INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNAS

COMMISSION INTERNATIONALE POUR LA CONSERVATION DES THONIDES DE L'ATLANTIQUE

ICCAT CICTA CICAA

COMISION INTERNACIONAL PARA LA CONSERVACION DEL ATUN ATLANTICO

Madrid, 3 November 2023

ICCAT CIRCULAR # 11903 / 2023

SUBJECT: CALL FOR TENDERS - SIMULATION TESTING ECOSYSTEM INDICATORS: SUPPORT TO ICCAT'S ECOSYSTEM APPROACH TO FISHERIES MANAGEMENT (EAFM)

ICCAT's amended Convention text and *Resolution by ICCAT concerning the application of an ecosystem approach to fisheries management* [Res. 15-11] commit ICCAT to apply the precautionary approach and an EAFM. To implement this commitment, ICCAT's Subcommittee of Ecosystems and Bycatch is developing an Ecosystem Report Card (EcoCard) as a tool for monitoring the impacts of ICCAT fisheries.

To test the validity of indicators, a preliminary version of an R module called EcoTest has been previously developed. As part of ICCAT's commitment to the Global Environment Facility (GEF) Common Oceans ABNJ Tuna Project Fund, it has been agreed to complete the activities in the course of a three-year period.

I should like to transmit to you the attached Call for Tenders announcement for *Simulation Testing Ecosystem Indicators* in support of ICCAT's EAFM.

I would be grateful if you could distribute this Call for Tenders to qualified people and institutions that might be interested.

Please accept the assurances of my highest consideration.

Executive Secretary

Camille Jean Pierre Manel

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- **Cooperating Parties, Entities or Fishing Entities**

Attachment: Terms of Reference for the Call for Tenders (English version only).

Terms of Reference

Simulation Testing Ecosystem Indicators: Support to ICCAT's Ecosystem Approach to Fisheries Management (EAFM)

1. Background and objectives

ICCAT's amended Convention text and Resolution 15-11 commit ICCAT to apply the precautionary approach and an EAFM. To implement this commitment, ICCAT's Subcommittee of Ecosystems and Bycatch is developing an Ecosystem Report Card (EcoCard) as a tool for monitoring the impacts of ICCAT fisheries. It consists of a set of indicators that are hoped to be informative on the sustainability of species or stocks and how their fishing impacts on ecosystem structure and function. One gap in implementing the EAFM is that few indicators have been validated to ensure that they are representative and responsive to population dynamics changes; without such validation, such indicators are impossible to interpret. Accordingly, it is important to establish challenging and plausible scenarios for ecosystem dynamics to test if indicators can be validated to determine if they correctly detect population dynamics changes.

To test the validity of indicators, the Ocean Foundation funded the initial development of a preliminary version of an R module called EcoTest. This uses a Management Strategy Evaluation approach to test how indicators perform in variety of ecosystem and management contexts (Huynh 2022). EcoTest can simulate the management performance of a given strategy in terms of performance metrics. To ensure that the software would be freely available once finalized, the module was developed to be compatible with the existing OpenMSE packages that are freely available. As part ICCAT's commitment to the Global Environment Fund's Common Oceans Tuna Project, it agreed to complete the activities in the course of a three-year period described in **Section 2**, below.

2. Activities

Over the course of the whole project (2023-2026), the contractor will:

1. Develop a module [EcoTest] that allows for the simulation of ecosystem dynamics so that indicators and policy measures can be formally and rigorously evaluated.
2. Establish the conditions under which indicators can be assumed to be operating reliably **with two of the candidate indicato**rs currently proposed at ICCAT being tested (1 as a mid-term target, and a second one tested as a final target).
3. Organize and carry out three online workshop reports on the use and application of the ECOTEST tool.

The activities specified above will form the basis for any deliverables made under this contract.

