



Madrid, le 24 juin 2024

CIRCULAIRE ICCAT n° 06413 / 2024

OBJET : APPEL D'OFFRES - APPROCHES DE MODÉLISATION : SOUTIEN AU PROCESSUS DE MSE MULTI-STOCKS DES THONIDÉS TROPICAUX DE L'ICCAT

J'ai l'honneur de vous faire parvenir ci-joint un appel d'offres concernant des « Approches de modélisation : soutien au processus de MSE multi-stocks des thonidés tropicaux de l'ICCAT » qui seront réalisées conformément au plan de travail du SCRS pour cette année.

Je vous saurais gré de bien vouloir assurer la diffusion de cet appel d'offres auprès des personnes et des institutions qualifiées et susceptibles d'être intéressées.

Je vous prie d'agréer l'expression de ma parfaite considération.

Secrétaire exécutif



Camille Jean Pierre Manel

DISTRIBUTION :

– **Mandataires de la Commission :**

Président de la Commission: E. Penas Lado
Première vice-Présidente : Z. Driouich
Deuxième vice-Président : R. Chong
Présidents des Sous-commissions 1 à 4

Président du COC : D. Campbell
Président du PWG : N. Ansell
Présidente du STACFAD: D. Warner-Kramer
Président du SCRS : C. Brown

– **Chefs de délégation/chefs scientifiques**

– **Parties, Entités ou Entités de pêche coopérantes**

Pièce jointe : Termes de référence - Approches de modélisation : soutien au processus de MSE multi-stocks des thonidés tropicaux de l'ICCAT (en anglais uniquement).



Terms of Reference

Modelling approaches: Support to ICCAT tropical tunas multi-stock MSE process

1. Background and objectives

Science underpins the management decisions made by ICCAT. The Standing Committee on Research and Statistics (SCRS) is responsible for developing and recommending to the Commission all policy and procedures for the collection, compilation, analysis, and dissemination of fishery statistics. The SCRS also coordinates various national research activities, develops plans for special international cooperative research programmes, carries out stock assessments, and advises the Commission on the need for specific conservation and management measures.

At its 2014 meeting, the SCRS adopted the 2015-2020 Science Strategic Plan for the functioning and orientation of the SCRS, which was adopted at the 19th Special Meeting of the Commission (Genova, November 2014). The Plan comprises among other aspects, Goals, Objectives, the Strategies to achieve each goal as well as measurable targets. The range of the Plan is extensive and ambitious aimed at providing a response to the changing demands on the SCRS and increased amount of work required from the Committee although the work plan is flexible and is open to revision according to requests by the Commission. Accordingly, the SCRS develops annual work plans¹ for each of its Sub-Committees and Species Groups to provide the Commission with the necessary advice aimed at the conservation and management of the different stocks.

An important element of the programme is to develop a robust advice framework consistent with the Precautionary Approach. This requires the development of new stock assessment methods that consider the main sources of uncertainty and use the new data sets and knowledge provided by the SCRS Species Groups. New data sets include, for example, historical catch and effort data, aerial surveys of spawning aggregations and tagging of juveniles. To evaluate novel approaches the SCRS is developing a Management Strategy Evaluation (MSE) framework for several species as recommended by the KOBE process. This includes one or more simulations or Operating Models (OMs). This will allow current and alternative assessment and advice frameworks to be evaluated with respect to their ability to meet multiple management objectives with acceptable levels of risk.

Work on the multi-stock MSE started in 2018, with some initial development of the framework to use in the OM development. This work continued in subsequent years with the exploration of uncertainties (Merino *et al.*, 2021a and b), and the development and running of computer code that informed the hypotheses to be considered in the operating model grid (Moron *et al.*, 2023).

In order for the ICCAT/SCRS to carry out the detailed multi-year work programme that is required in order to meet the Commission objectives, there is a need to continue development of the multi-stock MSE, including the hire of MSE Technical Expert(s) to work directly with the Tropical Tunas Species Group and its Coordinator, Rapporteurs, the SCRS Chair (and Vice-Chair, if one is appointed), and in consultation with the Secretariat. Such MSE Technical Expert(s), which could be a consortium of experts, should have sufficient experience and expertise in multi-stock MSEs.

