
**REPORT OF THE 21ST SESSION OF THE IOTC
WORKING PARTY ON DATA COLLECTION AND STATISTICS**

Shanghai, China – Royal Garden Hotel, 25 – 30 November 2025

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ACRONYMS

ABNJ	Areas Beyond National Jurisdiction
AFAD	Anchored Fish Aggregating Device
ALDFG	Abandoned, Lost or otherwise Discarded Fishing Gear
ALB	Albacore
ANABAC	Asociación Nacional de Armadores de Buques Atuneros Congeladores
BET	Bigeye tuna
BLM	Black marlin
BLT	Bullet tuna
BRIN	National Research and Innovation Agency (Indonesia)
BUM	Blue marlin
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CSIC	Consejo Superior de Investigaciones Científicas (Spain)
CMFRI	Central Marine Fisheries Research Institute (India)
CMM	Conservation and Management Measure (of the IOTC; Resolutions and Recommendations)
COM	Narrow-barred Spanish mackerel
CPCs	Contracting parties and cooperating non-contracting parties of the IOTC
CPUE	Catch Per Unit of Effort
CWP	Coordinating Working Party on Fishery Statistics
DAFF	Department of Agriculture, Fisheries and Forestry (Australia)
DGCF	Directorate General of Capture Fisheries (Indonesia)
DFAD	Drifting fish aggregating device
DFAR	Department of Fisheries and Aquatic Resources (Sri Lanka)
DFOB	Drifting floating object
DOF	Department of Fisheries (Bangladesh, Malaysia, Thailand)
DOI	Digital Object Identifier
DSFA	Deep Sea Fishing Authority (Tanzania)
EEZ	Exclusive Economic Zone
EM	Electronic Monitoring
EMS	Electronic Monitoring System
ERA	Ecological Risk Assessment
ERS	Electronic Reporting System
ETP	Endangered, Threatened, and Protected species
EU	European Union
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organization of the United Nations
FIRMS	Fisheries and Resources Monitoring System
FOB	Floating Object
FRA	Fisheries Research and Education Agency (Japan)
FRI	Frigate tuna
FSI	Fishery Survey of India (India)
GEF	Global Environmental Facility
GUT	Indo-Pacific king mackerel
GTA	FIRMS Global Tuna Atlas
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICAR	Indian Council of Agricultural Research (India)
IEO	Instituto Español de Oceanografía (EU, Spain)
IFREMER	Institut Français de Recherche pour l'Exploitation de la Mer (EU, France)
IFSRI	Iranian Fisheries Science Research Institute (I.R. Iran)
IOC	Indian Ocean Commission
IOTC	Indian Ocean Tuna Commission
IPBU	Institut Pertanian Bogor University (Indonesia)

IRD	Institut de Recherche pour le Développement (EU,France)
I.R. Iran	Islamic Republic of Iran
ISSF	International Seafood Sustainability Foundation
IWC	International Whaling Commission
KAW	Kawakawa
KFS	Kenya Fisheries Service (Kenya)
KOSFA	Korea Overseas Fisheries Association (Tuna Long-Line Fisheries Committee)
LOA	Length overall
LOT	Longtail tuna
MLS	Striped marlin
MAFWR	Ministry of Agriculture, Fisheries and Water Resources (Oman)
MAR	Ministry of Animal Resources (Sudan)
MFBE	Ministry of Fisheries and Blue Economy (Somalia)
MFOR	Ministry of Fisheries and Ocean Resources (Maldives)
MLF	Ministry of Livestock and Fisheries (Tanzania)
MMAF	Ministry of Marine Affairs and Fisheries (Indonesia)
MMRI	Maldives Marine Research Institute (Maldives)
NARA	National Aquatic Resources Research and Development Agency (Sri Lanka)
NFA	National Fisheries Administration (Mozambique)
NIFS	National Institute of Fisheries Science (Korea)
NJA	National Jurisdiction Areas
NRIFS	National Research Institute of Fisheries Science (Japan)
OFCF	Overseas Fishery Cooperation Foundation (Japan)
OFDC	Overseas Fisheries Development Council (Taiwan,China)
OPAGAC	Organización de Productores de Atún Congelado (EU,Spain)
PEW	The Pew Charitable Trusts
RAV	IOTC Record of Authorised Vessels
RFMO	Regional Fisheries Management Organization
ROS	Regional Observer Scheme
SC	IOTC Scientific Committee
SFA	Seychelles Fisheries Authority (Seychelles)
SFA (fish)	Indo-Pacific sailfish
SFACT	Sustainable Fisheries and Community Trust
SHILAT	Iran Fisheries Organization (I.R. Iran)
SIOFA	Southern Indian Ocean Fisheries Agreement
SSI	Species of Special Interest
SWO	Swordfish
TNC	The Nature Conservancy
TTA	Taiwan Deep Sea Tuna Long-Line Boatowners and Exporters Association (Taiwan,China)
TUMST	Tokyo University of Marine Science and Technology (Japan)
VMS	Vessel Monitoring System
WCS	Wildlife Conservation Society
WCPFC	Western and Central Pacific Fisheries Commission
WGFAD	Ad hoc Working Group on FADs
WGEMS	Ad hoc Working Group on Electronic Monitoring Standards
WPB	Working Party on Billfish of the IOTC
WPDCS	Working Party on Data Collection and Statistics of the IOTC
WPEB	Working Party on Ecosystems and Bycatch of the IOTC
WPICMM	Working Party on the Implementation of CMMs of the IOTC
WPNT	Working Party on Neritic Tunas of the IOTC
WPTmT	Working Party on Temperate Tunas of the IOTC
WPTT	Working Party on Tropical Tunas of the IOTC
WWF	World Wildlife Fund for Nature
YFT	Yellowfin tuna

STANDARDISATION OF IOTC WORKING PARTY AND SCIENTIFIC COMMITTEE REPORT TERMINOLOGY

SC16.07 (para. 23) The SC **ADOPTED** the reporting terminology contained in Appendix IV and **RECOMMENDED** that the Commission considers adopting the standardised IOTC Report terminology, to further improve the clarity of information sharing from, and among its subsidiary bodies.

How to interpret terminology contained in this report

Level 1: From a subsidiary body of the Commission to the next level in the structure of the Commission:

RECOMMENDED, RECOMMENDATION: Any conclusion or request for an action to be undertaken, from a subsidiary body of the Commission (Committee or Working Party), which is to be formally provided to the next level in the structure of the Commission for its consideration/endorsement (e.g. from a Working Party to the Scientific Committee; from a Committee to the Commission). The intention is that the higher body will consider the recommended action for endorsement under its own mandate if the subsidiary body does not already have the required mandate. Ideally this should be task specific and contain a timeframe for completion.

Level 2: From a subsidiary body of the Commission to a CPC, the Secretariat, or other body (not the Commission) to carry out a specified task:

REQUESTED: This term should only be used by a subsidiary body of the Commission if it does not wish to have the request formally adopted/endorsed by the next level in the structure of the Commission. For example, if a committee wishes to seek additional input from a CPC on a particular topic but does not wish to formalise the request beyond the mandate of the Committee, it may request that a set action be undertaken. Ideally this should be task specific and contain a timeframe for the completion.

Level 3: General terms to be used for consistency:

AGREED: Any point of discussion from a meeting which the IOTC body considers to be an agreed course of action covered by its mandate, which has not already been dealt with under Level 1 or level 2 above; a general point of agreement among delegations/participants of a meeting which does not need to be considered/adopted by the next level in the Commission's structure.

NOTED/NOTING: Any point of discussion from a meeting which the IOTC body considers to be important enough to record in a meeting report for future reference.

Any other term: Any other term may be used in addition to the Level 3 terms to highlight to the readers of IOTC reports the importance of the relevant paragraph. However, other terms used are considered for explanatory/informational purposes only and shall have no higher rating within the reporting terminology hierarchy than Level 3, described above (e.g. **CONSIDERED; URGED; ACKNOWLEDGED**).

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EXECUTIVE SUMMARY

The 21st Session of the Indian Ocean Tuna Commission's (IOTC) Working Party on Data Collection and Statistics (WPDCS) was held in hybrid format in Shanghai (China) and online, from the 25th to the 29th of November of 2025. A total of 84 participants (110 in 2024, 55 in 2023, 117 in 2022, 94 in 2021) attended the Session, of which 46 attended in person and 38 registered to attend remotely.

The following is the complete recommendations and decisions from the WPDCS21 to the Scientific Committee, which are provided at [Appendix VI](#).

Data related activities and data overview

Rec. WPDCS21.01 (para 87):

The WPDCS **RECOMMENDED** that the SC **ADVISE** the Commission to ensure that the transition from the current website to the FAO one does not affect the operations of the Commission and set aside enough resources for this transition.

Updates on national statistical systems (CPCs)

Rec. WPDCS21.02 (para 135):

The WPDCS **RECOMMENDED** that the SC consider adding specific code to longline logbook and ROS templates to enable the collection of data on the use of loop devices in longline fisheries. The WPDCS **ACKNOWLEDGED** that the ratio between the number of hooks and loop lines may provide a simple and efficient metric for effort and further **NOTED** that species-specific catch data should be collected for both hook-based and loop-based effort units.

WPDCS Programme of Work

Rec. WPDCS21.03 (para 220):

The WPDCS **RECOMMENDED** that the SC consider and endorse the WPDCS Programme of Work (2026–2030).

Adoption of the report

Rec. WPDCS21.04 (para 228):

The WPDCS **RECOMMENDED** that the SC consider the consolidated set of recommendations arising from WPDCS21.

1. Opening of the meeting

1. The 21st Session of the Indian Ocean Tuna Commission's (IOTC) Working Party on Data Collection and Statistics (WPDCS21) was held as a hybrid meeting from the 25th of November to the 29th of November 2025, with in-person participants attending the Session at the Royal Garden Hotel in Shanghai, China, and online participants connecting through the Zoom platform. A total of 84 participants (110 in 2024, 55 in 2023, 117 in 2022, 94 in 2021) attended the Session, of which 46 in person and 38 remotely. Six participants received funding through the MPF. The list of participants is provided at [Appendix I](#). The meeting was opened on 25th of November 2025 by the Chairperson, Dr. Julien Barde (EU,France), who welcomed participants to the meeting and proceeded with the arrangements for the session.

2. Adoption of the agenda and arrangements for the session

2. The WPDCS **ADOPTED** the Agenda provided at [Appendix II](#). The documents presented to the WPDCS21 are listed in [Appendix III](#).

3. The IOTC Process: outcomes, updates, and progress

3. Outcomes of the Scientific Committee and Commission's last meetings

3. The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-03](#) which outlined the main outcomes of the 27th Session of the Scientific Committee (SC27) specifically related to the work of the WPDCS.
4. The WPDCS **NOTED** that the data support mission requested by Pakistan at SC17 was not conducted in 2025, and that this matter could be considered under the Programme of Work (see section 7).
5. With reference to the report of WPNT14, which emphasised the interest of length-based assessment models, the WPDCS **NOTED** that several papers focusing on the collection of size-frequency data would be presented at the meeting, highlighting the efforts made by some CPCs to address existing gaps in such data, particularly for neritic tunas, seerfish, and billfish (see section 5).
6. Regarding the interest acknowledged by SC27 in sharing individual biological data, samples, and photographs to support the IOTC scientific process, the WPDCS **NOTED** that the Secretariat had developed a voluntary form for reporting information on morphometric data and samples to the IOTC (see paper [IOTC-2025-WPDCS21-18](#)).
7. In addition, the WPDCS **NOTED** that an EU-funded pilot project on a regional sampling programme would commence in 2026, with the aim of collecting morphometric data and samples and strengthening the capacity of CPCs in data and sample collection and management (see paper IOTC-2025-WPDCS21-08).
8. The WPDCS **NOTED** that the ROS reporting templates have been updated by the Secretariat in 2025 following the endorsement by the SC of the revised reporting requirements adopted in 2024 (see paper IOTC-2025-WPDCS21-24).
9. The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-04](#) which outlined the main features of the data-related CMMs adopted at the 29th session of the Commission (COM29) held in La Réunion from 13-17 April 2025.
10. The WPDCS **ACKNOWLEDGED** that three CMMs adopted at COM29 meeting were directly relevant to the WPDCS:
 - i. a revised Resolution on the Regional Observer Scheme (ROS), which primarily modified the timeliness of data submission (Resolution [25/06](#));
 - ii. a Resolution harmonising and consolidating provisions from existing IOTC resolutions relating to sharks taken in tuna and tuna-like fisheries operating within the IOTC Area of Competence, including specific measures for thresher sharks, whale sharks, and oceanic whitetip sharks (Resolution [25/08](#)); and

- iii. a dedicated Resolution on mako sharks aimed at enhancing and improving the quality of data on both retained catches and discards (Resolution [25/09](#)).

