CCSBT-CC/2410/05

Annual Report on Members' implementation of ERS measures and performance with respect to ERS

Introduction

Paragraph 8 of the Resolution to Align CCSBT's Ecologically Related Species (ERS) measures with those of other tuna RFMOs requires that:

> "*The Secretariat shall annually present a report to the CCSBT Compliance Committee on the implementation of the ERS Measures, for the sole purpose of the provision of information for Members and Cooperating Non-Members*".

In addition, the Report of CCSBT 25 specifies:

> *"That ERS is to remain a standing item on the Annual Meeting agenda, and the Secretariat is to provide annual reports on Members' performance with respect to ERS";*

and clarifies that:

> *"the report provided by the Secretariat would be a simple report of numbers and species by Member for the past 3 years, derived from Members annual reports and submitted ERS data, and did not require additional submission from Members."*

The two required reports are interrelated, so the Secretariat compiles the contents for both reports into this single paper. The paper is organised as follows:

(1) Implementation of ERS Measures
   a) Observer Coverage
   b) Usage of seabird mitigation measures
   c) Data submission
   d) Participation and reporting to ERSWG meetings
   e) Annual reports to the Compliance Committee and the Extended Commission

(2) Performance
   a) ERS mortality rate
   b) Total ERS mortality

Most of the information provided in this paper originates from data provided in the CCSBT's ERSWG Data Exchange (EDE). The EDE is defined to include all fishing effort by authorised vessels[1] for shots or sets where southern bluefin tuna (SBT) was either targeted or caught.

[1] Authorised vessels are vessels on the CCSBT authorised list of vessels during the relevant calendar year.

(1) Implementation of ERS Measures

a) Observer Coverage

The CCSBT Scientific Observer Program Standards specifies that the CCSBT Scientific Observer Program will cover the fishing activity of CCSBT Members and Cooperating Non-Members wherever southern bluefin tuna are targeted or are a significant bycatch. The Standards also specify that the Program will have a target observer coverage of 10% for catch and effort monitoring for each fishery and that the observer coverage should therefore be representative of different vessel-types in distinct areas and times.

The scientific observer coverage (observed hooks / total hooks expressed as a percent) by Member, gear, fleet and CCSBT Statistical Area for each of the last three calendar years is shown at **Attachment 1**. With the exception of Taiwan and the Australian purse seine fishery, no Member achieved the 10% target across all areas in 2023. For individual Members, the overall coverage levels were 10% (LL) and 13% (PS) for Australia, 17% for Japan, 20% for Korea, 4% for New Zealand, 23% for Taiwan, 2% for Indonesia, and 13% for South Africa. There are no figures for the European Union (EU). This is because the EU reported that it had no vessels targeting or capturing SBT during the three years in question.

Indonesia has never reached the target observer coverage. Furthermore, Indonesia's data is for its entire longline fleet, not just shots that targeted or caught SBT. Therefore, Indonesia's data is not directly comparable with data from the other Members.

Noticeably, Japan has resumed its observer coverage in 2023 after not achieving any observer coverage in 2021 and 2022 because of constraints based on COVID-19. With this change, all Members are now delivering some level of observer coverage

The CCSBT's Effectiveness of Seabird Mitigation Measures Technical Group (SMMTG) recommended that spatial-temporal representativeness is an important metric of observer program data and agreed on the method for calculating a measure of "representativeness". A column showing the representativeness of the observer coverage for each Member, fleet and year is included in **Attachment 1**. A representativeness of 100% means that the target of 10% observer coverage was achieved for all Statistical Areas that were fished, while a representativeness of 50% means that the target observer coverage was only achieved for half of the areas that were fished. Members should note that this indicator does not factor in the varying levels of effort in each area and therefore does not provide an accurate reflection of overall representativeness.

b) Usage of seabird mitigation measures

Attachment 2 shows the proportion of observed effort in Members' longline fleets that used specific mitigation measures for fishing from 2021-2023. This information is subdivided by groupings of Statistical Areas. Within this attachment, "n/a" means that the information is not available for one of the reasons listed below:

- Indonesia has not provided information on its usage of mitigation measures with its EDE data in any year, and even if it had provided such information, its observer coverage is too low to provide robust information;
- Japan had no observer coverage in 2022 and 2021; and
- Korea had no observer coverage in 2021.

