2017
Electronic Monitoring (EM) Cooperative Research Program
Vessel Monitoring Plan

This Vessel Monitoring Plan (VMP) describes how an Electronic Monitoring (EM) system is specifically configured on a vessel and how fishing operations on that vessel will be conducted to effectively monitor fishing activities to document catch. The 2017 VMP was developed to meet the objectives of the 2017 EM pre-implementation plan that was developed by the EM Workgroup.[1]

The data collection goal of 2017 EM cooperative research is to develop EM so that the data can be used for catch accounting of retained and discarded catch. In addition, experience and results from pre-implementation is being used to identify key decision points related to operationalizing and integrating EM systems into the Observer Program for fixed-gear vessels. This will inform the implementation of EM and the elements of VMPs that will be incorporated into a regulated program.[2]

VMP Contents

VMP Date and Version

VMP Submission Date:
VMP version number:

[1] For more information about the 2017 Pre-implementation plan and the EM Workgroup see: http://www.npfmc.org/observer-program/.
[2] Some elements of the VMP under a regulated EM program may have different provisions than those included in this 2017 VMP.

Vessel Summary

Vessel Name:	
ADFG Vessel permit:	
Home port:	
Primary landing port(s):	
Gear type(s) to be used: (check all that apply)	☐ Longline ☐ Pot
Vessel Owner name:	
Address:	
Email:	
Phone number(s):	
Vessel Primary Point of Contact: (if different from owner)	
Address:	
Email:	
Phone number(s):	

EM System Overview

- Your vessel is equipped with an electronic monitoring system, consisting of cameras, GPS, gear sensors, user interface, and control center.
- The system will record GPS and pressure sensor data while powered.
- Video will be collected from rail (for longline vessels) and deck cameras during hauling and catch processing.
- On longline vessels, video will also be collected during gear setting to monitor compliance with seabird mitigation device regulations.
- More specific information about your EM system is provided in *Appendix A - Vessel Installation Details*.

Operator Responsibilities

Your vessel has been placed into the EM selection pool for the duration of 2017 and you must fully comply with the provisions of this VMP. The EM deployment model in 2017 will be Trip-selection. The Observer Declare and Deploy System (ODDS) will be used to randomly select trips for EM coverage at a 30% rate.

Register the trip in ODDS: Vessel owner/operators must register each 2017 fishing trip in ODDS 72 hours prior to the start of a fishing trip. You will need an ODDS Users ID and password and can register the trip on the web (http://odds.afsc.noaa.gov) or by calling the ODDS call center at: 1-855-848-6377.

When a trip is selected for coverage, you must comply with operator responsibilities listed below and in *Appendix B – Guide for Vessel Operators*.

Each Trip

- **EM Effort logbook:** Complete the EM Effort Logbook noting the Trip Start/End: date, time, port etc.
- **Confirm Hard Drive Storage Space:** The vessel operator must ensure that the system has adequate storage to record the entire trip. The vessel operator must carry one or more spare hard drives, sufficient to record the entire trip, as a back-up.

- **Power:** Maintain uninterrupted electrical power to the EM unit while the vessel is underway.
- **Function Test:** Prior to leaving port, the vessel operator must turn the system on and conduct a system function test following the instructions provided in *Appendix B – Guide for Vessel Operators*. If the function test identifies a malfunction, the vessel operator must follow the troubleshooting guidelines listed in *Appendix B – Guide for Vessel Operators.*

Each Day

- **Logbook:** Complete the EM Effort Logbook with the set/haul/effort information. If you are required to complete and IPHC or NMFS logbook then you can provide a physical copy or high quality photo of that logbook.

Each catch handling event (haul or set)

- **Prior to each catch handling event**, the vessel operator is required to:
    - Verify that all cameras are recording and all sensors and other required EM system components are functioning as instructed in *Appendix B – Guide for Vessel Operators.*
    - Check the monitor and verify that the camera views are consistent with the images provided in *Appendix A - Vessel Installation Details*.
    - Clean camera lenses to maintain video quality. Video quality will be reported in the vessel trip report by PSMFC.
- **Longline Catch Handling:**
    - The vessel operator is responsible for ensuring all catch is handled within view of the cameras as defined in the camera descriptions and deck diagram in *Appendix A - Vessel Installation Details*.
    - **Seabirds**: The vessel operator is required to hold incidentally caught seabirds up to the camera for 2-3 seconds and ensure that certain key parts of the animal, such as the beak, are captured by the hauler view camera. **When displaying a seabird to the camera:**
        - Grasp by the outermost bend in wing, with wings out-stretched and show the bird to the hauler camera showing the ventral and dorsal sides;
        - For albatross, show a profile of the bill by holding the bird by the neck against the side of the boat. Ensure that the view is not obstructed; and
        - If possible, hold the bird beak near a scaled reference item (e.g., measurement board with large grid) to assist with identification.
- **Pot Catch Handling:**
    - On retrieval of a pot, the crew must ensure that ALL catch is emptied from the pot onto the sorting table. Any fish left in the pot or fish that land on the deck when the pot is emptied must be placed on the sorting table.
    - Crew must process all retained catch fish and leave discards on the sorting table until after the retained fish are placed in the fish hold.
    - If there is no sorting table, all catch must be sorted in view of the cameras and discards left on deck in view of camera after retained fish are placed in the fish hold.
    - Vessels must completely clear all catch off the table and deck before the next pot is dumped (so that catch from 2 pots is not mixed).
    - The vessel operator is responsible for ensuring all catch is handled within view of the cameras as defined in the camera descriptions and deck diagram in *Appendix A - Vessel Installation Details*.

