

**INTER-AMERICAN TROPICAL TUNA COMMISSION**

**SCIENTIFIC ADVISORY COMMITTEE**

**14<sup>TH</sup> MEETING**

La Jolla, California (USA)

15-19 May 2023

**DOCUMENT SAC-14-16**

**RECOMMENDATIONS OF THE SCIENTIFIC ADVISORY COMMITTEE (SAC) TO THE COMMISSION**

**1. GENERAL CONSIDERATIONS**

- (a) That the Commission and the SAC reconsider the way in which the Committee conducts its work, so that future SAC meetings are more oriented towards responding more effectively to the needs of the Commission, and to this end include this topic on the agenda of SAC15.
- (b) That CPCs work in close collaboration with the Director and the Chair of the Commission for the discussion of proposals for practical improvement to the operation of the SAC meetings.
- (c) Considering, among others, the importance of the coastal fisheries in Central America, in particular for sharks, and the need for constant improvement of sampling and landings data, as well as the strengthening of capacities in the region, that the Commission review the updated proposal to be developed and presented by the Commission staff for establishing an additional IATTC field office in Central America, with the objective of strengthening scientific activities and ensuring coordination with this sub-region.
- (d) The SAC endorses, in general terms, the recommendations on tunas presented by the commission staff (SAC-14-14).

**2. RESEARCH PLANNING**

That the current Strategic Science Plan (SSP) be extended for one year, to align with the assessment schedule for tropical tunas.

**3. TROPICAL TUNAS (YELLOWFIN, BIGEYE, AND SKIPJACK):**

**3.1. Bigeye**

That the IATTC staff be requested to evaluate the effectiveness of BET measures established in Resolution C-21-04, especially for the annual BET catch limits for individual purse seine vessels, and report results of the evaluation to the SAC in 2024.

**3.2. Skipjack tuna**

That the Commission consider and adopt interim reference points for Skipjack Tuna, based on the staff's proposed methodology (SAC-14-09).

### **3.3. Yellowfin tuna**

That the Commission staff include in its research activities on yellowfin, the dynamics of the fleet and its impact on the post-pandemic data.

## **4. TEMPERATE TUNAS:**

### **4.1. Northern Pacific Albacore Tuna:**

- (a) That the Commission adopt HCRs for North Pacific albacore tuna, based on the results of the MSE.
- (b) That the Commission consider advice from the ISC on the criteria for identifying exceptional circumstances for inclusion in the harvest strategy.

### **4.2. South Pacific Albacore Tuna:**

- (a) That the Commission request the WCPFC to plan a joint effort between IATTC scientific staff and SPC to explore management strategies for South Pacific Albacore tuna.
- (b) That the Commission endorse the continuation of joint work between IATTC scientific staff and SPCs on the stock assessment of South Pacific Albacore tuna, emphasizing the provision of data from all CPCs reporting catches in the IATTC area.
- (c) Based on a joint MSE results, that the IATTC scientific staff propose reference points based on the methodology described in document SAC-14 INF-O.
- (d) That the Commission considers providing support to IATTC staff participation in this MSE process by ensuring multiannual financial support and providing the necessary human resources.

### **4.3. Swordfish:**

- (a) Continue to monitor the south EPO SWO population (for example, using population status indicators and conducting baseline assessment again in 3 – 5 years).
- (b) That the Commission consider the interim reference points developed for South EPO Swordfish for the Commission, taking into consideration document SAC-14 INF-O.
- (c) That the Commission coordinate with the WCPFC and adopt reference points for North Pacific Swordfish.

## **5. MAHI-MAHI:**

That the Commission consider assessing and managing the mahi- mahi stock.

## **6. TROPICAL TUNA MANAGEMENT STRATEGY EVALUATION (MSE)**

- (a) that the Commission continue support and secure funding for MSE for tropical tunas in 2024 and beyond, following the guidance of C-16-02 and C-19-07;
- (b) That the Commission considers providing permanent support to the MSE process by ensuring multiannual financial support and providing the necessary human resources, including to work also

on other species, as determined by the Commission.

- (c) That the Commission consider the Science-Management Dialogue (SMD) or informal workshops approach to continue the MSE process and provide the appropriate funding and human resources to complete the technical and communications components of the MSE.

## **7. DATA COLLECTION AND PROVISION**

### **7.1. Resolution C-03-05**

That the Commission review and update Resolution C-03-05 on "Data Provision", taking into consideration document SAC-14 INF-Q.

