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EXPLANATORY MEMORANDUM DRAFT PROPOSAL 18-XX

(Document presented by Guatemala)

This Proposal represents an update to *Recommendation by ICCAT on a Multi-Annual Conservation and Management Programme for Tropical Tunas* [Rec. 16-01] and the changes incorporated are intended to accommodate the latest scientific advice from the SCRS and the follow-up actions recommended by the Commission in Rec 16-01.

The main elements of the proposal and underlying reasons are covered below:

- **Catch limits for tropical tuna stocks**: this proposal is fully in line with the advice the SCRS has provided for the four stocks of tropical tunas and addresses the recommendations from the Commission that the requirements in Rec. 16-01 if the measure fails to maintain the catch levels adopted for each stock at the recommended levels.
    - The proposal sets a TAC for all four ICCAT stocks (yellowfin tuna, bigeye tuna, western skipjack tuna and eastern skipjack tuna), along the lines of the advice provided by the SCRS (only two stocks were covered in Rec. 16-01);
    - The proposal sets catch limits by fishery using recent catches (2008-2017) in order to:
        - Not undermine the fleets from CPC that have been operating in the ICCAT area of competence in recent years;
        - Ensure that the balance of fisheries in each CPC remains stable through an allocation of catch limits by fishery and then control rules adopted for the CPCs that reported catches for each fishery; this prevents re-allocation of a CPC TAC among the different fisheries carried out by such CPC, which could undermine the status of tropical tuna stocks, through changes in target species or selectivity of the stock subject to a TAC; quota transfers among different fisheries are also forbidden.
    - The proposal addresses the recommendation from ICCAT Panel 1 that alternative measures are considered to ensure that ICCAT stocks are maintained at the levels recommended by the Commission; the Control measures proposed are more inclusive than the previous measures, with all fisheries and most CPCs covered and a reduced probability that TACs are exceeded:
        - All purse seine fleets are covered through an input measure with the catch limits allocated to the fishery and stocks transformed into total fishery closures, that all purse seiners will need to comply with; considering the multi-species nature of purse seine fisheries, fishery closures are more effective as they can be set to ensure that the catch limits for all stocks are maintained and undesirable changes in selectivity or target species do not occur;
        - Only longline fleets that catch less than 200 t per year are excluded from allocation of a TAC, assuming that future catches do not exceed 250 t in a single year or average catches in 3 consecutive years exceed 200 t, in which case the CPC is allocated a TAC no higher than 250 t of the stock concerned;
        - Baitboat and other surface fisheries are allocated a catch limit but such limits are not allocated by CPC; however, CPC having these fisheries are encouraged to not increase catches and/or fleets levels from those recorded in recent years;
        - The catches of baitboat and other surface fisheries plus those from longline fisheries in CPC excluded from a TAC are discounted from the global catch limit assigned to each fishery and stock prior to allocation of TACs to other fisheries or CPCs to reduce the likelihood of overshooting of TACs; in addition, a buffer representing 1% of the TAC allocated to each fishery is removed in order to account for cases of non-compliance or increase in catches from CPCs not subject to a TAC.

- The proposal addresses the Recommendation from the Commission, as included in Rec. 16-01, that the measure should be revised in the event that the TACs adopted are consistently breached:
    - Through the incorporation of total fishery closures and capacity limits for purse seiners so as:
        - Compliance from all active purse seiners with the measures adopted for the three stocks, especially yellowfin tuna and bigeye tuna, is granted and the likelihood of changes of target species reduced;
        - A cap is put on the number of industrial purse seiners and support vessels operating in the fishery, and a further 20% reduction in the FAD limits, to avoid that increases in fishing capacity or efficiency undermine the efficiency of the closure.
    - Through the allocation of the yellowfin tuna TAC by CPC for the longline fishery, as recommended in Rec. 16-01.

