

MINISTERIO DE ACUACULTURA Y PESCA



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FADs MANAGEMENT PLAN - ECUADOR

ECUADOR FADs MANAGEMENT PLAN– INDUSTRIAL TUNA FLEET

IATTC REGULATIONS

The ordering of the Tuna Fishery on the Fish Aggregating Devices (DAPs or "FADs") is regulated by the Inter-American Tropical Tuna Commission (IATTC) through the following resolutions:

- ✓ **C-99-07:** Retake the recommendations of Resolution C-98-10 and add the investigative component about: catch ratio and depth of the DAPs, use of bait, estimation of natural mortality of tunas, establishment of number of sets, impact of areas of permanent closure, feasibility of observer program in purse seiners of less than 400 tons to obtain scientific information.
- ✓ **C-16-01** amendment (C-15-03): As of January 1, 2017, CPCs2 will require that shipowners and operators of all purse-seine vessels flying their flag when fishing on FADs in the Area of IATTC Convention, submit the information contained in Annex I: interaction with a FAD, using a standard format to be developed by the Commission staff.
- ✓ **C-17-02:** Establishes Measures for Fishing on Fish Aggregating Devices. The CPCs will ensure that purse-seine vessels flying their flag have no more than the following amounts of FADs, defined in Resolution C-16-01, active at any time:

Class 6 (1,200 m³ and larger): 450 FADS

Class 6 (<1,200 m³): 300 FADS

Classes 4-5: 120 FADS

Classes 1-3: 70 FADS

ECUADORIAN FISHING AUTHORITY REGULATIONS

The tuna fishery with a purse seine FADs Set has the following Ecuadorian regulatory framework:

AGREEMENT No. MAP-SRP-2018-0061-A, issued 03-22-2018. Limit of FADs for purse-seine vessels

AGREEMENT No. MAP-SRP-2018-0103-A, issued 05-22-2018. Compliance with IATTC regulations on FADs

AGREEMENT No. MAP-SRP-2018-0163-A, issued 07-28-2018. Tuna Closure

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GENERAL PURPOSE

- Strengthen the sustainable management and responsible use of aggregating devices in the tuna fishery with purse seines, maintaining the operational efficiency of the tuna purse seine fleet through the implementation of standards, actions and new technologies.

SPECIFIC OBJECTIVES

- Establish a record of floating objects with their characteristics.
- Improve the collection of information through the implementation of technology platforms.
- Contribute to the knowledge of the composition by species of the catch in sets of FADs and their spatial and temporal variability.
- Deepen knowledge about the possible impacts of FADs on ecosystems and species.
- Establish mechanisms to exchange information between shipowners, scientists and administrations, in order to achieve a better understanding and its implications.
- Design prototypes of FADs that cause less impact to the marine ecosystem through non-entangling and degradable materials.

SCOPE APPLICATION

- This plan is directed to the tuna seiner vessels of the Ecuadorian fleet that operate in the Eastern Pacific Ocean.
- MONITORING OF FADs
- Ships must record monitoring information for each fad that has a satellite beacon, based on their assigned number.
- In order to support the monitoring of compliance with the limitation on the number of active DAPs in the Ecuadorian fleet, according to resolution C-17-02, established in paragraph 8, and the work of the scientific staff of the IATTC in the analysis of the impact of fisheries on FADs, while protecting the confidentiality of commercial data, CPCs will report or require their vessels to report daily information on all of the FADs to the Secretariat, in accordance with the guidance developed under paragraph 123 of the resolution, with reports at monthly intervals presented with a lapse of at least 60 days, but no longer than 90 days.

