CCSBT-ERS/2610/21
(EC Agenda Item 9.3)

Australian Government

Fisheries New Zealand
Tini a Tangaroa

Proposal to establish a management toolbox for areas identified as high risk to seabirds

Australia & New Zealand

Prepared for the 33rd Meeting of the Extended Commission of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

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Executive Summary

Australia and New Zealand support, and build on, the agreed proposals of the sixteenth meeting of the Ecologically Related Species Working Group (ERSWG16). The ERSWG16 proposal identifies 13 priority seabird species and highlights areas where fishing activity presents the greatest risk. The proposal also agreed a seabird bycatch target (relative mortality baseline of 0.10) which is Action 1A of the Mult-year Seabird Strategy.

This paper offers Australia and New Zealand's suggestions for refining the proposals from ERSWG16. Australia and New Zealand support the ERSWG-proposed bycatch target, and also support the adoption of a management "toolbox" for high-risk areas, but suggest clear priority is given to the options that directly reduce seabird bycatch. Australia and New Zealand also propose:

- Under Option 1 'Improving monitoring requirements' – 20% human observer coverage, or 100% electronic monitoring (EM) with 10% EM footage review rate in high risk areas. Additionally this approach is time bound for a maximum of five years, after which an approach which reduces risk to seabirds must be implemented.
- Under Option 2 'Reducing effort' – recommend reducing effort between 20-50% in the high risk areas.
- Under Option 3 'Enhancing mitigation measures' – implementing best practice recommendations from the Agreement on the Conservation of Albatross and Petrels, or implementing a maximum bycatch rate of 0.05 birds per 1,000 hooks, with monitoring requirements in place to ensure adherence (10% human observer coverage or 100% EM with 10% footage review).

Australia and New Zealand also support defining "high-risk areas" using a minimum 60% risk threshold, as this would address the largest share of seabird mortality and best support the goals of the CCSBT Multi-Year Seabird Strategy.

This proposal aims to move CCSBT from identifying seabird risk to taking practical and measurable actions that reduce impacts on vulnerable seabird populations while maintaining flexibility for Members in how they achieve this goal. Australia and New Zealand encourage and welcome Members' input to help refine the toolbox options. Further, Australia and New Zealand encourage Members to consider which toolbox option can best be implemented to reduce the impact of SBT fishing on priority seabirds while considering Members' fleet characteristics.

1 Background and introduction

Multi-Year Seabird Strategy

1. The CCSBT Multi-Year Seabird Strategy (MYSS) was adopted at CCSBT 26, with strategic actions adopted at CCSBT 27. The overall objective of the MYSS is '*to reduce or eliminate seabird bycatch, such that SBT fisheries do not impose a significant adverse impact on seabirds.'* This overall objective is supported by five specific objectives, which are in turn supported by strategic actions set out in an Action Plan.

2. The MYSS relies heavily on the use of spatially explicit fisheries risk assessment (SEFRA) to complete the identified actions of the Action Plan and ultimately to meet the objectives of the MYSS. Relevant actions to this discussion include:

    - **Action 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, and (b) targets based on SEFRA outputs.

    - **Action 1D** – Agree on the list of priority species and corresponding management targets, taking into account the status of seabird populations, distributional overlaps with SBT fisheries, and significance of SBT fisheries in their mortality.

    - **Action 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.

    - **Action 1F** – Establish a robust definition of high-risk areas that takes into account the precautionary approach by (a) Establishing a definition of high-risk areas. (b) Identifying areas that meet the definition. (c) Characterising the nature of the risk in each area. (d) Developing tailored measures aimed at reducing those risks.

    - **Action 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.

Spatially Explicit Fisheries Risk Assessment (SEFRA)

3. New Zealand and Japan led extensive intersessional work during 2022 and 2023 to develop a SEFRA model and coordinate data inputs from other CCSBT Members. The model was successfully run in early 2024 and some results agreed at the fifteenth meeting of the ERSWG in June 2024.

4. A technical meeting of the ERSWG (ERS Tech) was hosted in April 2025 in Wellington, New Zealand as a hybrid meeting.[1] This meeting finalised the SEFRA model, building on the 2024 model and addressing key issues. Australia, Fishing Entity of Taiwan, Japan, New Zealand, Republic of Korea, and South Africa submitted their data on seabird captures from their observer programs for the combined risk assessment. All Members provided total effort of pelagic longlines operating in the southern hemisphere, regardless of target species.

