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Commission des Thons de l'Océan Indien

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# Fisheries management

*IOTC ROS SFO TR1*



This module aims to provide Observers with the required knowledge on the:

- ✓ basic concepts of fisheries management,
- ✓ the usage of observer programs in fisheries management, and
- ✓ IOTC fisheries concepts relevant to scientific observer work

Candidates performance on this training module will be evaluated based on their understanding of 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.



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# Regional legislation: IOTC Conservation and Management Measures

***IOTC ROS SFO TR1.3.2***

Category: Fisheries management

*[IOTC ROS SFO TR1]*



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## IOTC CONSERVATION AND MANAGEMENT MEASURES (CMM)

- SEABIRDS
- TUNA DISCARDS
- TURTLES
- GENERAL
- CETACEANS
- MARLINS
- SHARKS and RAYS



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The full compendium of IOTC CMMs can be downloaded from the website at: <http://www.iotc.org/cmms> and may be subject to change by the IOTC at future meetings of the Commission. Observers need to have access to these and review the most recent CMM's as they become available.



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- Res 12/06: On reducing the incidental bycatch of seabirds in longline fisheries
  - Data on seabird incidental bycatch by species to be recorded by Observers and reported to the IOTC annually.
  - Observers to take photographs of seabirds caught by fishing vessels and to transmit them to national seabird experts or to the IOTC Secretariat, for ID confirmation.
  - Seek to achieve reductions in levels of seabird bycatch through the use of effective mitigation measures.



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• **Res 12/06: On reducing the incidental bycatch of seabirds in longline fisheries (continued)**

- In the area south of 25° South latitude, all longline vessels to use at least two of the three mitigation measures in Table 1.



**Table 1.** Mitigation measures

Mitigation	Description	Specification
Night setting with minimum deck lighting	No setting between nautical dawn and before nautical dusk. Deck lighting to be kept to a minimum.	Nautical dusk and nautical dawn are defined as set out in the Nautical Almanac tables for relevant latitude, local time and date. Minimum deck lighting should not breach minimum standards for safety and navigation.
Bird-scaring lines (Tori lines)	Bird-scaring lines shall be deployed during the entire longline setting to deter birds from approaching the branch line.	<p>For vessels greater than or equal to 35 m:</p> <ul style="list-style-type: none"> <li>• Deploy at least 1 bird-scaring line. Where practical, vessels are encouraged to use a second tori pole and bird scaring line at times of high bird abundance or activity; both tori lines should be deployed simultaneously, one on each side of the line being set.</li> <li>• Aerial extent of bird-scaring lines must be greater than or equal to 100 m.</li> <li>• Long streamers of sufficient length to reach the sea surface in calm conditions must be used.</li> <li>• Long streamers must be at intervals of no more than 5m.</li> </ul> <p>For vessels less than 35 m:</p> <ul style="list-style-type: none"> <li>• Deploy at least 1 bird-scaring line.</li> <li>• Aerial extent must be greater than or equal to 75 m.</li> <li>• Long and/or short (but greater than 1 m in length) streamers must be used and placed at intervals as follows: <ul style="list-style-type: none"> <li>• Short: intervals of no more than 2 m.</li> <li>• Long: intervals of no more than 5 m for the first 55 m of bird scaring line.</li> </ul> </li> </ul> <p>Additional design and deployment guidelines for bird-scaring lines are provided in Annex I of this Resolution.</p>
Line weighting	Line weights to be deployed on the snood prior to setting.	Greater than a total of 45 g attached within 1 m of the hook or; Greater than a total of 60 g attached within 3.5 m of the hook or; Greater than a total of 98 g weight attached within 4 m of the hook.



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- Res 13/06: On a scientific and management framework on the conservation of shark species caught in association with managed fisheries



- Interactions with marine turtles to be reported
- Vessels to bring aboard, if practicable, any captured marine turtle comatose or inactive and foster its recovery, before safely returning it to the water.
- Vessels to use proper mitigation, identification, handling and de-hooking techniques and keep on board all necessary marine turtle release equipment.



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## RESOLUTIONS ON CETACEANS



- Res. 13/04: On the conservation of cetaceans
  - Purse-seiners
    - prohibited to set a purse seine net around a cetacean if the animal is sighted prior to the commencement of the set.
    - in the event that a cetacean is unintentionally encircled the master shall take all reasonable steps to ensure the safe release of the cetacean following the best practice guidelines for the safe release and handling of cetaceans.
  - All vessels and gears in the event that a cetacean Observers to report:
    - i. the species
    - ii. No. of individuals
    - iii. description of the interaction
    - iv. position,
    - v. steps taken to ensure safe release
    - vi. release condition



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## RESOLUTIONS ON MARLINS

- Res. 15/05: On conservation measures for striped, black and blue marlin

**Cooperating and Contracting Parties are encouraged to:**

- make any possible effort to reduce the level of catches of their vessels for the following species: striped, black, and blue marlin.
- request their operators/fishing vessels to release marlin species brought alive on-board or alongside the vessel.



