Report of the Meeting of the Electronic Monitoring Systems Working Group (EMS WG)

(hybrid/Brussels, Belgium, 17-20 June 2025)

1. Opening of the meeting and meeting arrangements

The Chair of the Electronic Monitoring Systems Working Group, Mr Neil Ansell, opened the meeting and welcomed all participants. He thanked the Government of Belgium and the European Union (EU) for hosting the meeting and the Secretariat for organising. The ICCAT Secretary also welcomed everyone and thanked the EU and Belgium for hosting the meeting and outlined the meeting arrangements. He introduced 24 CPCs and the observers attending.

2. Nomination of Rapporteur

The United Kingdom (UK) nominated Mr Montgomery Harrison-Stirling to serve as Rapporteur.

3. Adoption of agenda

The Chair indicated his intentions regarding the issues to be raised under each agenda item. The agenda was adopted without change and is attached as **Appendix 1**.

The List of participants is attached as **Appendix 2.**

4. Review of Electronic Monitoring Systems (EMS) projects and programmes

4.1 Pilot projects

The UK presented its "Electronic Monitoring System (EMS) on a Small-Scale UK Longline Vessel - An Updated Information Paper" on the progress made to date on an ongoing pilot project underway in Bermuda. The paper included an updated comparison between the Bermuda system and the minimum standards for the use of EMS in ICCAT fisheries (*Recommendation by ICCAT to establish minimum standards and programme requirements for the use of Electronic Monitoring Systems (EMS) in ICCAT fisheries* (Rec. 23-18)), a technical summary, and challenges and lessons learned from the trial.

CPCs sought clarification on the size of the vessels involved in the trial as well as the number of crew onboard. The vessels involved were 13.7 metres in length and had two crew members onboard.

CPCs asked what the UK views as the next steps for this trial are and whether there was a timeline that can be shared. The United Kingdom responded that no timeline had been developed for adopting such standards but noted that the *Report for Biennial Period 2024-2025, Part I (2024), Vol. 2* highlighted the need for consideration of EMS in small-scale fisheries.

Several CPCs noted that the same challenges raised by the paper in implementing EMS onboard small-scale vessels would also apply to large-scale vessels. Additionally, they queried how small-scale vessels would be classified from their length, and highlighted further details on the challenges experienced in using EMS onboard small-scale vessels.

In response, the UK explained that one of the key challenges with this trial is the short trip duration of 1-2 days, which does not allow for significant analysis. Definitions on what constitutes a small-scale and large-scale vessel are found in *Recommendation by ICCAT replacing Recommendation 22-01 on a Multi-annual Conservation and Management Programme for Tropical Tunas* (Rec. 24-01) and Rec. 23-18 respectively.

The Chair noted the interventions made on the broader discussion on small-scale vessels and that this would be revisited under agenda item 7 with comments from the SCRS Chair.

The representative from AQ1 delivered its "Presentation on AM100 Analyser AI usage in the BFT fishery (AQ1)", presenting the results of the pilot project on the usage of artificial intelligence (AI) in bluefin tuna (BFT) fisheries. It was explained that the system can be used for the counting, measuring or visual inspections of fish in all aspects of the industry. The system had initially been trialled in Malta, Portugal and Croatia with positive results as the system is able to provide an accurate repeatable fish count and length assessments through manual and/or automated processes with a full audit trail of results. Finally, in regard to the case of BFT farms, the pilot project found that rigid transfer gates with multiple cameras mounted on them provided a far more stable and reliable recording platform.

It was explained that the current challenges are constraints at the national level, that there is a margin of error which had to be manually accounted for, and that as a result the system requires oversight.

The representative from the Universitat Politècnica de València (UPV) presented an "Executive Summary of presentation on the stereoscopic cameras pilot project, Objective 1: Test the use of stereoscopic cameras during first transfer" and an "Executive Summary of presentation on the Stereoscopic Cameras Pilot Project, Objective 2: Automation of video footage analysis presentation". The UPV representative explained that the objective was to capture first transfer from trap to cage and that four transfers were made in Mediterranean and one in the Adriatic.

It was found that estimations of weight of captured BFT during first transfers from purse seine vessels to towing cages is technically feasible in the Mediterranean using a procedure similar to that employed in caging transfers. However, there are some additional demands on the existing ones for first transfers, in particular the use of stereoscopic camera in addition to the conventional one currently in use, and a longer time to carry out the transfer operation.

Regarding the tests in the Adriatic, only one transfer was recorded due to unfavourable weather and sea conditions. As such, UPV is looking to test the system further in different environments as the project is ongoing.

In response to the three presentations CPCs expressed high expectations for the use of AI in this field in the future, and asked what happens if there are shortcomings in the video recording, can the technology be scaled and what the cost implications are.

The representative from AQ1 responded by saying that underreporting is dependent on the methodology used to record the fish and the training of the AI and the distortion of the camera. On the question of cost and time, with a controlled transfer there is a substantial cost and time implication. However, the system has been proven to last a long time and can still work and capture usable footage whilst running on older operating systems such as Microsoft XP. It was further explained that it is hard to capture footage due to environmental factors, and that good diver communication is important.

The representative from UPV elaborated saying that this is a technology that does not depend on the operator's ability and is repeatable.

Senegal asked the measurement areas i.e. line of fishing, can be evaluated. It was explained that it depends on training of the AI and determination of the angle the fish is at in the images.

