

AGREEMENT BETWEEN THE IATTC AND AZTI FOR THE DEVELOPMENT AND IMPLEMENTATION OF A PROJECT ON “DEVELOPING ALTERNATIVE BUOY-DERIVED TUNA BIOMASS INDEXES”

The Inter-American Tropical Tuna Commission (IATTC) and the Fundación AZTI (individually referred to as a “Party” or collectively as the “Parties”), have agreed to develop and implement a project on “*Developing alternative buoy-derived tuna biomass indexes*” (“the Project”), in the framework of the Memorandum of Understanding agreed by the two organizations (“the MOU”). A full description of the project is provided as annex 1.

Lead researchers:

- Jon Uranga, Project Investigator, AZTI Foundation, Marine Research Division, Spain, juranga@azti.es
- Jon Lopez, Head, Ecosystem & Bycatch program, Inter-American Tropical Tuna Commission, USA, jlopez@iattc.org

Associated researchers:

- Mark Maunder, Head, Stock Assessment program, Inter-American Tropical Tuna Commission, USA, mmaunder@iattc.org
- Cleridy Lennert-Cody, Senior Scientist, Inter-American Tropical Tuna Commission, USA, clennert@iattc.org
- Josu Santiago, Head, tuna fisheries, AZTI Foundation, Marine Research Division, Spain, jsantiago@azti.es
- Hilario Murua, Senior Scientist, International Seafood Sustainability Foundation - ISSF, USA, hmurua@iss-foundation.org

Other Collaborators:

- Maitane Grande (AZTI), Iñaki Quincoces (AZTI), Alexandre Aires-da Silva (IATTC), Victor Restrepo (ISSF).
- Other expert researchers from AZTI, IATTC or ISSF may be invited to collaborate with the Project.

Duration:

- 90 to 180 days, starting in early 2023, ideally January-June.

Budget:

- A. **Funding Opportunity:** Internal (ISSF FAD project, budget availability \$15,000; and AZTI internal funding)
- B. **Distribution of costs and expenses** (all figures are estimates and only indicative):
- a. Items to be covered by IATTC to support the stay of AZTI lead researcher (approximate):
 - Accommodation: (Apartment for 2/3 months) US\$2500 * 3 = US\$7500
 - Travel and transportation: Airfare (\$2500).
 - Living expenses: Groceries, meals, utilities, ground transportation (bus, gas, taxi), care of minors, etc. US\$1500 * 3 months = US\$4500
 - Others: IT needs (e.g. Hard-drive) US\$500
 - Total to be covered by IATTC: US\$15000
 - b. Items to be covered by AZTI: All costs related to data acquisition as well as AZTI staff time. Some of the expenses above could also be complemented with AZTI internal funding.

Deliverables:

Two main deliverables are envisaged:

- A series of alternative abundance indices for the three species of tropical tuna using catch-independent information,
- Dissemination material, including documents and presentations for the Scientific Advisory Committee, the global workshop on developing alternative abundance indices for tropical tuna that ISSF is organizing in the near future, and the 2023 tuna conference. The dissemination of the work is expected to have a significant positive impact on the recommendations developed by the abovementioned groups.

Confidentiality:

Without prejudice to Article 2 paragraph 3 of the MOU and its other relevant provisions, the development and implementation of the Project shall be governed by the following rules of confidentiality:

1.1. For the purpose of this agreement "Confidential Information" shall mean any and all information, which is supplied or disclosed, directly or indirectly, in writing or in any other means, by each Party to the other including, but not limited to any documents, drawings, sketches, designs, materials, samples, prototypes, data, know-how, and which at the time of its disclosure or supply is identified as confidential. Oral information shall be recorded in writing by the Party disclosing it within fifteen (15) days after disclosure, and the resulting document shall specifically state the date of disclosure and designate the information as confidential.

1.2. For the purpose of this agreement "the Recipient" shall mean the Party receiving the Confidential Information disclosed by the other Party.

1.3. The Recipient shall:

- i. undertake to keep the Confidential Information confidential and not to disclose it nor to permit the disclosure of it to any third party, except in accordance with clause 1.6. of this agreement, and not to make it available to the public or accessible in any way, except with the prior written consent of the Party disclosing it;
- ii. undertake to use the Confidential Information solely for the Purpose of this agreement and not to make any other use, whether commercial or non-commercial, without the prior written consent of the Party disclosing it.

1.4. The obligations specified in clause 1.3. above shall not apply in the following cases:

- i. the Confidential Information was known to the Recipient prior to the time of its receipt pursuant to this agreement otherwise than as a result of the Recipient's breach of any legal obligation; or
- ii. the Confidential Information is in the public domain at the time of disclosure by the Party to the Recipient or thereafter enters the public domain without any breach of the terms of this agreement; or
- iii. the Confidential Information becomes known to the Recipient through disclosure by sources, other than the Party disclosing it, having the legal right to disclose such Confidential Information; or
- iv. the Recipient proves the Confidential Information has been developed independently by its employees, who had no access to any of the Confidential Information disclosed by the Party disclosing it to the Recipient.

