Agreement on the Conservation of Albatrosses and Petrels

Twelfth Meeting of the Advisory Committee

Virtual meeting, 31 August – 2 September 2021 (UTC+10)

Report of the Seabird Bycatch Working Group

Seabird Bycatch Working Group

Report of the Tenth Meeting of the Seabird Bycatch Working Group, Virtual meeting, 17 - 19 August, 2021

PURPOSE

This Report documents discussions and recommendations of the Tenth Meeting of the Seabird Bycatch Working Group (SBWG10), held online, from 17 - 19 August (AEST/UTC+10).

1. INTRODUCTION

The SBWG Convenor, Igor Debski (New Zealand), welcomed all SBWG members and observers (**ANNEX 1**) to the virtual 10th meeting of the SBWG. He introduced SBWG's Vice-convenors, Sebastián Jiménez (Uruguay) and Juan Pablo Seco Pon (Argentina). The Convenor outlined the logistical arrangements for the virtual meeting. These arrangements meant that regrettably Information papers could not be presented or considered in any depth and the focus of the meeting would be on updating advice for the Advisory Committee to consider. It also meant that the joint session planned with PaCSWG could not occur at this meeting. All hoped that normal post-COVID 19 activities and meetings would resume as soon as possible.

2. SBWG MEMBERSHIP

The Convenor noted that Co-convenor Anton Wolfaardt had stepped down to take up a new role as Project Manager of the Mouse Free Marion project. SBWG10 joined him in acknowledging and thanking Anton for his great contribution to the working group over many years. The Convenor reported that Oliver Yates of BirdLife International has stepped down from the Working Group. He welcomed three new members of the SBWG: Stephanie Prince and Rory Crawford of BirdLife International and Marco Herrera, nominated by Ecuador. He noted that Parties can nominate Working Group members at any time.

3. ADOPTION OF THE AGENDA

The Convenor introduced the Agenda and related documents. The meeting adopted the Agenda.

4. ACAP SEABIRD BYCATCH MITIGATION BEST PRACTICE ADVICE - DEFINITION AND CRITERIA

The Convenor noted that this agenda item serves as a reminder to continually review the definition and criteria for ACAP Best Practice Advice to ensure the Advice remains fit-for-purpose. Although there were no papers to consider under this agenda item, some relevant amendments are contained in **SBWG10 Doc 08**, considered under Agenda Item 6.1.

5. SEABIRD BYCATCH MITIGATION IN TRAWL FISHERIES

5.1 Review recent developments in mitigation research and update Best Practice Advice

SBWG10 noted that although there were no working documents submitted under this agenda item there was relevant information in **SBWG10 Doc 08,** which is considered under Item 6.1. To ensure consistency between ACAP seabird bycatch mitigation advice documents, the amendments proposed in **SBWG10 Doc 08** have been applied to the corresponding sections of the "ACAP review of seabird bycatch mitigation measures for pelagic and demersal trawl fisheries" as appropriate, and the relevant pages are presented in **ANNEX 2**.

SBWG10 thanked the authors of information papers SBWG10 Inf 06, SBWG10 Inf 14, SBWG10 Inf 19 and SBWG10 Inf 20 and invited consideration of aspects of those papers that directly addressed the threat posed to seabirds in trawl fisheries.

SBWG10 noted that the net capture mitigation trials in the New Zealand squid fishery described in **SBWG10 Inf 14** are scheduled to take place early in 2022 and would be conducted in the manner described in the paper. SBWG looked forward to receiving the results of these trials as well as results from other research currently being planned or undertaken in trawl fisheries in the USA and the South Atlantic.

SBWG10 welcomed the information from Argentinean side-haul ice trawlers (freshers not freezers) in **SBWG10 Inf 19** and noted that mitigation measures for this fresher fleet are still under evaluation.

SBWG10 Inf 20 reported that the discharge of minced discards (crushed into 25 mm pieces) had worse outcomes for Black-browed Albatross *Thalassarche melanophris* and Cape Petrel *Daption capense* compared to mixed discard for trawlers operating in Argentinean waters.

SBWG10 recalled that the current advice on offal management was, in order of preference, to (i) Retain, (ii) Meal, (iii) Batch and (iv) Mince and that it would be important to provide an operational definition of "Mince', including a specification of minimum particle size required for mincing, as this is likely to be an important determinant of the effectiveness of this form of offal management.

Amanda Kuepfer and Igor Debski remain the SBWG leads for bycatch mitigation in trawl fisheries. The next intersessional review of ACAP's review and best practice advice for trawl fisheries would include considering options to provide better definition and description of bird baffler devices and mincing of discharge, for consideration at SBWG11.

5.2 Update Mitigation Fact Sheets if required

SBWG noted that there was no requirement to update the mitigation fact sheets.

5.3 Consider priorities for mitigation research

SBWG reiterated that the highest priorities for research on reducing seabird bycatch in trawl fisheries continue to be:

(i) reduce seabird interactions with cables, in particular net monitoring cables;

(ii) determine relationships between seabird abundance, cable interactions and mortality (quantifying the level of undetected or cryptic mortality), including the potential to use electronic monitoring (EM) of cable strikes;

(iii) improve efficacy of bird scaring devices in reducing seabird interactions with trawl gear to reduce the entanglement or capture of seabirds in nets during setting and hauling;

(iv) Innovative techniques, including water sprayers.

SBWG10 welcomed the ongoing work to address these priorities and noted the benefit of a synthesis of the accumulated research so that the outcomes can be used to provide generalisable advice as well as developing fishery-specific guidance that is relevant to different species' complexes in different regions.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

SBWG recommends that the Advisory Committee:

1. Endorse the updated review and best practice advice for reducing the impact of pelagic and demersal trawl fisheries on seabirds contained in **ANNEX 2.**
2. Encourage implementation of the research priorities for bycatch mitigation in trawl fisheries identified in Section 5.3.