The EU raised the point that there needs to be a formal application and validation from the SCRS and asked how it could be validated and what the timeline would be.

The SCRS Chair said the EU would be contacted as regards the presentation, and that the plan is to convene the SCRS Technical Sub-group on Electronic Monitoring in July 2025, with other meetings in September 2025, with feedback coming as early as November 2025.

The Chair concluded the discussion by noting that in November the pilot will be concluding and that expansion of this field is encouraged.

5. Development of templates and guidelines for the preparation of domestic programmes and reporting of results

The Chair drew attention to the "Comments from CPCs and revised templates for electronic monitoring systems (EMS), domestic programmes description, and implementation reports" and invited further discussion.

Discussions focussed on whether proposed changes went beyond Rec. 23-18 and whether some clauses should be optional.

Further discussions took place bilaterally and revised versions of the templates were produced, which were later endorsed at the 18th Meeting of the Working Group on Integrated Monitoring Measures (IMM), held from 17-20 June 2025.

6. Review of received CPC domestic programmes

The EU presented its "Executive summary of Internal EMS Programme for Tropical Purse Seine Fishery (2024)". Among other aspects, the EU explained that the aim of the programme is to enable the automated collection of fishing activity data to ensure transparency, scientific accuracy, and regulatory compliance.

CPCs asked about the scope of application for the programme and how the EMS results are used.

The EU explained that all purse seine vessels are equipped with EMS but certain coverage by human observers is still necessary. This is carried out on a rotational basis based on trip count.

7. Discussion of the use of EMS in ICCAT fisheries including the potential of EMS to assist small scale fisheries

8. Discussion of coordination and synergies between the Monitoring, Control, and Surveillance (MCS) and scientific applications of EMS

Agenda items 7 and 8 were taken together.

The SCRS Chair presented an overview of the SCRS Technical Sub-group on Electronic Monitoring. The presentation included a timeline of past work and future areas of work for the sub-group to consider. This involves a focus on EMS for smaller vessels as there are currently very limited data from those fleets and that there are unique challenges in collecting these data to due to a lack of space and security concerns. Biological sampling at port was highlighted as a potential alternative to help overcome these challenges.

Finally, the SCRS Chair reminded CPCs that according to Rec. 23-18, CPCs are required to submit EMS domestic plans describing how they are achieving the minimum standards and that the EMS WG is tasked with reviewing these plans with assistance from the SCRS. However, this process does not currently exist so there needs to be a discussion on how to establish these reviews.

CPCs agreed with the SCRS Chair on the importance of EMS in meeting the minimum observer requirements and suggested adding a new annex to Rec. 23-18 to apply to all longline vessels to close this potential legal loophole.

CPCs asked what the minimum size is for a vessel to be classified as small-scale and how many cameras and or people need to be onboard to fulfil these EMS requirements.

The SCRS Chair responded by saying that the question of minimum sizes for small-scale vessels is a question for the Commission to decide. However, as the SCRS will be examining this issue, this may result in a suggested size range. The SCRS Chair requested guidance from the EMS WG on what to consider and noted that it is likely the SCRS will first look to the data where a need is established in ST09.

There was consensus among CPCs that a definition of small-scale vessels is required and that an examination of fleet characteristics or mapping would help in identifying a solution that recognises the diversity among different fleets. CPCs also raised the question of what other characteristics needed to be considered outside of size to install EMS.

The Chair concluded the agenda items by summarising that discussions may take place for a new annex with consultation from other Panels and the SCRS and that focus should be given to the definition of fleet characteristics.

9. Intersessional work

The Chair and the SCRS referred to paragraph 173 of *Recommendation by ICCAT amending the Recommendation 22-08 establishing a Multi-annual Management Plan for bluefin tuna in the eastern Atlantic and the mediterranean* (Rec. 24-05), which provides that, as soon as technological developments are considered robust and ready for commercial scale-up, and once the SCRS establishes the technical criteria and guidelines for their selection, the SCRS shall evaluate the accuracy of video analysis software incorporating AI to estimate bluefin tuna length and shall provide advice to the Commission for its consideration. Any advances on this matter shall be submitted to the Bluefin Tuna Species Group for its consideration and, where appropriate, for further recommendations. This matter was scheduled to be discussed again under agenda items 7 and 8 during the 18th Meeting of the Working Group on Integrated Monitoring Measures (IMM), held from 17-20 June 2025.

10. Other matters

No other matters were discussed.

11. Adoption of the report and closure

It was agreed that the report would be adopted at the 29th Regular Meeting of the Commission. The meeting was adjourned.

Appendix 1

Agenda

- 1. Opening of the meeting and meeting arrangements
- 2. Nomination of Rapporteur
- 3. Adoption of agenda
- 4. Review of Electronic Monitoring Systems (EMS) projects and programmes
- 5. Development of templates and guidelines for the preparation of domestic programmes and reporting of results
- 6. Review of received CPC domestic programmes
- 7. Discussion on the use of EMS in ICCAT fisheries including the potential use of EMS to assist monitoring in small scale fisheries
- 8. Discussion on coordination and synergies between the Monitoring, Control and Surveillance (MCS) and scientific applications of EMS
- 9. Intersessional work
- 10. Other matters
- 11. Adoption of report and closure

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