INTER-AMERICAN TROPICAL TUNA COMMISSION

102ND MEETING

Panama City, Panama
2-6 September 2024

DOCUMENT IATTC-102-03

REPORT AND RECOMMENDATIONS OF THE 15TH MEETING OF THE SCIENTIFIC ADVISORY COMMITTEE

1. TROPICAL TUNAS
That the current conservation measures for tropical tunas contemplated in Resolution C-21-04 be extended for a duration and in the conditions to be stipulated by the Commission.
1.1. Bigeye tuna
(a) That the Enhanced Monitoring Program be extended until the IATTC Secretariat transfers the program to the traditional sampling programs, or should the case be, to the CPCs, provided that the quality and reliability of the information are guaranteed, which shall be assessed by the IATTC staff and the SAC. During the period of extension of the Enhanced Monitoring Program, ensure that the IATTC Secretariat transfers, as soon as possible, the methodological and operational bases acquired during previous years to the CPCs, in order to make the continuity of this program viable. Recommends that the IATTC staff evaluate and report to the SAC in 2026 on the improvements to the traditional port sampling program and the requirements for its implementation by CPCs in their national programs. (b) That the IATTC Secretariat maintain the human capital responsible for providing advice to the CPCs on enhanced monitoring. (c) That the Commission assess, based on a report of the scientific staff for the next meeting of the Commission in 2024, the elements included in paragraph 11 of Res. C-21-04.
2. TEMPERATE TUNAS
2.1. North Pacific albacore tuna
(a) Recognizing that the IATTC staff have collaborated with the ISC ALBWG to complete the request to relate fishing intensity into catch and effort, and recognizing the variability of these relationships, that the Commission consider the relationships in document SAC-15 INF-T and their variability, and that the IATTC staff collaborate with the ISC ALBWG to re-evaluate these relationships when necessary.

(b) Recognizing that the IATTC staff have collaborated with the ISC ALBWG to complete the request to develop criteria for identifying exceptional circumstances in document SAC-15 INF-S, that the IATTC staff collaborate with the ISC ALBWG to inform the SAC and the Commission when these exceptional circumstances occur.

2.2. South Pacific albacore tuna

(a) Recognizing that for SPALB, catch and effort have increased substantially in recent years, that WCPFC has adopted interim reference points, and that the Commission has not adopted any Resolutions on SPALB, that the Commission consider interim reference points and interim limits on catch and/or effort for SPALB that are compatible with the work of the WCPFC while a harvest strategy is being developed.

(b) Recognizing that WCPFC has begun the management strategy evaluation process for SPALB, the SAC recommends that the Commission coordinate with the WCPFC on a joint effort and process to develop and explore a range of harvest strategies for consideration.

(c) That the Commission encourage CPCs and the IATTC staff to participate in the upcoming WCPFC Science Management Dialogues to develop a harvest strategy for SPALB throughout the range of the stock.

2.3. South Pacific Swordfish

That CPCs be requested to support the scientific staff on the provision of data on the south Pacific swordfish fishery, aimed at updating the baseline stock assessment to be submitted to the 2026 SAC.

2.4. Pacific Bluefin tuna

(a) That CPCs and IATTC staff collaborate with the ISC to improve monitoring of discards and the recruitment monitoring index for PBF.

(b) That the Joint IATTC-WCPFC-NC Working Group and the Commission consider the importance of the adult longline index in any future management measures.

(c) Recognizing the Commission adopted an interim harvest strategy to maintain the stock above 20%SSB0, and that the management strategy evaluation (MSE) results are expected in 2025, that the Commission consider a long-term harvest strategy with reference points at that time.

3. MAHI MAHI

(a) That the Commission encourage CPCs to report the catches of mahi mahi and its discards from all their tuna fleets, including classes 1-5 and the longline fleet.

(b) Recommends that the IATTC staff continue to provide general guidance and technical advice to CPCs on mahi mahi-related research, as appropriate and within its scope.

4. MANAGEMENT STRATEGY EVALUATION (MSE)

That the development of management strategies for tropical tunas in the EPO continue to be supported. That the Commission consider a management procedure for BET, including reference points based on the MSE results expected in 2025-2027.

