



Madrid, 4 April 2014

ICCAT CIRCULAR # 1790 / 2014

SUBJECT: TERMS OF REFERENCE - CALL FOR TENDERS – ICCAT-GBYP 02/2014
MODELLING APPROACHES: SUPPORT TO BFT STOCK ASSESSMENT
ATLANTIC-WIDE RESEARCH PROGRAMME ON BLUEFIN TUNA (ICCAT/GBYP – PHASE 4)

I have the honor to transmit to you the attached Terms of Reference for a Call for Tenders - ICCAT/GBYP 02/2014 “**Modelling approaches: Support to BFT Stock Assessment**” of Phase 4 of the ICCAT Atlantic-Wide Research Programme on Bluefin Tuna (GBYP).

Please accept the assurances of my highest consideration.

Driss Meski
Executive Secretary

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Attachment: TOR - Call for Tenders - GBYP Phase 4 for “Modelling approaches: Support to BFT Stock Assessment”.

TERMS OF REFERENCE
CALL FOR TENDERS – GBYP 02/2014
MODELLING APPROACHES: SUPPORT TO BFT STOCK ASSESSMENT
ATLANTIC-WIDE RESEARCH PROGRAMME ON BLUEFIN TUNA
(ICCAT/GBYP Phase 4 – 2014)

1. Background and objectives

The comprehensive objectives of the ICCAT Atlantic-Wide Research Programme on Bluefin Tuna (GBYP) are to improve data collection, knowledge of key biological and ecological processes, assessment models and management. The GBYP Modelling programme is aimed at developing a new Scientific Management Framework for Atlantic bluefin recognising the importance of sound scientific advice as the centerpiece for the conservation and management of tuna and tuna-like species in the Atlantic and the Mediterranean.

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 take into account the main sources of uncertainty and utilise the new data sets and knowledge provided by the GBYP. New data sets include, for example, historic catch and effort data, aerial surveys of spawning aggregations and tagging of juveniles. In order to evaluate novel approaches the SCRS is developing a Management Strategy Evaluation (MSE) framework as recommended during the KOBE process. This includes a simulation or Operating Model (OM). 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.

Initial focus needs to be on establishing the database to be utilised in the upcoming 2015 stock assessment and used as a basis for OM development. For OM development as part of the MSE, it will be necessary to identify and coordinate the development and running of the necessary computer code. It will also be necessary to incorporate procedures that will inform the hypotheses to be considered. This should be based upon broad consultation and dialogue with experts having appropriate knowledge and/or experience in the bluefin fisheries. The Bluefin Stock Assessment Methods Meeting in Gloucester, USA, therefore recommended that the GBYP initiate a parallel effort to progress the MSE, which will have to be less dependent upon direct efforts of the Secretariat and National Scientists who have the responsibility for addressing the stock assessment tasks requested by the Commission.

Consistent with this recommendation, ICCAT has recently appointed a Modelling Coordinator to review the draft modelling work program, convene a Core Modelling Steering Group and develop a detailed multi-year work program to meet the objectives of the Modelling component of the GBYP. A related recommendation was the appointment of an Expert MSE Technical Assistant to work directly with the Modelling Coordinator and in consultation with the Secretariat, Core Modelling Steering Group and assessment and MP modellers to develop the Operating Model and MSE framework and related code.

ICCAT is publishing this announcement to invite suitably qualified experts to submit offers to provide technical assistance for the development of modelling approaches as described below. While the funding associated with this initial offer is limited up to September 2014, it is highly desirable that the successful person, or team, be available for the duration of the work program to ensure continuity and efficiency. As such, we are seeking an individual, or team, who have the commitment and would be available to participate in the work over the next 2-3 years contingent on funding being available for the full MSE work program. Currently, funding arrangement does not allow making a commitment beyond **September 2014** for completion of the work specified in this tender. It is anticipated that funding for continuation of the work shall be finalized in the near future. Preference will be given to the person, or team, awarded this contract for further MSE technical assistance for the project contingent upon satisfactory performance and funding.

2. Contractor tasks

In 2013, an SCRS meeting on Bluefin tuna Stock Assessment Methods (BFTSAM) (http://www.iccat.int/Documents/Meetings/Docs/2013_BFT_METHODS_REP_ENG.pdf) recommended that “*a detailed multi-annual work plan that includes objectives, deliverables and responsibilities, be developed*” based on an outline developed during that meeting (see item 4 of the above specified report).

A draft work plan was subsequently developed and is currently being reviewed and elaborated on by the BFT Modelling Coordinator. The first stage of this work is scheduled to be complete by **30 September 2014**. Implementation of the work program is contingent on the success of stage 1 and funding for implementation of the work program.

The tasks for the Expert Technical MSE Assistant will be:

1. To work with the Modelling Coordinator and ICCAT Secretariat to develop the detailed work plan for implementation of the MSE work plan;
2. Initiate design and implementation of the MSE framework under the guidance the Modelling Coordinator, ICCAT population dynamics specialist and Core Modelling Steering Group;
3. Participate in expert workshops to develop and specify and program uncertainties, scenarios and robustness tests to be considered in the MSE.
4. Liaise with members of the Bluefin Stock Assessment Working Group and MSE developers to ensure the technical integration of new assessment methods within the MSE framework;
5. Liaise with GBYP scientists, the Secretariat and other data providers to ensure compatibility of formats and quality control of input data sets.