6. SEABIRD BYCATCH MITIGATION IN DEMERSAL LONGLINE FISHERIES

6.1 Review recent developments in mitigation research and update Best Practice Advice

SBWG10 Doc 08 provided a range of proposed amendments to ACAP's demersal longline mitigation advice document, following routine intersessional review. A number of further suggested amendments were identified during the meeting and through written comments ahead of, and immediately following, the meeting.

SBWG10 noted that the specification of the line-weighting regime is currently based on Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) fisheries and is therefore specific to those fisheries and may not be broadly applicable across diverse fleets, including small demersal vessels, and different seabird assemblages. It may be more appropriate to specify the objective of bycatch mitigation regimes, for example the depth that the baited hooks reach at the end of the tori line, and then to determine a vessel-specific configuration of line-weighting and bird scaring to achieve this objective, rather than specifying a global line-weighting specification.

Changes to the nomenclature for longline gear used in the mitigation advice document were identified to distinguish the actual gear design, such as single line or double line, and baiting technique, i.e., automatic or manual. For example, the description of Autoline is a combination of a single line with an automatic baiting process.

SBWG10 recognised that, due to the range of operational differences amongst demersal longline fishing vessels, a 'toolbox' approach may be appropriate to describe the most effective mitigation measures that can be implemented given the prevailing operational conditions. For example, night setting has been shown to be effective in reducing seabird bycatch in a large number of studies; however, specifying night-setting in high-latitude fisheries operating in the summer (when there is no 'night') is not sensible. SBWG10 noted the benefits of highlighting how bycatch mitigation advice can be translated into fishery/situation-specific procedures, rather than emphasising the caveats and/or limitations of a one-size-fits-all approach.

SBWG10 noted that each section of **SBWG10 Doc 08** contained notes on Implementation Monitoring and that different aspects of this monitoring could potentially be achieved through satellite monitoring, scientific observers, and electronic monitoring. A need was also identified to clarify the characterisation of 'independent' monitoring when the monitoring activity takes place on a vessel, e.g., monitoring from a source other than the normal vessel logbook data.

SBWG10 Doc 08 Rev 1 reflects the changes endorsed by SBWG. A number of additional suggestions were made which would be considered during the next intersessional review. This included consideration of embedding a 'toolbox' approach to the advice and specifications related to bird scaring lines.

Some of the minor changes to the demersal longline mitigation advice document in **SBWG10 Doc 08 Rev 1** were also relevant to mitigation advice documents for trawl and pelagic longline fisheries and these documents (see **ANNEX 2** and SBWG10 Doc 10 Rev 1, respectively) were updated accordingly to ensure consistency between mitigation advice documents.

SBWG10 Doc 15 provided an analysis of sink rates of demersal floated longlines in the Austral hake fishery off Chile and recommendations for changes to gear and practice to increase sink rates of baited hooks.

SBWG10 noted that some existing data did not provide any evidence of an increased rate of capture of white-chinned petrels *Procellaria aequinoctialis* or black-browed albatrosses *T. melanophris* in demersal floated longlines despite the increased duration over which the hooks were near the surface. However, anecdotal observations suggest that more birds are caught on hooks near the floats compared to hooks near the weights.

SBWG noted that **SBWG10 Doc 15** should be referred to in section 19 of **SBWG10 Doc 08** and that consideration be given to developing best practice mitigation advice specific to floated demersal longlines (which should include consideration of the practices outlined in **SBWG10 Doc 15**).

SBWG10 thanked the authors of information papers SBWG10 Inf 01, SBWG10 Inf 02, SBWG10 Inf 10, SBWG10 Inf 13 Rev 1 and SBWG10 Inf 17 noting that these papers contributed to the agreed research priorities and addressed important threats posed to seabirds in demersal longline fisheries.

6.2 Update Mitigation Fact Sheets if required

The SBWG noted that there was no requirement to update the mitigation fact sheets.

6.3 Consider priorities for mitigation research

SBWG10 reiterated the continued importance of further identifying mitigation measures that improve the sink rate of baited hooks on floated longlines and noted that the priorities for future research included reducing the number of hooks positioned close to floats and the shape and design of weights to achieve higher sink rates. SBWG10 also encouraged the synthesis of experience and information from other demersal floated longline fisheries to be reported to SBWG11 to help inform the development of advice for this gear.

The SBWG leads for bycatch mitigation in demersal longline fisheries are Ed Melvin and Juan Pablo Seco Pon.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

SBWG recommends that the Advisory Committee:

1. Endorse the updated review and best practice advice for reducing the impact of demersal longline fisheries on seabirds (SBWG10 Doc 08 Rev 1).
2. Encourage implementation of the research priorities for bycatch mitigation in demersal longline fisheries identified in Section 6.3.

7. SEABIRD BYCATCH MITIGATION IN PELAGIC LONGLINE FISHERIES

7.1 Review recent developments in mitigation research and update Best Practice Advice

SBWG10 considered the following working papers: **SBWG10 Doc 09; SBWG10 Doc 10**; SBWG10 Doc 12; SBWG10 Doc 13.

SBWG10 Doc 12 and **SBWG10 Doc 13** proposed the review of two new mitigation measures against criteria for assessing and recommending them as best practice: Underwater bait setting **(SBWG10 Doc 12)** and the Hookpod-mini **(SBWG10 Doc 13).**

SBWG10 Doc 12 assessed the Underwater Bait Setter (Skadia Technologies) based on experimental and operational data from the Australian Eastern Tuna and Billfish Fishery, the Uruguayan Pelagic Longline Fishery, and the New Zealand Pelagic Longline Fishery. Underwater bait setting devices deploy baited hooks at a pre-determined depth immediately at the stern of the vessel. These trials showed promising results, with impressive reductions in bycatch.

