



**CALL FOR A CONSULTANT AND TERMS OF REFERENCE (TOR) TO PROVIDE SCIENTIFIC SERVICES
TO STOCK AND ECOLOGICAL RISK ASSESSMENT WORK GROUP (SERA-WG)
IN SCIENTIFIC COMMITTEE (SC)**

**Evaluation of Three Provisional Harvest Strategies and Development of Roadmap
for Formal Harvest Strategy (Project Code: SER2021-05)**

1. INTRODUCTION

The fifth session of the SIOFA Meeting of the Parties (MoP5) in 2018 requested the SIOFA Scientific Committee (SC) to develop a framework for Harvest Strategies for three key SIOFA stocks (orange roughy, splendid alfonsino, and Patagonian toothfish) (para. 53, MoP5 report). To implement this request, SIOFA appointed the Consultant in 2020 under the project SER2020-01. The Consultant developed following three types of provisional HS and reported in both SERA-WG3(2021) and SC6 (2021).

- i. Maintaining catches at present levels (unless there is evidence of a marked downward trend in the resource) until sufficient further data become available for meaningful improvements to the existing assessments.
- ii. Implementing an Fstatus-quo harvesting strategy, which varies catches up or down in proportion to the results from continued collection of some measure or index of abundance.
- iii. Implementing a harvest strategy based primarily on some multiple of a proxy value of FMSY, where this in turn is based on a proxy value for a BMSY reference point whose value is informed by the most recent assessment of the resource.

Then SC6 (2021) recommended to undertake analyses to determine the applicability and trade-offs between the three proposed harvest strategy approaches for each of the three species concerned, to provide an objective basis to underpin final decision making (Para 126, SC6 report).

Upon this recommendation, MoP8 (2021) requested SC to complete this task in SC7 (2022). MoP8 further requested for SC to develop a roadmap for developing a new formal Harvest Strategies such as Harvest Control Rule, Management Evaluation Strategy, etc. at SC7 (2022) (Para 33, MoP8 report). To complete these two important tasks, SIOFA calls for a Consultant. The financial source for this project is from the SIOFA regular budget, which was approved by MoP8 (2021).

This document describes the Terms of Reference (ToR), work plan, and administrative matters. Once appointed, the Consultant should direct any questions and clarifications to the Executive Secretary (Mr Thierry Clot on thierry.clot@siofa.org) for administrative matters and on technical matters to the SERA-WG Chairperson and the manager of this project (Dr Tom Nishida on aco20320@par.odn.ne.jp).

2. TERMS OF REFERENCES

There are two ToRs as described below. The Consultant shall undertake these tasks, and consult with the SIOFA Secretariat and the project manager as necessary.

ToR1: Evaluation of three Provisional Harvest Strategies

- Review three provisional Harvest Strategies developed by the Consultant for orange roughy, splendid alfonsino and Patagonian toothfish.
- Review background information used when the provisional harvest strategies were developed, i.e., (a) Relevant data available in the SIOFA Secretariat (the Consultant can obtain the data from the Secretariat), (b) Scoping studies for three species, and (c) Results of stock assessments for three species (for details, see references).

- Evaluate advantages and disadvantages (pros and cons) of three different provisional harvest strategy approaches when applied for orange roughy, splendid alfonsino and Patagonian toothfish. Using available catch, CPUE, results of stock assessments and other relevant information, evaluate trade-offs of three methods for each species, for example, by simulations changing catch levels and trends CPUE and/or other effective evaluation methods.
- In SIOFA, target and limit reference points have not yet adopted, however, the Scientific Committee supports to apply following provisional biomass-based reference points used in other international demersal fisheries management organization and/or demersal fishing nations. Use these reference points as a base case for the evaluation works.

For orange roughy and splendid alfonsino

Target RP= $B_{msy} = 0.4 * B_0$ and Limit RP= $0.2 * B_0$

For Patagonian toothfish (CCAMLR)

Target RP= $0.5 * B_0$ and Limit RP= $0.2 * B_0$

- Evaluate how three types of provisional Harvest Strategies produce the stable TAC and fishing efforts, which is important for industries.

TOR2: DEVELOPMENT OF ROADMAP FOR A NEW FORMAL HARVEST STRATEGIES

Scientific Committee is mandated to develop the roadmap to establish a new formal Harvest Strategies from the current provisional Harvest Strategies, for example, Harvest Control Rule, Management Evaluation Strategy (MSE), etc. This new task is subject to available data such as catch, abundance indices, results of stock assessments, adopted target and limit reference points, and other relevant information. As such information will be accumulated time to time, the roadmap needs be developed according to availability of such information by specifying the timeline. Some of available information in the future can be referred to the workplan of the Scientific Committee (see reference). In this regard, the Consultant should address the basic concepts of a new formal Harvest Strategies (such as Harvest Control Rule, Management Evaluation Strategy, etc). by considering following points by timeline in the roadmap.

