Developing a multi-year seabird strategy

Introduction

The Ecologically Related Species Working Group commenced consideration of a multi-year seabird strategy at its twelfth meeting (ERSWG12). ERSWG12 decided that the strategy should identify, among other things, research, monitoring needs, actions for reducing uncertainty and associated risks, and the 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).

The Extended Commission for the Conservation of Southern Bluefin Tuna has since 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).

CCSBT Members recognise and are concerned that some seabird species, notably some albatross and petrel species, are threatened with global extinction. Advice provided by the *Agreement on the Conservation of Albatrosses and Petrels* (ACAP) indicated that of the species listed under the Agreement, 18 albatross and nine petrel species overlap with SBT fishing effort (CCSBT-ESC/1708/Rep2, [26]). Of the 25 species, the International Union for Conservation of Nature (IUCN) Red List of Threatened Species currently identifies one species as Critically Endangered, eight as Endangered, eight as Vulnerable, five as Near Threatened, and three as Near Threatened (IUCN 2019).

Modified recommendations from Seabird Mitigation Measures Technical Group (SMMTG) Report

The Seabird Mitigation Measures Technical Group (SMMTG) identified potential methods for monitoring the effectiveness of seabird Conservation and Management Measures (CMMs) developed by tuna RFMOs. While relevant CMMs included provisions for reviewing the effectiveness of the measure, methods and criteria for review had not yet been established. The SMMTG sought to identify feasible, practical, timely and effective approaches, and to consider options for enhancing harmonisation between tuna RFMOs, consistent with the Kobe process and related initiatives.

The recommendations within the SMMTG Report were adopted, with modifications, at ERSWG11. Relevant aspects of the recommendations may assist in developing a multi-year seabird strategy. These are summarised as follows:

1. Develop improved techniques for reporting and analysing fishing effort data including any implicit assumptions used when raising data.

2. Identify and monitor any changes in the spatial overlap of fishing effort for SBT and the distribution of seabird species subject to seabird bycatch in the relevant fisheries across the tuna RFMOs.

3. Evaluate the effectiveness of seabird CMMs.

4. Assess the cumulative impacts of fishing for SBT on seabirds across tuna RFMOs including developing methods for extrapolating seabird bycatch levels and seabird bycatch rates to identify total mortalities and total mortality rates.

5. Determine the spatial and temporal coverage and percentage of longline observer effort directed at observing seabird bycatch:

    a. annual reporting will identify the percentage coverage of observations as the number of hooks observed for each stratum divided by total fishing effort for each stratum

    b. representativeness of observer coverage will be evaluated based on the proportion of strata that have met the relevant target level of observer coverage.

6. Develop reliable estimates of seabird bycatch and seabird bycatch rates including accounting for uncertainty in estimates, on a fleet by fleet basis, and by establishing harmonised seabird bycatch and seabird bycatch rate assessment methods and procedures across tuna RFMOs:

    a. annual reporting will provide reliable estimates of seabird bycatch (total numbers by species) and seabird bycatch rates (seabird bycatch per 1000 hooks observed) on a fleet by fleet basis

    b. periodic fine-scale assessments will determine whether agreed targets for reducing seabird bycatch and seabird bycatch rates on a fleet by fleet basis have been met over time (e.g. 50% reduction within three years, and 95% reduction within five years)—where feasible this should occur across tuna RFMOs, while accounting for data confidentiality

    c. retrospective analyses will allow development of estimates of background seabird bycatch levels and seabird bycatch rates that existed before the introduction of seabird CMMs by tuna RFMOs, and resolve any variability arising from changes in fishing practices including gear configurations, areas and seasons fished.

7. Improve seabird species identification across fleets including by translation of the ACAP seabird species identification guide into key languages (e.g. French, Indonesian, Korean, Spanish, and Taiwanese) and by establishing a reference library of seabird bycatch photographs to assist observers in identifying bycaught seabirds to specific levels.

8. Improve procedures and methods for photographing and sampling dead bycaught seabirds for DNA analysis, as an additional aid to identifying seabirds to specific levels. The ACAP guides to photographing dead seabirds, and collecting feather samples for DNA analysis provide a template for the improved procedures and methods.

9. Increase information about the occurrence of high seabird bycatch events including by conducting post-trip interviews with observers.

10. Improve guidance for observers on priorities for seabird-related tasks including how to allocate observer time appropriately, recognising the multiple tasks undertaken by observers.

11. Establish a depository and protocols for sharing observer data collection forms and procedures across tuna RFMOs.

12. Establish a reference DNA database for seabird species bycaught during fishing for SBT across tuna RFMOs.

13. Establish a reference photographic database for seabird species bycaught during fishing for SBT across tuna RFMOs. This may include involving volunteer networks and seabird specialists.

14. Review data collection forms and procedures across tuna RFMOs for collecting information about compliance with seabird CMMs by longline fishing operators.

