

Comisión Interamericana del Atún Tropical Inter-American Tropical Tuna Commission



Identificación de fuentes de datos, lagunas e incentivos para mejorar la recolección y provisión de datos: Buques de cerco Clase 1-5 (DAT-02-01)

Identifying data sources, gaps and incentives for improving data collection and provision: Class 1-5 purse-seine vessels (DAT-02-01)

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2º Taller en la mejora en la recolección y provisión de los datos: pesquería de cerco en buques pequeños, 18-20 Febrero, 2025

2nd Workshop on improvements in data collection and provision: small purse-seine fishery, 18-20 February 2025

Outline

Temario

- Purpose and objectives of this workshop
- Background: events leading to this workshop
 - Expansion of responsibilities under the Antigua Convention
 - Commitment to incorporate the EAFM
 - SAC-12-09: introduction to improving data reporting
 - Review of Resolution on Data Provision (C-03-05) and corresponding technical aspects
- Data sources, gaps, and incentives for improving data collection and provision
 - Small purse-seine fishery
size Classes 1–5, carrying capacity ≤ 363 t
- Summary: Considerations for improving data and updating C-03-05

- Propósito y objetivos de este taller
- Antecedentes: eventos que condujeron a este taller
 - Ampliación de las responsabilidades en virtud de la Convención de Antigua
 - Compromiso de incorporar el EAFM
 - SAC-12-09: introducción a la mejora del reporte de datos
 - Revisión de la Resolución sobre el suministro de datos (C-03-05) y aspectos técnicos correspondientes
- Fuentes de datos, lagunas e incentivos para mejorar la recopilación y el suministro de datos
 - Pesquería de cerco de buques pequeños
Clase 1–5, capacidad de acarreo ≤ 363 t
- Resumen: Consideraciones para mejorar los datos y actualizar la C-03-05

Purpose of the workshop

Propósito del taller

- To respond to a SAC-endorsed staff recommendation ([SAC-12-16](#)), *“through a series of workshops planned and facilitated by the staff to revise Resolution C-03-05 in consultation with CPCs, taking into consideration elements in SAC-12-09. These workshops will be organized by main fishery with the purpose of discussing improvements in data collection, any required additional resources and capacity building activities.”*
- This is the 2nd workshop in the series: focused on the small purse-seine fishery
- The 1st workshop focused on the “industrial” longline fishery [WSDAT-01](#)
 - For more information on 1st WS, see the following:
 - meeting document [WSDAT-01-01](#),
 - workshop report [WSDAT-01-RPT](#),
 - updated recommendations based on participant feedback [SAC-14 INF-Q](#)

- Responder a una recomendación al personal respaldada por el SAC ([SAC-12-16](#)), *«mediante una serie de talleres planificados y facilitados por el personal para revisar la Resolución C-03-05 en consulta con las CPC, teniendo en cuenta los elementos del SAC-12-09. Estos talleres se organizarán por pesquería principal con el fin de discutir las mejoras en la recolección de datos, los recursos adicionales necesarios y las actividades de fortalecimiento de capacidad.»*
- Este es el 2^o taller de la serie: enfocado en la pesquería de cerco de buques pequeños
- El 1^{er} taller se centró en la pesquería de palangre “industrial” [WSDAT-01](#)
 - Para mayor información del 1^{er} taller, consultar:
 - documento de reunión [WSDAT-01-01](#),
 - informe del taller [WSDAT-01-RPT](#),
 - recomendaciones actualizadas basadas en los comentarios de los asistentes [SAC-14 INF-Q](#)

Workshop objectives

Objetivos del taller

- To discuss potential improvements in data collection for small purse seiners, including any required additional resources and capacity building activities
 - To gather elements regarding small purse seiners that can be used to modernize the data provision resolution ([C-03-05](#)) so that it better aligns the data reporting requirements with the Antigua Convention
-
- Debatar posibles mejoras en la recopilación de datos de los pequeños cerqueros, incluyendo recursos adicionales necesarios y actividades de fortalecimiento de capacidad.
 - Recopilar elementos relacionados a los pequeños cerqueros que puedan utilizarse para modernizar la resolución sobre provisión de datos ([C-03-05](#)) de modo que alinee mejor los requisitos de remisión de datos con la Convención de Antigua



Expansion of responsibilities under the Antigua Convention

Expansión de responsabilidades bajo la Convención de Antigua

- The Antigua Convention (AC) entered into force nearly 15 years ago
 - Expanded responsibilities of the IATTC and subsequent research and reporting required to fulfil them
 - Established standards for data provision have not been updated accordingly
 - Difficult for the Commission and its staff to adequately and timely meet their obligations under the Convention and the five-year Strategic Science Plan
- The AC is consistent with international instruments e.g.,
 - [United Nations Convention on the Law of the Sea \(UNCLOS\)](#)
 - FAO's [Code of Conduct for Responsible Fisheries](#)
 - [Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem](#)
- The AC embodies an implicit commitment to incorporate an ecosystem approach to fisheries management (EAFM)
 - [Article IV 3](#); [Article VII 1a,f, g](#); [Article XV 3](#)

- La Convención de Antigua (CA) entró en vigor hace casi 15 años
 - Expandió las responsabilidades de la CIAT y la investigación y reportes subsiguientes necesarios para cumplirlas
 - Estableció normas de provisión de datos que no han sido actualizadas en consecuencia
 - Dificultades para que la Comisión y su personal cumplan adecuada y oportunamente sus obligaciones bajo la CA y el Plan Estratégico Científico quinquenal
- La CA es coherente con instrumentos internacionales, ej.,
 - [Convención de las NNUU sobre el derecho del mar \(CONVEMAR\)](#)
 - [Código de conducta para pesquerías responsables de la FAO](#)
 - [Declaración de Reikiavik sobre la Pesca Responsable en el Ecosistema Marino](#)
- La CA incorpora un compromiso implícito de incorporar un enfoque ecosistémico a la gestión pesquera (EAFM)
 - [Article IV 3](#); [Article VII 1a,f, g](#); [Article XV 3](#)

Expansion of responsibilities under the Antigua Convention

Expansión de responsabilidades bajo la Convención de Antigua

- Because of these instruments, the need to address ecosystem considerations and the impacts of EPO fisheries on associated and dependent species has become more relevant
- Addressing these concerns is also needed due to increasingly demanding external market and conservation drivers
 - e.g., eco-labeling and fishery certification
- Greater demonstration of ecologically sustainable fisheries and implementation of the EAFM is required
- Required ecological analyses to demonstrate sustainability has been hampered
 - limited high-quality data on species caught as bycatch in the various fisheries
 - limited to no data available for fisheries other than large purse-seine vessels (Class-6)

- Debido a estos instrumentos, la necesidad de abordar las consideraciones relativas al ecosistema y los impactos de las pesquerías del OPO sobre las especies asociadas y dependientes se ha vuelto más relevante
- Abordar estas cuestiones también es necesario debido a los impulsores externos del mercado y de conservación, cada vez más exigentes
 - ej., eco-etiquetado y certificación de pesquerías
- Se requiere una mayor demostración de pesquerías ecológicamente sostenibles y la aplicación del EAFM
- Los análisis ecológicos necesarios para demostrar la sostenibilidad se han visto obstaculizados
 - datos de alta calidad limitados sobre las especies capturadas incidentalmente en las distintas pesquerías
 - los datos disponibles sobre las pesquerías distintas de los grandes cerqueros (clase 6) son limitados o inexistentes