The data gaps continue to make it challenging to make an overall assessment of trends in mitigation use, however, the Secretariat notes the following:

- For New Zealand, there has been a significant increase (from 8.4% in 2021 to 63.6% in 2023) in the percentage of trips where all three mitigation measures were used however this is now based on a much lower observer coverage rate.
- The use of a single mitigation method (primarily tori line) persists in a significant portion of the Taiwanese fleet including in area 15 where fishing operations resumed in 2023.
- There was a significant increase in the level of effort where only one mitigation method was used (weighted branch line) in the South African domestic fishery. This appears to be at the expense of a drop in the use of night setting.

c) Data submission

The main ERS data that Members are required to provide to the CCSBT are the data specified in the annual ERSWG Data Exchange (EDE), which must be provided by 31 July each year. Table 1 shows Members' compliance with the EDE for the last six years.

Table 1: Members' compliance with the EDE for the last six years. "P" indicates partial compliance and "X" indicates non-compliance or no provision of the information. The last line of the table is not a mandatory requirement.

	AU	EU	ID	JP	KR	NZ	TW	ZA
Data provided as required by the EDE in 2017?	✓	n/a[2]	X	✓	✓	✓	✓	✓
Data provided as required by the EDE in 2018?	✓	n/a[2]	P[3]	✓	✓	✓	✓	✓
Data provided as required by the EDE in 2019?	✓	n/a[2]	P[4]	✓	✓	✓	✓	✓
Data provided as required by the EDE in 2020?	✓	n/a[2]	P[4]	✓	✓	✓	✓	✓
Data provided as required by the EDE in 2021?	✓	n/a[2]	P[4]	✓	✓[5]	✓	✓	✓
Data provided as required by the EDE in 2022?	✓	n/a[2]	P[4]	✓[6]	✓[5]	✓	✓	✓
Data provided as required by the EDE in 2023?	✓	n/a[2]	P[4]	✓[6]	✓	✓	✓	✓
Data provided as required by the EDE in 2024?	✓	n/a[2]	P[4]	✓	✓	✓	✓	✓
Data for 2024 provided at species level where this is not a minimum requirement of the EDE[7]?	*P*	*n/a[2]*	✓	-	✓	✓	✓	✓

All Members have complied with the EDE requirements, and some have gone beyond the minimum requirements and have provided ERS data at a species level of resolution in cases where this was not a minimum requirement of the EDE.

Members are also required to submit data similar to the above in national reports to meetings of the ERSWG and to annual meetings of the Compliance Committee and the Extended Commission. However, these data are essentially the same as the EDE requirements or a subset of this information, so are not examined separately in this paper.

d) Participation and reporting to ERSWG meetings

The last three ERSWG meetings were in 2019, 2022, and 2024. Members are encouraged to attend meetings and are required to provide annual reports to these meetings. Table 2 provides information on participation and reporting to these meetings by Members.

Table 2: Participation and reporting to recent ERSWG meetings by Members. "P" indicates partial compliance with the annual report template, and "X" indicates either no participation at the meeting or no annual report submitted.

[2] The European Union has reported no targeting or catch of SBT in the last three years, so there is no relevant data for it to submit to the EDE.
[3] Indonesia was not able to provide the proportions of observed effort with specific mitigation measures.
[4] Indonesia was not able to provide the proportions of observed effort with specific mitigation measures. Furthermore, Indonesia's total and observed effort were calculated from its entire longline fishery operating in the Indian Ocean instead of just for shots that targeted or caught SBT.
[5] However, Korea did not submit any observer data because it had zero observer coverage in 2020 and 2021.
[6] However, Japan did not submit any observer data because it had zero observer coverage in 2021 and 2022

[7] The EDE specifies the minimum taxonomic level at which information should be reported. The EDE also states that information should be provided to species level where this is practical.