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RESEARCH ACTIVITIES AND GOOD PRACTICES TO MITIGATE THE CATCH OF YOUNG TUNA AND NON-TARGET SPECIES. -

The competent authority can propose pilot actions to advance in some of the aspects described below:

Encourage the use of acoustic methods (probes, echo sounders), aimed at more selective fishing, identifying undesirable species or sizes, before the set.

b. Promote more selective methods to prevent the capture of juvenile fish and associated species, such as grading grids incorporated into the purse seine network, with the objective of reducing the catch of juvenile tuna and associated species.

c. Promote research on alternatives to networks that hang from FADs, in order to avoid the entanglement of some sensitive marine species,

d. Apply the 3 criteria described in Annex II of C-16-01 for the design and use of FADs.

and. Apply good practices for the release and handling of vulnerable species such as sharks, turtles, stingrays.

PLANTING MANAGEMENT GUIDELINES:

a) A tuna seiner vessel that goes out to fishing, may deploy FADs for another tuna purse seiner vessel, as long as it is not in a closed season.

b) The use of auxiliary vessels by the Ecuadorian tuna fleet is prohibited.

AMENDMENTS TO THE PLAN

This management plan will be reviewed every 2 years, without prejudice to making other modifications as required, in accordance with future measures adopted at the national level and based on the resolutions of the Inter-American Tropical Tuna Commission (IATTC).

MONITORING AND MONITORING PLAN

The Undersecretary of Fisheries Resources of the MAP will create and coordinate an advisory council with representatives of the public and private sectors on the application of this management plan and adopt by consensus new criteria that are considered necessary to achieve proposed objectives, when required.

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NON-entangling AND DEGRADABLE FADS

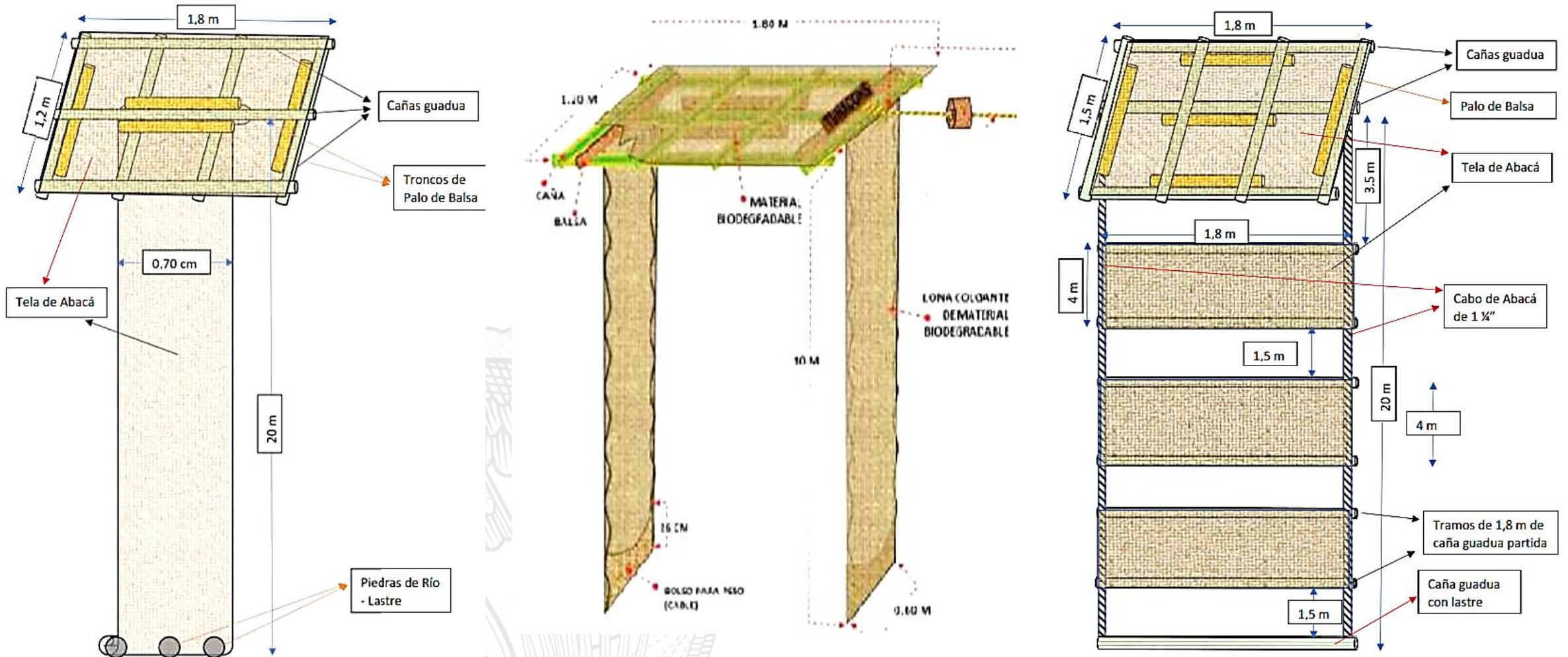
- The MAP is supporting:
- The private initiative of TUNACONS to develop prototypes of FADS made of degradable materials.
- The new pilot project proposed by the IATTC in coordination with companies that are part of TUNACONS to test degradable FADS.
- The training of captains and crew members that generate ATUNEC, ISSF and TUNACONS on non-entangling FADS in accordance with IATTC regulations.