- **Capacity limits**: The proposal addresses concerns that current levels of fishing capacity in the Atlantic Ocean are high through a requirement for CPC to report their number of active fishing vessels, including proof of such activity, by September 2019, and a freeze on capacity adopted on the basis of those reports. In addition, developing coastal CPC in the Atlantic Ocean are invited to present fleet development plans to the Commission. A 20% reduction in the number of FADs is also included.
- **Transhipments at-sea**: The proposal addresses concerns that at-sea transhipments are a source of IUU activities and undermine the economic activities in ports of developing coastal states in the Atlantic Ocean, calling for a total ban on transhipments at-sea.
- **Scientific observers**: The proposal addresses the long-standing recommendation from the SCRS that levels of observer coverage should not represent less than 20% of the fishing activities of each fleet calling CPCs to gradually increase levels of coverage throughout 2019, to achieve 20% by the end of such year.
- **Socio-economic study**: The proposal addresses concerns from CPC that are developing coastal states and/or other flag states that the Commission does not take into consideration the importance of the socio-economic context on adopting management measures and calls for a study to be initiated in order to address those concerns and allow more informed decision-making by the Commission.

DRAFT RECOMMENDATION BY ICCAT TO REPLACE RECOMMENDATION 16-01 ON A MULTI-ANNUAL CONSERVATION AND MANAGEMENT PROGRAMME FOR TROPICAL TUNAS

(Document presented by Guatemala)

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 tuna 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 remains overfished and that overfishing is occurring;

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 and the measures in place have not been effective in achieving this objective;

RECOGNIZING that the status of the stock of yellowfin tuna may have worsened because of catches of yellowfin tuna continuously exceeding the TAC, by 17%-35%, since 2015, with the highest catches recorded in 2017; the stock may remain overfished with overfishing occurring due to increased effort levels;

NOTING that on adopting Recommendation 16-01 the Commission stated that ICCAT shall review the relevant conservation and management measures in place if the total catch exceeds the TAC for yellowfin tuna;

RECOGNIZING that catches of yellowfin tuna and bigeye tuna following implementation of the TACs for both stocks have been consistently breached since their adoption;

RECOGNIZING that ICCAT CPC having multispecies fisheries, such as purse seine and baitboat, have difficulties to timely produce estimates of catch by species, which undermine the ability of CPC to monitor quota utilisation by their vessels in near-real time;

RECOGNIZING that the adoption of TACs tend to lead to the deterioration of fisheries statistics unless robust compliance monitoring is in place, which is not the case of several ICCAT CPCs;

RECOGNISING that, in view of the state of the stock, it would be appropriate to carry out the stock assessment of yellowfin tuna in 2019 and bigeye tuna in 2020;

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 increases in fishing capacity and the redistribution of effort into areas adjacent to the moratorium area;

NOTING that ICCAT has not adopted a definition of FAD set, which hampers the capacity of observers to discriminate fishing sets by type of activity, and further evaluation of cases of non-compliance by the Commission;

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

NOTING that several CPC have failed to comply with the minimum levels of observer coverage adopted by the Commission;

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%.

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 the tropical tuna fisheries of some CPCs carried on in association with objects that could affect fish aggregation, including FADs;

RECOGNIZING the negative consequences that management measures directed at single stocks may have on the status of other target stocks and by-catch caught by the same fisheries, driven by changes in fishing mode and/or target species;

RECALLING advice from the SCRS in 2014 that 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 gather further data to be able to provide advice on the design of FADs that would lessen their impact on by-catch species;

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;

NOTING the recommendation from the SCRS for the ICCAT to maintain a record of vessels that operated in support of purse seiners, including the purse seiners they support, number of fishing days spent at-sea each year, and the type of activities undertaken; and the need for this record to include all vessels that operated, in part or full time, in support of one or more purse seiners, including any fishing vessel also involved in support activities;

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;

RECOGNIZING the importance that the activities of some fleets in developing coastal countries of the Atlantic Ocean have to the economies of such countries and the need for ICCAT to take the socio-economic context into consideration on adoption of future management measures.

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;

RECALLING advice from the meeting of the Panel 1 of ICCAT in July 2018 that the SCRS explore measures other than TACs to assist the Commission in achieving its objective to maintain stocks at the desired levels;

RECOGNIZING that RFMOs such as IATTC and WCPFC have managed to maintain their tropical tuna stocks at the desired levels over many years, using input (e.g. capacity limits and fishery closures), rather than output measures (TACs) for their purse seine fisheries;

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

PART I
GENERAL PROVISIONS

Multi-annual Management and Conservation Programme

1. Contracting Parties and Cooperating non-Contracting Parties, Entities or Fishing Entities (CPCs) whose vessels fish tropical tunas in the Convention area shall implement the Multiannual Management and Conservation Programme, as adopted by the Commission. All ICCAT CPCs shall report on an annual basis on the steps undertaken to comply with the Multiannual Programme.