[1] Australia, Indonesia, Japan, Korea, New Zealand, BirdLife International (BLI) and the Agreement on the Conservation of Albatrosses and Petrels (ACAP), together with the ERSWG Chair, the leader of the modelling team and the CCSBT Seabird Project Manager attended in person. South Africa, Taiwan and Humane World for Animals (HWA) attended online.

5. Following the meeting, the modelling team posted the results of the model runs and total catch estimates of the final models. The group produced a technical report[2] summarising the development and results of the 2025 SEFRA (Figure 1) which was adopted by the Extended Commission (EC) in October 2025.

2 Outcomes of ERSWG16

6. At the 32nd meeting of the EC, the Commission approved the 2025 SEFRA. At that time, '*Members emphasised that the next step should be for the ERSWG to consider the outcomes of the assessment and potential management actions*.'

Management Toolbox Approach

7. At the subsequent meeting of the ERSWG in March 2026, Members developed a management 'toolbox' for consideration by EC whereby Members can choose, either singly or in combination, options to address high risk areas of seabird bycatch (phased in over time). Management options may be implemented on the 5x5 'high risk area' scale, the CCSBT stat area scale (Figure 2), or latitudinal band scale.

    - **Option 1**: Improving monitoring requirements (specified levels of EM or observer placement taking into account scientific literature) - XX% e-monitoring with XX% review rate, or XX% human observer placement.
    - **Option 2**: Reducing effort in high-risk areas by XX% (e.g. spatial/temporal limits).
    - **Option 3**: Enhancing mitigation measures when operating in identified high risk areas (e.g. 'three out of three', hook-shielding devices, prioritising night setting), or establishing and delivering on a bycatch limit or rate – noting a minimum monitoring requirement if this option is selected.

Defining 'High Risk Areas' and 'Priority Species'

8. The ERSWG agreed a seabird bycatch target for reducing the level of impact of SBT fishing operations on seabird populations (Action 1A under the Multi-Year Seabird Strategy). This was based on the results of the SEFRA outputs. The ERSWG specified that the relative mortality for each seabird population (as estimated using a SEFRA model like that finalised in 2025) should be reduced, so that the median is less than 0.10 and the upper 95% credible interval bound is less than 0.50. The ERSWG could then identify thirteen seabird taxa with relative mortality levels above this threshold (Table 1). The ERSWG agreed those thirteen seabird taxa should be considered priority species and areas where there is heightened risk posed to those species would then form the basis for determining the high-risk areas.
9. The ERSWG also noted when discussing the high-risk areas proposal that there was scope for a choice in the level of risk being addressed within the high-risk areas, and recommended the EC decide among three thresholds for the level of risk covered within the agreed high-risk areas. Each of these options included an increasing number of 5x5 degree cells, as shown in the maps in Figure 3. The ERSWG noted that when choosing a threshold, there is a trade-off between a) restricting the number of cells defined in high-risk areas and b) ensuring a sufficient amount of relative mortality addressed across taxa in high-risk areas.
    - At a low risk threshold, 50% of the total risk to seabirds would be contained within what would be considered "high-risk area". This would be a low number

[2] https://www.ccsbt.org/system/files/2025-09/EC32_14_ERSWGChair_Report_ERSTech_0.pdf

of cells and the relative mortality addressed is mainly limited to the highest risk taxon.

- At a medium risk threshold, 60% of the total risk to seabirds would be contained within what would be considered “high-risk area”. This is still a relatively low number of cells and the relative mortality addressed is spread across taxa (higher risk taxa).
- At a high-risk threshold, 70% of the total risk to seabirds would be contained within what would be considered “high-risk area”. This is a relatively larger number of cells and the relative mortality addressed is across taxa.

