



**SCIENTIFIC COMMITTEE
NINETEENTH REGULAR SESSION**

Koror, Palau
16 – 24 August 2023

**CCSBT Multi-year Seabird Strategy and its action plan -- toward establishment of
global risk assessment framework of seabird bycatch by tuna longliners**

WCPFC-SC19-2023/EB-IP-11

S. Tsuji and D. Ochi

 <p>Agreement on the Conservation of Albatrosses and Petrels</p>	<p>Eleventh Meeting of the Seabird Bycatch Working Group</p> <p><i>Edinburgh, United Kingdom, 15 - 17 May 2023</i></p> <p>CCSBT Multi-year Seabird Strategy and its action plan -- toward establishment of global risk assessment framework of seabird bycatch by tuna longliners</p> <p><i>Sachiko Tsuji and Daisuke Ochi</i></p>
---	---

SUMMARY

This document introduced the Multi-year Seabird Strategy adopted by the CCSBT in 2019 and its action plan adopted in 2022, together with backgrounds and future plans and a proposal moving toward establishment of regular global risk assessment framework in the future.

The Strategy was tiered with three level; overall objective, five specific objectives and actions under each specific objective. It covered a broad range of activity areas as well as institutions to implement and was expected to facilitate enhanced collaboration and communication among different sectors. The initial implementation would be tried in the period for the next two years and the extent of effectiveness of the Strategy at least in the area of technical work would become clear at the time of the next ERSWG meeting in 2024.

1. BACKGROUND AND HISTORY

This document intended to introduce the multi-year Seabird Strategy adopted by the Commission of the Conservation of Southern Bluefin Tuna (CCSBT) in its 26th Annual Meeting in 2019, together with its action plan adopted in the 29th Annual Meeting in 2022.

In principle, the description was based on the publicised report of the CCSBT meetings that would be available from the CCSBT official web site, except the last section. However, it should be noted that the document also heavily reflected our own recognition and interpretation, in particular, on the issues currently under development, which were not necessarily indicate the consolidated views of the all CCSBT Members.

1.1. Background and history

The issue of substantial interferences of SBT fisheries with seabirds was well recognised even at the time of establishment of the CCSBT in 1994. Therefore, its 4th Annual Meeting, First Part agreed to require mandatory use of Tori-poles by all CCSBT Members in all long-line SBT fisheries below 30 degrees south, but not in a form of “resolution”. Since then, little progress had been made for quite long period.

Corresponding to the request to provide data and management related recommendations on ERS matters for the Extended Commission’s consideration, the 6th meeting of the CCSBT Ecologically Related Species Working Group (ERSWG) in 2006 developed an initial draft of recommendation on reducing the incidental bycatch of seabirds, together with that of conservation and sustainable utilisation of sharks and data collection and provision for ERS, for the first time, with the commitment to reach an agreement at the 7th meeting of ERSWG. This ignited the debate whether the CCSBT can make binding measures for ERS related issues, since the Basic Text only refers to the management of SBT and SBT fisheries. As a result, the 7th meeting of ERSWG could not reach agreement on draft recommendation.

The debate on the CCSBT’s legal capacity of establishing the mandatory measures on ERS related matter had continued until 2018 when the CCSBT agreed on the Resolution to Align CCSBT’s Ecologically Related Species measures with those of other tuna RFMOs at the 25th Annual Meeting, that was updated at the 28th Annual Meeting in 2021.

Performance Review conducted in 2008 criticised non-functioning of the ERSWG and pointed, at the very least, need to assess the risks and impacts of SBT fisheries on ERS species and adopt an appropriate mitigation strategy to address those risks and impacts to be performing effectively. In response, the 15th Annual meeting in 2008 agreed to develop a non-binding recommendation for the CCSBT covering By-catch mitigation for sea birds, sea turtles and sharks. Also, it agreed to develop a Strategic Plan and established Strategy and Fisheries Management Working Group. The Plan was adopted at the Special Meeting held in 2011, which included three items and seven action plans under the ERS.

Recognising that the detailed action plan of the CCSBT Strategic Plan would complete in 2014, the Strategy and Fisheries Management Working Group was established again to discuss on the revision of action plan. At the same time, following the ERSWG recommendation, a small technical group, Effectiveness of Seabird Mitigation Measures Technical Group (SMMTG), was established to provide an advice to the ERSWG on feasible, practical, timely, and effective technical approaches for measuring and monitoring the effectiveness of seabird mitigation measures in SBT longline fisheries. Both groups tabled their reports in 2015. The ERSWG took the SMMTG recommendations to progress into two directions: one toward a global

assessment of seabird bycatch collaboratively among all tuna RFMOs through the support of the ABNJ Tuna Project Seabirds component, BirdLife International as the lead organisation, and the other as development of ERSWG work plan.

