

INTERNATIONAL COMMISSION FOR THE
CONSERVATION OF ATLANTIC TUNAS



COMMISSION INTERNATIONALE POUR LA
CONSERVATION DES THONIDES DE L'ATLANTIQUE

COMISION INTERNACIONAL PARA LA
CONSERVACION DEL ATUN ATLANTICO

Madrid, 11 March 2024

ICCAT CIRCULAR # 02226 / 2024

SUBJECT: CALL FOR TENDERS - TERMS OF REFERENCE: PILOT PROJECT TO TEST THE USE OF STEREOSCOPIC CAMERAS DURING THE FIRST TRANSFER AND THE AUTOMATION OF VIDEO FOOTAGE ANALYSIS

I should like to transmit herewith the Terms of Reference for a Pilot project to test the use of stereoscopic cameras during the first transfer and the automation of video footage analysis. Specifically, these Terms of Reference will cover the first objective of the project:

- To test the use of stereoscopic cameras during the first transfers from purse seiners or traps to towing cages, to estimate the number of individuals of bluefin tuna and their weight.

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

The deadline for receipt of offers is **25 March 2024 at 18:00h Madrid time.**

Please accept the assurances of my highest consideration.

Executive Secretary



Camille Jean Pierre Manel

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Attachment: Terms of reference (in English only).



Call for Tenders - Terms of Reference Pilot project to test the use of stereoscopic cameras during first transfer ¹

1. Background and objectives

Most of the catches taken under the total allowable catch of eastern Atlantic and Mediterranean bluefin tuna (BFT) allocated by the International Commission for the Conservation of Atlantic Tunas (ICCAT) are intended for caging in fattening farms (live BFT). The monitoring and control of the live BFT fishery is largely based on video recordings of the various transfer and caging operations of live bluefin tuna that take place underwater.

As it is only possible to obtain live tuna weight through the use of a stereoscopic camera (SC), which is only used at the time of caging, the calculation of the quantities caught and the closure of the fishery is based on rough estimates made at the time of catching, which are only corrected after the results of the caging operations are available and the eventual release of the fish caught in excess (a few months after the catch took place).

Since it is only possible to determine the size of the tuna at the time of its caging (when the SC are used), any fish below the minimum size can only be detained after caging, making segregation of undersized fish and its release difficult in practice. As such, important provisions, such as minimum size, are difficult to implement. Furthermore, further transfers² occurring after the first transfer may mix catches, making it difficult to detect mortalities or whether the maximum percentage of undersized fish allowed per catch has been exceeded.

With the aim of addressing these issues, at the 2022 Annual Meeting of the Commission, a pilot project was proposed by the European Union and approved by ICCAT through the [Resolution by ICCAT establishing a pilot to test the use of stereoscopic cameras during first transfer and the automation of video footage analysis \(Res. 22-15\)](#).

The pilot project has two independent objectives:

- a) to test the use of stereoscopic cameras during the first transfers from purse seine vessels or traps to towing cages in order to be able to estimate at this stage the weight of the captured bluefin tuna (BFT);
- b) to test the use of available software and artificial intelligence to automatically determine the number of individuals and their weight.

Two separate Calls for Tenders will be used to cover the two objectives of the project. This Call for Tenders covers only the objective mentioned in point a) above.

2. Contractor tasks

The company or consortium to which the contract is awarded will receive a list of vessels, traps and farms participating in the project.

¹ "First transfer" means a transfer of live bluefin tuna from a purse seine net or a trap to a transport cage.

² "Further transfer" means any transfer operation that is conducted after the first transfer and before caging at the destination farm, such as splitting or merging of the contents of two transport cages but that does not include voluntary or control transfers.



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The successful bidder(s) will ensure that the system is tested under real conditions and covering, if possible, a wide range of environmental scenarios. For this purpose, the company must have the availability and capability to embark on some of the patrol vessels that are deployed for control of the bluefin tuna fishing campaign and/or on boats of collaborating operators. The successful bidder will also provide at least one independent diver to verify underwater operations.

The successful bidder(s) will be available for any coordination meetings that may be necessary. At least two meetings should be scheduled, i.e., a kick off meeting to agree on the details of the work plan and a second one following completion of the field operation to define in detail the contents of the final report. The Contractor must attend these two meetings and any other meetings as necessary, to be called by the Steering Committee in consultation with the ICCAT Secretariat. The successful bidder(s) will provide ICCAT with a copy of the videos obtained in the test immediately upon completion of this phase of the project and give its consent so that these videos can be used in other related projects.

A copy of all original data obtained from each analysis, will be provided to ICCAT. Data will be provided in Excel, Word or any other manageable format.

The successful bidder(s) must expressly undertake, both during the term of the contract and after its termination, not to disseminate, transmit or disclose to third parties any company information to which it has access as a result of the performance of its work on this project.

In the case of a consortium or group of entities, an administrative and a technical responsible entity should be identified.

