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Review of the paper "Gauging the threat: exposure and attraction of sooty albatrosses and white-chinned petrels to fisheries activities in the Southern Indian Ocean"

Delegation of France Overseas Territories

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Abstract

This paper by S. Banda et al., investigates the trajectories followed during foraging trips by endangered sooty albatross and vulnerable white-chinned petrel breeding on Marion Island, and their spatial overlap with boat presence, using AIS data. They found that both species were performing trips in SIOFA waters, either to reach South African shelf for white-chinned petrels or to forage within SIOFA area for sooty albatrosses. The authors calculated encounter and attraction rates with boats which differed greatly according to the species, with sooty albatrosses being less attracted and foraging in less busy areas than white-chinned petrels.

[1] Restricted documents may contain confidential information. Please do not distribute restricted documents in any form without the explicit permission of the SIOFA Secretariat and the data owner(s)/provider(s).
[2] Documents available only to members invited to closed sessions.

Recommendations
That the SIOFA SC: **Takes into account** the information provided in this paper on the regular occurrence of endangered seabird species within the SIOFA area to consider updating the conservation measures in place to prevent bird bycatch in the area

Review of the paper "Gauging the threat: exposure and attraction of sooty albatrosses and white-chinned petrels to fisheries activities in the Southern Indian Ocean"

This paper presents a review of the following paper :

Banda et al. (2023). Gauging the threat: exposure and attraction of sooty albatrosses and white-chinned petrels to fisheries activities in the Southern Indian Ocean. *ICES Journal of Marine Science*, Volume 81, Issue 1, January 2024, Pages 75–85, https://doi.org/10.1093/icesjms/fsad176

Background

Sooty albatross *Phoebetria fusca* and white-chinned petrel *Procellaria aequinoctialis* are respectively listed as endangered and vulnerable by the IUCN. White-chinned petrel is believed to be strongly attracted to fishing boats : it is often the most abundant species attending fishing vessels and the most numerous in bycatch estimates. On the other hand, sooty albatrosses are rarely seen following fishing vessels, but the important decline observed in the monitored populations has been at least partly attributed to fisheries bycatch mortality.

Methods

For this study, 20 sooty albatrosses and 18 white-chinned petrels have been successfully equipped with GPS during two consecutive breeding seasons (October-February) on Marion Island (Prince Edward Islands), to monitor their trajectories and identify the feeding areas used during the relatively short trips performed during the incubation period, as well as their overlap with fishing activities, using AIS data.

Key Findings

The individuals of both species travelled north in SIOFA waters, commuting to and from the South African shelf for white-chinned petrels while sooty albatrosses remained within the SIOFA area to forage. The encounter rate varied greatly according to the species: 72 % of the white chinned petrels monitored encountered fishing boats, compared to 20 % of the sooty albatrosses. For these individuals who did encounter fishing boats, the number of fishing boats encountered or attended as well as the time spent during each encounter was significantly higher in white-chinned petrels.

Discussion

In the oceanic subtropical open waters of the SIOFA where they foraged, the sooty albatrosses of the study experienced a lower encounter rate than the white-chinned petrels who mainly foraged over subtropical shelf waters. In addition to foraging in a zone where fishing activity was lower at the period

of the study, they showed less attraction towards fishing boats and no engagement of foraging activity specifically due to their presence. These findings are consistent with the observed numbers of individuals of each species around fishing vessels and in bycatch estimates.

The low encounter rate and attraction observed for the sooty albatrosses do not however eliminate fisheries bycatch mortality as a likely factor for the demographic decline. On the basis of this study, the authors estimated that 1 in 20 sooty albatross individuals interact with a fishing boat and are at risk of bycatch over a period of 160 days. For the population of Marion Island counting 1838 breeding pairs, this translates to a predicted daily bycatch risk rate of 1.15 individuals per day, which could contribute to the observed decline.