At the 13th meeting of the ERSWG in 2019, Australia tabled a proposal of developing a seabird bycatch mitigation strategy that combined and summarised the recommendations from the SMMTG, independent from the CCSBT Strategic Plan that became focused more on the general operation of the CCSBT. The ERSWG supported the concept and adopted the multi-year seabird strategy after modifications made by the ad-hoc small working group. The modifications included a removal of quantitative target from the overall objective, inclusion of reference to adverse impacts on seabirds indicating a particular focus on impacts to threatened population, and simplification of specific objectives. The 26th Annual Meeting of CCSBT adopted the proposed overall objective and five specific objectives for a CCSBT Multi-year Seabird Strategy.

The 14th meeting of ERSWG in 2021 developed a range of actions to be undertaken under each specific objective, which was adopted by the 29th Annual meeting of CCSBT.

1.2. Technical developments

It should be noted that the CCSBT Multi-year Seabird Strategy was also supported with a solid technical basis developed through the years. This section briefly pointed key technical backgrounds supporting the implementation of the Strategy.

First, the collection and reporting of ERS related information was standardised in 2012 and improved several times since then. Experiences in the process of data preparation for global seabird assessment conducted under the ABNJ Tuna Project Seabirds component allowed us to understand comprehensively a range of data available as well as gaps and to improve harmonisation of ERS-related data to be collected among the CPCs of all tuna RFMOs. Nowadays, the data gathering for collaborative analysis should be an easy task as long as remaining with the 5x5 monthly aggregation.

In particular, it should be noted that the joint analysis by Taiwan and Japan revealed the substantially low seabird bycatch rate reported derived from spatial and temporal differences in operating areas as well as different definition of “SBT fisheries” (ERSWG14), which pointed the importance to include all fishing efforts within a given time area space regardless the target species when conducting a risk assessment.

The Strategy planned to utilise the Spatially Explicit Fisheries Risk Assessment (SEFRA), at least for the initial assessment, that was originally proposed by New Zealand at the ERSWG8 in 2012 and continuously evaluated and refined since then and well accepted within the CCSBT. In the SEFRA, the probability of a certain bird species by certain fleet in a given time/area stratum was explained by expected overlaps of bird distribution and fleet distribution and catchability that was further separated into bird-specific and fleet-specific components. In the other words, the SEFRA allowed to separate bird-specific susceptibility and fleet specific vulnerability and the latter corresponding relative performance in seabird mitigation capability for individual fleet. The global seabird assessment conducted under the ABNJ Tuna Project in 2019 evaluated that the SEFRA with 5x5 quarterly data obtained the similar level of seabird mortality estimates as those obtained from the models utilising fine-scale observer data. The robustness of estimates was repeatedly examined and evaluated once adequate temporal and spatial coverage of fleet effort data secured.

The SEFRA utilised the seabird distribution derived from seabird tracking data processed by BirdLife to estimate overlap between bird and SBT fisheries distribution and total seabird mortality. Responding to the ERSWG's request to ensure the future availability of such data at the 14th meeting in 2015, BirdLife advised that the density distribution layers will be made publicly available on GitHub assuming all data owners agree. The information cannot be updated continuously, but instead it would be updated as required for specific bycatch analysis projects.

SEFRA also requires bird catch data identified at species level, since the method evaluated its risk based on species-specific biological parameters and temporal and spatial distribution pattern. The capacity of individual CPCs to identify captured bird species had been substantially improved in recent years by introduction of experts' judgement on photo and introduction of DAN analysis. Data utilised for the 2019 global assessment (i.e. for the 2012-2016 period) was considered to contain around 10 to 40 % of catch information without species identification and therefore it required to adjust the impacts of the part of not identified. The rate of identification reached to 95 – 100 % for Taiwanese and Japanese fleet in recent years and the similar high identification rates were expected at least for other major SBT fleets with significant interferences with seabirds (i.e. Australia, New Zealand, and South Africa).

Without SEFRA, it would not be possible to implement the CCSBT Seabird Strategy.

2. CCSBT MULTI-YEAR SEABIRD STRATEGY AND ITS ACTION PLAN

The adopted CCSBT Multi-year Seabird Strategy was shown in Appendix 1 together with its action plan under specific objectives.