15. Share documents, formats and procedures for observer seabird bycatch data collection through a centralised portal, e.g. the Bycatch Mitigation Information System hosted by the Western and Central Pacific Fisheries Commission.

16. Collate information from CCSBT Members about data collected on seabird bycatch mitigation measures under compliance programs for SBT, including seabird bycatch and seabird bycatch rates on a fleet-by-fleet basis for each strata.

17. Identify improved procedures and methods for ensuring compliance with seabird CMMs by longline fishing operators, including port inspections, inspections during transshipment at sea, electronic monitoring technologies and other monitoring and surveillance techniques and technologies.

18. Improve the seabird risk assessment methods and procedures to help identify spatial and temporal risks of seabird bycatch within each stratum where fishing for SBT occurs.

19. Establish a robust definition of *high risk* areas that takes account of the precautionary approach.

20. Pursue collaboration across tuna RFMOs in capacity building in seabird bycatch monitoring and analyses.

Elements of a multi-year seabird strategy

The following reorganises the recommendations within the SMMTG Report as modified at ERSWG11 under the identified headings for the multi-year seabird strategy. Additional elements are included consistent with the *International Plan of Action for reducing incidental catch of seabirds* (IPOA-S) (FAO 1999) and associated best practice technical guidelines (BPTG) (FAO 2009).

Seabird Strategy

Overall objective

This strategy's overall objective is:

> To reduce the incidental catch of seabirds by 50% in three years and by 95% in five years, and where practical eliminate the incidental catch of seabirds during SBT longline fishing operations.

The BPTGs recommend that RFMOs establish attainable objectives that lead to ongoing reductions in seabird mortality.

Specific objectives

To achieve the above overall objective, the following specific objectives have been developed consistent with the BPTGs and IPOA-S.

> *Objective 1:* To reduce the level seabird bycatch and seabird bycatch rates during SBT longline fishing operations.
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> *Objective 2:* To ensure through the use of independent monitoring the collection of timely, reliable data to enable accurate annual extrapolated estimates of seabird bycatch and seabird bycatch rates during SBT longline fishing operations.
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> *Objective 3:* To promote research about developing and refining practical, cost-effective and safe seabird bycatch mitigation technologies and techniques taking account of the best practice advice provided by ACAP.
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> *Objective 4:* To continue developing and refining compliance approaches at-sea, during transshipment, and in port to ensure fleet-wide compliance with seabird bycatch mitigation measures required while conducting longline fishing operations for SBT.
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> *Objective 5:* To continue with education and outreach programs with longline fishing vessels and their crew highlighting the importance of mitigating seabird interactions while fishing, and advocating use of effective mitigation measures.
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> *Objective 6:* To encourage and support research and development aimed at developing and refining practical, cost-effective and safe seabird bycatch mitigation technologies and techniques, particularly in collaboration with longline fishing operators.
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> *Objective 7:* To continue the dissemination of information about seabird bycatch levels and seabird bycatch rates during SBT longline fishing operations to relevant RFMOs and ACAP.

Strategic Actions

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

Objective 1: To reduce seabird bycatch levels and seabird bycatch rates during SBT longline fishing operations.		
Action	Action by	Timeframe
Develop reliable estimates of seabird bycatch and seabird bycatch rates including accounting for uncertainty in estimates, on a fleet by fleet basis, and by establishing harmonised seabird bycatch and seabird bycatch rate assessment methods and procedures across tuna RFMOs: a. annual reporting will provide reliable estimates of seabird bycatch (total numbers by species) and seabird bycatch rates (seabird bycatch per 1000 hooks observed) on a fleet by fleet basis, as well as by area, season (quarter) and mitigation use. b. periodic fine-scale assessments will determine whether progress in reducing seabird bycatch and seabird bycatch rates on a fleet by fleet basis have been met over time—where feasible this should occur across tuna RFMOs, while accounting for data confidentiality *c.* retrospective analyses will allow development of estimates of background seabird bycatch levels and seabird bycatch rates that existed before the introduction of seabird CMMs by tuna RFMOs, and resolve any variability arising from changes in fishing practices including gear configurations, areas and seasons fished.	CCSBT Members ERSWG members ERSWG members	Annually. End of 2022. End of 2024.
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	End of 2020
Improve the seabird risk assessment methods and procedures to help identify spatial and temporal risks of seabird bycatch within each stratum where fishing for SBT occurs.	ERSWG members	End of 2021
Establish a robust definition of *high risk* areas that takes account of the precautionary approach.	ERSWG members	End of 2022