PART II
CATCH LIMTS

Catch limits for bigeye tuna

2. The annual Total Allowable Catch (TAC) for 2019 and subsequent years of the Multi-annual Programme is 65,000 t for bigeye tuna.
3. Each ICCAT fishery will be allocated a TAC according to the contribution that the catches of that fishery recorded for the period 2008-2017 has over the total catches of bigeye tuna during the same period.
4. The following catch limits shall be applied for 2019 and subsequent years of the Multi-annual Programme to the following fisheries:

Fishery	*Catch 2008-2017*	*%*	*BET Catch Limit (t)*
Longline	380,516	51	33,230
Purse seine	234,996	33	21,337
Baitboat	89,557	12	7,821
Other surface	29,816	4	2,604

Catch limits for yellowfin tuna

5. The annual TAC for 2019 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.
6. Each ICCAT fishery will be allocated a TAC according to the contribution that the catches of that fishery recorded for the period 2008-2017 has over the total catches of yellowfin tuna during the same period.
7. The following catch limits shall be applied for 2019 and subsequent years of the Multi-annual Programme to the following fisheries:

Fishery	*Catch 2008-2017*	*%*	*YFT Catch Limit (t)*
Longline	168,959	14	15,231
Purse seine	828,242	69	76,163
Baitboat	104,975	9	9,463
Other surface	101,162	8	9,120

Catch limits for skipjack tuna

8. ICCAT CPC shall endeavour to maintain catches of Eastern skipjack tuna at levels no higher than average catch levels for 2012-13 (218,434 t).
9. ICCAT CPC shall endeavour to maintain catches of Western skipjack tuna at levels no higher than MSY (30,000-32,000 t).

CPCs not covered by the catch limits

10. Catch limits will not apply to CPCs that are developing coastal countries in the ICCAT Convention Area or those whose total annual catch of bigeye tuna or yellowfin tuna in the Convention area in 2017, as provided to the SCRS in 2018, is 200 t or lower. However, the following shall apply:
    (a) CPCs covered by the exclusion should endeavour to maintain average catches of each of the tropical tuna species the exclusion applies to at or below 200 t over the time period covered by the multi-annual plan.
    (b) Any CPC that is not a developing coastal country in the ICCAT Convention Area and reports catches in excess of 200 t over the period referred to in 10a for a stock covered by the exclusion, or report catches of such stock over 250 t for a single year shall be assigned a catch limit no higher than 250 t of the stock concerned.
    (c) CPC that are coastal developing countries in the ICCAT Convention Area and have not presented a Fleet Development Plan (FDP) or whose FDP lack endorsement from the Commission (as required in paragraph 26) shall be subject to the conditions set in paragraph 10b until the Commission has received and endorsed the FDP.
    (d) Where required, the TAC of each tropical tuna stock and fishery shall be adjusted to accommodate the TAC assigned to new CPCs.

Implementation of catch limits

11. 1% of the catch limits adopted for each stock will be kept as set aside, in order to accommodate increases in catch from CPC not covered by the catch limits and/or CPC reporting catches in excess of the TAC.
12. Bearing in mind the above, the catch limits of tropical tuna stocks will be implemented through the following measures:
    (a) *Purse seine fishery:* All purse-seine vessels covered by these measures must stop fishing in the Convention Area for a period of XX (to be estimated) days in each year covered by this recommendation. These closures shall be made effective each year, in one of two periods, as follows:
        i. from 00:00 hours on DD MMMM to 24:00 hours on DD MMMM, or
        ii. from 00:00 hours on DD MMMM to 24:00 hours on DD MMMM.

    The above closure periods should be set with the aim of reducing the catches of juvenile bigeye tuna and yellowfin tuna.
    (b) *Longline fishery:* The TAC adopted for each stock will be allocated according to the contribution that the catches of each CPC for the stock concerned made over the catches from all CPC for such stock, over the period 2008-2017, as per ICCAT's Task I data.