The Strategy had three tiers. Under the overall objective, five specific objectives covering full spectrum of tasks required to tackle on seabird bycatch mitigation, and then a range of actions was set that could be either regular tasks or those with relatively short-term vision.

The agreed overall objective was "To reduce or eliminate seabird bycatch, such that SBT fisheries do not impose a significant adverse impact on seabirds". Although there was some complaint against not referring to quantitative target, considering that the overall objective would serve for a long-term and that no reliable target reference existed at this moment, it was considered pragmatic and effective to keep the overall objective narrative and to set up a quantitative target at the action level reflecting the risk status and estimation results at that time, which would add flexibility and timeliness when implementing the strategy.

It should point out that CPUE/ BPUE was primarily the indicator of abundance of target animals in a given time and area stratum. Therefore, the overall BPUE of seabirds often reflected the occurrence of most abundant birds with less concerns on its population status and would hide the signals of capture of birds high in a risk. Total mortality would be the same since it obtained by multiplied BPUE with efforts, controlled by the pattern of occurrence of most abundant birds. The latter half of the objective was the statement of our commitment to shift toward saving birds the most at risk, while maintaining the efforts toward reducing the global birds bycatch as a whole.

Under the overall objective, the following five specific objectives were determined with a special focused area indicated in the brackets:

- Objective 1: To reduce the level of impact of seabird bycatch by SBT fishing operations on seabird populations.

[monitoring and assessing the status]

- Objective 2: To ensure the collection of timely, reliable, representative data to support accurate regular estimations of total seabird mortality in SBT fisheries and its impact on seabird populations.

[Data collection]

- Objective 3: To develop and refine, in collaboration with industry and ACAP, practical, cost-effective and safe seabird bycatch mitigation technologies and techniques.

[Improving mitigation techniques]

- Objective 4: To develop and refine compliance approaches to ensure fleet-wide compliance with seabird bycatch mitigation measures required while conducting fishing for SBT.

[compliance]

- Objective 5: To enhance education and outreach programs highlighting the importance of mitigating seabird interactions while fishing, and advocating effective implementation of mitigation measures.

[education and outreach]

Actions of relatively short-term or of regular activities were placed under each Specific Objective. It should be noted that a range of actions as well as implementing institutes were not restricted to the technical nature but cover broad types of activity areas and institutions. The Strategy was expected to provide a guidance to enhance close communication and collaboration among different institutions.

3. FUTURE STEPS

3.1. Within the CCSBT

In this section, the work plan until the next ERSWG that would be held in the middle of 2024 would be described. Here, only actions under the responsibility of ERSWG would be covered.

The actions to be completed prior to or at the ERSWG15 were shown with grey mark. Among 15 actions grey-marked, nine were ERSWG relevant. Most of them would be decided through the discussion at the ERSWG15, while about half of them would require input from the SERFA analysis. Therefore, the ERSWG14 established a Technical Working Group for conducting an initial collaborative SERFA assessment led by New Zealand and Japan. The Technical Group would be responsible to deliver not only the SERA results (1E) but also develop an initial proposal of list of priority species for management (1D), proposed definition of high-risk areas (1F) and proposed management target based on SERFA (1Ab). Currently, New Zealand was busy refining the model, while Japan was further examining the model sensitivities and robustness to various factors. Although the process had kept delaying, it was targeted to hold the online meeting of the Group allowing voluntary participation to face to face discussion for the purpose of presenting the final model and finalising the general model structures, as well as for agreeing on the data preparation and the process of sharing them. Hopefully this would

allow adequate time for the members to conduct model runs, analyse the results and discuss on their interpretation.

We considered it extremely important to go through the whole process starting from data gathering, collaborative assessment, analysis and interpretation as a group and until generating advices to the Commission, at least once. Otherwise, there would be a high risk of prolonging the process without delivering the final products. In the other words, we committed ourselves to deliver a set of expected deliverables, even using the old version of SEFRA if the model refining could not be completed within a certain time frame, to see how the things would work, and wished to share the experiences to plan for the next.

3.2. Toward establishment of global framework for regular assessments

This section described a bit longer term expectation. Since they were not formally discussed in the CCSBT forum, anything in this section should be taken as our personal views.

