Vessel Monitoring Plan
(Whiting Midwater + Non-whiting Midwater + Bottom Trawl)

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Vessel Monitoring Plan
Appendix A - EM Installation Summary
Appendix B - Technical Support and Troubleshooting
Appendix C - EM Program Contact Information
Appendix D - Observer Information Sheet

OPERATOR RESPONSIBILITIES:

Before Trip
✓ Confirm that you have the right declaration with the Office of Law Enforcement Electronic Monitoring (EM):
   888-585-5518
   o Declaration remains until changed.
✓ If taking a bottom trawl or non-whiting midwater trawl trip, call to leave message for scientific observer at least 48 hours prior to EACH trip:
   (866) 780-8064
   o If you are selected to carry a scientific observer, you will be contacted and must wait for observer before departing on a fishing trip.

Trip Start
✓ Manually turn on camera system.
✓ Run a functionality test before starting each trip.
   o See the Malfunction section if there is a problem.
✓ Check and ensure that the hard drive has adequate space to store data for the entire trip and that a spare drive is available onboard (Tip: keep track of how much hard drive space is used after each trip (GB and %) to determine an average).
✓ Confirm that you have required logbooks: State Trawl Logbook and PSMFC Discard Logbook (for bottom trawl trips).
✓ If you have a scientific observer onboard, provide them with the Observer Information Sheet for EM (Appendix D).

Daily during trip
✓ Maintain uninterrupted electrical power to the EM unit while vessel is underway.
✓ Check the video feed screen and confirm that cameras are clean and positioned correctly (consistent with the images identified in Appendix A).
During haul and catch handling, use video feed screen to confirm that cameras are recording, not blocked by crew, covered with water spots or otherwise dirty, etc.

Note the date/time and system status after system checks in the logbook.

If cameras stop recording before sorting is complete, manually trigger recording until sorting of haul is complete and all catch is stowed.

**Trip End**

Do not manually turn off cameras until after offload begins.

Provide logbooks to Pacific States, via mail or email to emefp@psmfc.org within 24 hours of landing for each trip (or next business day if the landing occurs on a weekend or holiday).

Perform a data drive swap and mail hard drive to PSMFC:

- For **Shoreside Whiting**, hard drive must be submitted after every 5th trip (maximum), and postmarked within 24-hours of landing (or on the next business day if the landing occurs on a weekend or holiday) and no later than 10 days after the end of the 1st trip on the hard drive, except:
  - First two trips (if applicable): Hard drives from each of the first two EFP trips must be postmarked within 24-hours of landing (or on the next business day if the landing occurs on a weekend or holiday).
  - After an EM system malfunction: Hard drives from a trip that experienced an EM system malfunction must be postmarked within 24-hours of landing that trip (or on the next business day if the landing occurs on a weekend or holiday).

- For **Non-whiting midwater trawl** and **bottom trawl**, hard drive must be submitted after every 2 trips (maximum). Hard drives must be postmarked no later than 10 days after the date of landing of the first trip and within 24 hours of landing for the 2nd (or only) trip (or on the next business day if the landing occurs on a weekend or holiday), except:
  - First two trips (if applicable): Hard drives from each of the first two EFP trips must be postmarked within 24-hours of landing (or on the next business day if the landing occurs on a weekend or holiday).
  - After an EM system malfunction: Hard drives from a trip that experienced an EM system malfunction must be postmarked within 24-hours of landing that trip (or on the next business day if the landing occurs on a weekend or holiday).

- For **At-Sea Mothership Catcher Vessel Whiting**, hard drive must be submitted after every trip, and postmarked within 24 hours of landing (or next business day if the landing occurs on a weekend or holiday).

Hard drives must be mailed using a method that requires a signature for delivery and provides a return receipt or delivery notification to the sender, such as certified mail, UPS, or FedEx.

Mail hard drives to:

PSMFC EM Program
205 SE Spokane Street, Suite 100
Portland, Oregon 97202
If you need additional hard drives, (when vessel is down to 1 clean hard drive in the machine and 1 additional empty hard drive), email emefp@psmfc.org. Please allow adequate time for mailing.