3. Contractor minimum qualifications

- At least a PhD. or equivalent experience in the relevant sciences, e.g. Mathematics, Statistics, Engineering, Fisheries Science, Marine Biology, Natural Sciences, Biological Sciences, Environmental Sciences or a closely related field.
- A minimum of five years of experience in advanced fishery modelling, including experience in Management Strategy Evaluation and the provision of stock assessment and management advice, preferably for highly migratory species.
- Experience in participating in interdisciplinary and international working group and/or projects.
- Demonstrated experience in quantitative methods, system modelling and software design.
 - Demonstrated experience in design and implementation of management strategy evaluation and stock assessment models, preferably for highly migratory species.
 - Strong working knowledge of and ability to program in major software used in fisheries stock assessment and MSE, in particular, ADMB, R and C++.
 - Strong working knowledge and ability to develop and maintain contemporary program documentation systems.
 - Strong working knowledge and ability to develop and maintain relational databases suitable for efficient storage and archiving of data sets and their use in stock assessment and MSE.
 - Good communication skills with scientists, managers, and stakeholders with an ability to explain the essences of the complex technical objectives, results and implications of OMs and Management Procedures (MP) to a non-technical audience, are desirable.
- Excellent working knowledge of one of the three official languages of ICCAT (English, French and Spanish). A high level of knowledge of English is highly desirable.
- Strong teamwork and project management skills
- Availability and willingness to participate in the process over the next 2-3 years

4. Submission of bids

Scientists and public or private Scientific Institutes or entities interested shall submit a detailed offer to the attention of Mr. Driss Meski, the Executive Secretary of ICCAT, at the following address: driss.meski@iccat.int by **28 April 2014** including:

- a) a description of methodology to be used;
- b) the budget proposal;
- c) A short *Curriculum vitae* of the tender (in case of individual scientists, *i.e.*, the five most relevant papers and involvement in recent MSE and or stock assessment projects;
- 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.

If the tender is submitted by an institute, it must indicate the expert(s) who will be dedicated to the design and programming tasks and that he/she be available to participate in this project over the next 2-3 years, if funds is secured. Offers sent after the deadline 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.

5. Selection of bids

The ICCAT Secretariat will make a selection of the offers. Following the selection process, the ICCAT Executive Secretary will notify the entity selected for the contract as soon as the selection process is completed.

Contracts 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. Tenders 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; (iv) flexibility to future changes to requirements; and (v) contribution to the overall objectives of the GBYP.

The ICCAT Secretariat will examine each tender received and make recommendations as to which tender is the most economically advantageous. Once the decision to award the contract has been made, both the successful and unsuccessful tenders will be notified. Unsuccessful tenders may request a detailed letter explaining the reasons for the decision and the relative characteristics of their bid compared to the winning bid.

6. Duration of the contract

The work under this contract shall be performed by **19 September 2014**. If required, the contract is opened for extension, depending on funding availability and the priorities of the programme.

7. Deliverables

The successful bidder shall develop well documented, object-oriented C++ source code for the operating model consistent with the recommendations of the Modelling Coordinator, ICCAT population dynamics specialist and the Core Modelling Steering Group;. As part of this development, the successful bidder shall participate in two documents co-authored with others *i.e.*:

1. Design document; that details an object orientated (OO) design with code based on C++ and/or S4 Classes for i) a multi-population OM that can be conditioned on a variety of data sets and hypotheses and ii) an Observation Error Model (OEM) that can be used to evaluate different data collection regimes e.g. aerial surveys, tagging programmes, catch and catch per unit effort (CPUE) and size to age conversions.

2. Summary of alternative Management Procedures; including alternative stock estimation procedures with coding requirements and appropriate code, libraries and packages. For example there are a variety of stock assessment methods already coded up, these may need modification to be used within a common MSE framework or adapted to use GBYP data and BFT stock assessment assumptions.

In addition, the successful bidder must collaborate on a manuscript which details an:

3. MSE demonstrator; for use with stakeholders to illustrate the impact of uncertainty on management objectives.

The work will be based on the outcome of two GBYP modelling workshops; initial implementation of code will be done using Github site for participants with the SCRS and other scientists. Drafts of deliverable and any prototypes shall be provided by **5 September 2014** and the final version, including any comment by ICCAT, shall be submitted by **19 September 2014**. Details of proposed methodologies and how the workplan can be achieved should also be included.

8. Payment details

Disbursements will be made according to the following schedule:

1. 40% of the total amount of the contract upon signing of the contract;
2. 60% after the approval of the final report by ICCAT upon incorporation of comments made by ICCAT.

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 GLP or similar open source licence.

For information concerning this Call for Tenders, please contact the GBYP Coordinator at the following address: antonio.dinatale@iccat.int