

COMISION INTERAMERICANA DEL ATUN TROPICAL INTER-AMERICAN TROPICAL TUNA COMISSION

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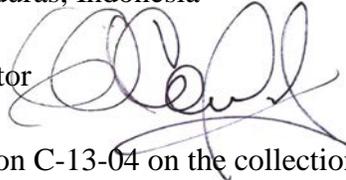
05 September 2013

Ref.: 0469-410

To: Commissioners

C.c.: Bolivia, Cook Islands, Honduras, Indonesia

From: Guillermo Compeán, Director



Re: Implementation of Resolution C-13-04 on the collection and analyses of data on fish-aggregating devices (FADs)

Pursuant to Resolution C-13-04 on the collection and analyses of data on fish-aggregating devices (FADs), section 2, paragraph 10:

“10. The Director shall develop an identification scheme for consideration and adoption by the Commission in 2014, in coordination with CPCs during the intersessional period.”

In line with this, please find attached for your consideration a document that was prepared by the staff of the Commission and contains a set of proposals for marking FADs. The most economical option would be the first proposal (see “2.1. *Proposal 1: Marking FADs and monitoring their movements*”). Your comments and suggestions would be most appreciated.

PROCEDURES RELATED TO THE IMPLEMENTATION OF RESOLUTION C-13-04 ON THE COLLECTION AND ANALYSES OF DATA ON FISH-AGGREGATING DEVICES (FADs)

1. CURRENT ACTIVITIES

The IATTC staff is currently involved in the following activities for collecting detailed data on fish-aggregating devices (FADs) used in the eastern Pacific Ocean (EPO). Further information, as well as data collection forms, is available on the [IATTC website](#).

1.1. Collection of data on FAD structure, components, and materials

Data collected by observers on the *Flotsam Information Record* are being used to develop a detailed history of the technological and operational changes in the utilization of FADs in the EPO. For instance, some of these changes increase the lifespan of the FADs, allowing them to stay afloat much longer and cover longer distances. Similar forms were adopted by the Western and Central Pacific Fisheries Commission (WCPFC) for its programs, and the IATTC and WCPFC programs have moved towards consistency on data collection.

1.2. Collection of data on operations on FADs

Records of deployments, sets on, and recoveries of FADs have been collected since 2006.

1.3. Detection systems

More detailed information on the detection systems available and in use aboard purse-seine vessels is also being collected.

1.4. Catches on FADs

Data on these catches, identified whenever possible to species and including size range data, are also being collected by observers. Attempts to improve the quality of the data by additional observer training, and materials to facilitate identification, are also continuing.

1.5. Purse-seine description forms

Much more complete descriptions of purse-seine nets may be needed to understand how different characteristics affect catches and bycatches. A new *Tuna Purse Seine Form* has been implemented for this purpose.

2. PROPOSALS FOR MARKING FADs

2.1. Proposal 1: Marking FADs and monitoring their movements

Resolution C-13-01, adopted by the Commission in June 2013, like previous resolutions on tuna conservation in the EPO adopted since June 2009, requests the Director “to develop in consultation with interested CPCs, a pilot program for research into, and gathering information on, the fish-aggregating devices (FADs) used to aggregate tunas in the Convention Area” and stipulates that this “program shall include, *inter alia*, provisions for the marking of FADs, maintaining a record of the numbers of FADs on board each vessel at the beginning and end of each fishing trip, and recording the date, time, and position of deployment of each FAD.” (Resolution C-13-01, paragraph 15). The WCPFC has adopted a similar measure.

Consistent with this mandate, Resolution C-13-04 on collection and analyses of data on fish-aggregating devices, adopted by the Commission in June 2013, contemplates the development of an identification scheme for FADs (see Resolution C-13-04, Section 2, FAD Identification).

Pursuant to these developments, the staff redesigned a pilot program for the marking of individual FADs

in the EPO. The information collected through that program would allow the staff to conduct analyses of FAD distribution, densities, and abundance that will be important for understanding and managing tuna resources in the EPO. However, the Commission may wish to consider other options, taking into account the high costs of such a program.

The most efficient and economical option for gathering this information is to obtain it directly from fishing companies. FADs deployed by vessels are monitored by satellite, and the companies could provide the locations and trajectories of the FADs to the IATTC through their respective flag government, in accordance with the timetable specified in paragraphs 2 and 3 of Resolution C-13-04, with a time lag sufficient to eliminate concerns regarding confidentiality of the data.

Such a system would require complete cooperation by governments and the industry. The data must be reported in a standardized format to ensure quality and usability. Whether the data are received from the government or directly from vessel owners, the format and level of detail would need to be specified: for instance, the precise position of the FAD, and the exact time of any event recorded. A technician would be needed to receive, process, and pass the information to the scientists that will use the data for their research.

If the Commission wishes to pursue the approach set out in Resolution C-13-11 of independently marking each FAD deployed in the EPO, the following proposal outlines how such a program could be carried out.

2.1.1. Visual marking of FADs

The forms used to record data on FADs (*Registro de Objetos Flotantes*, or floating-object record) will be redesigned so that IATTC and national program observers can add information on the quantity and identifiers of FADs that are: a) aboard the vessel when it leaves port; b) built at sea; and c) aboard when the vessel returns to port. Redesign of the form will be done in consultation with the IATTC Stock Assessment and Data Collection and Database programs, to ensure that all the data required will be recorded correctly.

Two options can be considered for the marking process:

- a) The first and simplest option would be to arrange with the companies producing satellite buoys for the fleet to modify (enlarge and increase readability at some distance) the alphanumeric codes used to identify the FADs individually, and which are printed by the manufacturer on the upper surface of the buoy. The observers would record these codes whenever a FAD is deployed and at every interaction with it (sighting, visit, set, etc.), provided that the codes are readable.
- b) The second option is costlier, and more cumbersome. The observers would attach, with a tether, an alphanumeric visual tag to each FAD deployed, in order to uniquely identify it. The visual tags would need to be small, and mounted horizontally and low on the FAD so as not to increase the detectability of the FAD by radar (fishermen go to great lengths to make their FADs detectable only to their own vessel, to avoid poaching by other vessels).

In both cases, however, the markings could only be read reliably at relatively close range and during the day; they would therefore be useful for monitoring the time, date, and location of each FAD deployment and recovery, but less useful for identifying FADs at a distance or during darkness, when many sets are made.

For both options, a technician would be hired to take charge of this program, either to keep track of the FADs deployed, with printed alphanumeric codes, or to organize the manufacture of the tags and their distribution to IATTC and national program observers, and to write a manual describing the procedure for attaching tags. In both cases, the technician would monitor incoming results, and assist IATTC database managers in the process of data acquisition.

2.1.2. Electronic marking of FADs

An alternative way of identifying each FAD at some distance is the use of electronic devices mounted on

or tethered to each FAD that could be interrogated by the observer from the vessel with another device that the observer would carry on the vessel for this purpose. This would allow individual FADs to be identified at much greater distances than with visual identification. A budget for this program was already presented at a previous meeting of the Scientific Advisory Committee.

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