Once advice generating cycle completed, we wished to reach all other tuna-RFMOs, i.e. ICCAT, IOTC, WCPFC and IATTC, to organise the global seabird assessment in a collaboration with the new FAO Common Oceans Tuna Program. The objective should include i) to update of and compare with the 2019 assessment results which would allow evaluation in change of seabird mitigation performance between two time periods, ii) to review on existing data availability, their quality and gaps, and iii) to agree on mechanism of future platform to enable regular updates of global assessment, e.g. every five years.

The second round of FAO Common Oceans Tuna Program was recently launched. The CCSBT would operate the seabird component that was expected to play active roles in education, outreach, improving monitoring, data collection and mitigation technologies, as well as in the next round of global seabird assessment. Those who were interested in joining any parts of the Program were kindly requested to contact with Mr Ross Wanless, CCSBT Seabird Bycatch Manager and coordinator of FAO Common Oceans Tuna Program, for further information and ensuring a communication channel.

Multi-year Seabird Strategy

Introduction

The Ecologically Related Species Working Group commenced consideration of a multi-year seabird strategy at ERSWG12.

ERSWG has decided that the seabird strategy should, among other things:

- consider research, monitoring needs
- include actions for reducing uncertainty and associated risks
- consider recommendations from the *Report of the Effectiveness of Seabird Mitigation Measures Technical Group* (CCSBT-ERS/1503/Rep1) (the SMMTG Report), as modified by ERSWG11 (CCSBT-ESC/1509/Rep2, Att. 4), noting progress in implementing the recommendations (CCSBT-ERS/1905/05)
- take account of the *International Plan of Action for reducing incidental catch of seabirds* (IPOA-S) (FAO 1999) and associated best practice technical guidelines (BPTG) (FAO 2009).

The Extended Commission for the Conservation of Southern Bluefin Tuna has adopted a *Resolution to align CCSBT's Ecologically Related Species measures with those of other tuna RFMOs* (CCSBT25: Noumea, New Caledonia, 15–18 October 2018). This binding Ecologically Related Species (ERS) measure requires CCSBT Members to implement the ERS measures of other relevant Regional Fisheries Management Organisations (RFMOs) as part of the CCSBT's determination to mitigate incidental harm to ERS caused by fishing for southern bluefin tuna (SBT).

ERSWG remains of the view that the level of interaction between seabirds and SBT fisheries is still a significant level of concern. Some seabird species, particularly some albatross and petrel species, are threatened with global extinction (CCSBTERS/2203/16).

ERSWG continues to progress the development of the multi-year seabird strategy. The EC has agreed to the overall objective and five specific objectives for the strategy. ERSWG has developed actions under each of the specific objectives. ERSWG has also developed the approach to implementation and evaluation of the strategy. ERSWG proposed that the seabird strategy be implemented taking account of the General Principles of the *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea Convention of 10 December 1982 Relating to the Conservation and Management of Highly Migratory Fish Stocks and Straddling Fish Stocks* (UN Fish Stocks Agreement).

ERSWG will continue work on the multi-year seabird strategy, including through intersessional consultations.

Overall objective

This strategy's overall objective is:

To reduce or eliminate seabird bycatch, such that SBT fisheries do not impose a significant adverse impact on seabirds.

Specific objectives

To achieve the overall objective, the following specific objectives have been developed consistent with the International Plan of Action for Reducing Incidental Catch of Seabirds, and associated Best Practice Technical Guidelines (BPTGs), that recommend RFMOs establish attainable objectives that lead to ongoing reductions in seabird mortality (FAO 1999, 2009).

Objective 1: To reduce the level of impact of seabird bycatch by SBT fishing operations on seabird populations.

Objective 2: To ensure the collection of timely, reliable, representative data to support accurate regular estimations of total seabird mortality in SBT fisheries and its impact on seabird populations.

Objective 3: To develop and refine, in collaboration with industry and ACAP, practical, cost-effective and safe seabird bycatch mitigation technologies and techniques.

Objective 4: To develop and refine compliance approaches to ensure fleet-wide compliance with seabird bycatch mitigation measures required while conducting fishing for SBT.

Objective 5: To enhance education and outreach programs highlighting the importance of mitigating seabird interactions while fishing, and advocating effective implementation of mitigation measures.

Actions to achieve the specific objectives

The following actions will be undertaken against each of the specific objectives.

Objective 1: To reduce the level of impact of seabird bycatch by SBT fishing operations on seabird populations.

