the elements as provided in Appendix VI, noting that the lists of species to be recorded, as detailed in section 2.3 of Annex II, should be modified to reflect recommendations arising from the species working parties and agreed to by the Scientific Committee.”*

2.4 REMARKS

- 1) Discard of tuna, tuna-like fish and sharks to be recorded by species in weight (kg) or number for all gears should be recorded in the remarks¹
- 2) Any interactions with whale sharks (*Rhincodon typus*), marine mammals, marine turtles and seabirds should be recorded in the remarks
- 3) Other information is also written in the remarks

Note: The species included in the logbooks are regarded as minimum requirement. Optionally other frequently caught shark and/or fish species should be added as required across different areas and fisheries.

*Note: “The WPDCS **RECOMMENDED** that the minimum recording requirements for handline and trolling provided in Appendix VI be incorporated into the revised proposal for minimum recording requirements as detailed in para. 43.”*

HANDLINE

All logbook information shall be recorded by day; where more than one fishing event is recorded for the same day, it is advisable to record each fishing event separately

Record once in one cruise

1-1 INFORMATION OF REPORT

- 1) Date of the submission of logbook.
- 2) Name of reporting person

¹ Recall the Recommendation 10/13 *On the Implementation of a Ban on Discards of Skipjack Tuna, Yellowfin Tuna, Bigeye Tuna and Non Targeted Species Caught by Purse Seiners*

1-2 VESSEL INFORMATION

- 3) Vessel name and registration number
- 4) IOTC number, where available
- 5) Fishing License number
- 6) Licensed gears and species
- 7) Vessel size: Gross tonnage (in MT) and/or length overall (in m)

1-3 CRUISE INFORMATION

- 1) Departure date and port
- 2) Arrival date and port

HANDLINE**2-1 OPERATION****1) Date of fishing**

Record the date of fishing. Each fishing day should be recorded separately.

2) Number of fishermen

Record the number of fishermen on the boat by fishing day (fishing event)

3) Number of Fishing Gear

Record the number of fishing gear used during the day (fishing event). If the exact number is not available a range may be used i) less than 5 lines, ii) 6-10 lines; iii) more than 11 lines.

3) Start Fishing Time

Record the UCT time (24 hr) corresponding to the time the boat heads to ocean for fishing. On multiple days the time at which searching starts should be recorded.

4) End Fishing Time

Record the UCT time (24 hr) immediately after fishing is complete. This is the time in which the captain decides to head home. On multiple days this is the time fishing stopped.

5) Type of school (Anchored or drifting FAD, marine mammal, free, other)

Record the type of school, i.e. anchored FAD, drifting FAD, marine mammal associated, other.

6) Position of the catch

Record the latitude and longitude at the start of each fishing event; record the latitude and longitude at noon for non-fishing days.

Where information is recorded by day, record the 1° x 1° area(s) where fishing took place.

7) Bait

Record the type of bait used (e.g. fish, squid), where applicable

2-2 CATCH

Catch in number and weight (kg) by species

1) Catch number and Weight

For each species shown in section 2-3 caught and retained, record the number and estimated live weight (kg), per fishing day (fishing event).

2) Discard number and Weight

For each species shown in section 2-3 caught and not retained record the number and estimated live weight (kg) discarded, per fishing day (fishing event).

2-3 SPECIES

Common name	Scientific name
Yellowfin tuna	<i>Thunnus albacares</i>
Bigeye tuna	<i>Thunnus obesus</i>
Skipjack tuna	<i>Katsuwonus pelamis</i>
Indo-Pacific sailfish	<i>Istiophorus platypterus</i>
Black marlin	<i>Makaira indica</i>
Other billfish	
Longtail tuna	<i>Thunnus tonggol</i>
Kawakawa	<i>Euthynnus affinis</i>
Frigate tuna/Bullet tuna	<i>Auxis spp.</i>
Narrow-barred Spanish mackerel	<i>Scomberomorus commerson</i>
Indo-Pacific king mackerel	<i>Scomberomorus guttatus</i>
Sharks	
Other fishes	

2-4 REMARKS

- 1) Discard of tuna, tuna-like fish should be recorded in the remarks, to species level where possible.
- 2) Other relevant information is also written in the remarks.

Note: These species included in the logbook are regarded as minimum requirement. Optionally other species should be added as species may differ depending on the area fished and type of fishery.

TROLLING VESSELS

All logbook information shall be recorded by day; where more than one fishing event is recorded for the same day, it is advisable to record each fishing event separately

Record once in one cruise**1-1 INFORMATION OF REPORT**

- 8) Date of the submission of logbook.
- 9) Name of reporting person

1-2 VESSEL INFORMATION

- 10) Vessel name and registration number
- 11) IOTC number, where available
- 12) Fishing License number
- 13) Licensed gears and species
- 14) Vessel size: Gross tonnage (in MT) and/or length overall (in m)

1-3 CRUISE INFORMATION

- 3) Departure date and port
- 4) Arrival date and port

TROLLING VESSELS**2-1 OPERATION****1) Date of fishing**

Record the date of fishing. Each fishing day should be recorded separately.

2) Number of fishermen

Record the number of fishermen on the boat by fishing day (fishing event)

3) Number of Fishing Gear

Record the number of lines and hooks used during the day (fishing event). If the exact number is not available a range may be used i) less than 5 lines, ii) 6-10 lines; iii) more than 11 lines.

4) Time Fishing

Record the total number of hours fishing during the day (fishing event).

5) Number and type of school (Anchored or drifting FAD, marine mammal, free, other) fished

Record the number and type of school fished (i.e. anchored FAD, drifting FAD, marine mammal associated or free) fished during the day.

6) Position of the catch

Record the latitude and longitude when fishing starts; record the latitude and longitude at noon for non-fishing days.

Where information is recorded by day, record the 1° x 1° area(s) where fishing took place.

7) Bait

Record the type of bait/lures used, where applicable

2-2 CATCH

Catch in number or weight (kg) by species

1) Number or Weight of fish retained

For each species shown in section 2-3 caught and retained, record the number or estimated live weight (kg), per fishing day (fishing event).

2-3 SPECIES

Common name	Scientific name
Yellowfin tuna	<i>Thunnus albacares</i>
Bigeye tuna	<i>Thunnus obesus</i>
Skipjack tuna	<i>Katsuwonus pelamis</i>
Albacore	<i>Thunnus alalunga</i>
Swordfish	<i>Xiphias gladius</i>
Indo-Pacific blue marlin	<i>Makaira mazara</i>
Black marlin	<i>Makaira indica</i>
Striped marlin	<i>Tetrapturus audax</i>
Indo-Pacific sailfish	<i>Istiophorus platypterus</i>
Other billfish	
Longtail tuna	<i>Thunnus tonggol</i>
Kawakawa	<i>Euthynnus affinis</i>
Frigate tuna/Bullet tuna	<i>Auxis spp.</i>
Narrow-barred Spanish mackerel	<i>Scomberomorus commerson</i>
Indo-Pacific king mackerel	<i>Scomberomorus guttatus</i>
Sharks	
Other fishes	

2-4 REMARKS

1) Discard of tuna, tuna-like fish should be recorded in the remarks, to species level where possible in number or live weight.

2) Other relevant information is also written in the remarks.

Note: These species included in the logbook are regarded as minimum requirement. Optionally other species should be added as species may differ depending on the area fished and type of fishery.