After discussion of the various considerations related to this device, the SBWG agreed to recommend to the Advisory Committee that underwater bait setting devices be added as a stand-alone ACAP best practice seabird bycatch mitigation option, with the details of the recommendation added to SBWG10 Doc 10 Rev 1 (ACAP Review of mitigation measures for Reducing the Impact of Pelagic Longline Fisheries on Seabirds). The recommendation describes the generic aspects of such devices, and lists the Underwater Bait Setter (Skadia Technologies) as having been assessed to meet performance requirements.

To avoid any conflict of interest, Jonathon Barrington, SBWG member, recused himself from the SBWG decision on this recommendation.

SBWG10 Doc 13 assessed the Hookpod-mini (48 g weight), based on experimental and operational data from pelagic longline fisheries in Brazil and New Zealand. SBWG10 noted that ACAP had already approved the Hookpod-LED (68 g minimum weight) as a stand-alone best practice mitigation option. Given the similarity between the two devices (the Hookpod-mini being about 25% smaller) there was some discussion as to whether the Hookpod-mini had needed a stringent assessment process or would have already been covered under the existing advice on hook-shielding devices. The authors were thanked for presenting the assessment of the Hookpod-mini. SBWG endorsed recommending this device to the Advisory Committee as a best practice seabird bycatch mitigation option, and details of this recommendation were added to **SBWG10 Doc 10 Rev 1**. This assessment was based on the Hookpod-mini meeting ACAP minimum criteria for hook-shielding devices, as well as consideration of performance data from both types of Hookpod.

To avoid any conflict of interest, Jonathon Barrington, SBWG member, recused himself from the Working Group's decision on this recommendation.

SBWG10 Doc 10 provided a range of proposed amendments to ACAP's pelagic longline mitigation advice document, following routine intersessional review. A number of further suggested amendments were identified during the meeting and through written comments ahead of, and immediately following, the meeting**.**

SBWG agreed on updates to the document reflected in **SBWG10 Doc 10 Rev 1**, including the addition of the new mitigation options described in **SBWG10 Doc 12** and **SBWG10 Doc 13**, as well as minor revisions from relevant parts of **SBWG10 Doc 08 Rev 1** to ensure consistency between mitigation advice documents**.**

SBWG10 Doc 09 proposed updates to ACAP's advice on improving crew safety when hauling branch lines during pelagic longline fishing operations.

SBWG10 identified a number of further changes to this document, generally related to its structure and the preferred approach for providing advice as compared to scientific research. Given the priority of this issue, fishers' safety concerns, SBWG agreed to finalise the document prior to AC12, for Advisory Committee endorsement. The changes identified were incorporated into SBWG10 Doc 09 Rev 1. SBWG10 noted elements that might be added to the advice at a later stage, such as angled hauling and weighted float systems, and these could be considered through an intersessional review.

The following information papers were also relevant to the agenda item**:** SBWG10 Inf 01; SBWG10 Inf 02; SBWG10 Inf 03; SBWG10 Inf 05; SBWG10 Inf 07; SBWG10 Inf 09; SBWG10 Inf 10; SBWG10 Inf 13 Rev 1; SBWG10 Inf 16.

7.2 Update Mitigation Fact Sheets if required

This issue was discussed under Agenda item 17.2.

7.3 Consider priorities for mitigation research

SBWG confirmed the following mitigation research priorities for pelagic longline fisheries:

Weighted branch lines: carry out further collaborative field research on the relationship between the current ACAP Best Practice Advice concerning line-weighting regimes and resulting seabird mortalities and/ or seabird attack rates, impacts on catch rates of target species, other bycatch species (e.g., sea turtles), and safety aspects associated with using line-weighting. Conduct further research to investigate the effect of the total length of branch lines on sink rates.

Improved branch line weighting for high seas fisheries: develop an experimental branch line with hook sink rates consistent with ACAP's best practice line weighting advice (e.g., 60 g located ≤ 1 m from hooks) in the upper levels of the water column (0–2 m depth). Fast sink rates in the shallow depth ranges are advantageous to seabird conservation and act as a safeguard against any failure to use bird scaring lines or to set by night. An average sink rate of ≥0.4 m/s to 2 m depth should be used to inform the development of the new weighting regime. A single weight, or an improved version of the existing double weight system, might be the operationally preferred weighting option. A multi-disciplinary approach, potentially involving key members of the fishing industry, marine engineers and others as deemed appropriate, is encouraged.

Hook-shielding devices: conduct further field research to evaluate the relative contributions of the sink rate and hook protection components of hook-shielding devices in reducing bycatch, including through entanglements. Research on hook-shielding devices should also investigate their long-term durability or failure rates, and the possibility of increasing the depth (or time) of protection provided. Further research on the effectiveness of the Hookpod-mini (48 g) is encouraged. Research on the performance of any hook-shielding device should collect data on seabird attacks on baited hooks to assess the risk of entanglement or being swallowed together with the bait.

Bird scaring lines: developing bird scaring line configuration for smaller vessels and methods that minimize entanglements of the in-water portion of bird scaring lines with longline floats, while creating sufficient drag to maximize aerial extent, remains the highest priority for research on bird scaring lines. Research activities evaluating the effectiveness of one vs. two bird scaring lines, bird scaring line design features (streamer lengths, configurations, and materials), and methods for efficient retrieval and stowage of bird scaring lines remain research priorities.

Time-of-day: determine the relative effectiveness of bird scaring lines and branch line weighting at night by characterising seabird behaviour at night using thermal or night-vision technologies**.**

Underwater bait setting devices: evaluate performance with unweighted vs weighted branch lines.

Combinations of mitigation measures: evaluate the effectiveness of the simultaneous use of various combinations of two best practice mitigation methods (night-setting, branch line weighting and bird scaring lines) as called for by existing Regional Fisheries Management Organisation (RFMO) seabird conservation measures. Continue to evaluate the effectiveness of the simultaneous use of all three ACAP best practice mitigation measures, including comparative catch rates for both bycatch and target species.