3. Contractor Qualifications

The contractor shall have the following minimum qualifications:

- A Ph.D. in fisheries science of related field.
- A minimum of five years' experience developing open-source management strategy evaluation in R with up-to-date repositories on CRAN and/or GitHub using the OpenMSE set of packages.
- Documented experience developing Ecotest or similar R software packages for doing closed-loop simulation of ecological indicators in a multi-species context.
- An established history (greater than five years) or interactive participation in MSE processes at tuna Regional Fisheries Management Organizations.

4. Deliverables

Deliverables and the due date for them are listed in **Table 1** below.

Table 1. List of deliverables and due dates.

Deliverable	*Delivery Date (dd/mm/yyyy)*
1. A technical report updating SCRS/2022/104 on EcoTest development and example testing to date	15/12/2023
2. Document describing testing indicator 1 delivered to ICCAT Subcommittee of Ecosystems	01/05/2024
3. Deliver Workshop #1	15/6/2024
4. Document describing testing indicator 2 delivered to ICCAT Subcommittee of Ecosystems	01/05/2025
5. Deliver Workshop #2	15/06/2025
6. Deliver Workshop #3	01/06/2026
7. A summary report of all indicators tested and their performance, as well as documentation to where the software package can be downloaded and used	15/06/2026

5. Payment details

Disbursements will be made according to the following schedule:

1) 20% of the total amount of the contract upon signing of the contract and after receiving a regular invoice which may be submitted at the latest 30 days after the signature of the contract.
2) 20% of the total amount of the contract upon delivery of deliverable 1 (see **Table 1** above, technical report documenting the tool's development) together with the regular invoice.
3) 20% of the total amount of the contract upon delivery of deliverables 2-3 (see **Table 1** above), and after the incorporation of any comments and/or edits requested by the SCRS Chair, the Sub-committee on Ecosystem or its convener and the Secretariat, together with the regular invoice.
4) 20% of the total amount of the contract upon delivery of deliverables 4-5 (see **Table 1** above), and after the incorporation of any comments and/or edits requested by the SCRS Chair, the Sub-committee on Ecosystem or its convener and the Secretariat, together with the regular invoice.
5) 20% of the total amount of the contract upon delivery of deliverables 6-7 (see **Table 1** above), and after the incorporation of any comments and/or edits requested by the SCRS Chair, the Sub-committee on Ecosystem or its convener and the Secretariat, together with the regular invoice.

6. Submission of proposals

Scientists of public or private Scientific Institutes or companies interested shall submit detailed offer(s) only to the attention of Mr. Camille Jean Pierre Manel, the Executive Secretary of ICCAT, at the following address: camille.manel@iccat.int and Cc'ing Ms. Ana Martinez (ana.martinez@iccat.int) by **15 November 2023** (18:00h Madrid time) at the latest, including:

1. A description of methodology to be used;
2. The detailed budget proposal;
3. A short Curriculum vitae of the tender detailing the experience regarding the minimum qualifications defined above;
4. The name, address, and telephone number of the tendering body;
5. The institutional and administrative background of the tendering body (e.g., statutes, type of institution, annual budget, budget control procedures, etc.), if applicable;
6. Acknowledgement of this Quotation request;
7. A statement specifying the extent of agreement with all terms, conditions, and provisions herein included.
8. Details about the following technical issue:
   a) a proposal for technical approach on the work, including any reference to progress completed developing similar simulation tools to date and how they can be incorporated as part of the open-source OpenMSE set of packages.

Offers sent after the deadline and/or that fail to furnish the required documentation or information or reject the terms and conditions of the Call for Tenders will not be considered.

Applicants shall provide a detailed budget and clearly identify costs related to main activities of the work (e.g., labour, including estimated number of days of work, travelling and subsistence, equipment, system setting and maintenance).

7. Selection of proposals

The ICCAT Secretariat will review the bid(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. 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; (ii) proven track record; (iii) technical merit based on work plan; and (iv) flexibility to future changes to requirements.

8. Duration of the contract

The work under this contract shall be concluded by **15 June 2026** at the latest. If required and strictly necessary, the contract may be is opened for extension, depending on funding availability.

9. Logistics

The text of all reports 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.

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 GLP or similar open-source licence and made available to ICCAT in a GitHub repository.