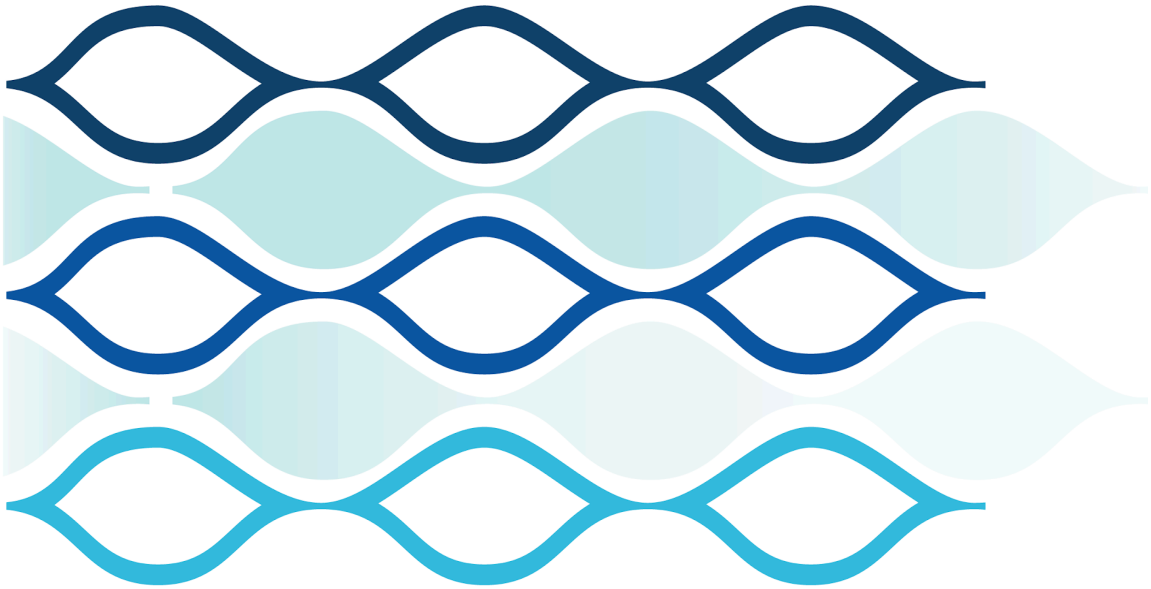
NOAA FISHERIES

Pacific Islands Region Longline Electronic Monitoring Program

DRAFT Vessel Monitoring Plan Guidelines

March 2026



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Introduction

Each vessel participating in the Pacific Islands region (PIR) longline electronic monitoring (EM) program would operate under an National Marine Fisheries Service (NMFS) -approved vessel monitoring plan (VMP). The VMP is a vessel-specific implementation/instruction document developed by the NMFS-selected EM service provider, in coordination with the vessel owner or operator, using an NMFS-provided EM program template. The VMP operationalizes EM regulatory requirements and documents the system configuration, catch handling procedures, and operational protocols necessary to meet the monitoring objectives of the PIR longline EM program.

The VMP would document vessel-specific EM system configuration, including;

- Information on the hardware that makes up the system and EM system operations;
- Camera placement and corresponding vessel layout diagrams;
- EM system settings and sensor configuration;
- Defined catch handling and release areas necessary to ensure catch and protected species interactions, including estimations of gear remaining on the animal, are within camera view;
- Pre-departure system checks and malfunction reporting procedures; and
- Other roles and responsibilities of vessel owners and operators for system operation, such as maintenance, troubleshooting, camera cleaning, catch handling, and data retrieval procedures.

NMFS will review the EM equipment, system configuration, and operational requirements identified in the vessel-specific VMP to ensure that proposed camera locations and views are sufficient to meet program monitoring objectives. The VMP will also be reviewed for completeness based on adherence to the template below and must be approved by NMFS as part of the vessel's EM authorization process. A vessel's owner or permit holder required to use EM as part of the PIR longline EM program may work with a NMFS selected or approved service provider to develop a vessel-specific VMP for NMFS approval. Guidance for EM service providers describing required VMP elements, as well as the NMFS approval process and timeline, is provided in this regional VMP template.

