Comisión Interamericana del Atún Tropical
Inter-American Tropical Tuna Commission

CIAT
IATTC

WSDAT-01: Workshop on Data Provision Improvement: Industrial Longline Fisheries in the Eastern Pacific Ocean Videoconference, 9-11 January 2023

WSDAT-01
SAC-14-INF-Q

14ª Reunión del Comité Científico Asesor – 15-19 de mayo de 2023
14th Meeting of the Scientific Advisory Committee – 15-19 May 2023

Why do we need better data?

- Antigua Convention **à** mandates scientific basis for management
- Need for better assessments **à** data is the limiting factor
- Public awareness of potential ecological impacts of tuna fishing
- Advances in science and technology
- Increasing number and range of tasks requested of IATTC staff
- Fishery certification
- Changes in the fisheries (e.g., increase in FAD sets)

The need for better data

- Data are needed to **improve stock assessments of target-species**:
  - § analyze current and historical **trends** of tuna, billfishes and sharks in the EPO
  - § combine data from different fleets to produce better **indices of abundance**
  - § assess shifts in target species and effect of factors related to catchability in indices of abundance
  - § Estimate sizes associated with indices of abundance
  - § estimate **selectivity** for different fisheries using size-frequency data
- Data are needed to **improve studies of non-target species**:
  - § **identify vulnerable species**, prioritize research, reporting and management
  - § **estimate species-specific catch and discards** (noting differences in species composition by gear)
  - § report more precise catch locations and presences for bycatch species to improve knowledge on **species distribution**
  - § estimate gear **selectivity** using size-frequency data
  - § separate between deep (BET) and shallow (SWO) sets in EASI-Fish (prioritization analysis)

IATTC stock assessments: data sources (industrial fisheries)

Fishery	Catches	Indices of abundance	Size composition
Purse-seine	***Staff collection** and member submission* Best scientific estimate: Unloading, port-sampling, observers, logbooks	***Staff collection** and member submission* **Observer data (100% coverage large vessels)** **Echosounder buoy data (all PS) – index**	***Staff collection*** Port sampling Observer data (small, medium, large)
Longline	*Member submission* Resolution C-03-05: Task I (total catches) and Task II data (with spatial information)	*Member submission* Resolution C-03-05: Task II data, **MoUs:** aggregated, with hooks-between-floats information Observer data **(5% coverage)** **Opportunity: logbook data already available**	*Member submission* Resolution C-03-05: Observer data **(5% coverage)**

IATTC bycatch: data sources (industrial fisheries)

Fishery	Data source	Catch estimation
Purse-seine	**Observer data (100% observer coverage)** (large vessels, Size class 6)	Allows for estimation of species-specific total catches by set type
	Limited observer data: primarily from TunaCons voluntary program (small vessels, size classes 1–5)	Planned analyses to explore whether the limited observer data may be representative of fleet characteristics to expand to fleet totals
Longline	TASK I annual totals of gross annual removals, CPC submission Resolution C-03-05 TASK II spatial catch data, CPC submission Resolution C-03-05	Incomplete, highly variable bycatch data; animals **often aggregated into broad groups** (e.g., "sharks"); allows only for estimation of **minimum values**
	Observer data **(5% coverage)**	**Species-specific data are reported**, but these data are **insufficient for expanding bycatch data to fleet totals** (BYC-10 INF-D); allows only for reporting of minimum estimates

1. Through the appropriate government authorities and in collaboration with those authorities, they take the necessary steps to ensure that all pertinent catch information is provided to the Director on an annual basis, for all of their vessels fishing for species under the purview of the Commission.

2. The data be provided, by species and fishing gear, where practical, via vessel logbooks and unloading records, and otherwise in aggregated form as in the following table, with Level 3 catch and effort data as a minimum requirement, and, whenever possible, Levels 2 and 1 catch and effort data and length-frequency data.

Category	Level	Resolution	Data
Catch and effort	1	Set-by-set, logbook data with information on gear configuration and target species	Total catch in numbers, and weight if available; fishing effort
	2	1°x1°–month, with information on gear configuration and target species	
	3	5°x5°–month, with information on gear configuration and target species	
Length frequency	1	Set position, start or end of set	Length or weight of individual fish
	2	Grid position, best possible spatial-temporal resolution of area of capture	

3. The aggregated data referred to in paragraph 2 for each year shall be provided by 30 June of the following year.

4. The technical aspects of the data to be supplied shall be established by the Director in collaboration with scientists of the members.

5. The following exceptions shall apply to the immediate entry into force of this resolution:

   a. For vessels of less than 24 meters in length overall, the requirements of this resolution shall not enter into force until 1 January 2007. However, each member shall make its best efforts to provide as much data as possible for these vessels.

   b. Catch data from artisanal vessels may be reported as total annual catches, without data on fishing effort.

   c. Catch data from recreational fishing vessels may be reported as total annual catches, without data on fishing effort.

6. The Director communicate with the governments of states not party the Commission whose flag vessels may be fishing in the region, to comply with the terms of this resolution.

7. The Director ensure that the catch information provided to the Commission is maintained in strict accordance with the Commission's confidentiality rules and procedures.

