

# INTERNATIONAL DOLPHIN CONSERVATION PROGRAM

## SCIENTIFIC ADVISORY BOARD

### 2<sup>ND</sup> MEETING

LANZAROTE (SPAIN)

19 JUNE 2005

## DOCUMENT SAB-2-08

### ELECTRONIC MONITORING OF CLASS-5 VESSELS

At its first meeting in June 2004, the SAB recommended assessing dolphin mortality that may be caused by Class-5 purse-seine vessels (well volume 320-425 m<sup>3</sup>), which are not required to carry observers but are capable of fishing for tunas associated with dolphins. There are currently 19 Class-5 vessels operating under the flags of 5 different countries (see Vessel Register on [IATTC website](#)) in the eastern Pacific Ocean.

In order to explore technology-based approaches to monitor such vessels at sea, the IATTC staff met with a representative of [Archipelago Marine Research Ltd.](#), a Canadian company that specializes in fisheries monitoring. This technology is of interest not only for monitoring compliance with AIDCP requirements, but also for other studies to assess catches and bycatches by purse seiners and longliners.

Over the past six years Archipelago has developed video-based electronic monitoring systems, and has used these systems in several fishery applications in Canada, New Zealand and the United States. Electronic monitoring has been deployed with a variety of fishing methods including trap (crab, prawn, groundfish), longline (groundfish), trawl (groundfish), seine (salmon), and gill net (groundfish) fisheries. Monitoring objectives for these applications have included detection of spatial and temporal fishing patterns, monitoring gear deployment and retrieval methods; identification and enumeration of catch and by-catch, monitoring catch handling procedures; and assessing the performance of bycatch mitigation measures.

Electronic monitoring systems generally consist of two or more closed-circuit television cameras, a GPS receiver, sensor devices (for monitoring hydraulic pressure and winch rotation activity), and on-board data storage, with all functions controlled by computer. The equipment is 'tamper evident' rather than 'tamper proof', and this approach has worked because there has been a high degree of cooperation with currently monitored fisheries. The cost for electronic monitoring varies by fishery and types of monitoring issues.

The application of electronic monitoring technology for the tuna purse-seine fishery was discussed. Archipelago believes that its electronic monitoring system could be deployed on tuna vessels to record the time and location of sets and other fishing activities. Additional GPS units mounted aboard each speedboat could transmit location information to the monitoring system on the fishing vessel and allow detection of chases and sets likely to be on dolphins. The television cameras could be strategically placed to record fishing operations, in particular, net deployment and retrieval procedures, brailing, and sorting of catch and bycatch. Image quality may allow identification and possibly measurement of some tuna and bycatch on the deck. The imagery may be used for species identification, in particular, large yellowfin tuna that would be indicative of a dolphin set. The camera systems, however, are not likely to provide accurate counts of dolphin mortalities or reliably identify gear malfunctions.