The minimum tasks to be carried out by the successful bidder(s) are detailed in **Annex 1** of this Call for Tenders: *Minimum tasks and conditions for the implementation of the Pilot Project - Use of stereoscopic cameras during first transfers.*

3. Deliverables

1. A **draft final report** to be submitted by **6 September 2024** at the latest, including:
 - I. The technical report, containing:
 - a) A full description of the work carried out during the tests with stereoscopic cameras;
 - b) A detailed description of the material, methodology and details of the operations tested;
 - c) Detailed tables with the results of the tests performed, results of the analysis of the video footage taken, and the results of the comparison with other video footage as described in **Annex 1** of these ToRs;
 - d) A detailed description of the analyses carried out and of the results achieved;
 - e) The possible challenges encountered and conclusions on the functioning of the project and its effectiveness;
 - f) An Executive Summary of the final report;
 - g) Acknowledgements with a specific reference to the co-funding provided by the European Union as follows: "This work has been carried out within the scope of the project REM-BFT (project acronym), and co-funded by the European Union through the EU Grant Agreement No. 101103829, and a voluntary contribution by the United States."



II. A PowerPoint presentation of the main results.

2. The **final report**, to be prepared considering any comments provided on the draft final report by the Steering Committee in consultation with the ICCAT Secretariat, and the full administrative report including copies of all the administrative documents, are to be submitted by **27 September 2024**, at the latest.

More detailed information on the content of these reports can be provided to the successful bidder(s) before the end of the implementation phase of the project. Due to the nature of this type of feasibility studies aimed at developing new methodologies for field operations, specific contents of the draft final report might be set in the meetings mentioned in point 2.

4. Contractor minimum qualifications

- Be able to demonstrate owning or having access to the technology to complete the assigned objective(s);
- Availability of sufficient qualified staff to carry out the duties and attend ICCAT meetings as might be required (online participation is an option);
- Documented multi-year experience in the development and/or use of such technologies, preferably in the bluefin tuna fishery;
- Excellent working knowledge of English. Sound knowledge of the two other ICCAT official languages (French and Spanish) is highly desirable.

The following will also be taken into account in the evaluation of proposals:

- Demonstrable previous experience in similar projects;
- The ability to demonstrate that the tools and procedure to be used are implementable in real conditions and would offer reliable data;
- In-kind contributions provided by the engaged entities.

5. Submission of proposals

Scientists and public or private Scientific Institutes, companies or consortiums interested should submit a 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 copying Ms. Ana Martinez (ana.martinez@iccat.int) and Ms. Stasa Tensek (stasa.tensek@iccat.int) by **25 March 2024 (18:00h Madrid time) at the latest**, including:

- a) The detailed offer covering the tasks as detailed in point 2 and **Annex 1**, as well as:
 - A full description of the work to be carried out during the tests with stereoscopic cameras;
 - A detailed description of the material, methodology intended to be used for the tests, and details of the operations to be tested.
- b) The preliminary estimated budget, to be detailed by individual task and subtask. The costs of coordination should be included in the cost of each individual task/subtask and show clearly the full amounts including VAT or any other relevant taxes. Additionally, the budget will be broken down by these components: personnel costs (labour, including estimated number of days of work), overhead, travel and subsistence, consumables, equipment, system setting and maintenance and subcontracts;



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- c) A detailed *Curriculum vitae* of the tenderer and any of its partners and/or subcontractors with any documented experience in these fields, including recent and relevant contracts for the same or similar items and other references (including contract numbers, points of contact with telephone numbers and other relevant information);
- d) A detailed list of any subcontracting activities;
- e) The name, address, and telephone number of the tendering body;
- f) The institutional and administrative background of the tendering body (e.g., statutes, type of institution, annual budget, budget control procedures, etc.), if applicable;
- g) A declaration that the staff and all the subcontracted staff will be covered by full insurance for all the tasks to be carried out according to the Call for Tenders, excluding ICCAT from all responsibility concerning the work to be carried out by each offering institution;
- h) Acknowledgement of this Call for Tenders;
- i) A statement specifying the extent of agreement with all terms, conditions, and provisions herein included.

Contractors can be either research institutions such as government or private laboratories, universities, or private consultancy firms or other entities having the qualifications required. If the tender is submitted by an institute/University, it must indicate the expert(s) who will be dedicated to the completion of the tasks and that he/she will be available to present the work to the Commission or one of its subsidiary bodies.

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.

The Contractor should be available to attend (online attendance is an option) and report to any meeting requested by ICCAT.

6. Duration of the contract

The work under this contract will be concluded by **20 October 2024** at the latest.

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 after receiving a regular invoice which may be submitted at the latest 30 days after signature of the contract;
- 2) 40% after provision and acceptance of **deliverable #1** the draft final report. The deliverable will be reviewed by the Steering Committee in consultation with the ICCAT Secretariat, who will communicate any necessary revisions (if applicable) to the Contractor and/or inform of approval within 10 days of submission. In addition, the Contractor will submit a complete set of documents concerning the expenses incurred under the contract and the regular invoice.
- 3) 30% after provision and acceptance of **deliverable #2** the final report, upon incorporation of the comments by the Steering Committee in consultation with the ICCAT Secretariat (if applicable),



and approval of the administrative documents, together with the regular invoice. The Contractor will be notified of acceptance of the deliverable within 10 days of submission.