	AU	EU	ID	JP	KR	NZ	TW	ZA
2019 ERSWG meeting								
Participated at meeting	✓	X	X	✓	✓	✓	✓	X
Submitted annual report to meeting	✓	X	✓	✓	✓	✓	✓	✓
Completeness of annual report	✓	n/a	P	P	P	✓	P	P
2022 ERSWG meeting								
Participated at meeting	✓	X	✓	✓	✓	✓	✓	X
Submitted annual report to meeting	✓	X	✓	✓	✓	✓	✓	X
Completeness of annual report	✓	n/a	P	P	P	✓	P	n/a
2024 ERSWG Meeting								
Participated at meeting	✓	X	X	✓	✓	✓	✓	✓
Submitted annual report to meeting	✓	X	✓	✓	✓	✓	✓	✓
Completeness of annual report	✓	n/a	✓	✓	P	✓	✓	✓

There was a notable improvement on the completeness of annual reports submitted to the most recent meeting of the ERSWG. With the exception of the EU, all Members submitted a report and these can all be described as being of a high standard and in line with the reporting template. The partial score given to Korea's report is for a minor issue where some headings from the template were missing.

e) Annual reports to the Compliance Committee and the Extended Commission

Members' annual reports to the Compliance Committee and the Extended Commission (Annual CC/EC Report) are required to include information on: Whether the IPOA-seabirds[8], IPOA-sharks[9] and the FAO Guidelines to reduce sea turtle mortality have been implemented; Whether all current binding and recommendatory measures of ICCAT, IOTC and WCPFC aimed at the protection of ERS from fishing are being complied with; Whether data is being collected and reported on ecologically related species in accordance with the requirements of ICCAT, IOTC and WCPFC; and a Description of the methods used to monitor compliance with bycatch mitigation measures, including the level of coverage and the type of information collected[10].

A summary of the above information reported by Members is provided in Table 3 and **Attachment 3**. The table and Attachment were compiled from the 2023 Annual CC/EC Report because the reports for the 2024 meeting were not available at the time of preparing this paper. The information provided by some Members in the 2023 Annual CC/EC Report was ambiguous, and this has been reflected in the footnotes to items in Table 3.

Table 3: Summary of required information reported by Members in their 2023 Annual CC/EC Reports. "P" indicates partial compliance with the measure and/or report template, "X" indicates non-compliance with the measure and/or report template and "?" indicates that insufficient information was provided to determine compliance.

	AU	EU	ID	JP	KR	NZ	TW	ZA
Implemented IPOA-Seabirds	✓	✓	?[11]	✓	✓	✓	✓	X
Implemented IPOA-Sharks	✓	✓	✓	✓	✓	✓	✓	X
Implemented FAO-Sea Turtles	✓	✓	✓	✓	✓	✓	✓	X
Complied with ICCAT ERS Measures	n/a	✓	✓	✓	✓	n/a	✓	X
Complied with IOTC ERS Measures	✓	✓	✓	✓	✓	n/a	✓	X
Complied with WCPFC ERS Measures	✓	✓	✓	✓	✓	✓	✓	X
ERS Data collected and reported as required by ICCAT	n/a	✓	?[12]	✓	✓	n/a	✓	X
ERS Data collected and reported as required by IOTC	P[13]	✓	✓	✓	✓	n/a	✓	X
ERS Data collected and reported as required by WCPFC	✓	✓	✓	✓	✓	✓	✓	X

[8] International Plan of Action for Reducing Incidental Catches of Seabirds in Longline Fisheries.
[9] International Plan of Action for the Conservation and Management of Sharks.
[10] Other ERS information is also required in the Annual CC/EC Report, but this information is also provided elsewhere and is not shown here as it is covered in other parts of this paper.
[11] Indonesia simply notes that it has conducted a workshop related to bycatch mitigation especially in longline fisheries and that based on observer reports, vessels are already implementing mitigation measures.
[12] The response given in the Annual CC/EC Report was "None" and therefore there was no indication as whether the required measures were being complied with or whether the required data was provided.
[13] Australia noted that it was found to be non-compliant in 2022. It is unclear from the report whether the status remains for 2023.

Attachment 3 shows the information provided by Members on methods used to monitor compliance with bycatch mitigation measures, including the level of coverage and the type of information collected.

The Secretariat paper relies on the information provided by Members on their compliance status amongst the various RFMOs given the varying approaches to assessing compliance with ERS across RFMOs. Some RFMO assessments of compliance are primarily focused on whether Members have completed the legislative implementation process (i.e. domestic regulations are in place) but do not seek to determine whether the measures have been implemented from an operational perspective. CCSBT's reliance on other RFMOs for "monitoring, compliance, and surveillance for ERS" was identified as a potential risk in the most recent Performance Review (Recommendation PR2021-30) and Members may wish to consider alternatives.