3. Review of current data-related CMMs relevant to the WPDCS

11. The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-05](#), which invited participants at WPDCS21 to review existing CMMs relevant to the WPDCS. The paper provided an overview of current data-related CMMs, including key data-reporting obligations and the specific reporting forms developed by the Secretariat for each dataset. It also reviewed terminology, data-resolution requirements, and reporting standards across fisheries and taxa, highlighting potential inconsistencies among some CMMs and challenges faced by CPCs in collecting and reporting data to the IOTC.
12. The WPDCS **NOTED** that reporting requirements related to the monitoring of landings and transshipments of fish products in fishing ports (Resolution [25/11](#)), as well as transshipments at sea (Resolution [25/05](#)), were not included in this document, as they pertain to compliance purposes.
13. The WPDCS **RECALLED** that some confusion may arise from the interchangeable use of the terms “*artisanal*” and “*coastal*” in IOTC terminology. The WPDCS further **NOTED** that “*coastal*” refers primarily to the area of operation of a fishery, whereas “*artisanal*” relates to the technological characteristics of fishing operations. In this regard, some vessels operating on the high seas may nevertheless be artisanal in nature, as they use older fishing gears and technological attributes.
14. The WPDCS **NOTED** that the Secretariat has given preference to the use of the terms “*medium-scale*” and “*large-scale*” over “*semi-industrial*” and “*industrial*” in IOTC fishery definitions, in order to better reflect the area of operation of the fisheries within the IOTC.
15. The WPDCS **NOTED** Indonesia’s constraints in reporting data related to Resolution [23/01](#), due to government regulations on FAD fishing.
16. The WPDCS **NOTED** that for anchored FAD fisheries in Réunion Island, fishing location data are not recorded; only catch data are collected. However, size-frequency data are collected from AFAD operations.
17. The WPDCS further **NOTED** that most vessels fishing on AFADs are small-scale and do not use logbooks to record data, resulting in a lack of spatial information. In some cases, inconsistencies have been observed between the data collected and the data reported to the IOTC.
18. ~~The WPDCS **AGREED** that different data-reporting requirements could be considered for coastal and surface fisheries operating with AFADs~~**ACKNOWLEDGING** the concerns expressed by some CPCs in fulfilling the data collection and reporting obligations established in Resolution [23/01](#), and **NOTING** that in the absence of VMS and logbook recording systems in most small-scale AFAD fisheries, the AFAD identifier associated with the catch cannot be determined and catch data are generally not available at set or event level, while also **NOTING** that Maldives has continued to report the required information, the WPDCS **AGREED** that different data-reporting requirements could be considered for coastal and surface fisheries operating with AFADs, and that this could be brought to the attention of the WPICMM.-
19. The WPDCS **NOTED** the distinction between the level of data to be collected under Annex II of Resolution [23/01](#) and the aggregated reporting requirements set out in paragraph 11 of that Resolution, consistent with the standards established in Resolution [15/02](#). The WPDCS further **NOTED** that the current reporting form (3AA) is structured to reflect the level of detail specified in Annex II. The WPDCS **REQUESTED** the Secretariat to bring this to the attention of the WPICMM, in order to highlight the discrepancy between the data recording and reporting levels stipulated in Resolution [23/01](#), and to seek clarification on the level of data reporting required under that Resolution.
20. The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-06](#) which provided the status of catches for the three tropical tuna species under the mandate of the IOTC, relative to the Total Allowable Catches (TAC) and associated catch limits established in IOTC CMMs.

~~19-~~

~~20-21.~~ The WPDCS **NOTED** the bigeye tuna catch limit and sought clarification on the provisions related to over-catch, **AGREEING** that such information should be displayed on the website in a manner similar to that used for yellowfin tuna catch limits.

~~21-22.~~ The WPDCS also **NOTED** the yellowfin tuna catch limits, highlighting that no limits are set for Oman and Somalia under Resolution [19/01](#), as catches of yellowfin tuna from Oman's longline and surface fisheries have not exceeded the annual threshold of 5,000 t, while Somalia only has coastal fisheries that are not concerned by this Resolution.

~~The WPDCS **NOTED** that the most recent yellowfin tuna stock assessment required a revalidation of the MSY, due to variations in catch limits arising from the fact that not all CPCs are bound by the same Resolution, which resulted in changes to the established limits.~~

4. Data related activities and data overview

4. IOTC data section activities carried out in 2025

~~22-23.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-08](#) on the Data section activities for the year 2025.

~~23-24.~~ The WPDCS **NOTED** the activities undertaken and the updates provided on requests made to the WPDCS by other scientific WPs and Committees which were addressed during the meeting and are available in the Revised version of the document (Rev1) available from the meeting webpage.

~~24-25.~~ The WPDCS **NOTED** that in 2025, the Data Section undertook four in-country missions, to Madagascar, Kenya, Indonesia, and India; as well as several virtual support meetings for countries facing difficulties.

~~25-26.~~ The WPDCS further **NOTED** that this technical support focused on addressing gaps in countries' abilities to properly meet reporting requirements, and that many of these countries lack appropriate mechanisms for collecting fisheries data.

~~26-27.~~ The WPDCS **NOTED** the benefits of using [OPEN ARTFISH](#) or [Calipseo](#), tools developed by FAO to standardize the collection of small-scale fisheries data. **NOTING** the limitations of these tools, the Secretariat planned to further develop them to better support data collection from small-scale fisheries.

~~27-28.~~ The WPDCS **NOTED** Kenya's acknowledgment as one of the countries that benefitted from the 2025 missions, having used OPEN ARTFISH and begun developing a fisheries management platform based on Calipseo. Furthermore, the WPDCS **NOTED** that this mission helped Kenya successfully submit most datasets in accordance with IOTC standards.

~~28-29.~~ The WPDCS **NOTED** the two swordfish stocks presented during the 2025 WPB meeting ([WPB23](#)), **NOTING** that Kenya's longline fishery, targeting swordfish, could be affected by the migration patterns of these species and by the stock to which they belong.

~~29-30.~~ The WPDCS **NOTED** that Tanzania made a formal request for Secretariat mission in Tanzania in 2026, following recent progress in developing its fisheries database management platform.

~~30-31.~~ The WPDCS further **NOTED** the participation of the Secretariat in external meetings with other stakeholders, including the European Commission, FIRMS, and CWP, noting that the current IOTC Data Coordinator has been appointed as the new Chairperson of the CWP.

~~31-32.~~ Additionally, the WPDCS **NOTED** the various types of workshops organised by the Secretariat to enhance CPCs' knowledge. In 2025, one workshop on data reporting guidelines was held in Indonesia, and two species identification workshops were held, one in Sri Lanka and one in India. The WPDCS **NOTED** that all workshops were attended by several CPCs.

- [32-33.](#) The WPDCS **NOTED** that the data reporting workshop, which followed on from the workshops held in 2024, was successfully attended by 18 CPCs. During this workshop, CPCs were provided with updates to the guidelines, shared their issues, proposed new codes, and offered feedback on how to improve reporting.
- [33-34.](#) The WPDCS **NOTED** that the species identification workshops were held in response to requests from CPCs seeking support to improve species identification. The WPDCS further **NOTED** that the species identification workshops included training on sampling methodology and the basics of data collection.
- [34-35.](#) The WPDCS **NOTED** that the Data section improved the description and code list references of the IOTC Reporting Forms and their description, as well developed two new forms for voluntary reporting of the recovery of abandoned, lost, and discarded fishing gears ([6LG](#)) and for morphometric and biological data ([5MB](#)).
- [35-36.](#) The WPDCS **NOTED** that the main IOTC spatial layers were corrected to ensure the appropriate coastal lines limits and that the IOTC main geospatial layers were published in the FAO Geoserver [instance](#). The WPDCS also **NOTED** that the Secretariat along with expert consultants is working on the development of a visualisation tool ([geoinfo](#)) to provide the IOTC spatial layers that allow users to extract and intersect layers for specific areas of interest.
- [36-37.](#) The WPDCS **NOTED** the various projects being undertaken by the Data Section to improve the Secretariat's databases, as well as the funding provided by several donors to support the Secretariat's work.
- [37-38.](#) The WPDCS **NOTED** the changes being implemented by the Secretariat to improve the visibility of the data disseminated by the Secretariat. The WPDCS further **NOTED** that the Secretariat should maintain alignment between the new and old versions of the data until further clarification is provided in the metadata.
- [38-39.](#) The WPDCS **NOTED** the Secretariat is in the process of using Zenodo, which provides a DOI for each document version, to publish data, **NOTING** that Zenodo's capacity allows multiple versions, and presentations of the same dataset in different formats.

4. IOTC data status and overview

- [39-40.](#) The WPDCS **NOTED** paper [IOTC-2025-WGEMS05-INF01](#) on the report of the Working Group on Electronic Monitoring Systems.
- [40-41.](#) The WPDCS **NOTED** that following the request of the SC27 to undertake an online intersessional review in collaboration with the IOTC Secretariat of the agreed minimum ROS data fields the WGEMS **AGREED** with all the suggestions put forward by the Secretariat to consolidate the ROS reporting forms.
- [41-42.](#) The WPDCS **NOTED** that the ROS gillnet-specific fields still need revision as gillnet fishery experts were not available to provide inputs into the review process.
- [42-43.](#) The WPDCS **ENDORSED** the WGEMS Programme of work for the period 2026-2030.
- [43-44.](#) The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-24](#) about the evolution of IOTC ROS reporting obligations and tools with the following abstract:

"The IOTC Regional Observer Scheme (ROS) aims to collect verified data from observers onboard fishing vessels operating throughout the IOTC area. Since the scheme's inception, the IOTC has developed and revised standardized reporting tools for CPCs to use when submitting observer data to the Secretariat. This paper aims to examine the evolution of the ROS reporting tools and evaluate the completeness of the observer data submitted by CPCs. Following recommendations from the Scientific Committee and CPCs, the tools have undergone four major revisions. The most recent version of reporting forms was released in 2025. Adoption of the official tools has been slow, and many CPCs continue to report using alternative formats. To examine the completeness of reported data, all observer data submitted through 2021 were compiled and assessed across three reporting levels: general, operational, and individual. For purse seine and longline fisheries, both database-integrated submissions and alternative-format reports were analysed. Observer data from both gear types

mostly included general and operational data, but information on the individual level was less complete. No pole-and-line data have yet been incorporated into the ROS database, although alternative-format reports contain information across all three reporting levels. CPCs and the Secretariat continue to work on reporting of gillnet observer data. Overall, the reported data remain incomplete, suggesting that variation in reporting practices and the use of alternative formats continue to affect the consistency of information received. The Secretariat continues to work with CPCs to strengthen reporting practices and support more consistent and comprehensive data submission."

- 44-45. _____ The WPDCS **THANKED** and **CONGRATULATED** the authors for the paper.
- 45-46. _____ The WPDCS **NOTED** that the document presents a review of the historical reporting tools and data submitted to the Secretariat to evaluate consistency with ROS requirements and to identify common reporting gaps. and to assess completeness of information across broad categories, general level, operational level, and individual level.
- 46-47. _____ The WPDCS **NOTED** that was a lag period between the release of the updated forms versions along the time and their implementation by CPCs, reflecting the time needed for internal dissemination, observer training, and integration into national observer systems.
- 47-48. _____ The WPDCS **NOTED** that the Secretariat recognised the systems in place incorporating some data provided by alternative formats to the ROS database, although these were not completely covering the ROS requirements.
- 48-49. _____ The WPDCS **NOTED** that the reporting of observer data remains inconsistent and incomplete, **RECALLING** that the ROS reporting tools have been agreed as the mandatory format to report observer data according to Resolution [25/06](#).
- 49-50. _____ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-25](#) on the progress on the implementation, data reporting, and outcomes of the Regional Observer Scheme (ROS) and **THANKED** the Secretariat for the update.
- 50-51. _____ The WPDCS **NOTED** that after the revision of the ROS minimum data fields, endorsed by the SC27, the Secretariat updated the ROS reporting forms, and these were discussed at the WGEMS05 and during intersessional meetings with key experts.
- 51-52. _____ The WPDCS **NOTED** that following the approach of the mandatory statistical reporting forms, the consolidated ROS reporting forms were described according to the agreed data standard, including the description of each worksheet of the form, the data elements included and the specific reporting fields and formats for the main gears used in fisheries subject to the ROS data requirements , and the WPDCS further **NOTED** that the forms are currently available on the reporting forms section of the IOTC [webpage](#).
- 52-53. _____ The WPDCS **NOTED** that the Secretariat is planning to conduct dedicated ROS reporting workshops in 2026 to facilitate the implementation of the ROS reporting forms by the CPCs.
- 53-54. _____ The WPDCS **NOTED** that the Secretariat reviewed the available documentation to support the implementation of the ROS to organise and present them according to the needs, in terms of material and human resources, related with the development of Observer National programmes by the CPCs.
- 54-55. _____ The WPDCS **NOTED** that there are Identification Guides for marine turtles, seabirds, and sharks and rays' available versions in Arabic, Bahasa Indonesian, Bahasa Malaysia, Bengali, Hindi, Persian, Portuguese, Sinhalese, Spanish, Swahili, Tamil, Thai, and Urdu at the IOTC [webpage](#) and the translation to Dhivehi is in progress.
- 55-56. _____ The WPDCS **NOTED** that the ROS database architecture is under reconstruction to accommodate the requested revision of the minimum data fields and data standard. The WPDCS further **NOTED** that recognizing the efforts made by CPCs in implementing their observer programs, deploying observers on board, collecting data, and preparing the data reports, the Secretariat reconstructed the historical data submitted as trips reports to consolidate the main ROS data sets to support the Working Parties and the SC.