No.	Action	Action by	Timeframe
1A	To agree on a SBT seabird bycatch target for reducing the level of impact of SBT fishing operations on seabird populations, including, but not limited to: a. Targets based on nominal reported seabird bycatch rates. b. Targets based on SEFRA outputs.	ERSWG	ERSWG15
1B	That a minimum level of 10% observer coverage is achieved on a fleet-by-fleet basis for SBT fisheries or a comparable minimum level of review of video footage collected using electronic monitoring	CCSBT Members	Ongoing
1C	Evaluate the effectiveness of the seabird CMMs introduced around 2005 by tuna RFMOs, in the context of reducing the overall seabird mortalities, taking into consideration fleet differences and seabird distributions and identify the areas for improvement. The outcomes from the evaluation will be communicated across tuna RFMOs and used as a basis for future evaluations.	ERSWG	Within 2 years, after that every 5 years
1D	Agree on the list of priority species and corresponding management targets, taking into account the status of seabird population, distributional overlaps with SBT fisheries, and significance of SBT fisheries in their mortality.	ERSWG, CCSBT	Within 2 years
1E	Update SEFRA seabird risk assessment to evaluate the progress in seabird bycatch mitigation by SBT fisheries and their impacts on seabird populations from the previous assessment in 2019. The results to be communicated across tuna RFMOs.	ERSWG	ERSWG 15, after that every 2 years

1F	<p>Establish a robust definition of <i>high risk</i> areas that takes into account the precautionary approach by:</p> <ol style="list-style-type: none"> Establishing a definition of <i>high-risk</i> areas. Identifying areas that meet the definition. Characterising the nature of the risk in each area. Developing tailored measures aimed at reducing those risks. 	ERSWG, CCSBT	Within 2 years
----	---	--------------	----------------

Objective 2: To ensure the collection of timely, reliable, representative data to support accurate regular estimations of total seabird mortality in SBT fisheries and its impact on seabird populations.

No.	Action	Action by	Timeframe
2A	Define improved protocols for reporting and analysing fishing effort data in the context of estimating seabird bycatch and its impacts on seabird populations, including concerning any implicit assumptions used when raising data.	ERSWG	Within 2 years
2B	Report and disseminate annually numbers of incidentally caught seabirds by species according to agreed reporting standards, total and observed effort, and mitigation use, according to agreed formats and strata.	CCSBT Members, Secretariat	Annually
2C	<p>Explore options for the use of electronic monitoring systems by:</p> <ol style="list-style-type: none"> Including seabirds (and other ERS) in discussions and the development of electronic monitoring systems. Considering electronic monitoring systems that contribute to, among other things, the effective monitoring of the implementation of seabird mitigation measures, and seabird interaction levels, throughout SBT fisheries. 	ERSWG, CC, SC, ACAP, other tuna RFMOs	Within 3 years

2D	Explore methodologies and techniques for estimating seabird mortalities in a timely and reliable manner, based on best available information and technologies, and not limited to observers and electronic monitoring.	CCSBT Members	Ongoing
2E	Agree on the CCSBT standard protocols for collecting feather samples and photographing dead bycaught seabirds, based on ACAP guidance.	ERSWG	ERSWG 15
2F	Review observer coverage of each stratum and fishing fleet to identify gaps and where additional coverage is needed concerning seabird bycatch.	CCSBT Members	At each ERSWG
2G	Update guidance for observers to include electronic monitoring seabird related task priorities including how to allocate time appropriately, recognising the multiple tasks undertaken, where applicable.	ERSWG	ERSWG 15
2H	Review procedures and protocols to facilitate improved reporting of seabird interactions to species level by: <ul style="list-style-type: none"> a. Consistent reporting of seabird interactions across SBT fishing fleets. b. Removing any ambiguity about species groupings. 	ERSWG, CC, BirdLife International	Within 2 years, after that every 5 years
2I	Consider options for the use of fishing vessel logbook records of seabird interactions by examining the potential for logbook records to supplement other seabird interaction information sources, where appropriate.	ERSWG, CC, ACAP, other tuna RFMOs	Within 3 years

Objective 3: To develop and refine, in collaboration with industry and ACAP, practical, cost-effective and safe seabird bycatch mitigation technologies and techniques.