10. The ERSWG also agree to recommend the EC:
    - Phase in the approach over time and over areas (accounting for risk level in each area) and to progress from better understanding risk to reducing risk over time and ideally aligning timeframes across Members.
    - Establish a process to annually notify Member commitment to a seabird bycatch mitigation plan in identified high-risk areas to the Secretariat, starting in 2027 including timeframes for implementation. The plan must include at least one of the above three options. This could include a new section of the annual report reviewed by ERSWG, and the Compliance Committee (CC) as appropriate, and added as new agenda items in ERSWG and CC meetings.
    - Encourage CCSBT Members to collaboratively work with other tuna RFMOs to enact above options in other areas of competence.

3 AU and NZ proposals for refining recommendations of the ERSWG16

11. The options put forward by the ERSWG are a solid starting point for discussion on strengthening requirements in agreed high risk areas – however, the details of the proposals remain ambiguous. Australia and New Zealand worked together intersessionally to further refine these proposals for consideration by Members.

Toolbox Options

12. Australia and New Zealand propose that the ‘toolbox’ options should fall under a hierarchy whereby priorities are clearly outlined, i.e. risk reduction to seabirds is prioritised over improving monitoring. Therefore, we consider the priority to be option 3 which reduces risk to priority species in high-risk areas through enhanced mitigation measures. Option 2 is the next priority option which also reduces risk to priority seabirds in high-risk areas through effort reduction, noting voluntary enhanced mitigation and monitoring is highly encouraged under this option. Members electing Option 2 should also consider how displacement of effort may impact on priority species as shifting effort may simply shift risk to priority species to new areas. Option 1, improving monitoring requirements, is supported to improve the accuracy of seabird bycatch information and mitigation reporting. While we expect an increase in monitoring may drive some improvement in mitigation use, we also acknowledged that it would not directly reduce risk to priority species. Therefore, while we see value in this option, we encourage those members choosing option 1 to voluntarily enhance mitigation usage at the same time.
13. Australia and New Zealand consider that the ‘toolbox’ approach should be implemented in addition to existing seabird mitigation requirements for CCSBT and other RFMOs to enhance risk mitigation in high-risk areas.

Option 3. Enhancing mitigation measures (preferred)

14. The third toolbox option agreed by ERSWG was an option to (a) enhance seabird mitigation measures, or (b) establish and deliver on a bycatch limit or rate for a fleet. The ERSWG also recognized the importance of minimum monitoring requirements should a Member select this option.
15. Option 3a – Enhanced Mitigation Measures: We confirm our support for Members applying enhanced mitigation measures such as 'three out of three' (branch line weighting, night setting and bird scaring lines), hook shielding devices, and prioritising night setting, noting a minimum monitoring requirement if this option is selected. We encourage Members to consider Agreement on the Conservation of Albatross and Petrels (ACAP) best practice[3] (including advising against measures that have been proven to be ineffective such as blue-dyed bait or line shooters[4]) if a member chooses to increase the mitigation measures applied in the high-risk areas. For an example of this approach see the current arrangements for New Zealand at Appendix 3.
16. Option 3b – Bycatch Limit/Rate: Similarly, we confirm our support for members applying bycatch limits as a means to manage seabird interactions. Australia and New Zealand consider the best approach would be to establish a maximum bycatch rate of 0.05 birds per 1,000 hooks set within the high-risk areas per season per member. If the bycatch rate is exceeded, that Member must implement additional mitigation measures to those already being used. We recommend members only consider this option if they have effective at-sea monitoring (as per point 18). For an example of such an approach see the current arrangements for Australia at Appendix 4.
17. Australia and New Zealand consider 10% minimum human observer coverage or a 100% EM coverage rate and a 10% minimum EM footage review rate[5] to be appropriate as minimum monitoring requirements under option 3.

Option 2. Reducing effort (next preferred)

18. The ERSWG agreed to include an 'effort reduction' option in the toolbox as a means of reducing risk to seabirds. However, there was no proposal put forward on the amount of effort reduction that would be appropriate.
19. Significant effort reduction is likely needed in high-risk areas (without simply displacing effort which would shift risk to seabirds to other areas) to make meaningful progress towards the agreed relative mortality threshold across all priority species (Table 1). We also recognise that high levels of effort reduction may not be achievable in the short-term. Therefore, we recommend reducing effort between 20-50% in the high-risk areas as a starting point under option 2. We encourage any Members selecting this option to also consider voluntarily implementing enhanced mitigation efforts and voluntarily implementing enhanced monitoring to improve information collection.
20. Australia and New Zealand consider that an effort reduction metric should be clearly defined under option 2. Effort data inputted into the 2025 SEFRA was hook numbers by 5x5 degree cell, month, year and fleet for the period 2012 to 2023. We therefore recommend that effort reduction is measured in hook numbers, and is determined from annual Member fleet effort within the high-risk area relative to the average annual Member fleet effort within the high-risk area for the period 2012 to 2023. Further, we recommend ensuring that annual Member fleet effort outside the high-risk area does not increase above the average annual Member fleet effort in those areas for the period 2012 to 2023.

