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Indian Ocean Tuna Commission
Commission des Thons de l'Ocean Indien
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IOTC Regional Observer Scheme

Scientific Field Observer
Training Course

[CPC name] Scientific Field Observer

Training Course Objectives, Structure and Programme

[IOTC ROS SFO]

CapMarine
Capricorn Marine Environmental

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Indian Ocean Tuna Commission
IOTC Secretariat
Le Chantier Mall (2nd floor)
PO Box 1011
Victoria Mahé - SEYCHELLES.
Tel: +248 4225494
Fax: +248 4224364
Email:

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Introduction

The course has been designed to meet, as a minimum, the IOTC ROS Basic Observer Training curriculum[1] and adapted to ensure consistency with the current (2019) decisions of the Commission.

To successfully complete the Basic Observer Training course candidates will be subject to a competency-based assessment and should meet, or exceed IOTC ROS minimum competency standards[2] to ensure that they have acquired the required skills by the end of the training course.

IOTC ROS minimum competency standards are identical throughout the IOTC ROS, independent of the organisation(s) in charge of training and managing CPC observers. Observers that meet IOTC ROS minimum competency standards will be certified by CPC-approved Observer Provider as fully trained in one or more of the gear types below, and issued an individual training certificate inclusive of candidate assessment results per training module.

Purse seine b); Longline c); Pole and Line, and d) Gillnet

Following the submission of a request for observer registration by the CPC-approved Observer Provider, the Secretariat will allocate successful candidates with an individual IOTC registration code that must be included on observer data submitted to the Secretariat.

Country implementation of IOTC ROS SFO training programme

Field observer training is to be divided into three phases and adapted to meet individual CPCs specific scenarios and requirements:

1. Basic Sea Survival Training
2. Technical scientific training
3. Data collection, verification, input and reporting training

CPC specific scenario and requirements shall differ according to CPC dominant gear types. These can include one or more of the following gear types:

- pelagic longline;
- industrial tuna purse-seine;
- pole and line; and
- gillnet

CPC observers are to be fully trained in these dominant gear types to enable them to collect scientific data with the fleets operating in the CPC EEZ and within the IOTC Convention Area as requested in IOTC Resolution 11/04; Paragraph 2:

> *"Each CPC is to implement a national observer program in order to improve the collection of scientific data, on at least 5% of the number of operations/sets for each gear type by their fleet while fishing in the IOTC area of competence, on vessels of 24 meters overall length and over (within both their Exclusive Economic Zone (EEZ) and on the high seas), and for vessels under 24 meters if they fish outside their EEZ".*

[1] IOTC-2019-S23-10_Rev1[E] - Regional Observer Scheme standards, page 15 to 32.
[2] IOTC-2019-S23-10_Rev1[E] - Regional Observer Scheme standards, page 33 & 34.

Basic Sea Survival Training

To comply with "international safety standards for merchant seaman and fishermen" to embark onboard any commercial fishing vessel, STCW 2010 certified training (or equivalent) is to be outsourced to an in-country IMO certified institution (or equivalent).

To meet IOTC ROS Standards training should include, at a minimum, the following modules:

- Personal Survival Techniques VI/I-I;
- Personal Safety and Social Responsibility VI/I-4.

Training will entail a theoretical component in a classroom environment using blended training (Power Point presentations, videos and simulated practical exercises). Knowledge acquired during theoretical lectures will be applied during practical courses during which the trainee will have to practically demonstrate the survival skills taught in a controlled environment, for an individual and in a group.

Technical scientific training

Theoretical and practical technical scientific training is to be conducted *in situs* using suitable training facilities with appropriate equipment or *from distance* via the use of a e-Learning Management System (LMS) software.

Marine colleges are favourable venues for observer training but are not essential. Access to fishing harbours, fishing vessels or fish landing sites would enhance the training.

Trainers may be internal to CPC observer programmes or may be specialists brought in from other programmes, organisations or supplied by training providers. Trainer skills, qualifications and experience should meet agreed regional best practice. These can be found under the Guidelines for IOTC ROS[3].

Theoretical and practical technical scientific training proposed by CapMarine in the context of the current project, framed into the Pilot Project for the support of the IOTC ROS, will be provided from distance using Talents LMS.

Training will be conducted informally and shared (if possible) and using blended training methods (combination of Power Point presentations, videos, simulated practical exercises, quizzes, and role playing coupled with visual aids and self-training tools).

Practical training onboard a commercial vessel will be arranged should the opportunity arise, to provide trainees with a practical "hands on" experience in sector-specific fisheries and an opportunity to visually comprehend vessel layout and electronic equipment used for navigation and locating fish. Realistically however, the logistics to ensure that the training period overlaps with a vessel in port may be difficult. If this is the case, additional simulated practical exercises with actual fishing gear in the classroom setting will be provided.

Technical scientific training will include general basic theoretical background to support observers at sea on deployment in any fishing sector; and specific theoretical and practical training on fishing operations, gear and species caught by the fishery sectors operating regionally within the IOTC Convention Area.

The specific theoretical and practical training on fishing operations, gear and species will be adapted to meet the CPC-specific scenario.

[3] IOTC-2019-S23-10_Rev1[E] - Regional Observer Scheme standards, page 14.

Data collection, verification, input and reporting training

Training is to be conducted *in situs* using suitable training facilities with appropriate equipment or *from distance* via the use of a e-Learning Management System (LMS) software. Trainers may be internal to CPC observer programmes or may be specialists brought in from other programmes, organisations or supplied by training providers. Trainer skills, qualifications and experience should meet agreed regional best practice. These can be found under the Guidelines for IOTC ROS[4].

CPCs should ensure that training includes the collecting, formatting and accurately recording of mandatory and recommended information as prescribed under the IOTC Regional Observer Scheme.

Data collection, verification, input and reporting training proposed by CapMarine in the context of the current project, framed into the Pilot Project for the support of the IOTC ROS, will be partially provided from distance using Talents LMS, and partially provided in situs.

Training will be conducted informally, using blended training methods (combination of on-the-job exercises and role playing on form filling, verification, data punching and reporting).

Training will include the filling of IOTC ROS data recording forms, data punching using IOTC ROS e-collection and reporting system, data verification and reporting.

The specific data collection, verification, input and reporting training will be adapted to meet the CPC-specific scenario.

Assessment methods

To successfully complete the Observer Training course candidates will be subject to a competency-based assessment, based on a framework which will describe the different competencies the candidate will be required to meet, its specific set of behavioural indicators and measurement criteria. IOTC ROS minimum competency standards approved by the Commission will be used as the competency framework against which candidates will be evaluated.

Assessment methodologies to be used will include the following written, problem based, practical, performance methods:

1. Following candidate training evolution using Talents LMS
2. Conducting simulation exercises
3. Problem sheets
4. Mini-practical
5. “Doing it” exam / exercises
6. Open book exam with multiple choice questions

Indicators to monitor success

Indicators to monitor success will include the:

1. Comparing of observers’ pre-evaluation forms to pre-determined performance metrics (see section above).
2. Conducting pre-training and post-training tests using self-learning tools.
3. Analysing trainee course feedback questionnaires to be anonymously filled by trainees.

Training materials to be used during the course

- IOTC ROS Scientific Observer Manual;

[4] IOTC-2019-S23-10_Rev1[E] - Regional Observer Scheme standards, page 14.

- IOTC ROS data recording forms (gear specific);
- IOTC ROS Observer Guidelines (gear specific);
- IOTC ROS e-collection and reporting system;
- PowerPoint projections;
- Video presentations;
- Various Species Identification Guides;
- Assessment materials (written, problem based, practical exercise/exam and performance sheets)
- Other (pre-evaluation forms, feedback questionnaires, self-learning tools)

Course Trainers

According to IOTC ROS Standards, Trainers may be internal to CPC observer programmes or may be specialists brought in from other programmes, organisations or supplied by training providers. Nevertheless, Trainer skills, qualifications and experience should meet agreed regional best practice be found under the IOTC ROS Standards and Guidelines.

IOTC/CapMarine Team Leader (TL) for each individual country will select Team Members (TM) based on their specific expertise of the gear type's dominant in each country and on their local language capabilities and in-country experience. Staff internal to the CPC Observer Program Coordination Team may be asked by the Team Leader to contribute to SFO training depending on their skills, qualifications and experience.

Training Curriculum

A comprehensive training curriculum for the training of observers to the level of competency agreed and accepted at the regional level has been developed to serve as a practical tool for those implementing observer training courses across the region.

The training curriculum includes individual training requirements (key topics to be covered), respective expected learning outcomes, assessment criteria, evidence and assessment guide. Advice is also provided on the training methodology to follow and on training materials to use during SFO training.