(1) Species

Priority species in the roadmap should be three most important fisheries (orange roughy, splendid alfonsino, and Patagonian toothfish). Timeline needs to be specified by species according to available information in the roadmap.

(2) Information

The roadmap should be developed according to available information toward the completion of the new formal Harvest Strategies. Such information is catch, abundance indices, results of stock assessments, scoping studies and other relevant information. The roadmap should specify necessary information by species and by timeline to complete the new formal Harvest Strategies (such as Harvest Control Rule, Management Evaluation Strategy, etc).

(3) Target and limit reference points

SIOFA has not yet adopted formal target and limit reference points, which will be the key information to establish the new formal Harvest Strategies (such as Harvest Control Rule, Management Evaluation Strategy, etc). In the roadmap, the timeline to develop the formal reference points should be specified, so that the roadmap will become more concrete.

(4) New formal Harvest strategies

The roadmap should indicate the basic concept and elements on the new formal harvest strategies (for example, Harvest Control Rule, Management Evaluation Strategy, etc) incorporating following points and include in the timeline.

- Consider the current provisional Harvest Strategies and develop its broader scheme to suit available information by timeline. The new formal Harvest Strategies (for such as Harvest Control Rule, Management Evaluation Strategy, etc) should be the best practice in fisheries management in order to achieve SIOFA's objectives.
- Consider sustainability of harvest and effort levels (number of active vessels etc).
- Consider effectiveness, risks and precautionary principle.

- The new formal Harvest strategies (such as Harvest Control Rule, Management Evaluation Strategy, etc) should be efficient, well-balanced, and carefully thought-out and may be necessary to consider simpler approaches.
- Refer to Harvest Strategies (such as Harvest Control Rule, Management Evaluation Strategy, etc) developed and applied by other demersal international organizations (such as CCAMLR NAFO, NEAFC, SPRFMO, NPFC and SEAFO) and/or demersal fishing nations.
- Consider the enhanced cooperation between scientists and managers when the new formal Harvest Strategies (such as Harvest Control Rule, Management Evaluation Strategy, etc.) are developed.

3. REFERENCES AND SOURCES OF INFORMATION

Relevant references and some sources of information are listed below. Although some SIOFA documents are restricted, the successful Consultant can obtain a copy from the Secretariat. If the Consultant needs to contact any SIOFA MoP member countries for further information, clarification, questions, etc., the Secretariat will assist with contacting suitable experts.

- **HARVEST STRATEGIES**

Butterworth et al (2021). SIOFA harvest strategy report. SERAWG-03-10. [SERAWG-03-10 SIOFA harvest strategy report -revised.pdf](#)

- **DATA**

SIOFA catch, effort, observer and other relevant data (to be provided by the SIOFA Secretariat if the Consultant requests).

- **SC WORKPLAN (REFERENCE FOR THE AVAILABLE INFORMATION IN THE FUTURE)**

SC6 report (2021) [SIOFA SC6 final report and annexes.pdf](#)

- STOCK ASSESSMENTS

[Orange Roughy]

Cordue (2018). Stock assessment of orange roughy in the Walter's Shoal Region. SAWG (2018)-01-05 [restricted document].

Cordue (2018). Assessments of orange roughy stocks in SIOFA statistical areas 1, 2, 3a, and 3b. SAWG (2018)-01-06 [restricted document].

Consultant (2022) Updated stock assessments (available in January, 2022).

[Alfonsino]

Brandão and Butterworth (2020). Alfonsino CPUE standardisation. SERAWG-02-13 [restricted document].

Brandão et al (2020). Age-Structured Production Model (ASPM) assessments of the Alfonsino (*Beryx splendens*) resource in the SIOFA area of the Southern Indian Ocean. SERAWG-02-14. [SERAWG-02-14 Age-Structured Production Model assessments of the Alfonsino.pdf](#)

[Patagonian toothfish]

Sarralde et al (2020). Preliminary analysis of the Patagonian toothfish data of Del Cano Rise. SERAWG-02-11 [restricted document]. [SERAWG-02-11 RESTRICTED Preliminary analysis of the Patagonian toothfish data of Del Cano Rise.pdf](#)

- SCOPING STUDIES

Shotton (2019). Report on alfonsino scoping study. SERAWG-01-13 [Restricted documents].

Nieblas (2019). Report on the Patagonian toothfish scoping study [restricted documents].