*Longline**	*TAC YFT*	*TAC BET*
Belize	279	na
Brazil	1,555	1,375
China PR	327	3,804
Chinese Taipei	1,018	10,927
EU	725	852
Japan	3,863	11,798
Korea Rep.	352	1,375
Mexico	1,004	na
Panama	652	na
Philippines	na	885
St. Vincent and Grenadines	831	257
Suriname	336	na
Trinidad and Tobago	808	na
U.S.A.	1,317	441
Vanuatu	361	na
Venezuela	823	na

* Preliminary data: to be revised by ICCAT Secretariat and CPCs.

(c) *Other fisheries:* CPC having baitboat and/or other surface fisheries are encouraged to refrain from increasing levels of catch beyond those reported in recent years so as the TAC allocated to these fisheries is not exceeded.

Quota Transfers

13. Notwithstanding the *Recommendation by ICCAT Regarding the Temporary Adjustment of Quotas* [Rec. 01-12], in between meetings of the Commission, a CPC with a catch limitation of bigeye tuna or yellowfin tuna may make a one-time transfer within a fishing year of up to 5% of its catch limit to other CPCs with catch limits, consistent with domestic obligation and conservation considerations. Any such transfer shall only occur within the same fishery (between fleets using the same gear type), be notified to the Secretariat in advance and may not be used to cover over harvests. A CPC that receives a one-time catch limit transfer may not re-transfer that catch limit.

Requirements to monitor compliance with the measures

14. All CPCs having stocks subject to a TAC or fishery closure shall report quarterly the amount of tropical tunas, by species, caught by vessels flying their flag, with data sent to the Secretariat no later than the end of the quarter following the quarter for which the information is due.

15. Purse seine fishery: CPCs having purse seine fisheries shall comply with the following provisions:

(a) For each one of the closure periods, each CPC shall notify the Executive Secretary, by 1 December of the previous year, the names of all the purse-seine vessels that will observe each closure period the following year.

(b) Every vessel, regardless of the flag under which it operates or whether it changes flag or the jurisdiction of the CPC under which it operates during the year, must observe the closure period to which it was committed.

(c) Notwithstanding the provisions of sub-paragraphs a and b, a request by a CPC, on behalf of any of its vessels, for an exemption due to *force majeure*[1] rendering said vessel unable to proceed to sea outside said closure period during a period of at least 75 continuous days, shall be sent to the Secretariat, at the latest one month after it happens.

[1] For the purposes of paragraph 15c, only cases of vessels disabled in the course of fishing operations by mechanical and/or structural failure, fire or explosion, shall be considered *force majeure.*

(d) In addition to the request for an exemption, the CPC shall send the evidence necessary to demonstrate that the vessel did not proceed to sea and that the facts on which the request for exemption is based were due to *force majeure*.

(e) The Executive Secretary shall immediately send the request and the evidence electronically to the other CPCs for their consideration, duly coded in order to maintain the anonymity of the name, flag and owner of the vessel.

(f) The request shall be considered accepted, unless an ICCAT Member objects to it formally within 15 calendar days of the receipt of said request, in which case the Executive Secretary shall immediately notify all CPCs of the objection.

(g) If the request for exemption is accepted:

i. the vessel shall observe a reduced closure period of 40 consecutive days in the same year during which the force majeure event occurred, in one of the two periods prescribed in paragraph 12, to be immediately notified to the Executive Secretary by the CPC, or

ii. in the event said vessel has already observed a closure period prescribed in paragraph 12 in the same year during which the *force majeure* event occurred, it shall observe a reduced closure period of XX consecutive days the following year, in one of the two periods prescribed in paragraph 12, to be notified to the Executive Secretary by the CPC no later than 1 October the previous year.

iii. vessels that benefit from the exemption must carry an observer aboard authorized by the flag state of the vessel. This exemption applies to the vessels of fleets that observe either of the closure periods prescribed in paragraph 12.

16. Longline fishery: CPCs having longline fisheries for stocks subject to a TAC shall report monthly the catches of such stock, to be reported no later than 30 days following the end of the month for which catches have to be reported. When 80% of the catch limit for a CPC has been utilized, the Secretariat shall notify that to all CPCs, including any further catch reports provided by the CPC in the months following such report.

17. Other fisheries: CPC having baitboat and/or other surface fisheries shall report statistics of tropical tunas as per ICCAT data requirements.

Compliance with catch limits

18. Purse seine fishery: The Commission shall consider reviewing the duration of the closure in the event that:

(a) average catches of a stock subject to a TAC over the time period covered by the multi-annual plan are 10% higher/lower than the catch limits assigned to the purse seine fishery for one or more of the stocks concerned;

(b) the SCRS provides new advice on the status of the stocks on the basis of the latest scientific assessments available.