Basic Sea Survival Training

COMPULSORY GENERIC TRAINING

Training Requirement 1

IOTC SFO TR1	**Personal Safety and Social Responsibilities**
Descriptor This module is mandatory for everyone intending to work on a commercial fishing vessel and is designed to give all persons intending to go to sea, a basic induction in safety procedures and accident prevention while familiarising them with the employment conditions and working environments on board merchant vessels.	
Learning outcome	**Key training topics**
1. Comply with Emergency Procedures	1.1. Types of emergencies which may occur, such as collision, fire, foundering 1.2. Knowledge of shipboard contingency plans for response to emergencies 1.3. Emergency signals and specific duties allocated to crew members in the muster list; muster stations; correct use of personal safety equipment 1.4. Action to take on discovering potential emergency, including fire, collision, foundering and ingress of water into the ship 1.5. Action to take on hearing emergency alarm signals 1.6. Value of training and drills 1.7. Knowledge of escape routes and internal communication and alarm systems
2. Observe safe working practices	2.1. Importance of adhering to safe working practices at all times 2.2. Safety and protective devices available to protect against potential hazards aboard ship 2.3. Precautions to be taken prior to entering enclosed spaces 2.4. Familiarization with international measures concerning accident prevention and occupational health
3. Contribute to effective human relationships on board ship	3.1. Importance of maintaining good human and working relationships aboard ship 3.2. Basic teamworking principles and practice, including conflict resolution 3.3. Social responsibilities; employment conditions; individual rights and obligations; dangers of drug and alcohol abuse

4. Contribute to effective communications on board ship	4.1. Understand the principles of, and barriers to, effective communication between individuals and teams within the ship 4.2. Ability to establish and maintain effective communications.
5. Understand and take necessary actions to control fatigue	5.1. Importance of obtaining the necessary rest 5.2. Effects of sleep, schedules, and the circadian rhythm on fatigue 5.3. Effects of physical stressors on seafarers 5.4. Effects of environmental stressors in and outside the ship and their impact on seafarers 5.5. Effects of schedule changes on seafarer fatigue
6. Take precautions prevent pollution to marine environment	6.1. Basic knowledge of the impact of shipping on the marine environment and the effects of operational or accidental pollution on it 6.2. Basic environmental protection procedures 6.3. Basic knowledge of complexity and diversity of the marine environment

EVIDENCE AND ASSESSMENT GUIDE

Context and Method of assessment

Training provider evaluates trainee performance against agreed competency standards (STCW 2010 and IOTC ROS[5]).
Assessment of evidence obtained from approved instruction or during attendance at an approved course.

Critical aspects of evidence

Agreed IOTC ROS Observer competency standards on this training requirement includes:

1. Understand the importance of personal physical and mental well-being to safety and morale and of maintaining effective communication and good working relationships on the vessel.

The achieving of the standard is demonstrated by observers' capacity to:

- Initial action on becoming aware of an emergency conforms to established emergency response procedures
- Information given on raising alarm is prompt, accurate, complete and clear
- Organizational procedures designed to safeguard the marine environment are observed at all times
- Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times
- Communications are clear and effective at all times
- Expected standards of work and behaviour are observed at all times
- Fatigue management practices are observed and appropriate actions are used at all times

[5]. IOTC-2019-S23-10_Rev1[E] - Regional Observer Scheme standards, page 33 and 34.

Training Requirement 2

IOTC SFO TR2	Personal Survival Techniques
Descriptor This module is mandatory for everyone intending to work on a commercial fishing vessel. The aim of the course is to provide Observers with the basic essential knowledge, understanding and proficiency to protect and maintain their own and others safety at sea in accordance with international regulations.	
Learning outcome	**Key training topics**
1. Understand and react to emergency situations	1.1. The incidents that may result in an emergency are listed. 1.2. The emergency muster and abandon ship signals are stated and the actions to be taken explained. 1.3. The importance of water tight doors and escape routes is explained. 1.4. The value of regular and meaningful on-board emergency training is discussed.
2. Understand basic emergency actions	2.1. Able to explain and describe (with diagrams if applicable) or practically demonstrate a knowledge of the procedures to be followed by the crew of a vessel in a man overboard situation. 2.2. Able to explain and describe and/or practically demonstrate a knowledge of: - The characteristics of a life jacket - Correct stowage of a lifejacket - The correct method of putting on a life jacket and how to enter the water wearing a life jacket 2.3. Able to explain and describe and/or practically demonstrate a knowledge of: - The characteristics of a life buoy - Correct stowage of a life buoy - Buoyant line and self-igniting light that can be attached to a life buoy - The correct use of a life buoy in an emergency 2.4. Able to explain and describe and/or practically demonstrate a knowledge of: - The characteristics of an immersion suite - Correct stowage of an immersion suite - The correct method of putting on an immersion suite and how to care and store immersion suite
3. Demonstrate knowledge of abandon ship and sea survival techniques	3.1. Able to explain and describe and/or practically demonstrate a knowledge of - The important parts of a life raft - Correct stowage of a life raft - The workings of a hydrostatic release unit 3.2. Able to explain and describe and/or practically demonstrate knowledge of - Crew preparations to abandon the boat - The procedures to launch a life raft - The procedures to board a life raft - The procedures to right a life raft 3.3. Able to explain and describe and/or practically demonstrate a knowledge of the procedures that should be adopted in 3.4. Rescuing someone with the use of the rescue quoit - First entering the life raft - Enhancing survival in the life raft

	- Main dangers to cope with in sea survival are listed 3.5. Able to explain and describe and/or practically demonstrate knowledge of - What hypothermia is and its symptoms - How to protect against hypothermia - How to treat hypothermia - Minimising loss of body heat in the water 3.6. Explain and describe and/or demonstrate how to - Correct use of 3 common pyrotechnics - Identify the correct pyrotechnic for use according to the situation described 3.7. Able to explain and describe eight internationally recognised distress signals (to include at least one from each group – sight, sound, pyrotechnics, radio).
4. Understand the use of Emergency Radio Equipment	4.1. Able to explain and describe basic principles of 121.5 and 406 EPIRBs 4.2. Practically demonstrate how to correctly operate 121.5 and 406 EPIRBs 4.3. Identify the actions required when an EPIRB is activated accidentally 4.4. Practically demonstrate how to correctly operate a radio VHF and HF and send a distress message.

EVIDENCE AND ASSESSMENT GUIDE

Context and Method of assessment

Training provider evaluates trainee performance against agreed competency standards (STCW 2010 and IOTC ROS).

Assessment of evidence obtained from approved instruction or during attendance at an approved course or approved in-service experience and examination, including practical demonstration of competence to:

1. don a lifejacket;
2. don and use an immersion suit;
3. safely jump from a height into the water
4. right an inverted life-raft while wearing a lifejacket
5. swim while wearing a lifejacket
6. keep afloat without a lifejacket
7. board a survival craft from the ship and water while wearing a lifejacket
8. take initial actions on boarding survival craft to enhance chance of survival
9. stream a drogue or sea-anchor
10. operate survival craft equipment
11. operate location devices, including radio equipment

Critical aspects of evidence

Agreed IOTC ROS Observer competency standards on this training requirement includes:

2. Able to comply with emergency procedures and to correctly use different types of life-saving appliances. Demonstrate knowledge of abandon ship procedures and sea survival techniques. Able to operate an EPIRB or equivalent.

The achieving of the standard is demonstrated by observers' capacity to:

- Action taken on identifying muster signals is appropriate to the indicated emergency and complies with established procedures
- The timing and sequence of individual actions are appropriate to the prevailing circumstance and conditions and minimize potential dangers and threats to survival
- Method of boarding survival craft is appropriate and avoids dangers to other survivors

- Initial actions after leaving the ship and procedures and actions in water minimize threats to survival

Technical scientific training

GENERIC TRAINING COMPULSORY FOR ALL GEARS

Training Requirement 1

IOTC SFO TR1	**Fisheries management**
Descriptor This module aims to provide Observers with the required knowledge on the basic concepts of fisheries management, of the agreements in place to promote the sustainable management of the Indian Ocean tuna resources and of international, regional and national legislation governing observer requirements.	
Learning outcome	**Key training topics**
1. Understand the basic concepts of fisheries management and IOTC specificities	1.1. General concepts of fisheries management are discussed; - IOTC fisheries concepts relevant to scientific observer work are explained: catch; target catch (and species); bycatch (and species); by-product (or retained catch), incidentally taken species, incidentally affected species, species of special interest, retained catch, discarded catch, overfishing, FAD, associated and free school, improper for human consumption. 1.2. Main fisheries management and conservation measures used to regulate fisheries are discussed; 1.3. The usage of Observer programs in fisheries management is discussed, the different categories are detailed and their objectives in fisheries management explained (advisory, data collection and non-compliance).
2. Familiar with the Indian Ocean fisheries for tuna and tuna like species and the IOTC agreement	2.1. Background to tropical tuna fishing management in the Indian ocean is discussed; - IOTC Agreement; - CCSBT agreements 2.2. An overview of IOTC organisational structure, function, responsibilities and process for the establishment and implementation of IOTC CMMs is provided; 2.3. Regional and national context of IOTC ROS observer scheme is discussed.
3. Aware of international, regional and national legislation governing observer requirements	3.1. Overview of the international governing observer requirements - United Nations Convention on the Law of the Sea - 1993 FAO Compliance Agreement - 1995 UN Fish Stocks Agreement - FAO International Plan of Actions 3.2. Overview of the regional legislation governing observer

	requirements - IOTC conservation and management measures - Other regional legislation if applicable 3.3. Overview of the national legislation governing observer requirements - Fisheries Laws and Acts - Etc.

EVIDENCE AND ASSESSMENT GUIDE

Context and Methods of Training and Assessment

The following training/assessment methods are to be used:

- Presentation (no more than 15 min[6] per training session) supported by visual aids
- Project work[7]:
  - web-site consultations relevant to the subject being treated
  - research and summarise documentation relevant to the subject being treated
- Practical exercises to illustrate concepts discussed (e.g., the use of marbles to illustrate fisheries management concepts such overfishing)
- Open book exam with multiple choice questions

Resources for training and assessment may include:

- PPT presentation or other visual aids;
- Support documentation on conventions, codes, agreements, arrangements, treaties, acts.
- Relevant RFMOs web-sites
- Documentary summaries of RFMOs CMMs;
- Documentary summaries of national fisheries legislation.

Critical aspects of evidence

Trainee performance is evaluated against the following agreed IOTC ROS competency standards:

6. Candidate understands the concept of target species; bycatch species; non-target species, retained catch, discarded catch, overfishing, FAD, associated and free school, improper for human consumption as defined by the IOTC.
7. Candidate has a satisfactory knowledge of the IOTC CMMs relevant to scientific observers.

The achieving of the standard is demonstrated by observers' capacity to:

- correctly use / interpret basic fisheries management concepts as defined by the IOTC; and
- demonstrate knowledge of the IOTC CMM in the execution of its work.

