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Southern Indian Ocean Fisheries Agreement
Accord relatif aux Pêches dans le Sud de l'Océan Indien

10th Meeting of the Compliance Committee (CC10) and 13th Meeting of the Parties (MoP13)

Savoy Hotel, Beau Vallon, Seychelles, 1–3 July and 6–10 July 2026

CC-10-05

Report and Recommendations of the 11th Annual Meeting of the SIOFA Scientific Committee

The SIOFA Secretariat on behalf of the SIOFA Scientific Committee

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Abstract

The 11th Annual Meeting of the SIOFA Scientific Committee (SC11) was held in Fremantle, Australia, 23-31 March 2026. The meeting was an in-person meeting, with an online streaming (listen only) service provided for delegates that were unable to attend.
The following paper contains the recommendations of the SC11 relevant to the CC, including their original paragraph numbering from the SC11 report. To aid the reading of SC recommendations, square brackets were used for editorial additions and strikethrough for editorial deletions, if and where needed. Original agenda items headings are kept to provide further reference. Underline highlights recommendations that require a decision/discussion.
A list of acronyms used is provided at the bottom of the recommendations and relevant report Annexes or key documents are also included here for easier reference.
The full meeting report was circulated and published on the meeting page of the SIOFA website on 7 April 2026, and can be found here:
https://siofa.org/system/files/meeting_documents/11th_annual_meeting_of_the_siofa_scientific_committee_sc11/SIOFA-SC11-Report.pdf

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[2] Documents available only to members invited to closed sessions.

Recommendations

The SIOFA Scientific Committee recommended that the Meeting of the Parties:

3. Fisheries reports

3.1.2. Guidelines for the submission of National Reports

61. The SC recommended that the MoP **note** the revised Guidelines for the Submission of Annual National Reports given in SC-11-INFO-01-Rev1 and tasked the Secretariat to make the Guidelines available on the SIOFA website.

3.1.4. Overview of SIOFA fisheries 2026

75. The SC noted that CCPs were unclear whether paragraph 6 of CMM 18(2025) (BFCs) regarding the reporting requirements for vessels engaging in fishing within a BFC applied to all fisheries or only bottom fisheries. The SC requested that the MoP **provide** clarification on the scope of the application of paragraph 6 of CMM 18(2025).

4. Data Standards, Access and Dissemination

4.6. Proposals for revisions to CMM 02(2025) (Data Standards)

124. The SC recommended that the MoP **adopt** the draft amendments to CMM 02(2025) (Data Standards) (Annex D).

5. SIOFA Bottom Fishing Impact Assessment

5.1. SIOFA Bottom Fishing Impact Assessment Standard

136. The SC recommended that the MoP **note** the Scientific Committee Checklist for SIOFA BFIA Evaluation according to the SIOFA BFIA Standard (Annex E).

7. Stock assessments and advice

7.2. Alfonsino

7.2.1. Descriptive characterisation

209. The SC recommended that the MoP **note** the definition and description of benthopelagic trawls in Annex H.

213. The SC recommended that the MoP **reclassify** any mid-water trawl using the agreed algorithm (Annex I) where benthopelagic trawl gears are flown close to the seabed, typically between 6-50 metres, and do not have sustained seabed contact but infrequent unintended seabed contact can occur (Annex H).

7.2.2. Stock monitoring and data collection (including ageing)

226. The SC recommended that all CCPs who fish for alfonsino should routinely collect length and otolith samples using the same random sampling methodology.

7.3. Toothfish

7.3.3. Stock assessment

255. Based on the catch trend analysis rules, the SC recommended that the MoP **set** the 2026–27 season catch limit for the WR Management Area at 112 t, being 0.8 x the 2025–26 season catch limit.

263. The SC recommended that the MoP **adopt** a modified version of paragraph 21 of CMM 15(2025) (Management of Demersal Stocks), as follows: “Longlines shall not exceed 3000 hooks per line. Each vessel shall ensure that longlines are set at a minimum distance

of 3 nautical miles from any other longlines previously set by the same vessel during the ongoing fishing trip."

264. The SC recommended that the MoP **adopt** a modified version of paragraph 14 of CMM 15(2025) (Management of Demersal Stocks) as follows: "... A minimum overlap statistic of at least 60% shall apply for tag release, once 30 or more Dissostichus spp. specimens have been caught. However, members are encouraged to achieve an overlap of 80%. Members with vessels achieving an overlap between 60 and 80% shall report to the SC for review, in order to better understand the factors causing the lower tag overlap statistic."

265. The SC recommended that the MoP **adopt** a modified version of Annex A (Vessel Catch and Effort Data) in CMM 02(2025) (Data Standards) to include the number of species retained and discarded among the data that shall be collected, so that overlap statistics can be calculated.

266. The SC considered the results of the trend analysis and its associated uncertainties presented in SC-11-55 and noted that there was a sufficient number of recaptures for the Chapman mark-recapture biomass estimate. The SC recommended that the MoP **set** a catch limit of 52.8 t, being 1.2 x the 2025–26 season catch limit, for the DCR Management Area for the 2026–27 season, based on the Chapman biomass estimate.

271. For the proposed SIR Management Area, the SC noted that fishing has taken place in the last five years but insufficient tag recaptures had been observed to use the Chapman mark-recapture biomass estimate. Therefore, given there was a decreasing trend in the CPUE-by-seabed analogy biomass estimates, the SC recommended that the MoP **set** a catch limit of 66.7 t for the proposed SIR Management Area for the 2026–27 season, which is 0.8 x the catch limit recommended by SC10 (83.4 t).

7.5. Other species

7.5.3. Squid

298. The SC recommended that the MoP **note** that the spatial extent of China's historical squid jigging fishery spans all SIOFA Subareas.

299. The SC recommended that the MoP **note** that, in light of the spatial extent of China's historical squid-fishing in the SIOFA Area and biological research on the same species from an adjacent area to the SIOFA Area, and the fact that squid are a mobile species, this may be a straddling stock. As such, the MoP may wish to consider whether there are any potential management implications.

8. Bycatch and incidental captures

8.4. IOTC bycatch

336. The SC recommended that the MoP **note** that several non-contracting parties have made significant catches of SIOFA species that have not been reported to SIOFA.

337. The SC recommended that the MoP **note** that several CCPs are reporting catch of SIOFA species to the IOTC but not to SIOFA.

338. The SC recommended that the MoP **request** CCPs that are members of the IOTC to request that the IOTC improve bycatch reporting and species identification.

11. New and Exploratory Fisheries CMM 17(2025)

11.1. Proposal for new and exploratory fisheries

374. The SC agreed that it is therefore not necessary for Thailand to submit a proposal for a new and exploratory fishery or a FOP. The SC also noted that Thailand did not need to submit a BFIA given that it was a research cruise and there was relatively low bottom impact of the planned activities. The SC also noted that the requirements for impact assessments should be developed as a part of the development of a framework for research cruises and scientific research.

376. The SC recommended that the MoP **note** that the SC considers Thailand's proposed research cruise to be a useful contribution to SIOFA's science and supported Thailand undertaking this research.

379. The SC recommended that the MoP **note** the revised Fisheries Operation Plan Checklist (Annex L).

11.3. Scientific considerations of proposals to amend CMM 17(2025)

387. The SC recommended that the MoP **note** that Mauritius has submitted catch data and other information from its alfonsino mid-water and benthopelagic trawl fishery to the SC as requested by MoP12 (MoP12 Report, para 216).

388. The SC recommended that the MoP **include** Mauritius as a participant in the fishery targeting alfonsino with mid-water and benthopelagic trawl in Annex 1 (Established fisheries in the SIOFA Area) of CMM 17(2025) (New and Exploratory Fisheries).

393. The SC recommended that the MoP **adopt** the draft amendments to Annex 1 of CMM 17(2025) (New and Exploratory Fisheries) (Annex M).

13. Scientific Observers

13.2. E-monitoring

445. The SC requested a clarification from the MoP of the overall objectives of the SIOFA EM programme, including whether the data could also be used for compliance purposes.

16. Future work

16.3. The SIOFA Performance Review

475. The SC recommended that the MoP **note** that the SC had provided a summary of progress made in 2025 on the recommendations of the SIOFA Performance Review Panel that were adopted at MoP12 (SC-11-22-Rev1).

16.4. Capacity building

481. The SC requested that the MoP **advise** whether to include projects aimed at capacity development for SIDS in the scope of a potential consultancy to develop a capacity-building action plan.