19. Notwithstanding paragraph 18, if one or more vessels of a CPC fail to comply with the closure, in part or in full, the Commission will recommend appropriate measures, which may include, but are not limited to, suspension of the authorization to fish of the vessel[s] concerned and, if necessary, trade restrictive measures.

20. Longline fisheries: Underage or overage of an annual catch limit for CPCs may be added/to or shall be deducted from the annual catch limit as follows:

Year of catch	*Adjustment Year*
2019	2020 and/or 2021
2020	2021 and/or 2022
2021	2022 and/or 2023

However, the maximum underage that a CPC may carry over in any given year shall not exceed 5% of its annual initial catch limit.

21. Notwithstanding paragraph 20 if CPC having fisheries for stocks subject to a TAC fail to comply with such TAC 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.

22. Any trade measures under paragraphs 19 and 21 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.

23. 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. Whatever the outcome, the relative shares used to establish the annual catch limits for the fisheries appearing in paragraphs 4 and 7 shall remain unchanged.

PART III
CAPACITY MANAGEMENT MEASURES

Capacity limitation for tropical tunas

24. 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 tunas in the Convention area.

    (b) Fisheries which have been allocated a catch limit in accordance with paragraphs 4 and 7 shall each year:

        i. Adjust their capacity so as to be commensurate with their available fishing possibilities;

        ii. Be restricted to the number of their vessels >20m LOA notified to ICCAT no later than 31st January 2019 as fishing for tropical tunas. In reporting the number of active vessels each CPC will provide proof of activity in the ICCAT area for each vessel (e.g. through VMS records) and/or documented proof that the flag state authorized the vessel to operate in the ICCAT area of competence prior to 31st January 2019. ICCAT will review this information at its 2019 Meeting and adopt a table including the number of active vessels per type of fishery and CPC covered by the capacity limit.

25. Any CPC having vessels that operate, part-time or full-time, in support of purse seiners shall report the names and characteristics of all of their vessels to the ICCAT Secretariat, including which of those vessels were active in 2018 in the Area of Competence of ICCAT, and the names of the purse seiner(s) that received the support of each support vessel. This information shall be reported no later than 31st January 2019 and reviewed by the SCRS at its 2019 meeting. The SCRS shall prepare a report for the Commission to be able to consider the type of limitation support vessels shall be subject to in the future, including a phasing-out plan, where required. In adopting a phase-out plan, the Commission will consider the socio-economic consequences of implementation of such plan, and the type of compensatory schemes that may be required. Notwithstanding this, CPC shall not increase the number of support vessels as from the numbers recorded by the time of adoption of this measure. As from adoption of this measure CPCs shall refrain from authorising new support vessels when this represents an increase in terms of the total number or GT of support vessels that operate in support of purse seiners under its flag.

26. Any CPC having fisheries for tropical tuna stocks made of vessels whose length overall is less than 20 meters and for which the catch limitations set in paragraph 4 and/or 7 apply shall endeavour not to increase fishing capacity more than 5% of the levels recorded in recent years.

27. CPCs that are coastal developing countries in the Atlantic Ocean that are not covered by the catch limitations set in paragraph 4 and/or 7 and intend to develop fisheries in the future for tropical tunas are invited to inform the Commission about their plans to initiate/further develop such fisheries, through the presentation of Fleet Development Plans, to be sent to the ICCAT Secretariat no later than 30 September 2019. In preparing those Plans, CPCs shall endeavour to provide information about the number of vessels that will be added to the fishery each year, by gear type, and the total GT and fish carrying capacity of those vessels. The ICCAT Secretariat will compile the Plans submitted and report them at the next Sessions of the SCRS and Commission, in 2019. Upon review of the plans, the SCRS

will assess the potential impact of implementation of those plans on the status of tropical tunas, and prepare a report for the Commission, to be reviewed at the 2020 Session of the ICCAT. Upon evaluation of the Plans and advice from the SCRS the Commission will endorse the plans, as required, and adopt a mechanism to assess implementation of the plans by each CPC and adopt measures to ensure that further increases in fishing capacity for tropical tunas do not undermine the status of the stocks concerned.