Training Requirement 2

IOTC SFO TR2	Role of Observers / Observer appointment, powers, ethics.

Descriptor

This module aims to raise Observers awareness of their role and of the importance of their work as fisheries observer for the monitoring and management of tuna fisheries in the Indian Ocean.

[6] Oral presentations to be reduced to 15 min to improve knowledge absorption levels. Remaining time to be used in practical exercises, viewing training videos, or conducting self-learning exercises.

[7] To harmonize and improve class level and cohesion, high level / experienced candidates, are to be paired with low level/unexperienced candidates.

Learning outcome	Key training topics
1. Demonstrate knowledge of the role and duties of scientific fisheries observers	1.1. Role and duties of the scientific fisheries observer is the context of the IOTC Res. 11/04 is explained, regarding the collection of scientific data, the implementation of IOTC conservation management measures, the high seas transhipments and the unloading of catches is explained; 1.2. Role and duties of the scientific fisheries observer is the national context are explained, concerning the meeting of regional obligations, the register of vessels and the terms and conditions of access agreements.
2. Aware of procedures that rule observer selection, appointment and registration	2.1. IOTC ROS standard and procedures for the selection, training and registration of observers is described and IOTC ROS observer standard competencies listed; 2.2. National expectations concerning observer selection and appointment are explained.
3. Familiar with protocols for observer conduct on-board vessels and the importance of cultural awareness	3.1. Observer status on-board the vessels is clarified as well as skippers and crew expected conduct towards the observer; 3.2. Protocols and ethics for observers conduct on-board vessels and the importance of cultural awareness are explained (appearance, professionalism, confidentiality, etc.);
4. Fully aware of IOTC ROS code of conduct	4.1. Code of conduct approved by the IOTC Commission is presented and CPC procedures to ensure the investigation of reported breaches detailed.

EVIDENCE AND ASSESSMENT GUIDE

Context and Methods of training and assessment

The following training/assessment methods are to be used:

- Presentations (no more than 15 min per training session)) supported by visual aids
- Project work:
  - research and discuss documentation relevant to the subject being treated
- Open book exam with multiple choice questions

Resources for training and assessment may include:

- PPT presentation or other visual aids;
- Documentary summaries on IOTC Res 11/04, IOTC ROS Standards and Guidelines and national fisheries legislation.

Critical aspects of evidence

Trainee performance is evaluated against the following agreed IOTC ROS competency standards:

8. Understand observer duties, code of conduct, status and procedures to follow onboard. Aware of the role & importance of the fisheries observer for the monitoring and management of tuna fisheries in the Indian Ocean. Candidate is familiar with the set of guiding principles relating to accepted behaviour and standards of conduct that compose IOTC approved “Observer Code of Conduct”, as well as with CPC procedures to ensure the investigation of reported breaches.

The achieving of the standard is demonstrated by:

- Candidate awareness of its status, duties and procedures to follow when on-board a vessel;
- Candidate capacity to comply with accepted behaviour and IOTC standards of conduct

during training and during the execution of their work at-sea.

Training Requirement 3

IOTC SFO TR3	**Safety, health, accident and injury**
Descriptor The sea fishing sector is recognised worldwide as the most hazardous industry to work in, accounting for significantly higher rates of fatal and/or serious accidents when compared to other sectors. This module aims to alert Observers to the need to be constantly aware of the dangers around them while working onboard fishing vessels.	
Learning outcome	**Key training topics**
1. Demonstrate knowledge of health issues that can be experienced onboard and personal first aid	1.1. Procedures and practices to maintain work and personal hygiene at all times are explained; 1.2. Effects of tiredness and extended periods of work are identified and options to mitigate sleep shortage are proposed; 1.3. Basic health issues that can be experienced onboard are identified and solutions proposed;
2. Aware of safe working practices onboard a vessel engaged in active fishing.	2.1. The importance of following safe work practices at all times is discussed; 2.2. Potential hazards associated with a vessel engaged in active fishing are identified; 2.3. The need for the use of safety gear when working on deck is described and the gear detailed. 2.4. The importance of having a working knowledge of the safety equipment found onboard a vessel is explained.
3. Familiar with safety protocols (including pre-safety inspections and at-sea transfers) and CPCs Emergency Action Plan (EAP) procedures	3.1. The importance and procedures of safety protocols is explained; - Procedures to follow when undertaking a vessel pre-sea safety inspection and vessel safety tour; - The usage of vessel safety check form containing list of minimum safety requirements in line with those approved by the IOTC is explicated; - Procedures to follow and potential dangers encountered during personnel transfers from one vessel to another. 3.2. The importance and procedures of regular and emergency communications is clarified; - The CPC at-sea observer routine reporting and communication protocols is presented; o Communication and reporting o Deployment report o Five-day status reports o Health & safety reports - The CPC Emergency Action Plan (EAP) procedures for addressing issues related to the safety of observers are described, including:

	○ Independent communication means, established communications protocols and appropriate contact information; ○ Follow up response protocols to be taken in the event of various emergencies; ○ Appropriated remedial actions to be taken in the event of various emergencies; ○ Appropriate measures for addressing violations made against observers; ○ Procedure to report on incidents involving observers to the IOTC Secretariat.
EVIDENCE AND ASSESSMENT GUIDE	
Context and Methods of training and assessment	
The following training/assessment methods are to be used: • Presentations (no more than 15 min per training session) supported by visual aids • Project work: ○ research and discuss documentation relevant to the subject being treated • Small group exercises to: ○ simulation on at-sea observer routine reporting • Observing the candidate during training on the following of safe work practices at all times • Open book exam with multiple choice questions Resources for training and assessment may include: • PPT presentation or other visual aids • Support documentation: ○ at-sea observer routine report templates ○ CCP EAP	
Critical aspects of evidence	
Trainee performance is evaluated against the following agreed IOTC ROS competency standards: 3. Candidate, is capable of identifying common health issues experienced onboard and fishing operation risks. Candidate understand the importance of following safe working practices, safety protocols and of being aware of emergency communication procedures. Candidates is aware of procedures established to guarantee that they are deployed on safe/seaworthy vessels, and that at-sea observer emergencies and reports on issues of safety (including instances of harassment, intimidation, or assault) are immediately and effectively handled. The achieving of the standard is demonstrated by candidate capacity to: - maintain work and personal hygiene; - follow safe working practices at all times; and - correctly describe CPC safety protocols and EAP procedures during training.	

Training Requirement 4

IOTC SFO TR4	**Reporting**
Descriptor This module aims to familiarize candidates with observer daily journal, trip report formats and contents, report procedures and deadlines as these will be used in their routine work.	
Learning outcome	**Key training topics**

1. Be familiar with national and regional trip report formats, contents, usage and timelines	1.1. Report formats, contents, timelines and usage in accordance with the requirements of regional / national fisheries agencies - Preliminary trip summary report; - Final trip report (format, contents and usage); - Electronic trip report (format, contents and usage). 1.2. Communication means available to transmit reports to regional and/or national fisheries agencies
2. Capable of making relevant and comprehensible entries in a written daily journal	2.1. Usage of daily journal to record both operational (work related) events as well as personal observations. - Importance of clarity when righting a daily journal: sequential, legible and comprehensible; - Relevant entries to be made in a written daily journal: vessel movements, fishing activity, unusual events, weather, crew relationships, personal well-being - The operational usage of notebooks, records, forms and trip reports by a fisheries observer 2.2. Usage of relevant journal entries to prepare an Observer Trip Report
EVIDENCE AND ASSESSMENT GUIDE	
Context and Methods of Training and Assessment	
Initial assessment of the preparations for an extended trip to sea is to be conducted as a simulated Observer trip scenario. Assessment of the requirements for Learning Outcomes 2 can be undertaken over the duration of the training course by requesting candidates to keep a daily journal. The journal should be assessed on the basis of legibility and content. The following assessment methods are suggested: - keeping a daily journal - journal entries can cover classroom scenarios that are used as assessment activities for other modules Resources may include: - examples of journals - resources from other modules relevant to the keeping of a journal	
Critical aspects of evidence	
Agreed IOTC ROS Observer competency standards on this training requirement includes: 13. Candidate is familiar with IOTC data reporting requirements and timelines for submission. The achieving of this standard is demonstrated by candidate capacity to be aware of timelines for the submission and circulation of reports. Assessment should also confirm candidate ability to: - Commit to a daily routine of keeping a record book - Determine events and activities worthy of recording	

Training Requirement 5

IOTC SFO TR5	**Basic navigation and navigational aids**
Descriptor This module aims to provide Observers with the basic understanding of the practical elements of	

navigation and to explain how a position is determined.

Learning outcome	Key training topics
1. Demonstrate knowledge of navigation and positioning (including latitude/longitude; course and speed)	1.1. The use of latitude and longitude to correctly plot a position on a chart is explained; 1.2. Ways of obtaining position from a GPS or chart plotter and to transfer it correctly to a chart are explicated and exercised; 1.3. Way of obtaining vessel heading from a GPS, chart plotter or compass (gyro or magnetic) and transferred correctly on to a chart using the compass rose and a parallel ruler are explicated and exercised; 1.4. The difference between True and Magnetic North with reference to the heading of the vessel provided by different navigational aids is explained. 1.5. The use of positioning information to calculate a future position, estimated distance and time of arrival (ETA) explicated and exercised.
2. Aware of electronic navigation equipment usage and limitations 3. (GPS; plotters; echo-sounders and sonar)	3.1. The functions of, and principal information provided by: GPS; chart plotter; gyro compass; magnetic compass is identified; 3.2. The dangers associated with misinterpreting information obtained from navigational aids are explained.
4. Familiar with principal functions of electronic fishing aids and the information they provide.	4.1. The functions of, and principal information provided by: sonar; echo sounder; net depth instruments; Doppler current meter; bird radar; SST meter; GPS buoys; echo sounding buoys; radio beacon buoys; and XBT (Bathythermograph) are identified.