~~56-57.~~ The WPDCS **NOTED** that in absence of catch and effort data reported as operations/sets for most longline fleets, the coverage estimates continue to be based on the number of hooks observed, while the coverage estimates for purse seine fleets was done based on observed operations/sets, **RECALLING** that the SC25 recommended that the Commission endorsed the mandatory reporting of geo-referenced effort data as number of sets/operations for longline and surface fisheries to complement the current requirements of Res. [15/02](#), in order for the Secretariat to accurately and independently calculate the ROS coverage.

~~57-58.~~ The WPDCS **NOTED** that half of the longline fleets reporting ROS data shows stable reporting and increasing coverage trends with only four fleets with coverage levels above of the 5% required in the recent years. The WPDCS **URGED** the missing CPCs to address the provision of observer's data. The WPDCS further **NOTED** that the observer coverage was above the minimum required for the purse seine fleets providing observer data in recent years (2022 to 2024).

~~58-59.~~ The WPDCS **NOTED** that the Secretariat review the available information reported by coastal fisheries regarding the monitoring of artisanal landings. **ACKNOWLEDGING** that there are currently no defined standards for the monitoring of artisanal vessels as part of the ROS, and that active coastal fishing vessel reporting remains voluntary, the WPDCS **NOTED** that currently it is not possible to obtain an estimation of coverage for the monitoring of artisanal fisheries.

~~59-60.~~ The WPDCS **CONGRATULATED** the Secretariat for the improvements on the updates of the ROS components and **ACKNOWLEDGED** the proposed activities for the continuous improvements of ROS tools and materials to support their implementation by the CPCs.

4. Other data-related activities

~~60-61.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-09](#) on the progress of IOTC-OFCF Project for JFY2025 activities and planned activities for JFY2026 (OFCF) with the following abstract:

"The IOTC-OFCF Japan Project is conducted by the IOTC Secretariat and OFCF Japan (Overseas Fishery Cooperation Foundation of Japan) and has been implemented since JFY2002. The project is supported by the Fisheries Agency of Japan. The objectives are: (1) to improve the accuracy of tuna and tuna-like fishery statistics and information provided by IOTC coastal States (2) to develop capacity in the collection, management and reporting of tuna fishery statistics by IOTC coastal States".

~~61-62.~~ The WPDCS **THANKED** OFCF for the close collaboration with the IOTC Secretariat and **CONGRATULATED** the authors for the completion translation of the fish species ID cards into all languages used by the IOTC coastal states, as a result of four years of effort under the IOTC-OFCF Japan Project.

~~62-63.~~ The WPDCS **NOTED** that Information on the status and usage of Electronic Data Collection Tools (EDCTs) in the IOTC coastal states was continuously collected from JFY2024.

~~63-64.~~ The WPDCS **NOTED** that specification about the development of web-based tools which support species identification of IOTC target species are provided in paper [IOTC-2025-WPDCS21-15](#).

~~64-65.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-10](#) on Fisheries Data Reporting to the IOTC: Status and Issues, with the following abstract:

"This report reviewed the status and quality of fishery data submitted to the IOTC Secretariat for the 2024 reference year, including retained catch, catch and effort, size-frequency, discard, and Fish Aggregating Device (FAD) data. Overall reporting improved compared with previous years, with most CPCs submitting core datasets for longline, purse seine, and coastal fisheries. Several CPCs that had previously faced challenges in meeting minimum reporting standards, such as Pakistan, Oman, and Somalia, submitted more complete datasets, although substantial gaps remained, particularly for geo-referenced information. Yemen also provided essential catch and fishery-level information following technical exchanges with the Secretariat." (see paper for full abstract).

- ~~65-66.~~ The WPDCS **NOTED** the proposed IOTC classification scheme for fishery types, which are based the vessel characteristics such as: purpose of activity; area of operation; vessel size; and fishery category. The WPDCS further **NOTED** that the Secretariat introduced a medium-scale category for vessels that may not be included on the list of Registered Authorized Vessels (RAV) but are operating commercially. It was also **NOTED** that some CPCs are using the industrial fishery category "IN" in their fishery codes, although this category is explicitly intended for vessels listed on the RAV.
- ~~66-67.~~ The WPDCS **NOTED** the various data reporting requirements, which depend on the type of fishery and/or species, and **NOTED** that some of these requirements remain voluntary. The WPDCS further **NOTED** the introduction of two new voluntary forms: one for collecting information on lost gears (Form [6LG](#)) and another one for collecting morphometric and biological sample data (Form [5MB](#)).
- ~~67-68.~~ The WPDCS **NOTED** improvements in the streamlining of the reporting process, including the introduction of additional data validators to verify submissions prior to acceptance, and **NOTED** that reference code lists are now published on Zenodo (<https://doi.org/10.5281/zenodo.15743875>).
- ~~68-69.~~ The WPDCS **NOTED** that in 2025, 99.9% of retained catch data were submitted by the deadline, with only one CPC failing to submit any data. The WPDCS also **NOTED** that the Secretariat relied on FAO data for non-reporting and non-member countries.
- ~~69-70.~~ The WPDCS **NOTED** that CPCs continue to face difficulties in fully complying with reporting requirements for geo-referenced catch and effort data and for size-frequency data. The WPDCS **NOTED** that, relative to expected retained catch reporting and the number of CPCs required to submit data, 16% of total catch-and-effort data were not submitted in 2025, with five CPCs failing to report, and that 30% of size-frequency data were unavailable.
- ~~70-71.~~ The WPDCS **NOTED** improvements in the reporting of discarded catch from industrial fisheries and **NOTED** that data are now provided at the fishery level for both longline and purse seine fisheries. The WPDCS further **NOTED** that discard information was also available for some small-scale fisheries, with most data relating to the release and discard of marine turtles.
- ~~71-72.~~ The WPDCS **NOTED** that owing to the lack of discarded catch from coastal fisheries, most coastal fleets indicated nil discards in eMARIS.
- ~~72-73.~~ The WPDCS **NOTED** the submission of FAD data using Forms [3DA](#) and [3AA](#). It was **NOTED** that most purse seine fleets operating with vessels fishing on DFADs submitted data using the new forms, although some inconsistencies in data quality were observed. The WPDCS **NOTED** that only Maldives submitted data for anchored FADs using Form [3AA](#).
- ~~73-74.~~ The WPDCS **NOTED** that data on buoy activity continue to be regularly submitted by purse seine fleets.
- ~~74-75.~~ The WPDCS **NOTED** the increase in fishing craft statistics submissions in 2025. The WPDCS further **NOTED** that coastal CPCs with multi-purpose fisheries chose to classify vessels using the FAO fishery-type categories: MO (multipurpose vessels), GO (gillnetters), and LO (line vessels).
- ~~75-76.~~ The WPDCS **ACKNOWLEDGED** the new submissions from Somalia, consisting mainly of tropical tuna species and some neritic species. The WPDCS further **NOTED** that Somalia, for two consecutive years, has published a five-year catch series in its national report. The WPDCS **NOTED** that the 2024 catch, currently included in the database, showed an impact on the bigeye tuna stock assessment conducted in October 2025, **NOTING** that Somalia's bigeye catch accounted for 5% of the total Indian Ocean bigeye catch in 2024.
- ~~76-77.~~ The WPDCS **REQUESTED** that Somalia present its estimation methodology and sampling programme at the next WPDCS meeting, as required for any new datasets.
- ~~77-78.~~ The WPDCS also **NOTED** the new catch data submitted by Yemen, although these were not consistent with IOTC standards. These data followed liaison with Yemen concerning revised submissions to FAO. The WPDCS further **NOTED** that more information is required, as the data show a significant increase in yellowfin

tuna catch, lower catches of billfish species, and no available information on Yemen's data collection and sampling programme.

~~78-79.~~ The WPDCS **NOTED** the query raised regarding the need to collect small size bins (1–2 cm) when larger intervals (e.g., 5 cm) may be sufficient for large fish (e.g., marlins) for some scientific studies (as reported in the fisheries science literature; see [Wang et al. 2020 for sensitivity of assessment to bin size](#)). The WPDCS **RECALLED** that size intervals are recommended through the IOTC data-reporting guidelines, and that size samples with class intervals greater than 5 cm are excluded from the standardised fork-length dataset prepared by the Secretariat for stock assessment models and other scientific analyses of the IOTC.

~~79-80.~~ The WPDCS **NOTED** that the precision of most fish-measuring tools is typically 1 cm, and that recording lengths at this level of precision does not impose additional constraints compared to recording lengths in broader size classes (e.g., 5 cm). The WPDCS further **NOTED** that collecting measurements at the highest possible precision allows size data to be subsequently aggregated into any required size interval, thereby maximising their usefulness for scientific analyses

~~80-81.~~ The WPDCS **NOTED** that some CPCs still face difficulties in providing catch data for individual billfish species, particularly blue and black marlins. It was **NOTED** that CPCs should make efforts to provide species-specific data, including size-frequency information, given the differing characteristics of these species and the fact that they are assessed individually rather than as a group.

~~81-82.~~ The WPDCS **RECALLED** the ambiguity in Resolution [15/02](#) regarding catch and effort reporting for coastal fisheries already mentioned in past meetings. The WPDCS **NOTED** that the use of the term “regularly” as a temporal requirement is unclear, and that the resolution should be revised to provide clearer guidance on temporal reporting and other information required for coastal fisheries.

~~82-83.~~ The WPDCS **NOTED** that India is not bound by Resolution [21/01](#) on yellowfin catch limits, and that India stated this should also apply to skipjack tuna.

~~83-84.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-15](#) on Digital solutions for IOTC species identification (OFCF), with the following abstract:

“OFCF Japan has launched a new project from JFY2024 called “WEB based tool development for identification of IOTC species” under the IOTC-OFCF project in JFY2024. In JFY2025, OFCF Japan has launched a website specialized to provide digital information and tools which enables less experienced enumerators/observers to correctly identify the IOTC species. This website contains; IOTC species description, IOTC species photo library, YouTube videos, and “ID tool for IOTC species.” By combining these digital solutions, enumerators/observers would be able to conduct species identification on landing sites using their smartphones/tablets.”

~~84-85.~~ The WPDCS **CONGRATULATED** OFCF for the improvements on the developed tools for supporting the identification of tuna and tuna like species.

~~85-86.~~ The WPDCS **NOTED** that the application performs better on Android phones, particularly when used offline. The WPDCS further **NOTED** the need to include additional photos.

~~86-87.~~ The WPDCS **NOTED** that other RFMOs with similar species management needs were introduced to the project, and that ICCAT expressed interest.

~~87-88.~~ The WPDCS **EXPRESSED** concern regarding the IOTC webpage being moved under the FAO website, **NOTING** that this may create challenges in hosting the tool and the OFCF photo library. It was further **NOTED** that, should constraints arise, OFCF may need to host the tool.

~~88-89.~~ The WPDCS **REQUESTED** the SC and the Secretariat to further investigate the transition to the FAO website and assess how it may affect the repositories of information currently provided by IOTC.

- ~~89-90.~~ The WPDCS **RECOMMENDED** that the SC **ADVISE** the Commission to ensure that the transition from the current website to the FAO one does not affect the operations of the Commission and set aside enough resources for this transition.
- ~~90-91.~~ The WPDCS **NOTED** that the application should include photos of species in poor condition, to aid identification, and that the application could be made available in additional languages.
- ~~91-92.~~ The WPDCS **NOTED** that EMS uses AI to identify species but also **NOTED** that the tool is intended for coastal fisheries and field samplers, who generally do not use EMS.
- ~~92-93.~~ The WPDCS **NOTED** that only certain picture sizes are suitable for the application, and that larger images may require resizing. The WPDCS further **NOTED** that collaboration from countries in providing photos would be very helpful, and that copyright protection is ensured.
- ~~93-94.~~ The WPDCS **NOTED** that developing a tool for determining fishery types, similar to the existing species-identification tool, could be beneficial.
- ~~94-95.~~ The WPDCS **NOTED** that India has a photo-library application, "MARLIN@CMFRI" which is accessible to fishers and samplers and available from [Google Play](#).
- ~~95-96.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-07](#) on An update on the IOTC oceanographic atlas project, with the following abstract provide by the authors:
- "The development of the IOTC oceanographic atlas project was among the priorities of the WPDCS 20 that were endorsed by the SC27 (2024). Administrative arrangements are underway for an implementation of the project in January 2026. This technical note presents an update of the preparatory phase of the project."*
- ~~96-97.~~ The WPDCS **THANKED** the authors for the update and **NOTED** that the project has been delayed and will start in 2026.
- ~~97-98.~~ The WPDCS **NOTED** that the geographical boundaries for the Atlas area were revised and improved, modifying the northeast limit to remove a part of the Pacific Ocean, along with some change in data products but keeping the original variables.
- ~~98-99.~~ The WPDCS **NOTED** that the Secretariat proposed to align the spatial definition of the Atlas with the official IOTC spatial layers (e.g., stock assessment areas) developing scripts to facilitate the extraction from FAO Geoserver.
- ~~99-100.~~ The WPDCS **NOTED** that the variables computation is automatically updated with Copernicus datasets, **RECALLING** on the need to ensure the sustainability of the project on the long term, due potential changes of the base products from Copernicus in the future.
- ~~100-101.~~ The WPDCS **NOTED** presentation [IOTC-2025-WPDCS21-18](#) on Perspectives on the collection and management of morphometric data and biological samples at the IOTC.
- ~~101-102.~~ The WPDCS **NOTED** that the amount of size-frequency data available to the IOTC Secretariat remains limited for several fisheries, particularly for billfish and neritic species, and **AGREED** on the need to collect such data, given that size-based assessment models are essential tools for assessing the status of these stocks.
- ~~102-103.~~ The WPDCS further **NOTED** that the population structure of most IOTC species remains poorly understood, **ACKNOWLEDGING** that resolving stock units through the collection of biological samples is a prerequisite for defining the appropriate spatial scale of stock assessments.
- ~~103-104.~~ The WPDCS **NOTED** that two recent studies based on Single Nucleotide Polymorphic markers have recently been published for swordfish ([Chevrier et al. 2024](#)) and narrow-barred Spanish mackerel, kawakawa, and longtail tuna ([Feutry et al. 2025](#)). The results of these studies challenge the current assumption of one single stock for these four species and the authors called for further samples to complement the design and cover the whole Indian Ocean.