Background: SAC-12-09

Antecedentes: SAC-12-09

- In 2020–2021, IATTC staff collaborated on [SAC-12-09](#)
- Staff reviewed Resolution [C-03-05](#) on data provision
 - C-03-05 adopted over two decades ago
 - forms the basis of scientific research conducted by the staff
- Goals of SAC-12-09
 - to initiate discussions with CPCs to improve data reporting
 - to provide rationale for updating Resolution C-03-05

- En 2020–2021, el personal CIAT colaboró en [SAC-12-09](#)
- Personal revisó la Res. [C-03-05](#) sobre provisión de datos
 - C-03-05 adoptada hace más de dos décadas
 - constituye la base de la investigación científica realizada por el personal
- Metas del SAC-12-09
 - iniciar discusiones con CPC para mejorar remisión de datos
 - Justificar la actualización de la Res. C-03-05

INTER-AMERICAN TROPICAL TUNA COMMISSION

SCIENTIFIC ADVISORY COMMITTEE

12TH MEETING

(by videoconference)

10-14 May 2021

DOCUMENT SAC-12-09

IMPROVING SPECIES AND CATCH DATA REPORTING (RESOLUTION C-03-05)

This draft document aims to initiate discussion with Members on improving IATTC data reporting. See Section B.3. Data Collection in [SAC-12-16](#) for the staff's recommendations on general data provisions in 2021.

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Background: Resolution C-03-05

Antecedentes: Resolución C-03-05

INTER-AMERICAN TROPICAL TUNA COMMISSION
COMISIÓN INTERAMERICANA DEL ATÚN TROPICAL

70^a REUNION - 70th MEETING

ANTIGUA (GUATEMALA)
24-27 JUN 2003

RESOLUTION C-03-05

RESOLUTION ON DATA PROVISION

The Inter-American Tropical Tuna Commission (IATTC):

Emphasizing the importance of obtaining comprehensive information on the catches, and related information, by all vessels fishing for species under the purview of the Commission;

Understanding that all member nations of the Commission are obliged to provide information on catches by all of their vessels fishing for any species under the purview of the Commission;

Aware of the long-standing and well-established practice of vessels fishing in the EPO providing catch information to the Director;

Noting that nations not members of the Commission which are fishing in the region are obliged under international law to cooperate with the Commission, and that the provision of catch data is one aspect of such cooperation;

Concerned that the Director is not receiving all pertinent catch information;

Therefore recommends to the High Contracting Parties that:

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 <u>target species</u>	Total catch in numbers, and weight if available; fishing effort
	2	1°x1°-month, with information on gear configuration and <u>target species</u>	
	3	5°x5°-month, with information on gear configuration and <u>target species</u>	
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.

Background: Resolution C-03-05, technical aspects

Antecedentes: Resolución C-03-05, aspectos técnicos

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

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Reports and provision of data as required by the current resolutions

The information presented below are the requirements for the provision of data during the current year, with a reference to the resolutions in force. Members are encouraged to refer to the IATTC Resolutions in force located at [Resolutions | IATTC](#) for detailed information required from Members. This information may not be fully detailed in the list due to space limitations.

GENERAL DATA

REPORT	RESOLUTION	INFORMATION REQUEST	DUE DATE	EMAIL	FORMAT	WHO	REQUIRED INF. IN WEBSITE
Data provision	C-03-05	Catch information must be provided to the Director for all vessels fishing for species under the purview of the Commission (paragraph 1, page 1).	Annually by June 30	datahandlers@iattc.org director@iattc.org	No format	All CPCs	Public Domain Data

→ [Guide: Specification for data](#)



Background: Resolution C-03-05, technical aspects

Antecedentes: Resolución C-03-05, aspectos técnicos

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

<https://www.iattc.org/en-US/Resources/Reports-and-provision-of-data>



SPECIFICATIONS FOR DATA PROVISION

2. REQUIRED DATA

The specifications are presented below in expanded form, using a format and terminology generally consistent with those used by ICCAT, IOTC, FAO, and other fisheries bodies handling tuna fisheries statistics.

2.1. TASK I CATCH STATISTICS: Gross annual removals³ (round weight of all fish caught or killed during fishing operations) and disposition (retained or discarded) of tuna and tuna-like species (Table 1), and other species (Table 2) taken in fisheries which capture tuna and tuna-like species in the Antigua Convention Area. If the data provided are nominal catches¹ (round weight of retained catch when there is no information on discards), please note this when providing the data.

sample data used to obtain the estimates should be provided.

2.2. TASK I EFFORT STATISTICS: **Fishing power (fleet) statistics.** The number of fishing vessels, by gear, operating in the Antigua Convention Area in each calendar year should be reported.

2.3. TASK II CATCH AND EFFORT STATISTICS: **Catch and effort statistics by area, gear, and species.** Gross removals and disposition (retained or discarded) for each species, and the associated fishing effort, should be reported at the finest possible level of resolution as noted below, in metric tons or in kilograms. If the data provided are nominal catches, please note this when providing the data. If the round weights are estimated by conversion from processed or sampled weights or measurements, or by some other means, the method and the sample data used to obtain the estimates should be provided.

2.3.1. Level 1. Operational (logbook) data: The IATTC staff collects operational data directly from the majority of purse-seine (PS) and pole-and-line (LP) vessels that fish for tunas in the Convention Area.

The information that should be reported includes details of starting and ending position of sets, time gear set and retrieved, and other data which are specific to each gear and affect its efficiency, such as gear configuration (including, for longlines, total number of hooks fished, number of branch lines between floats, use of lightsticks, etc.), use of FADs or aircraft, and hook type. The catch for each operation should be reported by species, in both numbers and weight if available. Estimates of coverage rates by gear should be provided.

A list of gears other than PS and LP commonly encountered in the Convention Area, and associated codes and measures of effort, is given in Table 3.

2.3.2. Level 2. 1°x1°-month aggregated data

2.3.3. Level 3. 5°x5°-month aggregated data

2.3.4. For Level 2 and Level 3 data, there are two options for provision of data to the Commission. In either case, the data should be developed, whenever possible, from logbook and unloading data, and the method should be fully documented.

2.3.4.1. Raised option:

The total number of vessels operating in a time-area stratum should be reported. The total number of operations of gear made in an area-time stratum should be provided by gear-configuration stratum, with associated gross removals (or nominal catch, if information on discards is not available) by species, in both numbers and round weight, if available. In this option, summarized logbook and landing data (the sample data) are used to develop estimates that are then raised to totals. The coverage rates, and detailed descriptions and calculations for the method used to obtain the estimates of total catch and effort by strata are to be provided.

2.3.4.2. Unraised option:

The data from logbook and unloading records are summarized to provide sample statistics of fishing effort and catch by species in numbers of fish and round weight, within area-time-gear configuration strata, as discussed in 2.3.4.1 Raised Option. The number of individual vessels from which the observations were obtained in an area-time stratum are also reported. Estimates of the total number of vessels operating by area, and of total catch by area-time, should be provided in as much detail as possible, if available.