List of acronyms used in these recommendations:

BFC – Benthic Fishery Closure(s)
OECM – Other Effective Conservation Measures
DCR – Del Cano Rise toothfish management area
WR – Williams Ridge management area
SIR – South Indian Ridge management area

Annex D- SC11 Technical amendments to CMM 02 (2025)

(Data Standards)

CMM 02(2025)[1]

Conservation and Management Measure for the Collection, Reporting, Verification and Exchange of Data relating to fishing activities in the Agreement Area (Data Standards)

The Meeting of the Parties to the Southern Indian Ocean Fisheries Agreement;

RECALLING that Article 6(1) (f) of the *Southern Indian Ocean Fisheries Agreement* (the Agreement) calls on the Meeting of the Parties to develop rules for the collection and verification of scientific and statistical data, as well as for the submission, publication, dissemination and use of such data;

FURTHER RECALLING that Articles 10(1)(c) and 11(3) set out the duties relevant to the collection and provision of data and related processes for Contracting Parties and flag CCPs respectively;

RECOGNISING the importance of developing comprehensive arrangements for data collection, reporting, verification and exchange of data to assist the Scientific Committee in performing its functions as outlined in Article 7 of the Agreement;

NOTING the relevance of Articles 10(e) and 14 of the *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (UNFSA) which call on States to cooperate through regional fisheries management organisations to agree on the standards for the collection, reporting, verification and exchange of data on fisheries for the stocks, and the specifications and format for the data to be provided and to cooperate in their scientific research;

CONSIDERING the provisions set forth in the *Resolution on data collection concerning the high seas in the Southern Indian Ocean,* adopted by the Conference on the *Southern Indian Ocean Fisheries Agreement* in the Seychelles from 13-16 July 2004;

NOTING the importance of data collection and catch reporting for the purposes of ensuring scientific stock assessment and implementing an ecosystem approach to fisheries management;

[1] CMM 02(2025) (Data Standards) supersedes CMM 02(2023) (Data Standards).

NOTING the recommendation by the Third meeting of the Scientific Committee to improve the collection of sharks catch information and the submission of scientific observer data; and

FURTHER NOTING that the Meeting of Parties has adopted policies and procedures for the maintenance of data confidentiality (CMM 03(2025));

ADOPTS **the following conservation and management measure (CMM) in accordance with Article 6 of the Agreement**:

Application

1. This CMM applies to all Contracting Parties, cooperating non-Contracting Parties and participating fishing entities (CCPs).

2. This CMM prescribes the standards for the collection, reporting, verification, and exchange of data related to fishing activities by vessels fishing in the SIOFA Area of Application (the Agreement Area) that are flying the flag of a CCP. These data standards shall assist the Meeting of the Parties to fulfil its objectives under the Agreement insofar as it relates to assessing the state of the fisheries within SIOFA's competence, including the status of target and non-target species and the impact of fishing on the marine environment.

Terminology

3. The following definitions apply to this CMM including its annexes:

    a. 'other species of concern' means those species as may be defined by the Scientific Committee from time to time.

    b. 'National Report' means the report defined in paragraph-9 of this CMM.

Vessel Catch and Effort Data

Collection of data

4. CCPs shall ensure that data on fishing activities, including for target, non-target and associated and dependent species such as marine mammals, marine reptiles, seabirds or 'other species of concern', are collected from vessels flying their flag that are fishing in the Agreement Area in accordance with the relevant sections of Annex A.

5. CCPs shall collect vessel catch and effort data on a haul-by-haul basis, with the exception of handline fishing, where CCPs shall collect vessel catch and effort data on an operation [2] basis.

Data collection and submission

6. CCPs shall report to the Secretariat, by 31 May each year, the data collected under paragraphs 4 and 5 for the previous calendar year, in accordance with the format prescribed in the corresponding annexes.

7. CCPs shall provide to the Secretariat, by 31 May each year, annual catch summaries for all species/groups caught in the Agreement Area during the previous calendar year. The catch summaries shall include the following information:

    a. Calendar year (e.g. 2015)

[2] An operation is the daily activity of a main vessel (including its dories), where catch is the daily catch and effort is the number of active fishers per day and the number of lines fished per day.

b. FAO statistical area (e.g. FAO87)

c. Species/group name (common name and scientific name)

d. Species/group code (FAO3-alpha code 19, EG ORY) (if available)

e. Annual catch total - tonnes raised to 'live' weight.

8. To assist in data collection CCPs engaged in, or intending to engage in, fishing pursuant to CMM 01(2025) shall implement on-board all fishing vessels flying their flag the FAO Identification guide to the deep–sea cartilaginous fishes of the Indian Ocean[3]. Where available the use of Smartforms may be considered.

National report

9. Following the entry into force of this CMM, CCPs shall provide to the Scientific Committee, at least 30 days prior to the commencement of each ordinary meeting, an annual National Report of their fishing, research and management activities in accordance with the following:

   a. For the first report: the National Report shall include details of activities of the previous five calendar years;

   b. For all reports thereafter: the National Report shall include details of activities of the previous calendar year; and

   c. In either case, the National Report shall take into account the guidelines prepared by the Scientific Committee for the preparation of such reports.

Historical Data

10. To assist with the development of a bottom fishing footprint and stock assessments, each CCP shall provide the Secretariat with all historical catch and effort, and if available observer data for vessels flying their flag and fishing in the Agreement Area at any time during period 2000-2015 and any previous years where available in accordance with annex A and annex B to the extent applicable. Any State or fishing entity that becomes a Party to the Agreement, a CNCP or PFE after the date this CMM is adopted shall provide their historical data to the Secretariat within 12 months of becoming Party to the Agreement, or becoming a CNCP or PFE.

11. Where possible, CCPs are encouraged to provide relevant, reliable historical data for species caught in waters under their national jurisdiction where such information would assist in understanding the status of the stocks and the impacts of fishing on all target species, non-target and associated and dependent species and the marine environment within the Agreement Area.

Scientific Observer Data

12. All CCPs shall implement national scientific observer programs to collect from activities undertaken by vessels flying their flag:

   a. Vessel information, effort and catch data for its fishing activities in the Agreement Area, including target, non-target and associated and dependent species including marine mammals, marine reptiles, seabirds or 'other species of concern';

   b. Biological or other data and information relevant to the management of fishery

[3] Ebert, D.A. and Mostarda, E. 2013. Identification guide to the deep–sea cartilaginous fishes of the Indian Ocean, FishFinder Programme, FAO, Rome. 76 p

resources in the Agreement Area, as specified in this CMM, or as identified from time to time by the Scientific Committee or through processes identified by the Meeting of the Parties; and

c. Relevant scientific information related to the implementation of the provisions of the CMMs adopted by the Meeting of the Parties.

13. The function and tasks of the scientific observer are described in Annex D.

14. CCPs shall, through their National Report, provide to the Scientific Committee an annual observer programme implementation report which should include summary sections covering: observer training, program design and coverage, type of data collected, and any problems encountered during the previous calendar year.

15. CCPs shall, for all observed trips, collect observer data in accordance with the relevant sections of Annex B. All observer data collected by CCPs shall be reported to the Secretariat by 31 May each year for the previous calendar year.

16. By 2023, the Scientific Committee shall develop and adopt a template for the observer reports, and a template for an observer data collection form that may be used by observers in subsequent years.

17. By 2023, the Meeting of the Parties, based on recommendations from the Scientific Committee and the Compliance Committee shall adopt a SIOFA framework for scientific observation clarifying all the aspects related to the role.

Data Verification

18. CCPs shall:

a. ensure that fishery data are verified through an appropriate system of data verification mechanisms;

b. develop, implement, and improve data verification mechanisms, which may include:

i. Position verification through vessel monitoring systems;
ii. Independent monitoring, including scientific observer programs and approved electronic observer programs,[4] to verify industry data on catch, effort, catch composition (target and non-target), discards and other details of fishing operations;
iii. Vessel trip, landing and transhipment reports; and
iv. Port sampling.

c. provide to the Scientific Committee, through their National Report, an annual data verification report which should provide information regarding their development and implementation of data verification mechanisms.

Format for data submission

19. CCPs shall report all data required to be reported by this measure to the Secretariat in accordance with the formats described in this CMM, including its annexes.

20. Specifications for the submission of data:

[4] Approved electronic observer programs refers to those programs that meet the SIOFA agreed standard and have been reviewed by the Scientific Committee and approved by the Meeting of the Parties as being capable of meeting the data requirements in this CMM.

a. times, latitudinal /longitudinal/ information and units of measure are to be reported in accordance with the format described in Annex C;

b. Species are to be described using the FAO 3 letter Species Codes;[5]

c. Fishing methods are to be described using the International Standard Classification of Fishing Gear (ISSCFG - 29 July 1980) codes;[6] and

d. Types of fishing vessels are to be described using the International Standard Classification of Fishery Vessels (ISSCFV) codes.[7]

Review

21. This CMM should be reviewed periodically by the Scientific Committee and the Meeting of the Parties, taking into account new information or data requirements as may be decided.