PART IV
MANAGEMENT OF FADs

Limitation of FADs

28. CPCs shall ensure that for purse seiners flying their flag and fishing for bigeye, yellowfin or skipjack tunas on FADs the FAD limits adopted in Recommendation 16-01 are reduced by at least 20%. The following provisional FAD limits shall not be exceeded:

    - No more than 400 FADs with satellite buoys are active at any one time in relation to each of its vessels through such measures as, for example, the verification of telecommunication bills. The deployment of FADs not accompanied by a satellite buoy is not permitted.

29. The Commission shall review the provisional limits laid down in paragraph 28 at its 2020 Annual meeting following the advice of SCRS and the conclusions of the Ad Hoc Working Group on FADs.

FAD Management Plans

30. 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 15 January each year.

31. The objective of the FAD Management Plans shall be to:

    (a) 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;

    (b) effectively manage the deployment and recovery of FADs, the activation of buoys and their potential loss;

    (c) 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).

32. 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

33. 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 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:

    (a) Deployment of any FAD

        i. Position

        ii. Date

        iii. FAD type (anchored FAD, drifting artificial FAD)

iv. FAD identifier (i.e., FAD Marking and buoy ID, type of buoy – e.g. simple buoy or associated with echo-sounder)

v. 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).

(b) Visit on any FAD

i. 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)

ii. Position

iii. Date

iv. FAD type (anchored FAD, drifting natural FAD, drifting artificial FAD)

v. FAD identifier (i.e., FAD Marking and buoy ID or any information allowing to identify the owner)

vi. 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.).

(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**.

34. CPCs shall also ensure that all vessels referred to in paragraph 33 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

35. CPCs shall ensure that the following information is submitted every year to the Executive Secretary in a format provided by the ICCAT Secretariat. This information shall be made available to the SCRS and to the Ad Hoc Working Group on FADs in a database developed by the ICCAT Secretariat:

(a) the number of FADs actually deployed on a monthly basis per 1°x1° statistical rectangles, 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;

(b) 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;

(c) average numbers of lost FADs with active buoys on a monthly basis;

[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 FADs 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).

(d) for each support vessel, the number of days spent at sea, per 1° grid area, month and flag State;

(e) 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);

(f) 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).

Non-entangling and biodegradable FADs

36. 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:

(a) replace by 2020 existing FADs with non-entangling FADs in line with the guidelines under Annex 7 of this Recommendation.

(b) undertake research to gradually replace existing FADs with fully biodegradable and non-entangling FADs, with a view to phase out non-biodegradable FADs by 2020, if possible.

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

PART V
CONTROL MEASURES

Specific authorization to fish for tropical tunas

37. CPCs shall issue specific authorizations to vessels 20 meters LOA or greater 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 vessels authorized to fish for tropical tuna stocks

38. The Commission shall establish and maintain an ICCAT record of authorized tropical tuna vessels, including support vessels, the latter regardless of its size. Fishing vessels 20 meters LOA or greater 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.

39. A CPC may allow by-catch of tropical tunas by vessels not authorized to fish for tropical tunas pursuant to paragraph 34 and 35, 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.

40. 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 45 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.

41. 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.

42. 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

43. 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. This information shall include the number of days each active vessel spent at-sea during the year concerned; and the number of port calls and names of the ports it put in; and the number of transhipments at-sea it was involved in, its location (latitude-longitude), and the name of the vessel[s] catches were transhipped to. For purse seiners this list shall also include the support vessels that have supported the fishing activity, irrespective of their flag, and the amount of days each vessel spent at-sea.

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

44. The provisions of paragraphs 37 to 43 do not apply to recreational vessels.

Recording of catch and fishing activities

45. Each CPC shall ensure that its vessels fishing 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].

46. 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.

47. 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.

Transhipments at-sea

48. All transhipment operations at sea shall be prohibited.

49. 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.

50. Prior to entry into port, the 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.

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

Identification IUU activity

52. 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 relevant provisions in this measure. 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 found to have operated in contravention with provisions in this measure, request the vessel to stop fishing and, if necessary, leave the area without delay. The flag CPC shall, without delay, report to the Executive Secretary the results of its investigation and the corresponding measures taken.

53. 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.

54. The Executive Secretary shall propose to include any vessels identified in accordance with paragraph 52-53, or vessels for which the flag CPC has not carried out the required investigation and taken, if necessary, adequate measures in accordance with paragraph 52-53, on the provisional IUU list.

