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DRAFT RECOMMENDATION BY ICCAT TO REPLACE RECOMMENDATION 16-01 ON A MULTI-ANNUAL CONSERVATION AND MANAGEMENT PROGRAMME FOR TROPICAL TUNAS
(Proposal Submitted by the European Union)

CONSIDERING that the further implementation of a multi-annual programme for the medium-term will contribute to the conservation and sustainable management of the tropical tunas fishery;

RECOGNIZING the necessity to adopt monitoring and control measures to ensure implementation of conservation and management measures and to improve the scientific assessment of those stocks;

RECOGNIZING the necessity to adopt data collection and transmission mechanisms to allow improvement of the monitoring and the scientific assessment of the related fisheries and associated stocks;

NOTING that further to the SCRS assessments conducted in 2015 and again in 2018, the Standing Committee on Research and Statistics (SCRS) concluded that the bigeye tuna stock is overfished and that overfishing is occurring, and underlined that a period of 15 years corresponds to two generations time;

CONSIDERING that the SCRS recommended taking measures to reduce the bigeye TAC to levels that would allow a recovery with a high degree of probability and within a short timeframe and to find effective measures to reduce FAD-related and other fishing mortality of small bigeye tunas;

RECOGNISING that, in view of the state of the stock, it would be appropriate to carry out the stock assessment of bigeye in not later than 2023 pending finalisation of the dedicated MSE work by the SCRS;

RECOGNIZING that the SCRS concluded that the current area/time closure has not been effective at reducing the mortality of juvenile bigeye tuna, and any reduction in bigeye tuna and yellowfin tuna mortality was minimal, largely due to the redistribution of effort into areas adjacent to the moratorium area and that a larger area possibly combined with a longer closure period may address the issue of redistribution of the fishing effort;

RECOGNIZING the contribution that a reduction in the harvest of juvenile tunas can contribute to the long-term sustainability of the stocks;

NOTING that Recommendation 14-01 brought the coverage of national observers for purse seiner fishing for tropical tunas during the area/time closure period from the minimum of 5% of the fishing effort established by Recommendation 16-14 to a 100% coverage of fishing;

CONSIDERING that the SCRS concluded that current level of scientific observers (5%) seems to be inappropriate to provide reasonable estimates of total by-catch and recommended increasing the minimum level to 20%;

FURTHER CONSIDERING that the SCRS recommended studying the issue further, in order to determine the level of coverage appropriate to meet management and scientific objectives;

RECOGNIZING that the SCRS noted that the current mandatory level of observer coverage of 5% may have not been implemented by many of the fleets and underlined the need for achieving those minimum coverages so as the SCRS could address the mandate given by the Commission;

RECOGNIZING that the SCRS also notes that some fleets are currently implementing voluntary observer programmes that cover 100% of the fishing trips and that it also acknowledged the efforts conducted by some fleets to increase the observer coverage to 100% of the trips;

RECALLING recommendations by the SCRS to address the lack of reliable data collection mechanisms, particularly in tropical tuna fisheries carried on in association with objects that could affect fish aggregation, including FADs;

FURTHER RECALLING that as regards skipjack tunas SCRS stated in its 2014 report that the increasing use of FADs since the early 1990s has changed the species composition of free swimming schools, and that association with FADs may also have an impact on the biology and on the ecology of yellowfin and skipjack tunas;

NOTING that, according to the 2014 SCRS advice, increasing harvests and fishing effort for skipjack could lead to involuntary consequences for other species that are caught in combination with skipjack in certain fisheries;

NOTING that in its 2013 report, SCRS recognized the effect of FADs on both sea-turtle and shark by-catch and the need to provide advice on the design of FADs that would lessen their impact on by-catch species. Therefore, information on dimension and material of the floating part and of the underwater hanging structure should be provided. More particularly the entangling or non-entangling feature of the underwater hanging structure should be reported;

FURTHER NOTING that the activities of supply vessels and the use of FADs are an integral part of the fishing effort exerted by the purse seine fleet;

RECALLING measures related to FAD management plans in other tuna RFMOs;

CONSIDERING that the multispecies characteristics of the tropical tuna fisheries makes it appropriate to extend to skipjack tuna the multi-annual management and conservation plan for yellowfin and bigeye tuna;

RECALLING that the FAO International Guidelines on by-catch management and reduction of discards strongly encourage RFMOs to recognise the importance of addressing by-catch and discards;

RECOGNISING that it is appropriate to better manage by-catch and reduce discard practices in ICCAT fisheries, also taking into account food security issues and the importance to improve data collection for scientific purposes;

TAKING INTO ACCOUNT the recommendations of the 2016 ICCAT ad-hoc Working Group on FADs, which were endorsed by the SCRS at its 2016 meeting as well as the SCRS work on interim definitions and monitoring of purse seine fleets fishing on FADs as carried out in 2017 and 2018;

TAKING INTO ACCOUNT the discussions held in the context of the intersessional meeting of Panel 1 in July 2018, in particular the acknowledgement that measures are required to ensure strict adherence to the TAC for bigeye tuna, and that this involves, amongst other measures, the preparation and submission of capacity plans;

RECALLING that in the context of this intersessional meeting of Panel 1, CPCs also acknowledged the need to adopt measures to reduce the mortality of juvenile bigeye and yellowfin tuna, and to improve compliance with MCS measures.

THE INTERNATIONAL COMMISSION FOR THE CONSERVATION
OF ATLANTIC TUNAS (ICCAT) RECOMMENDS THAT:

PART I
GENERAL PROVISIONS

Multi-annual Management and Conservation Programme

1. Starting in 2019, Contracting Parties and Cooperating non-Contracting Parties, Entities or Fishing Entities (CPCs) whose vessels fish bigeye and/or yellowfin tunas and/or eastern skipjack tuna in the Convention area shall implement a [10-15] years Multi-annual Management and Conservation Programme. This multi-annual programme should be amended in time to reflect the possible adoption of Harvest Control Rules for one or several of these stocks. The objectives of this multi-annual program shall be to achieve B_{MSY} with at least [50-60]% probability.

