IMCS NETWORK

Seabird Mitigation Measures and associated Data Collection and Procedures across tuna RFMOs

August 2025

1. Summary

Each of the tuna regional fisheries management organisations (RFMOs) contains different data collection requirements regarding seabird interactions and mitigation measures implemented by longline fishing operators.

There are both similarities and differences in each tuna RFMO's collection forms and procedures in relation to seabird reporting – with reporting requirements occurring at both Member (i.e. country)[1] and operator (i.e. vessel) levels. Similarly, each tuna RFMO requires different levels of independent monitoring of vessels whether through human observers or electronic monitoring systems.

Tuna RFMOs' conservation and management measures (CMMs) specify various operator level reporting requirements that apply both within national jurisdiction as well as the high seas. However, as CMMs and other RFMO requirements are predominantly directed towards countries, most operator level reporting requirements are left to the discretion of the relevant Member upon consideration of its own national and international obligations.

2. RFMO seabird mitigation requirements

RFMOs require different levels of detail regarding the use of seabird mitigation measures and reporting on seabird interactions for tuna longline fisheries. These differences exist across each RFMO at both Member and operator levels. However, there is a clear expectation within each RFMO for longline operators to report basic data related to seabird interactions. At a minimum, these reporting requirements would generally support recording species interactions in Member annual reports to respective Commissions. Complementing this, scientific observer programs provide crucial, and often more detailed, monitoring of seabird interactions and mitigation efforts. As such, RFMOs' actual observer coverage rates are important for evaluating the scope and reliability of the collected data. Tuna RFMOs are also increasing adoption of e-monitoring in an effort to enhance existing monitoring levels.

The variation of Member level RFMO reporting requirements is likely to flow to data collection procedures and fields collected at the operator level. In this respect, each RFMO Member's operational reporting may differ depending on which tuna RFMOs it operates in. Similarly, Members may regulate their vessels' seabird operational requirements based on specific area of operation linked to different RFMO requirements (e.g. high seas vs. in zone, or based on latitude).

WCPFC has the most detailed seabird reporting requirements required under its CMM for catch and effort reporting (CMM 2022-06). This requires daily catch and effort data reporting at the vessel level that includes key information about seabird interactions. IOTC also captures operational data at a trip and set/shot frequency (in annual reports as specified in Resolution 15/01). However, seabird data are not broken down by species and only provide a high-level count of catch. ICCAT reporting requirements stem from Recommendation 07-07 and Supplemental Recommendation 11-09. The current ICCAT Domestic Observer Program forms (ST09) require a list of all mitigation measures currently in place on a vessel. Members can then report their relevant mitigation measures in the CP44 (Implementation of Seabird

[1] The term 'Member' is used to cover all country-level representation at RFMOs and includes Members, Contracting Parties, Cooperating Non-Contracting Parties and other related terms.

Mitigation Measures) form, together with any additional explanatory text submitted through the ICCAT Integrated Online Management System (IOMS). IATTC reporting requirements stem from Resolution C-11-08, however Member reporting is not streamlined due to a lack of standardised data collection and reporting forms.

3. National level requirements

RFMO member countries apply different operator (i.e. vessel) level reporting requirements to their vessels based on range of factors:

a) **National bycatch policies and mitigation requirements** – National priorities and approaches to reducing bycatch in their fisheries, including national decisions on prescribed or approved mitigation measures.
b) **RFMO membership –** a country's membership(s) will determine the corresponding RFMO obligations regarding seabird reporting and mitigation
c) **Fisheries management and operational decisions** – National decisions regarding fisheries management approaches and associated vessel-level reporting requirements (i.e. national decision on how best to manage and regulate their fisheries based on national contexts, capacity and priorities).

The ability for Members to verify a vessel's compliance with seabird mitigation requirements differs depending on existing monitoring, control and surveillance programs in place for members' fisheries, including:

a) the availability of independent monitoring data to verify compliance (i.e. through human observer programs and e-monitoring systems); and
b) the occurrence and rate of at-sea boardings and inspections and/or port inspections.

4. Independent monitoring

WCPFC, IOTC, IATTC and ICCAT each rely heavily on scientific observer programs for detailed monitoring of seabird interactions and operators' use of mitigation measures. Monitoring data from observers provide valuable data inputs for recording species-specific bycatch data and information on mitigation implementation. Observer coverage rates within each RFMO are therefore an important metric for assessing the reliability and representativeness of seabird data. However, observer coverage levels differ between RFMOs (see "Observer coverage requirements" in the Comparative Analysis Table, Section 10). WCPFC has a baseline requirement of 5% observer coverage for longline vessels, but its Members' achieved observer coverage rates differ (including as a result of increased Bigeye Tuna catch limits resulting from corresponding increased observer/e-monitoring coverage under CMM 2023-01).