[3] ACAP Review of mitigation measures and Best Practice Advice for Reducing the Impact of Pelagic Longline Fisheries on Seabirds
[4] EBWG-03-03_Seabird-action-plan---A-review-of-bycatch-mitigation-options-measures-and-implementations.pdf
[5] AFMA 2020 Australian Fisheries Management Authority electronic monitoring program – program overview, June 2020

Option 1. Improving monitoring requirements (least preferred)

21. The ERSWG proposal included an option to improve monitoring requirements but did not specify minimum levels of coverage or review rate that would be required should Members elect this option.
22. Australia and New Zealand consider that observer requirements should be above the minimum monitoring requirements we propose under option 3. In the absence of any other risk reduction efforts (enhanced mitigation or effort reduction), Australia and New Zealand consider 20% minimum human observer coverage as an appropriate start. Australia and New Zealand consider 100% EM coverage with a 10% minimum EM footage review rate is appropriate for the high-risk areas under this option. Australia and New Zealand consider that 100% EM coverage improves fisher reporting significantly, such that 10% footage review rate is sufficient to ensure accurate reporting of seabird interactions.[6]
23. Noting that this option doesn't directly reduce risk and primarily seeks to better understand seabird bycatch, we encourage any members selecting this option to also consider voluntarily implementing enhanced mitigation efforts compared to existing mitigation requirements. Australia and New Zealand also propose that if this option is selected by a Member that this is timebound for a maximum of five years, and reviewed as part of the Multi-Year Seabird Strategy.

Choosing a 'High-Risk Area' Threshold

24. Noting the ERSWG discussed a range of thresholds for determining the level of risk covered within the high-risk areas (50, 60 and 70%), Australia and New Zealand recommend a minimum 60% threshold. This would address the largest share of seabird mortality and best support the goals laid out in the Multi-Year Seabird Strategy to reduce CCSBT's impacts on priority seabird populations.

25. Regardless of the high-risk area definition (i.e., 50, 60, or 70%), if Members choose to implement any of the toolbox options on a CCSBT stat area scale (Figure 2) or a latitudinal band scale, these approaches must be aligned with the agreed high-risk areas to the best extent possible. For example, a selected CCSBT statistical area selected should cover high-risk areas or latitudinal bands should contain high-risk areas.

4 Recommendations

26. In summary, Australia and New Zealand recommend the Commission:
    a. Endorse the ERSWG recommendations including the ERSWG-agreed relative mortality threshold and the associated list of priority species.
    b. Agree a minimum 60%] threshold for defining the high-risk area.
    c. Refine the 'toolbox' options to reflect a hierarchy that prioritises seabird bycatch risk reduction over improvements in monitoring.
    d. Adopt the refined toolbox options with outstanding items from the ERSWG advice addressed as detailed in our proposal above.
    e. Agree that Members report progress annually in their reports to ERSWG, with compliance measures addressed in CC reports.
27. Australia and New Zealand invite Members to discuss this proposal and seek agreement on the detailed requirements to implement the toolbox approach.

[6] Increased fisher-reporting of seabird captures during an electronic-monitoring trial

Appendix 1 – Tables and figures

Table 1. Thirteen species of seabirds (in red) were assessed as having a median exceeding a relative mortality (RM) of 0.1. or an upper 95% C.I. exceeding a RM of 0.5 from contributing CCSBT member pelagic longline fisheries. ERSWG agreed that these should be considered as priority species. Within this group, the four species at highest risk, Gibson's, Amsterdam, Tristan, and Sooty albatrosses (bold) had the largest effect on the overall risk surface for the priority species. The columns of RM coverage at increasing percentage reflect the species-specific RM covered under the different high risk area options in Fig. 3 and if the remaining RM >0.1, the number is given in red.