PART II
CATCH LIMITS

Catch limits for bigeye tuna

2. The annual Total Allowable Catch (TAC) for 2019 and subsequent years of the Multi-annual Programme is xx,000 t for bigeye tuna. The following shall apply:
- If the total of catches exceeds the TAC in a given year, the excess amount shall be paid back by CPCs, or by the group of CPCs in the case of the 'others' category referred to under paragraph 3 of this recommendation, to which a catch limit has been granted for the species concerned. Excess quantities shall be deducted the following year on a *prorata* basis from the adjusted quotas/catch limits of the CPC, or group of CPCs, concerned, as per paragraphs 7 and 8.
 - The TAC and catch limits for 2019 and subsequent years of the Multi-annual Programme shall be adjusted based on the latest scientific assessment available.
3. Catch limits shall be applied for 2019 and subsequent years of the Multi-annual Programme to the following CPCs:

CPC	Annual catch limits for the period <u>2019-2023 (t)</u>
<u>Belize</u>	
<u>Brazil</u>	
<u>Cabo Verde</u>	
China	
<u>Chinese Taipei</u>	
<u>Curacao</u>	
<u>El Salvador</u>	
European Union	
Ghana	
<u>Guatemala</u>	
<u>Guinea (Rep.)</u>	
Japan	
<u>Korea (Rep.)</u>	
<u>Panama</u>	
Philippines	
<u>Senegal</u>	
<u>United States</u>	
<u>Others</u> ¹	

4. [...]
[...]
If the catch of bigeye tuna of any coastal CPC not listed in paragraph 3 above exceeds 500 t in any given year, a catch limit shall be established for that CPC for the following years, taking into account the stock status. In such a case, the relevant CPC shall endeavour to adjust its fishing effort so as to be commensurate with their available fishing possibilities.

¹ 'Others' includes all CPCs without a specific TAC allocation for bigeye tuna, as provided under paragraph 3.

5. CPCs shall report quarterly the amount of bigeye caught by vessels flying their flag to the Secretariat by the end of the following quarter. When 80% of the catch limit for a CPC is exceeded, the Secretariat shall notify that to all CPCs.
6. If the total catch exceeds in any year the TAC in paragraph 2, the Commission shall review these measures.

[...]

[...]

[...]

Underage or overage of catch of bigeye tuna

7. Underage or overage of an annual catch limit for CPCs listed in paragraph 3 for bigeye tuna may be added/to or shall be deducted from the annual catch limit as follows:

<i>Year of catch</i>	<i>Adjustment Year</i>
[...]	[...]
[...]	[...]
2017	2018 and/or 2019
2018	2019 and/or 2020
<u>2019</u>	<u>2020 and/or 2021</u>
<u>2020</u>	<u>2021 and/or 2022</u>
<u>2021</u>	<u>2022 and/or 2023</u>
<u>2022</u>	<u>2023 and/or 2024</u>
<u>2023</u>	<u>2024 and/or 2025</u>

However,

- a) The maximum underage that a CPC may carry over in any given year shall not exceed 5% of its annual initial catch limit;
 - b) For Ghana, the overage catch of bigeye tuna in the period 2006 to 2010 shall be repaid by reducing the catch limit of Ghana for bigeye tuna by a yearly amount of 337 t for the period 2012 to 2021.
8. Notwithstanding paragraph 7 if any CPC referred to under paragraph 3, including 'others', exceeds its catch limit during any two consecutive years, the Commission will recommend appropriate measures, which may include, but are not limited to, reduction in the catch limit equal to a minimum of 125% of the excess harvest, and, if necessary, trade restrictive measures. Any trade measures under this paragraph will be import restrictions on the subject species and consistent with each CPC's international obligations. The trade measures will be of such duration and under such conditions as the Commission may determine.

Catch limits for yellowfin tuna

9. The annual TAC for 2012 and subsequent years of the Multi-annual Programme is 110,000 t for yellowfin tuna and shall remain in place until changed based on scientific advice.

If the total catch exceeds the TAC for yellowfin tuna, the Commission shall review the relevant conservation and management measures in place.

**PART III
CAPACITY MANAGEMENT MEASURES**

Capacity limitation for tropical tuna

10. A capacity limitation shall be applied for the duration of the Multi-annual Programme, in accordance with the following provisions:

- a) The capacity limitation shall apply to all vessels fishing tropical tuna in the Convention area.
- b) CPCs which have been allocated a catch limit in accordance with paragraph 3 shall each year:
 - i. Adjust their fishing effort so as to be commensurate with their available fishing possibilities;
 - ii. Be restricted to the number of their vessels >20m LOA by gear type (including purse seiners, baitboats, longlines, handlines, and other surface gears) notified to ICCAT in 2018 as fishing for tropical tuna.
[...]
[...]
[...]
- c) Starting in 2019 CPCs shall limit the number of their fishing vessels <20m LOA authorised to fish for tropical tuna to the average yearly number, by gear type (including baitboats, longlines, handlines, and other surface gears) of their vessels that fished for, retained on board, transhipped, transported, or landed bigeye tuna over the period [2008-2018]. To this effect, by 1 June 2019, CPCs shall provide catch reports information (average daily catches by month or quarter) for the vessels concerned to the ICCAT Secretariat and this information shall be analysed by the Compliance Committee in 2020 in order to confirm the maximum number of vessels submitted by each CPC.
- d) Starting in 2020, CPCs shall limit their number of support/supply vessels, to a maximum of 2 support/supply vessels for a minimum of 5 authorised purse seiners operating in the context of FADs related fisheries.
- e) With a view to ensuring compliance with the provisions of this Recommendation, starting in 2019, each CPC shall submit fishing, inspection and capacity management plans to the ICCAT Secretariat by 31 January each year. The fishing plan shall include detailed information regarding the quota allocated by gear type, and by-catches. Developing CPCs should be allowed to also submit a plan of fleet development in accordance with the fishing opportunities allocated to them in ICCAT.
- f) For 2019 and 2020, prior to 31 March of each year, the Commission shall convene an intersessional meeting of Panel 1 to analyse and eventually endorse the plans referred to under paragraph 10(f). This obligation may be revised after 2020 to allow endorsement of the plans to be done by electronic means. In case of non-submission of the plans by a CPC or if the Commission finds a serious fault in the plans submitted and cannot endorse these plans, the Commission shall decide on the automatic suspension of bigeye tuna fishing in that year by that CPC.

