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Preliminary analysis of the Patagonian toothfish fishing data of the Del
Cano Rise SIOFA

Relates to agenda item: SC5 item 7.4

Working paper Info paper

Delegation of the European Union

Delegation of French Territory

Abstract

The part of the Del Cano rise (Del-Cano SIOFA) which is located in the southern part of the Southern Indian Ocean Fisheries Agreement (SIOFA) area has been subject to intermittent fishing effort targeting Patagonian toothfish (*Dissostichus eleginoides*) since 2003. While the fishing activity in this area was very limited in the first few years, the area has known two periods of higher effort between 2009-2013 and 2017-2019. Data from four countries which have previously participated in fishing for Patagonian toothfish were received and combined for this area. These data were used to fit Depletion models, CPUE standardization, and data-poor population models (CMSY, JABBA) to better understand the impact of these fisheries on Patagonian toothfish. The depletion approach demonstrated that at the scale of the area, CPUE has declined during the 8 months of continuous exploitation in 2017 and 2018 and that the CPUE did not appear to have recovered to pre-2017 levels by 2019. The abundance index estimated by CPUE standardization showed a trend of decrease concurrent with the highest catches of the time series in the years 2010-2013 and in 2017-2019, corresponding to the two periods of higher fishing effort. The abundance index also showed a strong increase of abundance between 2015 and 2017, possibly due to a simultaneous recovery of the stock and a change in the spatial distribution of the fishing effort. Data-poor population models have been adjusted with the catch data and the CPUE data. The preliminary results inferred that notable decreases in biomass corresponded to periods of higher fishing pressure. Those approaches are yet in early stage and would need more development and more data in order to estimate more robust catch limits. The document includes a set of recommendations addressed to the SC.
