CCSBT-ERS/1905/16
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Fisheries New Zealand
Tini a Tangaroa

Proposed definition of high risk areas

New Zealand

Prepared for the 13th Meeting of the Ecologically Related Species Working Group (ERSWG13) of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

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1 Background

During the 11th meeting of the Ecologically Related Species Working Group (ERSWG), members agreed to "address the definition of 'high risk areas' through discussion of papers presented at ERSWG12". This task was put forward to reflect both the recognised risk to seabirds posed by this fishery and the need to direct limited resources to areas of greatest need.

During the 12th meeting of the ERSWG, members agreed to apply option 3A, using the sum of the risk ratios for all species included, as the preferred method to undertake analysis of 'high risk areas' to seabirds.[1] To note, 'the group agreed that this analysis should not prejudice further discussion surrounding the definition of 'high risk areas' or the potential application of remedies.'

The Terms of Reference also state that the ERSWG is to provide advice on measures to minimise fishery effects on ecologically related species.[2] Having an agreed definition of 'high risk areas' will allow this group to provide effective and focused advice to decrease risk to seabirds. Identifying specific areas of high risk to seabirds would allow for resources and management to be prioritised and applied to specific areas where the need is most pressing.

Having an agreed definition of 'high risk areas' will also avoid imposing a potentially unnecessary burden on operators. Identifying specific areas of high risk to seabirds would enable management responses to be tailored to the individual drivers of risks.

2 Introduction

Reaching agreement on an appropriate method to use in identifying risk was a necessary first step towards a definition. Having agreed on the most appropriate methodology to apply, Members now need to agree on what level of risk identified under the agreed method can be considered 'high'.

In this paper, key considerations for identifying 'high risk areas' are identified, and then two options are proposed for a level of risk that could be considered 'high'. Option 1 proposes a high risk threshold, which would capture around a quarter of the aggregate risk in the areas identified as 'high risk areas'. Option 2 proposes a medium risk threshold, which would capture around half of the aggregate risk in the areas identified as 'high risk areas'.

New Zealand invites the group to consider the two options in terms of the fishing effort and the potential impact on at-risk seabird species.

New Zealand notes there is uncertainty and limitations in the application of the agreed method. However, at this stage, the best available information and the most sophisticated method has been used in identifying risk to seabirds. The results have shown applicable and relevant outcomes in terms of CCSBT effort and the potential impact on at-risk species.

Using its own judgement and expertise, the role of the ERSWG membership is to now consider the information presented and make a determination on the appropriate settings to apply in a CCSBT context that would, in turn, define 'high risk areas'. Any agreed recommendation from this group will need to be considered and endorsed by the Extended Scientific Committee and the Extended Commission. The group should consider the options presented in terms of which option is most appropriate for CCSBT and our shared objective of minimising the southern bluefin fishery's impact on seabirds.

[1] CCSBT-ERS/1703/13 or CCSBT-ERS/1905/BGD4.
[2] Terms of Reference for the working group on ecologically related species (ERS), CCSBT Terms of Reference for Subsidiary Bodies, adopted at the Second Annual Meeting – September 1995, updated at the Twenty Fifth Annual Meeting – October 2018

3 Considerations

There were two considerations identified as being fundamental for these proposals. The first consideration is that areas identified as 'high risk' are relevant to CCSBT. The second consideration is that areas identified as 'high risk' are beneficial to the most at-risk seabird species.

3.1 CCSBT EFFORT

The application of option 3A includes all surface longline fishing effort in the southern hemisphere. Therefore, there is effort other than CCSBT effort included in the analysis. The proportion of effort that is attributable to CCSBT in the areas identified as 'high risk' is considered to determine relevance to CCSBT.

Considering areas where other tuna regional fisheries management organisations (RFMOs) are active as well enables CCSBT to take into account the role of other tuna RFMOs. Furthermore, it allows CCSBT to recognise the recently agreed ERS measure that applies the requirements of other RFMOs to the CCSBT membership operating in areas of overlap.[3]

3.2 SEABIRD SPECIES

Using the sum of risk ratios, a high score may be the result of either a few high-risk species, or many low-risk species. Therefore, the impact on the risk for at-risk species should be considered to determine potential impacts on reducing risk to at-risk species.

Given that management should be able to positively impact species' risk scores within the 'high risk areas', the impact on species' risk scores outside the 'high risk areas' is considered.

4 Proposed options 'high' risk

Two options are proposed for a level of risk that could be considered 'high' in order to identify 'high risk areas'. The options are based on the scenarios presented in CCSBT-ERS/1905/15. The options are considered in terms of the proportion of effort in the 'high risk areas' that is attributable to CCSBT, and the impact on risk scores of at-risk species.[4]

4.1 OPTION 1 – HIGH RISK THRESHOLD

'High risk areas' that are identified under option 1 are illustrated in **Figure 1**. The areas identified include: areas in the Tasman Sea; areas to the east of South Africa; and areas near Gough Island in the South Atlantic Ocean. There are nine at-risk species that are associated with these 'high risk areas'.

Over 90% of the effort in the 'high risk areas' is attributable to CCSBT members, with the effort accounting for 13% of total CCSBT effort.

Under this option, around a quarter of the total mean risk is captured in the 'high risk areas'. Risk outside these areas would fall to a level where species are not considered at-risk for two of the nine at-risk species (the Gibson's albatross and the wandering albatross).

Identifying fewer areas under option 1 would allow for more specific prioritization and focus of resources and management.

[3] Resolution to Align CCSBT's Ecologically Related Species measures with those of other tuna RFMOs, adopted at the Twenty Fifth Annual Meeting – 18 October 2018

[4] At-risk species are considered to have a risk score greater than one. Under the New Zealand seabird risk assessment, a risk score greater than one indicates that there are more fishing fatalities than the population can sustain.