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Context and Methods of training and assessment

The following training/assessment methods are to be used:

- Presentations (no more than 15 min per training session) supported by visual aids
- Practical exercises to:
  - obtain position from a GPS or chart plotter and to transfer it correctly to a chart
  - obtain vessel heading from a GPS, chart plotter or compass and transfer it correctly on to a chart using the compass rose and a parallel ruler.
  - calculate a future position, estimated distance and time of arrival (ETA)
- Open book exam with multiple choice questions
- Written or oral short answer test.

Resources for training and assessment may include:

- PPT presentation or other visual aids
- Videos documenting the functions and information provided by electronic fishing aids
- Support documentation:
  - charts

Critical aspects of evidence

Trainee performance is evaluated against the following agreed IOTC ROS competency standards:

5. Candidate is able to use vessel electronic equipment to fix a vessel position, to calculate vessel estimated position and time of arrival at a given point.

The achieving of the standard is demonstrated by candidate capacity to:

- record a position from a GPS or chart plotter and transferred to a chart correctly;
- use information from differences in latitude and longitude to calculate a future position, estimated distance and time of arrival (ETA);
- be able to identify and understand the basic bridge equipment from which to record information.

Training Requirement 6

IOTC SFO TR6	**Basics of radio and satellite communication**
Descriptor This module aims to provide Observers with knowledge of communication equipment that can be present on a fishing vessel, emergency frequencies used with VHF, MF and HF radios, and its usage so they can transmit and receive distress messages if required.	
Learning outcome	**Key training topics**
1. Familiar with communication equipment and use	1.1. The different communication equipment that can be present on a fishing vessel are presented and its usage explained (satellite phone, MF/HF transmitters, VHF transmitters, NAVTEX, Inmarsat);
2. Capable of setting up a radio telephone to transmit and receive	2.1. The emergency frequencies to be used with VHF, MF and HF radios are detailed;
1. Aware of emergency messages (distress, urgency and safety messages)	1.1. The setting up and adjusting of a VHF radio to transmit and receive an emergency message is explained and if possible exercised.
EVIDENCE AND ASSESSMENT GUIDE	
Context and Methods of training and assessment	
The following training/assessment methods are to be used: • Presentations (no more than 15 min per training session) supported by visual aids • Conducting simulation exercises (e.g., transmit and receive emergency messages) • Open book exam with multiple choice questions Resources for training and assessment may include: • PPT presentation or other visual aids • Videos/audio recordings to document the transmitting of emergency messages (distress, urgency and safety messages)	
Critical aspects of evidence	
Trainee performance is evaluated against the following agreed IOTC ROS competency standards: 5. Candidate is capable of using VHF/HF radios and send distress messages.	

The achieving of the standard is demonstrated by candidate capacity to: - identify VHF/HF transmitters and respective emergency frequencies and; - explain how to set up and adjust a VHF radio to transmit and receive an emergency message.

Training Requirement 7

IOTC SFO TR7	**Meteorology and oceanography**
Descriptor This module aims to provide Observers with the basic understanding the effect meteorology and oceanography parameters have on the environment in which they work, so they are able to collected and record information on how these forces affect fishing activities.	
Learning outcome	**Key training topics**
1. Familiar with the oceanography of the Indian Ocean region	1.1. Regional oceanic currents, seasonal winds and sea conditions that can influence the fisheries are explained;
2. Demonstrate knowledge of basic parameters of meteorology and oceanography	2.1. Air pressure (barometric pressure) 2.2. Wind speed and direction 2.3. Sea state (height and direction) 2.4. Sea surface temperature and colour
3. Capable of understanding and recording of basic parameters of meteorology and oceanography relevant to scientific fisheries observers	1.2. Electronic fishing aid(s) used to obtain current direction and speed are presented; 1.3. The recording of current direction and speed using the right units (cardinal units or degrees / knots) is explained and exercised; 1.4. Electronic fishing aid(s) used to obtain Sea Surface Temperature are presented; 1.5. The recording of SST using the right units (°C) is explained and exercised; 1.6. Equipment used to obtain wind direction and speed is presented; 1.7. The recording of wind speed and direction using the right units (cardinal units or degrees / knots) is explained and exercised; 1.8. The usage of the Beaufort wind scale to estimate wind speed and correctly describe sea state, is explained and exercised.
EVIDENCE AND ASSESSMENT GUIDE	
Context and Methods of training and assessment	
The following training/assessment methods are to be used: • Presentations (no more than 15 min per training session) supported by visual aids • Small group exercises to: o record current direction and speed using the right units; o record SST using the right units; o record wind speed and direction using the right units • Conducting simulation exercises on the usage of the Beaufort wind scale to estimate wind speed and correctly describe sea state	

- Open book exam with multiple choice questions

Resources for training and assessment may include:

- PPT presentation or other visual aids
- Support documentation:
  - Beaufort wind scale

Critical aspects of evidence

Trainee performance is evaluated against the following agreed IOTC ROS competency standards:

4. Candidate is able to collect parameters of meteorology and oceanography. Candidate as a practical knowledge of the Beaufort scale.

The achieving of the standard is demonstrated by candidate capacity to collected and record:

- wind speed & direction,
- use the Beaufort scale,
- sea surface temperature.

Training Requirement 8

IOTC SFO TR8	**Ship Layout and Terminology**

Descriptor

This module aims to familiarize Observers with the rank and functions of the crew, the nautical terms used to describe parts and areas of a ship and general equipment on-board. These will be used daily in their routine work but more importantly in an emergency for safety reasons observes must understand orders that may be directed to them.

Learning outcome	**Key training topics**
1. Aware of key personnel	1.1. Rank and function of officers and crew of key importance to observer work.
2. Familiar with nautical terminology and vessel structure	2.1. Basic nautical terminology and demonstrate knowledge of basic vessel structure.
3. Demonstrate knowledge of vessel identification and markings	3.1. Vessel identification and markings.

EVIDENCE AND ASSESSMENT GUIDE

Context and Methods of Training and Assessment

The following training/assessment methods are to be used:

- Presentations (no more than 15 min per training session) supported by visual aids
- Practical exercises to:
  - identify vessels from images using its markings
  - identify basic vessel structures from images
- Open book exam with multiple choice questions
- Observing the candidate during training re the usage of common nautical terminology

Resources for training and assessment may include:

• PPT presentation or other visual aids (photos)
Critical aspects of evidence
Trainee performance is evaluated against the following agreed IOTC ROS competency standards: 9. Candidate understands common nautical terminology. The achieving of the standard is demonstrated by candidate capacity to: - correctly use / interpret basic nautical terminology. Candidate should also: - Be able to detail rank and function of crew of key importance to observer work. - Demonstrate knowledge of basic vessel structure. - Be capable of identify a vessel (from a photo or draw) using its marking (name, port of registration, registration number, call sign).

Training Requirement 9

IOTC SFO TR9	**Identification: target and non-target fish species (including juvenile YFT and BET)**
Descriptor This module aims to familiarize Observers with the main diagnostic features used in the identification of target and non-target species, including fish and sharks (with special incidence in the identification of juvenile YFT and BET) as these will be used daily in their routine work.	
Learning outcome	**Key training topics**
1. Understand the need to use nomenclature	1.1. Nomenclature for recording family, genus and species; 1.2. Danger of incorrect identification from using common names.
2. Identify the anatomical and diagnostic features of bony and cartilaginous fish	2.1. Main anatomical features of fish; 2.2. Differences between bony and cartilaginous fish; 2.3. External diagnostic features used for bony and cartilaginous (sharks and rays) species identification:
3. Differentiate between Indian Ocean tropical and neritic tuna species	3.1. Adult Indian Ocean tropical and neritic tuna species diagnostic anatomical features; 3.2. Juvenile yellowfin and bigeye tuna diagnostic anatomical features (external and internal).
4. Differentiate between Indian Ocean billfish species using anatomical features	4.1. Indian Ocean billfish species diagnostic anatomical features.
5. Differentiate between most prevalent Indian Ocean pelagic shark species using anatomical features	5.1. Indian Ocean pelagic shark species, encountered in longline and purse seine fisheries, diagnostic anatomical features.
6. Distinguish between common Indian Ocean pelagic fish bycatch	6.1. Indian Ocean fish bycatch species, encountered in longline fisheries, diagnostic anatomical features; 6.2. Indian Ocean fish bycatch species, encountered in purse seine

species using anatomical features	fisheries, diagnostic anatomical features.
7. Use an identification guide to correctly identify a fish species	7.1. Use of species identification guides to correctly identify the fish species, common name, scientific name, and FAO Species Code;

EVIDENCE AND ASSESSMENT GUIDE

Context and Methods of Training and Assessment

The following training/assessment methods are to be used:

- Presentation (no more than 15 min per training session) supported by visual aids
- Observation of practical demonstration in the identification of target and non-target fish species in oral, practical and/or or written assessment:
  - identification of adult Indian Ocean tropical and neritic tuna species
  - identification of juvenile yellowfin and bigeye tuna
  - identification of billfish species using a species identification guide
  - identification of main IO shark species encountered in longline and purse-seine using a species identification guide.
  - identification of main fish bycatch species encountered in longline and purse-seine fisheries using a species identification guide.
  - the successful use of species identification guides in practical and written exercises to correctly identify species, common name, scientific name, and FAO Spp. Code.
- Open book exam with multiple choice questions

Resources for training and assessment may include:

- PPT presentation or other visual aids;
- Species identification guides photos for tuna, billfish, sharks and main bycatch species
- Basic fish biology texts
- FAO/IOTC species guides
- Dissection kits
- Fish species as available

Critical aspects of evidence

Trainee performance is evaluated against the following agreed IOTC ROS competency standards:

11. Candidate is capable of identifying and distinguishing between the main tuna species in their adult and juvenile forms and of using standard identification guides to identify species of billfish, sharks and other fish bycatch.