[5] https://www.fao.org/fishery/en/collection/asfis/en

[6] https://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/en/

[7] https://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/en/

Standards for the Collection, Reporting, Verification and Exchange of Data Annexes

List of Annexes:

Annex A

Vessel Catch and Effort Data

1. Contracting Parties, CNCPs and PFEs shall ensure that the following data on fishing activities are collected in the Agreement Area:

For all demersal fishing vessels flying their flag:

Data Set - Fishing activities General (Trip) Vessel flag CCP (ISO 3-apha) Name of vessel International radio call sign (if any) Vessel Registration number (flag CCP) Lloyd's / IMO /IHS Fairplay Number (if allocated) Vessel size: Gross Tonnage (Gross register tonnage may be used if GT is not available, or both) Name of person filling in the data
Weight Conversion Factor Species Processing type Conversion factor = live weight/processed weight
Haul Information Intended Target species (FAO code) Type of fishing (C)ommercial; (R)esearch; (S)urvey data Haul ID number
Set Start date and Time (Based on Coordinated Universal Time (UTC)) Recorded at start and end of fishing For longline vessels - record at start and end of setting, in addition to start and end of haul Date format (YYYY.MON.DD) Time format (hh.mm)
Position at start and end of fishing Latitude Longitude For longline vessels: position is recorded at the start and end of setting For bottom trawl fishing: "start" is defined as when the groundrope first touch the bottom, and "end" is when the groundrope leaves the bottom at the beginning of hauling. For midwater trawl: "start" is defined as when the fishing gear is at target fishing depth, "end" is when the tow haul begins. For handline fishing: record the position of the vessels at the start and at the end of the fishing operation
Bottom Depth (m) As recorded at the start and end of fishing.
Fishing / gear depth (m) As recorded at the start and end of fishing. For trapping/potting, Actual Fishing / gear depth (m) as recorded at start is required.
Species retained

Estimated catch retained on board by taxa (FAO species/group code/scientific name) in green weight (kg). Total number retained by taxa (for longline toothfish target fishing only)
Species Discarded An estimation of the amount of living marine resources discarded by taxa, if possible, in green weight (kg). In addition, if possible, total number discarded by taxa (for longline toothfish target fishing only)
Incidental bycatch of marine mammals, seabirds, reptiles and 'other species of concern' Presence: Yes / No For each species caught • Taxa name • Number alive • Number dead or injured
Incidental bycatch of VME indicator taxa Presence: Yes / No For each species caught • Taxa name

For all pelagic fishing vessels targeting SIOFA species flying their flag:

Data Set - Fishing activities General (Trip) Vessel flag **CCP** (ISO 3-apha) Name of vessel International radio call sign (if any) Vessel Registration number (flag CCP) Lloyd's / IMO /IHS Fairplay Number (if allocated) Vessel size: Gross Tonnage (Gross register tonnage may be used if GT is not available, or both) Name of person filling in the data
Weight Conversion Factor Species Processing type Conversion factor = live weight/processed weight
Haul Information Intended Target species (FAO code) Type of fishing (C)ommercial; (R)esearch; (S)urvey data Haul ID number
Set Start date and Time (Based on Coordinated Universal Time (UTC)) Recorded at start of fishing Date format (YYYY.MON.DD) Time format (hh.mm)
Position at start of fishing Latitude Longitude
Species retained Estimated catch retained on board by taxa (FAO species/group code/scientific name) in live weight (kg)
Species Discarded An estimation of the amount of living marine resources discarded by taxa, if possible, in live weight (kg)
Incidental bycatch of marine mammals, seabirds, reptiles and 'other species of concern'

Presence: Yes / No For each species caught • Taxa name • Number alive • Number dead or injured

2. Contracting Parties, CNCPs and PFEs shall ensure that the following gear-specific data on fishing activities, as applicable, are collected from all fishing vessels flying their flag in the Agreement Area.

Data Set – Gear
Trawl Cod end mesh Size (mm) Trawl technique: Type of trawl: (S)ingle, (D)ouble or (T)ripple
Demersal Longline Type of longline (Spanish, Trotline, Autoline) Total length (m) Type of bait Hook size (mm) Hook spacing (m) Hook code or make Length of line (m) Number of hooks set Number hooks per cluster (if Trotline) Number of hooks lost (attached to lost sections of line)
Pelagic Longline Total length (m) Total number of hooks in the set Number of hooks between floats Number of light-stick used in the set Type of bait used in the set Sea surface temperature at noon (Length of floating line) (Length of branch line) (Distance between branch lines)
Trap/Pot Pot type Type of line: Dropline or longline Length of line (m) Pot spacing (m) Number of pots set Number of pots lost Type of bait
Dahn/Drop Line/ Total number of hooks in the set Total number of line lifts in the set Number of hooks lost Hook code or make Type of leader used Type of bait used

Data Set – Gear
Handline Number of fishers involved Number of lines per fisher Number of hooks per line
Squid Jigging Power of fish lamp (kw) Use of the fish finder (Y/N) Number of fishers Number of line machines Fishing duration by hand (h) Fishing duration by machines (h) Number of hooks on per line
Light seining Type of light seining gear FAO Gear code: SV-boat seine (02.2), LNB-boat-operated-liftnet (05.2) and FCN cast net (06.1) Light~~n~~ing Total Power of fish lamp (kW) Lamp Type (e.g. Metal Halide Lamp or LED) Total ~~P~~power of underwater lamps (kW) Total ~~P~~power of above sea level lamps (kW) Light~~n~~ing duration (hours) on underwater lamps and above sea level lamps, respectively Net details Length on mouth net (m) Width on mouth net (m) Cod end mesh Size (mm)

Annex B

Observer Data

1. Contracting Parties, CNCPs and PFEs shall, for all observed trips, collect and provide to the Secretariat the data contained in this Annex in accordance with the format set out below.

2. Contracting Parties, CNCPs and PFEs shall, where appropriate, ensure that observers are briefed and provided with documented length-frequency and biological sampling protocols and the specific priorities for the trip for the sampling activities documented below.

3. Contracting Parties, CNCPs and PFEs shall endeavour to collect tissue, otolith and/or stomach samples in accordance with any research programs developed by the Scientific Committee.

Hierarchies for Observer Data collection

Fishing Operation Information
All vessel and tow / set / effort information.

Reporting of Catches
Record time, weight of catch sampled versus total catch or effort (e.g. number of hooks), and total numbers of each species caught
Identification and counts of endangered, threatened or protected species (ETP), seabirds, mammals, reptiles (e.g., turtles), sensitive benthic species and vulnerable species
Record numbers or weights of each species retained or discarded Record instances of depredation, where appropriate

Biological Sampling
Check for presence of tags
Length-frequency data for Target species (FAO species code)
Basic biological data (sex, maturity) for Target species (FAO species code)
Length-frequency data for main bycatch species
Otoliths (and stomach samples, if being collected) for Target species (FAO species code)
Basic biological data for bycatch species
Biological samples of bycatch species (if being collected)
Take photos

Observer Data Sections Common to all fisheries

Data Set - Observer data
Trip Details Trip Number Cruise details (start and end dates - YYYY.MON.DD) Date report is generated (UTC) Current vessel flag CCP (ISO 3-apha)

Name of vessel

Observer Details

Observer name and ID
Nationality (ISO 3-apha)
Employing organisation
Contact name in organisation (Address/email/fax)
Boarding location (UNLOCODE, if applicable or Latitude/Longitude) Boarding Date (UTC:YYYY.MON.DD)
Disembarkation location (UNLOCODE, if applicable or Latitude/Longitude)
Disembarkation date (UTC:YYYY.MON.DD)
Time Zone (UTC +-)

Length Frequency Data

Representative and randomly sampled length-frequency data shall be collected for the target species (FAO species code)

Length data shall be collected and recorded at the most precise level appropriate for the species (cm or mm and whether to the nearest unit or unit below) and the type of measurement used (total length, fork length, or standard length) shall also be recorded.

Where possible, total weight of length-frequency samples should be recorded, or estimated and the method of estimation recorded

Where possible, Observers should determine and record sex of measured fish to generate length-frequency data stratified by sex

Where possible, representative and randomly sampled length-frequency data should be collected for other main bycatch species

Biological Sampling

Species
Length (mm or cm) and the type of length measurement used.
Skates and rays:
- Maximum disk width shall be measured

Sharks
- Appropriate length measurement to be used should be selected for each species. As a default, total length should be measured.

Weight (kg)
Sex (male, female, immature (optional), unsexed (optional))
Maturity stage (optional) and criteria/schedule used (optional)
Gonad weight (g) (optional)
Otoliths

Seabird & Marine Mammals abundance observation (to be recorded for each operation and for all gears/fisheries):

Operation ID (Set ID, tow ID)
At Setting or At Hauling (At setting/At hauling/Not applicable)
Seabirds present in observation area? (Yes/No/Not Observed)
Species
Estimated numbers of abundance (by species)

Operation ID (Set ID, tow ID)
Marine Mammals present in observation area? (Yes/No/Not Observed)
Species
Estimated numbers of abundance (by species)

Observed catch (to be recorded for each operation and for all gears/fisheries, record weight or number according to the fishery)

Operation ID (Set_ID, Tow_ID)
Observer ID

FAO ASFIS Species code

Species retained
Total Number retained
Weight retained (kg)

Species discarded
Total Number discarded
Weight discarded (kg)
Number discarded alive
Number discarded dead

Number or weight of fish lost (if applicable)
Number or weight of fish cut off (if applicable)
Number of fish depredated (if applicable)
Comments

Incidental bycatch of ETP species (seabirds, mammals, turtles or 'other species of concern')
The following data shall be collected for all seabirds, mammals, turtles, and other species of concern caught in fishing operations as much as possible:

- Species (identified taxonomically as far as possible, or accompanied by photographs if identification is difficult) and size
- Estimated species abundance around fishing vessel
- Species interactions with fishing gear
- Count of the number of each species caught per tow or set
- Fate of bycatch animal(s) (retained or released/discarded)
- If released, life status (vigorous, alive, lethargic, injured, dead) upon release
- If injured, what was the cause of injury?
- If dead, then collect information or samples for onshore identification in accordance with pre-determined sampling protocols. Where this is not possible, observers may be required to collect sub-samples of identifying parts, as specified in biological sampling protocols

- **o** Record the type of interaction (hook/line entanglement/warp strike/net capture/other) if other, describe
- Sex of each individual for taxa where this is feasible from external observation, e.g. pinnipeds, small cetaceans or *Elasmobranchii* species
- identify any circumstances or actions that may have contributed to the bycatch event? (E.g. tori line tangle, high levels of bait loss)

Tag releases

The following data shall be reported for all tagged fish, seabird, mammal, or reptile