- ~~104-105.~~ The WPDCS **NOTED** that the Secretariat has developed a new voluntary reporting form (Form [5MB](#)) to assist CPCs in the collection and submission of biological data.
- ~~105-106.~~ The WPDCS **NOTED** that several Working Parties have recommended that the Secretariat develop and host a biological database; however, progress has been constrained by the scarcity of accessible data and staff shortages.
- ~~106-107.~~ The WPDCS **NOTED** that a project funded by the European Union will include a pilot of large regional sampling programme to (i) collect size-frequency data, (ii) improve morphometric relationships and conversion factors, (iii) collect samples for genomic analyses, and (iv) enhance biological data management.
- ~~107-108.~~ The project includes a genomic component on epi-genetic ageing for albacore, yellowfin tuna, and/or bigeye tuna, as these are the key species for which age and length data are critical to integrated stock assessments. The WPDCS further **NOTED** that a scoping study should provide guidance on the recommended prioritisation and sequencing of work among these species.
- ~~108-109.~~ The WPDCS further **NOTED** that the EU-funded Sustainable Western Indian Ocean Programme (SWIOP) is expected to commence in 2026 for a period of four years and will include activities supporting the development of a regional biological database, as well as a pilot for biological sample storage and management facilities.
- ~~109-110.~~ The WPDCS **ACKNOWLEDGED** that both projects aim to support the collection and improved management of key biological data and play an important role in strengthening collaboration among CPCs and regional research institutions, as well as in promoting the sharing of biological data.

5. Updates on national statistical systems

5. Data collection

- ~~110-111.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-11](#) on Observations on the use of length conversion equations to address length data deficiencies for swordfish (*Xiphias gladius*), Indo-Pacific sailfish (*Istiophorus platypterus*), black marlin (*Istiompax indica*) and blue marlin (*Makaira nigricans*) in the Indian Ocean, using images of billfish caught by Sri Lanka's artisanal and semi-industrial multi-day fishing vessels, with the following abstract provided by the authors:

*“Accurate length data are essential for billfish stock assessments, yet obtaining standard morphometric measurements is challenging in Sri Lanka due to common dressing practices that remove key body parts before landing. This study evaluated the use of Pectoral Second Dorsal Length (PDL) and Pectoral Anus Length (PAL) as proxies for Lower Jaw Fork Length (LJFL) in swordfish (*Xiphias gladius*), Indo-Pacific sailfish (*Istiophorus platypterus*), black marlin (*Istiompax indica*), and blue marlin (*Makaira nigricans*). Morphometric data were collected from artisanal and semi-industrial multi-day fishing vessels using field measurements and image-based analysis. Results showed strong linear relationships between LJFL and both PDL and PAL for swordfish, sailfish, and black marlin ($R^2 > 0.85$), confirming their reliability for length estimation. In contrast, blue marlin exhibited weaker correlations, with PDL moderately related to LJFL ($R^2 = 0.73$) and PAL poorly correlated ($R^2 = 0.46$), indicating higher variability in body proportions. These findings demonstrate that PDL and PAL provide robust conversion tools for most billfish species in the Indian Ocean but highlight the need for additional sampling and refinement before their application to blue marlin. However, the relationship between LJFL and PDL can be considered reliable, and therefore PDL can be used to derive LJFL.”* (see paper for full abstract).

- ~~111-112.~~ The WPDCS **CONGRATULATED** the authors for their continued work on improving the biological and morphometric data of billfish species.
- ~~112-113.~~ The WPDCS **NOTED** the lack of morphometric data held by the Secretariat, particularly for billfish species, and **NOTED** that such information would be valuable for the IOTC biological database. The WPDCS

further **NOTED** that the objective of the project is to assist CPCs in improving the reporting of size-frequency data for billfish species, which are often landed in a dressed form.

[113-114.](#) The WPDCS **NOTED** that Réunion Island has collected extensive data on billfish to develop statistical models and **NOTED** that collecting a wide range of variables is beneficial for analysis, (e.g., genomic markers), **ACKNOWLEDGING** that is fundamental to understand the migration connectivity of billfish species.

[114-115.](#) The WPDCS further **NOTED** that the new IOTC Form [SMB](#) developed by the Secretariat aims to encourage CPCs to report morphometric data, with relationship data and parameters to be made available with a R package.

[115-116.](#) The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-12](#) on Comparison of length-frequency data from a monthly sampling survey and a port-based data collector in the Andaman Sea of Thailand, with the following abstract provided by the authors:

“Comparison of length-frequency data from a monthly sampling survey and a port-based data collector in the Andaman Sea of Thailand with the following abstract: “Length frequency data for tuna and tuna-like species in the Andaman Sea of Thailand have been collected by a monthly sampling survey. Each month, the data are collected from purse seiners by scientists from research centers using accidental sampling. However, the numbers of fish measured through this survey did not fully comply with the Resolution 15/02 on Mandatory Statistical Reporting Requirements for IOTC Contracting Parties and Cooperating Non-contracting Parties (CPCs); that is, for most species, fewer than one fish per ton caught is measured. Therefore, in 2025, a data collector was placed at two fishing ports in Phang Nga Province to collect the length frequency data on a daily basis, while the monthly sampling survey continued as usual. Results of the data collection showed that, from January to September 2025, the number of fish measured by the port-based data collector was three times higher than that of the monthly sampling survey, covering nine tunas and tuna-like species. Only one species reported in Thailand’s catch could not be recorded by the data collector, namely Indo-Pacific king mackerel. However, a number of Indo-Pacific king mackerel were measured in the monthly sampling survey. In addition, Indo-Pacific sailfish was not found from the monthly sampling survey, while it was measured by the data collector. Average lengths from both data collection programs were slightly different, except for yellowfin tuna, due to the small sample size. By implementing the port-based data collection program, it is expected that the number of fish measured will meet the criteria set in the Resolution 15/02.”

[116-117.](#) The WPDCS **THANKED** the authors for their work on analysing sampling data from Thailand’s fisheries.

[117-118.](#) The WPDCS **NOTED** the variation in sampling methods, with random sampling conducted at landing sites, while different methods are applied when sampling from processing plants. It was further **NOTED** that port sampling captured only large yellowfin tuna, and Port-based sampling showed bias towards larger fish, necessitating continued reliance on monthly sampling for accurate assessments.

[118-119.](#) The WPDCS **NOTED** that Thailand has presented length-based stock assessment results for species from its waters at various Working Parties.

[119-120.](#) The WPDCS **NOTED** that port sampling data lack small-sized fish, as all small fish species are combined into a single category in Thailand.

[120-121.](#) The WPDCS **NOTED** that sorting small fish at landing sites is time-consuming and cannot be done routinely. It was further **NOTED** that the lengths of smaller species are collected only during monthly sampling exercises.

[121-122.](#) The WPDCS **NOTED** that the programme was implemented as a one-year pilot and that Thailand plans to continue the programme, as it will help meet the IOTC size-frequency reporting requirements.

[122-123.](#) The WPDCS **NOTED** that the grid squares used in the data correspond to landing-port locations, and that vessels operate within 20 nautical miles of these sites.

[123-124.](#) The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-13](#) on A pilot project to start evaluating the new "trawlines/loop" gear in the EU.PRT pelagic longline fishery operating in the Indian ocean, with the following abstract provided by the authors:

"Recently, a gear modification known as "trawlines" or "loops" has been introduced in pelagic longline fisheries targeting swordfish. It is unclear when this practice started, and what is the extension of its use, including in the Indian Ocean. The aim of this paper is to present a pilot study for the EU.PRT fleet that aims to collect data from this gear modification in the Indian Ocean, including collecting data on the "trawlines/loops" configuration, and on species composition, catchability and size distribution in "trawlines/loops" compared to hooks. Data on interactions with vulnerable species will also be collected and compared. The preliminary results will be presented to IOTC during 2026."

[124-125.](#) The WPDCS **NOTED** that records of the use of trawlines and loops exist in the Pacific and Atlantic Oceans and the Mediterranean, while their utilisation in the Indian Ocean is unclear.

[125-126.](#) The WPDCS **NOTED** that the Portuguese Fisheries Administration (DGRM) together with the Portuguese Institute for the Sea and Atmosphere (IPMA) plans to start a pilot project in 2026 to collect quantitative data of the use of trawlines/loops compared to the hooks used by the Portuguese longline fleet operating in the IOTC area including (i) the specific gear configuration (ii) data on captures and catchability of the main target species (swordfish), (iii) data on the size distribution (i.e., size selectivity) of the main target species (i.e., swordfish and blue shark), and (iv) data on the bycatch of other species.

[126-127.](#) The WPDCS **NOTED** that the project plans two data collections frameworks with detailed logbooks and more detailed and independent collection by onboard observers including individual hooking/entanglement location, and data on at-haulback status (dead/alive upon capture).

[127-128.](#) The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-14](#) on Development of an experimental pilot action by the Spanish surface longline fleet targeting swordfish in the Indian Ocean, employing terminal gear devices known as lazos (loops), with the following abstract provided by the authors:

"We present an experimental pilot action plan aimed at monitoring the use of loops (lazos in Spanish language) devices and assessing their effects on bycatch within the Spanish surface longline fishery operating in the Indian Ocean, with particular emphasis on Endangered, Threatened, and Protected (ETP) species. This initiative seeks to evaluate the ecological and operational implications of incorporating loops into fishing practices, providing a scientific basis for determining their potential to enhance swordfish catch efficiency while reducing incidental captures of vulnerable marine fauna."

[128-129.](#) The WPDCS **NOTED** that the document recalls on previous records in Pacific and Atlantic Oceans and the Mediterranean Sea and that their adoption has been facilitated through informal knowledge exchange among international crews and interactions between fleets operating in shared fishing grounds.

[129-130.](#) The WPDCS **NOTED** that the loop device, is constructed from nylon or polyamide monofilament, typically with a diameter between 2.0 and 2.5 mm, comprising several interconnected loops and with small monofilament ring serving as the attachment point between the loop device and the branchline.

[130-131.](#) The WPDCS **NOTED** that when a fish tries to take the artificial bait, the loop mechanism is activated. This causes a slipknot and multiple loops of different sizes to wrap around the fish, typically around its head, beak, fins or gills.

[131-132.](#) The WPDCS **NOTED** that skippers agreed that loops are particularly effective for capturing billfishes, particularly swordfish, and their use reduces bait-related costs.

[132-133.](#) The WPDCS **NOTED** that some studies suggests that loops may also represent a promising innovation for mitigating bycatch of endangered, threatened, and protected (ETP) species, including seabirds, and sea turtles.

[133-134.](#) The WPDCS **NOTED** that both documents presented in relation to the use of the loops as a new modification of the longline gear will have a potential reduction of the bycatch of seabirds and turtles and impact the billfish catchability. **NOTING** that some trials will be conducted next year, the WPDCS **ENCOURAGED** other CPCs scientists to investigate within their fleets the use of loops in the Indian Ocean and their potential impact on catchability of billfish and bycatch species and present their preliminary results on the next WPEB or WPDCS.

[134-135.](#) The WPDCS **RECOMMENDED** that the use of loop devices by observers and fishers on their logbooks be recorded and provided by the respective IOTC reporting forms to the Secretariat. Knowing that the loops can be defined as a new unit of effort, the WPDCS **REQUESTED** the Secretariat to amend the CE and ROS LL reporting forms accordingly to ensure that CPPs and observers can also make a breakdown of the catches associated with the use of loops or hooks.

