

21 June 2021

## IOTC CIRCULAR 2021-31

Dear Sir/Madam

### **CONSERVATION AND MANAGEMENT MEASURES ADOPTED BY THE IOTC AT ITS 25<sup>TH</sup> SESSION**

I have the honour to transmit to you the texts of the following three Conservation and Management Measures adopted by the Commission at its 25<sup>th</sup> Session which was held by videoconference from 7 to 11 June 2021.

Resolution 21/01 *On an interim plan for rebuilding the Indian Ocean yellowfin tuna stock in the IOTC Area of competence.*

Resolution 21/02 *On establishing a programme for transshipment by large-scale fishing vessels.*

Resolution 21/03 *On harvest control rules for skipjack tuna in the IOTC area of competence.*

Pursuant to Articles IX.4 & 5 of the IOTC Agreement, these Conservation and Management Measures shall become binding on Members, 120 days from the date of this notification, i.e. 19 October 2021, unless an objection is lodged.

The texts of the Conservation and Management Measures adopted are attached to this circular.

Please note: following discussions with the main proponents of the resolutions, the below clean versions of the resolutions include minor edits and some amendments which were made after adoption. The amendments are shown in Annex 1.

Yours sincerely



Christopher O'Brien  
Executive Secretary

**Attachments:**

- CMMs adopted in 2021

Distribution

**IOTC Contracting Parties:** Australia, Bangladesh, China, Comoros, Eritrea, European Union, France (Territories), India, Indonesia, Iran (Islamic Rep of), Japan, Kenya, Rep. of Korea, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Pakistan, Philippines, Seychelles, Somalia, South Africa, Sri Lanka, Sudan, United Rep. of Tanzania, Thailand, United Kingdom, Yemen. **Cooperating Non-Contracting Parties:** Senegal. **Intergovernmental Organisations, Non-Governmental Organisations. Chairperson IOTC. Copy to:** FAO Headquarters, FAO Representatives to CPCs.

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## Annex1. Amendments made to 2021 resolutions following adoption

Resolution 21/01	Original	Amendments made
Para. 18a	Footnote referenced, but missing	<i>Footnote added</i> "The subparagraphs (a) shall not apply to CPCs which use only one supply vessel"
Resolution 21/03	Original	Amendments made
Para. 12	The HCR, including the control parameters, will be reviewed through further Management Strategy Evaluation (MSE), <u>but no later than 2021 (i.e. five years from its implementation)...</u>	The HCR, including the control parameters, will be reviewed through further Management Strategy Evaluation (MSE).
Para. 15b	Undertake and report to the Commission a model-based skipjack tuna stock assessment every three (3) years, commencing with the next stock assessment in <u>2017</u> .	... the next stock assessment in 2023. <i>this amendment was made after consulting the Scientific Committee's stock assessment timetable</i>
Para. 16	The Commission shall review this measure at its annual session in <u>2019</u> ,	The Commission shall review this measure at its annual session in 2022.

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**RESOLUTION 21/01**  
**ON AN INTERIM PLAN FOR REBUILDING THE INDIAN OCEAN YELLOWFIN TUNA STOCK IN  
THE IOTC AREA OF COMPETENCE**

**Keywords:** Yellowfin tuna, Kobe Process, MSY, Precautionary Approach

**The Indian Ocean Tuna Commission (IOTC),**

CONSIDERING the objectives of the Commission to maintain stocks in perpetuity and with high probability, at levels not less than those capable of producing their maximum sustainable yield as qualified by relevant environmental and economic factors including the special requirements of developing States in the IOTC area of competence;

BEING MINDFUL of Article XVI of the IOTC Agreement regarding the rights of Coastal States and of Article 87 and 116 of the UN Convention of the Law of the Sea regarding the right to fish on the high seas;

RECOGNISING the special requirements of the developing States, particularly Small Island developing States in Article 24(b), of the Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of December 1982, relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA);

FURTHER RECOGNISING the need to ensure that conservation and management measures do not result in transferring, directly or indirectly, a disproportionate burden of conservation action onto developing States, Article 24(c) of UNFSA;

RECALLING that Article 5, of UNFSA entitles the conservation and management of highly migratory fish stocks are based on best scientific evidence available and with special reference to IOTC Resolution 15/10 for a stock where the assessed status places it within the red quadrant, and with an aim to end overfishing with a high probability and to rebuild the biomass of the stock in as short time as possible;

FURTHER RECALLING that Article 6, of UNFSA and IOTC Resolution 12/01 “*On the implementation of the precautionary approach*”, requires the States to be cautious during the application of precautionary approach when information is uncertain, unreliable or inadequate and this should not be a reason for postponing or failing to take conservation and management measures;

CONSIDERING the recommendations adopted by the KOBE II, held in San Sebastian, Spain, June 23 – July 3 2009; implementing where appropriate a freeze on fishing capacity on a fishery by fishery basis and such a freeze should not constrain the access to, development of, and benefit from sustainable tuna fisheries by developing coastal States;

FURTHER CONSIDERING the recommendations adopted by the KOBE III, held in La Jolla, California, 12- 14 July 2011; considering the status of the stocks, each RFMO should consider a scheme for reduction of overcapacity in a way that does not constrain the access to, development of, and benefit from sustainable tuna fisheries, including on the high seas, by developing coastal States, in particular Small Island Developing States, territories, and States with small and vulnerable economies; and Transfer of capacity from developed fishing members to developing coastal fishing members within its area of competence where appropriate;

FURTHER CONSIDERING the concern of the 20<sup>th</sup> Session of the Working Party for Tropical Tuna held in Seychelles, 29 October – 3 November 2018, the change in strategy by increase of usage of FADs by the purse seine vessels to maintain catch level targets has led to a substantial increase of juvenile yellowfin tuna and bigeye tuna;

NOTING THAT supply vessels contribute to the increase in effort and capacity of purse seiners and that the number of supply vessels has increased significantly over the years;

FURTHER CONSIDERING the call by the United Nations General Assembly Resolution 70/75 upon the States to increase the reliance on scientific advice in developing, adopting and implementing conservation and management measures and to take into account the special requirements of developing States, including Small Island Developing States (SIDS) as highlighted in the SIDS Accelerated Modalities of Action (SAMOA) Pathway;

NOTING THAT Article V.2b of the Agreement for the Establishment of the Indian Ocean Tuna Commission give full recognition to the special interests and needs of Members in the region that are developing countries, in relation to the conservation and management and optimum utilization of stocks covered by this Agreement and encouraging development of fisheries based on such stocks;

FURTHER NOTING THAT Article V.2d requires the Commission to keep under review the economic and social aspects of the fisheries based on the stocks covered by this Agreement bearing in mind, in particular, the interests of developing coastal States. This includes ensuring that conservation and management measures adopted by it do not result in transferring, directly or indirectly, a disproportionate burden of conservation action onto developing States, especially Small Island Developing States;

RECOGNIZING FURTHER the interactions that occur between the fisheries for yellowfin, skipjack and bigeye tuna;

FURTHER CONSIDERING the management advice of the 23<sup>rd</sup> session of the Scientific Committee, that given the limitations and uncertainties in the stock assessment and the inability to use K2SM derived from the 2018 yellowfin tuna stock assessment, the catches to be reduced to a level at least below the  $C_{MSY}$  estimate (403,000MT) and the need to decrease the fishing mortality from the 2017 level in order to remove overfishing on the stock;

FURTHER CONSIDERING the issues raised in the 23<sup>rd</sup> session of the Scientific Committee regarding the estimated K2SM probabilities derived from the 2018 stock assessment, and that due to critical errors in projections and estimations in computing probabilities in the K2SM developed in 2018, the K2SM is not suitable to provide management advice;

FURTHER CONSIDERING the SC 2020 advice that Commission should ensure that CPCs take all necessary action to achieve the catch reductions in their fleets as per Resolution 19/01.

