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Australia's electronic monitoring program

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Delegation of Australia

Abstract

This paper updates the SIOFA Scientific Committee on the electronic monitoring program implemented for Australian demersal automatic longline vessels fishing in Australian waters.

Australia considers that electronic monitoring is a cost effective data collection and logbook verification tool that improves the accuracy and reliability of logbook data and in the future a similar program could be beneficial in the SIOFA area of waters.

Australia recognises that as electronic monitoring becomes an established data collection and verification tool, there is an opportunity to review how data is collected in the SIOFA area. This includes consideration of how electronic monitoring and on-board observers can be used together to ensure that scientific data needs are met in a cost effective way for both trawl demersal longline fisheries.

Australia's electronic monitoring program

Background

Electronic monitoring is a system of sensors and video cameras (figure 1) capable of monitoring and recording fishing activities which can be reviewed later to independently verify logbook data. The specific configuration varies with gear and individual boat layouts, but an electronic monitoring system typically includes several key components: three or more video cameras, a hydraulic gear sensor, a drum sensor, a GPS receiver, satellite communications and a control centre.

The electronic monitoring cameras are activated during fishing operations, specifically when the hydraulics are running during the set and haul. The cameras remain activated for a period of time after the haul to record the processing of catch and all video and sensor data is recorded to a hard drive on the boat. Hard drives are encrypted and tamper evident.

Sensor data is transmitted back to the regulatory authority in real time and includes information on whether the system is fully operational, the location of the boat and whether fishing gear has been set or hauled. Hard drives with video data are exchanged frequently (monthly or at the end of any trip longer than 4 weeks) and submitted to the regulatory authority for analysis.

A random portion of the video footage is analysed and the data on catch, effort and protected species interactions is compared to logbook reports. This provides independent verification of catch, discards and interactions with protected species, and ensures that the same reporting standards are followed across the fleet. At a minimum 10% of the video footage is analysed at random with a risk based approach used to audit more footage from boats that are suspected of misreporting.

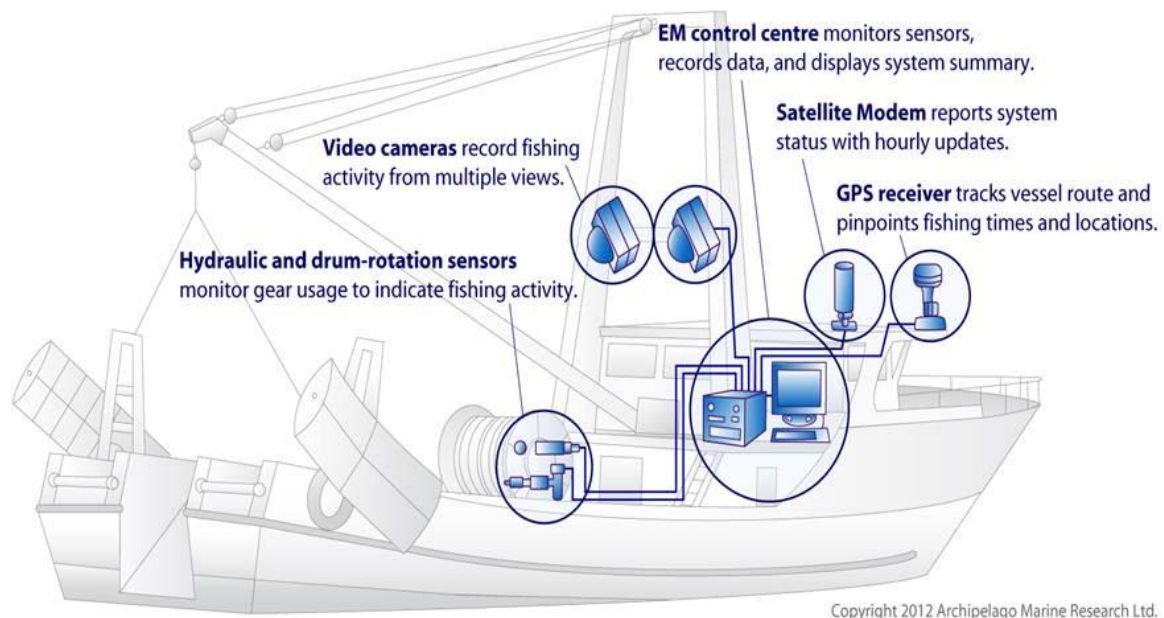


Figure 1: Example of an electronic monitoring system vessel setup.

After the hard drives have been analysed, operators receive individual reports on their accuracy of reporting to encourage improved logbook reporting. With improved accuracy in

the logbook reporting in the fishery, more accurate data will go into the stock assessments for target species and there will be more reliable information on protected species interactions in the fishery.

Australia's electronic monitoring program

Since September 2014, electronic monitoring has been installed on two Australian demersal automatic longline boats that fish in Australian waters and on the high seas in the South Pacific Ocean. The electronic monitoring systems monitor 100% of fishing activity and complement existing observer coverage that is used to collect biological data that is required in that area.

Electronic monitoring is also operational in three Australian domestic fisheries and Australia is planning to expand the program to more domestic fisheries. Existing domestic fisheries include the demersal longline, demersal gillnet and pelagic longline fisheries managed by the Australian Government through the Australian Fisheries Management Authority. A more detailed overview of how e-monitoring is used in the domestic fisheries is included at **Attachment A**.

Potential applications for other fishing methods

Australia considers that in the future a similar electronic monitoring program could be used to complement the observer program and strengthen monitoring in high seas fisheries. Electronic monitoring can monitor 100% of fishing activity and be used to audit logbook records of discards, bycatch, interactions with protected species and impacts on habitats (vulnerable marine ecosystems). When used in conjunction with electronic monitoring on boats, observer coverage could be reduced to a lower level that provides biological and catch composition data required by the Scientific Committee. This would ensure that data continues to be collected to support future stock assessments and that monitoring is cost effective.