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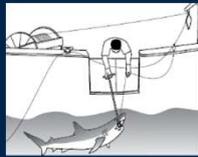


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- Res 17/05: On the conservation of sharks caught in association with fisheries managed by IOTC



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- **all parts of the shark** excepting head, guts and skins **to be retained by the vessel.**
- **fins** on-board to **total < 5 %** of the **weight** of sharks on-board
- **sharks and fins carcasses** to be **offloaded together**
- **live sharks**, especially juveniles and pregnant sharks should **be released**
- **fishers** should be **aware of** and use species identification guides and **recommended sharks handling practices.**



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- Res. 12/09: On the conservation of thresher sharks
  - **Prohibited to retain on board, tranship, land, store, sell or offer for sale any thresher shark.**
- Res. 13/06: Scientific and management framework on the conservation of sharks
  - Vessels should release unharmed oceanic whitetip sharks, record incidental catches as well as live releases.
- Res. 18/02: Management measures for blue shark conservation
  - Data collection to ensure improved reporting of accurate blue shark catch, effort, size and discard data.



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- Res. 13/05: On the conservation of whale sharks (applicable to purse-seine)
  - In the event that a whale shark is unintentionally encircled in the purse seine net, the master of the vessel shall **take all reasonable steps to ensure its safe release**
  - **Incident to be reported** via logbook or **Observer report** (No. of individuals; description, location; steps taken to ensure safe release; animal release conditions).



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- Res 19/03: On the conservation of mobulid rays

- Prohibited to intentionally setting any gear type for targeted fishing of mobulid rays, if the animal is sighted prior to commencement of the set.
- Prohibited to retain onboard, tranship, land, store, any part or whole carcass of mobulid rays.
- All fishing vessels to promptly release alive and unharmed, to the extent practicable, mobulid rays as soon as they are seen
- To release it using recommended handling procedures.



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- Res 19/03: On the conservation of mobulid rays (continued)
  - **Mobulid rays unintentionally caught to be surrender to the responsible governmental authorities, or other competent authority, or discarded at landing.**
  - Mobulid rays surrendered may not be sold or bartered but may be donated for purposes of human consumption.
  - **Information and data collected on interactions to be reported via logbook or Observer report**
  - **Fishers to use proper mitigation, identification, handling and releasing techniques** in accordance with the recommended handling guidelines.
  - Scientific observers allowed to collect biological samples of dead mobulid rays, provided that the samples are a part of a research project approved by the IOTC.



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## RESOLUTIONS ON TUNA DISCARDS

- Res 19/05: Ban on discards of bigeye tuna, skipjack tuna, yellowfin tuna.

- **Purse seine vessels:**

- To retain on board and land all bigeye, skipjack, and yellowfin tuna caught, except fish considered unfit for human consumption.
- To retain on board and land, the following non-targeted species or species group: other tunas, rainbow runner, dolphinfish, triggerfish, billfish, wahoo, and barracuda, except fish considered unfit for human consumption.
- No bigeye tuna, skipjack tuna, and/or yellowfin tuna caught may be discarded after the point in the set when the net is fully pursed and more than one half of the net has been retrieved.

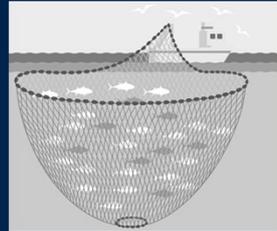


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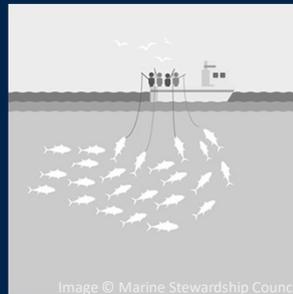
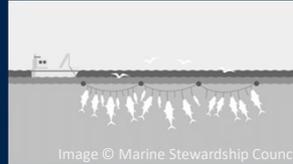
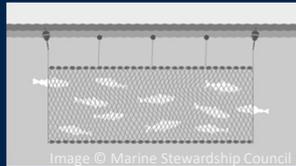
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## RESOLUTIONS ON TUNA DISCARDS

- Res 19/05: Ban on discards of bigeye tuna, skipjack tuna, yellowfin tuna (continued).

– Other gear types encouraged to:

- a) ensure the safe release of non-targeted species taken alive;
- b) retain on board and land all dead non-targeted species except those considered unfit for human consumption



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## GENERAL RESOLUTIONS

- **11/04: On a Regional Observer Scheme**
- **16/07: On the Use of Artificial Lights to Attract Fish to Drifting Fish Aggregating Devices**
- **17/07: To prohibit the use of large-scale driftnets on the high seas in the IOTC area**
- **19/02: Procedures on a Fish Aggregating Devices (FADs) Management Plan**
- **19/06: On Establishing a Programme for Transshipment by Large-Scale Fishing Vessels**



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# ANY QUESTIONS?



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