5. DATA COLLECTION AND PROVISION
(a) That the Commission support the proposed enhancement of the Regional Tuna Tagging Program (RTTP) with wide spatial coverage to allow for estimation of growth, natural mortality and abundance; and while maintaining a priority for tropical tunas, also include swordfish and sharks to the extent practicable (see proposal E.4.b in SAC-15 INF- E.b). (b) In coordination with the RTTP, that opportunistic tagging programs be carried out in collaboration with CPCs and relevant stakeholders.
(c) That the Commission notes the importance and need of having operational data from the longline fleet in order for stock assessments of tuna and other associated species covered by the Antigua Convention to be completed.
(d) That CPCs that maintain tuna longline fleets operating in the EPO provide the scientific staff with historical operational data to enable the implementation of the Scientific Plan with respect to the construction of indices of abundance and useful information for stock assessments of tropical and temperate tunas.
6. ECOSYSTEM CONSIDERATIONS
That a program of dialogue be established between scientific staff, managers, fleet managers, and captains of the tuna fleets of the CPCs, with respect to: (a) Identification and evaluation of changes in fishing strategy triggered by conservation measures and climate change, and (b) Implementation of new methods on best practices for release of bycatch species that the Commission determines requires follow-up.
6.1. Elasmobranchs (sharks and rays)
(a) In response to paragraph 13 of Resolution C-23-07, that the Commission consider that the 18 shark species listed below comprise the draft list of species under the purview of the Commission and, if adopted, consider prioritizing them for research and management.

Family	Species	Common name
Alopiidae	*Alopias pelagicus*	Pelagic thresher
Alopiidae	*Alopias superciliosus*	Bigeye thresher
Alopiidae	*Alopias vulpinus*	Common thresher
Carcharhinidae	*Carcharhinus brachyurus*	Copper shark
Carcharhinidae	*Carcharhinus falciformis*	Silky shark
Carcharhinidae	*Carcharhinus galapagensis*	Galapagos shark
Carcharhinidae	*Carcharhinus longimanus*	Oceanic whitetip shark
Carcharhinidae	*Prionace glauca*	Blue shark
Galeocerdonidae	*Galeocerdo cuvier*	Tiger shark
Lamnidae	*Isurus oxyrinchus*	Shortfin mako shark
Lamnidae	*Isurus paucus*	*Longfin mako shark*
Lamnidae	*Lamna ditropis*	Salmon shark
Lamnidae	*Lamna nasus*	Porbeagle shark
Rhincodontidae	*Rhincodon typus*	Whale shark
Sphyrnidae	*Sphyrna lewini*	Scalloped hammerhead
Sphyrnidae	*Sphyrna mokarran*	Great hammerhead
Sphyrnidae	*Sphyrna zygaena*	Smooth hammerhead
Pseudocarchariidae	*Pseudocarcharias kamoharai*	Crocodile shark

(b) Recommends that the IATTC staff develop a draft list of ray and mobulid species under the purview of the IATTC for consideration by the EBWG and the SAC.

6.2. Best Handling and Release Practices (BHRPS)

(a) That the Commission provide a position on the development pathways for the work plan, elaborated by the scientific staff (EB-02-03), on the provision of guidelines or protocols for best handling and release practices (BHRP).

(b) That manta sorting grids, considered in the handling and release guidelines of Resolution C-15-04 Annex 1, point 5, be discussed as an alternative and voluntary mitigation measure by CPCs.

6.3. Sorting grids

(a) That the scientific staff provide an evaluation of the conservation value of sorting grids and conduct a comparative analysis of the catch between sets with and without the use of sorting grids for fish in order to detect changes in the composition of the target and non-target catch.

(b) That a workshop be held in Ecuador with IATTC scientific staff, industry, and fishing technicians in order to:

- Learn about prototype sorting grids used during fishing maneuvers, use, experiences, benefits and problems.

• Analyze the possibility of quantifying the amount of fish that are extracted by this method as well as their survival or condition, by means of the design of an experiment and/or sampling during sets in which the grids are used (e.g., through the use of underwater cameras).
6.4. Climate change
That the IATTC scientific staff continue its work on climate change.

8TH MEETING OF THE WORKING GROUP ON FADS - RECOMMENDATIONS

Consistent with its terms of reference established in Resolution C-19-01, Annex III, **the Ad Hoc Permanent Working Group on FADs**, in reporting to the Scientific Advisory Committee on the results of its 8th meeting, and in the framework of the process of coordination with that Committee and with the scientific staff in the identification and review of feasible FAD management measures, as a preliminary step prior to the presentation of recommendations to the Commission, **wishes to recommend that:**
1. On biodegradable FADs
1.1. The investigation of new more durable materials for the construction of biodegradable FADs be continued, taking into account their economic viability and availability.
1.2. The current FAD designs be modified to reduce the amount and the fraction of synthetic materials used in their construction, before requirements of Resolution C-23-04 enter into force.
1.3. The process of data collection on prototypes of biodegradable FADs be improved, to help in the analysis of the efficiency, duration, and correct classification by category of biodegradable FADs.
1.4. The exchange of information obtained in biodegradable FADs trials among scientists, companies, managers from different fleets, CPCs and RFMOs be promoted, to advance in unison and faster in the objectives of the Commission.
1.5. The scientific staff analyse the potential effect of the transition towards the implementation of 100% biodegradable FADs on possible changes in the fleet fishing strategies.
1.6. Fishing companies in cooperation with IATTC and relevant scientific institutions prepare guides and workshops for the correct handling and use of biodegradable FADs for fishers with the objective to minimize the wear and breakdown of this type of FADs.
1.7. Given the low amount of deployed experimental FADs that are visited, that fleets continue deploying experimental biodegradable FADs on a greater scale, and in a systematic manner, to meet the requirements of the Resolution C-23-04, taking into account the limits established in C-21-04.
1.8. The scientific staff study the working lifespan of conventional and biodegradable FADs to evaluate the real needs of the fleet and the possible effects of the implementation of biodegradable FADs in the fishing operation.
1.9. The scientific staff conduct studies on the working lifetime of conventional and biodegradable FADs at the Pacific Ocean scale, promoting to that end the collaboration among researchers who work in both regions of the Pacific.
2. On data collection
2.1. The IATTC scientific staff analyse in more detail the information of buoy data, such as activations and deactivations, and propose adjustments to the format of the data provided to improve the utility of the data to achieve the conservation objectives of the Commission.