2.4. CATCH-AT-SIZE DATA: Lengths and weights of individual tunas and tuna-like fishes in the catch should be provided at the highest spatial-temporal resolution possible (*i.e.* Level 1 if known). Type of measurement and condition of the fish should be noted for each measurement. When catch and effort data are reported at Level 2 or 3, catch-at-size data should be reported by gear, area, and month as well, if possible. In all cases, catch-at-size data should be reported at the finest resolution possible. Details of the design of the sampling program should be provided.

Noting:

- generally only landings of principal tuna and tuna-like species are reported
- consistency between resolution text and technical specifications should be considered in any revisions to C-03-05
- Resolution mentions “target species” (no reference to other species)
- Technical specifications explicitly mention “other species”, “each species”

Observación:

- por lo general, sólo se notifican desembarques de atún objetivo y especies afines
- la coherencia entre el texto de la resolución y las especificaciones técnicas debería tenerse en cuenta en revisiones de C-03-05
- La Resolución menciona “especies objetivo” (sin referencia a otras especies)
- Las especificaciones técnicas mencionan explícitamente “otras especies”, “cada especie”

Background: data limitations and ecological sustainability

Antecedentes: limitaciones de datos y sostenibilidad ecológica

- Staff develop tools for data-poor species to assess ecological sustainability
 - Ecological Risk Assessments (e.g., EASI-Fish)
 - Ecological models (e.g., the ETP Ecopath model)
 - Indicators (e.g., FADs)
- Drawbacks related to developing tools
 - at a minimum, an accurate list of species caught by the various fisheries is needed (e.g., EASI-Fish)
 - retained and discarded, species-specific, spatially explicit catch estimates (e.g., ecosystem models, annual reporting)
 - number of deployments, visits and sets on FADs (e.g., fleet behavior and indicator analyses)
- Outputs from these tools used to provide CMM advice to the Commission in alignment with the EAFM
- Data provision on bycatch species improves the reliability of these ecological assessments

- El personal desarrolla herramientas para especies con pocos datos para evaluar la sostenibilidad ecológica
 - Evaluaciones de Riesgo Ecológico (ej., EASI-Fish)
 - Modelos ecológicos (ej., modelo Ecopath para el POT)
 - Indicadores (ej., FAD)
- Desventajas asociadas con el desarrollo de herramientas
 - como mínimo, se necesita una lista precisa de las especies capturadas por las diversas pesquerías (ej., EASI-Fish)
 - estimaciones de captura y descarte específicas por especie espacialmente explícitas (por ejemplo, modelos de ecosistemas, informes anuales)
 - no. de siembras, visitas y lances a FAD (ej., comportamiento de la flota y análisis de indicadores)
- Resultados de estas herramientas se usan para dar recomendaciones de CMM a la CIAT alineados con el EAFM
- Provisión de datos sobre especies de captura incidental mejora la fiabilidad de estas evaluaciones ecológicas



Background: overview of events leading to this workshop

Antecedentes: resumen de los eventos que llevaron a este taller

Stock assessments

Evaluación de poblaciones



Staff discussions on potential processes for expanding LL data to fleet totals and options for improving L-W relationships. Staff collaboration and drafting of [SAC-12-09](#).

Discusiones del personal sobre posibles procesos para expandir los datos de LL a los totales de la flota y opciones para mejorar las relaciones L-P. Colaboración del personal y redacción de [SAC-12-09](#).

Prepared for 1st WS on data improvements: industrial LL ([WSDAT-01-01](#)). Proposed new project on improving morphometric data ([F.3.a](#)). Published [Special Report 25](#): history of bycatch reporting.

Preparado para el 1^{er} WS "mejora de datos: LL industrial" ([WSDAT-01-01](#)). Proyecto propuesto sobre mejora de los datos morfométricos ([F.3.a](#)). Publicado el [Informe especial 25](#): historia de informes de bycatch.

The Enhanced Monitoring Program (EMP) presents opportunity for collecting morphometric data on tunas ([SAC-15 INF-H](#)) Prepared for 2nd workshop on data improvements: small PS ([WSDAT-02-01](#); [WSDAT-02-02](#)).

El programa de monitoreo reforzado (EMP) brinda oportunidad para recolectar datos morfométricos de atunes ([SAC-15 INF-H](#)) Preparado para el 2^{do} taller sobre mejoras de datos: cerqueros pequeños ([WSDAT-02-01](#); [WSDAT-02-02](#)).

2018

2019

2020

2021

2022

2023

2024

2025

Staff discussions on data gaps and the need to update Resolution [C-03-05](#).

Discusiones del personal sobre lagunas de datos y la necesidad de actualizar Res. [C-03-05](#).

[BYC-10 INF-D](#) shows LL observer data (5% coverage) is not representative of fleet dynamics for most CPCs for BET and YFT. Based on [SAC-12-09](#), the SAC endorsed staff recommendation to hold series of workshops by gear type to improve data collection and update C-03-05.

[BYC-10 INF-D](#) indica que datos LL de observadores (5% cobertura) no representa la dinámica de la flota para mayoría de CPC, para BET y YFT. Según [SAC-12-09](#), el CCA apoyó recomendación del staff a realizar una serie de talleres por tipo de arte para mejorar recogida de datos y actualizar C-03-05

The external review of data used in tuna stock assessments includes data improvement recommendation to update morphometric relationships ([RVDTT-01-RPT](#)) 1st workshop on improving industrial longline data ([WSDAT-01](#)). Updated recommendations, based on WS feedback, provided to the SAC ([SAC-14 INF-Q](#))

La revisión externa de datos utilizados en las evaluaciones de stock de atún incluye recomendaciones de mejora de datos para actualizar relaciones morfométricas ([RVDTT-01-RPT](#)) 1^{er} taller de mejora de datos de LL industrial ([WSDAT-01](#)). Recomendaciones actualizadas, basadas en los comentarios del taller, presentadas al SAC ([SAC-14 INF-Q](#))

2nd workshop on improving small purse-seine data ([WSDAT-02](#))

2^{do} taller sobre mejoramiento de datos en cerqueros pequeños ([WSDAT-02](#))



Data sources and gaps: Small purse-seiners (Class 1-5, ≤ 363 t)

Fuentes y lagunas de datos: Cerqueros pequeños (Clase 1-5, ≤ 363 t)

- Several data sources are available for the small purse-seine fishery
- Primary sources of unobserved catches (landings)
 - Logbook data
 - Cannery data
 - Port-sampling, length-frequency data
- Observer data
 - Primarily from TUNACONS
- Other data sources
 - FAD and echosounder buoy data
 - Electronic monitoring data (via a pilot project)
 - Vessel monitoring systems

- Se dispone de varias fuentes de datos para la pesca con redes de cerco pequeñas
- Fuentes primarias de capturas no observadas (desembarques)
 - Bitácoras
 - Datos de las plantas
 - Muestreo en puerto, datos de frecuencia de tallas
- Datos de observadores
 - Principalmente de TUNACONS
- Otras fuentes de datos
 - Datos de plantados y de boyas con ecosonda
 - Datos de monitoreo electrónico (a través de un proyecto piloto)
 - Sistema de seguimiento de buques