### **7.2. Bycatch data collection**

That the Commission develop the necessary efforts to improve the collection of non-target species catch data in 1 to 5 class purse seine vessels and longline vessels without observers on board.

### **7.3. Regional Tuna Tagging Program**

- (a) Conduct tagging cruises at regular intervals for the next five years. These cruises should focus on developing stronger relationships with the tuna industry, fostering collaboration to improve project outcomes;
- (b) Continue the tropical tuna tagging programs, especially skipjack, in the EPO, with stable financial support through the regular budget.
- (c) Ensure a greater interaction with the fishing sector, including education and promotion activities, so that tagging campaigns and tag recovery are more effective

### **7.4. Enhanced Monitoring Program (PRM)**

- (a) Continue the Enhanced Monitoring Program (PRM) for bigeye catches through, among others, securing financing for the continuation of PRM operations in 2024 considering that the resolution on tuna conservation extends to 2024;
- (b) That the IATTC staff be asked to provide in 2024, a cost-benefit analysis and options for reducing the uncertainty associated with the EMP estimates of bigeye catches by individual vessels;
- (c) Ensure the improvement of port sampling protocols to estimate the proportion of bigeye tuna catch, including, among others, including mechanisms for data transmission between IATTC staff and the CPC, so as to have greater accuracy in the bigeye catch estimates based on Resolution C-21-04.

### **7.5. Longline vessels observer program**

- (a) That the countries with longline fleets update, in the IATTC Regional Vessel Registry, the list of vessels over 20 meters that operate in the EPO, as well as report the number of trips made by the different vessels during the previous year in order to calculate the percentage of observer coverage on longliners and assess compliance with Resolution C-19-08;
- (b) That CPCs submit all operational longline observer data collected from 1 January 2013 to present, consistent with the minimum data standards contained in Annex B of C-19-08 or provide a clear and complete explanation as to why the missing datasets have not been submitted;

- (c) That the Commission examine once again the percentage for observer coverage on LL vessels;

#### **7.6. Transshipment observer program**

That the IATTC staff be asked to study, in close contact with flag CPC and other stakeholders, the possibility of guaranteeing greater accuracy regarding the fish that is transshipped and reported in the declaration of transshipments.

#### **8. FADS**

Taking into account the importance of FAD recovery, the SAC requests that the Commission clarify if vessels other than authorized purse seiners could carry out this recovery and under what circumstances, and considers, should it be necessary, an update of Resolution C-99-07 on FADs.

#### **9. VULNERABLE SPECIES AND BEST HANDLING AND RELEASE PRACTICES (BHRPS)**

- (a) Unless or until official BHRPs are adopted, implement methods that prevent injuries as a minimum, in purse seine fisheries and leaving as little trailing gear on discarded species as possible in longline fisheries;
- (b) That CPCs and other relevant stakeholders support the IATTC staff in a survey to gather details on national efforts or programs that can help elucidate post-release survival rates in fisheries and the identification of BHRPs for vulnerable species;
- (c) That the Commission tasks the scientific staff with the preparation of guidelines for good handling and release practices for vulnerable species and development of standards pursuant to the relevant resolutions, including for other species, as appropriate;
- (d) Prohibit the removal of shark fins on board vessels, requiring fins be naturally attached to the shark carcass until the first point of landing for consistency and compatibility throughout the Pacific Ocean, taking into account the measures adopted by the WCPFC (CMM 2022-04);
- (e) Carry out further analysis on the length of trailing fishing gear within the EBWG with practical handling and release practices including crew safety during fishing operation;
- (f) Regarding good practices on bycatch and bycatch fauna, that the IATTC scientific staff be asked to define for the tropical zone:
- Where it will be necessary to develop release procedures for seabirds in longline vessels greater than 20 meters in length and purse seine nets;
  - Where it will be necessary to develop release procedures for marine mammals incidentally retained on longline vessels greater than 20 meters in length.

#### **10. FISH SORTING GRIDS**

- (a) That observer programs record the use (or not) of fish excluder grids in each fishing set by tuna purse seine vessels, as well as any complementary information they may obtain, so that this information is available to the scientific staff and the SAC for their consideration and analysis;

- (b) Continue with the methodological improvement workshops among scientific personnel, CPC, industry, captains, and experts to extend the results of the first workshop;

## 11. CLIMATE CHANGE

That climate change be included as a standing agenda item for SAC Annual Meetings going forward.