2.2. The IATTC staff provide feedback to CPCs, representatives of their relevant fleets and buoy service providers that are incorrectly providing buoy data so that the issue can be corrected as early as possible and in general terms pedagogy in the information reporting promoted.
2.3. IATTC organize workshops with CPCs, fishing companies, captains, crew and buoy providers to present the correct reporting protocols for buoy data and to clarify the differences between deactivated FADs reported as "signal loss" which may in fact be "temporarily during closure periods; and that these workshops be used also to collect first-hand and direct information on the dynamics of the fishery.
2.4. Regarding the need to submit buoy files per ship, the IATTC consider revising Annex IV of Resolution C-21-04 to specify that the files be generated preferably by vessel.
3. On FAD fishery indicators
3.1. Fishing companies and buoy providers, to the extent possible, make available to the IATTC and CPCs the historical acoustic buoy information to avoid losing data received by original users, including both trajectories and biomass information, of enormous value for science, and in particular stock assessment.
3.2. To the extent possible, data from all buoy providers be incorporated in studies of estimation of indices of abundance, in order to increase the number of observations incorporating a larger number of vessels, FADs and fishing strategies.
3. On the impact of FADs
1. IATTC staff continue to analyse stranding events and activation/deactivation data to develop future options for at-sea recovery of FADs.
1. The Commission adopt the data form in Appendix 4 in FAD-07 INF-A to facilitate reporting on FAD recoveries as described in paragraph 4 of Resolution C-23-03 and the harmonization with the data of the WCPFC to facilitate Pacific-wide collaboration.
3. Vessel owners be encouraged to participate in FAD retrieval programs.
4. Cooperation of coastal communities be promoted in projects to identify, report to IATTC and recover stranded FADs.
5. The utilization of appropriate technologies be considered, such as those described in document FAD-08-08, or similar others, for the development of sensors transmitting the FAD buoys' serial number and other applications related with other fishing activities that require remote and automatic data collection.

2nd EBWG - RECOMMENDATIONS

The EBWG recommends that:	
1.	**Sea Turtles**
1.1.	A second circle hook workshop be conducted that will fulfill the mandate of paragraph 3(d)(i) of Res. C-19-04.
1.2.	Advice be provided by the workshop on the impacts of fishing operations on the form and structure (i.e., longevity and integrity) of circle hooks of various sizes and from different manufacturers.
1.3.	The workshop include development of a third mitigation measure as described in Paragraph 3(d)(iii) of C-19-04 for small coastal multi-species vessel fleets as well as best handling and release practices for sea turtles.
2.	**Mobulid Rays**
2.1.	The use of sorting grids be considered on purse seine vessels to mitigate impacts to Mobulid rays.
2.2.	Captain workshops include training on the use of sorting grids and encourage their voluntary use.
2.3.	The Commission endorse the Best Handling and Release Practices (BHRP) guideline development workplan for rays, and sorting grids be included in handling and release guidelines in resolution C-15-04 Annex 1, point 5 as another alternative for the release of rays.
3.	**Climate Change and EcoCards Workplans**
3.1	The Commission consider further development of the proposed Climate Change and EcoCards Workplans, and encourage that this work be done in collaboration with expertise from other tuna RFMOs.
3.2	Final workplan proposals be submitted to the Commission, along with proposed budgets.

4. Hammerhead Sharks

Considering the benefits of understanding the ecology and spatial population structure of target and bycatch species in variousassessment efforts, including close-kin mark- recapture (CKMR) and conventional stockassessment, a conceptual model of life history, ecology, and spatial population structure be developed for three hammerhead sharks species *Sphyrna lewini, S. zygaena and S. mokarran* similar to theone described in Talwar et al. (2024; presentation EB-02 5.c.2) for silky shark.