PROJECT ACTIVITIES FADS NON-entangling AND BIODEGRADABLES

- Workshop of non-entangling and biodegradable FADS Manta, October 2 and 3, 2017: MAP, CIAT, AZTI, ISSF, TUNACONS and OPAGAC / ALBACORA, Chiefs, captains and Shipowners of the tuna fleet
- Meeting with fleet chiefs of TUNACONS - OPAGAC - IATTC in February 2018
- Final work meetings on the IATTC pilot project for the development of Degraded and Non-entangling FADS. CIAT-OPAGAC-TUNACONS
- Work meetings for preparation of Tuna Fishing FADS Management Plan : MAP-SRP-INP-ATUNEC-CNP-WWF-TUNACONS
- Workshop with Captains and crew on initiatives of Degradable FAD and Non-entangling

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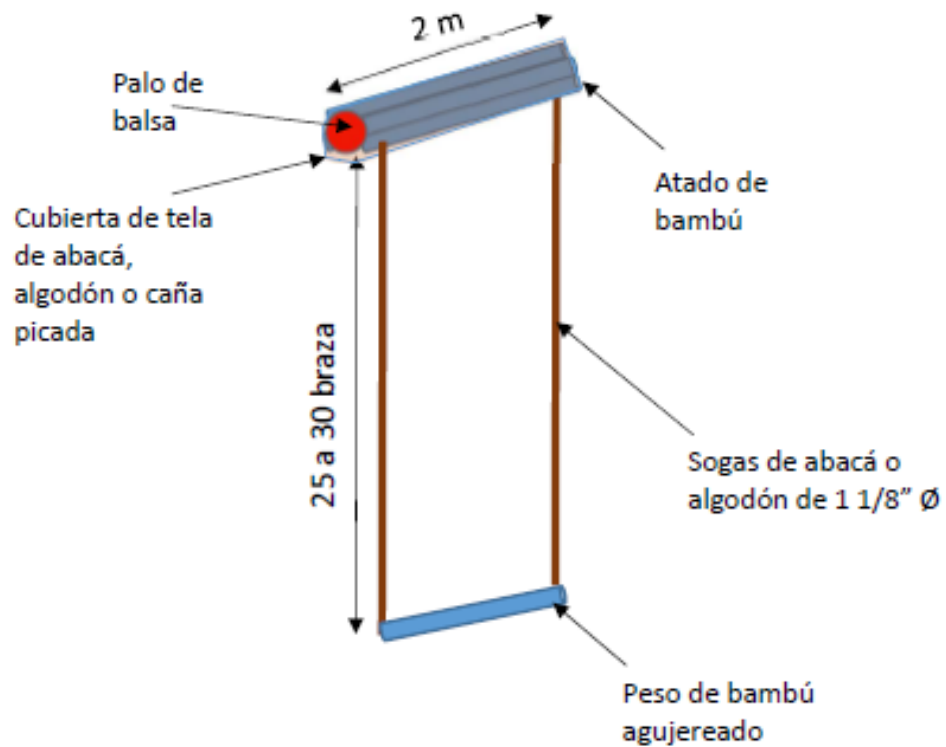
DEPLOYED FADS BY TUNACONS FLEET