## RECOMMENDATIONS AS ENDORSED BY THE SAC

### A. AD HOC PERMANENT WORKING GROUP ON FADS

#### 1. On Biodegradable FADs

- 1.1. Consider the following definition for Biodegradable: Non-synthetic materials<sup>1</sup> and/or bio-based alternatives that are consistent with international standards<sup>2</sup> for materials that are biodegradable in marine environments. The components resulting from the degradation of these materials should not be damaging to the marine and coastal ecosystems or include heavy metals or plastics in their composition.
- 1.2. The following are FAD categories, based on their degree of biodegradability (from non-biodegradable to 100% biodegradable), with the understanding that the respective definitions do not apply the electronic buoys that are attached to FADs in order to track them.:
- ✓ Category I. The FAD is made of fully biodegradable materials.
  - ✓ Category II. The FAD is made of fully biodegradable materials except for plastic-based flotation components (e.g., plastic buoys, foam, purse-seine corks).
  - ✓ Category III. The subsurface part of the FAD is made of fully biodegradable materials, whereas the surface part and any flotation components contain non-biodegradable materials (e.g., synthetic raffia, metallic frame, plastic floats, nylon ropes).
  - ✓ Category IV. The subsurface part of the FAD contains non-biodegradable materials, whereas the surface part is made of fully biodegradable materials, except for, possibly, flotation components.
  - ✓ Category V. The surface and subsurface parts of the FAD contain non-biodegradable materials.
- 1.3. Notwithstanding the above categories, the use of non-biodegradable materials, in particular nylon ropes, can be used exclusively to strengthen the structure of the floating or underwater component of the FAD categories I & II, if required and as a temporary solution.

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<sup>1</sup> For example, plant-based materials such as cotton, jute, manila hemp (abaca), bamboo, natural rubber, or animal-based such as leather, wool, lard

<sup>2</sup> International standards such as ASTM D6691, D7881, TUV Austria, European or any such standards approved by the Members of the IATTC

- 1.4. That the Commission establish a gradual timeline for implementation of biodegradable FADs that take into consideration the results of ongoing research trials and the availability of materials.
- 1.5. Consider prototypes 1 and 2 [[Document FAD-07-02](#)] and the “[Jelly FAD](#)”, and their improvements, as current potential examples for effective biodegradable FAD construction.
- 1.6. Reduce, to the extent possible and within the gradual process of biodegradable FAD implementation, the amount of material and the non-biodegradable components for their design and construction, provided that fishing efficiency is not compromised.
- 1.7. Fishers supported by ship-owners should continue trialling bioFAD designs in a continued effort, deploying systematically a percentage of their FADs made of biodegradable materials and sharing the results in the FADWG.

## **2. On non-entangling FADs**

- 2.1. Revise Annex II of C-19-01 to require exclusively the design and deployment of non-entangling FADs.<sup>3</sup>

## **3. On stranding FADs**

- 3.1. Consider alternative mechanisms to continue monitoring buoys that are leaving the convention area or fishing grounds and that are susceptible for deactivation, taking into account the implications with regard the limits on active FADs per vessel
- 3.2. To the extent possible, provide data to the Secretariat on the entire trajectory of FADs, even when transiting outside the convention area or the fishing grounds, monitored through new FAD marking systems, the FAD’s buoy or other systems.
- 3.3. Consider putting in place a set of best practices for optimizing FAD retrieval.
- 3.4. Promote FAD recovery programs, both from the land and from the sea, and establish standards to ensure the effectiveness of these programs.
- 3.5. Create awareness of FAD strandings and encourage the expansion of the in-country data collection efforts on FAD strandings in the EPO to harmonize with SPC-WCPFC efforts in the WCPO.
- 3.6. Develop solutions to process/recycle FAD materials in ports.

## **4. On data collection**

- 4.1. The scientific staff to provide feedback to those CPCs with fleet members providing incorrectly buoy data so that the issue can be corrected in as early as possible.
- 4.2. Organize workshops with fishing companies, captains and crew and buoy providers to try to showcase the correct reporting protocols for buoy data. And use these workshops also to collect first-hand direct information on the fishery dynamics.

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<sup>3</sup> A FAD that does not include any netting materials for any part of the FAD including both the surface structure (e.g., raft) and subsurface structure (e.g., tail) (Document IATTC-100-03 ADD.1 , Section 2.2).

4.3. Fishing companies and buoy providers to make available the historical buoy acoustic information to avoid losing data of enormous value for science, and in particular stock assessment.

## **5. On research**

5.1. Increase Pacific-wide collaboration on drifting FAD research, in particular on the design of dFADs and the use of biodegradable materials. This includes higher WCPFC-IATTC communication on current and planned Non-entangling and Biodegradable FAD trials and other research projects; as well as homogenizing data collection processes, increasing non-confidential data exchanges and collaborating on data analyses.