**Logbook Requirements**

- **Trawl Logbook**
  - State Trawl Logbook (Fill out all sections)
    - Check box if EFP trip
    - Check box if Observed trip
    - Thoroughly complete trip begin and end date, time, port, and dealer information.
    - Report fish ticket number(s) on logbook.
    - Report codend capacity on logbook in **POUNDS**.
      - Report on a haul-by-haul basis if different for each haul.
    - Report all retained and discarded species and weights per haul.
    - Report the time/date and EM system status for each haul (e.g., cameras recording and imagery clear).
    - Record all hauls, regardless of whether any catch was retained or discarded.
    - Comment on any equipment malfunctions or gear/catch issues if applicable.
    - Comment on any additional video recording due to delay in offloading or offloading at multiple first receivers.
  - **Catcher Vessels**: Report hauls and discards via email or radio to the mothership observer to be included in mothership observer reports.

- **PSMFC Discard Logbook for Bottom Trawl and Non-whiting Midwater Trawl Trips** (Fill out all sections examples are available if needed)
  - Note State Logbook Page Number and Set Date and Time for Haul being reported
  - Note whether the trip was maximized or optimized retention
  - Report all retained priority species’ (Cowcod and Yelloweye) estimated weights and fish counts per haul
  - In the case of an unavoidable discard or mutilated fish discard, report all IFQ species discard weights and fish counts by species per haul

**Discards and Catch Handling:**

**General Catch Handling**

- Any and all sorting must occur in clear view of the camera.
Crewmembers must not block camera views while sorting.

All discards must occur at a discard control point designated on the vessel diagram in Appendix A.

All catch handling must be complete before the next haul is brought onboard, unless an alternate arrangement has been developed with PSMFC through a NMFS-accepted VMP.

Vessel operator must provide adequate lighting for cameras.
  - Lighting must not shine directly at cameras and impede video reviewers' ability to view fishing activity.

All retained cowcod and yelloweye rockfish (priority species) must be sorted by species into totes in view of the camera to allow video reviewers to obtain accurate counts.

If selected to carry an observer, the vessel operator must provide all other reasonable assistance to enable the observer to carry out their duties, as required by §660.140(h)(1)(viii), including access to catch and discards for sampling before discarding.

**Species-Specific Catch Handling – Whiting Trips:**

- **Mutilated fish** - Mutilated fish that are squashed, maimed, or fish with carcass torn up by other events can be discarded.
  - Discarded mutilated fish must be sorted to species into a tote of known size within camera view before discarding to assist video reviewers in estimating weight.
  - Discarded mutilated fish must be noted in logbook.

- Debris (trash, mud, rocks, and other inorganic debris), large marine organisms (marine mammals, sea turtles, and seabirds, and fish longer than 6-ft) may be discarded in camera view.

- **Unavoidable discard** that is the result of an event that is beyond the control of the vessel operator or crew, such as a safety issue or mechanical failure, is allowed.
  - Record weight by species, reason for the discard, and the location of tow in the logbook.

**Species-Specific Catch Handling – Maximized Retention Bottom Trawl and Non-whiting Midwater Trawl Trips:**

- **Mutilated fish** - Mutilated fish that are squashed, maimed, or fish with carcass torn up by other events can be discarded.
  - Discarded mutilated fish must be sorted to species into a tote of known size within camera view before being discarded to assist video reviewers in estimating weight.
  - Discarded mutilated fish must be noted in logbook.
Debris (trash, mud, rocks, and other inorganic debris), Large marine organisms (marine mammals, sea turtles, and seabirds, and fish longer than 6-ft) may be discarded in camera view.

Unavoidable discard that is the result of an event that is beyond the control of the vessel operator or crew, such as a safety issue or mechanical failure, is allowed.

- Record weight by species, reason for the discard, and the location of tow in the logbook.

Species-Specific Catch Handling – Optimized Retention Bottom Trawl and Non-whiting Midwater Trawl Trips:

- Allowable discards must be sorted to species before being placed in designated discard tote, and discarded in camera view at the location designated in diagram only.
  - Allowable non-IFQ fish and invertebrates/trash must be sorted in separate totes (fish tote and invertebrate/trash tote) in camera view

- Halibut - All halibut must be placed in view of the camera and on or near a measuring tool for measurement prior to discarding.

- Mutilated fish - Mutilated fish that are squashed, maimed, or fish with carcass torn up by other events, not predation, can be discarded.
  - Discarded mutilated fish must be sorted to species into a tote of known size within camera view before being discarded to assist video reviewers in estimating weight.
  - Discarded mutilated fish must be noted in logbook.