FAO Code	Common name	IUCN Red List	Total RM (median)	RM coverage under 50%	RM coverage under 60%	RM coverage under 70%
DIW	**Gibson's albatross**	**EN**	**0.735**	**0.62**	**0.65**	**0.68**
DQS	Antipodean albatross	EN	0.142	0.06	0.08	0.09
DIX	Wandering albatross	VU	0.143	0.02	0.05	0.06
DBN	**Tristan albatross**	**CR**	**0.356**	**0.16**	**0.19**	**0.24**
DAM	**Amsterdam albatross**	**EN**	**0.387**	**0.06**	**0.15**	**0.18**
DIP	Southern royal albatross	VU	0.142	0.11	0.12	0.13
DIQ	Northern royal albatross	EN	0.051	0.02	0.03	0.03
DCR	Atlantic yellow-nosed albatross	EN	0.211	0.04	0.04	0.11
TCH	Indian yellow-nosed albatross	EN	0.201	0.07	0.10	0.13
DIM	Black-browed albatross	LC	0.035	0.01	0.01	0.01
TQW	Campbell black-browed albatross	VU/LC*	0.130	0.07	0.09	0.10
DCU	Shy albatross	NT	0.067	0.04	0.05	0.05
TWD	New Zealand white-capped albatross	NT	0.245	0.16	0.17	0.20
DKS	Salvin's albatross	VU	0.067	0.02	0.03	0.03
DER	Chatham Island albatross	VU	0.060	0.00	0.01	0.01
DIC	Grey-headed albatross	EN	0.036	0.02	0.02	0.02
DSB	Southern Buller's albatross	NT	0.228	0.15	0.16	0.18
DNB	Northern Buller's albatross	NT	0.101	0.01	0.02	0.04
PHU	**Sooty albatross**	**EN**	**0.319**	**0.13**	**0.19**	**0.20**
PHE	Light-mantled sooty albatross	NT	0.064	0.04	0.05	0.05
PCI	Grey petrel	NT	0.008	0.00	0.00	0.01
PRK	Black petrel	VU	0.029	0.00	0.01	0.01
PCW	Westland petrel	EN	0.046	0.03	0.03	0.04
PRO	White-chinned petrel	VU	0.013	0.00	0.00	0.01
PCN	Spectacled petrel	VU	0.016	0.00	0.00	0.00

* The taxonomic status of Campbell black-browed albatross is still in flux and consequently the IUCN Red List status is unclear.

