INTER-AMERICAN TROPICAL TUNA COMMISSION

2ND WORKSHOP ON IMPROVEMENTS IN DATA COLLECTION AND PROVISION: SMALL PURSE SEINERS

(*by videoconference*)
18-20 February 2025

REPORT OF THE MEETING

This document provides a progress report on the data improvement workshop—focused on the small purse-seine fishery of vessels with a carrying capacity of ≤363 t, size Classes 1–5—held virtually from February 18 to 20, 2025. The purpose of the workshop was to respond to a SAC-endorsed recommendation (SAC-12-RPT) to hold a series of workshops, by gear type, on data provision and to ultimately update Resolution C-03-05 to align data reporting requirements with objectives of the Antigua Convention, and to harmonize them with FAO and other tuna Regional Fisheries Management Organization's (t-RFMOs) as needed (SAC-12-16 see section B.3. "General Data Provisions").

SUMMARY

The established standards for data provision, pursuant to Resolution C-03-05, adopted in 2003, and its corresponding technical specifications have not been updated to account for the principle of the Ecosystem Approach to Fisheries Management (EAFM) referenced in the Antigua Convention (i.e., in particular references to "*non-target or associated or dependent species"* and "*species belonging to the same ecosystem and that are affected by fishing for, or dependent on, or associated with, the fish stocks covered by this Convention*"). This outdated Resolution makes it difficult for the Commission and its staff to adequately and timely meet their obligations under the Convention, as well as its objectives and those of the five-year IATTC's Strategic Science Plans and other future research activities. This document provides a summary report on the 2nd workshop (WSDAT-02) on data improvement—focused on the small purse-seine fishery of vessels with a carrying capacity of ≤363 t, size Classes 1–5—held virtually from February 18 to 20, 2025. The purpose of the workshop was to respond to a SAC-endorsed recommendation (SAC-12-RPT) to hold a series of workshops, by gear type, on data provision and to ultimately update Resolution C-03-05 through a participatory approach with CPCs and other stakeholders (SAC-12-16 see section B.3. "General Data Provisions"). The workshop offered a space to provide feedback and discuss the preliminary recommendations prepared by the IATTC staff, which are also included in this document.

1. BACKGROUND

The need to address ecosystem considerations and impacts the EPO tuna fisheries have on associated and dependent species has become more relevant due to international instruments (e.g., the United Nations Convention on the Law of the Sea (UNCLOS), FAO's Code of Conduct for Responsible Fisheries, the Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem) and adoption of the Antigua Convention, which entered into force nearly 15 years ago. Subsequently, there has been an increasing demand of external market and conservation drivers (e.g., eco-labeling and fishery certification) that requires greater demonstration of ecologically sustainable fisheries and implementation of the Ecosystem Approach to Fisheries Management (EAFM). The Antigua Convention has expanded the responsibilities of the IATTC with a commitment to EAFM through its various articles (e.g., Article IV 3; Article VII 1a,f, g;

Article XV 3) and the subsequent research and reporting required to fulfil them. Undertaking the required ecological analyses to demonstrate sustainability has been hampered by the limited high-quality data on species caught as bycatch in the various fisheries, with limited to no data available for fisheries other than large purse-seine vessels (i.e., those with a carrying capacity >363 t; size Class-6) that carry observers onboard.

During 2019–2020, the IATTC staff collaborated on an introductory document (SAC-12-09) on improving species and catch data reporting in association with Resolution C-03-05. This document identified data gaps for both target species and also for species caught incidentally as bycatch for all gear types. In 2021, the SAC endorsed (SAC-12-RPT) a staff recommendation (SAC-12-16 see section B.3. "General Data Provisions") to hold a series of workshops organized by gear type and facilitated by the staff to improve data collection with the overarching goal of updating C-03-05, which was adopted over two decades ago. These workshops aim to highlight potential means of improving data collection and their submission through direct consultation with stakeholders in an open-ended participatory workshop setting. In 2023, the 1st workshop on data improvements in the series was held virtually and focused on the "industrial" longline fishery (see WSDAT-01, WSDAT-01-01, WSDAT-01-RPT, SAC-14 INF-Q). Subsequently, in 2024 two recommendations from the SAC included data collection and provision related to the importance of having operational data from the longline fleet (both current and historical) for stock assessments of tuna and other associated species covered by the Antigua Convention (see SAC-15 Recommendations, section 5 paragraphs c and d). Complementary to the process undertaken for WSDAT-01, here we provide a summary on the 2nd workshop in the series that focused on the small purse-seine fishery (i.e., vessels with a carrying capacity of ≤363 t; size classes 1–5).