NMFS approval of a VMP is required before a vessel may use EM to meet monitoring requirements. Once approved, a signed and current VMP must be maintained onboard at all times while fishing under EM requirements and must be followed by the vessel owner and operator.

NMFS PIR VMP Template

VMPs would include the information outlined below. These elements represent the core components of a PIR longline VMP and are required for successful implementation of the PIR Longline EM Program. Text shown in **bold** identifies the required content that must be included in all vessel-specific VMPs and will be consistent across vessels. Non-bold text provides guidance to the NMFS-selected service provider on how to develop the VMP and may include program- or vessel-specific or optional elements, as appropriate.

Section 1 General Information and Contacts

*This section establishes vessel identity and responsible parties for program compliance, installation and maintenance, communication, and accountability. All **bolded** information must be collected and/or included in vessel-specific VMPs. Unbolded information may be included to support program implementation and operational effectiveness.*

VMP Version and Revision Information

Information on the VMP submission date and version number must be included. This information identifies the currently approved VMP and allows NMFS and the service provider to track revisions and document updates over time.

Table 1. VMP Date and Version

VMP Submission Date:	
VMP version number:	

Vessel Summary and Contacts

The vessel summary table provides key vessel, ownership, contact, and operational information necessary for EM program administration. For the vessel owner and operator, it clearly identifies primary contacts and ports of operation to support communication, servicing, and compliance. For the service provider, it supplies the information needed to coordinate installation, maintenance, and technical support. For the Pacific States Marine Fisheries Commission (PSMFC) and NMFS, it establishes the official vessel identification and ownership record used for program tracking, authorization, reporting, and oversight as well as hard drive exchange. The hard drive exchange access requirements would identify any vessel-specific requirements for hard drive exchange, including whether the captain or owner must be present, access restrictions, preferred scheduling procedures, or other conditions necessary for PSMFC to service the EM system.

Table 2. Vessel Summary and Contacts

Vessel name	
Vessel ID #	
Permit #	
Hard Drive Exchange Access Requirements	*(Identify any vessel-specific requirements for hard drive exchange, including required personnel presence and access instructions.)*
Primary landing port(s)	

Gear type(s) to be used			
Vessel contact(s)	**Name(s)**	**Phone #(s)**	**Email(s)**
Vessel permit holder			
Vessel owner			
Vessel primary point of contact(s) (if different from owner)			
Vessel to use Starlink (placeholder)			
Other Information			

Provider Support and NMFS Contact Information

This section ensures vessel operators have current contact information necessary to meet reporting, servicing, and compliance obligations. All VMPs would include current EM service provider and NMFS contact information for vessel operators (Tables 3 and 4). This section provides primary contacts for technical support, system servicing, program coordination, reporting, data requests and enforcement.

For the vessel owner and operator, these tables serve as a quick reference for required notifications, technical assistance, VMS support, and compliance-related communication. For the service provider, they identify program management and technical points of contact to support coordination, troubleshooting, and data management. For NMFS and associated partners, they establish clear communication pathways to ensure timely reporting, oversight, and enforcement of EM and related federal requirements.

Permit holders may request access to EM data associated with their vessel through PSMFC. The vessel-specific VMP should include contact information for submitting written EM data requests to the designated PSMFC program contact. Requests must come from the current permit holder, identify the trip dates requested, and be submitted within one year of the completion of the trip.

Vessels participating in the Pacific Islands longline EM Program must maintain all required Federal permits and comply with applicable reporting requirements. This includes trip notification requirements under 50 CFR 665.803, which require the permit holder or designated agent to notify the Regional Administrator of the vessel's departure and trip type at least 72 hours prior to departure (excluding weekends and Federal holidays). EM pre-trip system function tests would be conducted during this notification period and contact information for trip notification should be included in the vessel-specific VMP.

Vessels operating under PIR longline permits must also carry and operate an operational NOAA Office of Law Enforcement–owned and installed Vessel Monitoring System (VMS) while at sea in accordance with 50 CFR 665.19. In addition, vessel operators are required to record catch, effort, and related fishing activity data using a NMFS-certified electronic logbook, consistent with 50 CFR 665.14.