IOTC's Resolution 23/07 emphasises data collection through observers where observer programs are implemented. IATTC has a minimum requirement of 5% observer coverage for longline vessels greater than 20m in overall length. However, IATTC analyses of available observer data indicate that current observer coverage levels are too low to reliably estimate total bycatch of seabirds.

CCSBT's Scientific Observer Program aims for 10% observer[2] coverage (representative of different vessel-types in distinct areas and time). Actual observer coverage rates within tuna RFMOs across years can vary significantly. This raises challenges with detecting statistically rare events such as interactions with seabirds.

RFMOs are increasingly implementing e-monitoring as a means to increase independent monitoring of fishing activity and collection of bycatch data. E-monitoring is recognised within WCPFC, IOTC and ICCAT as a tool for enhancing monitoring and data verification and increasing existing monitoring coverage. Monitoring data collected by e-monitoring systems offers a way to complement existing observer monitoring data providing an additional means for recording species-specific bycatch data and information on mitigation implementation.

Because observer (and e-monitoring) coverage requirements and levels differ between RFMOs, the analytical value drawn from these datasets is inconsistent. However, each tuna RFMO recognises the importance of scientific observer programs to support the effective monitoring of seabird interactions and operators' use of mitigation measures.

5. WCPFC

CMM 2018-03 is the WCPFC's conservation measure to mitigate the impact of fishing for highly migratory fish stocks on seabirds. Paragraph 8, CMM 2018-03 requires WCPFC Members to report information describing which mitigation measures they require their vessels to use, as well as the technical specifications for each of those measures, in Part 2 of their annual reports to the Commission. Members must also report any changes made to their required mitigation measures or their technical specifications in subsequent years.

WCPFC Members must annually provide to the Commission, in Part 1 of their annual reports, all available information on interactions with seabirds reported or collected by observers to enable the estimation of seabird mortality in all WCPFC fisheries (para. 13, CMM 2018-03). These reports shall include information on:

1. The proportion of observed effort with specific mitigation measures used; and
2. Observed and reported species-specific seabird bycatch rates and numbers or statistically rigorous estimates of species-specific seabird interaction rates (for longline, interactions per 1,000 hooks) and total numbers.

Annual reporting requirements covered in CMM 2022-06 (CMM on daily catch and effort reporting) also specify seabird interaction reporting. Paragraph 2(iii) provides that "information recorded for each day with fishing operations shall, at a minimum, include the following … iii. Interaction information about other species not listed in those sections, but required to be reported by CCMs under other Commission decisions such as, inter alia, cetaceans, seabirds and sea turtles".

[2] This includes monitoring by either human observers deployed physically onboard vessels, or reviewed catch and effort data from electronic monitoring systems.

Monitoring and verification of Members' compliance with seabird mitigation requirements under CMM 2018-03 are undertaken via compliance assessment based on Members' annual reporting, and also through information gathered from observers, port inspections and high seas boardings and inspections. However, these data collection and verification activities (observer, port and at-sea inspections) have limited coverage across longline fleets. The observed data available on the use of mitigation methods is based on only modest levels of observer coverage, rarely exceeding 10% for any fleet.[3] As a result, evaluating the efficacy of seabird mitigation measures remains a challenge.[4] In addition, some analyses within the Western and Central Pacific Ocean have indicated that non-reporting by Members was not uncommon with potential increased levels of non-reporting in higher latitude of both hemispheres.[5]

6. IOTC

Resolution 23/07 (On reducing incidental bycatch of seabirds in longline fisheries) regulates seabird data reporting and mitigation measure requirements in IOTC. Resolution 23/07 establishes annual reporting as the primary mechanism for demonstrating compliance, with Members collecting specific data on seabird bycatch through scientific observer programs or, alternatively, through vessel logbooks for those not fully participating in the observer scheme. As a result, operator level reporting requirements applied by Members may differ depending on whether that Member participates in the observer scheme.

Resolution 23/07 (paras 1 and 2) details IOTC's main country-level reporting requirements:

1. CPCs shall record data on seabird incidental bycatch by species, notably through scientific observers in accordance with Resolution 22/04 and report these annually. Observers shall to the extent possible take photographs of seabirds caught by fishing vessels and transmit them to national seabird experts or to the IOTC Secretariat, for confirmation of identification.
2. CPCs that have not fully implemented the provisions of the IOTC Regional Observer Scheme outlined in paragraph 3 of Resolution 22/04 shall report seabird incidental bycatch through logbooks, including details of species, if possible.
3. CPCs shall provide to the Commission as part of their annual reports, information on how they are implementing this measure.