Training Requirement 10

IOTC SFO TR10	**Identification of sea turtles, seabirds and cetacean's species**
Descriptor This module aims to familiarize Observers with the main diagnostic features used in the identification of sea turtles, seabirds and cetacean's species as these will be used daily in their routine work.	
Learning outcome	**Key training topics**
1. Identify the anatomical and diagnostic features of sea-turtles	1.1. External anatomical diagnostic features used for the identification of marine turtles;

2. Identify the anatomical and diagnostic features of seabirds	2.1. External anatomical diagnostic features used for the identification of seabirds;
3. Identify the anatomical and diagnostic features of cetaceans	3.1. External anatomical diagnostic features used for the identification of cetacean species;
4. Use identification guides to correctly identify sea turtles, seabirds and cetacean's species	4.1. Use of species identification guides to correctly identify the sea turtles, seabirds and cetacean's species, common name, scientific name, and FAO Species Code;

EVIDENCE AND ASSESSMENT GUIDE

Context and Methods of Training and Assessment

The following training/assessment methods are to be used:

- Presentation (no more than 15 min per training session) supported by visual aids
- Observation of practical demonstration in the identification of main sea turtles, seabirds and cetacean's species that can interact with the longline and purse-seine fisheries in the Indian Ocean, in oral, or written assessment:
  - identification of sea-turtle species using a species identification guide
  - identification of seabird species using a species identification guide.
  - identification of cetacean species using a species identification guide.
  - Species guides for fish identification are successfully used in practical and written exercises to correctly identify species, common name, scientific name, and FAO Species Code.
- Open book exam with multiple choice questions

Resources for training and assessment may include:

- PPT presentation or other visual aids;
- Species identification guides photos for main bycatch species of sea turtles, seabirds and cetacean's species
- FAO/IOTC species guides

Critical aspects of evidence

Trainee performance is evaluated against the following agreed IOTC ROS competency standards:

11. Candidate is capable of identifying and distinguishing between non-fish bycatch species (sea-turtles, seabirds and cetaceans').

Training Requirement 11

IOTC SFO TR11	**Sampling procedures**
Descriptor This module aims to familiarize Observers with sampling requirements, procedures, methods and units used in the collection of scientific fisheries data on-board vessels as these will be used daily in their routine work.	
Learning outcome	**Key training topics**
1. Aware of sampling programmes employed	1.1. IOTC ROS sampling requirements referenced in IOTC Res. 11/04;

in national and regional tuna fisheries	1.2. CCSBT sampling requirements referenced in CCSBT Scientific Observer Programme Standards 2015; 1.3. Other programmes sampling requirements employed in national and regional tuna fisheries (if any).
2. Demonstrate general knowledge of sampling methods and strategies	2.1. Basic statistical sampling methods: exhaustive, proportional, random, stratified and systematic sampling; 2.2. Sample selection strategies for: - Total catch estimation; - Catch species composition; - Size composition; - Biological sub-sampling (fixed number of species, mixed species, priority species);
3. Familiar with the tools, units, codes and formats used by IOTC ROS in the collection of biometrics	3.1. Use, maintenance and calibration of sampling equipment 3.2. Prescribed data format, units and codes to measure and record length and weight according to species and anatomical features.
4. Acquainted with IOTC ROS standard maturity scales (if any).	4.1. Methods established by the IOTC ROS (if any) to determine sex and maturity according to species (maturity scales). 4.2. Prescribed data format and codes to record specimen sex and maturity.
5. Able to collect, preserve, store and record samples	5.1. Procedures for the collection, storing and recording of biological samples (otoliths, stomachs, muscle, gonads, etc.)
6. Able to photograph species for ID	6.1. Protocols for the photographing of an individual spp. for ID.
7. Able to collect information on tagged specimens	7.1. Protocols for data collection of tagged individuals (tuna, billfish, sharks, turtles and birds).

EVIDENCE AND ASSESSMENT GUIDE

Context and Methods of Training and Assessment

Training and assessment are to be conducted in a classroom situation.

The following training/assessment methods are to be used:

- Oral presentation (no more than 15 min per training session)) supported by visual aids
- Project work:
  - research and summarise documentation relevant to the subject being treated
- Small group exercises:
  - on the calculation of total catch and catch species composition.
- Observation of practical demonstration in the:
  - use, maintenance and calibration of sampling equipment
  - measuring and recording length and weight per species groups
  - photographing individual specimens for ID
  - determining of sex and maturity
  - collecting of biological samples
- Open book exam with multiple choice questions

Resources for training and assessment may include:

- PPT presentation or other visual aids;

- IOTC ROS sampling requirements referenced in IOTC Res. 11/04;
- CCSBT sampling requirements referenced in CCSBT Scientific Observer Programme Standards 2015;
- Dissection kits
- Guides and standards on weights and measurement
- Tapes, callipers, and scales
- Fish species as available

Critical aspects of evidence

Trainee performance is evaluated against the following agreed IOTC ROS competency standards:

12. Candidate is able to accurately measure and weigh fish and to collect biological samples according to IOTC ROS standard procedures.
14. Capable of collecting and estimating catch weight, volumes and ratios according to ROS standard procedures.

The achieving of these standards is demonstrated by candidate capacity to:

- Correctly execute exercises for the calculation of set total catch, bycatch, discards and retained catch;
- Accurately measure and weight fish using the method appropriate to species type
- Store and record samples in accordance with specified procedures

GEAR SPECIFIC TRAINING

Training Requirement 12

IOTC SFO TR12	IOTC fishery: Tuna Purse-Seine Fishery
Descriptor This module aims to familiarize Observers with tuna purse-seine vessels, fishing gear and fishing operations as these will be used daily in their routine work.	
Learning outcome	**Key training topics**
1. Familiar with fisheries vessels and background	1.1. Fisheries background and vessels; 1.2. Target species.
2. Demonstrate knowledge of the basic layout of tuna purse-seiners	2.1. Vessel structure and possible different configurations; 2.2. Working and observation areas on vessels with different configurations.
3. Be acquainted with tuna purse-seine fishing gear	3.1. Fishing gear and related equipment, design and specifications 3.2. The different components of a man-made drifting FAD.
4. Demonstrate knowledge of purse-seine fishing operations	4.1. Search and detection (direct and indirect methods) and FAD usage 4.2. Fishing event (shooting, circling, pursing, hauling, brailing), 4.3. Processing, storing, shifting and unloading methods.
EVIDENCE AND ASSESSMENT GUIDE	
Context and Methods of Training and Assessment	
Training and assessment are to be conducted in a classroom situation. The following training/assessment methods are to be used: • Presentations (no more than 15 min per training session) supported by visual aids • Open book exam with multiple choice questions Resources for training and assessment may include: • PPT presentation • Videos documenting observer work on board tuna purse-seine vessels, FAD usage and purse-seine fishing gear and operations.	
Critical aspects of evidence	
Trainee performance is evaluated against the following agreed IOTC ROS competency standards: 9. Candidate recognises the basic layout of industrial tuna purse-seine fishing vessels. Candidate is familiar with working and observation areas and common fishing operational scenarios for the industrial tuna purse-seine fisheries. The achieving of these standards is demonstrated by candidate capacity to: - demonstrate working knowledge of the structure of a tuna purse-seiner; - recognise (from photos or draws) working and observation areas on tuna purse-seiners with different configurations; - be acquainted with the different components of the tuna purse-seine gear; - demonstrate knowledge of general procedures in purse-seine fishing operations (searching and fishing); - able to identify distinct processing and storing methods used;	

Training Requirement 13

IOTC SFO TR13	IOTC fishery: Pelagic longline fishery
Descriptor This module aims to familiarize Observers with tuna pelagic longline vessels, fishing gear and fishing operations as these will be used daily in their routine work.	
Learning outcome	**Key training topics**
1. Familiar with vessels & fisheries background	1.1. Fisheries background and vessels.
2. Demonstrate knowledge of the basic layout of a pelagic longliner	2.1. Vessel structure and possible different configurations; 2.2. Working and observation areas on vessels with different configurations.
3. Be acquainted with longline fishing gear	3.1. Fishing gear and related equipment, design and specifications.
4. Demonstrate knowledge of pelagic longline fishing operations	4.1. Fishing Strategy; 4.2. Setting; 4.3. Hauling; 4.4. Processing and storing.
EVIDENCE AND ASSESSMENT GUIDE	
Context and Methods of Training and Assessment	
The following training/assessment methods are to be used: • Presentations (no more than 15 min per training session) supported by visual aids • Open book exam with multiple choice questions Resources for training and assessment may include: • PPT presentation • Videos documenting observer work on board pelagic longline vessels, fishing gear and operations.	
Critical aspects of evidence	
Trainee performance is evaluated against the following agreed IOTC ROS competency standards: 9. Candidate recognises the basic layout of pelagic longline vessels. Candidate is familiar with working and observation areas and common fishing operational scenarios for the pelagic longline fisheries. The achieving of these standard is demonstrated by candidate capacity to: - demonstrate working knowledge of the structure of a pelagic longliner and possible different configurations; - recognise (from photos or draws) working and observation areas on pelagic longliners with different configurations; - be acquainted with the different components of a pelagic longline and able to identify distinct longline systems based on mainline storage method; - demonstrate knowledge of general procedures in longline fishing operations.	