(2) Performance

The mortality rates and raised total mortality estimates of ERS for each of the species groups defined in the EDE for each Member are provided in **Attachment 4**. It should be noted that some of the shark mortalities are retained as commercial catch and are not all unwanted mortalities.

The 15th meeting of the ERSWG (ERSWG 15) met in June 2024. The meeting concluded that it had no specific or additional concerns about shark bycatch that warranted action by ERSWG 15, noting that significant gaps in observer coverage may be impacting ERSWG's ability to assess the impact of SBT Fisheries on sharks. In addition, ERSWG 15 did update its advice on Seabirds to the following:

- The level of interaction between seabirds and SBT fisheries remains a significant concern.
- The ERSWG noted that the most recent version of the Spatially Explicit Fisheries Risk Assessment, SEFRA, indicates that Wandering and Royal Albatross species groups are at high risk. Species in these groups are of high conservation concern and ACAP indicated that some populations are in sharp decline.
- The SEFRA indicates areas with higher risk in some parts of the Tasman Sea (especially), Southern Atlantic, and Southern Indian Ocean. These areas account for a large proportion of the modelled risk to seabirds from SBT surface longline fisheries, but contain a very small proportion of SBT surface longline fishing effort.
- Based on the best scientific information available, the ERSWG recommends that CCSBT Members consider taking further actions that would ensure robust seabird mitigation measures and effective monitoring of implementation of the mitigation measures, whilst minimising impacts on SBT surface longline fisheries effort.

This revised advice will now be presented to CCSBT 31 for endorsement.

Please note that this section excludes seabird mortality figures for Indonesia because these figures are not meaningful due to Indonesia's low observer coverage (1% or less) and because Indonesia's observer data were not restricted to the SBT fishery. In addition, no information is provided for the EU because the EU reported that it did not target or catch SBT during the years presented.

a) ERS mortality rate

Table 4 provides the observed mortality rate of seabirds for each Member from 2017 to 2023.

Table 4: Observed mortality rate of seabirds (kills per 1,000 hooks) for each Member from 2017 to 2023.

	AU	JP	KR	NZ	TW	ZA
2017	0.000	0.048	0.002	0.119	0.005	0.004
2018	0.000	0.291	0.051	0.312	0.016	0.000
2019	0.000	0.540	0.049	0.319	0.011	0.028
2020	0.000	0.157	Not available	0.022	0.010	0.196
2021	0.000	Not available	Not available	0.236	0.009	0.036
2022	0.000	Not available	0.059	1.049	0.100	0.000
2023	0.039	0.083	0.036	0.334	0.540	0.244

Observed mortality rates vary considerably across the Membership and there is no discernible trend across the fleet. In terms of the most recent observations, mortality rates for seabirds increased for Australia, Taiwan, and South Africa.

b) Total ERS mortality

Table 5 provides the raised number of seabirds killed for each Member from 2017 to 2023.

Table 5: Raised mortality of seabirds (in numbers of seabirds) for each Member from 2017 to 2023.

	AU	JP	KR	NZ	TW	ZA
2017	0	656	6	150	74	1
2018	0	5,216	139	427	233	0
2019	0	6,573	119	435	175	10
2020	0	1,620	Not available	30	161	77
2021	0	Not available	Not available	184	63	38
2022	0	Not available	136	627	1,578	0
2023	28	1,037	82	265	838	135

The change in the raised number of seabird mortalities each year should be interpreted with caution. The May 2019 meeting of the ERSWG advised that the data for 2017 show a lower total number of reported seabird mortalities and the ERSWG noted that this was most likely to have resulted from inadequate and unrepresentative sampling and not from improved mitigation. Therefore, the ERSWG advised that the 2017 data should be treated with caution and that the 2018 data may require the same caution to be applied.

As with seabird mortality rates, there is no clear trend in the raised number of seabird mortalities over the period.