[135-136.](#) The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-19](#) on Preliminary results from a dedicated data collection survey targeting the tuna and tuna-like species, with the following abstract provided by the authors:

“Fisheries data collection in Kenya has been undertaken using the routine data collection by the Beach Management Units (BMUs) while the fisheries personnel have been using the Catch Assessment Survey (CAS) sampling. Sampling is undertaken in selected landing sites in ten days a month depending on the lunar calendar. The sampled data is later raised to total using the frame survey data that captures the total fishing effort in all the marine landing sites. While routine data is supposed to be collected from all the fishing crafts, this however has not been possible. The two datasets when compared together were found to differ during some periods of the year. This led to the need to undertake a dedicated survey for the period that the datasets tended to vary.” (see paper for full abstract).

[136-137.](#) The WPDCS **CONGRATULATED** the authors for their paper on the survey focused on tuna and tuna-like species, **NOTING** that in Kenya the surveys were conducted during the main tuna season, and that Kenya also conducts a frame survey every two years.

[137-138.](#) The WPDCS **NOTED** that Kenyan fisheries have similar complexities to Tanzanian fisheries and also **NOTED** that the new survey approach could lead to overestimation of catch in the data collected.

[138-139.](#) The WPDCS **NOTED** several challenges in collecting survey data, including financial constraints, and **NOTED** that fish consumption in coastal areas is very important. **RECOGNISING** the similarities in fisheries and data collection challenges among Eastern African countries, the WPDCS **EMPHASIZED** the need for collaboration between these countries to improve their data-collection systems.

[139-140.](#) The WPDCS **NOTED** the challenges in implementing quotas, particularly when evaluating historical catches, and further **NOTED** the seasonality in Kenyan tuna fisheries. It was **NOTED** that vessels shift target species depending on the season, driven by environmental factors, fuel prices, and other variables, which could have an impact on quota systems.

[140-141.](#) The WPDCS **NOTED** that CPCs should place emphasis on sampling strategies, and that the group should consider including the monitoring of data collection methodologies in its programme of work, with focus on standardizing data protocols and pilot study timelines, emphasizing balance between fishing operations and data collection.

[141-142.](#) The WPDCS **NOTED** that the maturity stages presented were lower than those used in assessments, **NOTING** that the data collected were mainly from small-scale fisheries targeting smaller fish, with size distributions indicating that smaller individuals are caught in coastal areas.

~~142-143.~~ The WPDCS **NOTED** that biological data could also be collected from Kenya at accessible landing sites. The WPDCS further **NOTED** that the current sampling programme collects data according to the lunar cycle, representing a more systematic sampling approach.

~~143-144.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-20](#) on Fish Catch Survey and analysis: A tool to collect and estimate the landings of marine resources from artisanal fisheries in Indian Waters, with the following abstract:

“Artisanal fisheries contribute significantly to marine fish production in India, particularly for species such as tuna and tuna-like resources. Accurate and timely data on landings from this sector are essential for assessing trends, monitoring species distribution, and supporting sustainable management. The Fish Catch Survey and Analysis (FCSA) system, developed by the Central Marine Fisheries Research Institute (CMFRI), is a digital tool introduced in 2018 to modernize and streamline marine fishery data collection. Replacing the conventional paper-based approach, FCSA significantly improved efficiency, cost-effectiveness, data accuracy, and processing speed. Field staff (harbour-based observers) receive pre-configured monthly work schedules via a central server and record data using tablets in structured formats.” (see paper for full abstract).

~~144-145.~~ The WPDCS **THANKED** the authors for the comprehensive document on the development of India’s fish catch survey and analysis tool aimed at improving data collection.

~~145-146.~~ The WPDCS **NOTED** that the new system is carefully disaggregated by sector and recognised the benefits it will bring, including cost-effectiveness, reduced manpower requirements, and lower energy use. It was further **NOTED** that the system will be capable of collecting data at both geo-spatial and temporal scales.

~~146-147.~~ The WPDCS **NOTED** that, like other newly developed data collection applications, the CMFRI-FCSA application will also operate on mobile devices, enabling data collection in remote areas.

~~147-148.~~ The WPDCS **NOTED** that geo-referenced catch and effort data and size-frequency data should not differ significantly, given that they are mainly collected from the same fisheries. It was **NOTED**, however, that size-frequency data are sometimes collected for specific biological projects targeting selected species.

~~148-149.~~ The WPDCS **NOTED** that India has long time-series datasets collected by research vessels, which provide valuable information. However, it was **NOTED** that the Secretariat does not always have access to all data collected in India. However, it was **NOTED** that mechanisms for systematic data sharing with the Secretariat may be further strengthened. The WPDCS further **NOTED** the need for greater standardisation of datasets across programmes and highlighted that current FSI research activities primarily focus on offshore resources, with limited integration of coastal fisheries data. The WPDCS further **NOTED** the lack of standardised datasets from India and that FSI research does not include coastal fisheries.

~~149-150.~~ The WPDCS **NOTED** the multi-purpose highly diverse nature of Indian fisheries, in which several species are targeted across various fisheries, **HIGHLIGHTING** the complexity of collecting data accordingly. Furthermore, the WPDCS **NOTED** that India faces challenges in collecting and reporting data, particularly size-frequency data from each of its fisheries.

~~150-151.~~ The WPDCS **NOTED** the impressive design of the sampling programme however, **CONSIDERED** that collecting effort data from the survey will be challenging. It was further **NOTED** that extrapolations based on sampling surveys do not always account for vessel migration, potentially resulting in over or under estimation in different areas, and that a standard sampling framework that records total landing vessels could help provide effort estimates.

~~151-152.~~ The WPDCS **NOTED** that India employs many enumerators at landing sites who collect sampling data for numerous species, not only IOTC species. The WPDCS was **INFORMED** that quality-control procedures are in place to evaluate the performance of these enumerators.

[152-153.](#) The WPDCS **NOTED** that India ~~should keep strengthening its fisheries data collection needs to find ways to collect fisheries data in line with its obligations as an IOTC member~~, including data at both species and fishery levels. For example, conducting sampling surveys to determine the proportions of blue and black marlin for relevant fisheries.

[153-154.](#) The WPDCS **NOTED** paper IOTC-2025-WPDCS21-30 on Report on the collection of catch data and measures taken to improve it in 2024 for Iranian fisheries was withdrawn.

[154-155.](#) The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-26](#) on New information and data on the effectiveness of a crew-based observer protocol for IOTC data collection on-board artisanal fishing boats targeting tuna and tuna-like species within Sri Lanka's exclusive economic zone, in compliance with Resolution 24/04 On A regional observer scheme, with the following abstract provided by the authors:

"The Regional Observer Scheme (ROS) conducted by DFAR in 2013 revealed that, the small size and the less facilities of the artisanal and semi-industrial vessels of Sri Lanka are not suitable to deploy a human observer onboard. Department of fisheries and Aquatic Resources (DFAR) of Sri Lanka is currently working to develop a cost effective and technically efficient Electronic Monitoring System (EMS) to collect on-board data. The success of the crew-based observer program initiated in 2018, to collect independently verifiable information through the skipper in <24 m High seas (BEEZ) longline and gillnet vessels was continuously implemented with the support of DFAR. Data collection was initiated within Exclusive Economic Zone (EEZ), <24 m longline and gillnet vessels in 2025, to check the effectiveness of the crew-based observer program with the implementation of the Resolution 25/06 (Resolution 24/04 updated in 2025). The study revealed that the crew-based observer program conducted with in EEZ is able to fill 86% of the requirements once per trip for the longline vessels, 84% of the reporting requirements once per trip for gillnet and 100% of the reporting requirement of data once per set / shot mentioned in the IOTC Resolution 15/01 for both longline and gillnet. The crew-based observer program within EEZ was able to collect overall 99% of the sub-categories of the IOTC data reporting forms under trip data, gear data, setting data and catch data of both longline and gillnet fishery." (see paper for full abstract)

[155-156.](#) The WPDCS **CONGRATULATED** the authors for their work and **NOTED** the need to develop alternative on-board data collection methods for gillnet fisheries.

[156-157.](#) The WPDCS **NOTED** that the data collection protocol comprises with two stages: pre-departure briefing, and post arrival de- briefing and also **NOTED** that the crew observers are provided with waterproof digital camera with an in-built geographic positioning system (GPS) and scale to record the weight of each fish or other capture species caught. The WPDCS further **NOTED** that the crew members are trained in handling and live release of protected species and are provided with a tool kit including long handled line cutter and long handled de- hooker.

[157-158.](#) The WPDCS **NOTED** that 90% (105 of 117) of data reporting requirements were applicable to the crew-based observer protocol and 99% of them were achieved, although with differences on the data quality provided.

[158-159.](#) The WPDCS **NOTED** that the crew-based observer provided information on fishing grounds, species composition and effort and CPUE estimations. The WPDCS further **NOTED** that the length data extracted from the images taken by the crew observers can be used to ~~estimate~~ ~~recreate~~ the length-frequency of the target species combined with the biological data collected.

[159-160.](#) The WPDCS **NOTED** that the programme's development is based on promoting good practices and incentives. Observers who are part of the crew can be identified as representatives of the fishing community, enabling them to contribute to valuable management decisions.

~~160-161.~~ The WPDCS **NOTED** that the programme's development is based on promoting good practices and incentives. Observers who are part of the crew can be identified as representatives of the fishing community, enabling them to contribute to valuable management decisions.

~~161-162.~~ The WPDCS **REQUESTED** the Secretariat to work closely with Sri Lanka and other gillnet-fisheries CPCs to evaluate the potential implementation of alternative data-collection methods in accordance with the provisions of IOTC Resolution [25/06](#).

~~162-163.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-28](#) on How observation coverage shapes bycatch metrics in the tropical tuna purse seine fishery, with the following abstract provided by the authors:

“Investigating the effects of fishing on non-targeted (bycatch) species is crucial for conservation and management matters. On-board observers information provides a valuable source for estimating bycatch; however, due to several factors such as their high costs and logistic challenges, observer programmes usually cover a small percentage of the fishery. In order to estimate bycatch for the unobserved fishing activity, a ratio estimator is commonly used, which assumes a linear relationship between the ratio of bycatch and total target catch or effort. In this study, we implemented a simulation experiment to evaluate the performance of the ratio and model based estimator under different sampling coverage scenarios. We used the Spanish tuna purse seine fishery operating in the Atlantic Ocean as a case study. Our results suggest that the ratio estimator may produce bycatch estimates with large negative bias (i.e., underestimation) when the sampling coverage is lower than 20%, even for common taxa.” (see paper for full abstract).

~~163-164.~~ The WPDCS **CONGRATULATED** the authors for their work and **NOTED** that the study was conducted in the Atlantic Ocean, although the research could be applicable to other oceans, and that observer coverage in that region is approximately 90%.

~~164-165.~~ The WPDCS **NOTED** that the model is based on groups of species, although indications of bias exist within the model. It was further **NOTED** that the model performs well under various environmental conditions, particularly in situations where certain species occur in high abundance, while also **NOTING** the observer coverage, in general in the Indian Ocean, remains below 20%.

~~165-166.~~ The WPDCS **NOTED** that the model can be used to estimate bycatch and could be applied to other fisheries with similar characteristics. The WPDCS also **NOTED** that the modelling approach could be useful for estimating bycatch at the set level by other purse seine fleets, and that previous analyses explored the use of delta models.

~~166-167.~~ The WPDCS **NOTED** that Oman currently has six purse seine vessels and is working closely with AZTI to acquire the necessary expertise to implement EMS soon to support the estimation of discard and bycatch data and address the ROS data requirements.

~~167-168.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-31](#) on Length-frequency distribution of skipjack tuna (*Katsuwonus pelamis*) in Indonesia, which was previously presented at the WPM16, with the following abstract provided by the authors:

“This preliminary study investigates the length frequency distribution of skipjack tuna (Katsuwonus pelamis) from 127,043 samples collected between 2018 and 2021 at various fishing ports along the south and west coasts of Indonesia. Length measurements showed a mean fork length of 38.27 cm, with a minimum of 18 cm, a maximum of 75 cm, and a standard deviation (SD) of 8.67 cm. The data were analysed to assess population structure and size distribution, providing understandings into the fishery dynamics of skipjack tuna in Indonesian waters. The wide range of lengths suggests diverse age classes and potential variations in fishing pressure across the study area.” (see paper for full abstract).

~~168-169.~~ The WPDCS **CONGRATULATED** the authors on their work and **NOTED** the usefulness of [length-frequency distribution data for the tropical tuna assessments](#).

~~169-170.~~ The WPDCS **NOTED** that the data cover the period from 2018 to 2021, and that data collection has been limited since then, when the research institute became independent from the Ministry of Fisheries in Indonesia.

~~170-171.~~ The WPDCS further **NOTED** that spatial information on fishing grounds was not available and that landing ports were therefore used as location proxies. The WPDCS **ENCOURAGED** the authors to incorporate fishing mode into the analysis, as this information is typically collected within fisheries data systems.