Training Requirement 14

IOTC SFO TR14	IOTC fishery: Pole and line fishery (bait and tuna)
Descriptor This module aims to familiarize Observers with tuna pole and line vessels, fishing gear and fishing operations as these will be used daily in their routine work.	
Learning outcome	**Key training topics**
1. Familiar with fisheries vessels and background	1.1. Fisheries background and vessels; 1.2. Target species.
2. Demonstrate knowledge of the vessel basic layout	2.1. Vessel structure and possible different configurations; 2.2. Working and observation areas on vessels with different configurations.
3. Be acquainted with pole and line fishing gear	3.1. Fishing gear and related equipment, design and specifications 3.2. The different components of a man-made drifting and anchored FAD.
4. Demonstrate knowledge of general procedures in pole and line fishing operations	4.1. Search and detection (direct and indirect methods) 4.2. FAD usage 4.3. Fishing event (bait and tuna fishing), 4.4. Processing, storing, and unloading methods.
EVIDENCE AND ASSESSMENT GUIDE	
Context and Methods of Training and Assessment	
The following training/assessment methods are to be used: • Presentations (no more than 15 min per training session) supported by visual aids • Open book exam with multiple choice questions Resources for training and assessment may include: • PPT presentation • Videos documenting observer work on board pole-and-line vessels, fishing gear and operations.	
Critical aspects of evidence	
Trainee performance is evaluated against the following agreed IOTC ROS competency standards: 9. Candidate recognises the basic layout of pole-and-line vessels. Candidate is familiar with working and observation areas and common fishing operational scenarios for the pole-and-line fisheries. The achieving of these standard is demonstrated by candidate capacity to: - demonstrate working knowledge of the structure of a pole-and-line vessel; - recognise (from photos or draws) working and observation areas on pole-and-liners; - be acquainted with the different components of the pole-and-line gear; - demonstrate knowledge of general procedures in pole-and-line bait and tuna fishing operations (searching and fishing); - able to identify distinct processing and storing methods used;	

Training Requirement 15

IOTC SFO TR15	IOTC fisheries: Pelagic gillnet fishery
Descriptor This module aims to familiarize Observers with pelagic gillnet vessels, fishing gear and fishing operations as these will be used daily in their routine work.	
Learning outcome	**Key training topics**
1. Familiar with fishery vessels and background	1.1. Fisheries background and vessels; 1.2. Target species.
2. Demonstrate knowledge of vessel basic layout	2.1. Vessel structure and possible different configurations; 2.2. Working and observation areas on vessels with different configurations.
3. Be acquainted with pelagic gillnet fishing gear	3.1. Fishing gear and related equipment, design and specifications
4. Demonstrate knowledge of general procedures in pelagic gillnet fishing operations	4.1. Fishing Strategy; 4.2. Setting; 4.3. Hauling; 4.4. Processing and storing.
Context and Methods of Training and Assessment	
The following training/assessment methods are to be used: • Presentations (no more than 15 min per training session) supported by visual aids • Open book exam with multiple choice questions Resources for training and assessment may include: • PPT presentation • Videos documenting observer work on board pole-and-line vessels, fishing gear and operations.	
Critical aspects of evidence	
Trainee performance is evaluated against the following agreed IOTC ROS competency standards: 9. Candidate recognises the basic layout of gillnet fishing vessels. Candidate is familiar with working and observation areas and common fishing operational scenarios for the pelagic gillnet fisheries. The achieving of these standard is demonstrated by candidate capacity to: - demonstrate working knowledge of the structure of a gillnet vessel; - recognise (from photos or draws) working and observation areas on gillnet vessels; - be acquainted with the different components of the pelagic gillnet gear; - demonstrate knowledge of general procedures in gillnet fishing operations (setting, hauling, processing).; - able to identify distinct processing and storing methods used.	

Training Requirement 16

IOTC SFO TR16	Sampling protocols as a function of the IOTC fishery
Descriptor This module aims to familiarize Observers with sampling requirements, procedures and methods to be used in the collection of scientific fisheries data with IOTC fisheries (industrial tuna purse-seine; pelagic longline; pelagic gillnet; pole-and-line) as these will be used daily in their routine work.	
Learning outcome	**Key training topics**
1. Demonstrate knowledge of sampling protocols to be used with industrial tuna purse-seine	1.1. Sampling protocols to be used when fishing on a free school (catch uniform in size and in species composition) 1.2. Sampling protocols to be used when fishing in an associated school (catch with high variability in size and species composition) - Catch species composition - Size frequency - Sampling strategy to be used in the case of pre-sorted catch
2. Demonstrate knowledge of sampling protocols to be used with pelagic longliners	2.1. Sampling protocols to be used with low catch rates 2.2. Sampling protocols to be used with high catch rates
3. Demonstrate knowledge of sampling protocols to be used with pole-and-liners	3.1. Sampling protocols to be used with tuna fishing 3.1.1.low catch rates 3.1.2.high catch rates 3.2. Sampling protocols to be used with bait fishing
4. Demonstrate knowledge of sampling protocols to be used with pelagic gillnetters	4.1. Sampling protocols to be used with low catch rates 4.2. Sampling protocols to be used with high catch rates
EVIDENCE AND ASSESSMENT GUIDE	
Context and Methods of Training and Assessment	
Training and assessment must include the use of simulated sampling data and information on fishing vessels gear; configuration and set type. The following training/assessment methods are to be used: • Presentation (no more than 15 min per training session)) supported by visual aids • Small group exercises: o on the selection of sampling strategies as a function of the fisheries, vessel configuration and set type; o on the calculation of total catch in set; ratio of species in set; amount of bycatch; volume of discards; catch retained on board; vessel hold capacity; total catch and catch species composition. Resources for training and assessment may include: • PPT presentation or other visual aids; • Realistic written simulations of credible sampling exercises as a function of the fisheries, vessel configuration and set type.	
Critical aspects of evidence	
Trainee performance is evaluated against the following agreed IOTC ROS competency standards: 14. Capable of collecting and estimating catch weight, volumes and ratios according to ROS standard	

procedures.

The achieving of these standards is demonstrated by candidate capacity to:

- Correctly select sampling protocols to use as a function of the fisheries, vessel configuration and set type (for the purse-seine fisheries);
- Correctly estimate weights, volumes and ratios with the industrial tuna purse-seiners, pelagic longliners, pole and line vessels and gillnetters.

Training Requirement 17

IOTC SFO TR17	**IOTC fisheries impacts on the ecosystems, interactions with species of special interest and mitigation**
Descriptor This module aims to familiarize Observers with IOTC definition and list of species of special interest (SSIs). Their levels of vulnerability regarding the species groups that are likely to interact with tuna fisheries; and mitigation with respect to limiting the impacts of fishing operations.	
Learning outcome	**Key training topics**
1. Grasps the meaning of SSI (as defined by IOTC), of vulnerability and of mitigation	1.1. IOTC definition of species of special interest; 1.2. Meaning of vulnerability and of vulnerability levels. 1.3. Areas of vulnerability of SSI groups of species with respect to common tuna fishing methods. 1.4. Meaning of mitigation in relation to species of special interest.
2. Aware of tuna purse-seine fishery impacts on the ecosystems and interactions	2.1. Ecological impacts (particularly the impact of FADs) on: - tuna stocks; - non-target species (including SSIs); - marine and coastal habitats; and - marine life; 2.2. Fishery interactions with SSIs (particularly via the use of FADs); 2.3. Possible mechanisms for mitigation of impacts of tuna purse-seine fishing (particularly the impact of FADs) on target species; 2.4. Possible mechanisms for mitigation of impacts of tuna purse-seine fishing (particularly the impact of FADs) on species of special interest.
3. Aware of pelagic longline fishery impacts on the ecosystems and interactions	3.1. Ecological impacts on non-target species; 3.2. Fishery interactions with SSIs (including depredation); 3.3. Possible mechanisms for mitigation of impacts of pelagic longline fishing on species of special interest.
4. Aware of pelagic gillnet fishery impacts on the ecosystems and interactions	4.1. Ecological impacts on non-target species; 4.2. Fishery interactions with SSIs (including depredation); 4.3. Possible mechanisms for mitigation of impacts of pelagic gillnet fishing on species of special interest.
5. Aware of tuna pole and line (tuna and bait) fishery	5.1. Ecological impacts (particularly the impact of FADs) on: - tuna stocks; - non-target species (including SSIs);

impacts on the ecosystems and interactions	- marine and coastal habitats; and - marine life; 5.2. Fishery interactions with SSIs (particularly via the use of FADs); 5.3. Possible mechanisms for mitigation of impacts of pole and line (tuna and bait) fishing (particularly the impact of FADs) on target species; 1.2. Possible mechanisms for mitigation of impacts of pole and line (tuna and bait) fishing (particularly the impact of FADs) on species of special interest.
6. Aware of IOTC mitigation measures	4.2. Reasons for the adoption of mitigation measures; 4.3. Mechanisms implemented by the IOTC for mitigation of impacts of tuna fisheries (including the impact of FADs) on target species; 4.4. Mechanisms implemented by the IOTC for mitigation of impacts of tuna fisheries (including the impact of FADs) on species of special interest;
7. Familiar with IOTC recommended best practices for the handling of SSIs	4.5. IOTC recommended best practices for the handling of SSIs.
8. Understand the purpose for monitoring mitigation methods	4.6. Importance and methods for monitoring and reporting vessel interactions with SPP, the usage of mitigation methods and the respect of IOTC CMMs and recommended best practices concerning SSIs.