No.	Action	Action by	Timeframe
3A	Encourage CCSBT Members to undertake and support research and development to refine practical, cost-effective and safe seabird bycatch mitigation technologies and techniques.	CCSBT Members	Ongoing
3B	Advocate for strengthened seabird CMMS relevant to SBT fisheries within tuna RFMOs, where appropriate, taking account of, among other things, the best practice advice provided by ACAP.	CCSBT Members	Ongoing
3C	Regularly monitor and identify changes in the spatial overlap of fishing effort for SBT and the distribution of seabird species, particularly threatened albatross and petrel species, and inform the relevant fisheries across tuna RFMOs.	ERSWG	At each ERSWG
3D	Assess the cumulative impacts of fishing for SBT on seabirds, particularly threatened albatross and petrel species, across tuna RFMOs including developing methods for extrapolating seabird bycatch levels and seabird bycatch rates to identify total mortalities and total mortality rates.	ERSWG	At each ERSWG
3E	Consider the development of protocols on potential management responses to high seabird bycatch events.	ERSWG, BirdLife International, ACAP	Within 3 years

Objective 4: To develop and refine compliance approaches to ensure fleetwide compliance with seabird bycatch mitigation measures required while conducting fishing for SBT.

No.	Action	Action by	Timeframe
4A	Collate information from compliance programs of CCSBT Members on implementation of seabird bycatch mitigation measures in SBT fisheries on a fleet-by-fleet basis.	CCSBT Members, Secretariat	Annually
4B	<p>Review procedures and methods to improve compliance by SBT fishing operators with seabird CMMs and reporting requirements concerning seabird interactions by:</p> <ul style="list-style-type: none"> a. Reviewing existing procedures and methods, including for in-port and transshipment at-sea inspections, and when other monitoring and surveillance technologies and techniques are used. b. Considering implementation, where appropriate, of additional monitoring and surveillance technologies and techniques. c. Considering options for management responses concerning non-compliance. d. Considering the development of options to enable, particularly for high seas SBT fishing fleets, the timely reporting of non-compliance events. 	CC	Within 2 years
4C	Review data collection forms and procedures across tuna RFMOs regarding compliance with seabird CMMs by longline fishing operators and develop harmonised format to communicate and advocate across tuna RFMOs.	CC	Within 2 years, after that every 5 years

Objective 5: To enhance education and outreach programs highlighting the importance of mitigating seabird interactions while fishing, and advocating effective implementation of mitigation measures.

No.	Action	Action by	Timeframe
5A	Share documents, formats and procedures for observer and electronic monitoring, seabird bycatch data collection through a centralised portal, e.g. the Bycatch Mitigation Information System hosted by the Western and Central Pacific Fisheries Commission.	Secretariat, BMIS	Ongoing
5B	Pursue collaboration across tuna RFMOs in capacity building in seabird bycatch monitoring and analyses.	CCSBT Members, Secretariat	Ongoing
5C	Explore options (if data are available) for the establishment of a reference DNA database for seabird species bycaught during fishing for SBT across tuna RFMOs.	CCSBT Members, ACAP, Seabird Experts	Within 2 years
5D	Support the establishment of a reference photographic database through a centralised portal, e.g. the Bycatch Mitigation Information System (BMIS) hosted by the Western and Central Pacific Fisheries Commission, for seabird species bycaught during fishing for SBT across tuna RFMOs. This may include involving volunteer networks and seabird specialists.	CCSBT Members, BMIS, Seabird Experts	Within 2 years
5E	Translate ACAP's seabird species identification guide into key languages (e.g. French, Indonesian, Korean, Spanish, and Taiwanese) and disseminate together with the other languages (e.g. English Japanese).	Common Ocean Project II, ACAP	ERSWG 15

Implementation and Evaluation

Effective implementation of the Seabird Strategy will be monitored through direct observer programmes, audited electronic monitoring systems, and other monitoring and compliance approaches at-sea and in port. This will ensure fishing operators fully and effectively implement their seabird bycatch mitigation obligations and accurately report any incidental catch of seabirds. Implementation will require sufficient capacity

among individual CCSBT Members, and collectively, to collate, analyse and develop responses that avoid or minimise the incidental catch of seabirds in SBT fisheries.

The ERSWG, with assistance from CCSBT Members, will monitor the effectiveness of the Seabird Strategy. The progress of the Seabird Strategy will be evaluated at intervals of no more than four years, with the plan revised as appropriate. The strategy will remain in effect until the overall objective is achieved, with particular regard given to the reduction of seabird bycatch levels, and reduction in seabird bycatch rates.

References

FAO (1999) *International Plan of Action for reducing incidental catch of seabirds in longline fisheries*. Rome, Italy

FAO (2009) *Fishing Operations. 2. Best practices to reduce incidental catch of seabirds in capture fisheries*. Rome, Italy

IUCN (International Union for Conservation of Nature (2019) The IUCN Red List of Threatened Species. Version 2018-2. Available at: <http://www.iucnredlist.org>