IOTC also has a specific bycatch data collection form for reporting (Form 1IN) that contains additional elements specific to Resolution 23/07.[6] However, Form 1IN's actual data fields are minimal and high level. On top of standard metadata (Liaison Officer, Organisation, Reporting Year, Reporting Entity, Flag State), Form 1IN metadata only covers the fishery, IOTC area and interactions with "seabirds (in

[3] WCPFC-SC20-2024/EB-IP-27 "Distribution and trends of reported observed seabird bycatch mitigation use in the WCPFC Convention Area".

[4] Birdlife International Observer Paper to WCPFC TCC: Advice to the TCC 20 on Straddling Sets: Clarification of RFMO seabird bycatch mitigation requirements for timing of longline setting", 13 September 2024 (WCPFC-TCC20-2024-OP02).

[5] As above. Note, this paper is focused on the WCPFC reporting requirements under its CMM 2018-03. WCPFC's seabird mitigation requirements are more detailed than in other tuna RFMOs (e.g. IATTC Resolution C-11-02, ICCAT Recommendation 11-09, or IOTC Resolution 12/06) and consequently allow for more detailed analysis of distribution and trends of reported observed use of seabird bycatch mitigation methods.

[6] For more detailed analysis of distribution and trends of reported observed use of seabird bycatch mitigation methods. https://data.iotc.org/reference/latest/forms/Form-1IN.html.

number)" for longliners. For each stratum, the data coverage – i.e., the percentage (%) of occurrences of interactions sampled – derived from the coverage type must be reported to assess the representativeness and quality of the estimates. That means boats, fish (in numbers), fish (in weight), number of hooks, sets or trips.

IOTC Resolution 15/01 (On the recording of catch and effort data by fishing vessels in the IOTC area of competence) requires Members to annually report seabird data collected by their vessels. This resolution requires reporting on seabird data ("seabirds (in number)"), however "when a CPC is fully implementing the observer program the provision of seabird data is optional" (Resolution 15/01 Annex II para. 2.3). In addition, any interactions with seabirds should be recorded in the remarks (Resolution 15/01 Annex II para. 2.4(2)). These data, if accurately collected and reported, is minimal and limited in scope. For example, "information… shall be completed for each set/shot/operation of the fishing gear" which includes number and weight (Resolution 15/01 Annex II para. 2.2), but only the "number of seabird interactions" within "catch species" not speciated (Resolution 15/01 Annex II para. 2.3).

7. ICCAT

ICCAT Recommendation 07-07 mandates CPCs to record and regularly report seabird interactions and incidental catches. CPCs are required to collect and provide all available information to the ICCAT Secretariat on interactions with seabirds, which includes incidental catches by their fishing vessels. This is a broad requirement to share any data related to seabird bycatch.

All vessels fishing south of 20˚S must carry and use bird scaring lines in accordance with specific parameters (Recommendation 07-07, para. 4). Vessels targeting swordfish using monofilament longline gear and using weighted lines and night setting, may derogate from the requirement to carry and use bird scaring lines (para. 5). CPCs with vessels relying on this derogation are obligated to inform the Standing Committee on Research and Statistics of their scientific findings resulting from their observer coverage of these vessels. This highlights the importance of observer data in the assessment of effectiveness of chosen seabird mitigation measures.

Recommendation 07-07 does not provide specific details on the forms to be used for data collection or the precise procedures for reporting. However, specific reporting forms are drawn from Supplemental Recommendation 11-09 paragraphs 7 and 9.

Note, Recommendation 07-07 does not provide specific details on the forms to be used for data collection or the precise procedures for reporting beyond the general obligations mentioned above. However, specific reporting forms are drawn from Supplemental Recommendation 11-09 paragraphs 7 and 9:

a) Para. 7: the CP44 Form[7] requires an outline of relevant mitigation measures; and
b) Para. 9: ST09 form[8] provides fields for observers' submission of mitigation measures currently in place.

[7] https://iccat.int/Forms/CP44-BirdMit-TRI.docx.
[8] https://iccat.int/Forms/ST09-DomObPrg.xlsx.

The ICCAT Secretariat has advised[9] that Contracting Parties can provide additional explanatory text regarding implementation of seabird mitigation measures through the ICCAT Integrated Online Management System (IOMS).

