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Data limited fisheries biomass estimates: trend analysis for SIOFA toothfish 2025

The SIOFA Secretariat

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Abstract	
<p>This paper builds on the framework designed to determine appropriate catch limits in data-limited fisheries in CCAMLR, where a data collection for stock assessments is in place, in the interim of having a more robust stock-assessment. SC9 agreed that this trend analysis is a good candidate to define interim ad-hoc harvest control rules, adjusting any future catch limits based on trends in biomass estimated from CPUE and tagging data.</p> <p>Biomass can be potentially estimated using two methods, the CPUE by seabed area analogy and the Chapman mark-recapture estimation. Within the CPUE by seabed area analogy, two different methods of calculating CPUEs were used: distance-based and hook-based. There were insufficient recaptures to apply the Chapman mark-recapture estimation, and thus only PUE by seabed area analogy results are provided in this paper.</p> <p>Biomass estimates have not been used to directly recommend an update of catch limits in SIOFA Subarea 3b, but potential catch limits values have been provided for further SC consideration.</p> <p>In the Del Cano Management Area (DC) conservation measures have been in force since October 2019 (CMM 2019/15), and the South Indian Ridge Management Area (SIR) is still at the proposal stage, and thus there are no measures currently in force and data collection is on a voluntary basis.</p>	

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

The SIOFA Secretariat recommends that the SC (recommendations separated by theme):

Methodology

- **Notes** that the code of the trend analysis presented in 2024 was made available by the SIOFA Secretariat as requested (<https://github.com/SIOFASecretariat/SIOFA-toothfish-catch-trend-estimate>).
- **Notes** that the code of the 2024 trend analysis was updated and expanded by the SIOFA Secretariat, and **tasks** the Secretariat to provide the updated code (with confidential information removed), on the SIOFA Secretariat GitHub.
- **Notes** that evaluation of catch trend analysis has been conducted by the Secretariat for both the Del Cano toothfish Management Area and the proposed South Indian Ridge toothfish Management Area, and using both distance and hook based estimations.

Toothfish data limited stocks in SIOFA subarea 3b

- **Considers** recommending again that the MoP establish a management unit for the spatial area of SIR (SC8 Report Para 155).
- **Considers** the results of the 2025 trend analysis when setting catch limit in toothfish data limited toothfish management areas.
- **Recommends** to the MoP the most appropriate catch limits for the Del Cano toothfish Management Area and the proposed South Indian Ridge toothfish Management Area.