Table 3. EM Provider Contacts

EM Provider 24-hr Technical Support #			
Additional Provider Support Contacts (as needed)	Name(s)	Phone #(s)	Email(s)

Table 4. NMFS and Pacific States Marine Fisheries Commission (PSMFC) EM Contacts

Trip Notification #			
EM data Request #*			
VMS support #			
E-log tablet support #			
Permitting support #			
NMFS and PSMFC contacts	**Name(s)**	**Phone #(s)**	**Email(s)**
PSMFC EM POC**			
NMFS PIRO EM POC			
NMFS PIFSC EM POC			
American Samoa POC (if applicable)			
NOAA Office of Law Enforcement POC			
other information			

**** Only the current permit holder for the vessel may request access to EM data collected by the EM system installed on that vessel. Requests must be submitted in writing to the designated PSMFC EM program contact, identify the trip dates requested, and be submitted within one year of trip completion. Upon verification, PSMFC will provide the requested data within 30 working days as encrypted files on a PSMFC-provided hard drive or through a comparable secure transfer method. Data will be delivered to the permit holder in person by program staff or by U.S. certified mail, return receipt requested.***

*****Vessels operating from ports outside of Honolulu or Pago Pago should contact the PSMFC EM Program lead to coordinate hard drive exchanges, report malfunctions, or arrange EM system servicing.***

Section 2 EM System Overview

*This section summarizes system functionality and recording parameters specific to the vessel and consistent with NMFS PIR EM performance and program standards. All **bolded** information must be included in vessel-specific VMPs. Unbolded information may be included to support program implementation and operational effectiveness.*

- **Your vessel is equipped with an electronic monitoring system consisting of cameras, GPS, gear sensors, user interface, and a control center.**
- **The system will continuously record GPS coordinates, hydraulic pressure, and rotation sensor data while powered.**
- **High-definition video will be recorded from rail and deck view cameras during hauling and is automatically triggered by hydraulic pressure, reel rotation, or other integrated sensors to ensure all hauling activity is captured. All cameras will record from the trigger point to one hour after the haul or from being triggered. Audio is not recorded.**
- **The wheel house monitor provides a live visual indication whenever the system is recording.**
- **While the system will record on every haul, only a subsect of the hauls will be reviewed.**
- (Any other vessel-specific systems or recording parameters considered important for program effectiveness by the service provider.)
- **More specific information about your EM system is provided in *Section V – System Specifications and Installation Summary.***

Section 3 Vessel Owner and Operator Requirements

*This section outlines the vessel owner and operator responsibilities in the EM program. These provisions ensure that EM systems function as intended and that program monitoring objectives—including species identification, serious injury determinations, and post-release mortality estimation—can be achieved . The EM service provider must include all **bolded** requirements in the vessel-specific VMP for vessel owners and operators. Unbolded information is optional and provided for the service provider's guidance.*

General Requirements

- **After installation, the NMFS provided EM system must operate on all declared fishing trips from departure to return unless otherwise exempted (*Section IV– Equipment Malfunctions and Exemptions*).**
- **Carry the vessel's NMFS-approved VMP on board and make it available for review at all times. Fishing is prohibited without a NMFS-approved VMP onboard.**
- **Comply with all requirements outlined in the VMP.**
- **Ensure that no one tampers with, disconnects, or destroys any part of the EM system, associated equipment, or recorded data.**
- **Provide NMFS, PSMFC, or a NMFS service provider access to the vessel, upon request, to collect data and service the EM system.**

Each Trip

- **Electrical power to the EM unit must be maintained for the duration of the trip.** The system includes a battery backup for fluctuating power but must remain connected to vessel power via an uninterruptible power supply.
- **Prior to a fishing trip departure (at least 72 hours excluding weekends and Federal holidays), the vessel owner or operator must call the provided Trip Notification number and conduct an EM system function test.** The function test may be performed remotely by the service provider or guided by the service provider over the phone, following instructions in *Section VI – System Testing and Troubleshooting*.
- **If the function test identifies a malfunction, the vessel owner must follow instructions in *Section IV– Equipment Malfunctions and Exemptions* and make the vessel available for service and repair.**