5.2. Complement research on the buoy acoustic index with other acoustic tools available on tuna vessels (e.g., sonar, echo sounders).

5.3. Continue the work on acoustic discrimination to improve buoy-derived abundance indices.

5.4. Conduct further tests to test and propose technology improvements to meet FAD marking requirements and better understand the life cycle of FADs.

## **B. WORKING GROUP ON ECOSYSTEM & BYCATCH**

**1. Deep Sea Mining.** The Ecosystem and Bycatch Working Group (EBWG) recommends to the Commission:

- Be attentive to, and monitor the development of mining in the international seabed area in terms of its potential effects on the ocean ecosystem and populations of tuna and tuna-like species;
- Participate, as appropriate, in the process of discussions on the subject within the framework of the International Seabed Authority (ISA), as an observer and/or through appropriate collaborative mechanisms;
- Collaborate, in a manner consistent with its mandate, work program, and the financial, human, and material resources at its disposal, in research on the potential effects of mining in the international seabed area among others on the ocean ecosystem and populations of tuna and tuna-like species

### **2. Elasmobranchs.**

- The EBWG recommends the adoption of new measures for best handling and release practices for elasmobranchs that are caught by longline gear and not retained, i.e. cutting the line as close to the hook as possible and such that the gear left is less than 1 meter in length, taking as a reference measures in CMM 2022-04 adopted by the Western and Central Pacific Fisheries Commission (WCPFC).
- The EBWG recommends that the IATTC scientific staff continues to develop improved data collection and reporting standards on elasmobranchs for Class 1-5 purse seine vessels (work already planned under project A.3.a), considering the work already done regarding longline

vessels (document SAC-14-INF-Q) to obtain reliable catch, size composition, and other biological information for assessments of vulnerability and stock status.

- Noting shark conservation and management measures recently adopted by WCPFC and considering that scientific studies conclude that the percentage of the fin to body weight ratio varies, including differences in ratios among shark species, the types and the number of fins included in the calculations, the type of body weight used (whole or processed), the processing method used to separate the fins from the body (finning technique) and wet versus dry weight of fins; and at the same time, considering the need to improve the identification of shark species, knowing the need to improve the collection of data by species, and seeking the full utilization of the catches, the EBWG recommends the adoption of a conservation and management measure requiring sharks with fins naturally attached to the body at the point of the first landing.
- Consider adopting similar measures to ensure shark conservation is, to the extent practical, compatible throughout the Pacific Ocean.

### **3. Sea Turtles.**

- Based on the 1st Circle Hook Workshop outcomes, which identified variable results regarding circle hook sizes, and balancing interests in advancing sea turtle bycatch mitigation efforts with socioeconomic needs, the EBWG recommends that the IATTC staff co-host a follow-up workshop with the goal of exploring/expanding on topics of interest/data-knowledge gaps identified by the Bycatch Working Group to mitigate bycatch of sea turtles and to complete the outstanding requirements of Resolution C-19-04. The EBWG seeks to strike a balance between the objective of protecting vulnerable species such as sea turtles, seabirds, and sharks while maintaining the socioeconomic needs of fishing communities.
- Noting the potential connectivity between known areas of drifting FAD deployment and sea turtle habitat, the EBWG encourages additional research on at-sea interactions between active or abandoned drifting FADs and sea turtles and deems it appropriate to have these topics be considered by the FAD Working Group.

**4. Seabirds.** The EBWG recommends the development of an action plan for seabird bycatch, including an update of Resolution C-11-02 within the next two years that reflect the best available science on seabird bycatch mitigation techniques with consideration of progress in other TRFMOs (particularly CCSBT and WCPFC).

**5. Best Handling and Release Practices.** The EBWG recommends the SAC and Commission consider the recommendations of paper EB-01-01, recognizing the need to address best handling and release guidelines, test new bycatch release devices, and collect more post-release survival data for various non-target taxa impacted by fisheries under the purview of the IATTC.

**6. Monitoring.** The EBWG recommends increasing monitoring of longline fishing and class 1-5 purse-seine activities, as this will facilitate understanding of and measures to address the impact of fishing activities on target species, non-target species, and the ecosystem. This may be achieved through

increased observer coverage recommended by IATTC staff, which could be achieved by the use of electronic monitoring.

7. **Climate Change.** The EBWG recommends including the climate change topic as a permanent item on the agenda of this working group to ensure that the IATTC is prepared to address the possible effects of these changes on the target and non-target populations under its purview.