PART IV MANAGEMENT OF FLOATING OBJECTS, including FADs

Area/Time closure in relation with the protection of juveniles

11. Starting in 2019, and every year thereafter, fishing for, or supported activities to fish for bigeye, yellowfin and skipjack tunas in association with objects that could affect fish aggregation, including FADs, shall be prohibited during the period 1 January to 28 February in the ICCAT Convention area.

Each CPC shall:

- a) ensure that its vessels do not deploy FADs during a period of 15 days prior to the start of the selected closure period;
- b) ensure that all its vessels recover within 15 days prior to the start of the closure period a number of FADs equal to the number of FADs previously set upon during a period of two months;
- c.) take appropriate action against vessels flying their flag that do not comply with the area/time closure referred to above;
- d) submit an Annual Report on their implementation of the area/time closure to the Executive Secretary, who shall report to the Compliance Committee at each Annual Meeting.

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12. By derogation to paragraph 11, the above closure period mentioned should be restricted to 1 month between 1 January and 31 January, for vessels requesting and respecting the following criteria:
- no more than 100 active FADs shall be deployed with or without instrumented buoys during each calendar year, without prejudice to the provisions of paragraph 15;
 - no new FAD, with or without instrumented buoys, shall be deployed during the full closure period referred to under paragraph 11 of this recommendation (from 1 January to 28 February);
 - 100% human observer coverage shall be achieved on all vessels concerned at all times;
 - the list of vessels requesting this derogation shall be communicated to the ICCAT Secretariat by the flag CPCs of the vessels concerned before the 1 of January each year. In addition, and in line with the provisions of paragraph 20, CPCs shall also include the list of vessels concerned by this derogation in their FAD annual management plan and in their fishing plans referred to under paragraph 10f of this recommendation.
13. The prohibition referred to in paragraphs 11 and 12 includes:
- launching any floating objects, with or without buoys;
 - fishing around, under, or in association with artificial objects, including vessels;
 - fishing around, under, or in association with natural objects;
 - towing floating objects.
14. As soon as possible and at the latest by 2023, the SCRS shall evaluate the efficacy of the area/time closure referred to in paragraphs 11 and 12 for the reduction of catches of juvenile bigeye and yellowfin tunas. In addition, where needed for conservation and/or management purposes, the SCRS shall advise the Commission on a possible alternative area/time-closure of fishing activities on FADs to reduce the catch of small bigeye and yellowfin tuna to sustainable levels.

Limitation of FADs

15. CPCs shall ensure that for purse seiners flying their flag and fishing for bigeye, yellowfin or skipjack tunas on FADs the following provisional limits are not exceeded:
- Starting in 2019, no more than 350 FADs with or without instrumental buoys are active at any one time in relation to each of its vessels through the verification of telecommunication bills. Such verifications shall be conducted by the competent authorities of the CPCs. This maximum number of FADs per vessel shall be reduced to 275 in 2020 and 200 in 2021 and thereafter.
16. Starting in 2019, CPCs shall provide the Secretariat, on a monthly basis, with a time delay of 60 days but no longer than 90 days, with the data used to make these verifications, as received from the buoys manufacturer. This should include bills of communications/transmissions.
17. Starting in 2020, and each year thereafter, the SCRS should analyse this information and report to the Commission on the number of FADs deployed per vessel for each of the CPCs.
18. In order to monitor the activity of the fleets fishing on FADs:
- The use of radio buoys shall be prohibited;
 - FADs shall not be deployed without a satellite buoy;
 - The activation of the buoys to be deployed shall always take place onboard the vessels.

Definitions

19. For the purpose of monitoring the activity of the purse seine fleet fishing on FADs a set of definitions on the use of instrumented buoys is provided in Annex 9.

FAD Management Plans

20. CPCs with vessels fishing for bigeye, yellowfin and skipjack tunas in association with objects that could affect fish aggregation, including FADs, shall submit to the Executive Secretary Management Plans for the use of such aggregating devices by vessels flying their flag by 31 January each year.
21. The objective of the FAD Management Plans shall be to:
- improve the knowledge about FAD characteristics, buoy characteristics, FAD fishing, including fishing effort of purse seiners and associated support vessels, and related impacts on targeted and non-targeted species;
 - effectively manage the deployment and recovery of FADs, the activation of buoys and their potential loss;
 - reduce and limit the impacts of FADs and FAD fishing on the ecosystem, including, where appropriate, by acting on the different components of the fishing mortality (e.g. number of deployed FADs, including number of FAD's set by purse seiners, fishing capacity, number of support vessels).
22. The Plans shall be drawn up by following the Guidelines for Preparation for FAD Management Plans as provided in **Annex 6**.

FAD logbook and list of deployed FADs

23. CPCs shall ensure that all purse seine and baitboat fishing vessels and all support vessels (including supply vessels) flying their flag, and/or authorized by CPCs to fish in areas under their jurisdiction, when fishing in association with or deploying fish aggregating devices (FADs), including other floating objects that could affect fish aggregation (e.g. carcasses, trunks) shall collect and report, for each deployment of a FAD, each visit on a FAD, whether followed or not by a set, or each loss of a FAD, the following information and data:
- Deployment of any FAD
 - Position
 - Date
 - FAD type (anchored FAD, drifting artificial FAD)
 - FAD identifier (i.e., FAD Marking and buoy ID, type of buoy – e.g. simple buoy or associated with echo-sounder)
 - FAD design characteristics (material of the floating part and of the underwater hanging structure and the entangling or non-entangling feature of the underwater hanging structure)
 - Visit on any FAD
 - Type of the visit (deployment of a FAD and/or buoy², retrieving FAD and/or buoy, strengthening/consolidation of FAD, intervention on electronic equipment, random encounter (without fishing) of a log or a FAD belonging to another vessel, visit (without fishing) of a FAD belonging to the vessel, fishing set on a FAD³)
 - Position
 - Date
 - FAD type (anchored FAD, drifting natural FAD, drifting artificial FAD)
 - FAD identifier (i.e., FAD Marking and buoy ID or any information allowing to identify the owner)
 - If the visit is followed by a set, the results of the set in terms of catch and by-catch, whether retained or discarded dead or alive. If the visit is not followed by a set, note the reason (e.g. not enough fish, fish too small, etc.)