Each Haul

- **Prior and during each haul, the vessel operator must:**
    - **Check the viewfinder monitor to ensure camera views are clear and unobstructed, consistent with *Section V – System Specifications and Installation Summary*.**
    - **Ensure lighting is sufficient to make all catch, including discards and protected species, visible for identification and quantification.** Operators are not expected to adjust camera angles or focus.
    - **Clean camera lenses** (according to service provider specifications) **and monitor and maintain video quality throughout the haul. Video quality will be reported in the trip summary report.** Camera cleaning procedures must be practical and should not be overly operationally burdensome to vessel operators or crew.
- **Catch Handling Requirements**
    - **Two areas are defined on the vessel:**
        - **Discard Release Area: the primary location where discards are released overboard, typically a section of rail and adjacent water alongside the vessel.**
        - **Deck Handling Area: a marked area on deck where boarded protected species are handled prior to release.**
        - These areas would be as large as practicable to allow reviewers to identify animals to species and obtain measurements.
        - These areas may be redefined with NMFS approval based on feedback from reviewers and vessel operators to ensure program objectives (e.g., species identification) are met while minimizing unnecessary burden on crew.
    - **All catch, including retained catch, discarded catch, and protected species, must be handled within a clear and unobstructed view of these areas described above and defined in the camera descriptions and images in *Section V – System Specifications and Installation Summary.***
    - **For catch & protected species brought on board:**
        - **All catch brought on board, including discards and protected species, must be placed in view of the deck camera in the Deck Handling Area before release from the vessel's designated Discard Release Area or before being moved for processing.**
        - **All small turtles and seabirds must be brought aboard and placed in the Deck Handling**

Area for identification, remote measurements (when possible by reviewers)**, and documentation of gear removal and handling.**

- **All animals too large to bring aboard must be brought fully to the surface and into view of the deck camera within the designated Discard Release Area prior to release. (e.g., blue sharks)**
- **Place all gear removed from a protected species in clear view of the camera in the Deck Handling Area. This includes gear retrieved from the animal, and gear remaining on the vessel if a line is cut or breaks, including branchline, weights, leader, removed hooks, and straightened hooks. Gear must remain in view long enough for the reviewer to obtain a clear, unobstructed image sufficient to estimate gear length and components (usually a few minutes). If gear cannot be fully or cleanly removed (e.g., in gear entanglement situations), the remaining gear should be placed in view to the extent practicable.**
- **Follow all protected species handling requirements in regulations and Amended to this document.**

Trip End

- **Upon return to port, immediately report any known EM system malfunctions to the 24-hour technical support line and make the vessel available for servicing (*See Section 4 – Equipment Malfunctions and Exemptions*)**
- **After each trip and before departing again, make the vessel available for hard drive exchange and any necessary system adjustments or repairs.**

**** For vessels operating from ports outside of Honolulu or Pago Pago contact the PSMFC EM POC in *Section 1 – General Information and Contacts* to coordinate procedures for hard drive exchange, system repair, or other EM system servicing.**

Section 4 Equipment Malfunctions and Exemptions

*This section outlines the comprehensive action plan for addressing pre-trip and mid-trip EM system errors or malfunctions in the vessel-specific VMP. The service provider must include 24-hour technical support contact information for vessel owners and operators. These procedures follow the program-wide malfunction, waiver, and exemption provisions, and all **bolded** language must be included in the vessel-specific VMP.*

An operational EM system is defined as a system that is powered, functional, and actively recording fishing operations, including video, images, sensor data, and associated metadata (e.g., trip departure date, vessel information) to a hard drive or other approved storage device.