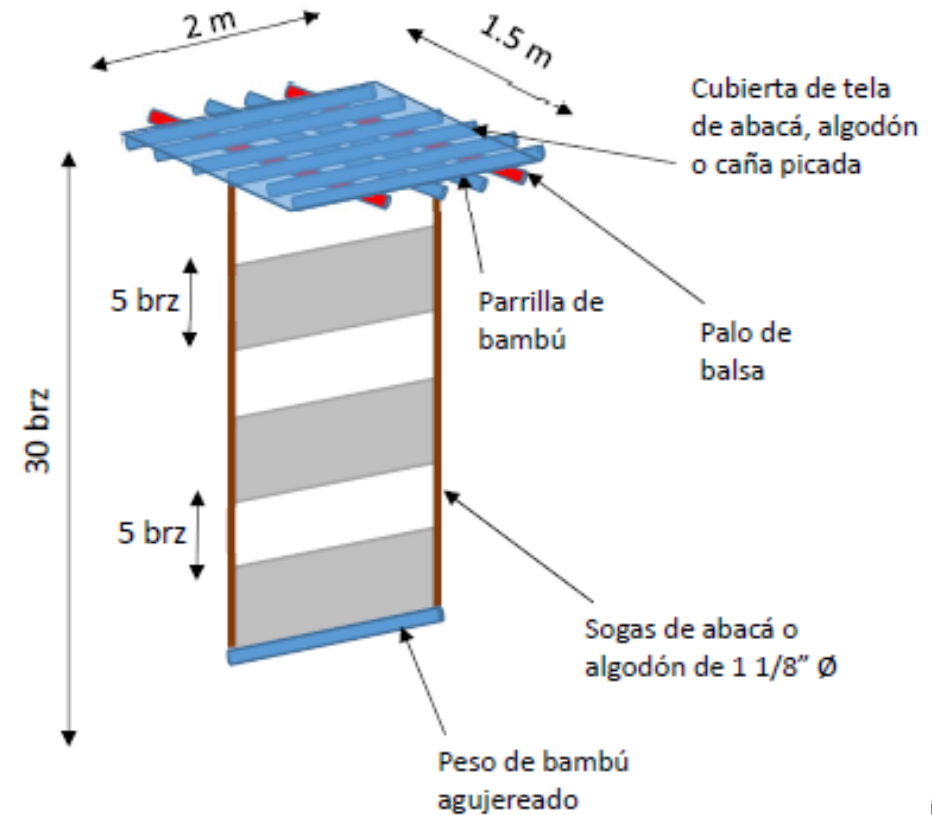
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FIRST DRAFT OF FAD PROTOTYPE BY MAP, IATTC, TUNACONS, OPAGAC, ISSF, y AZTI

Prototipo 1



Prototipo 2



ECUADOR FADs MANAGEMENT PLAN– INDUSTRIAL TUNA FLEET

VEGETABLE FIBERS TREATEMENT FOR NON-ENTANGLING DEGRADABLE FADS



Cabuya		
sample # 1	sample # 2	sample # 3
1. Reactant resin.	1. Reactant resin	1. Polímero acrílico autoreticulante.
2. Siliconized microemulsion	2. Siliconized microemulsion	2. Antibacterial.
	3. Antibacterial	

Abacá	
sample # 1	sample # 2
1. Reactant resin	1. Reactant resin
2. Siliconized microemulsion	2. Siliconized microemulsion
	3. Antibacterial