2. SUMMARY OF THE 2ND WORKSHOP ON DATA IMPROVEMENT: PURSE-SEINE VESSELS ≤363 t

The 2nd workshop on data improvement was held virtually from February 18–20, 2025 and gathered 70 participants (see List of participants). The agenda is provided in Appendix A; no comments were made on the agenda. Alexandre Aires-da-Silva (Coordinator of Scientific Research, Head of the Scientific Research Division) opened the workshop and Jon Lopez (Head of the Ecosystem and Bycatch Program) chaired the workshop.

2.1. Background presentations and associated discussions

2.1.1. Data sources, gaps and incentives for improving data provision (DAT-02-01) (Leanne Fuller, IATTC)

- A participant asked whether the observers on small purse-seine vessels provide information on all of the fishing operations. This participant also commented that stating the small purse-seine fishery does not have a substantial impact on the catches of tropical tunas, relative to the large purse-seine fishery, may be premature at this stage. IATTC staff noted that observer coverage will be discussed in another presentation. The staff also clarified that the message they wished to convey is that although improvements in data collection are desired for the small-purse seine vessels, the fishing effort and volume of tropical tuna catches taken by this fleet segment are well known and are relatively smaller when compared to those taken by large purse seiners. Resources for data collection and scientific research are limited, and prioritization may be needed.

2.1.2. Successes and challenges of the voluntary TUNACONS observer program (Guillermo Morán, TUNACONS)

- IATTC staff referred to the industry's concern over lack of space on the small purse-seine vessels and asked what changes were made to address the space issue, given the success experienced with this program. G. Morán mentioned that it is not easy for an observer to work on small size

Class 3–5 vessels but observers have extensive training, and the program is well structured. Collaborations with crews and the business sector have helped to make progress and overcome challenges (e.g., explaining the benefits of safely releasing bycatch, shark tagging programs, ray identification activities).

- IATTC staff noted cameras (i.e. electronic monitoring) may be another way of improving data coverage for vessels without space to carry a human observer although good practices may need to be defined.

- A participant asked about whether observers could be placed on class 1–3 vessels to collect data, what are the associated challenges and if observers were placed on US Tri Marine vessels. G. Morán stated space to sleep and work is a challenge. These small vessels do not have the same facilities as the larger vessels, but training and courses help the observers. Solutions are found with each vessel for the observer to do their job with each captain. Space is feasible on Class 4–5 vessels. TUNACONS is working with electronic monitoring, not human observers, on artisanal vessels and the US Tri Marine vessels that do not always fish for tunas, but also fish for squids.

- A participant asked how conflicts with shipowners, captains and fishers regarding carrying onboard observers were managed. G. Morán noted they are seeking MSC certification and monitoring is a requirement. The motivation is to reach certification and maintaining close dialogue with captains to seek certification helps mitigate conflict.

2.1.3. Successes and challenges with Electronic Monitoring (EM) on small purse-seine vessels (Marlon Roman, IATTC)

- Two participants asked for an explanation about some discrepancies found on the catch estimates for yellowfin and bigeye tuna between EM analysts. M. Roman explained that, for consistency and comparison in EM analysis, IATTC EM analysts sampled some of the trips reviewed by the EM analyst from the review center. The IATTC analyst has extensive at-sea experience and is well trained in species identification. The analysts from the EM review center were not as familiar with fishing activities and species caught in EPO fisheries compared to the IATTC analyst, and therefore some discrepancies were observed. M. Roman stated that it is important for analysts to be consistently trained and by people with at-sea experience.