ADOPTS, in accordance with the provisions of Article IX, paragraph 1 of the IOTC Agreement, the following:

#### ***Application***

1. This resolution shall apply to all CPCs within the IOTC area of competence.
2. This resolution will be effective from 1 January 2022. The measures contained within this Resolution shall be considered as interim measure and will be reviewed by the Commission no later than at its annual Session in 2022.
3. Notwithstanding paragraph 2, this Resolution shall be reviewed when a formal Management Procedure for the management of the yellowfin tuna stock is adopted by the Commission and in effect.
4. Nothing in this resolution shall pre-empt or prejudice future allocation of fishing opportunities.

#### ***Catch limits***

5. CPCs whose reported catches of yellowfin tuna for 2014 were above 5000t shall reduce their catches of yellowfin tuna by 21% compared to 2014 yellowfin tuna catch, except:
  - a. If those CPCs are Coastal Developing States, they shall reduce their catches of yellowfin tuna by 12% compared to 2014 yellowfin tuna catch;
  - b. If those CPCs are Small Island Developing States or Least Developed States, they shall reduce their catches of yellowfin tuna by 10% compared to 2014 yellowfin tuna catch.
6. CPCs whose reported catches of yellowfin tuna for 2014 were below 5000t and their average catches of yellowfin tuna for the period from 2017 to 2019 inclusive, were above 5000t, shall reduce their catches of yellowfin tuna by 21% compared to 2014 yellowfin tuna catch, except:
  - a. If those CPCs are Coastal Developing States, they shall reduce their catches of yellowfin tuna by 12% compared to average of 2017 – 2019 yellowfin tuna catch;
  - b. If those CPCs are Small Island Developing States or Least Developed States, they shall reduce their catches of yellowfin tuna by 10% compared to average of 2017 – 2019 or 2018 yellowfin tuna catch, whichever is higher.
7. CPCs whose reported catches of yellowfin tuna for 2014 were below 5000t and their average catches of yellowfin tuna for the period from 2017 to 2019 inclusive were between 2000t to 5000t, shall not exceed their maximum reported yellowfin tuna catches between 2017 to 2019.
8. CPCs whose reported catches of yellowfin tuna for 2014 were below 5000t and their average catches of yellowfin tuna for the period from 2017 to 2019 inclusive were below 2000t, shall not exceed their catches above 2000t

9. In respect of paragraph 8, and recalling paragraph 4, for conservation purposes three CPCs have agreed exceptionally for 2022 (or 1 year) not to exceed yellowfin tuna catches at different levels<sup>1</sup>
10. In applying the catch reductions in paragraph 5, Small Island Developing State CPCs and Least Developed State CPCs can either choose between catches of yellowfin tuna reported for either 2014, or 2015 or their average catches for the period from 2017 to 2019.
11. In applying the catch reductions in paragraph 5 for Distant Water Fishing CPCs, if the average yellowfin tuna catches between 2017 – 2019 were below 10,000t, CPCs shall reduce their yellowfin catch by 13% compared to 2014 levels.
12. CPCs will determine appropriate methods for achieving these catch reductions, which could include capacity reductions, effort limits, etc., and will report to the IOTC Secretariat in their Implementation Report every year.
13. Any CPC who submits updated catch histories of yellowfin tuna in accordance with IOTC resolution 15/01 and verified by the secretariat and the IOTC Scientific Committee, shall have a right to access yellowfin tuna in accordance with the limits prescribed in the Resolution.

#### ***Over catch of annual limit***

14. If over catch of an annual limit for a given CPC listed in paragraphs 5 to 11 occurs, catch limits for that CPC shall be reduced as follows:
  - a. for over-catch of limits set forth in Resolution 19/01, in 2020 and/or 2021, 100% of that over-catch shall be deducted from following two years limit, and;
  - b. over-catch in 2022 and following years, 100% of that over-catch shall be deducted from the following two years' limit, unless;
  - c. over-catch for that CPC has occurred in two or more consecutive years, in which case 125% of the over-catch shall be deducted from the following two years limit.
15. CPCs that are subject to catch reductions due to over-catch shall inform the Commission via the IOTC Compliance Committee, corrective actions taken by the CPC to adhere to the prescribed catch levels, in their implementation Report.
16. The revised limits from paragraph 14 will apply in the following year and CPCs compliance shall be assessed against the revised limits reported to the IOTC Compliance Committee.
17. The tropical tuna data submitted by CPCs in accordance with Resolution 15/01 “*On the recording of catch and effort data by fishing vessels in the IOTC area of competence*” and Resolution 15/02 “*Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)*” shall be reviewed by the Secretariat and discussed by the Scientific Committee for possible inconsistencies. In such cases, the Scientific Committee shall provide the rationale of the detected inconsistencies and justify the choice

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<sup>1</sup> France (OT) 500t; Philippines 700t; and the United Kingdom 500t.

of the best solution available with regard the scientific analysis to be carried out. Data used for catch limit calculations shall be based on the data reviewed, including possible estimates, by the Secretariat.

### ***Supply Vessels***

18. CPCs shall gradually reduce supply vessels<sup>2</sup> in purse seine operations targeting tropical tuna, by 31 December 2022 as specified below in (a) and (b). Flag States shall submit the status of reducing the use of supply vessel as part of the report of Implementation to the Compliance Committee.
  - a. From 1 January 2022 to 31 December 2024: 3 supply vessels in support of not less than 10 purse seiners, all of the same flag State<sup>3</sup>.
  - b. No CPC is allowed to register any new or additional supply vessel on the IOTC Record of Authorized Vessels.
19. A single purse seine vessel shall not be supported by more than one single supply vessel of the same flag State at any point of time.
20. Complementary to Resolution 15/08 and to Resolution 15/02, CPC/flag States shall report annually before the 1st of January for the coming year of operations which Purse seiners are served by each supply vessel. This information will be published on IOTC website so as to be accessible to all CPCs and is mandatory.