Debris (trash, mud, rocks, and other inorganic debris), Large marine organisms (marine mammals, sea turtles, and seabirds, and fish longer than 6-ft) may be discarded in camera view.

Unavoidable discard that is the result of an event that is beyond the control of the vessel operator or crew, such as a safety issue or mechanical failure, is allowed.

- Record weight by species, reason for the discard, and the location of tow in the logbook.

Prohibited and protected species

- Vessels must discard the following species, in view of the camera:
  i. Pacific halibut (see discard requirements above)
  ii. Dungeness crab caught seaward of Washington or Oregon or Point Reyes, California
  iii. Green sturgeon
  iv. California halibut (except as allowed by state regulations)
  v. And nearshore groundfish species below state commercial minimum size limits
  vi. Seabirds
  vii. Sea turtles
  viii. Marine mammals
**ALL SALMON AND EULACHON MUST BE RETAINED**
except that on trips with scientific observers, eulachon may be discarded after observer sampling is complete.

- **Heads and Guts from Processing at Sea:** (For Sablefish J-Cut at sea)
  - Cut the fish in clear camera view
  - Tote the heads and guts in camera view
  - Discard tote contents at control point
  - Only heads and guts may be discarded

- **Additional allowable discards** (with proper catch handling, display, measuring, and logbook recording):
  - IFQ species on the **IFQ Allowable Discard List**
  - Non-IFQ species **not on the Non-IFQ Prohibited Discard List**
  - Allowable discards must be sorted to species before being placed in designated discard tote, and discarded at the location designated in diagram only.
    - Allowable non-IFQ fish and invertebrates/trash must be sorted in separate totes (fish tote and invertebrate/trash tote)

### IFQ Allowable Discard List

**Flatfish**
- Arrowtooth Flounder
- English Sole
- Dover Sole (discarded deep sea sole may be counted as Dover sole)
- Pacific Sanddab (other sanddabs discarded may be counted as Pacific sanddab)

**Roundfish**
- Pacific Whiting
- Lingcod

### Non-IFQ Prohibited Discard List

**Flatfish**
- Greenland Turbot
- Slender Sole
- Hybrid Sole
- C-O (C-O Turbot) Sole
- Bigmouth Sole
- Fantail Sole
- Hornyhead Turbot
- Spotted Turbot

**Rockfish**
- Northern Rockfish
- Black Rockfish
- Blue Rockfish
- Shortbelly Rockfish
- Olive Rockfish
- Puget Sound Rockfish
- Semaphore Rockfish

**Roundfish**
- Walleye Pollock
- Slender Codling
- Pacific Tom Cod
- Salmon
- Eulachon
System Malfunction or Power Loss to System:

Malfunction Prior to Departure:
1. If the system malfunctions prior to departure, call Archipelago 24 Hour Support Line at 1-844-267-3474 to report and troubleshoot the problem. Some possible solutions are listed in Table 1.
2. If the malfunction cannot be resolved, take the Action described in Table 1 corresponding to the type of malfunction.
3. Report the date/time, nature of malfunction, and outcome in the logbook.

Malfunction While Fishing:
1. If the system malfunctions while gear is in the water, vessel may complete hauling gear out of the water, but GEAR CANNOT BE RESET until the problem is resolved.
2. Call Service Provider Archipelago 24 Hour Support Line at 1-844-267-3474 to report and troubleshoot the problem. Schedule a service event for your return to port to have the issue resolved as quickly as possible. Some possible solutions are provided in Table 2.
3. If the malfunction cannot be resolved, take the Action described in Table 2 corresponding to the type of malfunction.
4. Report the date/time, nature of the malfunction and the outcome in the logbook.

Power Loss
In the event of a temporary loss of power, return power to the system immediately, and record the time, date, and duration of the power interruption in the logbook.
Table 1. Summary of types of dockside malfunctions of EM system and associated equipment, and actions to be taken.