Prepared by the Secretariat

Attachment 1

Observer coverage (observed hooks / total hooks expressed as a percent) by flag, gear, fleet, year and CCSBT Statistical Area[14]. Representativeness is the proportion of Statistical Areas fished that reached the target of 10% observer coverage as per the SMMTG Recommendations. Cells shaded in green have achieved at least 10% coverage (or 100% representativeness). Cells shaded in grey are strata with low effort (<25,000 hooks for longline and <5 sets for purse seine).

				Statistical area												
Member code	Gear code	Fleet code	Year	1	2	3	4	5	6	7	8	9	14	15	Total	Representativeness
AU	LL	AUD	2021		0%		12%			0%					11%	33%
			2022		0%		11%			11%	0%				10%	50%
			2023		0%		11%			2%					10%	33%
	PS	AUD	2021			0%				28%					28%	50%
			2022			0%				8%					8%	0%
			2023							13%					13%	100%
ID	LL	IDD	2021	1%	1%										1%	0%
			2022	1%	0%										1%	0%
			2023	0%	4%										2%	0%
JP	LL	JPD	2021				0%	0%	0%	0%	0%	0%			0%	0%
			2022				0%	0%	0%	0%	0%	0%			0%	0%
			2023				3%	13%	11%	25%	18%	11%			17%	83%
KR	LL	KRD	2021								0%	0%			0%	0%
			2022								0%	24%			22%	50%
			2023								0%	22%			20%	50%
NZ	LL	NZD	2021				0%	6%	14%						10%	33%
			2022				0%	0%	8%						5%	0%
			2023				0%	1%	6%						4%	0%
TW	LL	TWD	2021		18%						15%	2%	8%		12%	50%
			2022		23%						19%	18%	18%		19%	100%
			2023		30%						22%		20%	60%	23%	100%
ZA	LL	ZAC	2021									100%	100%		100%	100%
			2022													
			2023													
ZA	LL	ZAD	2021									16%	20%	11%	14%	100%
			2022									3%	0%	8%	4%	0%
			2023									13%	9%	15%	13%	67%

[14] The coverage for Australia's longline fleet is based on e-monitoring, not human scientific observers.

Table 1: Proportion of observed effort in Members' long line fleets that used specific mitigation measures in Statistical Areas 3-10. These are the Statistical Areas that require 2 out of 3 mitigation measures to be used in the ICCAT, IOTC and WCPFC Convention Areas.

Member	Fleet	Year	Tori pole + Night setting only	Tori pole + weighted branchline only	Night setting + weighted branchline only	Tori pole + night setting + weighted branchline	Night setting only	Tori pole only	Weighted branchline only	Nil	Other
AU	AUD	2021	-	60.5%	-	39.5%	-	-	-	-	-
		2022	-	76.8%	-	23.2%	-	-	-	-	-
		2023	-	57.5%	-	42.5%	-	-	-	-	-
ID	IDD	2021	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		2022	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		2023	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
JP	JPD	2021	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		2022	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		2023	5.1%	53.6%	0.0%	13.9%	0.1%	26.9%	0.0%	-	-
KR	KRD	2021	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		2022	-	100.0%	-	-	-	-	-	-	-
		2023	-	100.0%	-	-	-	-	-	-	-
NZ	NZD	2021	77.7%	7.4%	-	8.4%	0.7%	5.8%	-	-	-
		2022	20.7%	1.9%	-	69.9%	-	7.5%	-	-	-
		2023	32.9%	3.5%	-	63.6%	-	-	-	-	-
TW	TWD	2021	29.6%	-	-	-	4.7%	65.7%	-	-	-
		2022	30.6%	16.1%	-	6.4%	8.6%	35.9%	-	2.4%	-
		2023	33.5%	10.8%	-	11.3%	0.0%	44.3%	-	0.1%	-
ZA	ZAC	2021	-	-	-	100.0%	-	-	-	-	-
		2022	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		2023	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
ZA	ZAD	2021	-	-	7.8%	92.2%	-	-	-	-	-
		2022	-	-	100.0%	-	-	-	-	-	-
		2023	-	-	63.2%	30.3%	6.5%	-	-	-	-

Table 2: Proportion of observed effort in Members' long line fleets that used specific mitigation measures in Statistical Areas 2 and 14. These Statistical Areas are in the Indian Ocean with latitudes ranging from 20°-35°S. Two out of three mitigation measures are required to be used below 25°S in the Indian Ocean.