Data sources and gaps: Small purse-seiners (Class 1-5, ≤ 363 t)

Fuentes y lagunas de datos: Cerqueros pequeños (Clase 1-5, ≤ 363 t)

• Logbook data

- Primarily collected for the YFT, SKJ and BET
- Includes retained catches only (no discards)
- Includes precise fishing locations (latitude and longitude)
- Includes information on set types, date, time of event
- No size data
- 4 CPCs provide detailed logbook data
 - (ECU, MEX, COL, PAN)
- Other CPCs with small PS vessels that fish in the EPO, often provide dates and catches from each trip (not detailed logs)
- IATTC has standard forms and rules for logbook data
 - <https://www.iattc.org/en-US/Resources/Forms> -- gear forms -- logbooks

• Datos de bitácoras

- Recolectados principalmente para YFT, SKJ y BET
- Incluye sólo capturas retenidas (no descartes)
- Incluye ubicaciones de pesca precisas (latitud y longitud)
- Incluye información sobre tipos de lance, la fecha y la hora
- No hay datos de tallas
- 4 CPC proporcionan información de bitácora detallada
 - (ECU, MEX, COL, PAN)
- Otras CPC con cerqueros pequeños pescando en el OPO, a menudo proporcionan fechas y capturas de cada viaje (no bitácoras detalladas)
- La CIAT tiene formularios y reglas estándar para los datos de bitácora
 - <https://www.iattc.org/en-US/Resources/Forms> -- gear forms -- logbooks

INTER-AMERICAN TROPICAL TUNA COMMISSION										LOGBOOK ABSTRACT										PAGE NO.:	
VESSEL			NO. VESSEL		NO. TRIP		YEAR DEPART		TRIP NO.		TAS. CODE		DO NOT KEY		L		J				
FISH CAPT. 1			CODE 1		FISH CAPT. 2		CODE 2		CHANGE DATE (YYMMDD)												
ABSTRACT BY			PLACE		DATE (YYMMDD)		WIND SCALE		WEIGHT SCALE		TIME		LOCAL		UTC						
DATE		POSITION		TIME		EVENT		WATER TEMP.		WIND		SET		CATCH		WELLS		SINKER			
MM	DD	LATITUDE	LONGITUDE					NO.	TYPE	END TIME	YFT	SKJ	BET	SPP. 1	CAP. 1	SPP. 2	CAP. 2				
COMMENTS AND OTHER INFORMATION:																					
COMMENTS AND OTHER INFORMATION:																					
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Data sources and gaps: Small purse-seiners (Class 1-5, ≤ 363 t)

Fuentes y lagunas de datos: Cerqueros pequeños (Clase 1-5, ≤ 363 t)

• Cannery data

- Primarily collected for tunas unloaded in port
- Includes a broad geographic region (e.g., “EPO”) of where the fish were caught, rather than precise location
- Information by trip is limited ([SAC-15 INF-H](#))
 - In 2023 information for 10% of trips provided for Class 4 vessels and 17% of trips provided for Class 5 vessels
- Data are received by IATTC staff from various sources
 - directly from cannery
 - governments
 - vessel owners
 - other sources
- Canneries provide data in their preferred format, resulting in variability
 - e.g., sometimes bycatch are included (e.g., wahoo, dorado)
 - e.g., size categories vary
- Data are received by IATTC in simplistic formats via email
 - Word, Excel, pdf

• Datos de plantas procesadoras

- Recogidos principalmente para atunes descargados en puerto
- Incluye una región geográfica amplia (por ej., «OPO») de donde se capturó el pescado, en vez de una ubicación precisa
- La información por viaje es limitada ([SAC-15 INF-H](#))
 - En 2023 se proporciona información del 10% de los viajes para buques de clase 4 y 17% de los viajes para buques de clase 5
- El personal CIAT recibe los datos de varias fuentes
 - directamente de las plantas
 - gobiernos
 - armadores
 - otras fuentes
- Las plantas proporcionan los datos en su formato preferido, lo que resulta en variabilidad
 - ej., a veces incluyen capturas incidentales (ej., wahoo, dorado)
 - ej., las categorías de talla varían
- La CIAT recibe los datos en formatos simplistas por email
 - Word, Excel, pdf

Data sources and gaps: Small purse-seiners (Class 1-5, ≤ 363 t)

Fuentes y lagunas de datos: Cerqueros pequeños (Clase 1-5, ≤ 363 t)

- Port-sampling data (lengths and species counts)
 - obtained by sampling vessel wells
 - used to estimate length frequencies and species composition for the tropical tunas
 - most of the port sampling data comes from large Class 6 vessels
 - some wells from smaller PS vessels are sampled for length frequencies and species composition
 - IATTC has a standard form for port sampling data

- Datos de muestreo en puerto (tallas y conteo de especies)
 - obtenidos por muestreo de las bodegas de los buques
 - se utilizan para estimar las frecuencias de tallas y la composición por especies de los atunes tropicales
 - la mayoría de los datos de muestreo en puerto proceden de grandes buques de clase 6
 - algunas bodegas de cerqueros más pequeños son muestreadas para frecuencias de talla y composición por especies
 - La CIAT tiene un formulario estándar para los datos de muestreo en puerto

History of observer programs, large Class 6 vessels, > 363 t

Historia de los programas de observadores, buques grandes Clase 6, > 363 t

- Observer data (history – large purse seine, size Class 6)
- Have been collected on large purse-seine vessels since 1979
- Primarily due to marine mammal involvement in the purse-seine fishery
- Collect information on marine mammal sightings and interactions with the fishery, along with operational characteristics and target tuna catches

- Datos de los observadores (historial - cerqueros, clase-6)
- Se han recopilado en cerqueros grandes desde 1979
- Principalmente debido a la participación de mamíferos marinos en la pesquería de cerco
- Recopilan información sobre avistamientos de mamíferos marinos e interacciones con la pesquería, junto con características operativas y capturas de atún objetivo

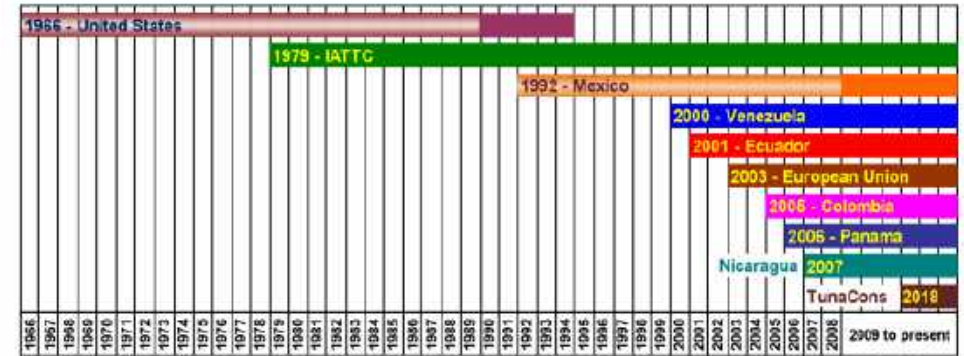


Figure 2. Time series of Observer Programs for purse-seine vessels. Darker colors for the United States (1990–1994) and Mexico (2009 to present) indicate when full observer data have been provided to IATTC for these time periods, *i.e.*, complete detailed observer data from the United States prior to 1990 and from Mexico prior to 2009 are not held by the IATTC.