Novel/emerging technologies: continue to develop novel and or emerging technologies. Also consider innovation in independent monitoring of fishing activities.

Sensory ecology: encourage and initiate research to examine the sensory capabilities of seabirds (visual, acoustic, olfactory systems) to inform the development of sensory-based safe mitigation technologies and measures as an alternative to trial-and-error approaches. This research priority has application to the development of mitigation options across a broad range of fishing methods.

Live bird haul capture: investigate the nature and extent of live bird haul capture in pelagic longline fisheries.

Haul mitigation technologies: develop methods that minimise seabird hooking during hook retrieval.

Time/area closures: update seabird tracking/fishing effort overlap maps to advance options for time/area management.

Bait-casting machines: conduct a survey to characterise the extent of use of bait-casting machines, and their operational attributes that may influence seabird bycatch risk.

Jonathon Barrington and Sebastián Jiménez remain the SBWG leads for bycatch mitigation in pelagic longline fisheries.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

SBWG recommends that the Advisory Committee:

1. Endorse the updated ACAP advice on improving crew safety when hauling branch lines during pelagic longline operations (provided in SBWG10 Doc 09 Rev 1).
2. Endorse the updated review and best practice advice for reducing the impact of pelagic longline fisheries on seabirds, with the inclusion of underwater bait setting devices, specifically the Underwater Bait Setter (Skadia Technologies), and the addition of the Hookpod-mini as an assessed hook-shielding device, as ACAP best practice seabird bycatch mitigation options, as contained in SBWG10 Doc 10 Rev 1**.**
3. Encourage implementation of the research priorities identified in Section 7.3 for reducing seabird bycatch associated with pelagic longline gear.

8. ARTISANAL AND SMALL-SCALE FISHERIES

8.1 Review recent developments in mitigation research and update toolbox advice

There were no working documents submitted under this agenda item.

SBWG10 noted the update in SBWG10 Inf 22 on the observer programme in the Peruvian jumbo squid fishery including approaches to reducing the attractiveness of offal to seabirds.

9. SEABIRD BYCATCH MITIGATION IN NET FISHING METHODS OTHER THAN GILLNET AND TRAWL

9.1 Review recent developments in mitigation research and update toolbox advice

SBWG10 Doc 19 presented a toolbox for seabird bycatch mitigation measures in purse seine fisheries. Given the recent limitations on face-to-face activities, this information was communicated to fishers and evaluated through social networks and virtual meetings. This allowed greater use of animation and dynamic infographics, which were well received by the audience and allowed the message to have a wider reach. The mitigation measures proposed in the toolbox will be further reviewed and updated with more focus on ACAP species.

SBWG acknowledged the importance of this advice specific to purse seine fishing and the appropriateness of the toolbox approach, and endorsed the updated toolbox. It was agreed that seabird bycatch mitigation in purse seine fisheries should be considered under its own agenda item in future meetings.

The following information papers were also relevant to the agenda item**:** SBWG10 Inf 06 and SBWG10 Inf 21.

9.2 Assessment of risks and development of ACAP advice for any other relevant fisheries

There were no working documents submitted under this agenda item.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

SBWG recommends that the Advisory Committee:

1. Endorse the updated purse seine toolbox advice (see **ANNEX 3**).
2. Encourage the use of the toolbox format in developing seabird bycatch mitigation advice for other fisheries as an accessible and informative instrument for users and decision-makers.

10. SEABIRD BYCATCH MITIGATION IN GILLNET FISHERIES

10.1 Consider recent developments in mitigation research and consider priorities for further research

SBWG10 noted a workshop on marine megafauna in global gillnet fisheries (https://www.birdlife.org/sites/default/files/attachments/gillnet_workshop_final_report_july2021.pdf) and welcomed future updates relevant to ACAP species.

11. ACAP PERFORMANCE INDICATORS: SEABIRD BYCATCH

11.1 Review of bycatch indicators and data submitted to the reporting framework

SBWG10 Doc 05 provided an update on intersessional progress in developing ACAP seabird bycatch indicators and a reporting framework on which these indicators are based. The Secretariat noted an increase in data reporting since the last meeting, and that this had provided an opportunity to review the design of forms to make data submissions easier. Nevertheless, the low level of reporting of seabird bycatch as total estimated mortality or rates per unit effort prevented any further analyses to progress indicator development and implementation.

SBWG reiterated the importance of this reporting as part of the Agreement's work, which has been endorsed by the Advisory Committee (AC) and the Meeting of the Parties (MoP).

SBWG noted that there continue to be technical and logistical challenges that impede the submission of bycatch data and relevant fisheries information.

SBWG noted that the overall objective of the ACAP Performance Indicators is to provide a means to demonstrate the effectiveness of measures to address seabird bycatch and recognised that the objectives for, and interpretation of, those indicators would need to be clearly described.

SBWG agreed that a workshop to address data submission and the development of analyses to derive performance indicators, proposed to be held immediately prior to SBWG11 (assuming that the meeting is an in-person meeting), would be beneficial.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

SBWG recommends that the Advisory Committee:

1. Reiterate the importance of Parties and Range States reporting bycatch estimates using appropriate statistical methods, or where this is not available, observed bycatch data using relevant strata.
2. Reiterate the importance of Parties and Range States including fisheries where data are either extremely poor or lacking altogether in their reporting, and to identify the reasons for, and approaches to resolve the paucity of data.
3. Endorse the proposal for a workshop to address data submission and development of analyses to derive performance indicators.

12. ELECTRONIC MONITORING

12.1 The further development of advice for the use of EM in relation to seabird bycatch.

SBWG10 Doc 14 Rev 1 highlighted the potential for EM to address limitations in capacity for observer monitoring in fisheries in which seabird bycatch is understood to be problematic. It noted that EM can be used to address potential biases in observer data arising from inter-observer differences (observer effects) and limitations on observer activities due to workload and/or coercion.