Member	Fleet	Year	Tori pole + Night setting only	Tori pole + weighted branchline only	Night setting + weighted branchline only	Tori pole + night setting + weighted branchline	Night setting only	Tori pole only	Weighted branchline only	Nil	Other
ID	IDD	2021	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		2022	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		2023	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TW	TWD	2021	23.3%	-	-	-	20.1%	38.3%	-	18.3%	-
		2022	30.3%	18.7%	-	9.0%	1.9%	39.7%	-	0.4%	-
		2023	27.2%	19.4%	-	11.1%	0.3%	40.9%	-	1.1%	-
ZA	ZAC	2021	-	-	-	100.0%	-	-	-	-	-
		2022	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		2023	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
ZA	ZAD	2021	-	-	94.0%	-	-	-	6.0%	-	-
		2022	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		2023	-	-	17.9%	-	-	-	82.1%	-	-

Table 3: Proportion of observed effort in Members' long line fleets that used specific mitigation measures in Statistical Area 15. This Statistical Area is in the Atlantic Ocean with latitudes ranging from 20°-35°S. In this Area, tori lines are required from 20°-25°S and 2 out of 3 mitigation measures are required for the remainder of this Area.

Member	Fleet	Year	Tori pole + Night setting only	Tori pole + weighted branchline only	Night setting + weighted branchline only	Tori pole + night setting + weighted branchline	Night setting only	Tori pole only	Weighted branchline only	Nil	Other
TW	TWD	2021	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	TWD	2022	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	TWD	2023	35.9%	-	-	-	-	64.1%	-	-	-
ZA	ZAD	2021	-	-	17.0%	83.0%	-	-	-	-	-
		2022	-	-	69.7%	30.3%	-	-	-	-	-
		2023	-	-	25.9%	74.1%	-	-	-	-	-

Attachment 3

Information provided by Members on methods used to monitor compliance with bycatch mitigation measures, including the level of coverage and the type of information collected.

	Methods being used to monitor compliance with bycatch mitigation measures, including coverage level	**Type of information collected**
Australia	Australia uses a number of methods to monitor compliance, including compliance with bycatch mitigation measures. These methods include electronic monitoring, observer reports, vessel monitoring system, aerial surveillance, at sea inspections and port inspections. Australian fisheries officers conduct inspections of landings at key SBT ports, as well as at sea boarding's and inspections of boats taking SBT in the longline and farm sectors. In 2020/21 Australian fisheries officers conducted 22 SBT inspections, 8 at sea and 14 in port. AFMA Management officers also attended ports during the course of the season to ensure fishers were aware of their obligations in relation to bycatch mitigation.	The information collected on mitigation measures includes; • whether bycatch mitigation, such as tori lines, is being carried on board the vessel, • whether bycatch mitigation has been deployed appropriately • whether the bycatch mitigation complies with specifications.
EU	*Not applicable.*	*Not applicable*
Indonesia	Inspection by surveillance officer, report from observer on board, port sampling program.	Species identification, length, weight, geographical location, condition when caught and release, and sex.
Japan	Monitoring Japanese fishing vessels registered with the CCSBT through vessel radio communication. FAJ randomly confirms proper implementation, based on real time monitoring program (RTMP) reporting and VMS as well as inquiry. During the 2022/2023 fishing season, no inspection of Japanese fishing vessels registered with the CCSBT was conducted, because MCV was not dispatched to the Southern hemisphere for more urgent monitoring and inspection needs in Japan's EEZ and the adjacent waters.	Fishers have been mandated to write down seabird bycatch mitigation measures applied to their operations in the logbook since 2014.
Korea	Bycatch mitigation measures used are observed and monitored through the scientific observer program and the electronic reporting system.	The information includes sea bird mitigation measures used for reducing its bycatch and data on ERS interaction.