Pre-trip malfunctions

If a malfunction is identified during the function test:

- **The vessel owner or operator must follow the troubleshooting procedures in *Section VI – System Testing and Troubleshooting.***
- **If unresolved, the vessel operator must immediately contact the EM service provider.**

The EM service provider will determine if the malfunction is critical or non-critical:

- **Non-Critical Malfunction:**
    - **The vessel may depart as scheduled if the issue cannot be repaired in time, provided the operator follows the service provider's instructions.**
    - **The vessel must make arrangements for repair upon return to port.**
- **Critical Malfunction: A critical malfunction prevents the data collection objectives from being achieved.**
    - **The EM system must be repaired before the vessel departs on a subsequent fishing trip.**
    - **The service provider must make a technician available, and the owner must make the vessel available for repair within 3 business days of notification.**
    - **If repairs cannot be completed within three business days of the trip notification, the vessel would be granted an exemption from NMFS to leave on their trip without a functioning EM system (see Exemptions below).**
    - **The owner or operator must contact the service provider as soon as possible (from sea if feasible or immediately upon return to port), continue operating all functional components of the EM system, and make the vessel available for repair upon return to port.**

Mid-trip malfunctions

If the system passed the function test prior to leaving port, but malfunctions at sea and was continuously powered:

- **The vessel operator must follow troubleshooting procedures provided in *Section VII – System Testing and Troubleshooting.***
- **If the malfunction cannot be resolved following the troubleshooting guide and/or with remote support, the vessel operator may continue the trip while running the EM system with all functional parts.**
- **The owner or operator must contact the service provider as soon as possible (from sea if feasible or immediately upon return to port), continue operating all functional components of the EM system, and make the vessel available for repair upon return to port.**

Exemptions

A vessel is exempt from EM requirements under the following conditions:

1. **No longline gear is used during the trip.**
2. **EM system malfunction or damage is identified and properly reported in accordance with the VMP, and the system is not repaired or replaced within 72 business hours of the trip notification submitted under § 665.803.**
3. **The Regional Administrator issues an exemption.**

An EM malfunction or damage is considered properly reported if:

- **The permit holder or vessel operator notifies the appropriate VMP-specified contact immediately upon return to port when the malfunction or damage is known; or**
- **The malfunction or damage is identified during an EM system check conducted in connection with the trip notification under § 665.803.**

**** The 72--hour period (not including weekends or Federal holidays) begins upon submission of the Trip Notification under § 665.803, provided malfunction reporting requirements are met.**

Section 5 System Specifications and Installation Summary

*This section establishes the technical baseline for NMFS review and approval of the vessel specific VMP and describes the EM system configuration for the vessel. Information documented here allows NMFS to evaluate whether the proposed system and its configuration meets program monitoring objectives and ensures data integrity. The vessel-specific VMP must clearly describe and illustrate all EM system components, their locations, and their intended operational purpose. All **bolded** information must be collected and/or included in vessel-specific VMPs.*

Vessel Diagrams

The VMP must include a vessel diagram showing the location of all EM components, including cameras, sensors, GPS antenna, control box, monitors, power supply, and any other user interfaces (Figure 1). It must also include a work deck diagram depicting operational areas relevant to EM monitoring, such as gear bins, fish doors, deckhouses, fish hold access, mainline reels, catch handling areas, float and radio buoy storage, and mechanical equipment such as winches, hauling devices, or cranes (Figure 2). These areas may be shown on a single diagram or multiple diagrams. If the vessel operates with multiple gear types (e.g., shallow-set and deep-set longline gear), gear-specific diagrams could be included to illustrate work deck configuration during each type of operation if deemed necessary.

Cameras and Video Recording

Cameras must provide complete coverage of gear retrieval and catch handling and release areas. They must record continuously during triggered periods, operate in low-light conditions for night hauling, and provide a field of view that allows reviewers to identify retained and discarded catch, including protected species, observe discard events and the condition of released catch, and evaluate crew handling, hook placement, gear entanglement, and trailing gear remaining on released protected species.

A minimum of two cameras is typically required per vessel, though the exact number and placement will be determined during VMP development to meet monitoring objectives. Camera specifications must include information **bolded** in the example tables 6a and 6b below. Representative still images must be included to show the field of view under typical fishing conditions, clearly identifying Deck Handling and Discard Release Areas. Images must come from the EM system and not from handheld cameras. Calibration references could be deployed during EM system setup, camera installation, or equipment replacement to facilitate measurement estimations.

Camera View Performance Standards

Camera placement and configuration must provide imagery sufficient to meet EM program objectives. Cameras must allow reviewers to observe gear retrieval and catch handling, identify retained and discarded catch to the lowest practical taxonomic level (including protected species), detect discard events and observe the condition and disposition of catch at release, and evaluate crew handling, hook placement, gear entanglement, and the amount and type of trailing gear remaining on released protected species. Camera views must remain unobstructed during normal fishing operations and maintain sufficient resolution and lighting for daytime and nighttime operations. NMFS will evaluate whether proposed camera placement meets these performance standards as part of VMP approval.