8. IATTC

Resolution C-11-02 (Resolution to mitigate the impact on seabirds of fishing for species covered by the IATTC) provides the core seabird mitigation requirements for IATTC. This resolution prescribes seabird mitigation requirements for longline vessels over 20m in overall length and fitted with hydraulic, mechanical or electrical systems (paragraph 2). The mitigation requirements only apply for vessels operating in specific geographic areas of the Eastern Pacific Ocean (EPO) - generally north of 23°N (except in Mexican waters) and south of 30°S (plus an eastern portion of the EPO bounded by coastline).

Vessels that operate within the prescribed area and fall within the gear and size specifications are required to apply at least two mitigation measures from a list of measures in Table 1, Resolution C-11-02. However, at least one mitigation measure must be either side setting with bird curtain and weighted branch lines, night setting with minimal deck lighting, tori lines, or weighted branch lines.

Members' annual reporting requirements are prescribed in Resolution C-11-02 (paragraphs 1, 5 and 7). Members' must annually report:

a) on their implementation of the IPOA-Seabirds, including, as appropriate, the status of their National Plans of Action for reducing incidental catches of seabirds in longline fisheries;
b) the mitigation measures their vessels will use for the following year (paragraph 5); and
c) seabird interactions involving their flag vessels, including bycatches of seabirds and details of seabird species and all relevant information available from observer or other monitoring programs (paragraph 7).

IATTC Members, through its IATTC Ecosystem and Bycatch Working Group (EBWG) and Scientific Advisory Committee, are currently discussing potential enhancements to IATTC seabird mitigation measures and associated member and vessel-level reporting. IATTC staff have noted that current Member reporting regarding seabird data is inconsistent in reporting frequency and content, leading to difficulties in assessing the efficacy of mitigation options.

IATTC Members are considering potential amendments to the IATTC seabird mitigation requirements based on its review of other tuna RFMO's mitigation requirements. While not yet adopted, these amendments seek to reduce seabird bycatch mortality and align with existing tuna RFMO mitigation requirements.

9. CCSBT

CCSBT's main CCSBT requirements stem from its *Resolution to Align CCSBT's Ecologically Related Species measures with those of other tuna RFMOs*.

[9] Through direct consultation with ICCAT Secretariat.

Under this Resolution:

a) Members fishing within the Areas of Competence of IOTC, WCPFC, or ICCAT must comply with the respective RFMO's bycatch measures in force in that area. This requirement applies to CCSBT Members regardless of whether the Member is a member of IOTC, WCPFC or ICCAT; and
b) Members fishing outside the Areas of Competence of IOTC, WCPFC or ICCAT must use tori lines in all longline SBT fisheries below 30 degrees south.

CCSBT's Ecologically Related Species annual reporting obligations include detailed reporting requirements in relation to seabird interactions. These reporting requirements relate to data sourced both from observers and also other sources. Therefore, CCSBT Members need to apply detailed operational level reporting for their vessels operating across each IOTC, WCPFC or ICCAT area of competence.

However, ICCAT, IOTC and WCPFC's respective seabird mitigation requirements and reporting are not harmonised. Therefore, each CCSBT Member's mitigation requirements and operational reporting may differ depending on whether it operates across all ICCAT, IOTC and WCPFC - or only a subset of those. Similarly, Members may regulate their vessels' seabird operational requirements based on specific area of operation linked to different RFMO requirements (e.g. high seas vs. in zone, or based on latitude).

10. Tuna RFMOs' seabird mitigation and reporting requirements

The table below provides insights into the similarities and differences across RFMOs' data reporting and collection forms and procedures regarding seabird reporting and compliance.