### ***Gillnet***

21. Without prejudice to Article 16 of the IOTC Agreement, CPCs shall encourage phasing out or convert gillnet fishing vessels to other gears, considering the huge ecological impact of these gears and fast track the implementation of Resolution 17/07 “*On the Prohibition to use large-scale driftnets in the IOTC*”, noting that large-scale driftnets are prohibited in the IOTC Area of Competence from 1 January 2022.
22. CPCs shall set their gillnets at 2m depth from the surface in gillnet fisheries by 2023 to mitigate ecological impacts of gillnets.
23. CPCs are encouraged to increase their observer coverage or field sampling in gillnet fishing vessels by 10% using alternative data collection methodologies (electronic or human) verified by the IOTC Scientific Committee by 2023.
24. CPCs shall report the level of implementation of paragraphs 21-23 to the Commission via the Compliance Committee.

### ***Administration***

25. The IOTC Secretariat under advice of the Scientific Committee shall prepare and a table of allocated catch limits disaggregated as per the conditions set out in paragraphs 5-11 for following year, in December of the current year.
26. For the purposes of the implementation of this resolution, each CPC shall, by 15 February of the following year, notify to the Executive Secretary the list of vessels, which have fished for yellowfin tuna in the IOTC area of competence for the preceding year.

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<sup>2</sup> For the purpose of this resolution, the term “supply vessel” includes “support vessel”

<sup>3</sup> The subparagraph (a) shall not apply to CPCs which use only one supply vessel

27. The IOTC Secretariat shall report each year these lists of active vessels to the IOTC Compliance Committee and to the IOTC Scientific Committee in the form of aggregated statistics concerning fishing fleets capacity metrics.
28. CPCs shall monitor the yellowfin tuna catches from their vessels in conformity with Resolution 15/01 “*On the recording of catch and effort data by fishing vessels in the IOTC area of competence*” and Resolution 15/02 “*Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non Contracting Parties (CPCs)*” and will provide a summary of most-recent yellowfin catches for the consideration of the IOTC Compliance Committee.
29. Each year, the IOTC Compliance Committee shall evaluate the level of compliance with the reporting obligations and the catch limits deriving from this Resolution and shall make recommendations to the Commission accordingly.
30. The IOTC Scientific Committee via its Working Party on Tropical Tunas shall implement the “Workplan to improve current assessment of yellowfin tuna” and shall advise the Commission the financial and administrative requirements to further strengthen the work undertaken to minimize the issues and complexities regarding yellowfin tuna stock assessment.
31. The IOTC Scientific Committee and its Working Parties shall prioritise the work on the yellowfin tuna management procedure and to provide advice to the Technical Committee on Management Procedures and to enable the Commission to adopt the yellowfin tuna management procedure at the earliest opportunity.
32. The Scientific Committee via its Working Party on Tropical Tunas shall undertake evaluation of the effectiveness of the measures detailed in this Resolution, taking into account all sources of fishing mortality possible aiming at returning and maintaining biomass levels at the Commission’s target level.
33. This Resolution supersedes IOTC Resolution 19/01 *On an interim plan for rebuilding the Indian Ocean yellowfin tuna stock*.



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## **RESOLUTION 21/02 ON ESTABLISHING A PROGRAMME FOR TRANSHIPMENT BY LARGE-SCALE FISHING VESSELS**

**Keywords:** transhipment

**The Indian Ocean Tuna Commission (IOTC),**

TAKING ACCOUNT of the need to combat illegal, unregulated and unreported (IUU) fishing activities because they undermine the effectiveness of the Conservation and Management Measures already adopted by the IOTC;

EXPRESSING GRAVE CONCERN that organized tuna laundering operations have been conducted and a significant amount of catches by IUU fishing vessels have been transhipped under the names of duly licensed fishing vessels;

IN VIEW THEREFORE OF THE NEED to ensure the monitoring of the transhipment activities by large-scale longline vessels in the IOTC area of competence, including the control of their landings;

TAKING ACCOUNT of the need to collect catch data of such large scale long-line tuna to improve the scientific assessments of those stocks;

ADOPTS, in accordance with paragraph 1 of Article IX of the IOTC Agreement, that:

### **SECTION 1. GENERAL RULES**

1. Except under the programme to monitor transshipments at sea outlined below in Section 2, all transhipment operations of tuna and tuna-like species and sharks caught in association with tuna and tuna-like fisheries in the IOTC area of competence (hereinafter referred to as “tuna and tuna like species and sharks”) must take place in port<sup>1</sup>.
2. The flag Contracting Parties and Cooperating Non-Contracting Parties (collectively termed CPCs) shall take the necessary measures to ensure that large scale tuna vessels<sup>2</sup> (hereafter referred as the “LSTVs”) flying their flag comply with the obligations set out in Annex I when transshipping in port.
3. Transhipment operations within the Maldives between pole and line fishing vessels, and collector vessels flagged in the Maldives and registered on the IOTC Record of Authorized Vessels shall be exempted from the data reporting requirements specified in Annex I and Annex III. Such transhipment operations shall conform to the criteria set forth in Annex II of this resolution.

### **SECTION 2. PROGRAMME TO MONITOR TRANSHIPMENTS AT SEA**

4. The Commission hereby establishes a programme to monitor transhipment at sea which applies only to largescale tuna longline fishing vessels (hereafter referred to as the “LSTLVs”) and to carrier vessels authorised to receive

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<sup>1</sup> Port includes offshore terminals and other installations for landing, transshipping, packaging, processing, refuelling or resupplying (as defined by FAO Port State Measures Agreement)

<sup>2</sup> Large Scale Tuna Vessel (LSTV) – fishing vessels targeting tuna and tuna like species that are over 24m LoA and are on the IOTC Record of Authorized Vessels

transhipments from these vessels at sea. No at-sea transhipment of tuna and tuna-like species and sharks by fishing vessels other than LSTLVs shall be allowed. The Commission shall review and, as appropriate, revise this Resolution.

5. The CPCs that flag LSTLVs shall determine whether or not to authorise their LSTLVs to tranship at sea. However, if the flag CPC authorises the at-sea transhipment by its flag LSTLVs, such transhipment shall be conducted in accordance with the procedures defined in Sections 3, 4 and 5, and Annexes III and IV below.