Objective 2: To ensure through the use of independent means the collection of timely, reliable data to enable accurate annual estimates of seabird bycatch and seabird bycatch rates during SBT longline fishing operations.		
Action	Action by	Timeframe
Develop improved techniques for reporting and analysing fishing effort data including concerning any implicit assumptions used when raising data.	CCSBT members	End of 2022.
Determine the spatial and temporal coverage and percentage of longline observers work, as well as electronic monitoring, directed at observing seabird bycatch: a. annual reporting will identify the percentage coverage of independent monitoring as the number of hooks observed for each stratum divided by total fishing effort for each stratum and gaps were additional coverage is needed. b. representativeness of observer coverage and electronic monitoring will be evaluated based on the proportion of strata that have met the relevant target level of coverage.	CCSBT Members CCSBT members	Annually. End of 2022
Improve seabird species identification across fleets including by translation of the ACAP seabird species identification guide into key languages (e.g. French, Indonesian, Korean, Spanish, and Taiwanese) and by establishing a reference library of seabird bycatch photographs to assist observers in identifying bycaught seabirds to specific levels.	Secretariats of CCSBT & ACAP	End of 2020
Improve guidance for observers and concerning electronic monitoring on priorities for seabird-related tasks including how to allocate time appropriately, recognising the multiple tasks undertaken.	ERSWG	End of 2021

Objective 3: To promote research about developing and refining practical, cost-effective and safe seabird bycatch mitigation technologies and techniques taking account of the best practice advice provided by ACAP.		
Action	Action by	Timeframe
Collate information from CCSBT Members about data collected on seabird bycatch mitigation measures under compliance programs for SBT including concerning seabird bycatch and seabird bycatch rates on a fleet-by-fleet basis for each strata.	Secretariat	Annually

Facilitate research into seabird bycatch mitigation technologies and techniques.	CCSBT Members	Reporting annually

Objective 4: To continue developing and refining compliance approaches at-sea, during transshipment, and in port to ensure fleet-wide compliance with seabird bycatch mitigation measures required while conducting longline fishing operations for SBT.		
Action	Action by	Timeframe
Increase information about the occurrence of high seabird bycatch events including by conducting post-trip interviews with observers, and by reviewing information collected during electronic monitoring.	CCSBT Members	Annually.
Identify improved procedures and methods for ensuring compliance with seabird CMMs by longline fishing operators, including concerning port inspections, inspections during transshipment at sea, electronic monitoring technologies and other monitoring and surveillance techniques and technologies.	Compliance Committee	Annually

Objective 5: To continue with education and outreach programs with longline fishing vessels and their crew highlighting the importance of mitigating seabird interactions while fishing, and advocating use of effective mitigation measures.		
Action	Action by	Timeframe
Improve procedures and methods for photographing and sampling dead bycaught seabirds for DNA, as an additional aid to identifying seabirds to specific levels. The ACAP guides to photographing dead seabirds, and collecting feather samples for DNA analysis provide a template for the improved procedures and methods.	CCSBT Members	End 2020
Pursue collaboration across tuna RFMOs in capacity building in seabird bycatch monitoring and analyses.	CCSBT	End 2022

Objective 6: To encourage and support research and development aimed at developing and refining practical, cost-effective and safe seabird bycatch mitigation technologies and techniques, particularly in collaboration with longline fishing operators.		
Action	Action by	Timeframe
Evaluate the effectiveness of seabird CMMs that are relevant to SBT longline fishing operations, taking into consideration fleet differences and seabird distribution.	ERSWG	End of 2021 End of 2023

Objective 7: To continue the dissemination of information about seabird bycatch levels and seabird bycatch rates during SBT longline fishing operations to relevant RFMOs and ACAP.		
Action	Action by	Timeframe
Identify and monitor any changes in the spatial overlap of fishing effort for SBT and the distribution of seabird species subject to seabird bycatch in the relevant fisheries across the tuna RFMOs. Important seabird species many be a priority.	ERSWG	Annually.
Assess the cumulative impacts of fishing for SBT on seabirds across tuna RFMOs including developing methods for extrapolating seabird bycatch levels and seabird bycatch rates to identify total mortalities and total mortality rates	ERSWG	End of 2023.
Establish a depository and protocols for sharing observer data collection forms and procedures across tuna RFMOs.	Secretariat	End of 2021
Establish or contribute to an existing reference DNA database for seabird species bycaught during fishing for SBT across tuna RFMOs.	CCSBT Members	End of 2020
Establish a reference photographic database for seabird species bycaught during fishing for SBT across tuna RFMOs. This may include involving volunteer networks and seabird specialists.	Secretariat with inputs by CCSBT Members	End of 2020
Review data collection forms and procedures across tuna RFMOs for collecting information about compliance with seabird CMMs by longline fishing operators.	Compliance Committee	End of 2021 End of 2023

Implementation

This strategy will apply for five years, from 1 January 2020 to 31 December 2024. It will be subject to review in 2023, but will remain in effect until the overall objective in seabird bycatch levels and seabird bycatch rats has been achieved.

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