	WCPFC	IOTC	ICCAT	CCSBT	IATTC
Applicable Measures (CMM /Res./ Rec.)	**CMM 2018-03** (CMM to mitigate the impact of fishing for highly migratory fish stocks on seabirds) **CMM 2022-06** (CMM on daily catch and effort reporting): "*Information recorded for each day with fishing operations shall, at a minimum, include the following …* *iii. Interaction information about other species not listed in those sections, but required to be* *reported by CCMs under other Commission decisions such as, inter*	**Resolution 23/07** On reducing the incidental bycatch of seabirds in longline fisheries (supersedes Resolution 12/06) **Resolution 15/01** On the recording of catch and effort data by fishing vessels in the IOTC area of competence: Specifically for longliners, reporting should include *"seabirds (in number)"* though *"when a CPC is fully implementing the observer program the provision of seabird data is optional"* (Resolution 15/01 Annex II para 2.3). In addition, "*any interactions with whale sharks (Rhincodon typus), marine mammals, and seabirds should be recorded in the*	**Recommendation 07-07** on Reducing Incidental By-Catch of Seabirds in Longline Fisheries **Supplemental Recommendation 11-09** on Reducing Incidental By-Catch of Seabirds in ICCAT Longline Fisheries	**Resolution to Align CCSBT's Ecologically Related Species measures with those of other tuna RFMOs** When fishing outside the Areas of Competence of other tuna RFMOs, CCSBT Members and CNMs required to use tori lines in all longline SBT fisheries below 30 degrees south. However, when fishing within the Areas of Competence of IOTC, WCPFC, or ICCAT, they are obligated to comply with the ERS Measures in force in that area (whether or not the Member or Cooperating Non-Member is a member of the tuna RFMO), as outlined in ERS Alignment Resolution (Annex I).	**Resolution C-11-02** to mitigate the impact on seabirds of fishing for species covered by the IATTC (supersedes Resolution C-10-02). **Recommendation C-10-02** to mitigate the impact on seabirds of fishing for species covered by the IATTC.

	alia, cetaceans, seabirds and sea turtles." (CMM 2022-06, para 2(iii))	*remarks*" (Resolution 15/01 Annex II para 2.4(2)).			
	WCPFC	**IOTC**	**ICCAT**	**CCSBT**	**IATTC**
Mitigation measure requirements	All requirements stipulated in CMM 2018-03: **South of 30°S**: Vessels fishing must use at least 2 of 3 measures: weighted branch lines, night setting, or tori lines. Alternatively, hook-shielding devices may be used as a stand-alone measure. **25°S - 30°S**: Vessels required to use one of the following mitigation measures: weighted branch lines, tori lines, or hook-shielding devices. This requirement does not apply in EEZs of French Polynesia, New Caledonia, Tonga, Cook Islands and Fiji. **North of 23° North:** Large-scale longline	Requirements under Resolution 23/07 (which supersedes Resolution 12/06): **South of 25°S**: All longline vessels fishing shall use at least two of the three mitigation measures listed: Night setting with minimum deck lighting; Bird-scaring lines (Tori lines); Line weighting) OR use hook-shielding devices as a stand-alone measure. Other areas: These measures should also be considered for implementation in other areas, as appropriate, consistent with scientific advice.	The relevant measures include Recommendation 07-07 and Supplemental Recommendation 11-09: **South of 25°S**: Vessels must use at least two of the following mitigation measures: night setting, bird scaring line (BSL) and branch line weighting (para 3, Rec 11-09). Between **20°**and **25°S**: vessels shall use bird-scaring lines (tori poles), however when targeting swordfish with monofilament longline gear, can alternatively use night setting and weighted branch lines – (para 5, Rec 07-07).	As per applicable RFMO having competence over the area in which a vessel is fishing. Noting that when CCSBT Members and Cooperating Non-Members fish outside the Areas of Competence of these RFMOs, they are required to use Tori lines in all longline SBT fisheries below 30 degrees south.	**Resolution C-11-02** prescribes mitigation requirements for longline vessels over 20m in length and fitted with hydraulic, mechanical or electrical systems. These requirements only apply for specific geographic areas and require vessels to apply at least two mitigation measures from Columns A and B (with at least one from Table A) **Column A:** Side setting w/ bird curtain and weighted branch lines; Night setting with minimal deck lighting; Tori line; Weighted branch lines. **Column B**: Tori line; Weighted branch lines; Blue-dyed bait; Deep setting

	vessels (24m or more) must use at least two mitigation measures from Columns A and B, including at least one from Column A. Small-scale LL vessels (<24m) must use at least one measure from Column A. **Column A:** Side setting w/ bird curtain and weighted branch lines; night setting with minimal deck lighting; tori line; weighted branch line; hook shielding devices. **Column B**: Tori line; Blue-dyed bait; Deep setting line shooter; Management of offal discharge. In areas between 25°S and 23°N, CCMs encouraged to have LL vessels employ one or more measures in Columns A and B.				line shooter; Underwater setting chute; Management of offal discharge. Applicable geographic areas in the Easter Pacific Ocean where the above mitigation measures are required: **north of 23°N** (except in Mexican waters) and **south of 30°S**, plus the area bounded by the coastline at 2°N, west to 20°N-95°W, south to 15°S-95°W, east to 15°S-85°W, and south to 30°S. Members with longline vessels fishing in the EPO other than the above area are encouraged to voluntarily employ at least one of the mitigation measures from columns A and B.
	WCPFC	**IOTC**	**ICCAT**	**CCSBT**	**IATTC**