### **SECTION 3. RECORD OF VESSELS AUTHORISED TO RECEIVE TRANSHIPMENTS-AT-SEA IN THE IOTC AREA OF COMPETENCE**

6. The Commission shall establish and maintain an IOTC Record of Carrier Vessels authorised to receive tuna and tuna-like species and sharks at sea in the IOTC area of competence from LSTLVs. For the purposes of this Resolution, carrier vessels not entered on the record are deemed not to be authorised to receive tuna and tuna-like species and sharks in at-sea transhipment operations.
7. Each CPC shall submit, electronically where possible, to the IOTC Executive Secretary the list of the carrier vessels that are authorised to receive at-sea transhipments from its LSTLVs in the IOTC area of competence. This list shall include the following information:
  - a. The flag of the vessel;
  - b. Name of vessel, register number;
  - c. Previous name (if any);
  - d. Previous flag (if any);
  - e. Previous details of deletion from other registries (if any);
  - f. International radio call sign;
  - g. Type of vessels, length, gross tonnage (GT) and carrying capacity;
  - h. Name and address of owner(s) and operator(s);
  - i. Time period authorised for transhipping.
8. Each CPC shall promptly notify the IOTC Executive Secretary, after the establishment of the initial IOTC Record, of any addition to, any deletion from and/or any modification of the IOTC Record, at any time such changes occur.
9. The IOTC Executive Secretary shall maintain the IOTC Record and take measures to ensure publicity of the record through electronic means, including placing it on the IOTC website, in a manner consistent with confidentiality requirements notified by CPCs for their vessels.
10. Carrier vessels authorised for at-sea transhipment shall be required to install and operate a Vessel Monitoring System (VMS).

### **SECTION 4. AT-SEA TRANSHIPMENT**

11. Transhipments by LSTLVs in waters under the jurisdiction of the CPCs are subject to prior authorisation from the Coastal State concerned. CPCs shall take the necessary measures to ensure that LSTLVs flying their flag comply with the following conditions:

#### **Flag State Authorization**

12. LSTLVs are not authorised to tranship at sea, unless they have obtained prior authorisation from their flag State.

### **Notification obligations**

#### ***Fishing vessel:***

13. To receive the prior authorisation mentioned in paragraph 12 above, the master and/or owner of the LSTLV must notify the following information to its flag State authorities at least 24 hours in advance of an intended transhipment:

- a. The name of the LSTLV, its number in the IOTC Record of Vessels, and its IMO number, if issued;
- b. The name of the carrier vessel, its number in the IOTC Record of Carrier Vessels authorised to receive transhipments in the IOTC area of competence, and its IMO number, and the product to be transhipped;
- c. The tonnage by product to be transhipped;
- d. The date and location of transhipment;
- e. The geographic location of the catches.

14. The LSTLV concerned shall complete and transmit to its flag State, not later than 15 days after the transhipment, the IOTC transhipment declaration, along with its number in the IOTC Record of Fishing Vessels, in accordance with the format set out in Annex III.

#### ***Receiving carrier vessel:***

15. Before starting transhipment, the master of the receiving carrier vessel shall confirm that the LSTLV concerned is participating in the IOTC programme to monitor transhipment at sea (which includes payment of the fee in paragraph 13 of Annex IV) and has obtained the prior authorisation from their flag State referred to in paragraph 12. The master of the receiving carrier vessel shall not start such transhipment without such confirmation.

16. The master of the receiving carrier vessel shall complete and transmit the IOTC transhipment declaration to the IOTC Secretariat and the flag CPC of the LSTLV, along with its number in the IOTC Record of Carrier Vessels authorised to receive transhipment in the IOTC area of competence, within 24 hours of the completion of the transhipment.

17. The master of the receiving carrier vessel shall, 48 hours before landing, transmit an IOTC transhipment declaration, along with its number in the IOTC Record of Carrier Vessels authorised to receive transhipment in the IOTC area of competence, to the competent authorities of the State where the landing takes place.

#### ***Regional Observer Programme:***

18. Each CPC shall ensure that all carrier vessels transhipping at sea have on board an IOTC observer, in accordance with the IOTC Regional Observer Programme in Annex IV. The IOTC observer shall observe the compliance with this Resolution, and notably that the transhipped quantities are consistent with the reported catch in the IOTC transhipment declaration.

19. Vessels shall be prohibited from commencing or continuing at-sea transhipping in the IOTC area of competence without an IOTC regional observer on board, except in cases of “force majeure” duly notified to the IOTC Secretariat.

20. In the case of the twelve (12) Indonesian wooden carrier vessels listed on the IOTC Record of Authorised Vessel and listed in Annex V, a national observer programme may be used in place of an observer from the regional observer programme for Indonesian wooden carrier vessels listed on the IOTC Record of Authorised Vessel. National observers shall be trained to at least one of tuna-RFMO regional observer programme standards and will carry out all of the functions of the regional observer, including provision of all data as required by the IOTC

regional observer programme and the reports equivalent to those prepared by the ROP Contractor. This provision shall only apply to the twelve (12) specific wooden carrier vessels referenced in this paragraph as indicated in Annex V. Replacement of those wooden carrier vessels are only permitted if the material of substitute vessel shall remain wooden and the carrying capacity or fish hold volume not larger than the vessel (s) being replaced. In such case, the authorisation of the replaced wooden vessel shall be immediately revoked.

21. The provision of Paragraph 20 will be rescheduled in consultation with the IOTC Secretariat as a two-year pilot project to be started in 2021. The results of the project, including data collection, reports and the effectiveness of the project shall be examined in 2023 by the IOTC Compliance Committee on the basis of a report prepared by Indonesia and analysis by the IOTC Secretariat. This review shall include whether the programme offers the same level of assurances as those provided by ROP. It shall also explore the feasibility of obtaining an IMO number for the vessels concerned. The extension of the project or the integration of the project into ROP programme shall be subject to a new decision of the Commission.

## **SECTION 5. GENERAL PROVISIONS**

22. To ensure the effectiveness of the IOTC Conservation and Management Measures pertaining to species covered by Statistical Document Programs:
  - a. In validating the Statistical Document, flag CPCs of LSTLVs shall ensure that transshipments are consistent with the reported catch amount by each LSTLV
  - b. The flag CPC of LSTLVs shall validate the Statistical Documents for the transhipped fish, after confirming that the transshipment was conducted in accordance with this Resolution. This confirmation shall be based on the information obtained through the IOTC Observer Programme;
  - c. CPCs shall require that the species covered by the Statistical Document Programs caught by LSTLVs in the IOTC area of competence, when imported into the territory of a Contracting Party, be accompanied by statistical documents validated for the vessels on the IOTC record and a copy of the IOTC transshipment declaration.
23. The CPCs shall report annually before 15 September to the IOTC Executive Secretary:
  - a. The quantities by species transhipped during the previous year;
  - b. The list of the LSTLVs registered in the IOTC Record of Fishing Vessels which have transhipped during the previous year;
  - c. A comprehensive report assessing the content and conclusions of the reports of the observers assigned to carrier vessels which have received transshipment from their LSTLVs.
24. All tuna and tuna-like species and sharks landed or imported into the CPCs either unprocessed or after having been processed on board and which are transhipped, shall be accompanied by the IOTC transshipment declaration until the first sale has taken place.
25. Each year, the IOTC Executive Secretary shall present a report on the implementation of this Resolution to the annual meeting of the Commission which shall review compliance with this Resolution.
26. The IOTC Secretariat shall, when providing CPCs with copies of all raw data, summaries and reports in accordance with paragraph 10 of Annex IV to this Resolution, also indicate evidence indicating possible infraction of IOTC regulations by LSTLVs/carrier vessels flagged to that CPC. Upon receiving such evidence, each CPC shall investigate the cases and report the results of the investigation back to the IOTC Secretariat three months prior to the IOTC Compliance Committee meeting. The IOTC Secretariat shall circulate among CPCs the list of names and flags of the LSTLVs/Carrier vessels that were involved in such possible infractions as well as the response of the flag CPCs 80 days prior to the IOTC Compliance Committee meeting.