2.1.4. Market incentives for improved fishery data (Marin Hawk, Marine Stewardship Council)

- No discussion followed.

2.1.5. A machine learning approach for protected species bycatch estimation (Chris Long, University of Miami)

- IATTC staff commented that this presentation is informative to better understand the minimum requirements for observer coverage levels. For rare species, machine learning models can be powerful and predictive, but significant amounts of data are still needed to build sound and robust models. C. Long agreed and mentioned observer coverage is usually set by rare species, so significant levels of observer coverage are usually still needed.

2.1.6. Assessing observer coverage levels for total bycatch estimates (DAT-02-02) (Dan Ovando, IATTC)

- A participant asked if there is a list of species of interest for the observer coverage discussed and noted several variables (e.g., how, where and when fishing takes place) affect catch rates, so it is important to know what key species the observer program should be designed around. Regarding the choice of species, the staff stated that initially, all species were considered, but this was not

helpful. Therefore, the staff classified some key species into two categories (common and rare). Specifically, the staff chose species that the Commission has shown special interest in through adopting specific resolutions (e.g., mobulid rays, sea turtles, sharks and dorado).

- Regarding the factors influencing catches, the staff noted that random sampling eliminates systemic differences that correlate with bycatch rates. It is not possible to assign observers to each trip for the small purse-seine fleet (e.g., on small class 1–3 vessels). Coverage will have to be well thought of for the lowest common denominator species of concern, taking into account the representativeness of the fleet spatio-temporal operations and species occurrences.

2.1.7. Data reporting mechanisms (Sylvain Caillot, IATTC)

- A participant asked whether there are any success stories on implementing electronic-reporting applications for data collection. The staff responded positively, there are many success stories (e.g., WCPFC, SPC and FFA have implemented this solution for longline, port sampling and artisanal fisheries). E-reporting is implemented in some CPCs, and the infrastructure is available. Everyone is equipped with a smart phone which makes data much more accessible and reliable in terms of quality.

- A participant commented on the usefulness of having one form for data provision as these forms are mandatory in the Atlantic Ocean. It would be easier to prepare the same information in one specific form, and it would be significant progress for the IATTC to develop these reporting forms. This participant queried the process for uploading data (e.g., uploading large files) and how data would be shared (e.g., with CPCs or directly to the IATTC). The staff responded that it is difficult to adapt to data collection forms that are already in use and a better option is to create a specific form. These tools would be developed so that CPCs can access their data and generate a report from it that could be used for government requirements or for their own data extraction and analyses. The staff also mentioned that other successful stories exist in the region; certain IATTC CPCs have also started electronic data collection and reporting systems for their own national data collection programs.

- A participant asked about a synchronization process for dealing with vessels that cross in the western Pacific. The staff commented that the plan is to utilize compatible e-logs to avoid duplication.

2.2. Discussions of staff recommendations

The staff's proposed preliminary recommendations, as provided in DAT-02-01, were presented to the participants along with corresponding focus questions to help guide discussions with workshop participants. These recommendations were based on the rationale presented in DAT-02-01 and DAT-02-02 and included one recommendation on logbook data and one on observer data along with associated considerations for workshop participants. A third recommendation on data reporting mechanisms was also included.

2.2.1. Logbooks

IATTC staff explained that the recommendations presented at the workshop are preliminary and may be modified before the SAC meeting. Any revisions will be based on the staff's review and consideration of the discussions and feedback from participants.

The staff's preliminary recommendation for consideration by workshop participants:

1. Logbook data

(a) For the target tuna species: In addition to already reported catch data by species for the retained catches in the set-by-set logbook data, also report the species composition of the discarded catches.

(b) For other species (non-target): Where available, report catch data by species for the retained and discarded catches in the set-by-set logbook data (in numbers of individuals) (species in Tables 5a and 5b, DAT-02-01).

Several participants deemed impractical the staff's recommendation on logbook data for both the target tunas and for species caught incidentally as bycatch.

To provide context and reflect on the participant's comments, discussion points are summarized below.