2. Contractor tasks

The tasks for the work to be developed by the MSE Technical Expert, or team of Experts, in 2024 will be to continue the development of the multi-stock tropical tunas MSE and create communication materials to improve engagement with the SCRS and Commission. Including:

¹ Report for Biennial Period 2016-2017, Part II (2017), Vol. 2.



MSE developments

1. Continue the design and implementation of the MSE framework under the guidance of the Tropical Tunas Species Group and its Coordinator, Rapporteurs, the SCRS Chair (and Vice-Chair, if one is appointed) and the ICCAT Population Dynamics Expert (or any other specialist designated by the ICCAT Secretariat);
2. Continue work with the SS3 modelers, grid developers and Tropical Tunas Species Group to modify the OM grid through changes to the reference set and to the robustness set as deemed appropriate by the SCRS and/or Panel 1. This could include considering new information from catch data, stock indicators, environmental data, and scientific research;
3. Continue to work with the Tropical Tunas Species Group to develop and tune multi-species management procedures (HCRs);
4. Test the robustness of projections and CMPs to data lags and gaps;
5. Continue development of diagnostics to evaluate CMPs against performance metrics;
6. Compare OMs and management objectives and provide diagnostics to evaluate suitability of individual OMs for inclusion in the final grid;
7. Consider and discuss the impact of uncertainty not considered in the OM grid in projections and CMP performance/selection;

MSE engagement

8. Create a Shiny app (e.g. SLICK app) with new data visualizations as required;
9. Develop visualizations to support evaluations of tradeoffs among performance metrics;
10. Attend and provide updates at Tropical Tunas Technical Sub-group on MSE meetings (both formal and informal), and Intersessional Meetings of the Tropical Tunas Species Group.
11. Support development of analyses and visualizations for the tropical tuna multi-stock MSE Ambassador Sessions and Panel 1 dialogue meetings.

3. Deliverables

The Contractor shall develop well-documented, object-oriented R source code for the operating model(s) consistent with the recommendations of the Tropical Tunas Species Group and Tropical Tunas Technical Sub-group on MSE. As part of this development, the successful bidder shall do the following:

1. Update diagnostic reports for OMs – for OM selection/weighting should there be any further updates to the SS3.30 reference set and robustness set as needed. Identify key OMs spanning range of uncertainty axes and produce pair-wise OM comparison reports.
2. Report performance of CMPs for reference and robustness OMs and report on CMP selection process.
3. Report on additional robustness analyses as guided by the group (e.g. data lags and gaps).
4. Participate and provide candidates for the multi-species management procedures (HCRs).
5. Create Shiny app (e.g. SLICK) with new OMs, performance metrics and CMPs.
6. Update and provide trial specification document.
7. Support development, testing, and tuning of CMPs.
8. Provide support (analyses, visualizations) for Tropical Tuna MSE Ambassador sessions and Panel 1 meetings (as per the ICCAT calendar).
9. Attend and provide updates at Tropical Tuna Species Group meeting in September 2024.
10. Participate in the drafting of SCRS reports and other document submissions.
11. Misc. Webinars, contingencies, individual calls/support with MSE package.



Initial implementation of code will be done using Github for participants with the SCRS and other scientists. Drafts of deliverables and any prototypes shall be provided by the Species Group during the September 2024 meeting.

- #1 A short SCRS document/presentation** shall be provided to the September Tropical Tuna Species Group meeting, with a description of the work carried out and the workplan for the activities to be developed until the end of 2024. The Tropical Tunas Species Group, the SCRS Chair, in consultation with the ICCAT Secretariat, will review the deliverable and communicate any necessary revisions (if applicable) to the Contractor and/or inform of approval of this deliverable. The Contractor will submit the revised final documents (if changes are requested) within 10 days after the conclusion of the above-mentioned Species Group meeting.
- #2 The draft final report** will be submitted to the Secretariat by **15 December 2024** at the latest, including the following:
 - a) Full description of the work carried out;
 - b) Detailed description of the methodology and protocols related to the design and implementation of the MSE framework;
 - c) Update and provide the trial specification document;
 - d) List of meetings attended, including Tropical Tunas Technical Sub-group on MSE, Tropical Tunas MSE Ambassador sessions and Panel 1 meetings (the latter as per the ICCAT calendar);
 - e) Bibliographic references;
 - f) An Executive Summary.
- #3 The final report** will be prepared taking into account any comments provided by ICCAT, the relevant SCRS officers and the Secretariat, and the full administrative report including copies of all the administrative documents, will be submitted by **31 December 2024**, at the latest.