27. Resolution 19/06 *On establishing a programme for transshipment by large-scale fishing vessels* is superseded by this Resolution.

**ANNEX I**  
**CONDITIONS RELATING TO IN PORT TRANSHIPMENT**

**General**

1. Transshipment operations in port may only be undertaken in accordance with the procedures detailed below:

**Notification obligations**

2. Fishing vessel:
  - 2.1. Prior to transshipping, the Captain of the LSTV must notify the following information to the port State authorities, at least 48 hours in advance:
    - a) the name of the LSTV and its number in the IOTC record of fishing vessels;
    - b) the name of the carrier vessel, and the product to be transhipped;
    - c) The tonnage by product to be transhipped;
    - d) the date and location of transshipment;
    - e) the major fishing grounds of the tuna and tuna-like species and sharks catches.
  - 2.2. The Captain of a LSTV shall, at the time of the transshipment, inform its flag State of the following;
    - a) the products and quantities involved;
    - b) the date and place of the transshipment;
    - c) the name, registration number and flag of the receiving carrier vessel;
    - d) the geographic location of the tuna and tuna-like species and sharks catches.
  - 2.3. The captain of the LSTV concerned shall complete and transmit to its flag State the IOTC transshipment declaration, along with its number in the IOTC Record of Fishing Vessels, in accordance with the format set out in Annex II not later than 15 days after the transshipment.
3. Receiving vessel:

Not later than 24 hours before the beginning and at the end of the transshipment, the master of the receiving carrier vessel shall inform the port State authorities of the quantities of tuna and tuna-like species and sharks transhipped to his vessel, and complete and transmit the IOTC transshipment declaration, to the competent authorities within 24 hours.

**Landing State:**

4. The master of the receiving carrier vessel shall, 48 hours before landing, complete and transmit an IOTC transshipment declaration, to the competent authorities of the landing State where the landing takes place.
5. The port State and the landing State referred to in the above paragraphs shall take the appropriate measures to verify the accuracy of the information received and shall cooperate with the flag CPC of the LSTV to ensure that landings are consistent with the reported catches amount of each vessel. This verification shall be carried out so that the vessel suffers the minimum interference and inconvenience and that degradation of the fish is avoided.
6. Each flag CPC of the LSTVs shall include in its annual report each year to IOTC the details on the transshipments by its vessels.

## ANNEX II

### CONDITIONS RELATING TO TRANSHIPMENTS BETWEEN MALDIVIAN COLLECTOR VESSELS AND POLE AND LINE FISHING VESSELS

#### General requirements

1. The pole and line fishing vessel(s) involved shall be flagged in the Maldives and shall have a valid license to fish issued by the competent authorities of the Maldives.
2. The collector vessel(s) involved shall be flagged in the Maldives and shall have a valid license to operate issued by the competent authorities of the Maldives.
3. The vessel(s) involved shall not be authorized to fish or engage in fisheries related activities outside the area of national jurisdiction of the Maldives.
4. Transshipment operation shall only take place inside the atolls within the area of national jurisdiction of the Maldives.
5. The Collector Vessel(s) involved must be equipped and tracked by the competent authorities of the Maldives via a functional vessel monitoring system and shall also be equipped with an electronic observer system suitable for monitoring the transshipment activity. The requirement for monitoring through electronic observer system shall be achieved by 31 December 2019.
6. The fishing vessel(s) involved in the transshipment operation should be tracked by the competent authorities of the Maldives via a functional vessel monitoring system as required by the Resolution 15/03 *On the vessel monitoring system (VMS) programme*.

#### Reporting requirements

7. The flag State should report to the IOTC in its annual report each year the details on such transshipments by its vessels.
8. The data recording and reporting requirements set forth by the competent authorities of the Maldives for shore-based reporting or recording requirements shall also be applicable to transshipment operations between Maldivian collector vessels and pole and line fishing vessels.

**ANNEX III  
IOTC TRANSHIPMENT  
DECLARATION**

Carrier Vessel	Fishing Vessel
Name of the Vessel and Radio Call Sign:	Name of the Vessel and Radio Call Sign:
Flag:	Flag:
Flag State license number:	Flag State license number:
National Register Number, if available:	National Register Number, if available:
IOTC Register Number, if available:	IOTC Register Number, if available:

	Day	Month	Hour	Year					
Departure					from		Agent's name:	Master's name of LSTV:	Master's name of Carrier:
Return					to		Signature:	Signature:	Signature:
Transshipment									

Indicate the weight in kilograms or the unit used (e.g. box, basket) and the landed weight in kilograms of this unit: \_\_\_\_\_ kilograms

**LOCATION OF TRANSHIPMENT**

Species	Port	Sea	Type of product							
			Whole	Gutted	Headed	Filletted				

If transshipment effected at sea, IOTC Observer Name and Signature:



## ANNEX IV

### IOTC REGIONAL OBSERVER PROGRAMME

1. Each CPC shall require carrier vessels included in the IOTC Record of Carrier Vessels authorised to receive transhipments in the IOTC area of competence and which tranship at sea, to carry an IOTC observer during each transhipment operation in the IOTC area of competence.
2. The IOTC Executive Secretary shall appoint the observers and shall place them on board the carrier vessels authorised to receive transhipments in the IOTC area of competence from LSTLVs flying the flag of Contracting Parties and of Cooperating Non-Contracting Parties that implement the IOTC observer program.

#### Designation of the observers

3. The designated observers shall have the following qualifications to accomplish their tasks:
  - a) sufficient experience to identify species and fishing gear;
  - b) satisfactory knowledge of the IOTC Conservation and Management Measures;
  - c) the ability to observe and record information accurately;
  - d) a satisfactory knowledge of the language of the flag of the vessel observed.