4.2 OPTION 2 – MEDIUM RISK THRESHOLD

'High risk areas' that are identified under option 2 are illustrated in **Figure 2**. The areas identified include: areas in the Tasman Sea; areas to the east of South Africa; and a single five by five degree area near Gough Island in the South Atlantic Ocean. There are nine at-risk species that are associated with these 'high risk areas'.

Over 90% of the effort in the 'high risk areas' is attributable to CCSBT members, with the effort accounting for 26% of total CCSBT effort.

Under this option, around half of the total mean risk is captured in the 'high risk areas'. Risk outside these areas would fall to a level where species are not considered at-risk for four of the nine at-risk species (the Gibson's albatross, grey-headed albatross, Buller's albatross, and the wandering albatross). Therefore, option 2 would be the more precautionary option since there is greater potential to reduce risk to at-risk species.

'High risk areas' are determined by recent fishing effort, so changes in effort distribution could shift the risk. Therefore, identifying more areas and capturing more effort under option 2, compared with less areas and less effort under option 1, would mean that the 'high risk areas' are less likely to be undermined by shifts in fishing effort distribution.

5 Discussion

New Zealand invites the group to consider the proposed options and discuss which level of risk would be appropriate for CCSBT and our objectives in terms of minimising this fishery's effect on ecologically related species.

As a starting point for discussion, New Zealand suggests that of the two options proposed, option 2 would be the preferred option. This is because option 2 is the more precautionary option and has the greatest potential benefit in terms of reducing risk to species deemed at-risk.

6 Appendix – Figures

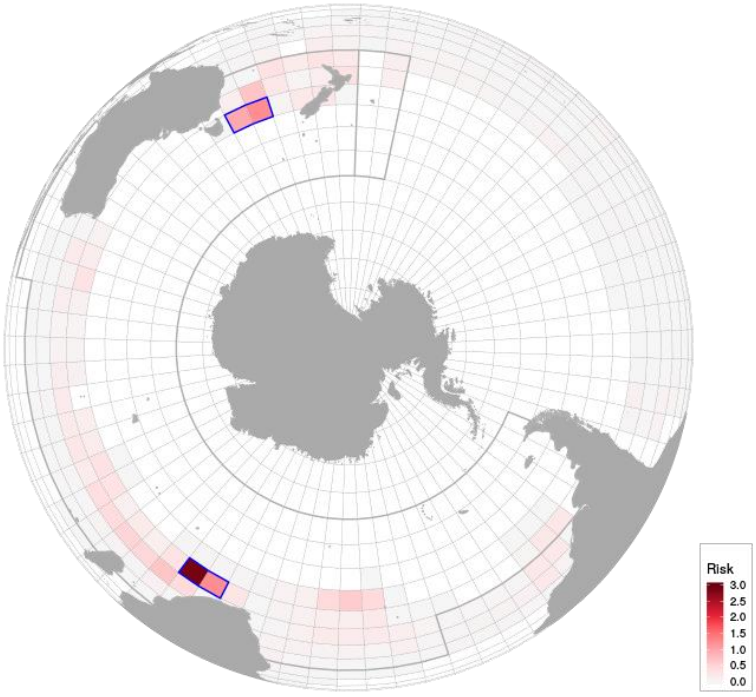

Figure 1. A map illustrating the 'high risk areas' identified by a threshold of a mean risk of 0.96 (high risk-threshold scenario). The colour of each cell is proportional to the aggregate mean risk within the cell. The blue borders mark the high-risk areas, and the grey lines indicate the outer boundary of the core CCSBT statistical areas (excluding statistical areas 11, 12, and 13).

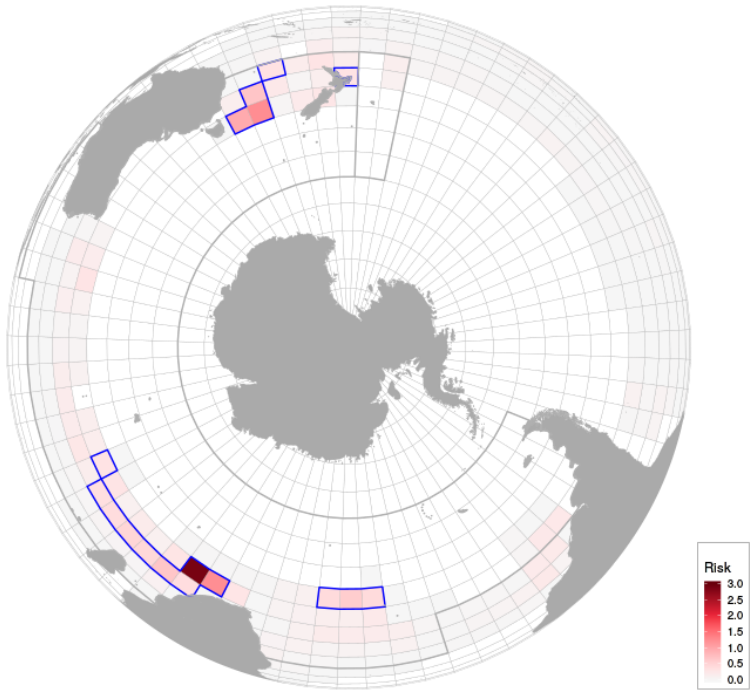

Figure 2. A map illustrating the **'**high risk areas' identified by a threshold of a mean risk of 0.32 (medium risk-threshold) scenario. The colour of each cell is proportional to the aggregate mean risk within the cell. The blue borders mark the high-risk areas, and the grey lines indicate the outer boundary of the core CCSBT statistical areas (excluding statistical areas 11, 12, and 13).