All deliverables shall be provided in English.

4. Duration of the Contract

The work under this contract shall be concluded by **31 December 2024**.

5. Contractor minimum qualifications

- *Documented multi-year experience in ICCAT tropical tuna fisheries and particularly on MSE.*
- *University degree in one of the following: fisheries science, marine biology, statistics, natural sciences, biological sciences, environmental sciences, or closely related fields (in case of individual scientists).*
- *Excellent working knowledge of at least two of the three official languages of ICCAT (English, French or Spanish). A high level of knowledge of English is desirable.*

6. Request for bids

Interested entities should submit an offer by e-mail **only** to the attention of Mr Camille Manel (camille.manel@iccat.int), the ICCAT Executive Secretary, and Mrs. Stasa Tensek (stasa.tensek@iccat.int), by **8 July 2024**, including:



- a) A workplan and Gantt Chart with a full description of the methodology to be used;
- b) The detailed budget proposal and clearly identify costs related to each of the main activities of the work listed above (e.g. labour rates by team member, including the estimated number of days of work; travelling and subsistence);
- c) A short Curriculum vitae of the tenderer (in the case of individual scientists, i.e., the most relevant papers and involvement in recent studies on MSE by team members);
- d) The name, address, and telephone number of the tendering body;
- e) The institutional and administrative background of the tendering body (e.g., statutes, type of institution, annual budget, budget control procedures, etc.), if applicable;
- f) Acknowledgement of this Call for Tenders; and
- g) A statement specifying the extent of agreement with all terms, conditions, and provisions herein included.

In case the tender is submitted by an institute/University, it must indicate the expert(s) who will be dedicated to the design and programming tasks and that he/she be available to attend the meetings listed above. If the offer is sent after the deadline or if it fails to furnish the required documentation or information or rejects the terms and conditions of the Call for tenders, it will not be considered.

For additional information or clarifications, please contact the ICCAT Secretariat at:
miguel.santos@iccat.int.

7. Payment details

Disbursements will be made according to the following schedule:

- 1) **30% of the total amount of the contract upon signing of the contract** and and after receiving a regular invoice;
- 2) **20% of the total amount of the contract upon completion and acceptance of Deliverable #1** and after receiving a regular invoice.
- 3) **30% of the total amount of the contract upon completion and acceptance of Deliverable #2** and after receiving a regular invoice.
- 4) **20% of the total amount of the contract after the approval of Deliverable #3**, after receiving a regular invoice according to work proposal and a complete set of documents concerning the expenses incurred under the contract.

8. Selection of proposals

The ICCAT Secretariat will review the offer(s). Following the revision process, the ICCAT Executive Secretary will notify the entity selected for the contract as soon as the selection process is completed. The contract will be awarded on the basis of competitive tendering and the evaluation of proposals will be undertaken objectively, consistently and without bias towards particular suppliers.

Proposal(s) will be evaluated against a pre-determined set of criteria, which include: i) cost (25%); ii) proven track record (20%); iii) technical merit based on work plan (25%); iv) providing in-kind contributions to the budget (20%); and v) flexibility as regards future changes in requirements (10%).



9. Logistics

The text report shall be in MS Word or compatible software. All other documents provided by the Contractor must be in Open Office, Latex, or compatible software. All documents submitted must be in English, French or Spanish.

10. Copyright

All the material produced by the Contractor will remain the property of ICCAT. All software written by the Contractor will be licensed under GPL or similar open-source licence.

References

Merino, G., Die, D. Urtizbera, A., Laborda, A. 2021a. Characterization of structural uncertainty in tropical tuna stocks' dynamics. Collect. Vol. Sci. Pap. ICCAT, 78(2): 36-45.

Merino, G., Die, D. Urtizbera, A., Laborda, A. 2021b. Progress on characterization of structural uncertainty in tropical tuna stocks' dynamics with summary of discussions held during the Tropical Tuna MSE Meeting (29-31 March 2021). Collect. Vol. Sci. Pap. ICCAT, 78(2): 227-230.

Moron, Urtizbera, A., Laborda, A., Santiago, J., Merino, G. 2023. Development of Operating Models for the tropical tuna multispecies MSE. Document SCRS/2023/141 (withdrawn).