In discussion of **SBWG10 Doc 14 Rev 1** SBWG10 noted that:

(i) a condensed summary that could be provided as a 'briefing guide' would be beneficial to enhance communication of ACAP objectives with respect to e-monitoring;

(ii) data fields identified as minimum/essential standards need to be practicable and avoid setting unrealistic expectations that might deter engagement;

(iii) EM requirements should be harmonised with existing observer data collection requirements and data collected by EM systems should be designed to support reporting of seabird bycatch and the implementation of mitigation measures specific to seabird interactions;

(iv) engagement of market-leading fishing companies in developing operational approaches to EM can provide leverage to broader engagement but initial costs may be a disincentive for smaller operators.

SBWG agreed that ACAP's role is not to drive the technical development of EM but to provide the information required to inform development of EM to get to the best data outcomes to support the work of ACAP.

SBWG10 Doc 18 described the intentional killing and harming of seabirds in the South Atlantic and noted that EM might provide insights into this behaviour as fisher behaviour changes when observers are on board a vessel (so that there are activities that are not observed and/or observable). While the issue appears to be restricted to south-eastern South America, it was noted that the development of ACAP guidelines for EM and observer programmes could help ensure appropriate data is collected in future to better understand the nature and extent of the problem.

The Convenor noted that the Convention on the Conservation of Migratory Species of Wild Animals (CMS) Sessional Committee recently had also considered the issues covered in **SBWG10 Doc 18** and had established an intersessional working group in which SBWG had been invited to collaborate. SBWG agreed that it should accept this invitation and include this engagement into their intersessional plan. The Convenor offered to coordinate this collaboration.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

SBWG recommends that the Advisory Committee:

1. Adopt the ACAP Guidelines on Fisheries Electronic Monitoring Systems in SBWG10 Doc 14 Rev 1.
2. Disseminate and encourage use of ACAP's EM guidelines to inform and strengthen essential standards for fisheries EM systems.
3. Periodically update ACAP's EM guidelines to reflect changes, for example, in objectives of monitoring seabird interactions in marine capture fisheries, amendments to bycatch management measures, the development of new bycatch mitigation methods, and improvements in EM technology.
4. Endorse the engagement of SBWG in the CMS intersessional working group on intentional killing of seabirds.

13. FAO INTERNATIONAL PLAN OF ACTION/NATIONAL PLANS OF ACTION (NPOA)-SEABIRDS

13.1 Review of status of implementation of NPOA-Seabirds

Two information papers were submitted under this agenda item: SBWG10 Inf 11 and SBWG 10 Inf 23.

In addition, SBWG members from Argentina and Uruguay informed the meeting that they have initiated the process of developing a Regional Plan of Action to mitigate seabird interaction with fisheries. This initiative, which began in November 2019, is being developed within the framework of the Joint Technical Commission of the Maritime Front (CTMFM) that manages the resources of the Río de la Plata Treaty and its Maritime Front. During 2020 and 2021 several virtual meetings were held for the development of various points of the plan, and all the Argentinian and Uruguayan members of the ACAP SBWG are participating in this work along with other experts from both countries, managers, and non-governmental organisations. It is expected that a consolidated draft document can be presented to the CTMFM authorities very soon.

A SBWG member from Chile reported on progress with updating Chile's NPOA-Seabirds to include mitigation measures for trawl fisheries and measures that will apply to purse seine fisheries, as a step towards having all the fisheries covered in the Plan. The NPOA should be finalized by the end of the year.

SBWG10 welcomed these reports.

14. COORDINATION OF ACTIVITIES RELATING TO RFMOS

14.1 Feedback on and update of RFMO engagement strategy

SBWG10 Doc 07 Rev 1 outlined ACAP's strategy for engagement with RFMOs. The paper describes the policy and structural changes to the strategy arising from the RFMO workshop held prior to SBWG9 and decisions of AC11 (in May 2019). The paper reports on engagement activities since AC11 and proposes engagement priorities for the coming period, under three main thematic areas.

SBWG welcomed the update and suggested that a useful input to RFMO discussions, including on compliance, over the coming period, would be briefings on the new updates to ACAP's Best Practice Advice including on underwater bait setting and the Hookpod-mini.

SBWG acknowledged the impact of the COVID-19 pandemic on RFMO engagement. Online meetings of RFMOs, with reduced agendas and limited consideration of non-target impacts, provided reduced opportunities for engagement on seabird issues.

SBWG agreed that continued engagement with RFMOs was an important aspect of the work of ACAP and supported the proposals outlined in **SBWG10 Doc 07 Rev 1.** It also noted the importance of supporting the required capacity for effective engagement with RFMOs.

SBWG10 Inf 08 was also relevant to the agenda item.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

SBWG recommends that the Advisory Committee:

1. Consider this review of the ACAP RFMO engagement strategy, including the list of priority actions, and contribute to the further development of this strategy.
2. Support the implementation of these actions, including the provision of resources necessary to achieve this, recognising the conservation crisis facing ACAP-listed species.

15. ENHANCING IMPLEMENTATION OF BEST PRACTICE SEABIRD BYCATCH MITIGATION MEASURES

SBWG10 Doc 11 outlined approaches and further actions that SBWG and ACAP could take to enhance implementation of best practice seabird bycatch mitigation measures. A number of case studies, including socio-economic approaches, were descried in SBWG10 Inf 04, SBWG10 Inf 12 and SBWG10 Inf 15.

ACAP has been successful in providing information and best practice advice but evaluating the levels of compliance with best practice implementation requires reporting from Parties. The need for a clear reporting mechanism was raised. It was noted this could be aided by a resolution from the Meeting of the Parties calling for all parties to make best efforts to ensure full implementation of the best practice seabird bycatch mitigation measures in fisheries under

their jurisdiction; and to specifically report to future Meetings on the status of implementation of best practice mitigation in all domestic and high seas fisheries. Such reporting could be a standing item on the agenda of every Session of the Meeting of the Parties.