Trip End

- **Within 2 business days after each EM selected trip, ensure that the hard drive is mailed** to the contact provided in *Appendix C – EM Program Contacts*.

- Along with the hard drive, submit a copy of the trip's **EM Effort Logbook** (and/or IPHC or NMFS logbook, as appropriate) and the ODDS trip number to the contact provided in *Appendix C – EM Program Contacts*.

Equipment Malfunctions

Equipment Malfunction in Port

If the function test identifies a malfunction, the vessel operator must follow the troubleshooting guidelines listed in *Appendix B – Guide for Vessel Operators.* **If this does not resolve the issue, the vessel operator must contact the EM service provider immediately. The EM service provider will determine if the malfunction is critical or non-critical based on the EM Workgroup definitions.**

- **Non-Critical Malfunction:** If the malfunction cannot be repaired in a timely fashion, the vessel operator may depart on the scheduled trip, but must follow the service provider's instructions to trigger video recording manually. The vessel operator may not depart on a second trip without a functioning EM system unless approved by the service provider. The service provider will notify NMFS of the situation.

- **Critical Malfunction:** A critical malfunction prevents the data collection objectives from being achieved. If the malfunction is a camera defined as "critical", the vessel must remain in port for up to 48 hours to allow the EM service provider time to effect repairs. If the problem cannot be fixed within the 48 hour window, the EM service provider will notify NMFS and may release the vessel to begin the trip.

Equipment Malfunction at Sea

- If the system passed the function test prior to leaving port, and remains continuously powered during the trip, the vessel operator is NOT required to return to port in the event of a breakdown.
- Follow the instructions provided in *Appendix B – Guide for Vessel Operators.*
- If the malfunction cannot be resolved following the troubleshooting guide and/or with remote support, the vessel operator should continue to run the system with all functional parts, and contact the service provider immediately (from sea if possible) to assist with scheduling service at the time of landing.
- Any malfunctions must be fixed prior to departing on subsequent trips. If a vessel has repeat problems with EM system reliability or video quality, that vessel may be removed from the EM pool for a period of time and placed in the human observer pool.
- The vessel must remain in port for up to 48 hours to allow the EM service provider time to effect repairs. If the problem cannot be fixed within the 48 hour window, the EM service provider will notify NMFS and may release the vessel to begin the trip.

Appendix A – Vessel Installation Details

[To be completed by the EM service provider.

- *Include a description and diagram of the installation on the vessel including the number and location of cameras and define their use (rail, deck, streamer line, sorting table, etc.)*
- *Provide images of camera views*
- *Describe the location of lighting, control center, GPS, sensors, monitor, and other EM equipment.*
- *List the frame rates, image resolution, frequency of logging, sensor trigger threshold values, and other EM system specifications.]*

Appendix B – Guide for Vessel Operator

[To be completed by the EM service provider.]

EM system user's guide

[Provide EM system specific information including…

- *Describe how to retrieve a hard drive, how to power up the system, how to do a function test, system, etc.*
- *Provide the detained steps that will be taken to minimize the potential for EM system malfunctions and the troubleshooting steps if malfunctions occur]*

Vessel-specific handling protocols or instructions

[List any special handling protocols that may apply to a particular vessel – including description and diagrams of discard control points (if applicable), specific procedures for sorting discards, steps that need to be taken to ensure all catch remains in camera view]

Appendix C – EM Program contacts (who to call)

[To be completed by the EM service provider. List EM service provider contact information, including but not limited to: office address, office phone numbers, and Field Manager email and cell phone.]

Appendix D – Signature Page

This certifies that the vessel owner/operators has been trained in the function and operation of the Electronic Monitoring (EM) system installed on the vessel and that the vessel operator agrees to comply with the components of this Vessel Monitoring Plan.

Vessel owner/operator signature: _____

Date: _____

EM Service Provider signature:

Date: _____