- Tag type
- Tag, wording
- Tag colour
- Tag number
- Date and time of tagging
- Species
- Animal length
- Type of length
- Animal sex (F=female, M=male, I=indeterminate, D=not examined)
-
- Position (Lat/Lon) of release
  Animal status at release (injured/uninjured)

Tag Recoveries

The following data shall be collected for all recovered fish, seabird, mammal or reptile tags if the organism is dead, to be retained, or alive:

- Name of observer
- Name of vessel
- International radio call sign (if any)
- Vessel flag CCP (ISO 3-apha)
- Collect, label (with all details below) and store the actual tags for later return to the tagging agency
- Species from which tag recovered
- Tag colour
- Tag wording and type of tag (spaghetti, archival)
- Tag numbers
- Date and time of capture (UTC)
- Location of capture (Lat/Lon, to the nearest 1 minute)
- Animal length / size (cm or mm) with description of what measurement was taken (such as total length, fork length, etc.)
- Sex (F=female, M=male, I=indeterminate, D=not examined)
- Maturity stage
- Gonad weight (g)
- Tag Site Condition
- Samples retained
- Tag photo (include in cruise report)
- Whether the tags were found during a period of fishing that was being observed (Y/N)

Bird Bands

The following data shall be reported for all seabird bands retrieved or spotted

- Species
- Band identifier
- Date and time of observation (UTC)
- Location of observation (Lat/Lon, to the nearest 1 minute) or Operation ID
- Type of interaction (with gear, with vessel, no interaction with gear or vessel)
- Photo taken? (Yes/No)
- State (likely to survive, injured, dead)

Bird interaction with vessel and collisions (excluding fishing gear)

- Species
- Number of birds
- Date and time of observation (UTC)
- Location of observation (Lat/Lon, to the nearest 1 minute)
- Photo taken? (Yes/No)
- State (likely to survive, injured, dead)
- Vessel activity (steaming, fishing, other)
- Type of interaction (collision, entanglement, bird found landed)
- Description of the interaction (including location of the bird on the vessel)
- Presence of fog (yes/no)
- Wind speed (kts) and bearing (°)
- Sea state (Beaufort)
- Description of vessel lighting at the moment of the observation

Bycatch mitigation gears details

Streamer line

General Streamer Line Description

Number of streamer lines regularly set
Streamer line position (port, starboard, stern)
Streamer line length (m)
Streamer length min/max (m)
Attached height above water (m)
Distance between streamers (m)
Number of streamers
Streamer design (single or paired)
Aerial extent of line (m)
Method used to assess aerial extent

Streamer material
Streamer line diameter (mm)
Streamer colours
Streamer line over bait entry position? (y/n/u)
Distance from stern to bait entry point (m)
Towed object (Y/N)
Horizontal distance from bait entry point to streamer line (m)

Bird baffler

Other bycatch mitigation device
Trotline cetacean exclusion device

Photo taken of the mitigation gear?

Interactions with Vulnerable Marine Ecosystems (VME)

General information
Name of observer
Name of vessel
Date
Trip number
Set number

VME location
Start and end positions of all gear deployments and/or observations.
(Latitude/longitude)
Depth(s) fished (m)

Fishing Gear
Indicate fishing gears used at each location

VME Taxa

Presence: Yes/No
a) Species (identified taxonomically as far as possible or accompanied by a photograph where identification is difficult).
b) An estimate of the quantity (weight (kg) or volume (m3)) of each listed benthic species caught in the tow (and the unit of measurement).
c) An overall estimate of the total quantity (weight (kg) or volume (m3)) of all invertebrate benthic species caught in the tow(and the unit of measurement).
d) Where possible, provide the live or dead status for corals
e) Where possible, and particularly for new or scarce benthic species which do not appear in ID guides, whole samples should be collected and suitably preserved for identification on shore.
e) Collect representative biological samples from the entire VME catch. (Biological samples shall be collected and frozen when requested by the scientific authority in a Contracting Party). For some coral species that are under the CITES list photographs should be taken.

Other sessile benthos taxa

Presence: Yes/No
For each catch of taxa
Scientific names (identified to the finest taxon level possible)
FAO code (if available)
Estimation of the amount caught

Processing Details and Conversion Factors (CF)

Operation ID (setID, towID)
Name of observer
Species Code (FAO species code)
Processing Code
Length Type
Minimum Length (cm)
Maximum Length (cm)
Number of individuals
Total Green Weight (kg)
Weighting Method
Processed Weight (kg)
Size Grade
Quality Grade
Conversion Factor

Observer data sections that are gear and fishery specific

For trawl fishing activities ONLY

Gear details
Net ID
Gear type (ISSFCV)
Headrope length (m)
Ground rope length (m)
Ground rope bobbins present?
Ground rope bobbins material (steel or rubber)
Ground rope bobbins weight (combined)
Bobbin diameter (cm)
Otter board to wing length (m)
Horizontal Opening, i.e. wingspread (m)
Vertical Opening (m)
Codend mesh
Mesh size (cm),
codend circumference (cm),
Orientation
Mesh type (diamond, square, etc)

Otter board
Type, weight (kg)

Net design
Net design description including make, model etc

Selectivity device present? (Y/N)
Selectivity device description
Net monitoring cables present? (Y/N)

Trawl details
Trawl Number
Bycatch Mitigation Gear used (Y/N)
Bycatch Mitigation Gear 1 ID
Bycatch Mitigation Gear 2 ID
Bycatch Mitigation Gear 3 ID

Trawl type: Research or Commercial (R/C)
Observed (Yes/No)
Target Species (FAO species code)
Date Start (YYYY.MON.DD)
Date Finish (YYYY.MON.DD)
Time net deployed (hh:mm)
Time net retrieved (hh:mm)

Start and End Fishing

For bottom trawl "start" is defined as when the groundrope is on the bottom, "end" is when the hauling starts.
For midwater trawl "start" is defined as when the fishing gear is at target fishing depth, "end" is when the hauling starts.
Time (hh:mm)
Latitude
Longitude
Trawl Depth (m)
Bottom Depth (m)

Other
Offal discharged during shooting (Y/N)
Offal discharged during hauling (Y/N)
Trawl speed (knots)
Total catch (kg)

Was Haul observed for fish/invertebrate bycatch (Y/N):
Record the total weight of all sub-samples for this shot (kg):

Trawl gear strike (to be monitored for 15 minutes immediately after the net has been deployed) (optional):
Start observation time (hh:mm) (optional)
End observation time (hh:mm) (optional)
Species
Nb of light strikes
Light strikes contact place:
- Number on windward ward
- Number on leeward ward
- Number on monitoring cable
- Number on net

Nb of heavy strikes
Heavy strikes contact place:
- Number on windward ward
- Number on leeward ward
- Number on monitoring cable
- Number on net

Heavy strike fate:
- Number aerial
- Number sea surface
- Number submerged

State of the bird(s) after strike
- Number Likely to survive
- Number Injured
- Number Dead
- Number Unknown

For Longline fishing activities ONLY

Longline Description:
Longline Type (ISSCFG codes)
Period in which the gear was used (YYYY.MON.DD)
Start and end date (YYYY.MON.DD)
Target Species (FAO species code)

Main Line:
Material
Diameter (mm)

For Integrated Weight Lines (IWL):
Integrated weight (g/m)

For non-IWL:
Weight spacing (m)
Number of measured weights
Weight type
Average weight (kg)
Standard deviation (kg)

Branch Lines:
Material
Length (m)
Spacing (m)
Branchline weights (kg)
Branchline weight distance from hook (m)

Hooks
Type (e.g.: J shaped, Circular, etc.)
Manufacturer
Marking (vessel mark, leave blank for none)
Model name
Size (mm)
Shank (mm)
Gape (mm)
Usual setting position
Line off bottom (m) (optional for pelagic longline)
Hooks off bottom (m) (optional for pelagic longline)
Method of baiting (manual/automatic)
Automatic baiting equipment (make and model)

Hook sinkers
Size (g)
Position from hook (mm)

Offal dumping position (port, starboard, stern)
Longline setting position (port, starboard, stern)
Offal dumping during hauling (never, occasionally, always)
Propeller rotation direction (clockwise/anti-clockwise)
Detail the weight and distance between the line weights for the longline system used
Single (Auto) Line (kg:m)

Double (Spanish) Line (kg:m)
Trotline (vertical droppers/trots attached to a mainline) (kg:m)

Daily setting observations
Set Number (as referenced in catch and effort log)
Set Type: Research or Commercial (R/C)
Bycatch Mitigation Gear used (Y/N)
Bycatch Mitigation Gear 1 ID
Bycatch Mitigation Gear 2 ID
Bycatch Mitigation Gear 3 ID
Longline Type Code (FSSCV)
Date of observation (YYYY.MON.DD)

Setting information
Vessel setting speed (knots)
Number sets unobserved since last set

Start and End setting for each haul
Date (YYYY.MON.DD)
Time (hh:mm)
Latitude
Longitude
Bottom Depth (m)

Total length of longline set (km)
Total number of hooks for the set

For each Observation
Start date (YYYY.MON.DD)
Start time (hh:mm)
End date (YYYY.MON.DD)
End time (hh:mm)

Details of Longline Setting

Number of Baskets/Magazines Set
Number of hooks per Basket/Magazine
Percentage hooks baited
Distance between branches (m)
Distance of hooks off bottom (m) (optional for pelagic longline)
Bait species (FAO species code)
Deck lights during setting (On, Off)
Streamer lines used (Yes, No)
Number of streamer lines used
Offal dumping during setting (Yes, No)
Bait entry position (Port, Starboard, Stern)
Clip on Interval (seconds)
Setting Speed (Line setter)

Daily hauling observations
Set number

Date of observation (YYYY.MON.DD)

Hauling Information
Number of hooks observed for seabird and fish bycatch (tally period)
Offal dumped during hauling (Yes / No)

Interactions with marine mammals
Data is to be collected in accordance with the protocol set out in annex E. For each haul and each species of depredating whales (killer whales *Orcinus orca* and sperm whales *Physeter macrocephalus)*:

- Priority 1 data to be collected include:

1. Presence/absence data: Presence / Absence / Not observed;
2. When presence, photo-identification data: photographs of specific body parts (for killer whales: dorsal fin, saddle patch and eye patches; for sperm whales: tail flukes) visible when whales come to the surface.