² Deploying a buoy on a FAD includes three aspects: deploying a buoy on a foreign FAD, transferring a buoy (which changes the FAD's owner) and changing the buoy on the same FAD (which does not change the FAD's owner).

³ A fishing set on a FAD includes two aspects: fishing after a visit to a vessel's own FAD (targeted) or fishing after a random encounter of a FAD (opportunistic).

- c) Loss of any FAD
 - i. Last registered position
 - ii. Date of the last registered position
 - iii. FAD identifier (i.e., FAD Marking and buoy ID)

For the purpose of the collection and the report of the information referred to above and where paper or electronic logbooks already in place do not allow it, CPCs shall either update their reporting system or establish FAD-logbooks. In establishing FAD logbooks, CPCs should consider using the template laid down in **Annex 2** as reporting format. When using paper logbooks, CPCs may seek, with the support of the Executive Secretary, for harmonized formats. In both cases, CPCs shall use the minimum standards recommended by SCRS in **Annex 3**.

- 24. CPCs shall also ensure that all vessels referred to in paragraph 23 keep updated on a monthly basis and per 1°x1° statistical rectangles a list of deployed FADs and buoys, containing at least the information as laid down in **Annex 4**.

Reporting obligations on FADs and on support vessels

- 25. Starting in 2020, CPCs shall ensure that the following information is submitted every year to the Executive Secretary by 31 January, in a format provided by the ICCAT Secretariat. This information shall be collected on a monthly basis per 1°x1° statistical rectangles and shall be made available to the SCRS and to the Ad Hoc Working Group on FADs in a database developed by the the ICCAT Secretariat:
 - i. the number of FADs actually deployed, by FAD type, indicating the presence or absence of a beacon/buoy or of an echo-sounder associated to the FAD and specifying the number of FADs deployed by associated support vessels, irrespective of their flag. This information reported in the FAD logbook refers only to the first deployment event of a FAD;
 - ii. the number and type of beacons/buoys (e.g. radio, sonar only, sonar with echo-sounder) deployed on a monthly basis per 1°x1° statistical rectangles. This information reported in the FAD logbook refers only to the first deployment event of a FAD with its buoy;
 - iii. the average numbers of beacons/buoys activated and deactivated on a monthly basis that have been followed by each vessel. This information reported from buoys transmissions should correspond to the average number of operational buoys;
 - iv. average numbers of lost FADs with operational buoys on a monthly basis;
 - v. for each support vessel, the number of days spent at sea, per 1° grid area, month and flag State;
 - vi. purse seine and baitboat catches, efforts and number of sets (for purse seines) by fishing mode (floating-object associated schools and free school fisheries) in line with Task II data requirements (i.e. per 1°x1° statistical rectangles and per month);
 - vii. when the activities of purse seine are carried out in association with baitboat, report catches and effort in line Task I and Task II requirements as “purse seine associated to baitboats” (PS+BB).

The specific templates ST08a and ST08b according to the data collection sources (buoy transmission data and FAD logbook), as provided in **Annex 10**, shall be used with a view to improve data reporting to the Secretariat on FADs and buoys.

- 26. The Executive Secretary shall ensure that appropriate reporting forms are developed and made available to CPCs for the purpose of the reporting described under paragraph 25, and that a database is developed and maintained in the Secretariat to hold the data reported by CPCs.

Non-entangling and biodegradable FADs

- 27. In order to minimize the ecological impact of FADs, in particular the entanglement of sharks, turtles and other non-targeted species, and the release of synthetic persistent marine debris, CPCs shall:
 - i. replace by 2021 existing non-entangling FADs with non-entangling and fully biodegradable FADs in line with the guidelines under **Annex 7** of this Recommendation.

- ii. report on an annual basis in their FADs Management Plans on the steps undertaken to comply with these provisions.

PART V CONTROL MEASURES

Specific authorization to fish for tropical tunas

28. CPCs shall issue specific authorizations to vessels flying their flag allowed to fish bigeye and/or yellowfin and/or skipjack tunas in the Convention area, and to vessels flying their flag used for any kind of support of this fishing activity (hereafter referred to as "authorized vessels").

ICCAT Record of authorized tropical tuna vessels

29. At the latest on the 31 January each year, CPCs shall provide to the ICCAT Secretariat the list of all catching vessels, by gear, authorized to fish actively for tropical tuna. If needed, CPCs shall be able to modify this list during the year by providing an updated list to the ICCAT Secretariat but the number of vessels authorised, by gear, should not increase, and should not be superior to the maximum number of vessels, by gear, referred to under Part III of this recommendation.

The Commission shall establish and maintain an ICCAT record of authorized tropical tuna vessels, including support vessels. Fishing vessels not entered into this record are deemed not to be authorized to fish, retain on board, tranship, transport, transfer, process or land bigeye and/or yellowfin and/or skipjack tunas from the Convention area or to carry out any kind of support to those activities, including deploying and retrieving FADs and/or buoys.

30. A CPC may allow by-catch of tropical tunas by vessels not authorized to fish for tropical tunas pursuant to paragraph 28 and 29, if this CPC establishes a maximum onboard by-catch limit for such vessels and the by-catch in question is accounted for within the CPC's quota or catch limit. Each CPC shall provide in its Annual Report the maximum bycatch limit it allows for such vessels. That information shall be compiled by the ICCAT Secretariat and made available to CPCs.

[...]

31. CPCs shall, without delay, notify the Executive Secretary of any addition to, deletion from and/or modifications of the initial list. Periods of authorization for modifications or additions to the list shall not include dates more than 30 days prior to the date of submission of the changes to the Secretariat. The Secretariat shall remove from the ICCAT Record of Vessels any vessel for which the periods of authorization have expired.
32. The Executive Secretary shall, without delay, post the record of authorized vessels on the ICCAT website, including any additions, deletions and/or modifications so notified by CPCs.
33. Conditions and procedures referred to in the *Recommendation by ICCAT Concerning the Establishment of an ICCAT Record of Vessels 20 meters in Length Overall or Greater Authorized to Operate in the Convention Area* [Rec. 13-13] shall apply *mutatis mutandis* to the ICCAT record of authorized tropical tuna vessels.