1.5. The Recipient shall limit and control any copies and reproductions of the Confidential Information. The Recipient shall return all records or copies of the Confidential Information at the request of the other Party and at the latest on termination of this agreement. This shall not apply to Confidential Information or copies thereof which must be stored by the Recipient according to mandatory law, provided that such Confidentiality Information or copies thereof shall be subject to an indefinite confidentiality obligation.

1.6. The Recipient undertakes to disclose the Confidential Information only to its employees who:

- i. reasonably need to receive the Confidential Information for the Purpose of the present agreement; and
- ii. have been informed by the Recipient of the confidential nature of the Confidential Information and of the terms of the present agreement; and
- iii. have been advised of and agree to be bound by equivalent obligations to those in the present agreement.

1.7. All Confidential Information shall remain the exclusive property of each Party as well as all patent, copyright, trade secret, trade mark and other intellectual property rights therein. The Parties agree that this agreement and the disclosure of the Confidential Information do

not grant or imply any license, interest or right to the Recipient in respect to any intellectual property right of the other Party.

Signed in representation of the Parties, on 15 December 2022



Dr. Arnulfo Franco
Director
IATTC



Dr. Rogelio Pozo
General Manager
AZTI

Annex 1: Project description

Project Title: Developing alternative buoy-derived tuna biomass indices

Introduction to the problem: Fishing efficiency and dynamics of the tropical tuna purse seine fleet are rapidly evolving due to technology and effort creep. Because of this, obtaining reliable Catch per Unit Effort (CPUE) indices for the fleet, particularly those fishing on FADs, is an extremely challenging task.

Opportunity for study: The good relationship between Spanish vessel-owners associations and national research institutes like AZTI has granted access to the satellite-linked echosounder buoy data used by the fleet in the Atlantic, Indian, and more recently, Pacific Oceans for the period 2010-2022.

Rationale: New technologies have changed fishing behavior, but also provide new opportunities for science. Echo-sounder buoys remotely inform fishers in real time on the accurate geolocation of the FAD and rough estimations of the aggregation underneath them. As such, these devices have the potential to daily sample thousands of locations in a systematic and non-invasive manner. The information collected by these devices could be used to develop alternative abundance indices for tunas using catch-independent data. As an example, ICCAT has accepted and used for the first time a buoy derived abundance index in the 2019 yellowfin tuna stock assessment, and IOTC is planning doing so in the near future. The IATTC used, for the first time, a skipjack tuna abundance index derived from echo-sounder buoys in 2022. All these alternative abundance indices were led by AZTI, partner of this pilot study.

Summary of work to be completed: Our project will develop, for the first time, a buoy-derived abundance index for tunas, likely by species, which can be incorporated in stock assessments for tropical tuna in the EPO. This project has several objectives: **1)** Determine the feasibility of echo-sounder buoy data to be used for developing alternative abundance indices for tropical tuna purse seiners in the eastern Pacific Ocean; **2)** Develop, for the first time, preliminary abundance indices for the three species of tropical tunas in the eastern Pacific Ocean using catch-independent buoy data; **3)** Evaluate the usefulness of these indices to inform and complement traditional stock assessment and other projects of interest for the Commission (e.g. MSE, habitat models); **4)** Explore the future availability of echo-sounder buoy data in the region and help shape recommendations to encourage buoy data reporting to the staff for scientific purposes; **5)** Develop future strategies and plans to improve the robustness of results and help interpretation; **6)** Recommend new feasible technological developments to buoy manufacturers. We will achieve these objectives using a case study for the eastern Pacific Ocean, based on the methodologies developed for the Atlantic and Indian Oceans.

Deliverables: Two main deliverables are envisaged: i) a series of alternative abundance indices for the three species of tropical tuna using catch-independent information, ii) dissemination material, including documents and presentations for the Scientific Advisory Committee, the workshop on developing alternative abundance indices for tropical tuna that ISSF is organizing in the near future, and the 2023 tuna conference. The dissemination

of the work is expected to have a significant positive impact on the recommendations developed by the abovementioned groups.

Broader Impacts: The proposed research will provide considerable benefit to IATTC staff, Commission, fishing industry, and the broader scientific community and public. This project will help developing buoy-derived indices, which will help ultimately understanding the population dynamics and the abundance of tropical tunas in the eastern Pacific, supporting ongoing and future demand for sustainable resources. It is also expected to receive support of the Scientific Advisory Committee and the workshop on developing alternative abundance indices for tropical tuna that ISSF is organizing in the near future.

Relevance to the IATTC Scientific Strategic Plan and Commission's goals: This project will contribute to advance our understanding of tropical tuna species population dynamics and stock status. Project activities will support several objectives for increasing the sustainability of exploited resources described in the SSP. The project will also contribute to IATTC's long-term goal of supporting sustainability, and will advance scientific understanding on the use of new technologies and data sources to enable effective decision-making.