The Secretariat clarified that the database forms already request mitigation information to be provided for each fishery, including whether it is ACAP best practice mitigation or not.

SBWG noted that engaging with seafood certification schemes (see AC12 Inf 02) provides an appropriate mechanism for engagement in market-driven processes and noted the potential complexity of attempting direct engagement with individual retailers.

SBWG noted that the role of ACAP in engagement with seafood certification schemes should focus on ensuring that information, including the list of ACAP Species and the relevant best practice seabird bycatch mitigation, is used as inputs in the development of new and revised standards for certification scheme.

SBWG noted the importance of ACAP's communication strategy (see AC12 Inf 03) and the potential for engaging external expertise to assist in the further development and implementation of this strategy. SBWG10 welcomed the inauguration of World Albatross Day.

It was noted that work on enhancing implementation of bycatch mitigation measures does not fall only on ACAP, but that Parties can be encouraged to implement national initiatives for enhancing implementation of best practice and reporting progress to future SBWG meetings would be welcomed.

SBWG10 recalled that the third World Seabird Conference had been postponed and would now be taking place online in October 2021. The Convenor informed SBWG that a paper describing approaches to enhancing the implementation of best practice seabird bycatch mitigation, and an overview of the activities of the SBWG in this area, would be presented at the conference.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

SBWG recommends that the Advisory Committee:

1. Agree that a sub-group of SBWG should continue to pursue opportunities to engage with relevant seafood certification schemes.
2. Instruct the Secretariat to continue to receive notifications from seafood certification schemes and to share these as relevant with the sub-group.
3. Instruct the Secretariat to continue to engage, as required, a consultant to provide advice on ensuring that information from ACAP is included as inputs in the development of new and revised standards for certification schemes.
4. Note the importance of developing ACAP's communications strategy, including the desirability of a possible secondment to investigate further specific communications areas and to supplement the work of any part time consultant that the Secretariat might employ as a communications adviser.
5. Endorse ongoing celebration of World Albatross Day as a useful communications activity to elevate and maintain awareness around the conservation of albatross as a flagship group of species.

16. PRIORITY CONSERVATION ACTIONS

SBWG10 Doc 16 presented a global review of incidental bycatch of seabirds in trawl fisheries. It complements the global estimates of bycatch in longline and gillnet fisheries in the published literature. According to this paper, approximately 106,000 seabirds were estimated to be killed annually in trawl fisheries for which bycatch data were available. However, information on bycatch rates was sparse or non-existent for many fisheries, with considerably more gaps in relation to trawl fisheries than for those other fisheries.

SBWG10 reviewed this paper and noted the importance of this work. Some SBWG members expressed significant concerns about the approach used to arrive at the estimates, noting that data for some fleets was inaccurate and incomplete, or used different metrics. This resulted in overestimates in the numbers of bycaught birds and inappropriate comparisons, and did not reflect the current situation for those fleets. Concerns about the approach taken to regionalise fisheries, significant fishing effort asymmetries between regions, as well as the use of limited and poorly stratified data to extrapolate mortality figures were also expressed. SBWG10 noted that there was considerable effort made in some fleets recently to accurately record seabird bycatch and that publishing inaccurate or outdated information could damage the progress of that process. SBWG10 offered to work with the authors to strengthen the draft with more representative and up to date information.

The authors appreciated the feedback and welcomed the offers to help refine this work. They noted that as this is a review paper, it was relying on information that is already publicly available, rather than performing new analyses.

SBWG10 noted that PaCSWG6 Inf 01**,** which addressed global political responsibility for the conservation of albatrosses and large petrels, was also relevant to this agenda item. Accordingly, SBWG10 encouraged any further research to also include non-ACAP species and to also consider the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) in future work.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

SBWG recommends that the Advisory Committee:

1. Encourage ACAP Parties to increase minimum observer-coverage standards (human or EM) in trawl fleets to improve knowledge of seabird bycatch;
2. Encourage ACAP Parties to prioritise collection of data on seabird bycatch in trawl fisheries, particularly in fleets with limited previous studies. Data collection should include warp cable, netsonde and paravane interactions, and estimates of cryptic mortality to improve estimates of fleet-specific and global trawl mortality;
3. Encourage standardised data-collection in trawl fisheries using relevant data collection guidelines such as those provided in SBWG10 Doc 06 Rev 1 and SBWG10 Doc 14 Rev 1;
4. Encourage Parties to prioritise effective management of offal and discards as the principal means of mitigating seabird bycatch in trawl fisheries.

17. TOOLS AND GUIDELINES

17.1 Updates and new guidelines

SBWG10 Doc 06 provided proposed guidelines for observer programmes on the collection of seabird bycatch and associated data. These complement the guidelines prepared for electronic monitoring (**SBWG10 Doc 14 Rev 1**) and were based on recommendations from SBWG9.

SBWG10 welcomed the guidelines and made a small number of suggestions for additions/improvements, which were incorporated into SBWG10 Doc 06 Rev 1. In addition, it was agreed that a summary would be prepared to highlight the key points that could be presented to RFMOs, fishers and others.

PaCSWG6 Doc 03 on light pollution guidelines for wildlife was also noted as relevant to this agenda item.

17.2 Mitigation Fact Sheets

SBWG10 Doc 17 reported progress in updating the existing Introductory Factsheet and creating a new Factsheet on "Improving Safety When Hauling Branch lines", following the new simplified design, while noting that the bird scaring lines sheets had not yet been completed.

SBWG10 welcomed the new factsheets, regarding them as an excellent tool. SBWG10 provided comments on ways to make the factsheets even more accessible for fishers (such as providing more images). Priorities for further factsheet updates included those for trawl fisheries, particularly on the management of offal and discards. It was also noted that, pending endorsement by the Advisory Committee of new seabird bycatch mitigation advice for pelagic longline fisheries, a new factsheet would be required for underwater bait setters and the factsheet on hook-shielding devices would need updating. An intersessional group of SBWG members will provide ongoing guidance in developing the remaining factsheets.

