
Pilot study of an electronic monitoring system on a tropical tuna purse seine vessel in the Atlantic Ocean

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Abstract

The catch of non-target species (bycatch) and associated discards are becoming a concern in the fishery management community as bycatch may contribute to overfishing and may alter the structure of marine ecosystems.

Observer programs are an important tool to monitor fisheries, and are considered the most reliable source of information and, in the case of the bycatch and discard monitoring, the only source of information.

One challenge in implementing observer programs is the difficulty of ensuring an adequate observer statistical coverage, which may hamper the usefulness of observer data for management purpose. These constraints make it necessary to find alternative methods that can be, when combined with current observer programs, to improve data collection and reduce costs.

In recent years, Electronic Monitoring (EM) has become a viable alternative to observers in many fisheries and has been identified as a possible complementary method to use in tropical tuna purse seine fleet.

We carried out a study from December 2011 to March 2012 to examine the potential application of EM in the Tuna purse seine fishery in order to collect unbiased and precise catch and bycatch data. EM and observer were deployed simultaneously on 3 trips with a total of 60 events. Preliminary results indicate that EM and observer estimates of retained catch are not different; however, estimates of discarded catch are more variable and require further refinement. We also discuss the tradeoffs of both observers and EM, and the application of EM on a broad scale.

Keywords: Electronic Monitoring, observer, data collection

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