- Priority 2 data to be collected include:

1. Estimates of the number of individuals present around the vessel in the vicinity of the fishing gear.

- Priority 3 data to be collected include:

1. Information about whether or not whales interact with the gear;
2. Estimate of the time of arrival of whales in the vicinity of the gear.

Gear lost
Number of sections lost
Number of hooks lost that were attached to lost sections of the longline
Number of other hooks lost (excluding hooks attached to lost sections)

Was Haul observed for fish/invertebrate bycatch (Y/N):
Estimate percentage of the haul observed for bycatch (%)

For Trapping/Potting Fishing Activities ONLY

Trap/Pot *type* **(with drawing)**
Mesh size (mm)
Material

Funnel position
Orientation
Aperture (cm)

Number of chambers
Escape port present (y/n)
Dimensions (cm) of escape port
Weights attached?
Min Weight (kg)

Max Weight (kg)

Set and haul details
Set Number
Bycatch Mitigation Gear used (Y/N)
Bycatch Mitigation Gear 1 ID
Bycatch Mitigation Gear 2 ID
Bycatch Mitigation Gear 3 ID

Date of observation (YYYY.MON.DD)
Set Type: Research or Commercial (R/C)
Target species (FAO species code)
Offal dumped during setting (Yes / No)
Offal dumped during hauling (Yes / No)

Start and End setting. Repeat for hauling
Date (YYYY.MON.DD)
Time (:mm)
Latitude
Longitude
Bottom depth (m)

Gear Details
Length of line (m)
Type of line
Trap/Pot spacing (m)
Bait type

Setting
Number of pots/traps set
Number of pots/traps observed

Hauling
number of pots/traps hauled
number of pots/traps observed

Was Haul observed for fish/invertebrate bycatch (Y/N):
Estimate percentage of the haul observed for bycatch (%):

For Dahn/Drop lining activity ONLY

Dahn/Dropline Description
Line Type
Period in which the gear was used () Start and end date
Target species (FAO species code)

Main Line
Material
Diameter (mm)

Integrated weight (g/m)

Hooks
Type (e.g.: J shaped, Circular, etc.)
Manufacturer
Marking (leave blank for none)
Model name
Size (mm)
Shank (mm)
Gape (mm)
Usual setting position
Line off bottom (m)
Hooks off bottom (m)
Method of baiting (manual/automatic)
Automatic baiting equipment (make and model)

Offal
Offal dumping position (port, starboard, stern)
Offal dumping during hauling (never, occasionally, always)
Propeller rotation direction (clockwise/anti-clockwise)

Details of Dahn/Dropline Setting
Bycatch Mitigation Gear used (Y/N)
Bycatch Mitigation Gear 1 ID
Bycatch Mitigation Gear 2 ID
Bycatch Mitigation Gear 3 ID

Main line length (m)
Number of hooks set
Percentage hooks baited
Distance between branches/snoods (m)
Distance of hooks off bottom (m)
Bait species
Bait size
Bait proportion
Deck lights during setting (On, Off)
Streamer lines used (Yes, No)
Number of streamer lines used Offal dumping during setting (Yes, No)
Daylight period
Moonlight
Bait entry position (Port, Starboard, Stern)
Vessel setting speed (knots)

Start and End setting. Repeat for Start and End of hauling
Date (YYYY.MON.DD)
Time (hh:mm)
Latitude
Longitude
Bottom Depth (m)

Gear lost
Number of sections lost

Number of hooks lost that were attached to lost sections of the dahn/dropline Number of other hooks lost (excluding hooks attached to lost sections) Was Haul observed for fish/invertebrate bycatch (Y/N): Estimate percentage of the haul observed for bycatch (%)
Handline fishing activity **Handline Description** **Main Line** Material Diameter (mm) **Hooks** Type (e.g.: J shaped, Circular, etc.) Manufacturer Marking (leave blank for none) Model name Size (mm)Shank (mm) Gape (mm)Usual setting position Line off bottom (m) Hooks off bottom (m) **Offal** Offal dumping position (port, starboard, stern) Offal dumping during hauling (never, occasionally, always) Propeller rotation direction (clockwise/anti-clockwise) **Details of Handline Operation** Target species (FAO species code) Operation type: Research or Commercial (R/C) Bycatch Mitigation Gear 1 ID Bycatch Mitigation Gear 2 ID Bycatch Mitigation Gear 3 ID Number of fishers operating handlines Number of line lifts per fisherman (average) Number of hooks per line Percentage hooks baited Bait species Bait size Bait proportion Deck lights during setting (On, Off) **Start and End time of operation.** (An operation is a defined period of fishing between start and end date) Date (YYYY.MON.DD) Time (hh:mm) Time Start (YYYY.MON.DD hh:mm)

Time Finish (YYYY.MON.DD hh:mm)Operation Latitude
Operation Longitude
Bottom Depth (m)

Gear lost
Number of hooks lost

Was Haul observed for fish/invertebrate bycatch (Y/N):
Estimate percentage of the haul observed for bycatch (%)

Squid Jigging operation details:

Squid Jigging (operation) Number
Observed (Yes/No)
Target Species (FAO species code)
Time Start (YYYY.MON.DD hh:mm)
Time Finish (YYYY.MON.DD hh:mm)
Latitude of operation
Longitude of operation
Number of fishers
Number of jigging machines
Fishing duration by hand (h)
Fishing duration by machine (h)
Fish lamp used during fishing (Y/N)
Sea Surface Temperature (°C) (where possible)
Was fishing observed for fish/invertebrate bycatch (Y/N):
Estimated percentage of the operation observed for fish/invertebrate bycatch (%)

For Light seining activity ONLY

Type of light seining gear
–FAO Gear code: SV-boat seine (02.2), LNB-boat-operated-liftnet (05.2) and FCN cast net (06.1)

Target species (FAO species code)

Observed (Yes/No)

Light~~n~~ing
Total Power of fish lamp (kW)
Lamp Type (e.g. Metal Halide Lamp or LED)
Total power of underwater lamps (kW)
Total power of above sea level lamps (kW)
Lighting duration (hours) on underwater lamps and above sea level lamps, respectively
Time Start fishing (YYYY.MON.DD hh:mm)
Time End fishing (YYYY.MON.DD hh:mm)

Latitude Start fishing
Longitude Start fishing

Lighting used during fishing (Y/N)

Maximum submergence depth of the net (m)

Was Haul observed for fish/invertebrate bycatch (Y/N)
Estimated percentage of the observed for fish/inverts bycatch (%)

Annex C

Specifications for the Exchange of Data

1. Coordinated Universal Time (UTC) shall be used to describe times, using the following submission format: YYYY-MON-DDThh:mm:ss where:

    a. YYYY - represents a 4-digit year e.g. "2007"

    b. MON - represents a 3-character month abbreviation e.g. "APR"

    c. DD - represents a 2-digit day e.g. "05"

    d. T - is a space separator

    e. hh - represents hours based on the 24hr clock (length = 2 digits) e.g. "16"

    f. mm - represents minutes (length = 2 digits) e.g. "05"

    g. ss - represent seconds (length = 2 digits) e.g. "00"

Example: 2003-JUL-17T13:10:00 = 1.10pm (1310h), 17 July 2003

2. Coordinates are to be used to describe precise locations and the following standards shall be used:
Degrees minutes seconds (DD°MM'SS'') or Degrees minute decimal (DD°MM.XX) or Decimal degrees (DD.XXXX)
Add N or S to indicated North or South for latitudes. Add E to indicate the Eastern longitude (the SIOFA Area is always in the Eastern longitudes), for decimal degrees, add minus for southern latitudes.
Examples:
Latitude= 42°37'06'' S Longitude= 48°03'58'' E
Latitude= 35°09.70'' S Longitude= 51°12.94''
Latitude= -10.0386 Longitude= 61.7088

3. Metric units of measure be used, specifically:

    a. kilograms are to be used to describe catch weight

    b. Metres are to be used to describe height, width, depth, beam, or length

    c. Cubic metres are to be used to describe volume

    d. Kilowatts are to be used to describe engine power

Annex D

Role and tasks of the scientific observer

1. The function of scientific observers on board vessels engaged in harvesting of marine living resources is to independently observe and report on the operation of fishing activities in the SIOFA Area.

