

Terms of Reference (ToR) for the provision of scientific services to SIOFA Scientific Committee

Project title: Stock structure of Patagonian toothfish (*Dissostichus eleginoides*)

Project Code: SER2022-TOP2

1. INTRODUCTION

SIOFA CMM2018/01 (paragraph 6a) requires the SIOFA Scientific Committee to provide advice to the Meeting of Parties on the status of stocks of deep-sea fishery resources, including Patagonian toothfish (*Dissostichus eleginoides*). In 2020, the SIOFA Scientific Committee (SC3) conducted the first Patagonian toothfish stock assessments in the SIOFA region and provided to the Meeting of Parties on the stock status and sustainable yields. In 2023, the assessment for Patagonian toothfish will be updated.

This document describes the project Terms of Reference (ToR), milestones, and administrative matters for a consultancy to undertake Patagonian toothfish stock assessments. This project builds on SER2022-TOP1, to design a genetic analysis project to inform the stock structure for Patagonian toothfish. This task will consider the whole SIOFA Area, but focus on the del Cano Rise and the southwest Indian Ridge.

Once appointed, the Consultant should direct any questions and clarifications to the SIOFA Science Officer (Marco Milardi, marco.milardi@siofa.org) who will coordinate the project and its interactions with the project advisory panel, the relevant SC HoDs and the SIOFA Scientific Committee Chair, as appropriate.

2. TERMS OF REFERENCE

The project objectives and tasks are described below. The Consultant shall undertake these tasks and consult with the project coordinator, to ensure that the project objectives are met.

A project advisory panel consisting of the SIOFA Scientific Committee Chair, selected members of the SIOFA Scientific Committee, and the SIOFA Secretariat will meet periodically with the consultant to assist the consultant access and interpret reports, data, and to provide advice on relevant analyses or data interpretation for the project.

2.1 Overall objectives

Objective 1: Provide advice to the SIOFA Scientific Committee on the stock structure of Patagonian toothfish in the SIOFA Area, including:

- (i) analysis of genetic samples collected under SIOFA Project SER2022-TOP1, and
- (ii) consideration of hypotheses on the Patagonian toothfish life cycle in the SIOFA Area and linkages to Patagonian toothfish in the CCAMLR Convention Area.

Objective 2: Provide advice on appropriate spatial management units for SIOFA to use in future monitoring and stock assessments of Patagonian toothfish.

2.1.1 Task 1: Literature review

Review the preliminary analysis in SIOFA Project SER2022-TOP1, previous stock assessments, SIOFA reports and publications, CCAMLR scientific papers and reports, the general scientific literature, and other relevant information sources, including Patagonian toothfish stocks in other areas, to summarise information that may assist in the determination of Patagonian toothfish stock structure, including the definition of biological stocks, and hence appropriate management units for Patagonian toothfish in the SIOFA Area.

2.1.2 Task 2: Review of catch-effort and scientific observer data

Review the relevant catch-effort, acoustic, and scientific observer data (e.g., age, length, and other biological data) held by SIOFA that would assist in the determination of Patagonian toothfish stock structure and hence appropriate management units for Patagonian toothfish in the SIOFA Area. This will also include consideration of linkages with Patagonian toothfish stocks in the Indian Ocean sector of the CCAMLR Convention Area.

The review will also summarise any information on the spatial structure of potential VMEs, benthos, and important bycatch species

The review should evaluate the available data and how the hypotheses of stock structure may be improved and evaluated by additional fisheries dependent and independent information.

