INTERPRETING ICCAT'S DATA REPORTING REQUIREMENTS FOR ACTIVITIES ON FADS: AN OVERVIEW FROM EU-SPAIN

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SUMMARY

This document presents the interpretation of EU-Spain with regards to the ICCAT's data reporting requirements for activities on Fish Aggregating Devices (FADs) from the Spanish tropical tuna purse seine.

RÉSUMÉ

Ce document présente l'interprétation de UE-Espagne en ce qui concerne les exigences de déclaration des données de l'ICCAT pour les activités réalisées par les senneurs espagnols ciblant les thonidés tropicaux au moyen de dispositifs de concentration de poissons (DCP).

RESUMEN

Este documento presenta la interpretación de UE-España en lo que concierne a los requisitos de comunicación de datos de ICCAT para las actividades en dispositivos de concentración de peces (DCP) de la pesquería de cerco española de túnidos tropicales.

KEYWORDS

Spanish, logbook, fish aggregating device, FAD, management plan, tropical tuna, purse-seine, ST08, data reporting

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1. Introduction

Tropical tuna purse seiners operate globally, and have continuously increased their use of Fish Aggregating Devices (FADs) since the late 1980s. For example, the Spanish tropical tuna purse seine fishery has increased the percentage of FAD sets from almost a 60% in 1991-1995 to nearly 80% in 2011-2015 (Ramos *et al.*, 2017). For this reason, the Spanish Ministry of Agriculture and Fisheries, Food and Environment, in close collaboration with the IEO, AZTI and the Spanish tropical tuna purse seiner associations (OPAGAC/ANABAC), developed a Fish Aggregating Device Management Plan for its national fleet in 2010 which has been running since then. The preliminary data and results were presented in Delgado *et al.* (2015), where it was stated that "*this plan has been the first initiative of this kind adopted by a CPC member of tuna RFMOs, and can be considered as a pioneer and the seed for the implementation of FAD management plans in Tuna RFMOs. In fact, the Spanish FAD Management Plan has been used as a template and model in Tuna RFMOs and the agreed FAD Management Plans of all Tuna RFMOs included the elements developed in the Spanish FAD Management Plan*".

Since 2016, the ICCAT´s Recommendation 16-1 included new requests for the collection and submission of FAD fishery statistics under paragraph 23. The paragraph 23 specifies the type of information that must be reported about FADs by each CPC. Yet, some of the information requested in the paragraph 23 of the Recommendation is unclear (about how to collect or submit data to ICCAT -e.g., spatial stratification, interpretation of the requested data, problems for the extraction of some data requested from the database, as the data collection mechanism do not always permit to get all the details at the required scale) and thus, further clarification is needed. In this context, the research institutes responsible for the collection of the Spanish FAD data and the fishing associations request to the ICCAT SCRS clarifications on the information to be collected and submitted under ST08 FAD form. This issue was discussed in both ICCAT tropical tuna species group intercessional meeting and ICCAT WG on FADs. Both groups recommended presenting a review document on FAD data collection, reporting requirements under Recommendation 16-01 and the difficulties faced for filling the ST08 FAD form, to the 2017 Sub-Committee on Statistics to clarify the reporting requirements on FADs. Thus, the aim of the present paper is to describe the difficulties, raise questions and provide interpretations on the FAD collection requirements under ST08-Rec 16/01 to allow standardizing the data collection and reporting of FAD information for the fleets that use them.

2. Discussion

We present in **Table 1** the information required under ICCAT recommendation 16-1, and our corresponding interpretation, available data in each case and potential recommendations. Moreover, we included the analysis of each field of the ST08 FAD Form (**Figure 1, Table 2**) for discussion and clarification to improve the routine data collection and provision of FADs information.

Our interpretation has been made on the assumption that ICCAT adopted new data collection and reporting requirements to achieve, in particular, the following two objectives:

(i) to contribute to the estimation of indices of abundance obtained from purse seine fisheries through the incorporation of data on FAD densities and better descriptions of effort of support and fishing vessels into those analysis;
(ii) to assist in the evaluation of the ecosystem impacts of FADs, in particular and potential school fragmentation.

On the other hand, since January 2017 a new FAD logbook was implemented in the Spanish tropical tuna purse seine fleet (Ramos et al 2017).

3. General recommendations

- Harmonization of the request made in the Recommendation 16-1 under paragraph 23 and the file ST08 FAD Form provided to CPCs to report the data, taking into account the data collection mechanism available.
- Definition of terms and detailed description of each field.
- Harmonization between required information and codes between different Regional fisheries management organizations (RFMOs).

References

Delgado de Molina, A., Ariz, J., Murua, H. and Santana, J.C. 2015. Spanish Fish Aggregating Device Management Plan. Preliminary data. Collect. Vol. Sci. Pap. ICCAT 71(1): 515-524.