<table>
<thead>
<tr>
<th>Malfunction Type</th>
<th>Critical/Not Critical</th>
<th>Report to AMR?</th>
<th>Report in Log?</th>
<th>Possible Solution Downgrades to Not Critical (non-exclusive list)</th>
<th>Action if Malfunction Not Resolved or Not Downgraded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drum sensor</td>
<td>Not critical</td>
<td>Y</td>
<td>Y</td>
<td>Carry spare reflectors.</td>
<td>Vessel operator may depart on trip, but must trigger video recording manually. Malfunction must be repaired before next trip.</td>
</tr>
<tr>
<td>Hydraulic sensor</td>
<td>Not critical</td>
<td>Y</td>
<td>Y</td>
<td>Restart system. Follow troubleshooting guidance.</td>
<td>Vessel operator may depart on trip but must trigger video recording manually. Malfunction must be repaired before next trip.</td>
</tr>
<tr>
<td>Drum and hydraulic sensors</td>
<td>Critical</td>
<td>Y</td>
<td>Y</td>
<td>Restart system. Follow troubleshooting guidance. Carry spare reflectors.</td>
<td>Vessel operator may not depart on trip until malfunction is repaired or vessel operator voluntarily obtains observer.</td>
</tr>
<tr>
<td>GPS</td>
<td>Critical</td>
<td>Y</td>
<td>Y</td>
<td>Restart system.</td>
<td>Vessel operator may not depart on trip until malfunction is repaired or vessel operator voluntarily obtains observer.</td>
</tr>
<tr>
<td>Keyboard</td>
<td>Not critical</td>
<td>Y</td>
<td>Y</td>
<td>Carry spare USB keyboard. Connect spare keyboard</td>
<td>Vessel operator may depart on trip provided cameras are recording without keyboard. Malfunction must be repaired before next trip.</td>
</tr>
<tr>
<td>Critical if manual record is required.</td>
<td>Y</td>
<td>Y</td>
<td>Carry spare USB keyboard. Connect spare keyboard</td>
<td>Vessel operator may not depart on trip until malfunction is repaired or vessel operator voluntarily obtains observer.</td>
<td></td>
</tr>
<tr>
<td>Monitor</td>
<td>Critical</td>
<td>Y</td>
<td>Y</td>
<td>Connect to a different VGA monitor.</td>
<td>Vessel operator may not depart on trip until malfunction is repaired or vessel operator voluntarily obtains observer.</td>
</tr>
<tr>
<td>Malfunction Type</td>
<td>Critical/Not Critical</td>
<td>Report to AMR?</td>
<td>Report in Log?</td>
<td>Possible Solution Downgrades to Not Critical (non-exclusive list)</td>
<td>Action if Malfunction Not Resolved or Not Downgraded</td>
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</tr>
<tr>
<td>Control box</td>
<td>Critical</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>Vessel operator may not depart on trip until malfunction is repaired or vessel operator voluntarily obtains observer.</td>
</tr>
<tr>
<td>Green Screen</td>
<td>Critical</td>
<td>No, unless unresolved.</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>Vessel operator may not depart on trip until malfunction is repaired or vessel operator voluntarily obtains observer.</td>
</tr>
<tr>
<td>Lighting</td>
<td>Critical</td>
<td>No</td>
<td>Y</td>
<td>Vessel operator will not retrieve gear at night</td>
<td>Vessel operator may depart on trip provided the vessel operator does not retrieve gear at night (i.e., 30 minutes before official sunset to 30 minutes after official dawn). Malfunction must be repaired before next trip.</td>
</tr>
<tr>
<td>Stern View Camera</td>
<td>Critical</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance. Carry and connect spare camera.</td>
<td>Vessel operator may not depart on trip until malfunction is repaired or vessel operator voluntarily obtains observer.</td>
</tr>
<tr>
<td>Deck View Camera</td>
<td>Not critical when fishing mothership</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>Vessel operator may depart on trip. Malfunction must be repaired before next trip.</td>
</tr>
<tr>
<td></td>
<td>Critical when fishing shorebased IFQ</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance. Carry and connect spare camera.</td>
<td>Vessel operator may not depart on trip until malfunction is repaired or vessel operator voluntarily obtains observer.</td>
</tr>
<tr>
<td>Discard Port Camera</td>
<td>Not critical when fishing mothership</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>Vessel operator may depart on trip. Malfunction must be repaired before next trip.</td>
</tr>
<tr>
<td></td>
<td>Critical when fishing shorebased IFQ</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance. Vessel</td>
<td>Vessel operator may depart on trip provided all discards occur off the starboard side. Malfunction must be repaired before next trip.</td>
</tr>
<tr>
<td>Malfunction Type</td>
<td>Critical/Not Critical</td>
<td>Report to AMR?</td>
<td>Report in Log?</td>
<td>Possible Solution (Downgrades to Not Critical (non-exclusive list))</td>
<td>Action if Malfunction Not Resolved or Not Downgraded</td>
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<td>operator and crew will not discard off port side.</td>
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</tr>