2.1.3 Task 3: Review of bathymetric, oceanographic, and other relevant environmental data

Review available bathymetric, oceanographic, and other relevant environmental drivers to assist in the determination of Patagonian toothfish stock structure and hence appropriate management units for Patagonian toothfish in the SIOFA Area. This will include review of CCAMLR scientific papers and reports that inform the stock structure of Patagonian toothfish in the Indian Ocean sector of the CCAMLR Convention Area

2.1.4 Task 4: Undertake a genetic stock discrimination analysis

Collect and analyse genetic samples using the sampling design developed under SIOFA Project SER2022-TOP1 to determine genetic information to inform the stock structure of Patagonian toothfish in the SIOFA Area including linkages to Patagonian toothfish in the Indian Ocean sector of the CCAMLR Convention Area

2.1.5 Task 5: Understanding of Patagonian toothfish population spatial structure in the SIOFA area

Determine the relationships between distribution and ecological drivers for Patagonian toothfish, including habitat modelling using analyses of spatial and temporal CPUE, and provide maps of indicators of relative abundance to assess the population distribution.

This task will also classify the local populations in terms of juvenile, mature and/or spawning areas, and provide predictions of spatial distribution for Patagonian toothfish in the SIOFA Area for these areas based on these factors and any other analyses.

2.1.6 Task 6: Proposal for Management units based on the stock structure

Provide advice to the SIOFA Scientific Committee on the stock structure of Patagonian toothfish and hence propose appropriate Management Units for SIOFA to use in future monitoring and stock assessments of Patagonian toothfish, including describing any uncertainties and alternative plausible definitions, as well as the relationship to previously defined Management Units for Patagonian toothfish and SIOFA Area and sub-Area boundaries.

2.2 Reporting requirements

1. Provide updates and engage with the project advisory panel that will assist the consultant access and interpret reports, data, and to provide advice on relevant analyses or data interpretation for the project
2. Provide a draft report detailing the methods, outcomes of reviews, conclusions, and recommendations to the SIOFA project advisory panel for review by 31 November 2023.
3. Update the draft report in (2) by considering any comments and advice from the project advisory panel and submit this report to SIOFA Secretariat for submission to the SIOFA Scientific Committee meeting in 2023 by 15 January 2024
4. Present the draft report in (3) to the SIOFA Scientific Committee to its meeting in March 2024 by videoconference.
5. Provide an amended final report to the SIOFA Secretariat, considering any comments made at the SIOFA Scientific Committee meeting in March 2024, by 15 April 2024
6. Provide all the information collected to the SIOFA Secretariat (including that sourced from the Secretariat) before the final payment of the contract is made to the consultant. Such information includes electronic data files, analysis codes, biological samples, and other relevant data if applicable.

2.3 Confidentiality and distribution of project outcomes

The Consultant shall not release confidential data provided for conducting this study to any persons nor any organisations, other than SIOFA Secretariat. The consultant shall delete all the confidential data after the completion of the contract. Any arrangements for ownership, storage, or disposal of physical samples shall be agreed by SIOFA as a part of the contract.

All Intellectual Property generated as a part of this contract shall become the property of SIOFA unless otherwise excluded in the proposal and agreed by SIOFA in the contract.

All reports and presentations will be reviewed by the SIOFA Secretariat prior to any form of further distribution. The Consultant will revise the report according to comments received from the review process before the report or presentation is accepted as a submission against the requirements in the Terms of Reference.

2.4 Relevant SIOFA information

1. SIOFA data (provided by the SIOFA Secretariat upon request)
2. SIOFA reports:
 - a. SIOFA SC reports and National Reports. Scientific Committee Meeting | SIOFA (apsoi.org)
 - b. MoP reports. Meeting of the Parties | SIOFA (siofa.org)
 - c. SIOFA technical and scientific reports (public reports available from siofa.org, and restricted reports available from the SIOFA Secretariat to the project consultant)

3. WORK PLAN AND PAYMENT SCHEDULE

The funds for this project are budgeted under Task 2 of the SIOFA-SEAs EU Grant Agreement, for a total allocated budget of 34,000 euro (including all costs and including any travel related expenses). Any communication activity funded by the grant must acknowledge EU support and display the European flag (emblem) and the funding statement (translated into local languages, if applicable).