EVIDENCE AND ASSESSMENT GUIDE

Context and Methods of Training and Assessment

The following training/assessment methods are to be used:

- Presentation (no more than 15 min per training session) supported by visual aids
- Simulation and/or practical exercises in the functioning and usage of mitigation measures
- Project work:
  - research and summarise documentation relevant to the subject being treated (IOTC CMMs; IOTC recommended best practices for the handling of SSIs; etc.)
- Observation of practical demonstration of correctly recording fishing gear(s) interaction with a species of special interest using templates provided by the IOTC.
- Written or oral short answer testing

Resources for training and assessment may include:

- PPT presentation or other visual aids
- Videos documenting fisheries interactions, vulnerability and mitigation measures
- Support documentation:
  - Mitigation fact-sheets
  - IOTC CMMs
  - IOTC Form 4 – PS and Form 4 – LL

Critical aspects of evidence

Trainee performance is evaluated against the following agreed IOTC ROS competency standards:

10. Candidate is familiar with the species of special interest (SSI) that interact with IOTC tuna

fisheries, most common interactions and strategies to avoid and mitigate such interactions.

The achieving of these standards is demonstrated by candidate capacity to:

- Describe species of special interest as being non-target species in commercial fisheries that can be accidentally landed in the course of fishing operations.
- Vulnerability is described in terms of these species being susceptible to accidental landing, primarily as a result of hunting for food or accidentally interacting with a fishing vessel.
- To cite SSIs most common interactions in each type of fishery (longline and purse-seine, including FADs).
- To outline main mitigation methods used in purse seine, pelagic longline, pelagic gillnet and pole and line (tuna and bait) fisheries.
- To outline the purpose of mitigation in relation to species conservation (avoiding interaction).
- To outline best practices recommended by the IOTC for the safe handling and release of SSIs.
- Given a simulated interaction with a species of special interest to demonstrate an ability to correctly record it using IOTC data collection forms and also document the interaction in its observer journal.

Data collection, verification, input and reporting training

Training Requirement 18

IOTC SFO TR18	**Purse-seine onboard data collection and recording**
Descriptor This module aims to familiarize Observers with information to be gathered from tuna purse-seine fishing operations. This includes vessel details and characteristics; daily vessel activities; details of catch and bycatch from fishing sets; unloading and transfer of fish; and information on Fish Aggregating Devices (FAD) and floating objects. The data gathering processes and priorities for the tuna purse-seine fisheries. The work protocols to be followed and the templates in which this information and data is to be recorded. Currently (2022), the templates are identified as 1-PS, 2-PS, 3- PS, 4- PS, 5- PS, 6- PS, 7- PS and 8-PS.	
Learning outcome	**Key training topics**
1. Be aware of standard operating procedures (SOPs) to follow when deployed on-board a tuna purse-seiner	1.1. SOPs to follow prior to boarding 1.2. SOPs to follow on-board the vessel 1.3. SOPs to follow when disembarking
2. Familiar with the type of information gathered by fisheries observers during purse seine fishing operations	2.1. General information 2.2. Gear information 2.3. Daily activity information 2.4. Fishing event information 2.5. Catch and bycatch information 2.6. Biometric and biological sampling information 2.7. Transhipment information
3. Familiar with data gathering processes and	3.1. Information gathered via:

priorities on-board tuna purse-seiners	- Professional observation and estimate - Inspection of vessel electronics - Inspection of vessel records and certificates - Inspection of vessels catch log - Interview of crew and officers 3.2. Data gathering priorities according to the current (2019) IOTC ROS standard minimum data collection fields.
4. Correctly record information in accordance with the protocols and formats provided use IOTC ROS data collection forms (2022 version)	4.1. Fill in observer form template with information gathered to the level of accuracy specified. 4.2. Use and interpret supporting guidelines, prescribed units and codes and identification resources for the completion of observer form templates.

EVIDENCE AND ASSESSMENT GUIDE

Context and Methods of Training and Assessment

Training and assessment must include the use of simulated fishing trip information and data. The candidate is required to gather, interpret and enter the information on the appropriate forms with a minimum verified accuracy of 75%.

Assessment must be completed in accordance with the protocols and templates currently provided. Currently (2020) the templates are identified as IOTC 1-PS, 2- PS, 3- PS, 4- PS, 5- PS, 6- PS, 7- PS, and 8-PS.

Candidates should be made familiar with all the protocols and formats in classroom demonstrations and practical demonstrations before they are assessed. Resources for training and assessment include:

- All the required forms together with supporting guidelines for completion
- Realistic written simulations of credible tuna purse-seine scenarios
  - Purse-seine fishing on a free school;
  - Purse-seine equipped with a discharge opening at the lower deck fishing on an associated school;
  - Purse-seine not equipped with a discharge opening at the lower deck fishing on an associated school;
  - Purse-seine fishing on a free school and conducting shifting.
- Species codes and identification resources

Critical aspects of evidence

Agreed IOTC ROS Observer competency standards on this training requirement includes:

- Candidate is aware of IOTC ROS data gathering processes and priorities.
- Candidate is capable of collecting, formatting and accurately recording mandatory and recommended information as prescribed under the IOTC Regional Observer Scheme.

The achieving of these standards is demonstrated by candidate capacity to:

- Locate and format the data and information needed to complete each template associated with purse-seine operations.
- Complete each template specified for a purse-seine observer with a level of accuracy of no less than 75%.

Training Requirement 19

IOTC SFO TR19	**Longline onboard data collection and recording**
Descriptor This module aims to familiarize Observers with information to be gathered from longline fishing operations. This includes vessel details and characteristics; setting and hauling information; details of catch and bycatch from fishing sets and interactions with other vessels (fish transfer). The data gathering processes and priorities for the pelagic longline fisheries. The work strategies to be followed and the templates in which this information and data is to be recorded.	
Learning outcome	**Key training topics**
1. Be aware of standard operating procedures (SOPs) to follow when deployed on-board a longliner	1.1. SOPs to follow prior to boarding 1.2. SOPs to follow on-board the vessel 1.3. SOPs to follow when disembarking
2. Familiar with the type of information gathered by fisheries observers during pelagic longline fishing operations and IOTC sampling priorities	2.1. Information gathered onboard pelagic longliners 2.1.1.General information 2.1.2.Gear information 2.1.3.Fishing event information 2.1.4.Catch and bycatch information 2.1.5.Biometric and biological sampling information 2.1.6.Transhipment information 2.2. IOTC sampling priorities 2.2.1.Species of special interest (retained and discarded) 2.2.2.Discards of target species 2.2.3.Bycatch species (retained and discarded) 2.2.4.Retained target species
3. Familiar with data gathering processes and priorities on-board pelagic longline vessels	3.1. Information gathered via: - Professional observation and estimate - Inspection of vessel electronics - Inspection of vessel records and certificates - Inspection of vessels catch log - Interview of crew and officers 3.2. Mandatory and optional data for collection according to the current IOTC ROS standard minimum data collection fields.
4. Correctly record information from pelagic longline fishing operations in accordance with the protocols and formats provided	4.1. Fill in observer form template with information gathered to the level of accuracy specified. 4.2. Use and interpret supporting guidelines, prescribed units and codes and identification resources for the completion of observer form templates.
EVIDENCE AND ASSESSMENT GUIDE	

Context and Methods of Training and Assessment
Training and assessment must include the use of simulated fishing trip information and data. The candidate is required to gather, interpret and enter the information on the appropriate forms with a minimum verified accuracy of 75%. Assessment must be completed in accordance with the protocols and templates currently provided. Candidates should be made familiar with all the protocols and formats in classroom demonstrations and practical demonstrations before they are assessed. Resources for training and assessment include: • All the required forms together with supporting guidelines for completion • Realistic written simulations of credible pelagic longline fishing scenarios • Species codes and identification resources
Critical aspects of evidence
Agreed IOTC ROS Observer competency standards on this training requirement includes: - Candidate is aware of IOTC ROS data gathering processes, mandatory data to be collected and sampling priorities. - Candidate is capable of collecting, formatting and accurately recording mandatory information as prescribed under the IOTC Regional Observer Scheme. The achieving of these standards is demonstrated by candidate capacity to: - Locate and format the data and information needed to complete each template associated with longline operations. - Complete each template specified for a longline observer with a level of accuracy of no less than 75%.

Training Requirement 20

IOTC SFO TR20	**Pole-and-line onboard data collection and recording**
Descriptor This module aims to familiarize Observers with information to be gathered from pole-and-line fishing operations (bait and tuna). This includes vessel details and characteristics; daily vessel activities; details of catch and bycatch from fishing sets, transfer of fish; and information on Fish Aggregating Devices (FAD) and floating objects. The data gathering processes and priorities for the pole-and-line fisheries. The work protocols to be followed and the templates in which this information and data is to be recorded. Currently (2022), the templates are identified as 1-PL, 2-PL, 3- PL, 4- PL, 5- PL, 6- PL, 7- PL, 8-PL and 9-PL.	
Learning outcome	**Key training topics**
1. Be aware of standard operating procedures (SOPs) to follow when deployed on-board a pole-and-liner	1.1. SOPs to follow prior to boarding 1.2. SOPs to follow on-board the vessel 1.3. SOPs to follow when disembarking
2. Familiar with the type of information gathered by fisheries observers during pole-and-line fishing operations IOTC sampling priorities	2.1. Information gathered onboard pole-and-liners 2.1.1.General information 2.1.2.Gear information 2.1.3.Daily activity information

	2.1.4.Fishing event information 2.1.5.Catch and bycatch information 2.1.6.Biometric and biological sampling information 2.1.7.Transhipment information 2.2. IOTC sampling priorities 2.2.1.Species of special interest (retained and discarded) 2.2.2.Discards of target species 2.2.3.Bycatch species (retained and discarded) 2.2.4.Retained target species
3. Familiar with the type of information gathered by fisheries observers during pelagic longline fishing operations and IOTC sampling priorities	4.3. Information gathered onboard pelagic longliners 4.3.1.General information 4.3.2.Gear information 4.3.3.Fishing event information 4.3.4.Catch and bycatch information 4.3.5.Biometric and biological sampling information 4.3.6.Transhipment information 4.4. IOTC sampling priorities 4.4.1.Species of special interest (retained and discarded) 4.4.2.Discards of target species 4.4.3.Bycatch species (retained and discarded) 3.1. Retained target species
4. Familiar with data gathering processes and priorities on-board pole-and-liners	4.1. Information gathered via: - Professional observation and estimate - Inspection of vessel electronics - Inspection of vessel records and certificates - Inspection of vessels catch log - Interview of crew and officers 4.2. Mandatory and optional data for collection according to the current IOTC ROS standard minimum data collection fields.
5. Correctly record information in accordance with the protocols and formats provided	5.1. Fill in observer form template with information gathered to the level of accuracy specified. 5.2. Use and interpret supporting guidelines, prescribed units and codes and identification resources for the completion of observer form templates.
EVIDENCE AND ASSESSMENT GUIDE	
Context and Methods of Training and Assessment	
Training and assessment must include the use of simulated fishing trip information and data. The candidate is required to gather, interpret and enter the information on the appropriate forms with a minimum verified accuracy of 75%. Assessment must be completed in accordance with the protocols and templates currently provided.	