#### Obligations of the observer

4. Observers shall:
  - a) have completed the technical training required by the guidelines established by IOTC;
  - b) not be, to the extent possible, nationals of the flag State of the receiving carrier vessel;
  - c) be capable of performing the duties set forth in point 5 below;
  - d) be included in the list of observers maintained by the IOTC Secretariat;
  - e) not be a crew member of an LSTLV or an employee of an LSTLV company.
5. The observer tasks shall be in particular to:
  - a) On the Fishing Vessel intending to tranship to the carrier vessel and before the transhipment takes place, the observer shall:
    - i. check the validity of the fishing vessel's authorisation or licence to fish tuna and tuna-like species and sharks in the IOTC area of competence;
    - ii. check and note the total quantity of catch on board, and the quantity to be transferred to the carrier vessel;
    - iii. check that the VMS is functioning and examine the logbook;
    - iv. verify whether any of the catch on board resulted from transfers from other vessels, and check documentation on such transfers;
    - v. in the case of an indication that there are any violations involving the fishing vessel, immediately report the violations to the carrier vessel's master,
    - vi. report the results of these duties on the fishing vessel in the observers report.
  - b) On the Carrier Vessel  
Monitor the carrier vessel's compliance with the relevant Conservation and Management Measures adopted by the Commission. In particular the observers shall:
    - i. record and report upon the transhipment activities carried out;

- ii. verify the position of the vessel when engaged in transshipping;
  - iii. observe and estimate products transhipped;
  - iv. verify and record the name of the LSTLV concerned and its IOTC number;
  - v. verify the data contained in the transshipment declaration;
  - vi. certify the data contained in the transshipment declaration;
  - vii. countersign the transshipment declaration;
  - viii. issue a daily report of the carrier vessels transshipping activities;
  - ix. establish general reports compiling the information collected in accordance with this paragraph and provide the captain the opportunity to include therein any relevant information;
  - x. submit to the IOTC Secretariat the aforementioned general report within 20 days from the end of the period of observation;
  - xi. exercise any other functions as defined by the Commission.
6. Observers shall treat as confidential all information with respect to the fishing operations of the LSTLVs and of the LSTLVs owners and accept this requirement in writing as a condition of appointment as an observer.
  7. Observers shall comply with requirements established in the laws and regulations of the flag State which exercises jurisdiction over the vessel to which the observer is assigned.
  8. Observers shall respect the hierarchy and general rules of behaviour which apply to all vessel personnel, provided such rules do not interfere with the duties of the observer under this program, and with the obligations of vessel personnel set forth in paragraph 9 of this program.

#### **Obligations of the flag States of carrier vessels**

9. The responsibilities regarding observers of the flag States of the carrier vessels and their captains shall include the following, notably:
  - a) Observers shall be allowed access to the vessel personnel and to the gear and equipment;
  - b) Upon request, observers shall also be allowed access to the following equipment, if present on the vessels to which they are assigned, in order to facilitate the carrying out of their duties set forth in paragraph 5:
    - i. Satellite navigation equipment;
    - ii. Radar display viewing screens when in use;
    - iii. Electronic means of communication.
  - c) Observers shall be provided accommodation, including lodging, food and adequate sanitary facilities, equal to those of officers;
  - d) Observers shall be provided with adequate space on the bridge or pilot house for clerical work, as well as space on deck adequate for carrying out observer duties; and
  - e) The flag States shall ensure that captains, crew and vessel owners do not obstruct, intimidate, interfere with, influence, bribe or attempt to bribe an observer in the performance of his/her duties.
10. The IOTC Executive Secretary, in a manner consistent with any applicable confidentiality requirements, shall provide to the flag State of the carrier vessel under whose jurisdiction the vessel transhipped and to the flag CPC of the LSTLV, copies of all available raw data, summaries, and reports pertaining to the trip four months prior to the IOTC Compliance Committee meeting.

#### **Obligations of LSTLV during transshipment**

11. Observers shall be allowed to visit the fishing vessel, if weather conditions permit it, and access shall be granted to personnel and areas of the vessel necessary to carry out their duties set forth in paragraph 5.

12. The IOTC Executive Secretary shall submit the observer reports to the IOTC Compliance Committee and to the IOTC Scientific Committee.

**Observer fees**

13. The costs of implementing this program shall be financed by the flag CPCs of LSTLVs wishing to engage in transshipment operations. The fee shall be calculated on the basis of the total costs of the program. This fee shall be paid into a special account of the IOTC Secretariat and the IOTC Executive Secretary shall manage the account for implementing the program.
14. No LSTLV may participate in the at-sea transshipment program unless the fees, as required under paragraph 13, have been paid.

**ANNEX V**  
**INDONESIAN CARRIER VESSELS AUTHORISED TO TRANSHIP AT SEA**

No.	Name of Wooden Carrier	Vessel Gross Tonnage
1	BANDAR NELAYAN 2017	300
2	PERMATA TUNA WIJAYA 01	298
3	HIROYOSHI - 17	171
4	KILAT MAJU JAYA - 21	197
5	KMC - 102	282
6	PERINTIS JAYA - 89	141
7	NUSANTARA JAYA -12	149
8	NAGA MAS PERKASA 89	146
9	UNITED - XVII	199
10	MUTIARA 36	294
11	BAHARI - 116	167
12	GOLDEN TUNA 99	199

## RESOLUTION 21/03

### ON HARVEST CONTROL RULES FOR SKIPJACK TUNA IN THE IOTC AREA OF COMPETENCE

**Keywords:** Skipjack tuna; Reference Points; Harvest Control Rules; Precautionary Approach; Management Strategy Evaluation.

#### **The Indian Ocean Tuna Commission (IOTC),**

NOTING Article V, paragraph 2(c), of the IOTC Agreement is to adopt, in accordance with Article IX and on the basis of scientific evidence, Conservation and Management Measures to ensure the conservation of the stocks covered by the Agreement;

BEING MINDFUL of Article XVI of the IOTC Agreement regarding the rights of Coastal States, Article 87 and 116 of the UN Convention of the Law of the Sea regarding the right to fish on the high seas and of Article 24 of the Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA) regarding recognition of the special requirements of developing states;

RECOGNISING [Resolution 12/01](#) *On the implementation of the precautionary approach* calls on the Indian Ocean Tuna Commission to implement and apply the precautionary approach, in accordance Article 6 of the Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA);

RECOGNISING the ongoing discussions on allocation and the need to avoid prejudicing future decision of the Commission;

FURTHER CONSIDERING the call by the United Nations General Assembly Resolution 70/75 upon the states to increase the reliance on scientific advice in developing, adopting and implementing conservation and management measures and to take into account the special requirements of developing states, including Small Island developing States as highlighted in the SIDS Accelerated Modalities of Action (SAMOA) Pathway;

CONSIDERING the recommendations adopted by the KOBE II, held in San Sebastian, Spain, June 23 – July 3 2009; implementing where appropriate a freeze on fishing capacity on a fishery by fishery basis and such a freeze should not constrain the access to, development of, and benefit from sustainable tuna fisheries by developing coastal States;

TAKING INTO ACCOUNT the need to have due regard for the interests of all Members concerned, in conformity with the rights and obligations of those Members under international law and in particular, to the rights and obligations for developing countries;

RECALLING Article 6, paragraph 3(b) of UNFSA that calls on States to implement the precautionary approach using the best scientific information available, using stock-specific reference points and outlining the action to be taken if they are exceeded;