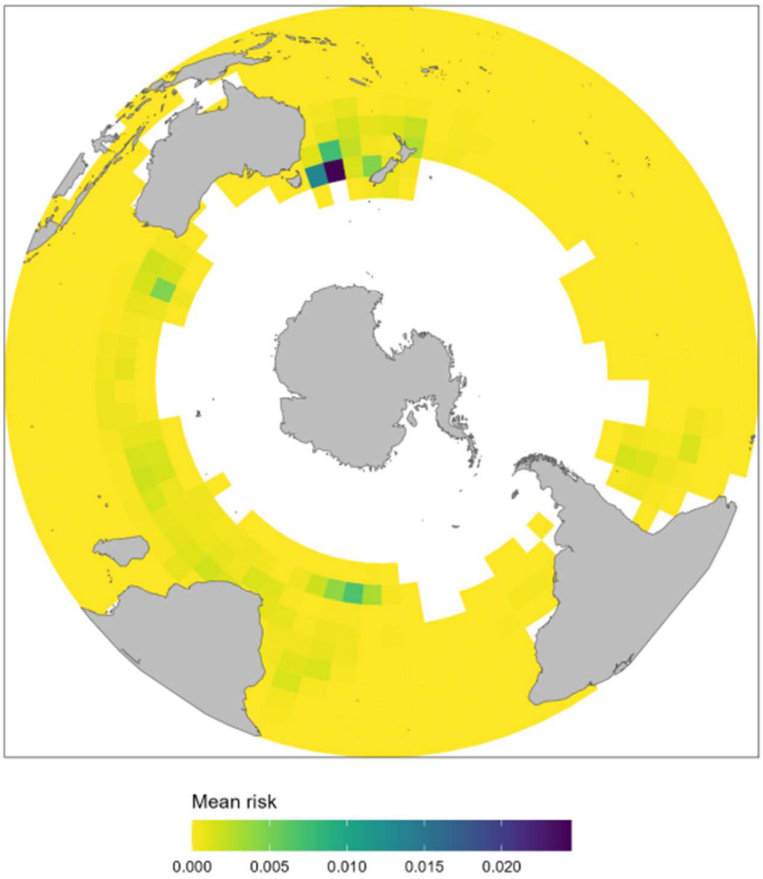


Figure 1. Map identifying the mean risk to all species of seabird considered by the 2025 SEFRA.

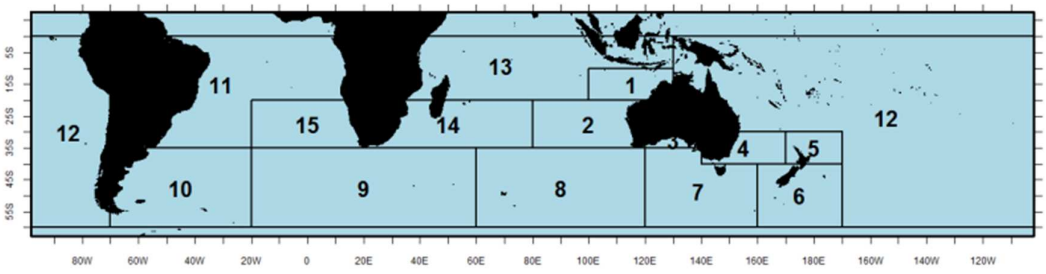
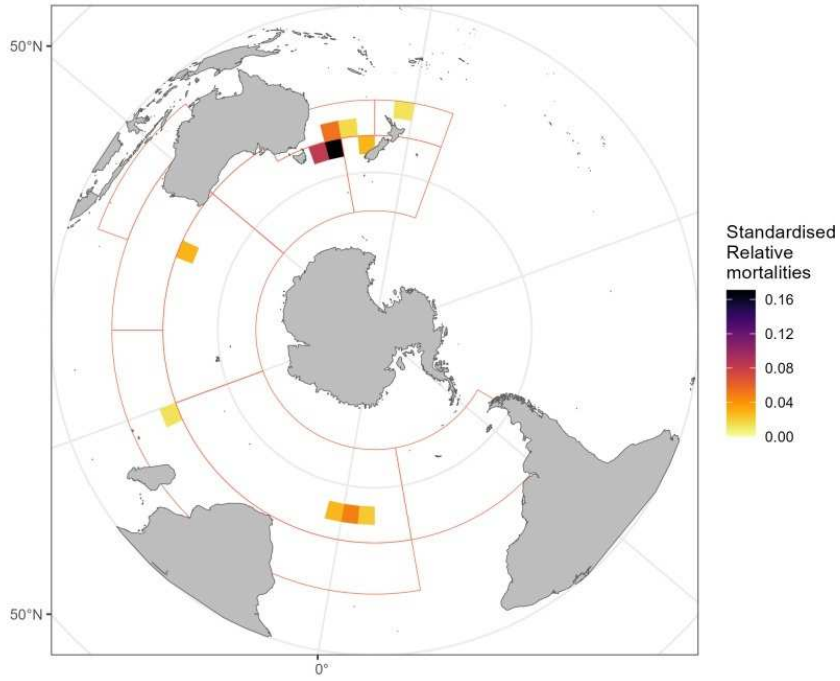


Figure 2. Map of CCSBT statistical areas.