- A participant asked whether information on discards has been reported in logbooks to date. The staff noted that while some logbooks from large, Class 6 purse-seine vessels include discard data, this is rare. This led the staff to believe that expanding the reporting of discard information in logbooks for Class 1–5 vessels could be feasible.
- A participant highlighted advancements in technology and asked whether e-logs and EM could be improved to help collect this information. Building on this comment, another participant sought clarification on fishing operations aboard small purse seiners to determine whether it would be feasible to accurately estimate discards by species (e.g., can captains reliably estimate discards by species?).
- IATTC staff explained that the handling of discards or bycatch on smaller purse-seine vessels is similar to the process on large Class 6 vessels for each brail brought onboard. The catch is separated by size classes. The focus is on the tunas in the brail; these are sent into wells. On smaller vessels, this task is manual. Catch is put on the deck. If there is bycatch, it is sorted outside of the brail. Large species of bycatch are easier to identify and quantify than the smaller species of bycatch (e.g., carangids). When the brailing is almost finished, the sack is opened up and it is difficult to quantify the bycatch.
- Participants generally agreed that it would be very difficult for crew and captains to estimate discards by species due to a lack of expertise and the inability to see all species in the sack. They also recognized the challenge of estimating weights by species. Some participants noted that the difficulty might vary depending on the captain's experience. While providing approximate estimates of total discards might be somewhat easier for captains and crew, ensuring high-quality estimates by species could still be challenging even for observers.
- Participants also acknowledged the potential for species misidentification and emphasized the importance of clarifying the fate of discards (e.g., whether discarded animals were alive or dead). From a scientific perspective, the need to account for unreported removals was stressed. Additionally, concerns were raised about compliance implications, such as determining responsibility for reporting incorrect estimates—whether it falls on the captain, vessel owner, or observer.
- Further discussion took place regarding Resolution C-24-01, which requires all purse-seiners to retain their catches of bigeye, skipjack, and yellowfin tuna, except for fish deemed unfit for human consumption. While observer data on tuna discards is available for Class 6 vessels, it is not available for smaller vessel classes.

- Similar discussions took place regarding non-target species, with a general consensus that, as with the target tunas, collecting data on retained and discarded bycatch species in logbooks would be challenging and unfeasible. Captains and crew already have numerous responsibilities, making additional data collection extremely challenging.

2.2.2. Observer data

The staff's preliminary recommendation for consideration by workshop participants:

2. Observer data:

(a) Establish a non-voluntary, fleet-wide observer program for small purse-seine vessels of less than 364 t carrying capacity that mimics the Class 6 observer program, to the extent possible, including but not limited to catch, disposition (e.g., retained, discarded) and fate (e.g., released alive, released injured, dead) in numbers of individuals, and length composition data on animals caught as target and bycatch.

(b) Ensure that the observer program is representative of the Class 1–5 fishing grounds and time periods (or other definitions of representativeness as appropriate for program objectives). Coverage may include human observers and/or electronic monitoring systems (EMS), following implementation of EMS minimum standards defined in Resolution C-24-09.

(c) The Commission defines the objective precision level of the total catch for key bycatch species (common and rare), based on the analyses presented in DAT-02-02.

The recommendation on observer data to improve data collection on species caught as bycatch was seen in a more positive light relative to the recommendation on logbook data, although participants provided constructive comments on improving this recommendation as detailed below.

- The general view was that the participants agreed that implementing this recommendation is feasible and the TUNACONS program provides a good example of success in monitoring bycatch.
- A participant noted that the recommendation is too broad and should specify which sector of the fishery it applies to, such as vessel size class (e.g., smaller Class 1–3 vessels using EM), as well as key aspects of fishing operations (e.g., where, when, and how a vessel fishes). Additionally, it is important to define the species of concern caught as bycatch. This information can then be used to identify the proportion of the fishery that has the greatest impact on these species. IATTC staff acknowledged this point and suggested refining the term 'fleetwide' to something more precise, such as 'representative segments.'
- Participants concurred that species priorities are the tunas and tuna-like species, followed by species of interest defined as those for which the Commission has adopted specific resolutions for (e.g., sharks, mobulid rays, sea turtles).
- A participant emphasized the need to consider a preliminary budget and conduct cost-benefit analyses. The staff reminded participants of the MSC presentation on new certification requirements, which mandate 30% coverage, and noted that market incentives could help offset costs. They also reiterated that while recommendations are based on the best scientific practices, budget constraints are acknowledged. Ultimately, the Commission will need to determine budget allocations and priorities.
- Regarding precision levels, a participant suggested that it may be less critical to be precise for