~~171-172.~~ The WPDCS **NOTED** that many samples are available from such research. However, these data are not submitted to the Secretariat because they do not meet IOTC standards, such as requirements for spatial information. Overall, the WPDCS **NOTED** that several coastal fisheries collect size-frequency data, which unfortunately are not incorporated into the stock assessment due to insufficient information.

5. Data Revisions

~~172-173.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-21](#) that was composed of two parts: (1) Update on the review of Oman's data collection system and statistics and, (2) Update of the retrospective analysis of catch/effort 2015-2024 of the artisanal fisheries. Present state and tasks for 2026. The following abstract was provided by the authors:

"At the WPDCS meeting that took place in Cape Town at the end of November 2024, Oman presented a technical report prepared by an external data expert with the support of the Ministry of Agriculture, Fisheries and Water Resources – MAFWR. The report outlined Oman's plans to fully review its fisheries statistics including: (i) a retrospective analysis and review of the artisanal time series 2014-2024 and; (ii) integrating its fisheries statistics from all three sectors (artisanal, coastal, industrial). Since then and until the time of the present meeting the Department of Statistics and the General Directorate for Fisheries Resources Development have been working on several tasks that stemmed from the Cape Town meeting as well as from IOTC feedback relating to Oman's data submissions in June 2025. The present document was prepared by the External Expert with the support of the MAFWR, with a view of presenting the methodology of the on-going work for improving Oman's fisheries data over 2015-2024 (2014 data being inaccessible at present), as well as the Ministry's statistical plans for 2026. The presentation of the sampling methodology and extrapolation approaches currently in use for the artisanal fisheries is in line with IOTC document IOTC-2021-WPDCS17-27, which encourages IOTC CPCs to submit the statistical methodology used in their respective national fisheries statistical programmes".

~~173-174.~~ The WPDCS **NOTED** that the first part of the presented document describes the current state of Oman's fisheries statistical programme, highlighting problems and challenges and outlining the Ministry's plans for enhancement. The second part provides further insights into the statistical methodology used for the retrospective data revision and details the operational steps toward integrating all fisheries statistics into a single database.

~~174-175.~~ The WPDCS **RECALLED** that at WPDCS20, Oman reported an internal review of its sampling protocol, with adjustments to data from 2014 onwards.

~~175-176.~~ The WPDCS **CONGRATULATED** Oman for its ongoing efforts to review and enhance its national fisheries statistical system and digital platforms for artisanal, coastal, and industrial fleets.

~~176-177.~~ The WPDCS **NOTED** that the sampling and re-estimation process currently focuses on artisanal and coastal fisheries. The industrial fleet is well covered by VMS and logbook systems, although reporting rates remain low, and efforts are ongoing to incentivise submission of logbook data.

~~177-178.~~ The WPDCS **ENCOURAGED** Oman to collaborate with CPCs that have established robust data collection, reporting, and management systems for industrial purse seine fleets, in order to avoid duplication of effort and promote knowledge sharing among CPCs.

178-179. The WPDCS **NOTED** challenges in collating geo-referenced information for Oman's fishing fleets according to IOTC standards (e.g., 5x5 latitude-longitude grids). While industrial vessels provide start- and end-of-day positions via VMS, such data are generally unavailable for coastal and artisanal fleets. For coastal fisheries, geo-referenced data can be reported at a coarser scale. The WPDCS also **NOTED** that the IOTC Secretariat is working with coastal CPCs to develop practical spatial stratum reporting that is easy to implement.

179-180. The WPDCS **NOTED** that catch estimates for Oman's artisanal and coastal fisheries are derived from survey data calculating CPUE and fishing effort, applied both to total catch (aggregated CPUE) and species-specific catch. Fishing effort is estimated using the standard FAO ArtFish formula, considering the number of boats, fishing days, and the probability of a boat being active (PBA).

180-181. The WPDCS **NOTED** that PBA is calculated using two approaches: the monthly effort approach, focusing on active days, and the 0–1 boat approach, focusing on individual boat activity. The WPDCS **NOTED** that the primary objective of the retrospective analysis is to adjust PBA.

181-182. ~~The WPDCS **NOTED** that the primary objective of the retrospective analysis is to adjust PBA. For most artisanal boats, the monthly effort approach led to a downward revision of effort (e.g., two inactive days adjusted to six to account for bad weather), while for some larger dhows, it resulted in an upward revision. These adjustments explain why the retrospective analysis increased catch estimates for 2015–2017 and decreased estimates for 2018–2024.~~ The WPDCS **NOTED** that substantial constructive feedback and follow up clarifications were highlighted during the WPDCS20 meeting on the retrospective analysis methodology and associated results, though these matters were not fully clarified in the update presented.

182-183. The WPDCS **NOTED**, however, that the substantial increase in reported yellowfin tuna catches in recent years still remains unexplained, with an 86% rise between 2015 and 2024. The WPDCS **EMPHASISED** the importance of examining the data and CPUE trend in greater detail by fleet segment for those targeting tunas and tuna-like species. The WPDCS **NOTED** that Oman explained that the increase in yellowfin catches will remain at high rates (if lower than 86%) even after the retrospective revision has been concluded. For Oman, the only way to fully explain tuna catch increases is to develop a separate and intense fisheries monitoring sub-programme specifically for the artisanal fleet segments that target yellowfin and other tuna species. Such a development has already been considered during the early stages of the retrospective revision and it remains an open option to be examined in early 2026.

183-184. The WPDCS **NOTED** that the retrospective analysis is currently focused on total catches for all species, with initial steps addressing general bias. Yellowfin tuna estimates were revised downward, but the results are preliminary; species-specific re-estimation involves multiple parameters and will require further work.

184-185. The authors further **RECALLED** that the preliminary conclusion of the retrospective analysis for yellowfin tuna increases during 2020–2022, as presented at WPDCS20, was that these were mainly due to a combination of statistical and external factors, including:

- i. Positive bias in estimating fishing effort across all boat-gear categories, affecting all species;
- ii. Filling of data gaps in Al-Wusta Governorate, the largest Omani fishing region by landed catch, through mobilisation of additional data collectors;
- iii. Follow-up of a workshop conducted in Oman by IOTC Data and Science Section staff in September 2019, aimed at general improvements to the data and statistics system, based on recommendations from a November 2017 FAO mission supported by Japan (GCP/INT/228/JPN).

185-186. The WPDCS **NOTED** that the retrospective analysis indicates increasing catch rates for small dhows over time, alongside rising effort, which appears to contradict recent yellowfin tuna stock assessments indicating declining abundance due to decreasing CPUE from industrial Asian longliners. The WPDCS **SUGGESTED** further analysis to identify factors driving these relative CPUE changes, **NOTING** that yellowfin CPUEs from industrial Asian longliners cannot be directly compared to those from Omani small dhows because their respective fishing operations take place in different fishing areas.

Commented [EC1]: M Shimal: This is not reflective of what was presented. Adjustment of inactive days to account for bad weather was across all fleets, so that would then not become a reason for two different trends. Also noting that revision uses two frame surveys to indicate fleet size.

~~186-187.~~ The WPDCS **ACKNOWLEDGED** the need for Oman to integrate artisanal, coastal, and industrial fisheries statistics into a single database to avoid fragmentation, improve IOTC submissions, and maximise the use of collected data for statistical analyses. The WPDCS **NOTED** that a draft plan for such a development has already been internally prepared.

~~187-188.~~ The WPDCS **QUERIED** the geolocation approach for catch and effort data. Oman clarified that, in the integrated system, industrial fisheries will use IOTC grids (1x1° for purse seiners, 5x5° for longliners), with start-and end-of-day fishing positions recorded in logbooks. Where positions span multiple grids (~10% of cases), Oman plans to allocate catch/effort proportionally. For coastal fisheries, geolocation will initially follow a provisional pattern; artisanal fisheries will continue to use current wide-area standards.

~~189.~~ The WPDCS **NOTED** Oman's progress in revising artisanal time series over 2015–2024, following the identification of positive bias in temporal extrapolation of fishing effort. Approximately 110,000 data blocks have been debiased (10 years x 12 months x 6 Governorates x 15 boat-gear combinations x 10 main species), although the process is ongoing. Preliminary results indicate an overall decrease of 10–15% in reported catches for 2017–2024, affecting all boats/gears and species, particularly yellowfin tuna.

~~188-190.~~ The WPDCS **NOTED** the preliminary nature of the results presented and **ENCOURAGED** Oman to present further update on re-estimation process with consideration of feedback and additional analysis identified during WPDCS20 and WPDCS21.

~~189-191.~~ The WPDCS **ACKNOWLEDGED** that the methodological adjustments applied to the retrospective revision improve the accuracy of historical data but are not a permanent solution. Oman is developing a comprehensive effort data collection scheme to reduce biases arising from temporal extrapolations. The general use of monthly effort (already practiced for dhows) is expected to substantially reduce these biases and provide a more robust and consistent basis for future analyses.

~~190-192.~~ The WPDCS **QUERIED** the possibility of obtaining CPUE analyses for selected key species. Oman explained that, due to the lack of an effective database dashboard, such analyses are currently difficult, particularly when aggregating effort across multiple fleets. Effort and CPUE analyses, including automatic calibration, will be standard functions of the planned 2026 system integration.

~~191-193.~~ The WPDCS ~~**CONGRATULATED** the authors and~~ **ACKNOWLEDGED** the progress made, **RECALLING** the importance of completing the retrospective analysis, particularly for yellowfin tuna. The WPDCS also ~~**CONGRATULATED-ACKNOWLEDGED**~~ Oman's on-going improvements to its data collection and statistical systems and **ENCOURAGED** the country to make analytical results available in future papers and presentations.

~~192-194.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-23](#) on A new framework for reconstructing and projecting Indonesia's shark catches: Correcting the past to inform sustainable management, with the following abstract provided by the authors:

“Catch data is essential in building a robust fisheries management strategy. However, in some Regional Fisheries Management Organization (RFMO) e.g., Indian Ocean Tuna Commission (IOTC), such data needs to be tailored due to several reasons, for example, inter-annual variation in reported catches by species, gear and fleets. As part of the catch data, shark species need also to be properly reported and traced. Indonesia, as one of the IOTC members, has a commitment to actively participate in all conservation and management measures for fish resources in the Indian Ocean established by the IOTC. Therefore, Indonesia delivers its commitment by providing the reliable annual catch data including shark to the IOTC. The 27th Scientific Committee recommended that the Commission note the management advice developed for a subset of shark species commonly caught in IOTC fisheries for tuna and tuna-like species. Indonesia follows up the recommendation by conducting the review on its annual shark catches data for period 1950-2023. Three-sessions assistance meeting (virtual and physical) with the IOTC staffs were held during 2025. This report provided an in-depth study on how to conduct recalculation on the Indonesian shark datasets with emphasizing on using a reliable data source and

Commented [EC2]: Already captured in Paragraph 176

minimizing the uncertainties. In the wake that this approach will be approved as the foundation for estimating Indonesian shark catches for the 1950–2023 periods.”

~~193-195.~~ The WPDCS **NOTED** that that the overall approach was to provide a comprehensive review of Indonesia’s annual shark catch data by integrating multiple data sources and applying recalculation techniques to minimize uncertainty, with an emphasis on traceability, reliability, and consistency.

~~194-196.~~ The WPDCS **NOTED** that the approach involves applying the species composition of pelagic sharks to the reported total pelagic shark catches to derive catch estimates at the species level. This estimation is conducted for different gear types and groups.

~~195-197.~~ The WPDCS **NOTED** that regarding catch composition, information is sourced from observer data for main longline gears and from port sampling for purse seine and other semi-industrial and artisanal gears. Since species composition data are only available for recent years (observer data since 2005 and port sampling since 2015), a moving average approach was used to extrapolate species composition to earlier years.

~~196-198.~~ The WPDCS **NOTED** that in terms of total shark catch, this was assumed to be known and was based on reported catches. However, reported catch data are only available for 2010–2024. For years prior to 2010, catch estimates were derived using a negative binomial distribution to account for over-dispersion. It was noted that there is very limited information on shark catches before 2010, as sharks were often discarded or not reported, making the situation extremely challenging.

~~197-199.~~ The WPDCS **NOTED** that the methodology and results used to re-estimate Indonesia's historical catches for the period 1950–2022 for the 16 IOTC species was endorsed by the SC at its 27th session, **RECALLING** that this methodology has not been developed nor applied to bycatch species so far.

~~198-200.~~ The WPDCS **NOTED** that although the methodology seems to be consistent with the previous catch reviews, the provision of catch compositions and species trends is not clearly detailed. Therefore, the WPDCS **REQUESTED** more information, especially more detailed results on key shark species, to be presented to the WPEB so that the reliability of the estimates can be better assessed before adoption, and to the Secretariat to work closely with Indonesia to review the shark composition and species trends outcomes obtained.

6. Data standards and workflows

~~199-201.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-27](#): Report of the Electronic Monitoring minimum standards harmonization workshop, with the final version of the report available [here](#).

~~200-202.~~ The WPDCS **NOTED** that the workshop was held in Donostia-San Sebastián (Spain) 10-12 December 2024, with experts comprising representatives from tuna-RFMO (t-RFMO) Secretariats, chairs of relevant t-RFMO working groups, EM technical providers, and other experts who participate in t-RFMOs EM discussions with the support of the Common Oceans Tuna Project.