Vessels actively fishing tropical tunas in a given year

34. Each CPC shall, by 31 July each year, notify to the Executive Secretary the list of authorized vessels flying their flag which have fished bigeye and/or yellowfin and/or skipjack tunas in the Convention area or have offered any kind of support to the fishing activity (support vessels) in the previous calendar year. For purse seines this list shall also include the support vessels that have supported the fishing activity, irrespective of their flag.

The Executive Secretary shall report each year these lists of vessels to the Compliance Committee and to the SCRS.

35. The provisions of paragraphs 28 to 34 do not apply to recreational vessels.

Inspection of landings

36. All landings shall be controlled by the relevant control authorities and a percentage shall be inspected based on a risk assessment system involving quota, fleet size and fishing effort. Full details of this control system adopted by each CPC shall be detailed in their annual inspection plan referred to in paragraph 10(f) of this recommendation.

Designated ports

37. Fishing vessels shall only land tropical tuna catches, including by-catches, in designated ports of CPCs. To this end, each CPC shall designate ports in which landing tropical tuna is authorized and communicate a list of these ports to the ICCAT Secretariat by 1 March each year. For a port to be determined as designated port, the port State shall specify permitted landing times and places. On the basis of this information the ICCAT Secretariat shall maintain a list of designated ports on the ICCAT website.

38. Prior to entry into port, the masters of fishing vessels or their representative shall provide the relevant authorities of the port with the following:

- a) estimated time of arrival;
- b) estimate of quantity of tropical tuna, by species, retained on board;
- c) the information on the geographic area where the catch was taken;

Port State authorities shall keep a record of all prior notices for the current year.

39. CPC shall establish the minimum length overall of the vessels concerned by paragraphs 37 and 38.

40. Each CPC shall take the necessary measures to control landings of tropical tuna and notify these measures to ICCAT when submitting its inspection plan as referred to under paragraph 10(f) of this recommendation.

Recording and Communication of catch and fishing activities

41. Each CPC shall ensure that its vessels bigeye and/or yellowfin and/or skipjack tunas in the Convention area record their catch in accordance with the requirements set out in **Annex 1** and in the *Recommendation by ICCAT Concerning the Recording of Catch by Fishing Vessels in the ICCAT Convention Area* [Rec. 03-13].

42. Each CPC shall ensure that during their period of authorisation, referred to under paragraph 28 to 33 of this recommendation, its catching vessels more than 15m fishing actively for tropical tuna communicate, by electronic or other means to their competent authorities, weekly information, including the date, time, location (latitude and longitude) and the weight of tropical tuna, by species, taken in the plan area. Such communication shall only be required when catches are reported over the period considered.

43. Each CPC shall take the necessary measures to ensure that all catches by vessels flying its flag are recorded and communicated without delay to the competent authority.

44. CPCs shall report quarterly the amount of tropical tuna, by species, caught by vessels flying their flag to the Secretariat within 30 days of the end of the period during which the catches were made. If a CPC fails to comply with this requirement during any two consecutive years, the Commission shall recommend appropriate measures, which may include, but are not limited to, reduction in the catch limit.

Transshipment

45. Transshipment operations at sea of tropical tuna shall be prohibited.

Identification IUU activity

46. The Executive Secretary shall, without delay, verify that any vessel identified or reported in the context of this Multi-annual Programme is on the ICCAT record of authorized vessels and not out of compliance with the provisions of paragraphs 11 and 12. If a possible violation is detected, the Executive Secretary shall, without delay, notify the flag CPC. The flag CPC shall immediately investigate the situation and, if the vessel is fishing in relation to objects that could affect fish aggregation, including FADs, request the vessel to stop fishing. The flag CPC shall, without delay, report to the Executive Secretary the results of its investigation and the corresponding measures taken.
47. The Executive Secretary shall report to the Compliance Committee at each annual meeting of the Commission on any issue related to identification of unauthorized vessels, the implementation of the VMS, the observer provisions, and the results of the relevant investigation made as well as any relevant measures taken by the flag CPCs concerned.
48. The Executive Secretary shall propose to include any vessels identified in accordance with paragraph 47, or vessels for which the flag CPC has not carried out the required investigation and taken, if necessary, adequate measures in accordance with paragraph 46, on the provisional IUU list.

[...]
[...]
[...]

Scientific Observers

49. Starting in 2019, for authorised longline vessels flying their flag 20 meters length overall (LOA) or greater targeting bigeye, yellowfin and/or skipjack in the Convention area, CPCs shall increase the observer coverage from 5 to [10]%. Alternatively, this target of [10]% can be met through achieving a 5% observer coverage and an additional [5%] coverage through electronic monitoring systems.
50. For scientific observers on board authorised vessels targeting bigeye, yellowfin and/or skipjack tunas in the ICCAT Convention area the following shall apply:
- a) Scientific observers shall automatically be recognized by all CPCs. Such recognition shall allow the scientific observer to continue the collection of data throughout the EEZ visited by the vessel observed. The coastal CPCs concerned shall receive from the flag CPC which mandated the observer the scientific information collected by the observer and related to fishing activities on ICCAT species in their EEZ.
 - b) CPCs that do not accept that their national scientific observer may collect data in the EEZ of another CPC, or that do not recognize as valid the data collected in their EEZ by a scientific observer of another CPC, must inform the Executive Secretary, for immediate transmission to the SCRS and the Compliance Committee, of their refusal within three months after the entry into force of this Recommendation or their accession to ICCAT. By such refusal, the CPC concerned shall refrain to require the deployment of its national scientific observer on vessels of another CPC.

ICCAT Regional Observer Programme

51. Starting in 2020, an ICCAT Regional Observer Programme shall be implemented by each CPC to ensure coverage of:
- 100% of all purse seiners authorised to fish bigeye tuna, and all authorized supply/support vessels;

-
- 20% of longliners >45m LOA authorised to fish tropical tuna;

The observer tasks shall be, in particular, to:

- observe and monitor fishing operations in compliance with the relevant ICCAT conservation and management measures,

[...]

[...]

- carry out such scientific work, for example collecting samples, as required by the Commission based on the directions from the SCRS.

52. When a regional observer is deployed and undertake the scientific work referred to under paragraph 50, this deployment should be taken into account for the purpose of achieving the objectives of paragraph 49 in terms of observer coverage.