Figure 3. Timeline of the various forms used for data collection by observers onboard purse-seine vessels. The name of the data collection form is in parentheses. In 1993 the “Bycatch” or Marine Fauna Record form was created to collect information on species caught as bycatch and killed during purse-seine sets. Dedicated species-specific data collection forms have been created for cetaceans, billfishes, sea turtles, sharks and rays, and these forms contain more information than the 1993 “Bycatch” or Marine Fauna Record (MFR) form (see Appendices A-F). The Flotsam Information Record underwent modifications in 2005 and 2019, and the Billfish Record was modified in 2006.

Data sources and gaps: Small purse-seiners (Class 1-5, ≤ 363 t)

Fuentes y lagunas de datos: Cerqueros pequeños (Clase 1-5, ≤ 363 t)

- Observer data (continued)
- Small purse-seine vessels rarely make sets on, or in association with, marine mammals (no DML)
- Therefore, these vessels rarely carry observers
- Recently, there has been an increase in number of small vessels carrying observers for varying reasons
 - Abiding by AIDCP requirements to allow fishing during closure periods
 - Desire to obtain fishery certification
 - Participating in IATTC pilot project trialing EM [SAC-11-11](#)
 - Participating in the voluntary TUNACONS program
 - Vessel has sealed wells

- Datos de observadores (continuación)
- Cerqueros pequeños rara vez realizan lances sobre o en asociación con mamíferos marinos (sin LMD)
- Por lo tanto, estos buques rara vez llevan observadores
- Recientemente, ha habido un aumento de cerqueros pequeños con observadores por diversas razones
 - Cumplimiento de los requisitos del APICD para permitir la pesca durante los períodos de veda
 - Deseo de obtener la certificación pesquera
 - Participación en el proyecto piloto de la IATTC para probar el ME [SAC-11-11](#)
 - Participación en el programa voluntario TUNACONS
 - La embarcación tiene bodegas selladas

Data sources and gaps: Small purse-seiners (Class 1-5, ≤ 363 t)

Fuentes y lagunas de datos: Cerqueros pequeños (Clase 1-5, ≤ 363 t)

- Observer data (continued)
- Limited, sporadic data for small purse-seine vessels have been available from 4 observer programs
 - In 2023, most trips (56%) made by these vessels were unobserved
 - 34% from the voluntary TUNACONS program
 - 6% from the Ecuadorian National Program
 - 4% from the IATTC National Program
 - 0% from the Colombian National Program

- Datos de observadores (continuación)
- Se ha dispuesto de datos limitados y esporádicos de pesca en cerqueros pequeños de 4 programas de observadores
 - En 2023, la mayoría de los viajes (56%) realizados por estas embarcaciones no fueron observados
 - 34% del programa voluntario TUNACONS
 - 6% del Programa Nacional Ecuatoriano
 - 4% del Programa Nacional de la IATTC
 - 0% del Programa Nacional Colombiano

Data sources and gaps: Small purse-seiners (Class 1-5, ≤ 363 t)

Fuentes y lagunas de datos: Cerqueros pequeños (Clase 1-5, ≤ 363 t)

- FAD and echosounder buoy data
- Resolutions on FAD data collection have been adopted and amended since 2013
 - [C-13-04](#), [C-15-03](#), [C-16-01](#), [C-18-05](#), [C-19-01](#), [C-23-04](#), [C-23-05](#), [C-24-06](#)
- Self-reporting data on FADs (all PS vessels) began (2015)
- Dedicated FAD form designed ([C-18-05](#))
 - used by skippers
 - goal: improve data collection, reporting, consistency
 - provides information on tunas and species groups (i.e., “sharks”, “rays”, “turtles”, “billfish”, “other fish”)
- Resolution amended in 2019 ([C-19-01](#))
 - Required self-reporting for vessels without an observer
- FAD form also includes information on
 - FAD details (e.g., manufacturer & model codes, materials)
 - FAD activities (e.g., deployments, sets, recoveries)

- Datos de FAD y balizas con ecosonda
- Se han adoptado y modificado resoluciones sobre la recopilación de datos de FAD desde 2013
 - [C-13-04](#), [C-15-03](#), [C-16-01](#), [C-18-05](#), [C-19-01](#), [C-23-04](#), [C-23-05](#), [C-24-06](#)
- Datos de autoinforme sobre FAD (todas las embarcaciones de cerco) comenzaron en 2015
- Se diseñó un formulario dedicado para FAD ([C-18-05](#))
 - usado por los capitanes
 - meta: mejorar recopilación de datos, reporte y consistencia
 - Provee información sobre atunes y grupos de especies (ej., “tiburones”, “rayas”, “tortugas”, “picudos”, “otros peces”)
- Resolución modificada en 2019 ([C-19-01](#))
 - Se requería el autoinforme para buques sin observador
- Formulario de FAD también incluye información sobre
 - generales (ej., códigos de fabricante y modelo, materiales)
 - actividades (ej., siembra, lances, recuperaciones)

Data sources and gaps: Small purse-seiners (Class 1-5, ≤ 363 t)

Fuentes y lagunas de datos: Cerqueros pequeños (Clase 1-5, ≤ 363 t)

- FAD and echosounder buoy data (continued)
- FADs with satellite-linked echosounder buoys attached
 - provide information on:
 - location of FAD
 - presence of fishes under FAD
- Electronic monitoring (EM) data* to be presented by Marlon Roman
- Some data available from a pilot project in 2018
- EM data from these vessel's trips were compared with observer data collected during the project
- Information from this project demonstrated use of EM on unobserved small purse-seine vessels as reliable source of information on:
 - vessel activities
 - set information
 - catch & discard information (target and bycatch species)



- Datos de boyas FAD y sonda acústica (continuación)
- FAD con boyas satelitales con ecosonda
 - proporcionan información sobre:
 - ubicación del FAD
 - presencia de peces bajo el FAD
- Datos de monitoreo electrónico (EM)* serán presentados por Marlon Roman
- Algunos datos disponibles de un proyecto piloto en 2018
- Datos de ME de viajes en cerqueros pequeños fueron comparados con datos de observadores en el proyecto
- La información de este proyecto demostró que el uso de ME en cerqueros pequeños sin observador es una fuente confiable de información sobre:
 - actividades del buque
 - información de los lances
 - información de captura y descarte (objetivo e incidental)

Incentives for improving data collection: tropical tunas

Incentivos para mejorar la recolección de datos: atunes tropicales

- Resolution [C-24-01](#) (tuna conservation measures)
- Applicable to vessels fishing for YFT, BET, SKJ in the Convention Area
 - purse-seine vessels of Class 4–6
 - longline vessels >24 m LOA
 - purse-seine vessels of Class 1–3 as related to FAD management
- Resolution mandates information on total catches and information on FADs
- Small purse-seine fishery takes relatively lower catches of tuna compared to large PS fishery
 - e.g., 63,195 t of tropical tunas vs. 665,670 t (2023)
- BUT any improvements to data collection/provision will be positive and complete the picture
 - e.g., for unobserved sets, discard information is lacking
 - including discard information will provide a more complete data source

