



9th Annual Meeting of the Scientific Committee (SC9)

Bangkok, Thailand, 18–27 March 2024

SC-09-28

Stock structure of alfonsino (*Beryx splendens*) and orange roughy (*Hoplostethus atlanticus*) (SER2022-BYS1 and-ORY1 Final Report)

The SIOFA Secretariat



Funded by
the European Union

Document type	working paper <input checked="" type="checkbox"/> information paper <input type="checkbox"/>
Distribution	Public <input type="checkbox"/> Restricted ¹ <input checked="" type="checkbox"/> Closed session document ² <input type="checkbox"/>
Abstract	<p>This paper presents the final report of SIOFA projects SER2022-BYS1 and ORY1 'Stock structure of alfonsino (<i>Beryx splendens</i>)' and 'Stock structure of orange roughy (<i>Hoplostethus atlanticus</i>)'.</p> <p>This report was reviewed by the project manager, the project coordinator, and the project Advisory Panel, and then published on the corresponding project pages on the SIOFA website (https://siofa.org/science/sc-works/SER2022-BYS1 and https://siofa.org/science/sc-works/SER2022-ORY1) in September 2023. Note that only one report was produced for both projects.</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 report authors recommend that the SC9 **considers** the following conclusions:

- Our examination of the spatial patterns in the SIOFA trawl fisheries indicated that the two-area approaches in the recent SIOFA assessments for orange roughy and alfonsino are appropriate. However, the data for defining stock structure are not strong, and the sensitivity of results to alternative stock hypothesis should be considered in future assessments.
- For orange roughy, the two area approach proposed by Roa-Ureta et al. (2022) is recommended for ongoing assessment and management; these areas are (i) SIOFA subarea 2, and (ii) SIOFA subareas 3a and 3b (Figure 20).
- In the case of alfonsino, the two area approach of Brandão et al. (2020) is also recommended; these areas are (i) SIOFA subareas 2, 3a and 3b, and (ii) SIOFA subareas 4 and 5 (Figure 20).
- For alfonsino, connectivity between the western and eastern fishery areas is possible. A genetic study, ideally based on whole genome sequencing, could be undertaken. However, a lack of genetic differentiation would not necessarily indicate a lack of stock structure relevant to fishery management.
- Examination of abundance trends and, ideally, age compositions at a range of spatial scales would assist in further resolving stock structure while contributing to future assessment modelling.