Port Sampling Programme

53 The port sampling programme developed by the SCRS in 2012 aimed at collecting fishery data for bigeye, yellowfin, and skipjack tunas that are caught in the geographical area of the area/time closure introduced in Recommendation [16-01] for the surface fishery shall be continued for landing or transshipment ports. Data and information collected from this sampling programme shall be reported to ICCAT each year, describing, at a minimum, the following by country of landing and quarter: species composition, landings by species, length composition, and weights. Biological samples suitable for determining life history should be collected as practicable.

PART VI FINAL PROVISIONS

Availability of data to SCRS and to national scientists

54. CPCs shall ensure that:

- a) Both paper and electronic fishing logbooks referred to in paragraphs 41-42 and the FAD-logbooks referred to in paragraph 23, where applicable, are promptly collected and made available to national scientists;
- b) The Task II data include the information collected from the fishing or FAD logbooks, where applicable, and is submitted every year to the ICCAT Executive Secretary, to be made available to the SCRS.

55. CPCs should encourage their national scientists to undertake collaborative work with their national industry to analyse data related to FADs (e.g. logbooks, buoy data) and to present the outcomes of that analysis to the SCRS. CPCs should take steps to facilitate making the data available for such collaborative work, subject to relevant confidentiality constraints.

56. With the objective of providing information useful to estimate the fishing effort related to FAD-fishing each CPC should provide to its national scientists full access to:

- (a) VMS data of their fishing and support vessels and trajectories of FADs;
- (b) Data recorded by echo-sounders;
- (c) FAD logbooks and the information collected pursuant to paragraph 23.

[...]

SCRS activity and stock assessment

57. The SCRS shall conduct the next stock assessment of bigeye in 2023.

[...]

58. The SCRS, in its rolling workplan up to 2023, shall:

[...]

- a) further elaborate and complete the activities reported in Annex 7 with a view to provide, by 2020 at latest, a definition of “biodegradable FADs” as well as guidelines for their design;
- b) provide performance indicators for skipjack, bigeye and yellowfin tuna as specified in Annex 8 in support of the work to develop management strategy evaluations for tropical tunas.

59. CPCs should support research activities in support of the SCRS workplan.

Confidentiality

60. All data submitted in accordance with this Recommendation shall be treated in a manner consistent with ICCAT’s data confidentiality guidelines and solely for the purposes of this Recommendation and in accordance with the requirements and procedures developed by the Commission.

[...]

[...]

Reduction of discards

61. CPCs shall:

- CPCs shall include as part of their Task I data submission (form ST02-T1NC) total estimates in weight of by-catches and dead discards;
- encourage the vessel owners, masters and crew fishing for tropical tunas under their flag to implement good practices to better manage by-catches and reduce discards;
- consider designing and adopting management measures and/or management plans to better manage by-catch and reduce discards.

62. The SCRS shall:

- Complete the evaluation of the contribution of by-catches and discards to the overall catches in ICCAT tropical tuna fisheries, on a fishery by fishery basis;
- advise the Commission on possible measures allowing to reduce or eliminate discards and to mitigate onboard post-harvest losses and by-catch in ICCAT tropical tuna fisheries.

[...]

Repeals and review

63. This Recommendation replaces Rec. [16-01].

Requirements for Catch Recording

Minimum specification for paper or electronic logbooks:

1. The logbook must be numbered by sheets
2. The logbook must be filled in every day (midnight) or before port arrival
3. One copy of the sheets must remain attached to the logbook
4. Logbooks must be kept on board to cover a period of one-trip operation

Minimum standard information for logbooks:

1. Master name and address
2. Dates and ports of departure, Dates and ports of arrival
3. Vessel name, registry number, ICCAT number and IMO number (if available)
4. Fishing gear:
 - a) Type FAO code
 - b) Dimension (length, mesh size, number of hooks...)
5. Operations at sea with one line (minimum) per day of trip, providing:
 - a) Activity (fishing, steaming...)
 - b) Position: Exact daily positions (in degree and minutes), recorded for each fishing operation or at noon when no fishing has been conducted during this day
 - c) Record of catches
6. Species identification:
 - a) By FAO code
 - b) Round (RWT) weight in t per set
 - c) Fishing mode (FAD, free school, etc.)
7. Master signature
8. Observer signature, if applicable
9. Means of weight measure: estimation, weighing on board and counting
10. The logbook is kept in equivalent live weight of fish and mentions the conversion factors used in the evaluation

Minimum information in case of landing, transshipments:

1. Dates and port of landing /transshipments
2. Products: number of fish and quantity in kg
3. Signature of the Master or Vessel Agent

FAD logbook

<i>FAD marking</i>	<i>Buoys ID</i>	<i>FAD type</i>	<i>Type of visit</i>	<i>Date</i>	<i>Time</i>	<i>Position</i>		<i>Estimated catches</i>			<i>By-catch</i>				<i>Observations</i>
						<i>Latitude</i>	<i>Longitude</i>	<i>SKJ</i>	<i>YFT</i>	<i>BET</i>	<i>Taxonomic group</i>	<i>Estimated catches</i>	<i>Unit</i>	<i>Specimen released alive</i>	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(7)	(8)	(8)	(8)	(9)	(10)	(11)	(12)	(13)
...
...

(1,2) If FAD marking and associated beacon/buoy ID are absent or unreadable, report it in this section. However, if FAD marking and associated beacon/buoy ID are absent or unreadable, the FAD shall not be deployed

(3) Anchored FAD, drifting natural FAD or drifting artificial FAD.

(4) I.e., deployment, hauling, strengthening/consolidation, removing/retrieving, changing the beacon, loss and mention if the visit has been followed by a set.

(5) dd/mm/yy.

(6) hh:mm.

(7) N/S/mm/dd or °E/W/mm/dd.

(8) Estimated catches expressed in metric tons.

(9) Use a line per taxonomic group.

(10) Estimated catches expressed in weight or in number.

(11) Unit used.

(12) Expressed as number of specimen.

(13) If no FAD marking neither associated beacon ID is available, report in this section all available information which may help to describe the FAD and to identify the owner of the FAD.

Annex 3

Table 1. Codes, names and examples of different types of floating object that should be collected in the fishing logbook as a minimum data requirement. Table from 2016 SCRS report (section 18.2 Table 7).