- Resolución [C-24-01](#) (medidas de conservación del atún)
- Aplicable a embarcaciones que pescan YFT, BET, SKJ en el Área de la Convención
 - buques de cerco de Clase 4-6
 - buques de palangre >24 m de eslora
 - buques de cerco de Clase 1-3 en relación con el manejo de FAD
- Resolución establece la obligatoriedad de información sobre las capturas totales y sobre los FAD
- La captura de cerqueros pequeños es relativamente pequeña comparada con las capturas de los cerqueros grandes
 - ej., 63,195 t de atunes tropicales vs. 665,670 t (2023)
- PERO cualquier mejora en la recopilación/provisión de datos será positiva y completará la imagen
 - ej., para lances no observados, faltan datos de descartes
 - incluir la información sobre descartes proporcionará fuente de datos más completa

Incentives for improving data collection: bycatch species

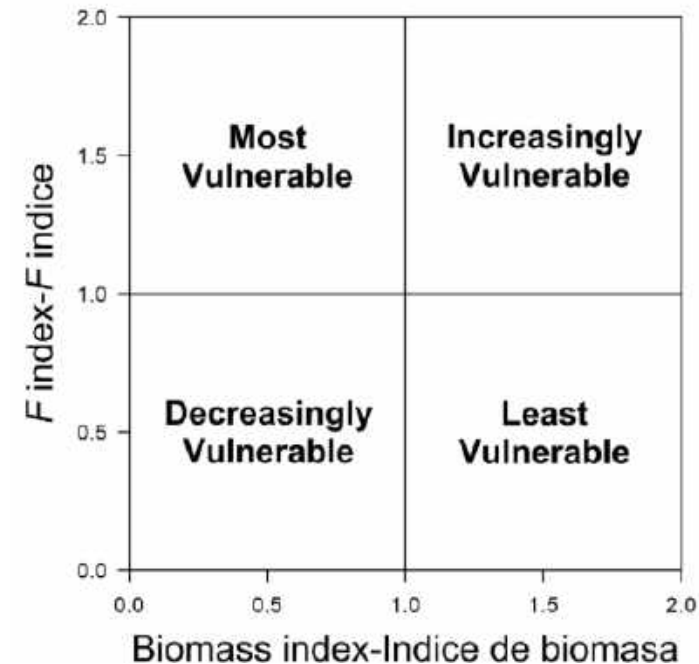
Incentivos para mejorar la recolección de datos: especies no objetivo

- EASI-Fish assessments & hypothesis testing

- EASI-Fish tool to advance elements of the EAFM
- adapts to data deficiencies of bycatch spp.
- used to identify potentially vulnerable species for prioritizing research
- used to simulate hypothetical CMMs and their impacts on potential vulnerability classification
- spinetail devil ray ([BYC-09-01](#)), eastern Pacific leatherback turtle ([BYC-10 INF-B](#)), sharks ([SAC-13-11](#)) and silky, hammerhead sharks ([SAC-14-12](#))

- Evaluaciones EASI-Fish y pruebas de hipótesis

- la herramienta EASI-Fish para avanzar en los elementos del EAFM
- se adapta a deficiencias de datos de las especies de captura incidental
- usada para identificar especies potencialmente vulnerables priorizando la investigación
- usada para simular CMM hipotéticas y sus impactos en la clasificación de vulnerabilidad potencial
- Manta diablo ([BYC-09-01](#)), tortuga laúd del Pacífico oriental ([BYC-10 INF-B](#)), tiburones ([SAC-13-11](#)) y tiburón sedoso y martillo ([SAC-14-12](#))



Incentives for improving data collection: bycatch species

Incentivos para mejorar la recolección de datos: especies no objetivo

EASI-Fish assessments & hypothesis testing (continued)

- Small PS fishery has been included in these assessments
 - but due to lack of information, the same characteristics as the PS SC-6 fishery were assigned to small vessels (precautionary approach)
 - may have overestimated impacts of small PS fishery
- EASI-fish outcomes influenced by size selectivity of fishery's gear
- Improvements to data collection will improve reliability of EASI-Fish assessments e.g.,
 - at a minimum: list of species interacting with the fishery
 - ideally: species-specific presence data; spatially-explicit fishing effort data (improves SDMs and fishery overlap with species distribution)
 - ideally: species-specific information on the size classes of animals interacting with the fishery

Evaluaciones EASI-Fish y pruebas de hipótesis (cont.)

- La pesca con cerqueros pequeños ha sido incluida en estas evaluaciones
 - pero debido a falta de información, se asignaron las mismas características que la pesquería de cerco C-6 a los buques pequeños (enfoque precautorio)
 - lo que habría sobreestimado los impactos esta pesquería
- Resultados de EASI-Fish están influenciados por la selectividad de tamaño del equipo de la pesquería
- Las mejoras en recopilación de datos mejorarán la fiabilidad de las evaluaciones de EASI-Fish, por ej.,
 - como mínimo: lista de especies interactuando con pesquería
 - idealmente: datos de presencia específicos por especie; datos de esfuerzo pesquero explícitos espacialmente (mejora los SDM y la superposición de la pesquería con la distribución de especies)
 - idealmente: información específica por especie sobre las clases de tamaño de los animales que interactúan con la pesquería