SIOFA (2018). Preparation for stock assessments and harvest control rules on orange roughy stocks. SAWG-01-03 by SIOFA SAWG (Stock Assessments Working Group). [https://www.apsoi.org/sites/default/files/documents/meetings/SAWG%282018%29-01-03 Preparation for orange roughy SA%20BHCR %28final 13.02.2018%29.pdf](https://www.apsoi.org/sites/default/files/documents/meetings/SAWG%282018%29-01-03%20Preparation%20for%20orange%20roughy%20SA%20BHCR%20final%2013.02.2018%29.pdf)

- SIOFA REPORTS

SIOFA SC reports and National Reports. [Scientific Committee Meeting | SIOFA \(apsoi.org\)](#)

MoP reports. [Meeting of the Parties | SIOFA \(apsoi.org\)](#)

4. Submission of the information and confidentiality

The Consultant shall submit 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. 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. 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 upon the completion of the contract.

5. Report

The Consultant shall provide two reports addressing the terms of reference 1 and 2, and submit to the SIOFA Secretariat. Each draft report will be reviewed by the Scientific Committee and the Consultant shall provide the final report incorporating comments and/or requests (revisions, additional works, etc.) made by the SC. The report should include recommendations and future works. The Consultant shall present two reports in SERA-WG4 (February 28 – March 4, 2022) and SC7 (March 21 – 25, 2022). Refer to the report submission schedule in Section 7 (Page 9).

6. Submission of applications

The applicants should have experiences on development of Harvest Strategies, preferably orange roughy, splendid alfonsino and Patagonian toothfish. The applicants should submit a proposal that contains the following items:

- A current CV that summarises the applicant(s) relevant educational background and professional experience (maximum 3 pages);
- A brief proposal outlining the proposed methods and analyses, including a description of how the objectives of the ToRs will be achieved;
- Any proposed exclusions to the intellectual property clause;

- The proposed consultancy price (including all consultant expenses and project related costs), noting that the budget for this work is a maximum of 15,000 EUROS;
- Identification of any project risks and associated mitigation and management required to successfully complete the project;
- 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
- Any additional information the applicant(s) wish to submit.

Box 1 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).

Announcement of Call for the consultant will be placed in the SIOFA home page on October 28, 2021 and will be circulated to all Cooperating and Contacting Parties (CCPs). The application must be submitted to Thierry Clot, Executive Secretary, Thierry.clot@siofa.org, by November 17, 2021 (1 pm UTC time).

7. Work plan and payment schedule

Table 1 describes the work plan and the payment schedule which may change subject to the situation. The Consultant shall follow this work plan.

Table 1 Work plan and the payment schedule

Topic	Period	Duration	Activities
Initial administrative matters	Oct 28-Nov 17 (2021)	3 weeks	Call for the consultant through the SIOFA web site and through the circulation to Cooperating and Contacting Parties (CCPs) and other relevant agencies.
	Nov 18-19 (2021)	2 days	Selection of the consultant by the evaluation panel.
	Nov 20 (2021)		Project inception. The Secretariat will make a <u>first payment</u> corresponding to 20% of the cost of the studies validated in the contract.
ToR 1 Evaluation of provisional harvest strategies	Nov 21 (2021) - Jan 5 (2022)	6.5 weeks	The Consultant shall implement ToR 1 and submit the draft report by Jan 5, 2022.
	Jan 6-10 (2022)	5 days	SC will review the draft report and make comments and/or request (revisions, additional works, etc.) by Jan 10, 2022.
	Jan 11-15 (2022)	5 days	The Consultant shall submit the final report incorporating SC's comments and/or requests by Jan 15, 2022.
ToR 2 Roadmap for a new formal Harvest Strategies	Jan 15-Feb 12 (2022)	4 weeks	The Consultant shall implement ToR 2 and submit the draft report by Feb 12, 2022.
	Feb 13-17 (2022)	5 days	SC will review the draft report and make comments and/or request (revisions, additional works, etc.) by Feb. 17, 2022.
	Feb 18-22 (2022)	5 days	The Consultant shall submit the final report incorporating SC's comments and/or requests by Feb 22, 2022. The Secretariat will make the <u>2nd payment</u> corresponding to 60% of the cost of the studies validated in the contract.
Presentation reports (SEAR-WG4 and SC7)	SERA-WG4 Feb 28–Mar 25 (2022) SC7 Mar 21 –25 (2022)	2 weeks	The Consultant shall present the full report to SERA-WG4 and SC7. After the presentations are completed, the Consultant shall submit all materials to the Secretariat and delete electronic files used in this project. Then, the Secretariat will make the <u>last (3rd) payment</u> corresponding to 20% of the cost of the studies validated in the contract.

8. 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:

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

9. CONTACT PERSONS

- SIOFA Secretariat (administrative matters)
Thierry Clot, SIOFA Executive Secretary (thierry.clot@siofa.org)
- Project Manager (technical matters)
Tom Nishida, SERA-WG chairperson (aco20320@par.odn.ne.jp)