<i>Code</i>	<i>Name</i>	<i>Example</i>
DFAD	Drifting FAD	Bamboo or metal raft
AFAD	Anchored FAD	Very large buoy
FALOG	Artificial log resulting from related to human activity (and related to fishing activities)	Nets, wreck, ropes
HALOG	Artificial log resulting from human activity (not related to fishing activities)	Washing machine, oil tank
ANLOG	Natural log of animal origin	Carcasses, whale shark
VNLOG	Natural log of plant origin	Branches, trunk, palm leaf

Table 2. Names and description of the activities related to floating objects and buoys that should be collected in the fishing logbook as a minimum data requirement (codes are not listed here). Table from 2016 SCRS report (section 18.2 Table 8).

	<i>Name</i>	<i>Description</i>
FOB	Encounter	Random encounter (without fishing) of a log or a FAD belonging to another vessel (unknown position)
	Visit	Visit (without fishing) of a FOB (known position)
	Deployment	FAD deployed at sea
	Strengthening	Consolidation of a FOB
	Remove FAD	FAD retrieval
	Fishing	Fishing set on a FOB ¹
Buoy	Tagging	Deployment of a buoy on FOB ²
	Remove BUOY	Retrieval of the buoy equipping the FOB
	Loss	Loss of the buoy/End of transmission of the buoy

¹ A fishing set on a Fishing Object (FOB) includes two aspects: fishing after a visit to a vessel's own FOB (targeted) or fishing after a random encounter of a FOB (opportunistic).

² Deploying a buoy on a FOB includes three aspects: deploying a buoy on a foreign FOB, transferring a buoy (which changes the FOB owner) and changing the buoy on the same FOB (which does not change the FOB owner).

List of deployed FADs and buoys on a monthly basis

Month:

FAD Identifier		FAD & electronic equipment types		FAD				Observation
FAD Marking	Associated buoy ID	FAD Type	Type of the associated buoy and /or electronic devices					
				FAD floating part	FAD underwater hanging structure			
(1)	(1)	(2)	(3)	(4)	(5)			(6)
...
...

(1) If FAD marking and associated beacon/buoy ID are absent or unreadable, the FAD shall not be deployed.

(2) Anchored FAD, drifting natural FAD or drifting artificial FAD.

(3) E.g. GPS, sounder, etc. If no electronic device is associated to the FAD, note this absence of equipment.

(4) Mention the material of the structure and of the cover and if biodegradable.

(5) E.g. nets, ropes, palms, etc., and mention the entangling and/or biodegradable features of the material.

(6) Lighting specifications, radar reflectors and visible distances shall be reported in this section.

[Annex removed]

Annex 5

Guidelines for Preparation of FAD Management Plans

The FAD Management Plan for a CPC purse seine, baitboat and handlines fleets must include the following:

1. Description
 - a) FAD types: AFAD = anchored; DFAD = drifting
 - b) Type of beacon/buoy
 - c) Maximum number of FAD to be deployed per purse seine and per FAD type and active at any one time per vessel
 - d) Minimum distance between AFADs
 - e) Incidental by-catch reduction and utilization policy
 - f) Consideration of interaction with other gear types
 - g) Statement or policy on "FAD ownership"
 - h) Use of support vessels, including from other flag CPCs
2. Institutional arrangements
 - a) Institutional responsibilities for the FAD Management plan
 - b) Application processes for FAD deployment approval
 - c) Obligations of vessel owners and masters in respect of FAD deployment and use
 - d) FAD replacement policy
 - e) Additional reporting obligations beyond this Recommendation
 - f) Conflict resolution policy in respect of FADs
 - g) Details of any closed areas or periods e.g. territorial waters, shipping lanes, proximity to artisanal fisheries, etc.
3. FAD construction specifications and requirements
 - a) FAD design characteristics (a description)
 - b) Lighting requirements
 - c) Radar reflectors
 - d) Visible distance
 - e) FAD markings and identifier
 - f) Radio buoys markings and identifier (requirement for serial numbers)
 - g) Echo-sounder buoys markings and identifier (requirement for serial numbers)
 - h) Satellite transceivers
 - i) Research undertaken on biodegradable FADs
 - j) Prevention of loss or abandonment of FADs
 - k) Management of FADs recovery.
4. Applicable period for the FAD Management Plan
5. Means for monitoring and reviewing the implementation of the FAD Management Plan

Guidelines for reducing the ecological impact of FADs in ICCAT fisheries

1. The surface structure of the FAD should not be covered or only covered with material implying minimum risk of entangling by-catch species.
2. The sub-surface components should be exclusively composed of non-entangling material (e.g. ropes or canvas).
3. When designing FADs the use of biodegradable materials should be prioritised.

Activities to be included in the work plan to be developed by SCRS

1. Review the available information on fishing capacity and provide advice on adapting the fishing capacity in all its components (number of FADs, number of fishing vessels and support vessels) to achieve the management objectives for tropical tuna species.
2. By taking into account as baseline the outputs of the EU CECOFAD research project (SCRS/2016/30) as well as other ongoing EU research projects such as CECOFAD II¹ and BIOFAD² the SCRS shall:
 - a) Further refine or develop a set of definitions for floating objects and types of activities developed on them including "FAD sets" and "FAD fishing". In particular, definitions and characteristics of non-entangling and bio-degradable FADs should be established;
 - b) Further review and recommend additional changes, as appropriate, to the interim minimum standard reporting requirements on data to be collected in FAD fisheries through logbooks and from buoy transmission information;
 - c) establish guidelines addressed to vessel masters detailing how data and more particularly qualitative information would have to be reported.
3. Develop fisheries indicators describing catch compositions, size structures and catch average sizes of the different métiers contributing to the tropical tunas' fishing mortality and in particular of purse seine fleets fishing on floating objects.
4. Provide advice on possible modifications of fishing patterns affecting the catch-at-size composition and their impact on MSY and relative stock status.
5. In collaboration with the Secretariat, provide advice to establish a consolidated database of records of FAD activity across all purse seine fleets.

¹ Catch, effort, and ecosystem impacts of tropical tuna fisheries (CECOFAD 2); EASME/EMFF/2016/008 Specific Contract No 9.