2. In fulfilling this function, scientific observers will undertake the following tasks:

   a. Record details of vessel operations, including inter alia, times of, searching, fishing, transit etc., and details of hauls;

   b. Take biological samples of catches;

   c. Record biological data of species caught;

   d. Record bycatch information, such as species, quantity, and other biological data [as specified in Annex B]

   e. Record interactions with seabirds, marine mammals, and marine reptiles

   f. Record information on catch including data relating to processed conversion factors;

   g. prepare reports of their observations for their respective national authorities;

   h. collect and report data on sightings fishing vessels, unmarked fishing gear, and recovery of fishing gear in the SIOFA Area, including vessel type identification, vessel position and activity and gear type;

   i. collect information on fishing gear loss and waste disposal by the fishing vessels at sea.

Annex E

Protocol for documenting whale interaction in deep-sea demersal longline fisheries

Priority 1 Data to be collected

Presence

For every haul and for each species:

Haul	Fish Waste discharge	Presence ?	Comment
1	Yes/No	Absent	
2	Yes/No	Present	
3	Yes/No	Present	Night-time, but clearly see them in projectors
4	Yes/No	Not observed	Night-time, can't see them but can't say they are not present around.

Requirement: data mandatory and must be collected for every haul.

"Presence": Favourable conditions (visibility is at least several hundred meters with sufficient light) and observation by the observer (observer can be alerted by the crew when whales are sighted). The presence of whales is confirmed by direct observation of at least one individual at the surface in the vicinity of the vessel at least once during 1 haul. Note that presence can also be observed at night when killer whales come very close to the boat.

"Absence": Favourable conditions and no odontocete spotted at any time during the entire haul.

"Not observed" is used either if the observer did not have time to gather information (e.g. if line broke), or if conditions are too bad to observe (either weather conditions, or hauling at night).

Photos

For every haul and for each species:

Haul	Presence?	Photos?	Comment
1	Absent	No	
2	Present	Yes	
3	Present	No	Night-time: too dark for pictures
4	Not observed	No	Night-time: too dark for pictures

Requirement: data mandatory and must be collected for every haul.

With this additional field, observers indicate whether they took pictures of whales for photo-identification purposes or not during the haul of the set.

Priority 2 Data to be collected

Number of individuals

For every haul and for each species:

Haul	Presence?	minimum	maximum	comment
1	Absent	0	0	
2	Present	15	22	
3	Present	1		At least one but too dark for accurate estimate
4	Not observed			

Requirement: data should be collected for every haul to the extent possible.

Providing exact counts of individuals from the surface may be difficult for observers as whales can dive for long periods of time. To account for uncertainty around counts, observers may fill in two fields:

- Minimum estimate of the number of individuals,
- Maximum estimate of the number of individuals.

Priority 3 Data to be collected

Interaction with fishing gear

For every haul and for each species:

Haul	Presence?	Interaction with fishing gear?	Comment
1	Absent	No	
2	Present	Yes	Saw them diving close to the line
3	Present	Yes	Head of fish were observed
4	Not observed		

Requirement: data should be collected for every haul to the extent possible.

When Presence, interaction with fishing gear is taken into account if whales are diving close to the lines or directly observed with fish in their mouths.

Estimated Time of Arrival (ETA)

For every haul and for each species:

Haul	Presence?	ETA	Comment
1	Absent	NA	Not applicable
2	Present	0:30	We were able to haul 30 minutes before they arrive
3	Present	0:00	Saw them in projectors even before first hook came on board
4	Not observed	NA	Not applicable

Requirement: data should be collected for every haul to the extent possible.

The Estimated Time of Arrival here corresponds to the time between the first hook of the line hauled on board and the arrival of sperm whales / killer whales. If whales are already present when hauling starts, then ETA is zero.

Annex E- Checklist for SIOFA Bottom Fishing Impact Assessment (BFIA) evaluation according to the SIOFA BFIA Standard

Last modified at SC11 in 2026

Preamble

Any CP or CNCP or PFE (CCP) that authorises or is seeking to authorise any vessel flying its flag to bottom fish in the Agreement Area shall submit to the Secretariat, no less than 30 days prior to the next annual meeting of the Scientific Committee, a Bottom Fishing Impact Assessment (BFIA) for its individual bottom fishing activities in the Agreement Area.

SIOFA BFIAs may need to be updated when a substantial change in the fishery has occurred, such that it is likely that the risk or impacts of the fishery may have changed

The Scientific Committee (SC) shall consider all BFIAs received at its next ordinary meeting and provide advice in its meeting report as to the likely cumulative impacts of bottom fishing impact activity from vessels flying the flag of a CCP in the Agreement Area, and whether each BFIA meets the requirements of paragraph 26 of CMM 01, including those laid out in the SIOFA Bottom Fishing Impact Assessment Standards (BFIAS).

Scientific Committee Assessment Checklist and Recommendations

This checklist is for the Scientific Committee to complete to ensure that all aspects of the proposed BFIA have been assessed against the BFIAS.

To assist the Scientific Committee with their deliberations, a BFIA proponent should pre-fill the Rationale column with a brief justification of how the BFIA addresses the Standard requirements for Scientific Committee consideration. The Scientific Committee will complete the Assessment column to identify any critical failures within the proposed BFIA.

The SC assigns a status of either **Yes**, **No**, or **Partial** when evaluating the proponent's rationale.

Part 1: Foundational & Procedural Requirements				
#	**Checklist Item**	**Rationale from proponent**	**Scientific Committee evaluation**	**Notes**
1.1	BFIA submitted for all proposed bottom fishing in the SIOFA Area — regardless of scale, history, or gear type.			
1.2	Submitted ≥30 days prior to SC meeting (or as soon as possible for legacy fisheries).			
1.3	For new fisheries: BFIA submitted before fishing commences.			
1.4	Terms used consistently with Annex A definitions (e.g., VME, New Fishery, Bottom Fishing).			
1.5	Assessment explicitly applies the precautionary approach (esp. under data limitation).			
1.6	Overarching objectives stated: (a) Prevent Significant Adverse Impacts on VMEs; (b) Ensure long-term sustainability of deep-sea stocks.			

Part 2: Core Content — 2.1 Description of Proposed Fishing Activities				
#	**Checklist Item**	**Rationale from proponent**	**Scientific Committee evaluation**	**Notes**
2.1.1	Vessel details provided per SIOFA Data Standards; vessel confirmed on SIOFA record of authorized vessels.			
2.1.2	Full gear description: e.g., type, net/bottom line dimensions, door size/weight, footrope, ground gear (bobbins, etc.), fishing height, selectivity factors.			
2.1.3	Seabed depth range, target & bycatch species, intended period/duration specified.[1]			
2.1.4	Quantified effort: # vessels, # tows/sets, estimated duration/distance.			
2.1.5	Estimated total catch & discards (by species).			

Part 2: Core Content — 2.2 Mapping & Description of Proposed Fishing Areas				
#	**Checklist Item**	**Rationale from proponent**	**Scientific Committee evaluation**	**Notes**
2.2.1	Maps at appropriate resolution showing proposed fishing areas.			

[1] Also refer to Section 6 on the BFIAS.

Part 2: Core Content — 2.2 Mapping & Description of Proposed Fishing Areas				
#	**Checklist Item**	**Rationale from proponent**	**Scientific Committee evaluation**	**Notes**
2.2.2	Maps overlay: historically fished areas, known/predicted VMEs, bathymetry, seamounts/canyons/etc.			
2.2.3	Baseline description includes seabed type, past fishing, topographic features, VME evidence.			
2.2.4	GIS files provided to Secretariat in compatible format (where possible).			

Part 2: Core Content — 2.3 Impact Assessment				
#	**Checklist Item**	**Rationale from proponent**	**Scientific Committee evaluation**	**Notes**
2.3.1	Scoping identifies hazards (e.g., gear impact, gear loss/ghost fishing) per UNGA/FAO.			
2.3.2	Risk assessment method for combining criteria is transparent and documented.			
2.3.3	Four risk criteria evaluated: (1) Intensity, (2) Duration, (3) Spatial Extent, (4) Cumulative Impact.			
2.3.4	Intensity defined per BFIAS: None / Low / Medium / High (p.11).			
2.3.5	Overall risk level assigned (Low/Medium/High) with operational definitions applied (p.11–12).			

Part 2: Core Content — 2.3 Impact Assessment				
#	**Checklist Item**	**Rationale from proponent**	**Scientific Committee evaluation**	**Notes**
2.3.6	Gear impact evaluated using Hierarchy of Bottom Fishing Impacts (Annex A.7, Table A1): footprint × effort × likelihood × degree of impact.			
2.3.7	VME interactions addressed: likelihood, extent, intensity, habitat vulnerability, biodiversity loss, spatial/duration/cumulative impacts, ghost fishing.			
2.3.8	All assumptions (esp. data gaps) clearly documented.			

Part 2: Core Content — 2.4 Status of Deep-Sea Stocks				
#	**Checklist Item**	**Rationale from proponent**	**Scientific Committee evaluation**	**Notes**
2.4.1	List of target & likely bycatch species provided.			
2.4.2	Tables/figures of historic catches & CPUE trends (nominal or standardised).			
2.4.3	Results of surveys or stock assessments (if available).			
2.4.4	Discussion of stock vulnerability (e.g., slow growth, late maturity, low fecundity — per Annex A.3).			

Part 2: Core Content — 2.5 Monitoring, Management & Mitigation				
#	**Checklist Item**	**Rationale from proponent**	**Scientific Committee evaluation**	**Notes**
2.5.1	Measures explicitly linked to risks identified in §2.3.			