FURTHER RECALLING that Article 7.5.3 of the FAO Code of Conduct for Responsible Fisheries also recommends the implementation of stock specific target and limit reference points, inter alia, on the basis of the precautionary approach;

ACKNOWLEDGING that implementing pre-agreed harvest strategies including harvest control rules is considered a critical component of modern fisheries management and international best practices for fisheries management;

FURTHER NOTING that a harvest control rule encompasses a set of well-defined, pre-agreed rules or actions used for determining a management action in response to changes in indicators of stock status with respect to reference points;

NOTING that the Scientific Committee at its 17<sup>th</sup> Session, recommended the Commission consider an alternative approach to identify biomass limit reference points, such as those based on biomass depletion levels, when the MSY-

based reference points are difficult to estimate. In cases where MSY-based reference points can be robustly estimated, limit reference points may be based around MSY;

FURTHER NOTING that the Scientific Committee also recommended that in cases where MSY-based reference points cannot be robustly estimated, biomass limit reference points be set at 20% of unfished levels ( $B_{LIM} = 0.2B_0$ );

ACKNOWLEDGING that the IOTC Scientific Committee has initiated a Commission requested process leading to a management strategy evaluation (MSE) process to improve upon the provision of scientific advice on HCRs;

RECALLING obligations and agreements under Resolutions 12/02<sup>6</sup>, 15/01<sup>7</sup>, 15/02<sup>8</sup>, and 15/10<sup>9</sup>;

RECOGNIZING the SC20 advice that the total catches of skipjack tuna in 2018 were 30% larger than the resulting catch limit from the skipjack HCR for the period 2018-2020 (470,029 t);

RECALLING that the 2019 skipjack catch from the Indian Ocean was 547,248t and the maximum catch limit calculated applying the HCR specified in Resolution 16/02 is 513,572t for the period 2021-2023;

FURTHER RECOGNIZING that reaching the management objectives defined in Resolution 16/02 requires that the catch limits adopted by the skipjack HCR are implemented effectively and the need for the Commission to ensure that catches of skipjack tuna during this period do not exceed the agreed limit.

ADOPTS in accordance with paragraph 1 of Article IX of the IOTC Agreement, that:

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<sup>6</sup> 12/02: Data Confidentiality, policy and procedures

<sup>7</sup> 15/01: On the recording of catch and effort data by fishing vessels in the IOTC Area of competence

<sup>8</sup> 15/02: Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)

<sup>9</sup> 15/10: On Target and Limit Reference Points and a decision framework

## Objectives

1. To maintain the Indian Ocean Tuna Commission skipjack tuna stock in perpetuity, at levels not less than those capable of producing maximum sustainable yield (MSY) as qualified by relevant environmental and economic factors including the special requirements of Developing Coastal States and Small Island Developing States in the IOTC area of competence and considering the general objectives identified in Resolution 15/10 (or any subsequent revision).
2. To use a pre-agreed harvest control rule (HCR) to maintain the skipjack tuna stock at, or above, the target reference point (TRP) and well above the limit reference point (LRP), specified in Resolution 15/10 (or any subsequent revision).

## Reference Points

3. Consistent with paragraph 2 of Resolution 15/10, the biomass limit reference point,  $B_{lim}$ , shall be 20% of unfished spawning biomass<sup>10</sup> (i.e.  $0.2B_0$ ).
4. Consistent with paragraph 3 of Resolution 15/10, the biomass target reference point,  $B_{targ}$ , shall be 40% of unfished spawning biomass (i.e.  $0.4B_0$ ).
5. The HCR described in paragraphs 6–12 seeks to maintain the skipjack tuna stock biomass at, or above, the target reference point while avoiding the limit reference point.

## Harvest Control Rule (HCR)

6. The skipjack tuna stock assessment shall be conducted every three (3) years, with the next stock assessment to occur in 2023. Estimates of 7(a–c) shall be taken from a model-based stock assessment that has been reviewed by the Working Party on Tropical Tunas and endorsed by the Scientific Committee via its advice to the Commission.
7. The skipjack tuna HCR shall recommend a total annual catch limit using the following three (3) values estimated from each skipjack stock assessment. For each value, the reported median from the reference case adopted by the Scientific Committee for advising the Commission shall be used.
  - a) The estimate of current spawning stock biomass ( $B_{curr}$ );
  - b) The estimate of the unfished spawning stock biomass ( $B_0$ );
  - c) The estimate of the equilibrium exploitation rate ( $E_{targ}$ ) associated with sustaining the stock at  $B_{targ}$ .
8. The HCR shall have five control parameters set as follows:
  - a) Threshold level, the percentage of  $B_0$  below which reductions in fishing mortality are required,  $B_{thresh} = 40\%B_0$ . If biomass is estimated to be below the threshold level, then fishing mortality reductions, as

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<sup>10</sup> The symbol B is used to refer to spawning biomass, the total mass of mature fish, i.e.  $B_0$ ,  $B_{lim}$ ,  $B_{targ}$  and  $B_{curr}$  all refer to different levels of spawning biomass.

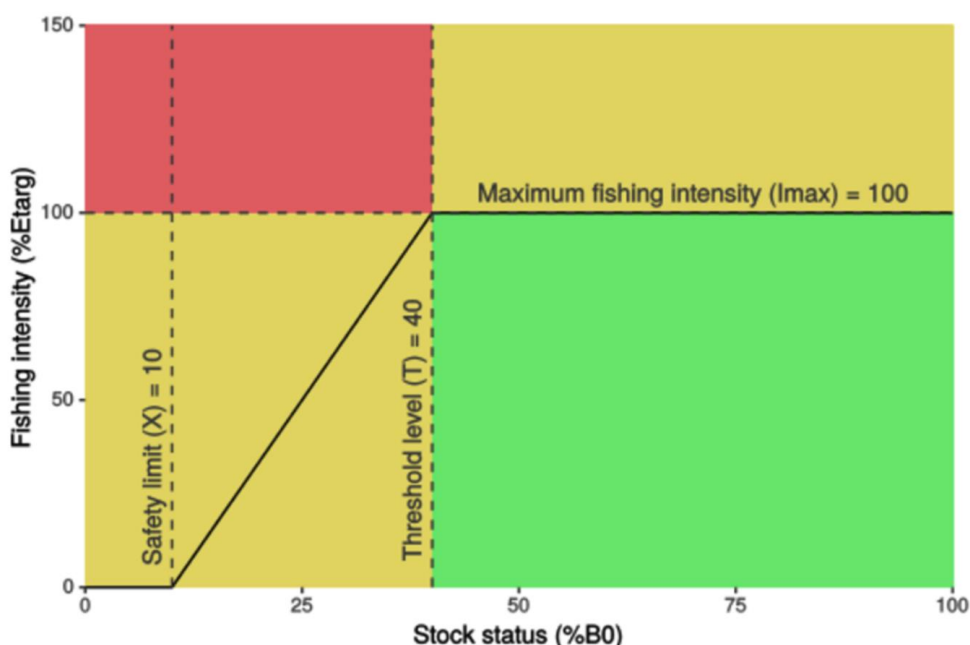
output by the HCR, will occur.