	Methods being used to monitor compliance with bycatch mitigation measures, including coverage level	Type of information collected
New Zealand	Compliance with these measures is monitored through at-sea and in-port inspections by Fishery Officers, aerial surveillance from military aircraft, and the placement of observers on board vessels. Observer reports indicating problems with use of mitigation equipment are prioritised for follow-up with vessel operators. If problems relate to a non-compliance with the seabird mitigation regulatory measures, they are then followed up by Fishery Officers. Additionally, new electronic reporting requirements that came into effect in 2021 require additional reporting for the SLL fleet on seabird mitigation measures and line weighting regimes. During the 2021/22 fishing year, inspections of vessels in port found incidents where breaches of seabird mitigation regulations occurred. All breaches related to tori lines not meeting specifications as per domestic law. Non-compliance resulted in Fishery Officers providing educational advice requiring fishers to remediate tori lines and bring them into line with specifications.	Fishery Officers inspect seabird mitigation equipment used by SLL vessels. Information is recorded on a supplementary inspection form capturing details relating to the configuration of tori line(s), line-weighting and hook shielding devices that are present on vessels. Monitoring of compliance with seabird mitigation requirements through aerial surveillance allows Fisheries Compliance to gather information about the use of mitigation equipment at sea. Any non-compliance detected is followed up and may lead to enforcement action where non-use of mitigation equipment is established. Observer reports provide information about mitigation gear usage, gear descriptions, and fisher attitudes toward seabird mitigation. For each vessel that uses a tori line, a 'tori line details' form is filled out which records information on: • Tori line total length • Attachment point • Aerial extent • Number of streamers • Spacing of streamers • Streamer length • Streamer material
South Africa	All Large Pelagic Longline vessels are subjected to port inspection in line with Port State Measures and as per attached Annexure 5 of the Large Pelagic Longline permit conditions. This port inspection is carried out by the Fishery Compliance Officers in conjunction with the Observers. This includes the Tori line measurements, checking the availability of the de-hooking devices as well as line cutters. In addition, Patrol vessels are from time to time tasked to randomly board the large pelagic longline vessels for the inspection of the above	No report provided
Taiwan	We dispatch observer to monitor compliance with bycatch mitigation measures. Besides, all SBT authorized vessels operating at south of 25°S shall report the usage of bycatch mitigation measures by fishers by logbook and e-logbook since 2017/18 fishing season. For alternative way, fishers shall report their seabirds-mitigation measure every week through Taiwan Tuna Association (TTA). Any conditions for not compliance identified during review by the FA officials shall trigger further investigations and enforcement of sanctions.	Fishers shall report the measures adopted by its vessels to the FA every day by E-logbook. Besides, observers shall record the mitigation measures adopted by the vessel on the observer's logbook since 2014.

Attachment 4

Observer coverage, mortality rate and raised total mortality for each of the species groups defined in the EDE for each Member. The observer coverage has been calculated as the percentage of fishing effort that was observed for all strata (year * Statistical Area * Member) where the species was captured regardless of whether a mortality of that species occurred. Mortality rates are kills per 1,000 hooks. Raised mortalities have not been provided where the overall observer coverage is less than 5%. Blank cells mean there were no encounters of the species, “n/a” means we don’t have the data.