SBWG10 also noted that a separate information sheet on electronic monitoring would be useful, although this would not fall under the rubric of "mitigation factsheets".

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

SBWG recommends that the Advisory Committee:

1. Endorse the data collection guidelines for observer programmes provided in SBWG10 Doc 06 Rev 1.
2. Support the update of the remaining Mitigation Fact Sheets to the new simplified format in a phased approach prioritising measures that are considered best practice and allocate funding to achieve this aim.

18. LISTING OF SPECIES ON ANNEX 1

18.1 Proposals to list new species on Annex 1

There were no proposals for listing of species on Annex 1 or other papers to consider under this agenda item. Nevertheless, SBWG10 noted the benefits of ensuring any future proposals are presented to the Advisory Committee immediately after a Meeting of the Parties to allow sufficient time for consideration ahead of the following MoP.

RECOMMENDATIONS TO THE ADVISORY COMMITTEE

SBWG recommends that the Advisory Committee:

1. Reiterate to Parties the benefits of presenting any proposals to list new species on Annex 1 at the Advisory Committee meeting immediately following a Meeting of the Parties so that they can be considered in detail before the next MoP.

19. ACAP FUNDED PROGRAMMES

AC12 Inf 01 provided a summary of the conservation projects supported by ACAP small grants in the 2018, 2019 and 2020 rounds, and secondments awarded in the 2019 round. Several of the projects have suffered delays due to the COVID-19 pandemic. SBWG10 Inf 18 and SBWG10 Inf 16 reported on projects carried out with ACAP grant support.

The SBWG noted this update and looked forward to seeing more progress reports in due course.

20. SBWG WORK PROGRAMME

20.1 Work Programme 2019 - 2022

Tasks relevant to SBWG in the 2019-2021 Advisory Committee Work Programme approved by MoP6 (**AC11 Doc 11**) were reviewed following discussions at SBWG9 and during an intersessional consideration by the Advisory Committee and the MoP in 2020 - 2021. An updated version of the Work Programme for the 2019-2022 quadrennium has been prepared for consideration by the Advisory Committee (**AC12 Doc 15**).

20.2 Work Programme 2023 - 2025

A Work Programme for 2023-2025 has been prepared for consideration by the Advisory Committee (**AC2 Doc 16**).

21. ANY OTHER BUSINESS

There were no items raised under this agenda item.

22. REPORTING TO AC12

This report has been prepared for the consideration of the Advisory Committee.

23. CLOSING REMARKS

The Convenor thanked the Vice convenors for their assistance, the authors of the papers submitted for consideration, and Members and Observers for their valuable contributions to the meeting. The Convenor also thanked the ACAP Secretariat and the technical support team in organising and running the meeting. He also thanked the interpreters and the stenographer for their valuable efforts during the meeting.

ANNEX 1. LIST OF SBWG10 MEETING PARTICIPANTS

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Verônica Alberto Barros	Member, Brazil
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Christine Bogle	Executive Secretary
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Wiesława Misiak	Science Officer
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Interpreters
Cecilia Alal
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ANNEX 2. ACAP REVIEW OF SEABIRD BYCATCH MITIGATION MEASURES FOR PELAGIC AND DEMERSAL TRAWL FISHERIES[1]

Agreement on the Conservation of Albatrosses and Petrels

ACAP REVIEW OF SEABIRD BYCATCH MITIGATION MEASURES FOR PELAGIC AND DEMERSAL TRAWL FISHERIES

Reviewed at the Twelfth Meeting of the Advisory Committee
Virtual meeting, 31 August – 2 September 2021

INTRODUCTION

A range of technical and operational mitigation methods have been designed or adapted for use in trawl fisheries. In all cases, the discharge of offal and discards is the most important factor attracting seabirds to the stern of trawl vessels, where they are at risk of cable and net interactions. Managing offal discharge and discards while fishing gear is deployed has been shown to reduce seabird attendance of vessels and consequent risk of interactions and bycatch. Even with management of offal and discards there may be residual risk of cable strikes and net entanglement. Other mitigation measures have been developed to address these residual risks. Apart from being technically effective at reducing seabird bycatch, mitigation methods should be easy and safe to implement, cost effective, enforceable and should not reduce catch rates of target species.

The feasibility, effectiveness and specifications of mitigation measures may vary by area, seabird assemblages, fishery, vessel type, and gear configuration. Some of the mitigation methods are well established and explicitly prescribed in trawl fisheries; however, additional measures are undergoing further testing and refinements.

The Seabird Bycatch Working Group (SBWG) of ACAP has comprehensively reviewed the scientific literature dealing with seabird bycatch mitigation in trawl fisheries. This document is a distillation of that review.

THE ACAP REVIEW PROCESS

At each of its meetings, the ACAP SBWG considers any new research or information pertaining to seabird bycatch mitigation in trawl fisheries. The following criteria are used by

[1] Only the amended component of the review document is presented here as noted in 5.1, and not the full advice and review document.

ACAP to guide the assessment process, and to determine whether a particular fishing technology or measure can be considered best practice to reduce the incidental mortality of albatrosses and petrels in fishing operations.