Sensors and Integrated Data

The NMFS-provided EM system includes hydraulic pressure sensors and drum rotation (Hall-effect) sensors to

detect gear setting and hauling activity. Sensor data are logged at regular intervals and integrated with video imagery, time stamps, and vessel position data. Video recording is typically triggered during hauling events and may continue for up to one hour after the triggering conditions end. GPS antennas must be installed independently from the vessel's primary navigation equipment and must not interfere with VMS or other onboard electronics. Sensor and video data are combined into a synchronized dataset that enables reviewers to reconstruct fishing activity, gear deployment, and protected species handling events.

Data Security, Storage, and Transfer

All EM data must be encrypted at collection and stored on secure onboard media with sufficient capacity to retain data for the duration of a fishing trip, including redundancy. Data transfer to PSMFC or NMFS occurs via encrypted removable drives or secure electronic transmission, depending on vessel capabilities and program design. Data are owned and maintained by PSMFC or NMFS, and access is restricted consistent with federal confidentiality requirements. Administrative access to system settings must be restricted, and safeguards must prevent tampering. The system must automatically log power interruptions, sensor disconnections, or other anomalies that could affect data integrity, and any tampering or interruptions must be recorded.

Camera Maintenance and Accessibility

Service providers must document procedures for camera maintenance and cleaning. Cameras must remain clear of obstructions and maintain image quality through cleaning without imposing unsafe or unreasonable operational burdens on crew. If primary views are reliant on cameras installed in rigging or on top of the wheelhouse, the service provider should develop a camera maintenance plan and offer alternate solutions to vessels to keep cameras clean that are not readily accessible or pose safety concerns to the crew.

Table 5. Hardware and Equipment Installed

GPS Model:	
GPS Location:	
Rotation Sensor:	
Rotation Sensor Location:	
Hydraulic Sensor:	
Hydraulic Sensor Location:	
Sensor Processing Unit Location (if applicable):	
EM Control Unit Location:	
Monitor and Keyboard Location:	
Software Version:	
Power Type:	
Power Location:	
Power Hardware:	