		Observer Coverage			Mortality Rate			Raised Mortalities		
Member	**ERS Species Group**	**2021**	**2022**	**2023**	**2021**	**2022**	**2023**	**2021**	**2022**	**2023**
Australia	Blue shark	12%	13%	11%	0.018	0.209	0.118	8	102	85
	Shortfin mako	13%	11%	10%	0.207	0.087	0.037	76	28	19
	Porbeagle shark			12%			0.000	-	-	-
	Other sharks	13%	12%	11%	0.050	0.055	0.079	25	28	57
	Turtles	10%	10%	100%	0.000	0.000	0.000	-	-	-
	Other seabirds	10%		18%	0.000		0.000	-	-	-
	Unidentified seabirds			18%			0.274	-	-	28
Indonesia	Blue shark	n/a	n/a	n/a	0.775	1.038	1.546	n/a	n/a	n/a
	Shortfin mako	n/a	n/a	n/a	0.055	0.056	0.447	n/a	n/a	n/a
	Porbeagle shark	n/a	n/a	n/a			0.015	n/a	n/a	n/a
	Other sharks	n/a	n/a	n/a	0.512		0.227	n/a	n/a	n/a
	Turtles	n/a	n/a	n/a	0.017	0.085	0.068	n/a	n/a	n/a
	Other albatrosses	n/a	n/a	n/a	0.069			n/a	n/a	n/a
	Other seabirds	n/a	n/a	n/a	0.053			n/a	n/a	n/a
	Unidentified seabirds	n/a	n/a	n/a			0.027	n/a	n/a	n/a
Japan	Blue shark	0%	0%	18%	n/a	n/a	1.136	n/a	n/a	12,765
	Shortfin mako	0%	0%	19%	n/a	n/a	0.005	n/a	n/a	74
	Porbeagle shark	0%	0%	18%	n/a	n/a	0.251	n/a	n/a	2,565
	Other sharks	0%	0%	19%	n/a	n/a	0.013	n/a	n/a	231
	Dark coloured albatrosses	0%	0%	13%	n/a	n/a	0.083	n/a	n/a	115
	Large albatrosses	0%	0%	16%	n/a	n/a	0.008	n/a	n/a	45
	Other albatrosses	0%	0%	19%	n/a	n/a	0.055	n/a	n/a	602
	Unidentified albatrosses	0%	0%	15%	n/a	n/a	0.004	n/a	n/a	14
	Giant petrels	0%	0%	18%	n/a	n/a	0.023	n/a	n/a	191
	Other seabirds	0%	0%	79%	n/a	n/a	0.169	n/a	n/a	71
Korea	Blue shark	0%	24%	23%	n/a	0.479	2.656	n/a	1,102	6,042
	Shortfin mako	0%	18%	26%	n/a	0.000	0.008	n/a	-	14
	Porbeagle shark	0%	24%	23%	n/a	0.044	0.018	n/a	97	32
	Other sharks	0%	23%	22%	n/a	0.086	0.731	n/a	186	1,604
	Dark coloured albatrosses	0%	20%		n/a	0.026		n/a	30	-
	Large albatrosses	0%		28%	n/a		0.004	n/a	-	5
	Other albatrosses	0%	24%	22%	n/a	0.046	0.038	n/a	89	77
	Giant petrels	0%	44%		n/a	0.007		n/a	4	-
	Other seabirds	0%	26%		n/a	0.009		n/a	13	-
New Zealand	Blue shark	13%	13%	6%	3.296	3.846	7.645	3,968	2,298	12,281
	Shortfin mako	13%	15%	8%	0.229	0.072	0.000	376	39	-
	Porbeagle shark	16%	13%	6%	1.686	1.639	0.275	1,269	979	425
	Other sharks	13%	17%	6%	0.072	0.041	0.147	88	13	197
	Turtles	9%			0.000			-	-	-
	Large albatrosses			14%			0.035	-	-	16
	Other albatrosses	22%	14%	12%	0.225	0.266	0.297	110	157	172
	Unidentified albatrosses	22%	11%	7%	0.030	0.095	0.229	15	26	31
	Giant petrels	22%	15%	12%	0.120	0.818	0.078	59	444	47
	Other seabirds	10%	17%	2%	0.000	0.000	0.000	-	-	-
	Whales		17%	14%		0.000	0.000	-	-	-
Taiwan	Blue shark	13%	20%	23%	0.157	0.814	0.552	1,650	12,641	7,792
	Shortfin mako	14%	19%	23%	0.048	0.039	0.045	389	573	617
	Porbeagle shark		21%	23%		0.246	0.145	-	2,490	2,017
	Other sharks	14%	20%	22%	0.012	0.007	0.001	73	71	14
	Dark coloured albatrosses		22%	24%		0.012	0.012	-	47	81
	Large albatrosses		23%	23%		0.011	0.037	-	51	45
	Other albatrosses	19%	21%	24%	0.024	0.157	0.027	43	1,173	309
	Giant petrels	13%	21%	26%	0.043	0.025	0.090	20	76	335
	Other seabirds		23%	25%		0.070	0.016	-	231	67
South Africa	Blue shark	19%	9%	15%	6.256	3.518	3.051	5,077	1,142	1,515
	Shortfin mako	26%	8%	15%	1.202	1.804	2.771	1,069	503	1,371
	Porbeagle shark			44%			0.000	-	-	-
	Other sharks	17%	9%	15%	1.814	0.125	0.610	1,030	12	353
	Turtles	18%		14%	0.000		0.000	-	-	-
	Other albatrosses	5%	15%	16%	0.667	0.000	0.537	38	-	121
	Giant petrels			20%			0.087	-	-	13