50% risk = 11 cells



60% risk = 20 cells

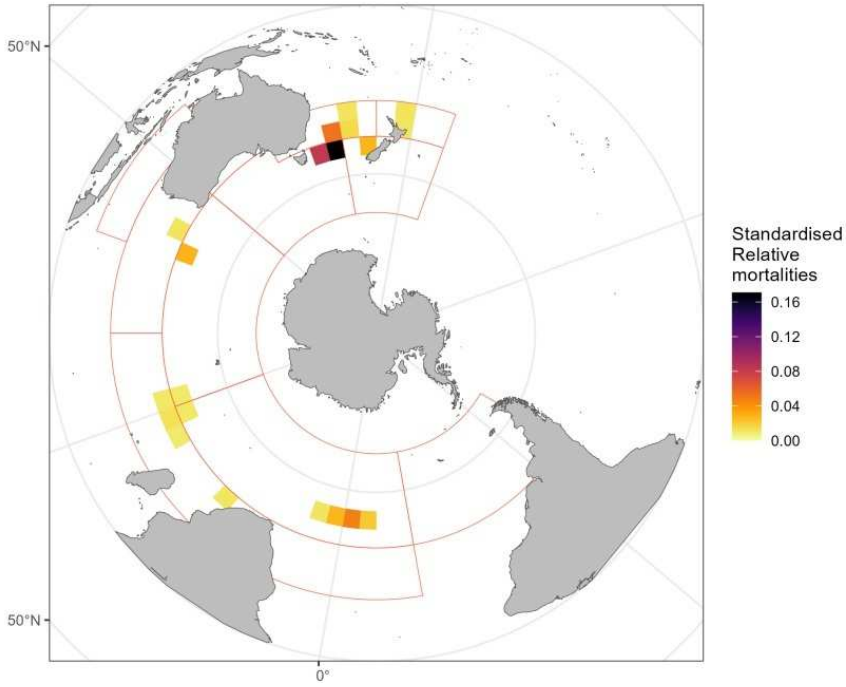


Figure 3. Maps showing cumulative standardised relative mortality at 50, 60, and 70%, and the number of 5x5 degree cells that would subsequently be considered 'high risk areas' in the CCSBT statistical areas.

70% risk = 32 cells

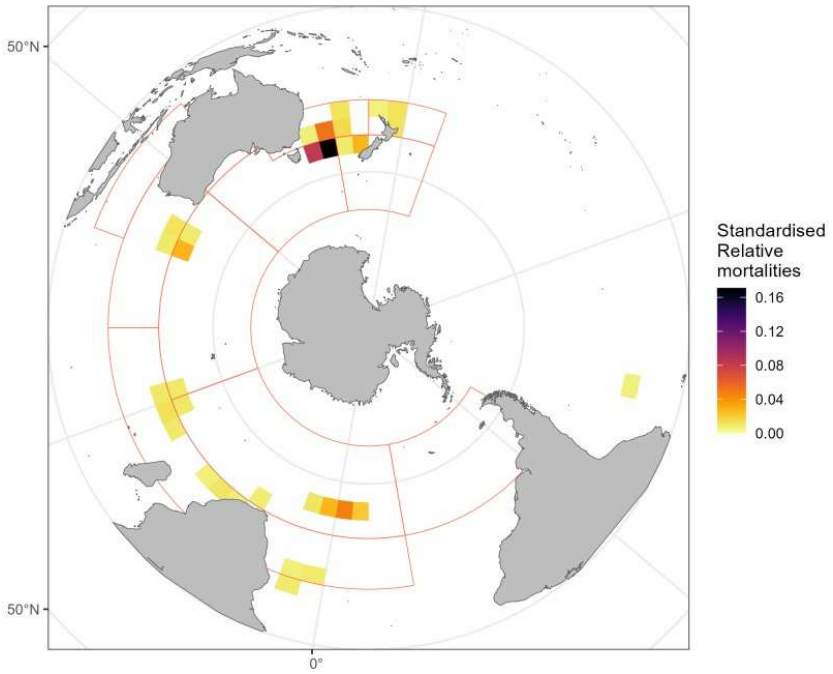


Figure 3 (cont'd). Maps showing cumulative standardised relative mortality at 50, 60, and 70%, and the number of 5x5 degree cells that would subsequently be considered 'high risk areas' in the CCSBT statistical areas.

Appendix 2 – Australia's seabird bycatch mitigation approach

The incidental catch (or bycatch) of seabirds during oceanic longline fishing operations is listed under Australian law as a key threatening process. As a result, the Australian Government implemented the *Threat Abatement Plan for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations (2018)* (the TAP).

The TAP defines a bycatch rate performance criteria for each of AFMA's longline fisheries. Relevantly for SBT, for Australia's Eastern Tuna and Billfish Fishery (ETBF) and Western Tuna and Billfish Fishery (WTBF) the bycatch rate performance criteria is defined as 0.05 seabirds per 1,000 hooks set in each TAP fishing area and TAP season.