Scientific Observers

55. For scientific observers on board vessels targeting bigeye, yellowfin and/or skipjack tunas in the area east of meridian 20º/West longitude and north of parallel 28º/ South latitude 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.

56. In line with the 2017 SCRS recommendations, starting in 2019, all CPCs having purse seiners, longliners and baitboats 20 meters length overall (LOA) or greater that target bigeye and/or yellowfin and/or skipjack in the Convention area, shall gradually increase the observer coverage from 5% to 20%, to attain a minimum coverage of 20% of the fishing effort of their fleets no later than 31 December 2019.

57. The ICCAT Secretariat shall compile the information collected under domestic observer programs, including on the observer coverage for each tropical tuna fishery, the type of system of observation used (human or electronic observers) and make it available to the Commission at each Annual Meeting for further deliberation. CPC shall use human observers to cover at least 10% of the effort of each fleet.

58. In 2021 the Commission shall review levels of observer coverage by each CPC and fleet. If CPCs fail to comply with minimum observer coverage levels during any two consecutive years, the Commission will recommend appropriate measures, which may include, but are not limited to, reduction in the catch limits or extension of the closure applicable to that CPC until the required levels of coverage are attained.

Port Sampling Programme

59. The port sampling programme developed by the SCRS in 2012 aimed at collecting fishery data for bigeye, yellowfin, and skipjack tunas shall be continued in all landing or transhipment ports, and extended to cover all fleets covered by the multi-annual plan. 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: gear type, 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

60. CPCs shall ensure that:

    (a) Both paper and electronic fishing logbooks referred to in paragraph 45 and the FAD-logbooks referred to in paragraph 33, 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.

61. CPCs that fail to report Task I or Task II data to the ICCAT for one of more of their fisheries for 2 years or longer, or for which the Commission has identified serious irregularities concerning the data provided, will not be entitled to fish for tropical tunas in the ICCAT Area of Competence in the following year(s), until data are reported and/or the issues identified by the Commission are resolved.

62. CPCs should encourage their national scientists to undertake collaborative work with their national industry to analyse:

    (a) 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;

    (b) Length frequency data collected on longline fleets, in order to assess the reasons for changes in the selectivity of the longline gear in recent years, and the consequences that those changes may have on the estimation of indices of abundance for those fisheries.

63. 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 33

SCRS activity and stock assessment

64. The SCRS shall conduct the next stock assessment of yellowfin tuna in 2019 and bigeye in 2020.

Confidentiality

65. 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

66. CPCs shall:

    - submit to the SCRS information on by-catches and discards made by fishing vessels flying their flag fishing for tropical tunas;
    - 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.

67. The SCRS shall:

    - evaluate 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 discards and to mitigate onboard post-harvest losses and by-catch in ICCAT tropical tuna fisheries.

68. When revising this Recommendation, the Commission shall consider the adoption of possible provisions for a better management of by-catches and reduction of discards in ICCAT tropical tuna fisheries.

Socio-economic study

69. The SCRS shall prepare Terms of Reference for a Consultant to carry out a study to identify socio-economic indicators and assess the socio-economic importance that the fisheries for ICCAT stocks have on each CPC, and the costs of such study. Upon review of the proposal, the ICCAT Secretariat will add a line to the budget proposal for 2019, for the Commission to consider endorsement of such proposal. In preparing the proposal, the SCRS shall contemplate that the study covers socio-economic impacts on both the flag states that carry fisheries for ICCAT stocks and the coastal states where those fisheries exercise their activities, through the use of ports and services, or through third-party access fishing agreements with those countries.

70. The Commission will review and consider adoption of the proposal from the SCRS, and budget of reference, at its 2019 Session.

Repeals and review

71. This Recommendation replaces Rec. [16-01] and shall be revised as appropriate.

Annex 1

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, transhipments:

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

Annex 2

FAD logbook

FAD marking	*Buoys ID*	*FAD type*	*Type of visit*	*Date*	*Time*	*Position*		*Estimated catches*			*By-catch*				*Observations*
						Latitude	*Longitude*	*SKJ*	*YFT*	*BET*	*Taxonomic group*	*Estimated catches*	*Unit*	*Specimen released alive*	
(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).

Code	*Name*	*Example*
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).