Ramos, Mª.L., Báez, J.C., Grande, M., Herrera, M.A., López, J., Justel, A., Pascual, P.J., Soto, M., Murua, H., Muniategi, A. and Abascal, F.J. 2017. Spanish FADs logbook: solving past issues, responding to new global requirements. Joint t-RFMO FAD Working Group meeting Doc. No. j-FAD_11/2017. April 19-21, 2017 Madrid, Spain.

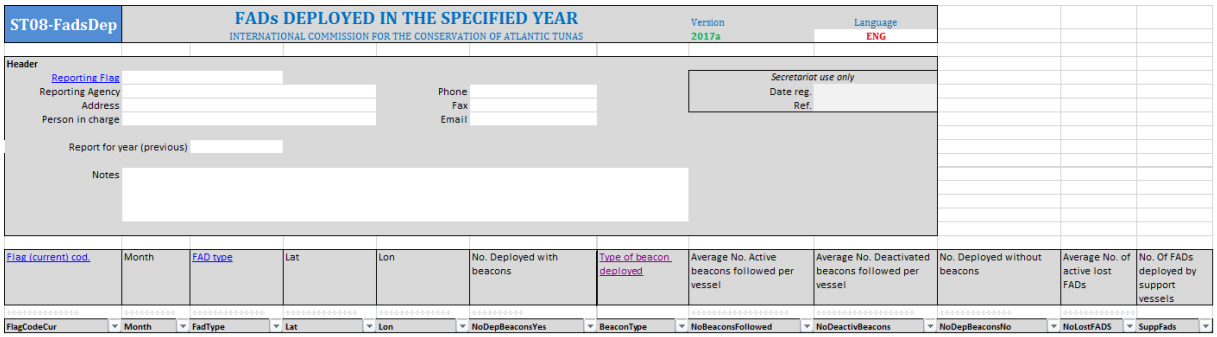
Table 1. Reporting requirement, from the ICCAT Recommendation 16-1, and their corresponding interpretation for Spanish tropical tuna purse seine fleet (in a separate column).

Reporting Requirement	*Questions / Remarks*	*Recommendations*
i. the number of FADs actually deployed on a monthly basis per 1°x1° statistical rectangles, by FAD type, indicating the presence or absence of a beacon/buoy or of an echo-sounder associated to the FAD and specifying the number of FADs deployed by associated support vessels, irrespective of their flag;	Define FAD types: (i) it should be simple and the same across all reporting requirements~~.~~. (ii) Clarify the term deployment (e.g., FADs actually deployed, should they subtract the deactivated FADs? If a FAD lost and deactivated is recovered, should it be considered a new deployment?). (iii) Presence/absence of a beacon in the FAD deployed: The deployment without a buoy is not the case for purse seine fishery. (iv) The word "actually" is confusing (as the number of lost FADs is asked to be reported). (v) FAD type: The information about FAD types could be extracted from the new Spanish FADs logbook, but not directly from the one used during the 2016, which must be apportioned.	Deleting the word actually. Define the FADs types. Define the activities comprehended in the term Deployment
ii. the number and type of beacons/buoys (e.g. radio, sonar only, sonar with echo-sounder) deployed on a monthly basis per 1°x1° statistical rectangles;	This field should be linked to the previous (i); stratifying the information by FAD with and without beacon and specifying the type of beacon when used	Define types (radio, with echo-sound and without echosound f.e.)
iii. the average numbers of beacons/buoys activated and deactivated on a monthly basis that have been followed by each vessel;	This information is not requested on a 1°x1° basis explicitly. The terms activated and deactivated should be defined as the interpretation could impact on estimates, as activated do not correspond to the field given in the ST08 FAD Form (i.e., Average No. Active beacons followed per vessel). This information can only be exactly contributed with buoy transmission data, but not necessarily in a 1ºx1º basis. From FAD logbooks the number of active buoys followed/used could be extracted as an approximation to the total amount of buoys used but would be more appropriate to use buoy transmission data, if available. With the new Spanish FAD logbook, the number of deactivated buoys would also be provided as an approximation.	Define the terms activated/deactivated Harmonize with the requested information on the ST08 FAD Form Include a field, or re-define existing ones, in the ST08 form that would represent the need of this request.