² Testing designs and identify options to mitigate impacts of drifting FADs on the ecosystem; EASME/EMFF/ 2016/008 - Specific Contract N°7.

Indicative Performance indicators to support decision-making

Performance metrics and associated statistics	Unit of measurement	Type of statistics
1. Status		
1.1 Minimum biomass relative to B_{MSY}	B / B_{MSY}	Minimum over [x] years
1.2 Mean biomass relative to B_{MSY} ¹	B / B_{MSY}	Geometric mean over [x] years
1.3 Mean fishing mortality relative to F_{MSY}	F / F_{MSY}	Geometric mean over [x] years
1.4 Probability of being in the Kobe green quadrant	B, F	Proportion of years that $B \geq B_{MSY}$ & $F \leq F_{MSY}$
1.5 Probability of being in the Kobe red quadrant ²	B, F	Proportion of years that $B \leq B_{MSY}$ & $F \geq F_{MSY}$
2. Safety		
2.1 Probability that biomass is above B_{lim} ³		Proportion of years that $B > B_{lim}$
2.2 Probability of $B_{lim} < B < B_{thresh}$		Proportion of years that $B_{lim} < B < B_{thresh}$
3. Yield		
3.1 Mean catch – short term		Mean over 1-3 years
3.2 Mean catch – medium term		Mean over 4-10 years
3.3 Mean catch – long term		Mean over [x] years
4. Stability		
4.1 Mean absolute proportional change in catch	Catch (C)	Mean over [x] years of $(C_n - C_{n-1}) / C_{n-1}$
4.2 Variance in catch	Catch (C)	Variance over [x] years
4.3 Probability in shutdown	TAC	Proportion of years that TAC=0
4.4 Probability of TAC change over a certain level ⁴	TAC	Proportion of management cycles when the ration change ⁵ $(TAC_n - TAC_{n-1}) / TAC_{n-1} > X\%$.
4.5 Maximum amount of TAC change between management periods.	TAC	Maximum ratio of change ⁶

1. This indicator provides an indication of the expected CPUE of adult fish because CPUE is assumed to track biomass.

2. This indicator is only useful to distinguish the performance of strategies which fulfil the objective represented by 1.4.

3. This differs slightly from being equal to 1- Probability of a shutdown (4.3), because of the choice of having a management cycle of 3 years. In the next management cycle after B has been determined to be less than B_{lim} the TAC is fixed during three years to the level corresponding to F_{lim} , and the catch will stay at such minimum level for three years. The biomass, however, may react quickly to the lowering of F and increase rapidly so that one or more of the three years of the cycle will have $B > B_{lim}$.

4. Useful in the absence of TAC-related constraints in the harvest control rule.

5. Positive and negative changes to be reported separately.

6. Positive and negative changes to be reported separately.

Annex 9

Definitions

For the monitoring of the activity of the purse seine fleet fishing on FADs the terms on the use of instrumented buoys are established hereby below and illustrated in **Annex 10**:

- *Buoy (also GPS Buoy or instrumented buoy)*: A signal device used to indicate a geographical position. Drifting FADs can be equipped with transmitter buoys so that they can be located. Buoys have a clearly marked reference number that allows their identification.

- *Buoy in stock*: A buoy acquired by the owner that has been recorded by the owner and has the capacity to transmit.

- *Activation*: Action of registering a buoy which implies that the satellite communication service is initialized. It is done by the buoy supplier company upon request of the vessel owner. From then on the vessel owner starts paying the communication service. The buoy can be transmitting or not, depending if the magnet has been applied to switching it on.

- *Switching on*: Action of applying a magnet on the activated buoy to allow satellite connection. From then on, the buoy transmits, and the user receives buoy position.

- *Deactivation*: Action of de-registering a buoy. It is done by the buoy supplier company after the request by the vessel owner. From then on, the communication service is no longer billed, and the buoy stops transmitting.

- *Reactivation*: Action of registering a deactivated buoy that was previously activated.

- *Active or activated buoy*: Buoy which is subjected to the action of activation and, therefore, it is capable of transmitting. However, the magnet still needs to be applied to start the transmission of a signal.

- *Operational buoy*: Active buoy that is transmitting a signal and is drifting in the sea. The number of operational buoys should be used for the verification of the fulfilment of the limitations in force.

- *Buoy Owner*: Unique purse seiner vessel to which the buoy is assigned when activated and receives the telecommunication bills. Buoys can be owned only by a purse seiner operating in the corresponding ocean.

- *Tracked / Followed buoys*: Buoys owned by a purse seiner that are in operational condition.

- *Acquired buoy*: Buoy purchased and assigned to a purse seiner vessel to whom the purchase invoice is issued.

- *Loss of FAD*: FAD that can no longer be tracked by a vessel because the information of the buoy attached is no longer received due to several reasons (robbery, beaching, sinking, etc.).

- *Abandoned FADs*: FAD from which the communication has been intentionally stopped by deactivating the buoy attached or has been left at sea without a buoy.

Annex 10

ST08a_Buoys densities							
BUOY DENSITIES IN THE SPECIFIED YEAR							
ST08a_Buoy Densities	INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNAS					Version	Language
							ENG
Header							
Reporting Flag					Phone	Secretariat use only Date reg. Ref.	
Reporting Agency					Fax		
Address					Email		
Person in charge							
Report for year (previous) <input type="text"/>							
Notes <input type="text"/>							

Flag (current) cod.	Month	Number of vessels	Lat	Lon	Buoy type	Average No. of Operational Buoy
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Figure 1. Form ST08a to report information on buoy densities, which is extracted from buoy transmission information.

ST08b_FAD										
FADs IN THE SPECIFIED YEAR										
ST08b-FADs	INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNAS								Version	Language
										ENG
Header										
Reporting Flag					Phone	Secretariat use only Date reg. Ref.				
Reporting Agency					Fax					
Address					Email					
Person in charge										
Report for year (previous) <input type="text"/>										
Notes <input type="text"/>										

Flag (current) cod.	Month	Number of vessels	Vessel Type	FOB type	Buoy Type	Lat	Lon	No. buoys Deployed	No. FOB Lost
---------------------	-------	-------------------	-------------	----------	-----------	-----	-----	--------------------	--------------

Figure 2. Form ST08b to collect activities on FADs which are extracted from the FAD logbooks.