Observer coverage requirements	Minimum 5% annual observer coverage, measured by fishing effort (e.g. number of hooks, sets, or days). Potentially higher observer coverage levels (through both human observers and/or e-monitoring) achieved through operation of CMM 2023-01 linked to increases in Bigeye tuna catch limits. Note, this only applies to CN, ID, JP, KR, CT and US and is voluntary as implemented at the discretion of those Members seeking increased catch limits.	Minimum 5% annual observer coverage, measured by the number of operations or sets, for vessels 24m and above, and for vessels <24m if operating outside EEZ of flag CPC within IOTC Area (Resolution 22/04). Resolution 22/04 allows for observer coverage requirements to be complemented or substituted by e-monitoring systems.	Minimum 5% observer coverage, measured by fishing effort, for each fishery and gear type.[10] In 2023, ICCAT adopted Rec 23-18, setting minimum standards for e-monitoring in LL and PS fisheries.[11] This is in addition or complementary to the human observer requirements.	Target coverage of 10% for catch and effort monitoring for each fishery, specified in the Scientific Observer Program Standards (SOPS). "Observer coverage" is defined as monitoring by either human observers deployed physically onboard vessels, or reviewed catch and effort data from electronic monitoring system.	Minimum 5% annual observer coverage measured by fishing effort made by longline fishing vessels greater than 20m length overall (Resolution C-19-08). Para 8, Resolution C-11-02, provides a non-binding obligation encouraging CPCs '*to establish national programs to place observers aboard longline vessels flying their flags or fishing in their waters, for the purpose of, inter alia, gathering information on the interactions of seabirds with the longline fisheries*'.
	WCPFC	**IOTC**	**ICCAT**	**CCSBT**	**IATTC**

[10] Doc. No. COC-317 / 2021 – Implementation of REC. 16-14: Scientific Observer Programmes.

[11] See 23-18 – Recommendation by ICCAT to Establish Minimum Standards and Programme Requirements for the use of Electronic Monitoring Systems (EMS) in ICCAT Fisheries.

Data Collection Forms	*Part 1 Annual Report* CMM 2018-03, para 13*: All available information on interactions with seabirds reported or collected by observers to enable the estimation of seabird mortality in all [WCPFC] fisheries…. These reports shall include information on:* a) *The proportion of observed effort with specific mitigation measures used.* b) *Observed and reported species-specific seabird bycatch rates and numbers or statistically rigorous estimates of species-specific seabird interaction rates (for longline, interactions per 1,000 hooks) and total numbers*. This reporting includes a number of tables, including: a) Effort, observed and estimated seabird	*1IN Form* On top of standard metadata (Liaison Officer, Organisation, Reporting Year, Reporting Entity, Flag State). This data collection report only covers the fishery, IOTC area and interactions with "Seabirds (in number)" for longliners. Note, when a CPC is fully implementing the observer program the provision of seabird data is optional. Any additional information regarding seabird interactions is noted in the remarks. For each stratum, the data coverage i.e. % of occurrences of interactions sampled, derived from the coverage type, must be reported to assess the representativeness and quality of the estimates. That means Boats, Fish (in numbers), Fish (in weight), Number of hooks, sets, trips. Annex II of the Res 15/02 contains "information for purse seine, longline, gillnet	*CP44-BirdMit* This form covers the "implementation of seabird mitigation measures" including the specific mitigation measure (Night setting with minimum deck lighting/Bird-scaring lines (Tori lines)/Line weighting) with corresponding information, specifically: implemented (y/n), area, details of implementation status of NPOA on seabirds. This form is only applicable for "All CPCs operating fisheries in which seabirds may be taken incidentally". Rec 07-07 does not provide specific details on data collection forms or the reporting procedures beyond the general obligations mentioned above. It mandates the recording and regular reporting of seabird interactions and incidental catches by	*ERSWG Data Exchange* Since 2013, the ERSWG Data Exchange has been an annual process in which ERS data for the immediately preceding calendar year are provided by 31 July each year, following the agreed format including the proportion of observed effort with specific seabird mitigation measures per Member, year, fishery and strata. "Resolution to Align CCSBT's Ecologically Related Species measures with those of other tuna RFMOs" (i.e. CCSBT Members have to follow ERS measures for other relevant tuna RFMOs to reduce duplication, ensure consistency). Members and CNMs will provide national reports on their interactions with ecologically related species in SBT fisheries to the ERSWG. CCSBT Secretariat shall annually present a report to the Compliance Committee on the implementation of the ERS Measures. 'ERS Measures' mean all measures relating to ecologically related	*Annual Report* CPCs annually report on seabird mitigation measures as required in Resolution C-11-02 (paras 5 and 7). These reports include an outline of mitigations measures employed by CPCs as well as seabird interactions (including bycatch and observer/monitoring data). No prescribed or standardised reporting or data collection forms in place. Para 5: '*CPCs shall inform the IATTC, by 1 September 2011, and annually thereafter, of the mitigation measures that their flag vessels plan to employ in the implementation of this resolution'*. Para 7: '*CPCs shall provide annually to the IATTC any available information regarding interactions with seabirds involving their flag vessels in the fishery, including bycatches of seabirds and details of seabird species and all relevant information available from observer or*