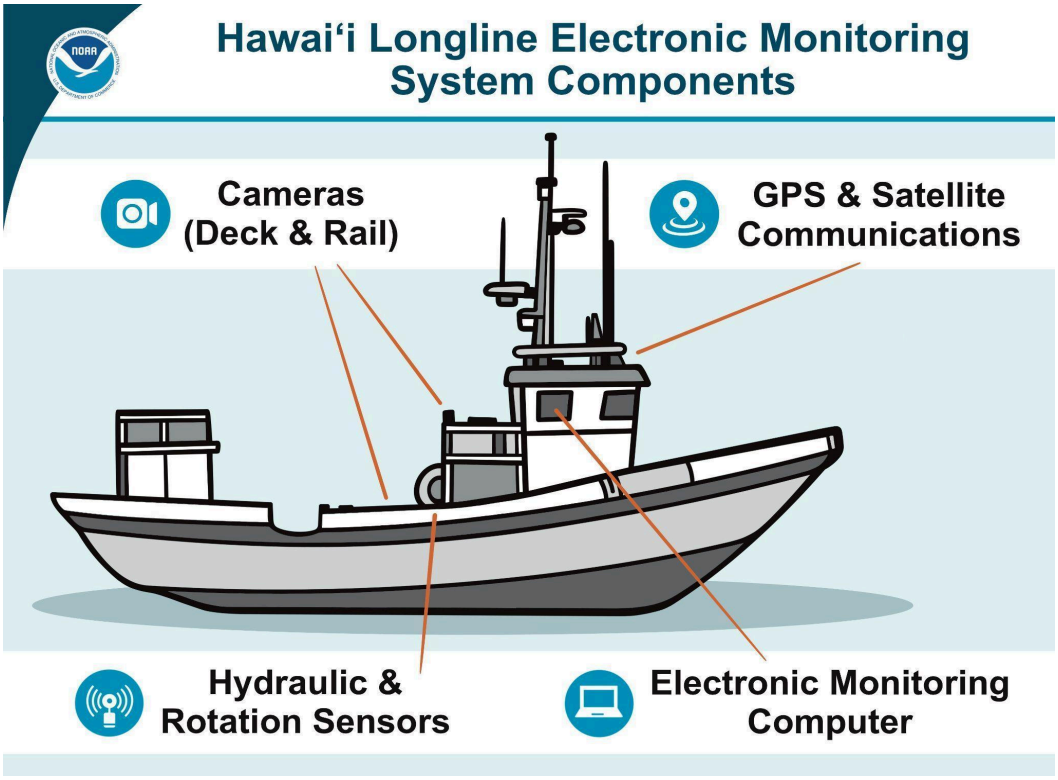


Figure 1. Vessel diagram example of system component placement

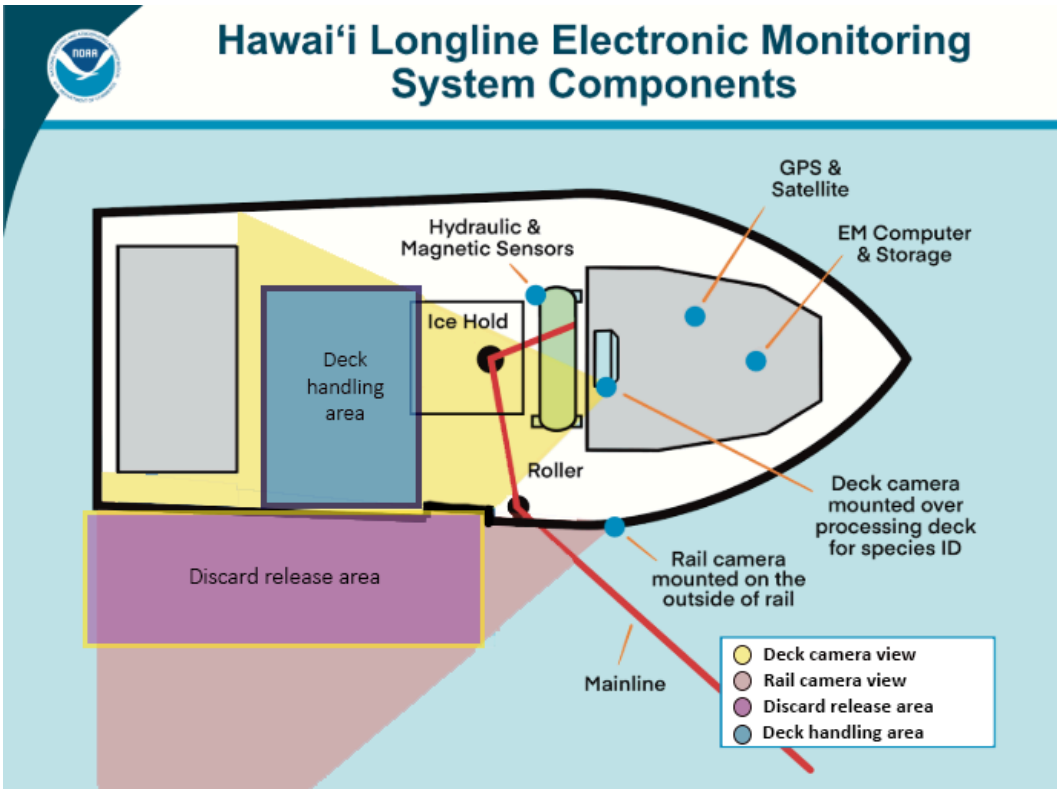


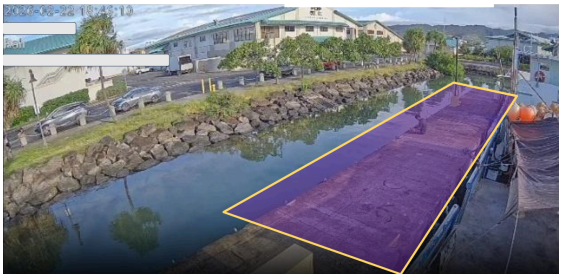
Figure 2. Vessel diagram example of working deck during fishing activities