- b) Maximum fishing intensity, the percentage of  $E_{\text{targ}}$  that will be applied when the stock status is at, or above, the threshold level  $I_{\text{max}} = 100\%$ . When the stock is at or above the threshold level, then fishing intensity (I) =  $I_{\text{max}}$
  - c) Safety level, the percentage of  $B_0$  below which non-subsistence catches are set to zero i.e. the non-subsistence<sup>116</sup> fishery is closed  $B_{\text{safety}} = 10\% B_0$ .
  - d) Maximum catch limit ( $C_{\text{max}}$ ), the maximum recommended catch limit = 900,000t. To avoid adverse effects of potentially inaccurate stock assessments, the HCR shall not recommend a catch limit greater than  $C_{\text{max}}$ . This value is based upon the estimated upper limit of the MSY range in the 2014 skipjack stock assessment.
  - e) Maximum change in catch limit ( $D_{\text{max}}$ ), the maximum percentage change in the catch limit = 30%. To enhance the stability of management measures the HCR shall not recommend a catch limit that is 30% higher, or 30% lower, than the previous recommended catch limit.
9. The recommended total annual catch limit shall be set as follows:
- a) If the current spawning biomass ( $B_{\text{curr}}$ ) is estimated to be at or above the threshold spawning biomass i.e.,  $B_{\text{curr}} \geq 0.4B_0$ , then the catch limit shall be set at  $[ I_{\text{max}} \times E_{\text{targ}} \times B_{\text{curr}} ]$
  - b) If the current spawning biomass ( $B_{\text{curr}}$ ) is estimated to be below the threshold biomass i.e.,  $B_{\text{curr}} < 0.4B_0$ , but greater than the safety level i.e.,  $B_{\text{curr}} > 0.1B_0$ , then the catch limit shall be set at  $[ I \times E_{\text{targ}} \times B_{\text{curr}} ]$ . See Table 1 in Appendix 1 for values of fishing intensity (I) for specific  $B_{\text{curr}}/B_0$ .
  - c) If the spawning biomass is estimated to be at, or below, the safety level, i.e.  $B_{\text{curr}} \leq 0.1B_0$  then the catch limit shall be at 0 for all fisheries other than subsistence fisheries.
  - d) In the case of (a) or (b), the recommended catch limit shall not exceed the maximum catch limit ( $C_{\text{max}}$ ) and shall not increase by more than 30% or decrease by more than 30% from the previous catch limit.
  - e) In the case of (c) the recommended catch limit shall always be 0 regardless of the previous catch limit.
10. The HCR described in 8(a-e) produces a relationship between stock status (spawning biomass relative to unfished levels) and fishing intensity (exploitation rate relative to target exploitation rate) as shown below (See Table 1 in **Appendix 1** for specific values):

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<sup>11</sup> A subsistence fishery is a fishery where the fish caught are consumed directly by the families of the fishers rather than being bought by middle-(wo)men and sold at the next larger market, per the FAO Guidelines for the routine collection of capture fishery data. FAO Fisheries Technical Paper. No. 382. Rome, FAO. 1999. 113p.





11. The catch limit shall by default, be implemented in accordance with the allocation scheme agreed for skipjack tuna by the Commission. In the absence of an allocation scheme, the HCR shall be applied as follows:
- If the stock is at or above the Threshold level (i.e.,  $B_{curr} \geq 0.4B_0$ ), then the HCR shall establish an overall catch limit and catches of skipjack tuna for any given year shall be maintained at or below the overall catch limit established by the HCR.
  - If the stock falls below the Threshold level (i.e.,  $B_{curr} < 0.4B_0$ ), the fishing mortality reductions shall be implemented proportionally by CPCs for catches over 1 percent of the catch limit established by the HCR with due consideration to the aspirations and special requirements of Developing Coastal States and Small Island Developing States.
  - The Commission may consider to develop and adopt Conservation and Management Measure(s) to ensure catches of skipjack tuna are maintained at or below the overall catch limit established by the HCR and to apply fishing mortality reductions if the stock falls below the Threshold level (i.e.  $B_{curr} < 0.4B_0$ ), with due consideration to the aspirations and special requirements of Developing Coastal States and Small Island Developing States, no later than the annual session of the IOTC in 2022.
  - This paragraph shall not pre-empt or prejudice future allocation negotiations.

### Review and exceptional circumstances

12. The HCR, including the control parameters, will be reviewed through further Management Strategy Evaluation (MSE).

13. In the case that the estimated spawning biomass falls below the limit reference point, the HCR will be reviewed, and consideration given to replacing it with an alternative HCR specifically designed to meet a rebuilding plan as advised by the Commission.
14. The recommended total annual catch produced by the HCR will be applied continuously as set forth in paragraph 11 above, except in case of exceptional circumstances, such as caused by severe environmental perturbations. In such circumstances, the Scientific Committee shall advise on appropriate measures.

### **Scientific Advice**

15. The IOTC Scientific Committee shall:
  - a) Include the LRP and TRP as part of any analysis when undertaking all future assessments of the status of the IOTC skipjack tuna stock.
  - b) Undertake and report to the Commission a model-based skipjack tuna stock assessment every three (3) years, commencing with the next stock assessment in 2023.
    - c) Undertake a programme of work to further refine Management Strategy Evaluation (MSE) for the IOTC skipjack tuna fishery as required in paragraph 12 including, but not limited to,
      - i. Refinement of operating model(s)/ used,
      - ii. Alternative management procedures,
      - iii. Refining performance statistics.

### **Final Clause**

16. The Commission shall review this measure at its annual session in 2022, or before if there is reason and/or evidence to suggest that the skipjack tuna stock is at risk of breaching the LRP.

## Appendix 1

**Table 1.** Values of fishing intensity for alternative levels of estimated stock status ( $B_{curr} / B_0$ ) produced by the HCR

Stock status ( $B_{curr} / B_0$ )	Fishing Intensity (I)		Stock status ( $B_{curr} / B_0$ )	Fishing Intensity (I)
At or above 0.40	100%		0.24	46.7%
0.39	96.7%		0.23	43.3%
0.38	93.3%		0.22	40.0%
0.37	90.0%		0.21	36.7%
0.36	86.7%		0.20	33.3%
0.35	83.3%		0.19	30.0%
0.34	80.0%		0.18	26.7%
0.33	76.7%		0.17	23.3%
0.32	73.3%		0.16	20.0%
0.31	70.0%		0.15	16.7%
0.30	66.7%		0.14	13.3%
0.29	63.3%		0.13	10.0%
0.28	60.0%		0.12	6.7%
0.27	56.7%		0.11	3.3%
0.26	53.3%		0.10 or below	0%
0.25	50.0%			