	captures by fishing year for each CCM. With, for each year, the total number of hooks; the number of observed hooks; observer coverage (the percentage of hooks that were observed); the number of observed captures (both dead and alive); and the capture rate (captures per thousand hooks) b) Proportion of mitigation types used by the fleet in a given year a) Number of observed seabird captures in [CCM] longline fisheries by species and area in a given year	and pole and line operations and catch, which shall be completed for each set/shot/operation of the fishing gear" which includes number of seabird interactions within "catch species" details however these are not speciated.	CPCs and emphasises the importance of observer data. Mechanisms for vessels to record data on seabird interactions, including incidental catches, with the intention of regular reporting to the Commission are required as per Rec 11-09 (para 7).	species in force in IOTC, WCPFC, and ICCAT. The CCSBT Annual Report for the Compliance Committee and the Extended Commission covers the main monitoring methods (Daily Logbook, Real Time Monitoring Programs, Scientific Observers, Other/EM). Currently, Members report observed and estimated seabird captures, in a 5-degree square stratum, annually through the ERS data exchange using a specified format.	*other monitoring programs'*. In addition, under para 1, CPCs are required to *'report to the IATTC on their implementation of the IPOA-Seabirds, including, as appropriate, the status of their National Plans of Action for reducing incidental catches of seabirds in longline fisheries'*.

	WCPFC	IOTC	ICCAT	CCSBT	IATTC
Operational-level reporting	Pacific Island countries use a regional SPC/FFA Regional Longline Logsheet (expanded	No data reporting forms or formats available online. Operational level reporting determined by Member based	No data reporting forms or formats available online. Operational level	Vessel level reporting requirements are only contained within ERS Measure	No data reporting forms or formats available online. Operational level reporting

	format) that contains fields for recording retention or discard of 'other species' (as well as standard catch and effort data).[12] This standardised log has been developed to facilitate consistent data collection across fleets. To enhance data accuracy and timeliness, the WCPFC has established standards for electronic reporting of operational data. These standards outline the minimum data fields, formats, and validation procedures necessary for electronic submissions with the aim to streamline data collection and improve the efficiency of data management within the Commission.	on its relevant RFMO reporting requirements. Note, IOTC Members may choose to implement their reporting requirements through observer data rather than logbook data.	reporting determined by Member based on its relevant RFMO reporting requirements.	(which triggers the requirements to meet IOTC, WCPFC and IATTC reporting requirements). However, the ERS annual reporting obligations include requirements to provide a summary of catch per unit effort (CPUE), and total numbers of seabirds incidentally caught by area and fleet and a summary of seabird captures from sources other than observers. It is therefore likely that CCSBT authorised vessels would require comprehensive operational level reporting to meet these requirements.	determined by Member based on implemented mitigation requirements. Ongoing Member discussions within IATTC highlights the need for submission of operational-level data from logbooks to support bycatch data collection and analysis.
	WCPFC	**IOTC**	**ICCAT**	**CCSBT**	**IATTC**