species that interact with the fishery infrequently. However, staff expressed concern about extremely rare species, which could be highly impacted by just a few interactions (e.g., leatherback turtles). While observer coverage would need to be high (e.g., 80%), the error rates could also be significant for these species, which rarely interact with the fishery.

2.2.3. Data reporting mechanisms

The staff's preliminary recommendation for consideration by workshop participants:

3. Data Reporting Mechanisms:

Any revisions to Resolution C-03-05 and/or the corresponding technical specifications or a new Resolution related to data provision should include a default template (e.g., in Excel) or at a minimum the mandatory data fields to be provided.

In general, this recommendation was supported by participants, provided that consistency is maintained.

Three potential options for a unified data collection workflow were presented to participants by IATTC staff:

i. the IATTC staff develop standards, guidelines and templates for mandatory data fields, to allow CPCs to submit data in their preferred format (e.g., CSV, XLS) as long as they follow these templates for unobserved purse-seine sets. This includes the use of already existing concepts to capture information;

ii. the IATTC staff develop default, fixed-field digital templates available in Excel to ease CPCs workflow, based on existing concepts with standards and guidelines;

iii. the IATTC staff develop online forms and e-reporting apps, in the longer-term as reporting frequency increases.

- Participants had mixed opinions on the options for consideration. Some felt that the fixed-field Excel files seemed reasonable, while others believed this option might simplify data collection and submission but make data use more challenging. These participants noted that writing code for files with complex designs (e.g., dropdown lists) can be difficult.
- Participants also emphasized the importance of consistency. For instance, if a new form or template is designed, any changes to the form can make it difficult for data collectors to adapt.
- Regarding the e-reporting option, one participant suggested that e-logs be initially voluntary, noting that some captains prefer this option, while others dislike it. Another participant mentioned that some CPCs face domestic legal constraints that prevent the sharing of information and proposed that e-logs be reported from fishermen to local governments, rather than directly to the IATTC.

3. CONCLUSIONS

The revised and improved recommendations for the small purse-seine fishery—reflecting the constructive comments and discussions from workshop participants—will be added to the recommendations from the first workshop on the industrial longline fishery, as documented in SAC-14 INF-Q and provided in SAC-16 INF-O. After the final workshop in the series, which will focus on small-scale coastal fisheries and incorporate results from both Areas Beyond National Jurisdiction (ABNJ) Common Oceans Tuna II Project, all revised recommendations will be compiled for each gear type and presented to the SAC and the Commission for consideration in updating Resolution C-03-05 on data provision.

Appendix A.

AGENDA

1. Opening of the workshop (Alexandre Aires-da-Silva, IATTC)
2. Background presentations
    a. Overview on the Data Provision Resolution (C-03-05; SAC-12-09) (Leanne Fuller, IATTC)
    b. Summaries of available data, research limitations and incentives for improving data relating to the small purse-seine fishery (DAT-02-01) (Leanne Fuller, IATTC)
    c. Successes and challenges with implementing the voluntary TUNACONS observer program (Guillermo Morán, TUNACONS)
    d. Successes and challenges with Electronic Monitoring on small purse-seine vessels (Marlon Roman, IATTC)
    e. Market incentives (Marin Hawk, MSC)
    f. A machine learning approach for protected species bycatch estimation (Chris Long, University of Miami)
    g. Assessing observer coverage levels for total bycatch estimates (DAT-02-02) (Dan Ovando, IATTC)
3. Discussions of recommendations for updating C-03-05 pertaining to small purse-seine vessels (Jon Lopez, IATTC)
    a. Logbook data
    b. Observer data
    c. Reporting mechanisms
4. Others
5. Adjournment