~~201-203.~~ The WPDCS **NOTED** that establishment of standardized definitions for EM across t-RFMOs is crucial to ensuring consistency, interoperability, and common understanding for EM monitoring fisheries activities ensuring clear and consistent terminology between terms used in EM standards and those included in relevant resolutions or management measures.

~~202-204.~~ The WPDCS **NOTED** that experts group reiterated its recommendation that EM be used in conjunction with port sampling, port-interviews, and other methods, to collect the mandatory ROS data fields following the model established by the IOTC.

~~203-205.~~ The WPDCS **NOTED** that the experts group agreed that the purpose of the vessels monitoring plan (VMP) should be to describe the EM system specifications that will allow the system to comply with and allow the collection of the mandatory EM data fields.

~~204-206.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-16](#): Applying Open Science principles to make a better use of IOTC data, with the following abstract provided by the authors:

"In this paper, we further discuss known issues, achievements and challenges to improve IOTC resources management and we attempt to identify opportunities brought by Open Science principles to face them. For a regional organization like IOTC, we recommend to promote and implement these good practices internally at the Secretariat level as well as externally to expose and disseminate resources through multiple channels for the sake of users (CPCs or wider audience). Such practices appear to be instrumental as well when reusing external contributions or when sub-contracting or delegating tasks to CPCs. We also showcase how such good practices can be implemented "at no cost" in a simple and efficient way by relying on external infrastructures." (see paper for full abstract).

~~205-207.~~ The WPDCS **THANKED** the authors for their paper, which highlighted the benefits of making IOTC data more visible through open science principles.

~~206-208.~~ The WPDCS **NOTED** that most of the repositories are free because they are funded by the European Community, and that documents can be stored permanently for at least 20 years.

~~207-209.~~ The WPDCS **NOTED** that using these repositories would not only provide DOIs but could also allow for the automated uploading of past IOTC documents by using the same metadata currently uploaded on the IOTC webpage.

~~208-210.~~ The WPDCS **NOTED** that the use of repositories could entail costs, particularly for transferring historical documents. It was further **NOTED** that some documents may be the responsibility of FAO to process, and that funds have been allocated under the new SWIOP project to support this work.

~~209-211.~~ The WPDCS **NOTED** that some working documents already have DOIs and that using repositories such as Zenodo could offer significant potential for IOTC datasets. It was also **NOTED** that a direct connection with GitHub could facilitate code distribution.

~~210-212.~~ The WPDCS **NOTED** that the proposal to adopt open science principles should also be presented to other Working Groups. Furthermore, the WPDCS **REQUESTED** that the Secretariat follow up on progress.

~~211-213.~~ The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-17](#) on Following the tuna trail: Contrasting global catch estimates from FAO and RFMOs, with the following abstract provided by the authors:

"This study compares annual catch statistics from the Global Tuna Atlas (GTA) and FAO FishStat (FS) marine capture datasets, with a focus on tuna and tuna-like species. The analysis first describes the differences between both dataset structures, then applies a harmonized mapping and filtering procedure to enable consistent inter-comparison. At the global scale, total catches from both datasets are highly consistent (differences < 1%), yet this apparent agreement conceals substantial variations at finer levels, particularly by species and fishing fleet. These discrepancies often compensate each other across years, producing an illusion of equivalence in aggregated time series. A regional focus on the Indian Ocean Tuna Commission (IOTC) management area confirms this pattern: while temporal trends are parallel overall, differences emerge for some species such as bigeye tuna and Albacore, often linked to specific fleets. In recent years (post-2014), several species show nearly identical values in both datasets, reflecting cases where one source adopts figures from the other when deemed more reliable." (See paper for full abstract).

~~212-214.~~ The WPDCS **THANKED** and **CONGRATULATED** the authors of the paper, which outlined variations in catch data disseminated globally from different sources and provided insight into uncertainties arising from differences in data sources and data flows.

~~213-215.~~ The WPDCS **NOTED** that the Secretariat uses FAO FishStat data to complement missing information, particularly for non-CPCs.

[214-216.](#) The WPDCS **NOTED** that differences between RFMO data and the FAO Global Tuna Atlas (GTA) may be due to delays in the receipt of GTA data. It was further **NOTED** that RFMO datasets are frequently corrected, and these updates may not be captured in the GTA, which is updated annually.

7. WPDCS Programme of Work

7. Revision of the WPDCS programme of Work 2026-2030

[215-217.](#) The WPDCS **NOTED** paper [IOTC-2025-WPDCS21-29](#) which provides an opportunity to discuss and revise the WPDCS Programme of Work (2026-2030), by considering the specific requests of the Commission, Scientific Committee, and the resources available to the Secretariat and CPCs.

[216-218.](#) The WPDCS **RECALLED** that the SC, at its 18th Session, made the following request to its Working Parties:

“The SC REQUESTED that during all future Working Party meetings, each group not only develop a Draft Program of Work for the next five years containing low, medium, and high priority projects, but that all High Priority projects are ranked. The intention is that the SC would then be able to review the rankings and develop a consolidated list of the highest priority projects to meet the needs of the Commission. Where possible, budget estimates should be determined, as well as the identification of potential funding sources.” (SC18. Para 154)

[217-219.](#) The WPDCS **RECALLED** that the Chairperson and Vice-Chairperson of the WPDCS shall consult with the Secretariat to develop Terms of Reference (TOR) for each of the high priority projects that are yet to be funded, for circulation to potential funding sources.

[218-220.](#) The WPDCS **RECOMMENDED** that the SC consider and endorse the WPDCS Programme of Work (2026-2030), as detailed in [Appendix V](#).

8. Other business

8.1 Election of the Chairperson and Vice-Chairperson of the WPDCS for the next biennium

Chairperson

[219-221.](#) The WPDCS **NOTED** that the second term of the current Chairperson, Dr Julien Barde (EU,France) expires at the close of the WPDCS meeting and, as per the IOTC Rules of Procedure (2014), participants are required to elect a new Chairperson of the WPDCS for the next biennium.

[220-222.](#) The WPDCS warmly **THANKED** the chairperson for his contributions since the 18th session of the WPDCS held in 2022 and **NOTED** he aims to continue attending the WPDCS meetings and collaborating to support IOTC work.

[221-223.](#) **NOTING** the Rules of Procedure (2014), the WPDCS **CALLED** for nominations for the position of Chairperson of the IOTC WPDCS for the next biennium. Dr Nuwan Gunawardane (Sri Lanka) was nominated, seconded and elected as Chairperson of the WPDCS for the next biennium.

Vice-Chairperson

[222-224.](#) The WPDCS **NOTED** that the second term of the current Vice-Chairperson, Dr Nuwan Gunawardane (Sri Lanka) expires at the close of the WPDCS meeting. As per the IOTC Rules of Procedure (2014), participants are required to elect a new Vice-Chairperson of the WPDCS for the next biennium.

[223-225.](#) **NOTING** the Rules of Procedure (2014), the WPDCS **CALLED** for nominations for the positions of Vice-Chairperson of the IOTC WPDCS for the next biennium. Dr Yang Wang (China) was nominated, seconded and elected as Vice-Chairperson of the WPDCS for the next biennium.

8.2 Date and place of the 22nd and 23rd Sessions of the WPDCS: 2026 & 2027

[224-226.](#) The WPDCS **AGREED** that the Working Party should continue to be held back-to-back with the SC, as usual, and therefore **ACKNOWLEDGED** that the exact dates and location of its 22nd session will depend on whether CPCs will express their interest in hosting the next session.

Table 4. Draft meeting schedule for the WPDCS (2026 and 2027)

Meeting	2026			2027		
	No.	Date	Location	No.	Date	Location
Working Party on Data Collection and Statistics (WPDCS)	22 nd	TBD	TBD	23 rd	TBD	TBD

Adoption of the report

8.3 Review of the draft, and adoption of the report of the 21st Session of the WPDCS

[225-227.](#) The WPDCS **NOTED** that the report would be adopted via correspondence, and that a set of draft recommendations will be presented at the SC28 for its endorsement.

[226-228.](#) The WPDCS **RECOMMENDED** that the Scientific Committee consider the consolidated set of recommendations arising from WPDCS21, as detailed in [Appendix VI](#).

APPENDIX I
LIST OF PARTICIPANTS

Chairpersons						
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APPENDIX II

AGENDA FOR THE 21ST WORKING PARTY ON DATA COLLECTION AND STATISTICS

IOTC-2025-WPDCS21-01

Date: 25th – 29th November 2025

Location: Shanghai, China / Hybrid

Platform: Zoom

Time: 9:00 – 17:00 (Shanghai time, GMT+08:00)

Chair: Dr Julien Barde (EU,France); **Vice-Chair:** Dr Nuwan Gunawardane (Sri Lanka)

1 OPENING OF THE MEETING

2 ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE SESSION

3 THE IOTC PROCESS: OUTCOMES, UPDATES, AND PROGRESS

3.1 Outcomes of the Scientific Committee (SC) and Commission (COM) last meetings

3.2 Review of Conservation and Management Measures (CMMs) relevant to the WPDCS

4 DATA-RELATED ACTIVITIES AND DATA OVERVIEW

4.1 Activities carried out in 2025

4.2 IOTC data status and overview

4.3 Other data-related activities

5 UPDATES ON NATIONAL STATISTICAL SYSTEMS

5.1 Data Collection

5.2 Data Revisions

6 DATA STANDARDS AND WORKFLOWS

7 WPDCS PROGRAMME OF WORK

7.1 Revision of the WPDCS Program of Work 2026-2029

8 OTHER BUSINESS

8.1 Election of a Chairperson and a Vice-Chairperson of the WPDCS for the next biennium

8.2 Date and place of the 22nd and 23rd sessions of the WPDCS: 2026 & 2027

APPENDIX III LIST OF DOCUMENTS

IOTC-2025-WPDCS21-02

Meeting Document	Title	Author(s)
IOTC-2025-WPDCS21-01a	Agenda of the 21 st WPDCS	IOTC Secretariat
IOTC-2025-WPDCS21-01b	Annotated agenda of the 21 st WPDCS	IOTC Secretariat
IOTC-2025-WPDCS21-02	List of documents of the 21 st WPDCS	IOTC Secretariat
IOTC-2025-WPDCS21-03	Outcomes of the 27 th session of the SC	IOTC Secretariat
IOTC-2025-WPDCS21-04	Outcomes of the 29 th session of the Commission	IOTC Secretariat
IOTC-2025-WPDCS21-05	Review of current data-related CMMS	IOTC Secretariat
IOTC-2025-WPDCS21-06	Catch limits for Indian Ocean tropical tunas	IOTC Secretariat
IOTC-2025-WPDCS21-07	An update on the IOTC oceanographic atlas project	Marsac et al
IOTC-2025-WPDCS21-08	Report on IOTC data section activities	IOTC Secretariat
IOTC-2025-WPDCS21-09	Report on progress of IOTC-OCF Project for JFY2025 activities and planned activities for JFY2025	OCF
IOTC-2025-WPDCS21-10	Fisheries data reporting to the IOTC: Status and issues	IOTC Secretariat
IOTC-2025-WPDCS21-11	Observations on the use of length conversion equations to address length data deficiencies for swordfish (<i>Xiphias gladius</i>), Indo-Pacific sailfish (<i>Istiophorus platypterus</i>), black marlin (<i>Istiompax indica</i>) and blue marlin (<i>Makaira nigricans</i>) in the Indian Ocean, using images of billfish caught by Sri Lanka's artisanal and semi-industrial multi-day fishing vessels	Darsigan et al
IOTC-2025-WPDCS21-12	Comparison of length-frequency data from a monthly sampling survey and a port-based data collector in the Andaman Sea of Thailand	Pheaphabrattana et al
IOTC-2025-WPDCS21-13	A pilot project to start evaluating the new "traplines/loop" gear in the EU.PRT pelagic longline fishery operating in the Indian ocean	Coelho et al
IOTC-2025-WPDCS21-14	Development of an experimental pilot action by the Spanish surface longline fleet targeting swordfish in the Indian Ocean, employing terminal gear devices known as lazos (loops)	Báez et al
IOTC-2025-WPDCS21-15	Digital solutions for IOTC species identification	OCF
IOTC-2025-WPDCS21-16	Applying Open Science principles to make a better use of IOTC data	Barde et al
IOTC-2025-WPDCS21-17	Following the tuna trail: Contrasting global catch estimates from FAO and RFMOs	Grasset et al
IOTC-2025-WPDCS21-18	Perspectives on the collection and management of morphometric data and biological samples at the IOTC	IOTC Secretariat
IOTC-2025-WPDCS21-19	Preliminary results from a dedicated data collection survey targeting the tuna and tuna-like species	Ndegwa et al
IOTC-2025-WPDCS21-20	Fish catch survey and analysis: A tool to collect and estimate the landings of marine resources from artisanal fisheries in Indian waters	Varghese et al
IOTC-2025-WPDCS21-21	Update on the review of Oman's data collection system and statistics	Stamatopoulos et al.
IOTC-2025-WPDCS21-23	A new framework for reconstructing and projecting Indonesia's shark catches: Correcting the past to inform sustainable management	Jaya et al
IOTC-2025-WPDCS21-24	Evolution of ROS reporting tools	IOTC Secretariat
IOTC-2025-WPDCS21-25	Progress on the implementation, data reporting, and outcomes of the Regional Observer Scheme (ROS)	IOTC Secretariat
IOTC-2025-WPDCS21-26	New information and data on the effectiveness of a crew-based observer protocol for IOTC data collection on-board artisanal fishing boats targeting tuna and tuna-like species within Sri Lanka's exclusive economic zone, in compliance with Resolution 24/04 On A regional observer scheme	Gunasekera et al
IOTC-2025-WPDCS21-27	Report of the Electronic Monitoring Minimum Standards harmonization workshop	Murua et al
IOTC-2025-WPDCS21-28	How observation coverage shapes bycatch metrics in the tropical tuna purse seine fishery	Correa et al