Table 6a. Camera Installation

Camera Name:		
Location:		
View:		
Aim:		
Hardware:		
Resolution/FPS:		
Recording Trigger:		
Run On Time (if applicable)		
Recording Exceptions (if applicable):		

*complete this table for each camera

Table 7b. Camera Installation (example from HI PIFSC research and development EM)

Camera Name:	Rail	
Location:	Mounted on boom arm above hauling station; port side	
View:	View of fish door to stern of vessel. Water view ou	
Aim:	Downward and aft facing	
Hardware:	Geovision model EX1	
Resolution/FPS:	1080p@30fps	
Recording Trigger:	Pressure trigger: 200 PSI Magnetic sensor: 5 rotations of drum in hauling direction	
Run On Time (if applicable)	1 hour	
Recording Exceptions (if applicable):	Recording only during gear hauling	

*complete this table for each camera

Section 6 System Testing and Troubleshooting

This section describes procedures for testing the EM system and addressing common system errors or malfunctions. It should provide vessel owners and operators with clear instructions for verifying system functionality and identifying basic issues that may occur during normal operations.

TBD – To be developed by the EM service provider. Troubleshooting guidance must be simple, clear, and easy for vessel owners and operators to follow.

Section 7 Signature Page

The signature page acknowledges agreement to the terms of the VMP and must be signed by the EM service provider, the vessel owner, and a NOAA Fisheries representative upon plan approval. These signatures certify that the vessel owner has been briefed or trained on EM system operations, catch handling procedures, and program requirements, and understands the obligation to comply with the provisions of the VMP. The signatures also document that NOAA Fisheries has approved the vessel-specific VMP prepared by the service provider. A signed copy of the current VMP must be maintained onboard the vessel at all times. Any material modification to the vessel configuration, EM system components, catch handling procedures, or monitoring requirements requires revision of the VMP, new signatures, and NMFS approval.

The list below demonstrates a vessel owner's understanding of the EM system and PIR EM program. It also documents the system has been fully installed and is operational. The technician and vessel representative(s) should place their initials next to each bullet point and sign and date the bottom of this page. A copy of this document will be scanned and provided to the vessel.

- **I was instructed on the operation of my vessel's EM system and have been shown where all the EM components are mounted.**
- **I know how to view the status of my cameras, GPS, and pressure sensor.**
- **I know how to complete the pre-trip check (if applicable) during the 72-hour notification.**
- **I understand I will need to make the vessel available to the service provider between trips for hard drive collection and equipment maintenance and repair.**
- **I have identified any vessel-specific requirements for hard drive exchange, including required personnel presence and access instructions.**
- **I understand the field of view and purpose of each camera as well when they will be recording.**
- **I know how to tell if my cameras are recording and what areas of my deck will not be private when the cameras are recording.**
- **I will keep the camera views unobstructed during hauling and will clean the camera before each haul and as necessary to ensure fishing activity can be seen during hauling operations.**
- **I will keep the deck well-lit during fishing operations.**

- **I understand the catch and protected species handling requirements to ensure the necessary program data are collected.**
- **I have been shown my vessel's deck handling area and understand that all boarded catch must pass through it, and that small boarded protected species and any removed gear from protected species must be placed here.**
- **I have been shown my vessel's discard release area and understand that bycatch, including protected species, needs to be surfaced and brought into this area before being discarded or released.**
- **I understand the trouble shooting required of me and when to call the support line.**
- **I understand I will need to keep the approved, signed, and current copy of the VMP onboard.**
- **I am aware of the support line and know who to contact if there are EM system issues or if I have questions.**

This certifies that the vessel owner has been trained in the function and operation of the EM system installed on the vessel and that the vessel owner/operator must comply with the components of this Vessel Monitoring Plan. A signed copy of this VMP must be aboard at all times when the vessel is participating in this Electronic Monitoring Program. Digital signatures are acceptable.

Vessel permit holder signature: _____ Date: _____

Service provider representative signature: _____ Date: _____

NMFS VMP approval signature: _____ Date: _____