	Name	*Description*
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).

Annex 4

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 5

Observer Programme

1. The observers referred to in paragraph 46 of this Recommendation shall have the following qualifications to accomplish their tasks:
   - Sufficient experience to identify species and fishing gear;
   - Satisfactory knowledge of the ICCAT conservation and management measures assessed by a certificate provided by the CPCs and based on ICCAT training guidelines;
   - The ability to observe and record accurately;
   - The ability to collect biological samples;
   - A satisfactory knowledge of the language of the flag of the vessel observed.

2. The observers shall not be a crew member of the fishing vessel being observer and shall:
   (a) Be nationals of one of the CPCs;
   (b) Be capable of performing the duties set forth in point 3 below;
   (c) Not have current financial or beneficial interests in the tropical tuna fisheries.

3. The observer tasks shall be in particular:
   (a) To monitor the fishing vessels' compliance with the relevant conservation and management measures adopted by the Commission.

   In particular the observers shall:
   i. Record and report upon the fishing activities carried out;
   ii. Observe and estimate catches and verify entries made in the logbook;
   iii. Sight and record vessels which may be fishing in contravention to ICCAT conservation and management measures;
   iv. Verify the position of the vessel when engaged in catching activity;
   v. Verify the number of instrumental buoys active at any one time;
   vi. Carry out scientific work such as collecting Task II data when required by the Commission, based on the directives from the SCRS, observing and recording data on FAD properties in accordance with **Table 1** below.

   b) Report without delay, with due regard to the safety of the observer, any fishing activity associated with FADs made by the vessel in the period referred to in paragraph 11 of this Recommendation.
   c) Establish general reports compiling the information collected in accordance with this paragraph and provide the master the opportunity to include therein any relevant information.

Obligations of the observer

4. Observers shall treat as confidential all information with respect to the fishing and transhipment operations of the fishing vessels and accept this requirement in writing as a condition of appointment as an observer.

5. 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.

6. 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 programme, and with the obligations of vessel personnel set forth in point 7 of this Annex.

Obligations of the flag States of fishing vessels

7. The responsibilities regarding observers of the flag States of the fishing vessels and their masters shall include the following, notably:

   a) Observers shall be allowed to 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 point 3 of this Annex:

      i) satellite navigation equipment;

      ii) radar display viewing screens when in use;

      iii) electronic means of communication, including FAD/buoys signals.

   c) Observers shall be provided accommodations, 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 masters, 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.

Table 1. FOB/FAD information added to observer onboard form to comply with RFMOs recommendations. Table from 2016 SCRS report (section 18.2 Table 9).

Properties	*DFAD*	*AFAD*	*HALOG*	*FALOG*	*ANLOG*	*VNLOG*
FOB built using biodegradable materials (true/false/undefined)	X	X	X	X		
FOB is non-entangling (true/false/undefined)	X	X	X	X		
Meshed material (true/false/undefined) in FOB	X	X		X		
Size of largest mesh (in millimeters)	X	X		X		
Distance between the surface and the deepest part of the FOB (in meters)	X	X	X	X		
Approximate surface area of the FOB	X	X	X	X		
Specifies the FOB's ID whenever present	X	X	X	X		
Fleet owning the tracking device/ echo sounder buoy	X	X	X	X	X	X
Vessel owning the tracking device/ echo sounder buoy	X	X	X	X	X	X
Anchorage type used for mooring (AFAD registry)		X				
Radar reflectors (presence or not) (AFAD registry)		X				
Lighting (presence or not) (AFAD registry)		X				
Visual range (in nautical miles) (AFAD registry)		X				
Materials used for the floating part of the FOB (list to be defined)	X	X	X	X		
Materials making up the FOB underwater structure (list to be defined)	X	X	X	X		
Tracking device TYPE+ID if possible, otherwise no or undefined.	X	X	X	X	X	X

Annex 6

Guidelines for Preparation of FAD Management Plans

The FAD Management Plan for a CPC purse seine and bait boat 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

Annex 7

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.

Annex 8

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) the SCRS shall:

   (a) 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) review and recommend additional changes, as appropriate, to the minimum standard reporting requirements on data to be collected in FAD fisheries through logbooks;

   (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 metiers 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.

Annex 9

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 Probablity 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 Blim the TAC is fixed during three years to the level corresponding to Flim, 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>Blim.
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.