Communicated via the Director's annual Memorandum (e.g., Provision of data and reporting requirements (2022) Ref.: 0123-410, 4 April 2022)

Timeline

- <u>SAC-12-09</u>: review of the data needs by gear type and justification of the need for a new/updated resolution

- Recommendation by the SAC (<u>SAC-12-RPT</u>): to hold a series of workshops, by gear type, on data provision

- First workshop focused on industrial longline

The first workshop

1st workshop held 9-10 January 2023, by videoconference, on **industrial longline**

Goals:

- § Provide case studies to illustrate the impact of data quality and potential benefits of improved data reporting (target species and bycatch)

- § **Discuss the staff's recommendations for updating C-03-05**
- § **Discuss the staff's initial proposed template of data fields**

- § Provide the staff's recommendations on the data reporting process (both new and historical data)

INTER-AMERICAN TROPICAL TUNA COMMISSION

1st WORKSHOP ON IMPROVEMENTS IN DATA COLLECTION AND PROVISION: INDUSTRIAL LONGLINE FISHERY

(by videoconference)
09-11 January 2023

[WSDAT-01-REP](#)   **WORKSHOP REPORT**

Participants:

13 Member and Cooperating non-members

BLZ
BOL
CHL
CHN
ECU
JPN
KOR
MEX
NIC
PAN
TWN
USA
VEN
NGO/Observers

INTER-AMERICAN TROPICAL TUNA COMMISSION

SCIENTIFIC ADVISORY COMMITTEE

14TH MEETING

La Jolla, California (USA)
15-19 May 2023

DOCUMENT SAC-14 INF-Q

1ST WORKSHOP ON IMPROVEMENTS IN DATA COLLECTION AND PROVISION: INDUSTRIAL LONGLINE FISHERY

CONTENTS

SAC-14-INF-Q Revised Recommendations

1. Establishment of a resolution to report operational-level data:

Task II (vessel-specific, set-by-set) longline data—from the year the fleet began operating to most recent year possible, ideally the current or the previous year.

On a case-by-case basis, and as determined by the Director, members and cooperating non-members may submit the data under other instruments*.

*For example, Memorandums of Understanding may be established between the IATTC and individual CPCs to foster collaboration and data sharing for statistical purposes of assessing stock, species' vulnerability, and ecosystem status.

2. TASK (Annual data):

TASK I effort, catch$_2$ and disposition (retained or discarded) for tunas, billfishes and sharks (as listed in Table 3a) and where available, report catch for other relevant taxa (Table 3b)$_3$ to the highest taxonomic resolution possible.

3.1. TASK II (Operational-level data):

TASK II, level 1, operational-level (vessel-specific, set-by-set) logbook data—from the year the fleet began operating, where available, to the most recent year possible, ideally the current or the previous year—using the data fields in Table 4, or at a minimum the fields in Tables 1a $_4$ and 1b.

3.2. TASK II (Aggregated data):

Until the coverage of the operational-level logbook data provided to the Commission is 100%, report TASK II catch and effort data at the finest spatial and temporal resolution possible, as a minimum by month and 5°x5°

4. Size composition data:

Size composition data that are representative of the catches by the fisheries at the finest possible spatial and temporal resolution in the originally measured type and unit for tunas, billfishes and for sharks brought onboard vessels (Table 3a) indicating the time, location and number of set, trips and vessels sampled by time and location. Where available, report size composition data for other relevant species

SAC-14-INF-Q Revised Recommendations

5. Options for reporting mechanisms:

The staff recommend that the following options for data reporting be developed by IATTC staff:

a. standards, guidelines and templates for mandatory data fields

b. default digital templates to ease workflow

c. online forms and e-reporting apps, in the longer term

d. mechanisms for reviewing the national logbook data collection programs

Questions?

TABLE 3a. Principal tunas, billfishes, and sharks for which data should be provided. Table was revised from WSDAT-01-01 based on input from workshop participants.

Taxonomic Group	Common name	Scientific or family name	ASFIS code
Tunas	Albacore tuna	*Thunnus alalunga*	ALB
	Bigeye tuna	*Thunnus obesus*	BET
	Pacific bluefin tuna	*Thunnus orientalis*	PBF
	Skipjack tuna	*Katsuwonus pelamis*	SKJ
	Yellowfin tuna	*Thunnus albacares*	YFT
	Unidentified tunas nei	Scombridae nei	TUN
	Eastern Pacific bonito	*Sarda chiliensis*	BEP
	Striped bonito	*Sarda orientalis*	BIP
	Unidentified bonitos	*Sarda* spp.	BZX
	Black skipjack tuna	*Euthynnus lineatus*	BKJ
	Black marlin	*Istiompax indixa*	BLM
Billfishes	Blue marlin	*Makaira nigricans*	BUM
	Striped marlin	*Kajikia audax*	MLS
	Sailfish	*Istiophorus platypterus*	SFA
	Shortbill spearfish	*Tetrapturus angustirostris*	SSP
	Unidentified billfishes, but not including swordfish[1]	Istiophoridae nei	BIL
	Swordfish	*Xiphias gladius*	SWO
Sharks*	Blue shark	*Prionace glauca*	BSH
	Silky shark	*Carcharhinus falciformis*	FAL
	Oceanic whitetip shark	*Carcharhinus longimanus*	OCS
	Shortfin mako[2]	*Isurus oxyrinchus*	SMA
	Longfin mako[2]	*Isurus paucus*	LMA
	Mako sharks nei[1]	*Isurus* spp. nei	MAK
	Bigeye thresher shark[3]	*Alopias superciliosus*	BTH
	Pelagic thresher shark[3]	*Alopias pelagicus*	PTH
	Common thresher shark[3]	*Alopias vulpinus*	ALV
	Thresher sharks nei[1]	*Alopias* spp. nei	THR
	Great hammerhead shark[4]	*Sphyrna mokarran*	SPK
	Scalloped hammerhead shark[4]	*Sphyrna lewini*	SPL
	Smooth hammerhead shark[4]	*Sphyrna zygaena*	SPZ
	Hammerhead sharks nei[1]	Sphyrnidae nei	SPY
	Porbeagle shark	*Lamna nasus*	POR
	Whale shark	*Rhincodon typus*	RHN

links to species fact sheets are provided where available

* where available, include other sharks (see WSDAT-01-01, Table 3b)

[1] not elsewhere identified