Electronic Monitoring System (EMS) Pilot Study Cheatsheet

Electronic Monitoring

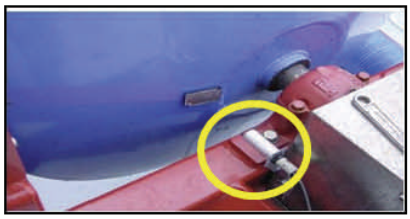
Project Summary

The Fisheries Sampling Branch of the Northeast Fisheries Science Center is conducting a multi-year pilot program in conjunction with Archipelago Marine Research Ltd., to test the applicability of electronic monitoring system technology to collect catch and fishing effort data aboard commercial vessels. EMS involves the use of passive electronic systems (video cameras and automated computer systems) to monitor a variety of vessel activity parameters. The goal of the study is to evaluate the feasibility of EMS as a means to monitor catch in the Northeast groundfish sector fleet as a monitoring alternative. The project will include a maximum of 15 volunteer vessels in the trawl, longline, and gillnet fisheries.

Equipment

GPS Receiver

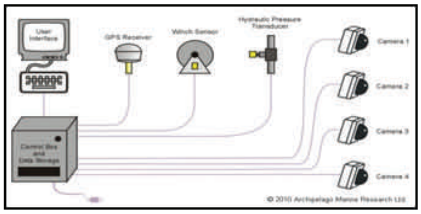
EMS Camera (2-4 per vessel)



Winch Sensor

Hydraulic Pressure Transducer

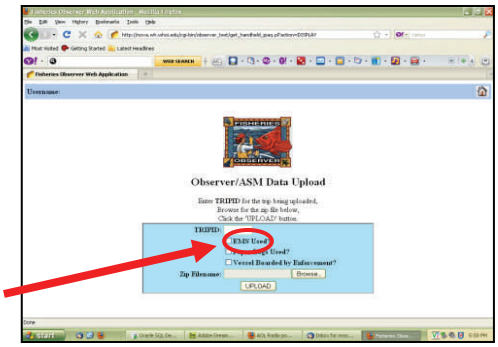
Control Box/User Interface



EMS System Components

Observer/ASM Responsibilities

- Perform all NEFOP/ASM duties as you would on any standard trip
- Limited gillnet trip responsibilities ***takes precedence*** over unobstructed camera viewing
- ***Do not*** handle or interact with the equipment in any manner (adjusting, blocking, etc.)
- Avoid interaction with winch and hydraulic sensors
- Check off the ***"EMS Used"*** check box when uploading a trip ***if*** observing on an EMS vessel (see observer webpage figure)
- See ***reverse*** for ***sampling instructions*** on EMS vessels
- ***Using the bathroom on EMS vessels***: view the monitor in the wheelhouse to determine a private location or ask the captain to cover a camera temporarily



Observer Upload Webpage

EMS Staff Contact Information

Amy Van Atten (FSB Branch Chief); 508-495-2266

Nichole Rossi (EMS Project Lead); 508-495-2128

Glenn Chamberlain (EMS Project Support); 508-495-2153

Kelly Neville (EMS Project Support); 508-495-2151

Participating Vessels

Miss Fitz	**Chatham, MA**
Rugrats	**Chatham, MA**
Barbara L. Peters	**Scituate, MA**
Toots	**Gloucester, MA**
David and Jenna II	**Gloucester, MA**
Julie Ann	**Gloucester, MA**
Maria and Dorothy	**Portland, ME**
Virginia Marise	**Point Judith, RI**
Ocean State	**Point Judith, RI**
Elizabeth Helen	**Point Judith, RI**

10 Dec 2010

ARCHIPELAGO MARINE RESEARCH LTD.

Electronic Monitoring

EMS Sampling Instructions

The sampling instructions below are ***specific to EMS vessels only*** (please see front page for vessels participating in the EMS pilot program). Modifications to observer sampling protocols are necessary to enable video reviewers to quantify catch remotely. ***All observed trips on EMS vessels should follow the protocols below.*** Your cooperation is greatly appreciated as your data will contribute significantly to the success of the pilot study.

Observer Protocols on EMS Trawl Vessels with Conveyors

1. Use volume to volume to estimate catch, unless the catch is extraordinarily clean.
2. Use at least 4 baskets for your sub-sample.
3. Get a random and representative subsample with both kept and discarded catch prior to flooding of the checker pen.
4. After sampling, return all fish to the checker pen so that it may run through the conveyor and discard chute.
5. Sampling and discarding of samples should occur in view of the cameras. Consult the vessel specific sampling plan (see captain) for the best location to sample and where to discard sampled catch.

Changes to Protocols:

- Even if the catch is "clean" ***DO NOT REMOVE THE DISCARD CHUTE***
- Continue using volume to volume ONLY.
- Sample discards in view of the cameras and discard samples in appropriate area (in camera view).

Rationale for Modifying Protocols:

In order to determine the efficiency of EMS data, we are comparing video data to observer/ASM data. EMS viewers quantify all catch as "kept" or "discarded" and therefore need to see what happens to the catch removed by observers. To aid in this effort there are control points in which the vessel discards fish. For trawler vessels that discard control point is the discard chute, therefore, you must **NOT** remove the discard chute and must utilize the same point for discarding.

Observer Protocols on Gillnet and Longline Vessels with EMS

1. Sample the catch (kept, discarded, IALs, incidental takes, etc.) as you normally would.
2. Dispose of discarded fish in the proper location.
3. Discard any samples in view of the cameras.
4. Consult the vessel specific sampling plan (see captain) for the best location to sample and where to discard sampled catch.

Changes to Protocols

- Sample catches in view of the cameras.
- Discard samples in appropriate area (in camera view).

Rationale for Modifying Protocols:
In order to determine the efficiency of EMS data, we are comparing video data to observer/ASM data. EMS viewers quantify all catch as "kept" or "discarded" and therefore need to see what happens to the catch removed by observers. In order for EMS viewers to see all the discards, you must sample and discard catches in view of the cameras.

If you have any questions regarding the sampling protocols, please contact Nichole Rossi at (508)495-2128 or your editor.