Currently (2022) the templates are identified as IOTC 1-PL, 2-PL, 3- PL, 4- PL, 5- PL, 6- PL, 7- PL, 8-PL and 9-PL.

Candidates should be made familiar with all the protocols and formats in classroom demonstrations and practical demonstrations before they are assessed. Resources for training and assessment include:

- All the required forms together with supporting guidelines for completion
- At least 2 realistic written simulations of credible pole-and-line scenarios
    - Bait fishing
    - Tuna fishing.
- Species codes and identification resources

Critical aspects of evidence

Agreed IOTC ROS Observer competency standards on this training requirement includes:

- Candidate is aware of IOTC ROS data gathering processes, mandatory data to be collected and sampling priorities.
- Candidate is capable of collecting, formatting and accurately recording mandatory information as prescribed under the IOTC Regional Observer Scheme.

The achieving of these standards is demonstrated by candidate capacity to:

- Locate and format the data and information needed to complete each template associated with pole-and-line operations.
- Complete each template specified for a pole-and-line observer with a level of accuracy of no less than 75%.

Training Requirement 21

IOTC SFO TR21	**Gillnet onboard data collection and recording**
Descriptor This module aims to familiarize Observers with information to be gathered from pelagic gillnet fishing operations. This includes vessel details and characteristics; setting and hauling information; details of catch and bycatch from fishing sets and interactions with other vessels (fish transfer). The data gathering processes and priorities for the pelagic gillnet fisheries. The work protocols to be followed and the templates in which this information and data is to be recorded. Currently (2022), the templates are identified as 1-GLL, 2-GLL, 3-GLL, 4-GLL, 5-GLL, 6-GLL, 7-GLL.	
Learning outcome	**Key training topics**
1. Be aware of standard operating procedures (SOPs) to follow when deployed on-board a gillnetter	1.1. SOPs to follow prior to boarding 1.2. SOPs to follow on-board the vessel 1.3. SOPs to follow when disembarking
2. Familiar with the type of information gathered by fisheries observers during pelagic gillnet fishing operations and IOTC sampling priorities	2.1. Information gathered onboard pole-and-liners 2.1.1.General information 2.1.2.Gear information 2.1.3.Daily activity information 2.1.4.Fishing event information 2.1.5.Catch and bycatch information

	2.1.6.Biometric and biological sampling information 2.1.7.Transhipment information 2.2. IOTC sampling priorities 2.2.1.Species of special interest (retained and discarded) 2.2.2.Discards of target species 2.2.3.Bycatch species (retained and discarded) 2.2.4.Retained target species
3. Familiar with the type of information gathered by fisheries observers during pelagic gillnet fishing operations and IOTC sampling priorities	3.1. Information gathered onboard pelagic gillnetters 3.1.1.General information 3.1.2.Gear information 3.1.3.Daily activity information 3.1.4.Fishing event information 3.1.5.Catch and bycatch information 3.1.6.Biometric and biological sampling information 3.1.7.Transhipment information 3.2. IOTC sampling priorities 3.2.1.Species of special interest (retained and discarded) 3.2.2.Discards of target species 3.2.3.Bycatch species (retained and discarded) 3.2.4.Retained target species
4. Be familiar with data gathering processes and priorities on-board pelagic gillnet vessels	4.1. Information gathered via: - Professional observation and estimate - Inspection of vessel electronics - Inspection of vessel records and certificates - Inspection of vessels catch log - Interview of crew and officers 4.2. Mandatory and optional data for collection according to the current IOTC ROS standard minimum data collection fields.
5. Correctly record information from pelagic gillnet fishing operations in accordance with the protocols and formats provided	5.1. Fill in observer form template with information gathered to the level of accuracy specified. 5.2. Use and interpret supporting guidelines, prescribed units and codes and identification resources for the completion of observer form templates.
EVIDENCE AND ASSESSMENT GUIDE	
Context and Methods of Training and Assessment	
Training and assessment must include the use of simulated fishing trip information and data. The candidate is required to gather, interpret and enter the information on the appropriate forms with a minimum verified accuracy of 75%. Assessment must be completed in accordance with the protocols and templates currently provided. Currently (2020) the templates are identified as IOTC 1-GLL, 2-GLL, 3-GLL, 4-GLL, 5-GLL, 6-GLL, and 7-	

GLL;

Candidates should be made familiar with all the protocols and formats in classroom demonstrations and practical demonstrations before they are assessed. Resources for training and assessment include:

- All the required forms together with supporting guidelines for completion
- At least 2 realistic written simulations of credible pelagic gillnet fishing scenarios
- Species codes and identification resources

Critical aspects of evidence

Agreed IOTC ROS Observer competency standards on this training requirement includes:

- Candidate is aware of IOTC ROS data gathering processes, mandatory data to be collected and sampling priorities.
- Candidate is capable of collecting, formatting and accurately recording mandatory information as prescribed under the IOTC Regional Observer Scheme.

The achieving of these standards is demonstrated by candidate capacity to:

- Locate and format the data and information needed to complete each template associated with pelagic gillnet operations.
- Complete each template specified for a longline observer with a level of accuracy of no less than 75%.

Training Requirement 22

IOTC SFO TR22	**Electronic data recording**
Descriptor This module aims to familiarize Observers with the electronic data base(s) to be used to cover data capture from data sheets. In this specific training, Observers will become familiarized with the current version of IOTC ROS e-collection and reporting tool (January 2020).	
Learning outcome	**Key training topics**
1. Correctly use selected database.	1.1. Entering data into appropriated database.

EVIDENCE AND ASSESSMENT GUIDE

Context and Methods of Training and Assessment

Training and assessment must include the use of simulated fishing trip information and data. The candidate is required to enter information previously filled into observer form templates into the selected database.

In this specific training, Candidate will become familiarized with the current version of IOTC ROS e-collection and reporting tool (January 2020).

Candidates should be made familiar with the database and practical demonstrations before they are assessed. Resources for training and assessment include:

- Current version (Jan 2020) of IOTC ROS e-collection and reporting tool together with supporting usage guidelines
- All the required filled forms.

Critical aspects of evidence

The achieving of training requirement is demonstrated by candidate demonstrate ability to:

- capture data from observer form templates into the selected database. In this case the

current (Jan. 2020) IOTC ROS e-collection and reporting tool.

Training Course Plan

A tentative plan for the implementation of IOTC ROS SFO Basic Observer Training Course has been developed to provide orientation on time allocated to different training courses and to theoretical and practical classes for each of the key training topics detailed under the training curriculum.

Basic Sea Survival Training

As previously stated, STCW 2010 certified training (or equivalent) will be outsourced to an in-country IMO certified institution (or equivalent). Therefore, the plan for the implementation of basic sea survival training shall be defined by the selected institution in each of the participating CPCs.

[CPC name] in-country Basic Sea Survival Training

STCW2010 (or equivalent) certified safety training to be conducted by [Certified institution name], will have a maximum duration of [No. weeks (No. days)]. Detailed information on Basic Sea Survival training agenda shall be included to [CPC name] Site Visit 2 (SV2) report to be provided by CapMarine to the IOTC.

Technical scientific training

Theoretical and practical technical scientific training duration will depend of the number of fisheries/gears the candidates will be trained on. Training curriculum includes generic training compulsory for all gears and gear specific training. Generic training has a standard duration of 1 week and gear specific training of 2,5 days per fisheries/gear.

Training shall be divided into eight sessions of approximately 45-minutes each. The allocated times for each subject may vary depending on the level of experience and knowledge of the class. To help the Training Team to assess the level of experience and knowledge of the class and to adapt allocated times for each training subject, candidates will be requested to complete a pre-evaluation form. The same pre-evaluation form shall be completed at the end of the two-week training to assess knowledge gained.

[CPC name] technical scientific training

Theoretical and practical technical scientific training duration in [CPC name] will be of [No. weeks (No. days)], during which the training team will train up to [No. of observers] (at a minimum rate of 1 trainer per 5 trainees) in [fisheries/gears names]. Detailed information shall be included to [CPC name] Site Visit 2 (SV2) report to be provided by CapMarine to the IOTC.

Data collection, verification, input and reporting training

Data collection, verification, input and reporting training duration will depend of the number of fisheries/gears the candidates will be trained on. Training curriculum includes only gear specific training. The training for will be divided into eight sessions of approximately 45-minutes each. Practical exercises are to be conducted by teams of two or three candidates (max).

[CPC name] technical scientific training

Training duration will be of [No. weeks (No. days)], during which the Training Team will train up to [No. of observers] (at a minimum rate of 1 trainer per 5 trainees) in the collection and recording of data concerning [fisheries/gears names] operations alongside the CPC-nominated database manager. Detailed information will be included to Site Visit 2 (SV2) report to be provided by CapMarine to the IOTC.