Best Practice Seabird Bycatch Mitigation Criteria and Definition

i. Individual fishing technologies and techniques should be selected from those shown by experimental research to significantly[2] reduce the rate of seabird incidental mortality[3] to the lowest achievable levels. Experimental research yields definitive results when performance of candidate mitigation technologies is compared to a control (no deterrent), or to status quo in the fishery. When testing relative performance of mitigation approaches, analysis of fishery observer data can be plagued with a myriad of confounding factors. Where a significant relationship is demonstrated between seabird behaviour and seabird mortality in a particular system or seabird assemblage, significant reductions in seabird behaviours, such as the rate of seabirds attacking baited hooks, can serve as a proxy for reduced seabird mortality. Ideally, where simultaneous use of fishing technologies and practices is recommended as best practice, research should demonstrate significantly improved performance of the combined measures.

ii. Fishing technologies and techniques, or a combination thereof, should have clear and proven specifications and minimum performance standards for their deployment and use. Examples would include: specific bird scaring line designs (lengths, streamer length and materials; etc.), number (one vs. two) and deployment specifications (such as aerial extent and timing of deployment); night fishing defined by the time between the end of nautical dusk and start of nautical dawn; and, line weighting configurations specifying mass and placement of weights or weighted sections.

iii. Fishing technologies and techniques should be demonstrated to be practical, cost effective and widely available. Commercial fishing operators are likely to select for seabird bycatch reduction measures and devices that meet these criteria including practical aspects concerning safe fishing practices at sea.

iv. Fishing technologies and techniques should, to the extent practicable, maintain catch rates of target species. This approach should increase the likelihood of acceptance and compliance by fishers.

v. Fishing technologies and techniques should, to the extent practicable, not increase the bycatch of other taxa. For example, measures that increase the likelihood of catching other protected species such as sea turtles, sharks and marine mammals, should not be considered best practice (or only so in exceptional circumstances).

vi. Minimum performance standards and methods of ensuring compliance should be provided for fishing technologies and techniques, and clearly specified in fishery regulations. Relatively simple methods to check compliance should include, but not be

[2] Any use of the word 'significant' in this document is meant in the statistical context.

[3] This may be determined by either a direct reduction in seabird mortality or by reduction in seabird attack rates, as a proxy.

limited to, port inspections of branch lines to determine compliance with branch line weighting, determination of the presence of davits (tori poles) to support bird scaring lines, and inspections of bird scaring lines for conformance with design requirements. Compliance monitoring and reporting should be a high priority for enforcement authorities.

On the basis of these criteria, the scientific evidence for the effectiveness of mitigation measures or fishing technologies/techniques in reducing seabird bycatch is assessed, and explicit information is provided on whether the measure is recommended as being effective, and thus considered best practice, or not. The ACAP review also provides notes and caveats for each measure, together with information on performance standards and further research needs. Following each meeting of ACAP's SBWG and Advisory Committee, this review document and ACAP's best practice advice is updated (if required). A summary of ACAP's current best practice advice for trawl fisheries is provided in the preceding section of this document.

ANNEX 3. MITIGATION TOOLBOX FOR PURSE SEINE FISHERIES

Mitigation	Function	Testing	Findings	Additional benefits	Limitations/ considerations	Source	Status *
Water spraying	Physical barrier for seabirds (Mexico)	NSE	Preliminary trials may affect seabird presence in risk areas into the net (*e.g.* pelicans)	N/A	1. Needs to be handled by one person in a reduced crew (*e.g.*, small-scale purse seine) 2. Absence of appropriate facilities and training would be harmful for seabirds (water cannon instead of water spraying) 3. The use of waters pumped from the same waste waters may contain edible oils can potentially affect seabird plumage	Suazo *et al.* (2017a)	
Edible oil release	Sensorial / physical deterrent to keep away seabirds (Australia)	NSE	Trials demonstrated no effects of shark oil *vs* controls on seabird feeding activity of shearwaters	N/A	1. Oil should attract other seabird or non-target taxa to fishing operations 2. Available re-supplies on board are needed 3. The use of oil may have other detrimental effects (*e.g.* plumage)	Puglisi (2007)	

Mitigation	Function	Testing	Findings	Additional benefits	Limitations/ considerations	Source	Status *
Sound	Sensorial deterrent to keep away seabirds (Chile)	NSE	Trials demonstrated effects of noise deterrents on the abundance of some sensitive seabird species (*e.g.* gulls) in contrast to Procellariiform species	N/A	1.Recommended additional sound devices to influence in other seabird species than gulls with unexpected harmful effects on seabirds and crews 2. Consideration of noise pollution when communal fishing exists (*e.g.* small scale purse seine)	Diez (2017)	
Laser	Sensorial deterrent to keep away seabirds (Chile)	NSE	Preliminary trials showed operational limitations during daylight and for certain seabird species like gulls	N/A	1. Potential detrimental effects on seabirds and crews must be taken into account and evaluated 2. Not recommended without an appropriate experimental design and safety protocols	Diez (2017)	
Modified purse seine (MPS)	Structural package of on fishing gear for the reduction of entanglement of seabirds with the purse seine gear (Chile)	ST	Trials showed the reduction in seabird bycatch for diving seabird species by 98% related to the reduction of entanglement in fishing gear	1. Modified purse seine showed improvement in catch success of the target fish species 2. Reduction in netting material with savings in future maintenance or new fishing gear		Suazo *et al.* (2016; 2017a,b; 2019)	

Mitigation	Function	Testing	Findings	Additional benefits	Limitations/ considerations	Source	Status *
Bird scaring device (Scaring kite)	Physical barrier to reduce the presence of seabirds in risk areas (Portugal)	ST	Trials showed the effect of this scaring device on activity of seabirds but with no bycatch events recorded for treatment and control sets. Reduction in numbers of certain seabird species like gulls but not for ACAP species like the Balearic shearwater	N/A	1. Need operation by a crew member 2. Need to be trialled in areas of high occurrence of ACAP listed species	Oliveira (2020)	

TESTING: need systematic evaluation (NSE) or systematically trialled (ST).
ADDITIONAL BENEFITS: none available (N/A).

***STATUS** (proposed categorisation of status in terms of mitigation efficacy):

	Reduced bycatch of ACAP species
	Reduced seabird bycatch, not proven for ACAP species
	No reduction in seabird bycatch, but reduced other bycatch fauna
	Testing in progress
	No reduction in bycatch