iv. average numbers of lost FADs with active buoys on a monthly basis;	What is a lost FAD? FAD loss should be defined as there are different factors contributing to the loss: some are lost due to beaching/sinking but other are simply exchanged among fishers ("appropriated" and used by other vessels). In addition, estimates on the numbers of FADs lost could only be obtained once that information from all (or most) fleets has been received, through analysis of the complete dataset.	Define FAD lost. Use buoy data transmission, buoy recovery forms, and FAD logbook information, as well as buoy data drop out information to assess potential values of lost FADs.
v. for each support vessel, the number of days spent at sea, per 1° grid area, month and flag State;	This information is already part of ICCAT's reporting requirements on FADs and supply vessels.	
vi. purse seine and baitboat catches, efforts and number of sets (for purse seines) by fishing mode (floating-object associated schools and free school fisheries) in line with Task II data requirements (i.e. per 1°x1° statistical rectangles and per month);	As above; this information is already part of ICCAT's reporting requirements; no big deal leaving this in though	
vii. when the activities of purse seine are carried out in association with baitboat, report catches and effort in line Task I and Task II requirements as "purse seine associated to baitboats" (PS+BB).	Same as above: however, we consider this requirement important; it may be also advisable to request reporting the type of cooperation (e.g. the baitboat identifies the tuna school and calls the purse seiner to set on it with catches shared as agreed; the BB completes the trip and calls the PS to catch the remaining of the school it has fixed; the BB fish on a FAD deployed by a PS, etc.). It is not clear whether this information is requested on 1 ° x1 ° basis;	

Table 2. Interpretation of the fields in the ST08 FAD form.

Form Line 1	***Form Line 2***	***Description***
Flag (current) cod.	FlagCodeCur	Flag of the vessel that owns the FAD (as per the codes recorded)
Month	Month	Month of activity
FAD type	FadType	Type of FAD (as per the codes recorded)
Lat	Lat	Latitude of the 1 degree square grid (as per ICCAT's naming convention)
Lon	Lon	Longitude of the 1 degree square grid (as per ICCAT's naming convention)
No. Deployed with beacons	NoDepBeaconsYes	Total number of FADs deployed in the 1 degree square (refers only to the first deployment event of a FAD, i.e. encounters with FADs that end up with a switch of the beacon (i.e. retiring of foreign or own beacon and attaching of own beacon) are not reported here nor the tagging of a natural object). This information if obtained by analyzing the FAD logbooks. The changes of foreign buoys for own ones are new beacons for the vessel but no new FADs concerning to their number at sea (not applicable to the type of FAD in many cases), so it affects to the average number of beacons followed per vessel.
Type of beacon deployed	BeaconType	Type of beacon deployed (as per the codes recorded). This information is obtained by analyzing the new Spanish FAD logbook. The old one tried to collect this information but many data were registered without a manufacturer's ID (m3i, DSL+…)
Average No. Active beacons followed per vessel	NoBeaconsFollowed	This information is not requested in the paragraph 23 of the Recommendation 16-1 as it is now write up. Average number of beacons monitored by the vessel over the month (by summing up the total number of active beacons recorded per day over the entire month and dividing by the total number of vessels). Daily positions needed. This information is not available in the FADs logbooks and it is obtained by analyzing the information provided by the buoys suppliers. The vessels (purse seiners and supplies) register in the logbook the activities carried out with the buoys but not the total amount of buoys belonged.
Average No. Deactivated beacons followed per vessel	NoDeactivBeacons	Average number of beacons the vessel deactivates over the month (by summing up the total number of beacons deactivated per day over the entire month and dividing by the total number of month days) Daily positions needed (information not available in the FADs logbooks) and it is obtained by analyzing the information provided by the buoys suppliers.
No. Deployed without beacons	NoDepBeaconsNo	Total number of FAD deployed without a beacon in the 1 degree square during the month (0)
Average No. of active lost FADs	NoLostFADS	Average number of beacons lost to the vessel over the month (by summing up the total number of FAD lost per day over the entire month and dividing by the total number of month days). See details in the Table 1.
No. Of FADs deployed by support vessels	SuppFads	Total number of FAD deployed by support vessels in the 1 degree square and month.



ST08-FadsDep	FADs DEPLOYED IN THE SPECIFIED YEAR INTERNATIONAL COMMISSION FOR THE CONSERVATION OF ATLANTIC TUNAS	Version 2017a	Language ENG

Header

Reporting Flag				*Secretariat use only*	
Reporting Agency		Phone		Date reg.	
Address		Fax		Ref.	
Person in charge		Email			
Report for year (previous)					
Notes					

Flag (current) cod.	Month	FAD type	Lat	Lon	No. Deployed with beacons	Type of beacon deployed	Average No. Active beacons followed per vessel	Average No. Deactivated beacons followed per vessel	No. Deployed without beacons	Average No. of active lost FADs	No. Of FADs deployed by support vessels
FlagCodeCur	Month	FadType	Lat	Lon	NoDepBeaconsYes	BeaconType	NoBeaconsFollowed	NoDeactivBeacons	NoDepBeaconsNo	NoLostFADS	SuppFads

Figure 1. ST08 data submission form.