

Summary Discussion for International Workshop on Application of Electronic Monitoring Systems in Tuna Longline Fisheries

By Session Moderators

1: E-Monitoring System Use in Global Fisheries(1)

- Considering the factors of cost and convenience of deployment human observer, Electronic Monitoring System (EMS) could be advantageous in longer fishing trip or on small tuna longline vessels, and there are some information could be better collected by EMS, such as species identification.
- EMS could be a useful supplementary tool for human observer onboard. In some fisheries, it may even be used as an alternative measure.

1: E-Monitoring System Use in Global Fisheries(2)

- However, There are still some tasks can't be executed by EMS, such as biological sampling, tagging, weighting, validation for measures required, etc.
- EMS is not simply putting cameras onboard. A well-defined legal framework and management measure or plan is also needed to ensure its performance.

2: EMS Case studies (1)

- Several Longline EMS have been developed and trialed independently, with broadly similar components and outcomes:
 - In general, the Longline EMS were acknowledged to be a viable mechanism for acquiring observer data;
 - Most ROP requirements tended to be satisfied but certain requirements were difficult to address. On the other hand, EMS can collect some data that observers would find difficult to collect.
- EMS trials are essential for proof-of-concept and need an adaptive, iterative process to resolve issues in addressing certain requirements.
- A systematic approach to understanding the requirements and how EMS may satisfy them should be undertaken prior to the trials commencing.
- Understanding all sources of costs and cost-recovery mechanisms was acknowledged to be a key area requiring clarification and consideration.

2: EMS Case studies (2)

- Collaboration amongst all stakeholders (preferably through MOUs) was acknowledged to a fundamental requirement for EMS trials.
- EMS for purse seine has similar opportunities and challenges as EMS for longline, although there are clear differences in the approach to collecting certain data fields from each of these fisheries.
- Other considerations raised include
 - Adapting legislation for EMS
 - Data ownership
 - Standard for Training
 - Formal/ standardized review processes for trials

3: Recent Technologies (1)

- Observer programs and EMS should not be expected to be equivalent tools in every respect. Each is superior to the other in some aspects.
- The technology has been changing rapidly. It is mature and ready for implementation (in fact it is being implemented). But, it will continue to evolve and users would benefit from foreseeing these to seek new opportunities.
- Different providers offer systems with different technological capabilities to suit different needs. Tradeoffs between resolution, storage size, analysis infrastructure, etc.
- All systems need some level of involvement by the crew to ensure operability/maintenance.

3: Recent Technologies (2)

- The systems are adaptable and scalable. Manufacturers are keen to adapt their systems to suit their clients' needs. But, if the objectives are not very clear, iterative process can take long.
- Participants see benefit in the development of standards and a certification system (similar to different observer programs being audited and certified to qualify for WCPFC ROP).
- There are different solutions for EM analyses and report generation: Train users, or outsource. Consider training observers who are already expert in the fishery. Analyses units would also require certification.
- For longline fisheries with very long trips (1+ years), it will be important to identify points at which hard disks can be swapped or retrieved (e.g. during transshipments).

4: Future steps (1)

- EM should not be viewed as a replacement of observer programs. Rather a complement and a tool to:
 - Achieve required 5% coverage for LL (all oceans)
 - Use in fisheries with high observer safety risk.
 - Cover fisheries not already covered by ROPs (e.g. small PS)
- Trials are useful to develop minimum data standards and standards for how to collect data; ongoing trials in all CCMs should be considered. More cost-benefit analyses are needed.
- Integration of e-Systems is desirable (e.g. VMS and EMS)
- Consider standards for data not already in ROP required fields that could be collected by EMS
- Encourage vendors to research ways to collect data that are currently difficult (e.g. hook number)

4: Future steps (2)

- What's next for EMS?
 1. Establish standards for what data should be collected
 2. Establish standards for how it should be collected*
 3. Decide mechanisms for certification and auditing of EMS programs
 4. Address harmonization between RFMOs to ensure data compatibility

* Standards should include protocols to ensure that equipment is suitably tailored to a particular vessel's operation. This requires dialogue between EM provider and vessel owner