Incentives for improving data collection: bycatch species

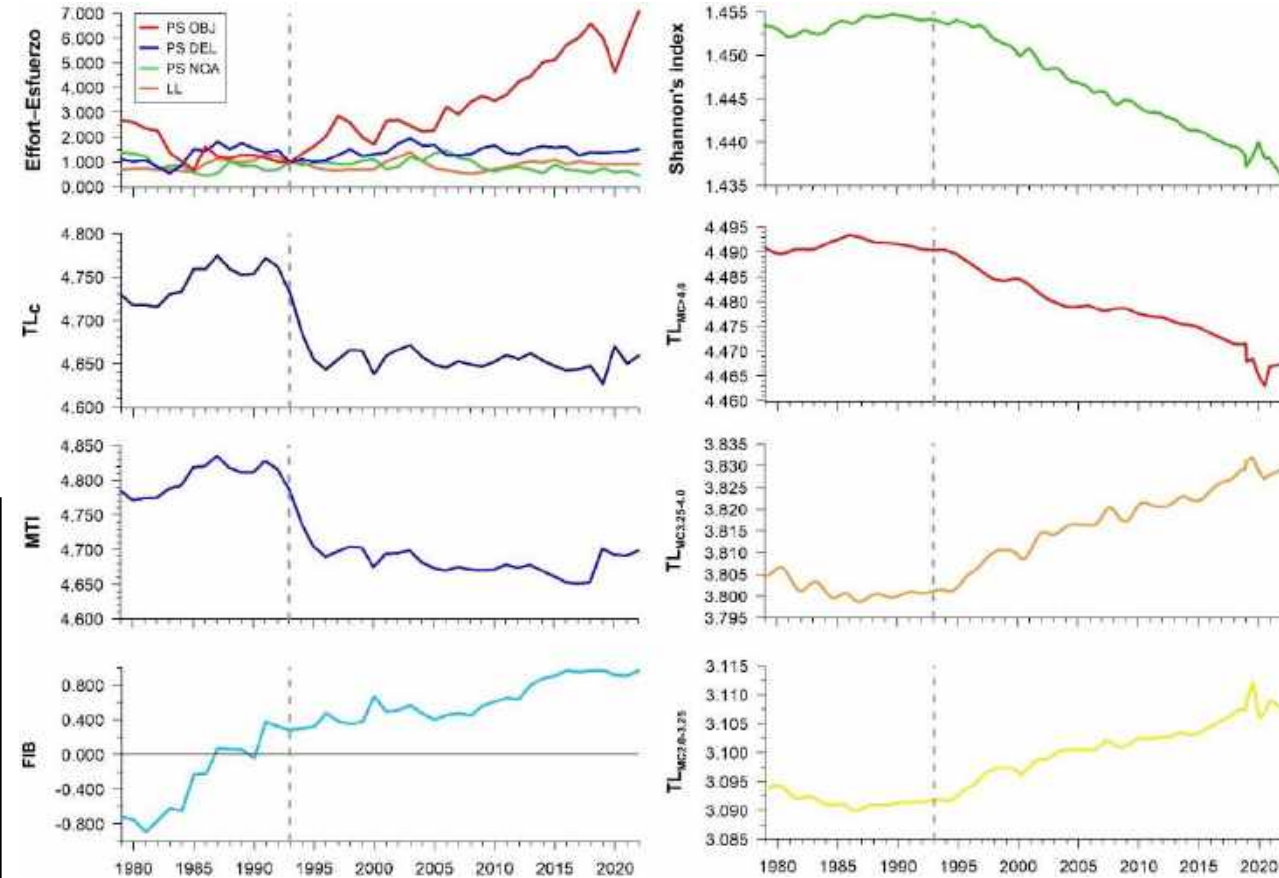
Incentivos para mejorar la recolección de datos: especies no objetivo

- Ecosystem models

- another tool to advance elements of the EAFM
- detect changes in the structure and internal dynamics of an ecosystem
- 7 ecological indicators are produced from an ETP ecosystem model (e.g., see [EB-02-01](#))

- Modelos de ecosistemas

- Otra herramienta para avanzar en los elementos del EAFM
- Detectar cambios en la estructura y dinámica interna de un ecosistema
- Se producen 7 indicadores ecológicos a partir de un modelo de ecosistema POT (ej., ver [EB-02-01](#))

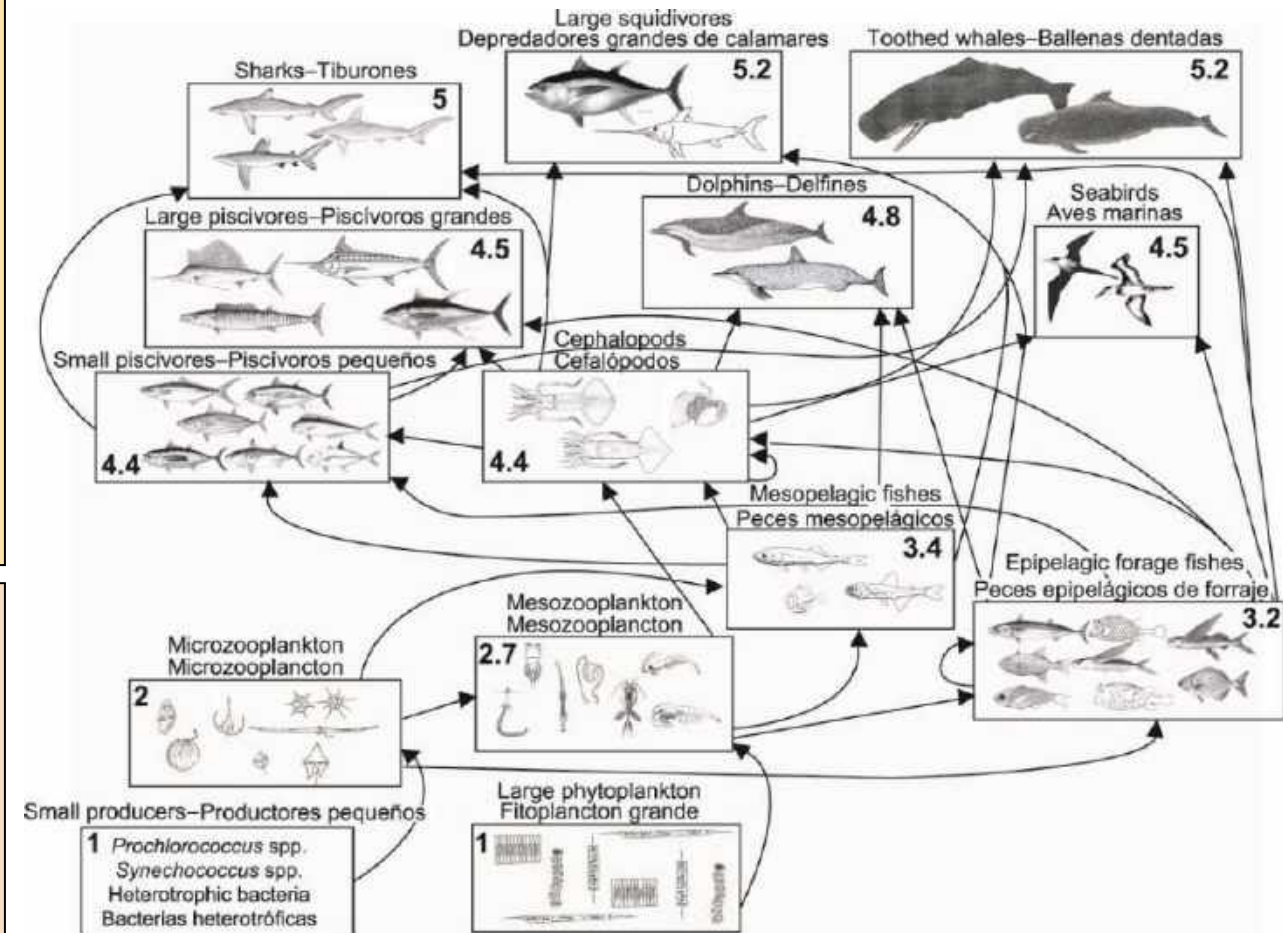


Incentives for improving data collection: bycatch species

Incentivos para mejorar la recolección de datos: especies no objetivo

- Ecosystem models (continued)
- Improvements to data collection will improve reliability of the ETP ecosystem model e.g.,
 - species-specific catches by disposition (retained, discarded e.g., through observer programs)
 - ideally: biological sampling program to update stomach contents
 - BUT acknowledge additional projects and resources are needed to fulfill biological data gaps (see [SAC-14 INF-J](#))

- Modelos de ecosistemas (cont.)
- Las mejoras en la recopilación de datos mejorarán la fiabilidad del modelo de ecosistema POT ej.,
 - Capturas específicas por especie y destino (retenidas, descartadas, por ej., a través de programas de observadores)
 - Idealmente: programa de muestreo biológico para actualizar los contenidos estomacales
 - PERO se reconoce que proyectos y recursos adicionales son requeridos para llenar las lagunas de datos biológicos (ver [SAC-14 INF-J](#))