Part 2: Core Content — 2.5 Monitoring, Management & Mitigation				
#	**Checklist Item**	**Rationale from proponent**	**Scientific Committee evaluation**	**Notes**
2.5.2	VMS details: reporting frequency, accuracy, compliance with SIOFA Data Standards.			
2.5.3	Catch/effort/bycatch reporting systems described and compliant with SIOFA standards — including discards & VME encounter reporting.			
2.5.4	Observer coverage: level, design, data collection per SIOFA Observer Data Standard.			
2.5.5	VME encounter protocol aligns with Annex B: (a) indicator taxa list (e.g., scleractinians, antipatharians, stylasterids, crinoids); (b) quantitative thresholds; (c) move-on rules (2nm for trawls, 1nm for longlines); (d) reporting procedure.			
2.5.6	Effectiveness of mitigation measures evaluated (e.g., risk reduction modelling, per Penney & Guinotte 2013).			

Part 3: New Fisheries (Apply only if 1.6 = YES)				
#	**Checklist Item**	**Rationale from proponent**	**Scientific Committee evaluation**	**Notes**
3.1	Expected (not historical) effort, catch, duration, etc., provided; commitment to update with actual data post-fishing.			
3.2	Predictive approaches used for VME risk (e.g., habitat models); all assumptions documented.			
3.3	Stock status inferred from comparable fisheries or proxy data.			
3.4	Precautionary measures include: (a) effort/catch limits; (b) spatial closures/move-on; (c) trigger for reassessment; (d) regular stock review.			

Part 4: Overall Considerations (SC Use Only)			
#	**Checklist Item**	**Scientific Committee evaluation**	**Notes**
4.1	Cumulative impacts of participant's vessels in Agreement Area assessed.		
4.2	BFIA meets the SIOFA BFIAS.		
4.3	All data sources, methods, assumptions, and knowledge gaps		

Part 4: Overall Considerations (SC Use Only)			
#	**Checklist Item**	**Scientific Committee evaluation**	**Notes**
	clearly documented.		

Scientific Committee recommendations (SC to complete)

The SC discussed the [insert CCP] BFIA and **Agreed** that the document is consistent with the BFIA Standards, with the following requested modifications (*to be added if necessary*):

-
-

Or:

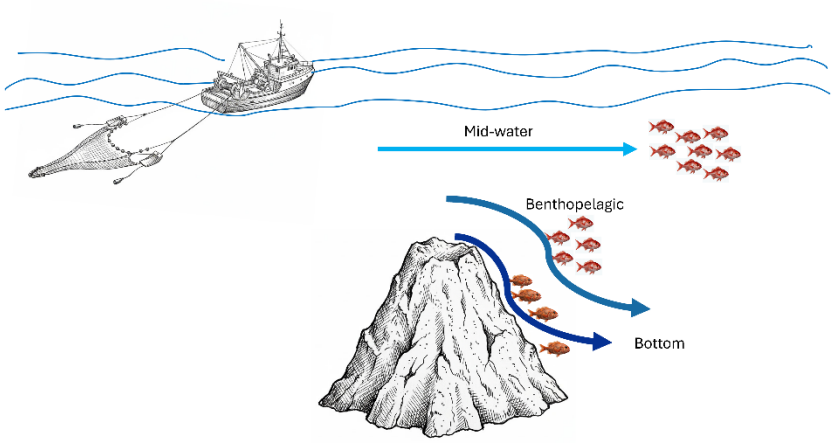
The SC discussed the [insert CCP] BFIA and **Recommended** that a small working group [led by xxx and composed of xxx] meet post SC and to provide additional advice on the proposal, noting that the work is likely to extend intersessionally and would be expected to result in a revised proposal being provided to the next meeting of the Scientific Committee. Aspects of the proposal which are currently deficient in respect to the BFIA Standards include

-
-

Or:

The SC discussed the [insert CCP] BFIA and **Agreed** that the proposal was **lacking critical information** in several important areas and was not consistent with the SIOFA BFIA Standards. The SC noted that the BFIA in its current form would require substantive modification to ensure that sufficient information would be available to enable the SC to evaluate the long-term impacts of the fisheries described.

Annex H- Benthopelagic trawl definition and description



Definition and description

A benthopelagic trawl is trawl gear flown close to the seabed, typically between 6-50 meters, that does not have sustained seabed contact but infrequent unintended seabed contact can occur. The nets are configured with the otter boards operating off the seabed, used to target benthopelagic species — principally alfonsino (*Beryx splendens* and *B. decadactylus*) — that aggregate in the water column above and alongside features such as seamounts, ridges and knolls. The otter boards are a high-aspect hydrodynamic design capable of operating stably off the seabed. The trawl net flies above the substrate. Otherwise, the trawl and otter boards resemble those of a single boat mid-water otter trawl, with lightweight ground gear that is unsuitable for use on hard substrates and is unable to maintain sustained bottom contact.

Fishing vessel and handling equipment

The vessels used are large factory stern trawlers, typically 68–74 m in length, capable of extended voyages of up to ten weeks. They are equipped with fast powerful winches to handle the towing warps (steel cables), net drums for handling bridles and nets, and A-frames or derricks for recovering otter boards and codends. A critical feature of benthopelagic winches is high speed pay-away to chase fast diving species. Acoustic net-monitoring sensors are standard equipment, providing real-time data on net opening, headline height, and the proximity of the gear to the seabed, enabling the skipper to precisely position the trawl relative to detected fish aggregations and bottom topography. Low frequency echo sounders (e.g., Simrad ES80, Furuno FCV) are used to find and identify target fish aggregations in deep water.

Fishing operations

The fishery usually operates on known tow lines around seamounts. At the seamount prior to setting, the skipper locates the fish acoustically and assessed whether the bathymetry permits safe gear deployment. Because of the high and fragility of the trawl gear, skippers are risk-averse and will only set when safe to do so. Towing is characterised as "*aimed trawling*" - the gear is set to intercept an identified aggregation rather than towed blindly in the hope of encountering fish.

Deployment proceeds by unwinding the net drum and releasing the codend, paying out the net body as the vessel steams slowly ahead, followed by the bridles and sweeps. The otter boards are then

connected and deployed; being of hydrodynamic design, they fly off the seabed at the appropriate scope. The scope ratio is typically less than that used in conventional bottom otter trawling. Real-time sensors monitor otter board elevation throughout the tow. Towing speed is generally more than 2.5 knots. Tow duration is usually 30-45 mins.

At the end of the tow the trawl is retrieved in reverse order of deployment and the codend is hauled aboard or lifted by winches. The near-absence of benthic bycatch in this fishery is consistent with the rarity of net-to-substrate contact during normal operations.

Annex I- Preliminary algorithm for SIOFA data base re-assignment of gear type (suggested column header- Derived_gear_type)

This algorithm describes the steps to assign a trawl set to a derived trawl gear type (midwater, benthopelagic, bottom trawl) for SIOFA catch-effort logbook data.
The algorithm is applied at the set level catch-effort database for all trawl sets for CCPs logbook data, excluding the Saya de Malha Bank.
Currently the set_haul column geardetailTrawlStrata includes: "MTW"; "BTW"; "BOTTOM"; "MIDWATER"; "Bottom"; NA; and "MIDDLE".

Step 1

1. If the catch for the set records escolar or hapuka then assign the set to **mid-water trawl**;
2. Else if the catch for the set records cardinal fish or ruby fish, then assign the set to **benthopelagic trawl**;
3. Else if the set contains orange roughy assign the set to **bottom trawl**;
4. Else assign it to unknown.

Review whether the results distinguished by the SIOFA fishery data according to the two steps above are appropriate.
If a set is unknown, then proceed to step 2.

Step 2

Midwater trawls - trawls where all these criteria are met:

- the tow speed is 3 knots or less;
- tow duration is more than 45 mins;
- net height is more than 50m above the seafloor at both the start and end of the set.

Benthopelagic trawls - trawls where all these criteria are met:

- the tow speed is 2.5 knots or more;
- tow duration is less than or equal to 45 minutes;
- net height is greater than 6 m and less than or equal to 50m above the seafloor at the start of the set.

Bottom trawls - trawls where all these criteria are met:

- the tow speed is 2.5 knots or more;
- tow duration is less than or equal to 45 minutes;
- net height is 5m or less above the seabed at the start or end of the set.

Annex L- Checklist for SIOFA Fishing Operation Plan (FOP) evaluation by the Scientific Committee

Last revised at SC11 in 2026

Succinct Description

Any CP or CNCP or PFE (CCP) seeking to permit a vessel that flies its flag to fish in an exploratory fishery, or to fish in an exploratory fishery with a gear type that has not been used in that fishery for the previous ten years to submit no less than 30 days prior to the next annual meeting of the Scientific Committee a detailed description of their intended Fisheries Operation Plan for evaluation by the SC.

CCP	
Area	
Target Species	
Proposed Methods of Fishing	
Proposed Maximum Catch / Effort Limit	
Expected Operation Period	
Submission date	

Scientific Committee Assessment Checklist And Recommendations

This checklist is for the Scientific Committee to complete to ensure that all aspects of the Fisheries Operation Plan and the Data Collection and Analysis Plan have been assessed.

To assist the Scientific Committee with their deliberations, please pre-fill the Rationale column with a brief justification of how your Fisheries Operation Plan and Data Collection and Analysis Plan address the Scientific Committee consideration. The Scientific Committee will complete the Assessment column.