The consultant shall follow the timeline described in Table 1 below.

Table 1: Timeline for payments, milestones, and report submission

Milestone	Date	Activities
Initiation of contract	16 January 2023	First instalment payment (30% of the total contract sum)
Delivery of draft report	1 November 2023	Submission of draft report to SIOFA
Delivery of final report	1 December 2023	Submission of final report and project information to SIOFA. Final instalment payment (70% of the total contract sum) on acceptance of the final report and the submission of project information
Presentation		Present the report to a meeting of the SC or working group of SC

4. SUBMISSION OF APPLICATIONS

The applicants should have appropriate experience and knowledge of developing stock structure hypotheses and preferably on the stock dynamics and life cycle of Patagonian toothfish. The applicants should submit a proposal to the project coordinator (SIOFA Science Officer - Marco Milardi, marco.milardi@siofa.org) containing the following items:

1. A current CV that summarises the applicant(s) relevant educational background and professional experience
2. A brief proposal (indicatively 1-2 pages) outlining the proposed methods and analyses, including a description of how the objectives of the ToRs will be achieved
3. Any proposed exclusions to the intellectual property clause
4. The proposed consultancy price (including all consultant expenses and project related costs), noting that the available budget for this work is a maximum of €34,000
5. Identification of any project risks and associated mitigation and management required to successfully complete the project
6. A statement that identifies any perceived, potential, or actual conflicts of interest of the applicant(s), including those described in paragraph 4 of the SIOFA recruitment procedure (see Box 1), and
7. Any additional relevant information the applicant(s) wish to submit.
8. We note that similar projects for alfonsino and orange roughy in the SIOFA Area are also available, and we encourage consultants to submit combined proposals for these projects if appropriate.

Applications received before 12 AM (9 AM UTC) on Wednesday the 25th of January 2023, Reunion Island time, will be considered in the following selection process.

5. EVALUATION CRITERIA FOR THE SELECTION OF CANDIDATES

The selection criteria will be developed by the evaluation panel along with the project manager, the Secretariat, and the Chairpersons of the relevant subsidiary bodies. The criteria may include following items:

1. Adequate submission of information to allow the panel to evaluate the candidate
2. Evaluation of the proposal from the candidate, including the proposed contract price
3. Ability to undertake and complete the analyses or work required in the ToR
4. The candidate's agreement with confidentiality provisions required for the project
5. Acceptable conflict of interest statement
6. Agreement with the data submission and intellectual property terms required in this ToR, and
7. Financial and resourcing considerations.

6. CONFLICTS OF INTEREST. PARAGRAPH 4 OF SIOFA'S RECRUITMENT PROCEDURE

To ensure that situations relating to potential and actual conflict of interests are avoided, persons falling into the following categories may not normally be considered for SIOFA consultancy: (i). any person designated as a designated representative or alternate representative of a CCP to the Meeting of Parties (MOP) as per Rule 3.1 of the Rules of Procedure, and to the SC and any other subsidiary bodies of the MOP, as per Rule 21.3 of the Rules of Procedure; (ii). Any person fulfilling the function of Chair or Vice-Chair of the MOP or Chair or Vice-Chair of a SIOFA subsidiary body or working group; (iii). Any person acting as a member of a delegation involved in the SIOFA decision-making process resulting in recommendations and/or approval for the SIOFA work requiring the engagement of a consultant; and (iv). Individuals who were SIOFA Secretariat staff members at the time when the recommendations and/or approval for the SIOFA works were adopted or who are members of immediate family (e.g., spouse or partner, father, mother, son, daughter, brother, or sister) of any Secretariat staff member or of the persons identified in 4 (i), (ii), and (iii).

7. CONTACTS

Project Coordinator – SIOFA Science Officer (Marco Milardi, marco.milardi@siofa.org)

Administration – SIOFA Executive Secretary (Thierry Clot, thierry.clot@siofa.org)