Incentives for improving data collection: biology

Incentivos para mejorar la recolección de datos: biología

- Morphometric relationships
 - Noting: this is a data gap, unlikely to be resolved through data improvements for the small PS fishery
- Dedicated projects are likely needed to close this gap
- Proposal of [Project F.3.a.](#) and [SAC-14 INF-J](#) due to:
 - outdated nature of tuna L-W relationships
 - yellowfin: 1986, bigeye: 1966 and skipjack: 1959
 - initiation of morphometric sampling of tunas within the framework of the enhanced monitoring program (EMP)
 - see [SAC-15 INF-H](#) (large PS only)
 - limited or non-existent L-W relationships for bycatch
 - various weight metrics of sharks
 - e.g., whole weight, gilled & gutted weight ([SAC-14 INF-L](#))



- Relaciones morfométricas
 - Observación: este es un vacío de datos, improbables de resolverse mediante mejoras en los datos de pesca en cerqueros pequeños
- Tal vez se necesiten proyectos dedicados para cerrar la brecha
- Propuesta del [Project F.3.a.](#) y [SAC-14 INF-J](#) debido a:
 - La desactualización de las relaciones L-P del atún
 - aleta amarilla: 1986, patudo: 1966 y barrilete: 1959
 - iniciación del muestreo morfométrico de atunes dentro del marco del programa de monitoreo reforzado (EMP)
 - ver [SAC-15 INF-H](#) (sólo cerqueros grandes)
 - Relaciones L-P limitadas o inexistentes para la captura incidental
 - Diversas métricas de peso de tiburones
 - ej., peso total, peso con branquias y eviscerado ([SAC-14 INF-L](#))

Incentives for improving data collection: market drivers

Incentivos para mejorar la recolección de datos: factores del mercado

- Marine Stewardship Council (MSC) certification and fishery improvement projects (FIPs)
- five species of tuna in the EPO that are MSC certified
 - North Pacific albacore, South Pacific albacore, skipjack, bigeye and yellowfin
 - several Fishery Improvement Projects active in the EPO
- To be presented by Marin Hawk, MSC*



- Certificación Marine Stewardship Council (MSC) y Proyectos de mejoramiento pesquero (FIP)
- cinco especies de atún en el OPO que están certificadas por el MSC
 - Albacora del Pacífico Norte, albacora del Pacífico Sur, barrilete, patudo y aleta amarilla
 - Varios Proyectos de Mejora Pesquera activos en el OPO
- Serán presentados por Marin Hawk, MSC*

Incentives for improving data collection: FADs

Incentivos para mejorar la recolección de datos: FAD

- FAD spatial management
- limited FAD activity data available for small purse seiners
- self-report FAD forms ([C-19-01](#)) for unobserved trips
- provide satellite echosounder buoy data ([C-24-01](#))
- The representativeness and quality of the information reported in the FAD form remain unknown
 - e.g., locations of FAD deployments, visits, retrievals, redeployments
- IATTC ([C-24-06](#)) has encouraged the development of programs to reduce the impacts of stranding, lost and abandoned FADs e.g.,
 - FAD recovery programs
 - spatial management options to assess and mitigate the spatial, temporal risk of FAD activities (e.g., ID of hotspots)
- Developing these options requires a better understanding of FAD trajectories and activities

- Manejo espacial de FAD
- datos limitados de actividad de FAD disponibles para cerqueros pequeños
- formularios de autoinforme de FAD ([C-19-01](#)) para viajes no observados
- proveer datos de balizas acústicas satelitales ([C-24-01](#))
- representatividad y calidad de información reportada en el formulario de FAD siguen siendo desconocidas
 - ej., posición de siembras, visitas, recogidas, resiembras
- la CIAT ([C-24-06](#)) ha fomentado el desarrollo de programas para reducir impactos por encallamiento, pérdida y abandono de FAD, por ej.,
 - programas de recuperación de FAD
 - opciones de gestión espacial para evaluar y mitigar el riesgo espaciotemporal de las actividades con FAD (ej., identificación de zonas de alta actividad)
- Para ello, se requiere una mejor comprensión de las trayectorias y actividades de los FAD



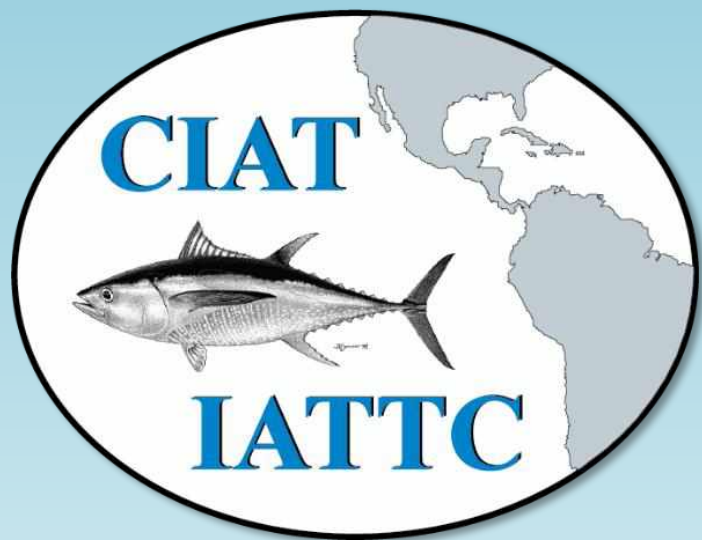
Considerations for improving data and updating C-03-05

Consideraciones para una mejora de los datos y actualizar C-03-05

- Established standards for data provision have not been updated to align with the Antigua Convention
 - particularly related to non-target, associated, dependent species and species belonging to the same ecosystem
- Inconsistency in text of C-03-05 and technical aspects
 - e.g., C-03-05 mentions only “target species”, technical aspects include “other species”
- Data gaps: target tunas
 - lack of discard data for unobserved trips
- Data gaps: bycatch species
 - limited spatial coverage of observer program
 - need spatially explicit, species-specific catches by disposition (retained and discarded)
 - improve outcomes of tools used to assess ecological sustainability and catch estimations
- Data gaps: FADs
 - improvements to data on FAD trajectories and activities

- Los estándares establecidos para la provisión de datos no se han actualizado para alinearse con la CA
 - Particularmente en lo relacionado a especies no objetivo, asociadas, dependientes y especies que pertenecen al mismo ecosistema
- Inconsistencias en texto de C-03-05 y aspectos técnicos
 - ej., C-03-05 menciona solo “especies objetivo”, mientras que los aspectos técnicos incluyen “otras especies”
- Lagunas de datos: atunes objetivo
 - falta de datos sobre descartes para viajes no observados
- Lagunas de datos: especies no objetivo
 - cobertura espacial limitada del programa de observadores
 - necesidad de capturas específicas y espacialmente explícitas por especie y destino (retenidas y descartadas)
 - mejorar resultados de herramientas utilizadas para evaluar la sostenibilidad ecológica y las estimaciones de captura
- Lagunas de datos : FAD
 - Mejoras en datos sobre trayectorias y actividades de FAD





Questions
Preguntas