The checklist should be prepared by the proponent and submitted as part of the Fishing Operation Plan submission to the Scientific Committee.

Fisheries Operation Plan checklist

Fisheries Operation Plan Considerations	Rationale from proponent	Assessment by SC
a) A clear objective for the fishery stated in the FOP.		
b) The FOP includes explicit target, limit and/or threshold reference points.		
c) Method for evaluating the stock trends against the reference points is clearly stated.		
d) An appropriate precautionary catch and/or effort limit is included.		
e) Catch/effort limit(s) are spread over areas or will be undertaken in a manner that ensures exploration and is not focused consistently fishing in one small area.		
f) The FOP includes an assessment of the cumulative impacts of all fishing activities in the area of the exploratory fishery.		
g) The FOP includes and evaluation of the impact of the proposed fishing on the marine ecosystem including specific risk assessments for SSI, teleost bycatch, shark bycatch and VME impacts.		
h) If the Data Collection and Analysis Plan is carried out as proposed it will result in sufficient information to inform the level of precaution required and the degree of certainty with which the Scientific Committee's advice could be provided.		

Fisheries Operation Plan Considerations	Rationale from proponent	Assessment by SC
i) The degree to which the approach outlined in the FOP is likely to ensure the exploratory fishery is developed consistently with its nature as an exploratory fishery, and consistently with the objectives of the Agreement.		
j) If a Fisheries Operation Plan proposes any bottom fishing activities, advice and recommendations in accordance with CMM 01(2025) (Interim Management of Bottom Fishing)[1].		
k) The FOP is clear on whether any operations are foreseen within the boundaries of SIOFA Benthic Fishery Closures (CMM 18(2025)) and, if yes, what form those operations will take		

Data Collection and Analysis Plan checklist

Data Collection Plan considerations	Rationale from proponent	Assessment by SC
a) A description of the catch, effort and related biological, ecological and environmental data are included and are sufficient to address the questions raised in the FOP Checklist, items c, e, f, g and h.		
b) The dates by which the data must be provided to the MoP are included.		

[1] The Scientific Committee shall undertake a review of the proposed assessment and provide advice to the MoP on:

i. Whether the proposed bottom fishing would contribute to having significant adverse impacts on deep sea fish stocks for which no stock assessment has been completed, bycatch species and/or VMEs and, if so,
ii. Whether any proposed or additional mitigation measures would prevent such impacts.
iii. Whether this proposal overlaps with an existing bottom fishing footprint.

Data Collection Plan considerations	Rationale from proponent	Assessment by SC
c) A plan is included for directing fishing effort in an exploratory fishery to allow for the acquisition of relevant data to evaluate the fishery potential and the ecological relationships among harvested, non-target and associated and dependent populations and the likelihood of adverse impact.		
d) Where appropriate, the FOP includes a plan for the acquisition of any other research data obtained by fishing vessels, including activities that may require the cooperative activities of scientific observers and the vessel, as may be required by the Scientific Committee to evaluate the fishery potential and the ecological relationships among harvested, non-target, associated and dependent populations and the likelihood of adverse impacts.		
e) The FOP includes a description of the planned analyse of catch and effort data including CPUE, catch distribution of the target and bycatch species; biological analysis including, length, age, growth maturity of target species; environmental impact analysis; VMEs impact assessment (if appropriate); and target species stock delineation. Including a time frame for these assessments[2] (that is when will data be analysed and available for SC review).		

[2] Noting that the SC should get annual updates on activities undertaken by the exploratory fishery, but this task is regarding a full analysis of the data, which should be completed prior to any proposed roll-over the exploratory fishery.

Data Collection Plan considerations	Rationale from proponent	Assessment by SC
f) The FOP includes an evaluation of the time scales involved in determining the responses of harvested, dependent and related populations to fishing activities (that is how long do you expect the fished stock to show a stock response to the fishing activities).		

Scientific Committee recommendations (SC to complete)

The SC discussed the [insert CCP] Fisheries Operational Plan and Data Collection and Analysis plan and **Agreed** that the approach outlined in the Fisheries Operation Plan is likely to ensure that the exploratory fishery is developed consistently with its nature as an exploratory fishery, and consistently with the objectives of the Agreement, with the following requested modifications (*to be added if necessary*):

-
-

Or:

The SC discussed the [insert CCP] Fisheries Operational Plan and Data Collection plan and **recommended** that a small working group [led by xxx and composed of xxx] meet post SC and to provide additional advice on the proposal, noting that the work is likely to extend intersessionally and would be expected to result in a revised proposal being provided to the next meeting of the Scientific Committee. Aspects of the proposal which are currently deficient include

-
-

Or:

The SC discussed the [insert CCP] Fisheries Operational Plan and Data Collection and Analysis Plan and **agreed** that the proposal was **lacking critical information** in several important areas and was not consistent with the SIOFA exploratory fisheries objectives. The SC noted that the Fisheries Operational Plan in its current form would require substantive modification to ensure that sufficient information would be available to enable the SC to evaluate the long-term potential and impacts, of the proposed exploratory fishery, and to ensure that the fishery resources would be developed on a precautionary and gradual basis a required by the CMM.

Annex M- SC11 technical revisions to the CMM 17(2025) (New and Exploratory Fisheries) Annex 1

Annex 1 – Established fisheries in the SIOFA Area[1]

Targeted species[2]/ fisheries[3]	Fishing gear[4]	Area	Participants
Patagonian toothfish	Traps (deep water >200m)	Designated bottom fishing footprints of Australia, EU (Spain), Japan, and France (Overseas Territories). SIOFA sub-areas 3b and 7	Australia, EU (Spain), France (Overseas Territories), Japan, Korea
	Set longline (deep water >200m)	Designated bottom fishing footprints of Australia, EU (Spain), Japan, and France (Overseas Territories). SIOFA sub-areas 3b and 7	Australia, EU (Spain), France (Overseas Territories), Japan, Korea
Orange roughy	Bottom trawl	Designated bottom fishing footprints of Australia, Cook Islands, Japan. Underwater topographic features in SIOFA sub-areas 1, 2, 3a, 3b, 4, 5 and 6.	Australia, Cook Islands, Japan, China, Mauritius
Alfonsino	Midwater trawl	Designated fishing footprints of Australia, Cook Islands and Japan. Underwater topographic features in SIOFA sub-areas 1, 2, 3a, 3b, 4, 5 and 6.	Australia, Cook Islands, Japan, Korea, Mauritius
	Benthopelagic trawl	Designated fishing footprints of Australia, Cook Islands and Japan. Underwater topographic features in SIOFA sub-areas 1, 2, 3a, 3b, 4, 5 and 6.	Australia, Cook Islands, Japan, Korea, Mauritius
	Bottom trawl	Designated bottom fishing footprints of Australia, Cook Islands, Japan.	Australia, Cook Islands

[1] Annex 1 may be updated by the Meeting of the Parties upon the advice of the Scientific Committee concerning historical catch data and/or other information submitted by CCPs regarding their targeted fisheries.
[2] As per the endorsed definition adopted by MoP10 (MoP10 Report Para 130).
[3] For each listed participant, an established fishery may include other primary and secondary species taken with the listed gear, provided that such species have been historically recorded as part of the normal fishing operations.
[4] See FAO Fishing Gear Descriptions.

Targeted species[2]/ fisheries[3]	Fishing gear[4]	Area	Participants
		Underwater topographic features in SIOFA sub-areas 1, 2, 3a, 3b, 4, 5 and 6.	
Brushtooth lizardfish and scads	Single boat otter board trawl	Designated bottom fishing footprint of Thailand.	Thailand
	Paired trawlsTrawl (nei)	Designated bottom fishing footprint of Thailand.	Thailand
Shallow water (<200m), Carangoides spp., snappers, emperors and groupers	Bottom trawl (shallow water <200m)	Designated bottom fishing footprint of Thailand. SIOFA sub-area 8 (mainly Saya de Malha Bank)	EU (France), Mauritius, Thailand, Comoros
	Traps (shallow water <200m)	Designated bottom fishing footprint of Thailand. SIOFA sub-area 8 (mainly Saya de Malha Bank)	EU (France), Mauritius, Thailand, Comoros
	Set longline (shallow water <200m)	Designated fishing footprint of Thailand. SIOFA sub-area 8 (mainly Saya de Malha Bank)	EU (France), Mauritius, Thailand, Comoros
	Hook and line (handlines) (shallow water <200m)	Designated fishing footprint of Thailand. SIOFA sub-area 8 (mainly Saya de Malha Bank)	EU (France), Mauritius, Thailand, Comoros
Deep water (>200m) sSnappers, lutjanids and hapuka	Set longline (deep water >200m)	Designated bottom fishing footprints of the EU (Spain) and Australia. SIOFA Subareas 2, 3a, 3b and 4.	Australia, China, EU (Spain)
	Dropline (deep water >200m)	Designated bottom fishing footprints of the EU (Spain) and Australia. SIOFA Subareas 2, 3a, 3b and 4.	Australia, China, EU (Spain)
Oilfish	Pelagic longline, dropline	SIOFA Subareas 1, 3b and 8Southwest Indian Ocean	Chinese Taipei, Seychelles
Squid	Light seining, Squid Jigging	Designated fishing footprint of China. SIOFA Subareas 1, 4, 7 and 8	China
	Squid jigging	Designated fishing footprint of China. SIOFA Subareas 1,4,7 and 8 Area	China