IOTC-2025-WPDCS21-R[E]

IOTC-2025-WPDCS21-29	Revision of the WPDCS Programme of Work	IOTC Secretariat
IOTC-2025-WPDCS21-31	Length frequency distribution of skipjack tuna (<i>Katsuwonus pelamis</i>) in Indonesia	Jatmiko et al
IOTC-2025-WPDCS21-32	A stratified baseline-anchored simulator for precision and reliability metric for longline fisheries observer programs' coverage design and validation by integrating the coefficient of variation: A case study of Kenya	Wachira et al
Information papers	Title	Authors
IOTC-2025-WPDCS21-INF01	Report of the 5th Session of the IOTC ad-hoc Working Group on the development of Electronic Monitoring programme Standards (WGEMS)	IOTC
IOTC-2025-WPDCS21-INF02	Glossary on EMS terminology from the ICES Working Group on Technology Integration for Fishery-Dependent Data	ICES-WGTIFD

APPENDIX IV

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

(see document [IOTC-2025-WPDCS21-10](#))

Table A1. Key issues identified for the retained catch data (Form 1RC), including the CPCs and fisheries concerned, and the actions proposed

CPCs	Fisheries	Main issues	Proposed actions
Comoros	Coastal fisheries	Lack of information on data collection and processing systems in place. Some high interannual variability in catch	In-country mission to assess the status of the systems. Potential inclusion as case-study for application of artfishR methodology
India		Catches reported for various regions by fisheries, rather than aggregated by main IOTC areas. Catches for shark not available at species level	Follow-up of in-country visit to India in October 2025
Indonesia	Coastal, longline, and surface fisheries	Potential issues in sampling representativeness and species identification; lack of data and information reported for elasmobranch species	Review by the WPDCS of the methodology developed to estimate catches of pelagic sharks. Assess current data collection and processing systems for elasmobranch species
Kenya	Coastal fisheries, purse seine, and longline fisheries	Lack of consistency in historical catches	Liaise with Kenya to assist with data mining and potential re-estimation of historical catch time series
Madagascar	Coastal and longline fisheries	Some issues to fully estimate catches of the small-scale fisheries, and the sampling program started at the end of 2024. Important gaps in data collection coverage and processing systems	Follow-up of mission conducted in 2025. Case study for reviewing current data sampling design, enhancing FAO OpenArtFish tool, and implementation of artfishR for data processing
Pakistan	Drifting gillnet fishery	Additional validation of latest revised catch series	Liaise with Pakistan in terms of support for data appraisal
Somalia	Coastal fisheries	Retained catch data reported for the first time for 2024. No historical time series	Support to national initiatives (e.g., Fisheries Data Collection Working Group) for the validation of databases and data collection programmes
Yemen	Handline fishery	Aggregated retained catch as information on fishing activities	Continue liaising with Yemen to improve data reporting and potentially revise historical catches

Table A2. Key issues identified for the catch and effort data (Forms 3CE and 3DA), including the CPCs and fisheries concerned, and the actions proposed

CPCs	Fisheries	Main issues	Proposed actions
All	Most fisheries	Data either not submitted, or fall short of IOTC reporting requirements	Improvement of guidelines and workshop and bilateral meetings on reporting obligations
	Coastal fisheries	Failure to report catches and effort per month for their coastal fisheries for some CPCs	As a minimum, request CPCs to report catches and fishing by species, gear, and month, in addition to the total numbers of fishing craft operated by gear, and month (or year)
Oman	Longline fisheries	Data either not submitted, or fall short of the IOTC data reporting requirements	Oman discussed the short falls in their data with the Secretariat in a webinar and is expecting to present update of the revision of the data and statistical system
Indonesia	Coastal, longline and surface fisheries	Low logbook coverage in longline and surface fisheries; potential issues of species identification for neritic tunas; lack of information on anchored FADs	Strengthen management and validation of logbook data – particularly issues of low reporting rates of submitted logbooks (<10% in recent years)
Oman	Handline and gillnet fisheries	Data not complete or not submitted by IOTC standards	The Secretariat to liaise with Oman on how to improve the reporting following the review of the Omani statistical system
Pakistan	Drifting gillnet fishery	Data not submitted	Liaise with Pakistan for in-country mission to assess data collection and reporting systems in place, assess the current status and data collected through the self-reporting programme, and support data reporting in accordance with IOTC standards
Madagascar	Coastal fisheries	Issues with data collection, inconsistency and not fully covering all areas	Follow-up of mission conducted in 2025. Case study for reviewing current data sampling design, enhancing FAO OpenArtFish tool, and implementation of artfishR for data processing
Kenya, Tanzania, Oman, Mauritius	Purse seine fisheries	DFAD-related data generally incomplete and not by standards	Organise a specific workshop on data reporting obligations for purse seine fisheries

Table A3: Key issues identified for the size-frequency data (Form 4SF), including the CPCs and fisheries concerned, and the actions proposed

Dataset	CPCs	Fisheries	Main issues	Proposed actions
SF	India, Indonesia, Malaysia, Oman, Yemen	Coastal fisheries	No or very few size frequency data reported	Data supporting missions, reporting workshop, and pilot regional sampling programme
	I.R. Iran	Drifting gillnet fishery	Historical data not by IOTC standards	The IOTC Secretariat to continue providing assistance to I.R. Iran to submit size data by fishing ground and fisheries (rather than landing site) based on port sampling as logbooks are currently being fully implemented on a limited number of vessels
	China, Japan, Seychelles, Taiwan, China	Longline fisheries	Historical issues in sampling and inconsistencies between average weights derived from logbooks and size data	Follow-up of consultancy conducted in 2025 in collaboration with Seychelles to assess the quality of size data and implement quality control procedures at the source to enhance data quality
	Pakistan	Drifting gillnet fishery	No or very few size-frequency data reported	IOTC Secretariat liaising with Pakistan in terms of possible assistance for data entry, processing, and submission

Table A4: Key issues identified for the Regional Observer Scheme (ROS) data, including the CPCs and fisheries concerned, and the actions proposed

CPCs	Fisheries	Main issues	Proposed actions
All	Longline and surface fisheries	Low levels of implementation and reporting for some fleets	Organise ROS training and data reporting workshops to assist CPCs with implementation of the ROS data collection and reporting requirements
		Information reported in formats not suitable for data extraction	Enhance ROS forms description and develop online ROS data validators. Assess feasibility to re-export historical observer data following new ROS reporting forms
	Coastal fisheries	Low levels of implementation and reporting	Extend of EMS pilot project to other countries besides Sri Lanka; Strengthen data collection mechanisms at landing sites (in-port observers, alternative data collection mechanisms)
Sri Lanka	Coastal and offshore fisheries	Partial implementation of ROS requirements	IOTC Secretariat to continue supporting the adoption of the ROS standards and tools; possible follow-up on EMS trial projects dependent on funding. Follow-

CPCs	Fisheries	Main issues	Proposed actions
			up on the pilot study of EMS in Sri Lanka for coastal fisheries

Table A5: Key issues identified for the socio-economic data (Form 7PR), including the CPCs and fisheries concerned, and the actions proposed

CPCs	Fisheries	Main issues	Proposed actions
All	All	Limited data available, and collated within the IOTC database	The Secretariat to work closely with CPCs, in formulating the format for collecting socio-economic data. Furthermore, liaise with FAO and other institutes to access open repositories of fish sale price, import and export data, and national indicators. Encourage CPCs to report information of fish prices with Form 7PR

APPENDIX V
WPDCS PROGRAMME OF WORK (2026–2030)

The Programme of Work consists of the following, noting that a timeline for implementation would be developed by the SC once it has agreed to the priority projects across all its Working Parties:

Table A6. Priority topics for obtaining the information necessary to deliver the necessary advice to the Commission

Topic	Sub-topic and project	Timings				
		2026	2027	2028	2029	2030
1 Coastal fisheries data collection	1.1* Data support missions to assist the implementation of data collection and sampling activities for fisheries insufficiently sampled. Recommended actions include designing sampling guidelines for IOTC fisheries. Priority to be given to the following countries / fisheries: <ul style="list-style-type: none"> • Indonesia • Pakistan • I.R. Iran • Tanzania • Comoros 					
	1.2* Biological sampling workshop, including species identification and genetics sampling		Funding available			
2 Data access and dissemination	2.1 Ocean-climate information: develop an online digital ocean atlas for the IOTC area of competence, linked by the IOTC website; develop indicators on ocean-climate status to be linked to the atlas portal, along with educational resources	Funding available				
	2.2 Biological information: collaborate with CPCs to collect, Review, analyse, and manage of biological data and information					
	2.3 Improve accessibility of IOTC scientific products and digital assets through standard metadata and DOI (e.g., remote workshops)	Funding available	Funding available			
	2.4 Secretariat to establish a photo and imagery tool library and archive and develop associated reporting guidelines					
3 Monitoring and improving data reporting requirement and performance	3.1 Drafting of indicators to assess performance of IOTC CPCs against IOTC Data Requirements; evaluation of performance of IOTC CPCs with those Requirements; development of plans of action to address the issues identified, including timeframe of implementation and follow-up activities required. Priority given to CPCs with low data compliance assessment scores and/or upon requests by the CPCs					
	3.2 Workshops to clarify data reporting requirements and support preparation of annual submissions including ROS data	Funding available				
	3.3 Support the documentation of sampling protocols and processing					

Table A7. All other topics of relevance to the WPDCS Programme of Work (2026-2030)

Topic	Sub-topic and project	Timings				
		2026	2027	2028	2029	2030
4 Support for the implementation of the IOTC Regional Observer Scheme (ROS)	4.1 ROS e-tools					
	5.1.1 Review and update ROS e-tools according to the new ROS data standards	Funding available				
	4.1.2 Support the adoption of the ROS e-Reporting and ROS national database tools by countries not having any existing observer data collection and management system in place					
	4.2 ROS Regional Database					
	4.2.1 Review and update the ROS database structure	Funding available				
	4.2.2 Incorporate all historical observer data currently available in other proprietary data formats (e.g., ObServe, ST09, and other custom observer forms)					
	4.3 ROS Electronic Monitoring Systems					
	5.3.1 Implement pilot EMS system on gillnet / coastal longline vessels for fleets insufficiently covered by on-board observers, possibly by providing support through remote / in-person meetings ¹					
	4.4 Evaluate the combination of alternative data collection systems and protocols for the collection of scientific observer data for artisanal and coastal fisheries, with an initial expert to develop protocols and guidelines for minimum data collection requirements in coastal fisheries, including through EMS systems through a regional workshop					
	4.5 Review and update ROS training materials to the CPCs					

¹ Sri Lanka EMS, training and setup of data exchange

APPENDIX VI

CONSOLIDATED RECOMMENDATIONS OF THE 21ST SESSION OF THE WORKING PARTY ON DATA COLLECTION AND STATISTICS

Note: Appendix references refer to the Report of the 21st Session of the Working Party on Data Collection and Statistics (IOTC-2025-WPDCS21-R)

Data related activities and data overview

Rec. WPDCS21.01 (para 90):

The WPDCS **RECOMMENDED** that the SC **ADVISE** the Commission to ensure that the transition from the current website to the FAO one does not affect the operations of the Commission and set aside enough resources for this transition.

Updates on national statistical systems (CPCs)

Rec. WPDCS21.02 (para 135):

The WPDCS **RECOMMENDED** that the SC consider adding specific code to longline logbook and ROS templates to enable the collection of data on the use of loop devices in longline fisheries. The WPDCS **ACKNOWLEDGED** that the ratio between the number of hooks and loop lines may provide a simple and efficient metric for effort and further **NOTED** that species-specific catch data should be collected for both hook-based and loop-based effort units.

WPDCS Programme of Work

Rec. WPDCS21.03 (para 220):

The WPDCS **RECOMMENDED** that the SC consider and endorse the WPDCS Programme of Work (2026–2030).

Adoption of the report

Rec. WPDCS21.04 (para 228):

The WPDCS **RECOMMENDED** that the SC consider the consolidated set of recommendations arising from WPDCS21.