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8. Selection of proposals

The ICCAT Secretariat will review the offer(s). Following the review 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) expertise and proven track record (20%); (iii) technical merit based on work plan (25%); iv) providing in-kind contributions to the budget (20%); and (v) flexibility to future changes to requirements (10%).

9. Logistics

All documents provided by the Contractor must be in MS Word or compatible software, tables must be in Excel format or compatible, figures and pictures must be in JPEG or TIFF format or compatible. 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 GPL or similar open-source license.

For additional information concerning this Call for Tenders, please contact ICCAT Secretariat at the following address: miguel.santos@iccat.int and alberto.parrilla@iccat.int.



Minimum tasks and conditions for the implementation of the Pilot Project - Use of stereoscopic cameras during first transfers

The tasks to be carried for the implementation of this pilot project's objective will have as their main mission to:

- i. test whether the available stereoscopic cameras in combination with conventional cameras where appropriate, allow successful recording of videos of first transfers in real conditions;
- ii. test the accuracy in determining the number of individuals and their average size at first transfer and compare it with that obtained by current means. The donor operator will provide to the bidder(s) copies of the relevant video records for the first transfer operation and the video of the transfer from the transport cage to the farm cage.

The tasks to be performed will include at least:

1. Test the system on at least three transfers in each of the following scenarios:
 - first transfer from a purse seiner to a transport cage in the Mediterranean;
 - first transfer from a trap to a transport cage;
 - first transfer from a purse seiner to a transport cage in the Adriatic.
2. Compare the results of the number of individuals with those obtained from recording the transfer with a conventional camera, including assessing the time invested, the ease and accuracy and precision of counting the number of individuals;
3. Compare the average length results during the first transfer with those obtained from analysis of the stereoscopic camera video corresponding to the transfer from the transport cage to the farm cage (for cases where there are no additional transfers after the first transfer), including assessing the time invested, the ease and accuracy and precision of the measure of the bluefin tuna individuals. For the analyses, and in line with Annex 9, point 1.i of *Recommendation by ICCAT amending the Recommendation 21-08 establishing a multi-annual management plan for bluefin tuna in the eastern Atlantic and the Mediterranean (Rec. 22-08)*, the sampling intensity of live fish for length measurement will not be below 20% of the number of fish being caged and when technically possible, the sampling of live fish will be sequential, by measuring one in every five specimens. In addition to that, in at least one case of each of the three scenarios, the Contractor will make an analysis including the measurement of 100% of the transferred individuals, which will be compared with a similar measurement made by the farm authorities of the individuals when they are caged.

In their response to the Call for Tenders, interested companies must include a detailed description of the cameras and other material they are going to use, as well as the procedures and methodologies they propose to use, explaining the suitability of their use in real conditions and the ability to obtain videos that allow to estimate the sizes of individuals, and the levels of precision and accuracy associated with the estimate.

In at least two of the cases foreseen in each of the three scenarios mentioned in point 1 (total of six cases), first transfers will be chosen that will not undergo additional transfers before caging (the individuals in the transport cage have not undergone changes before caging). This aspect will be coordinated in advance with the operators participating in the project.



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In the recording of transfer videos, the company should consider the relevant minimum standards set out in Annex 8 and Annex 9 of the [Rec. 22-08](#).

For determination of the average size of the transferred bluefin tuna individuals the system has to offer at least the same accuracy as the system currently used according to the specifications in Annex 9 of ICCAT [Rec. 22-08](#).

For each of the transfers to be carried out, videos will be taken with two stereoscopic cameras of the same model (used from different recording points to test more appropriate distances, position or angles). Additionally, the video footage recorded with a conventional camera by the operator during the aforementioned transfer will be provided to the bidder(s). Furthermore, the use of an additional stereoscopic camera of a different model will be positively valued in the selection of the Contractor.

More specific parameters on the conditions in which the videos must be obtained (i.e. water turbidity and luminosity, distance between the camera and the individuals to be measured, recording angle(s), reference units (metric), image resolution, video format, etc.), may be set at a later time after coordination with the operators collaborating on the project. In any case, a significant range of diverse sea conditions should be covered.

All operations carried out must be witnessed/managed by at least one diver provided by the successful bidder(s), who will receive the support of the divers and personnel of the operators collaborating on the project.

To fulfil the tasks mentioned in section 3 above (of this Annex), the successful bidder(s) will receive from the ICCAT Secretariat the video footage of the relevant caging operations and the results of the analysis of these videos made by the farm authorities.

The list of tasks mentioned above is without prejudice to possible changes that may be introduced as a result of technical discussions between the Steering Committee in consultation with the ICCAT Secretariat, operators or authorities of the CPC participating in the project and the company in charge of the implementation of the project, and provided that these changes do not entail a significant increase in the time or resources to be assumed by the company.