5. Fleet Characteristics

The Staff, in coordination with the CPCs, develop and present to the Commission the results of aprocess to characterize and classify the longlinefleets and their fisheries in the Convention Area, distinguishing their dynamics and differentiated impacts, as well as the catchability of species, whether directed, associated or incidental.

6. Meeting Process

The SAC and Commission consider that, in the Rules of Procedure, a provision be added to the effect that, while appreciating the improvements introduced in the dynamics ofthe meetings of the SAC and related working groups, meeting documents and presentations should be made available through posting on the Commission web site at least 2 weeks before thestart of the corresponding cycle of meetings, in both Spanish and English

7. Seabirds

The below described Seabird Action Plan (see Annex 1) be adopted, with the understanding that an intersessional meeting will be held prior to the third meeting of the EBWG.

8. Shark species list

8.1. For the purposes of Art VII, paragraph f) of the Antigua Convention, the preliminary list of 19 species of sharks presented by the IATTC Staff be adopted [see attached], understanding that this list is based upon species of interest due to their interactions and catchability associated with fisheries under IATTC management.

8.2. The SAC consider the inclusion in the list of:

- the crocodile shark, *Pseudocarcharias kamohari*;
- rays, manta rays and mobulas of interest.

Annex 1
Seabird Action Plan
(with timeline)

2024:

1. IATTC Scientific Staff will conduct a seabird assessment for presentation at the EBWG in 2025, including but not limited to:
   a. Comparison between C-11-02 and mitigation measures in other tRFMOs.
   b. Update of [SAR-7-05b]: spatial distributions of seabird species in the IATTC Convention Area, including any geographic hotspots for these species, overlap with LL fishing effort, and conservation statuses
   c. Overview of mitigation measures in use by CPCs in the IATTC Convention Area as required in paragraph 5 of C-11-02. This should account for all CPCs, including any that may have vessels fishing in areas where bycatch mitigation measures are not required.
   d. Summary of observed and estimated seabird bycatch rates in the IATTC Convention Area, including geographic information where possible, noting that data are limited.

2025:

2. At the 2025 EBWG, the IATTC Scientific Staff will present the results of its assessment for discussion by CPCs.

3. Between EBWG 2025 and the 2025 IATTC plenary, interested CPCs will coordinate intersessionally on a draft proposal updating C-11-02.

4. Proposed sponsors will present the updated seabird proposal for adoption at the 103rd meeting of the IATTC in 2025.

Annex 2
List of shark species

[….].

	Family / Familia	Species / nombre científico	Common name	Nombre común
1	Alopiidae	Alopias pelagicus	Pelagic thresher	Zorro pelágico
2	Alopiidae	*Alopias superciliosus*	Bigeye thresher	Zorro ojón
3	Alopiidae	*Alopias vulpinus*	Common thresher	Tiburón zorro pinto
4	Carcharhinidae	*Carcharhinus brachyurus*	Copper shark	Tiburón cobrizo
5	Carcharhinidae	*Carcharhinus falciformis*	Silky shark	Tiburón sedoso
6	Carcharhinidae	*Carcharhinus galapagensis*	Galapagos shark	Tiburón de Galápagos
7	Carcharhinidae	*Carcharhinus longimanus*	Oceanic whitetip shark	Tiburón punta blanca oceánico
~~8~~	~~Lamnidae~~	~~*Carcharodon carcharias*~~	~~Great white shark~~	~~Jaquetón blanco~~
~~9~~	~~Cetorhinidae~~	~~*Cetorhinus maximus*~~	~~Basking shark~~	~~Peregrino~~
10	Galeocerdonidae	*Galeocerdo cuvier*	Tiger shark	Tintorera tigre
11	Lamnidae	*Isurus oxyrinchus*	Shortfin mako shark	Mako de aleta corta
12	Lamnidae	*Isurus paucus*	Longfin mako shark	Marrajo carite
13	Lamnidae	*Lamna ditropis*	Salmon shark	Marrajo salmón
14	Lamnidae	*Lamna nasus*	Porbeagle shark	Marrajo sardinero
15	Carcharhinidae	*Prionace glauca*	Blue shark	Tiburón azul
16	Rhincodontidae	*Rhincodon typus*	Whale shark	Tiburón ballena
17	Sphyrnidae	*Sphyrna lewini*	Scalloped hammerhead shark	Cornuda común
18	Sphyrnidae	*Sphyrna mokarran*	Great hammerhead	Cornuda gigante
19	Sphyrnidae	*Sphyrna zygaena*	Smooth hammerhead shark	Cornuda cruz

The species below was recommended by 2nd_EBWG ***La siguiente especie fue recomendada por el 2do_EBWG***

20	Pseudocarchariidae	*Pseudocarcharias kamoharai*	Crocodile shark	Tiburón cocodrilo