[12] https://www.spc.int/digitallibrary/get/5zjzf

Observer data	Observers operating under the Regional Observer Program are required to report in accordance with the WCPFC ROP Minimum Standard Data Fields 2016. This includes specific sections, and corresponding data fields, on: - 'special gear attributes' for longline vessels (which includes seabird mitigation gear such as tori lines or weighted branch lines). - 'species of special interest (SSI)' data fields (including seabird interaction details (date, time location, nature of interaction), outcome/fate of animal. - An 'observer trip monitoring summary' which requires binary reporting on any interactions with SSI (Yes/No).	Under the regional observer scheme (ROS), data collection forms are tailored for specific gear (e.g. LL). Relevant forms are Form 1DI (Discard Data), Form 1DR (Species presence), and Form 1IN (Interactions with Endangered, Threatened, and Protected (ETP) Species). Form 1IN captures the nature and outcome of ETP interactions. Form 3CN (Catch and Effort Data) would also provide valuable accompanying information. Observers are required to document SSI interactions by recording the date, location, species involved, nature of the interaction, and outcome (e.g., released alive, injured, or dead). Interactions should be reported using the designated observer forms and included in submitted trip reports. Observers are required to submit trip reports to the flag CPC within 30 days of trip completion. The CPC is required to forward the reports	Data is collected under domestic observer programs and reported using standardised ST09-NatObProg forms (ST09A, ST09B, ST09C), which capture detailed information on fishing activities, catch composition, and bycatch incidents. The ST09 forms are designed to capture comprehensive data on all fishing operations including SSI/bycatch. Observers must record interactions with SSIs, detailing the species involved, circumstances of the interaction, and the condition of the animal upon release.	CCSBT Scientific Observer Program Standards outline the framework and requirements. Observer data is submitted to the CCSBT as a part of the annual ERSWG Data Exchange process following the agreed templates including interactions with ERS specifications. The ERSWG data exchange obligations include requirements to report on the proportion of observed effort where specific mitigation measures were used and the observed and estimated captures/mortalities by species or group. The CCSBT Scientific Observer Program Standards specify comprehensive catch, effort and environmental information that is to be recorded for each set while the observer is on-board a vessel, regardless of whether the set/haul was actually observed, which includes seabird mitigation measures employed. In addition, observers must report the	CPCs submit summary observer data annually in accordance with Annex A, Resolution C-19-08. This includes data fields for fate of non-retained seabird species (by gear). Operational data collected by observers is reported in accordance with the Minimum Data Reporting Standards (Annex B, Resolution C-19-08). This provides CPCs with two options for submitting observer data. *Option 1*: In accordance with data fields in Annex B, Option 1 which includes specific data fields regarding: - 'special gear characteristics' which includes seabird mitigation specifications; - 'species of special interest' data fields including seabird interaction details (type, date, time, fate). *Option 2*: in accordance with the specific 'Bird Form' (F6)

	However, the WCPFC ROP Minimum Standard Data Fields relating to seabird mitigation measures do not directly align to the existing seabird mitigation requirements in CMM 2018-03. Observers operating under the Regional Observer Programme are not required to use a particular form, only to meet the reporting requirements under the ROP Minimum Data Fields. Some Pacific Islands Observers use the Gen-3 Form developed by FFA/SPC to meet their reporting requirements[13]: This form has more detailed reporting requirements in relation to seabird interaction and mitigation measures, however, is not designed to align directly to CMM 2018-03 requirements. The Regional Observer Program Intersessional	and associated data to IOTC Secretariat within 150 days, using the standardised templates and formats (e.g. electronically).		total number, whole weight in kilograms (when possible), and life status of all species caught but discarded during the observed period.	(Annex B, Option 2) with data fields for interactions, species, sex, date, time, age, hook type, location, condition/fate, mitigation measures employed, and additional observations.

[13] https://www.spc.int/digitallibrary/get/5zjzf

	Working Group continues to progress work to strengthen the ROP Minimum Standard Data Fields.				

11. Conclusion

Seabird reporting and mitigation requirements differ between tuna RFMOs. These differences extend to both Member reporting requirements and to operator level requirements. As a result, operator level reporting requirements are largely left to the discretion of each Member and prescribed by each upon consideration of its own suite of national and international obligations. The operator level reporting requirements applied by Members to their vessels differ based on range of factors, including RFMO membership, national bycatch policy decisions bycatch, and national vessel-level regulatory requirements.

IMCS NETWORK

The IMCS Network is an informal, voluntary organization that includes a growing number of members from national and regional fisheries agencies and organizations. The Network also includes observers from intergovernmental organizations (IGOs), non-government organisations (NGOs) and academic institutions that play a key role in strengthening and enhancing responses to IUU fishing and focusing collective monitoring, control and surveillance (MCS) efforts.

The Network promotes and facilitates effective communication, collaboration, coordination, and capacity development for our members and across the broader fisheries MCS, compliance and enforcement community. The IMCS Network Strategic Plan 2024 – 2029 provides a roadmap to guide and strengthen the Network to ensure that we deliver results, add value to the work of our members and work effectively with our observers and partners.

imcsnet.org