For the purposes of the bycatch rate performance criteria:

a) A TAP season is defined as either winter (1 May to 31 August) or summer (1 September to 30 April, the following year) each year.

b) Within the ETBF and WTBF, TAP fishing areas are defined as each area of five degrees latitude south of 25°S.

c) Seabird bycatch is defined as the unintentional catch of a seabird during longline fishing. A seabird is caught when the seabird is either hooked or entangled in fishing gear, regardless of whether the seabird is landed on board the fishing boat.

d) The seabird bycatch rate is the number of seabirds caught per 1,000 hooks set, and are reported:
   i. by an AFMA scientific observer or other independent observer approved by AFMA on board the fishing boat; and/or
   ii. by the fishing operator in the logbook records in accordance with arrangements for the fishery where longline fishing is subject to independent monitoring using an electronic monitoring system approved by AFMA.

e) All boats must deploy a tori line, use line weighting and non-frozen baits. If a boat exceeds the bycatch rate and meet specific criteria, that boat must then implement additional mitigation not already being used including:
   i. cease fishing
   ii. hook shielding device
   iii. adjusted line weighting
   iv. night setting
   v. northern shift in fishing effort
   vi. no live bait.

Appendix 3 – New Zealand's seabird bycatch mitigation approach

The legal requirements in New Zealand for seabird mitigation by surface longline operators are described in the 'Fisheries (Seabird Mitigation Measures – Surface Longlines) Circular'. In addition to the Circular requirements, the voluntary 'Seabird Bycatch Mitigation Standards' were developed alongside the New Zealand NPOA Seabirds 2020. They document the best practice mitigation methods for reducing the risk of seabird captures in New Zealand surface longline fisheries. It is expected that each vessel will develop their own Protected Species Risk Management Plan (PRSMP) that is tailored to their operational needs and works towards achieving the best bycatch mitigation options available under Part B below.

A. **Legal Requirements - *Fisheries (Seabird Mitigation Measures- Surface Longlines) Circular***

1. **During setting fishers must either:**
   - **a) use hook-shielding devices on 100% of hooks or**
   - **b) deploy a legal tori line, night set, and line weight to legal specifications.**
2. **For vessels under 35m, tori lines must achieve an aerial extent of ≥75m and attach at a point ≥6m above the water.**
3. **Tori line streamers are minimum 1m long, brightly coloured and spaced ≤1m apart along the entire aerial extent.**
4. **At a minimum, weighted gear is either: ≥40g attached to or within 0.5m of the hook, or ≥60g within 1m of the hook, or ≥80g within 2m of the hook.**

B. **Voluntary Best Practice Mitigation Methods**

1. **Control the discharge of fish waste**
   - No discharging of fish waste immediately before or during setting.
   - During hauling, either hold or batch discharge fish waste at intervals of no less than 30 minutes.
   - During hauling, retain all used bait on board until hauling has finished.
   - Return live fish (meeting legal requirements) to the sea as soon as practicable.
   - Document a plan for fish waste discharge should there be any equipment failures. Keep a copy on board.
   - Whilst still allowing the free movement and egress of water, maintain a secondary system that prevents uncontrolled fish waste discharge (*i.e.* equipment to minimise fish waste lost to factory floor or deck, grating and/or trap systems in fish sorting and gutting areas that lead overboard).
2. **Minimise seabird access to baited hooks during setting**
   - Either use hook-shielding devices on 100% of hooks or
   - Use a 'fit and proper' tori line that can be adjusted over the hook-bearing line to suit varying conditions,
     - and set in the period between 30 min after nautical dusk and 30 min before nautical dawn (night set),
     - and weight gear: ≥40g attached to or within 0.5m of hook, or ≥60g within 1m of hook, or ≥80g within 2m of hook.
   - Carry a second (back-up) tori line and sufficient materials onboard to effect repairs when necessary.
   - Use sufficiently thawed bait.
3. **Minimise seabird access to hooks during hauling**
   - Minimise the time hooks are at or near the surface of the water.
   - Implement hauling mitigation measures, device(s) and/or vessel manoeuvres when appropriate.