<tr>
<td>Discard Starboard Camera</td>
<td>Not critical when fishing mothership</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>Vessel operator may depart on trip. Malfunction must be repaired before next trip.</td>
</tr>
<tr>
<td>Critical when fishing shorebased IFQ</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Restart system, follow troubleshooting guidance. Vessel operator and crew will not discard off starboard side.</td>
<td>Vessel operator may depart on trip provided all discards occur off the port side. Malfunction must be repaired before next trip.</td>
</tr>
<tr>
<td>Both Discard Port and Discard Starboard Cameras</td>
<td>Not critical when fishing mothership</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>Vessel operator may depart on trip. Malfunction must be repaired before next trip.</td>
</tr>
<tr>
<td>Critical when fishing shorebased IFQ</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Restart system, follow troubleshooting guidance. Carry and connect spare camera.</td>
<td>Vessel operator may not depart on trip until malfunction is repaired or vessel operator voluntarily obtains observer.</td>
</tr>
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<td>Malfunction Type</td>
<td>Critical/Not Critical</td>
<td>Report to AMR?</td>
<td>Report in Log?</td>
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<tr>
<td>Drum sensor</td>
<td>Not critical</td>
<td>Y</td>
<td>Y</td>
<td>Carry spare reflectors.</td>
<td>Vessel operator may resume fishing but must trigger video recording manually.</td>
</tr>
<tr>
<td>Hydraulic sensor</td>
<td>Not critical</td>
<td>Y</td>
<td>Y</td>
<td>Restart system. Follow troubleshooting guidance.</td>
<td>Vessel operator may resume fishing but must trigger video recording manually.</td>
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<tr>
<td>Drum and hydraulic sensors</td>
<td>Critical</td>
<td>Y</td>
<td>Y</td>
<td>Restart system. Follow troubleshooting guidance. Carry spare reflectors.</td>
<td>Vessel operator may resume fishing but must trigger video recording manually.</td>
</tr>
<tr>
<td>GPS</td>
<td>Critical</td>
<td>Y</td>
<td>Y</td>
<td>Restart system.</td>
<td>If not resolved, vessel operator must return to port.</td>
</tr>
<tr>
<td>Keyboard</td>
<td>Not critical</td>
<td>Y</td>
<td>Y</td>
<td>Carry spare USB keyboard. Connect spare keyboard.</td>
<td>Vessel operator may resume fishing provided cameras are recording without keyboard. Otherwise return to port.</td>
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<td>Monitor</td>
<td>Critical if manual record is required.</td>
<td>Y</td>
<td>Y</td>
<td>Carry spare USB keyboard. Connect spare keyboard.</td>
<td>If not resolved, vessel operator must return to port.</td>
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<td>Monitor</td>
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<td>Y</td>
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<td>Connect to a different VGA monitor.</td>
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<td>------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Control box</td>
<td>Critical</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>If not resolved, vessel operator must return to port.</td>
</tr>
<tr>
<td>Green Screen</td>
<td>Critical</td>
<td>No, unless unresolved.</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>If not resolved, vessel operator must return to port.</td>
</tr>
<tr>
<td>Lighting</td>
<td>Critical</td>
<td>No</td>
<td>Y</td>
<td>Vessel operator will not retrieve gear at night</td>
<td>Vessel operator may resume fishing provided the vessel operator does not retrieve gear at night (i.e., 30 minutes before official sunset to 30 minutes after official dawn). Otherwise return to port.</td>
</tr>
<tr>
<td>Stern View Camera</td>
<td>Critical</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>If not resolved, vessel operator must return to port.</td>
</tr>
<tr>
<td>Deck View Camera</td>
<td>Not critical when fishing mothership</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>Vessel operator may resume fishing.</td>
</tr>
<tr>
<td></td>
<td>Critical when fishing shorebased IFQ</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>If not resolved, vessel operator must return to port.</td>
</tr>
<tr>
<td></td>
<td>Vessel operator may resume fishing provided all discards occur off the starboard side for the remainder of the trip. Otherwise return to port.</td>
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<td></td>
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</tr>
<tr>
<td>Port Discard Camera</td>
<td>Not critical when fishing mothership</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>Vessel operator may resume fishing.</td>
</tr>
<tr>
<td></td>
<td>Critical when fishing shorebased</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>Vessel operator may resume fishing provided all discards occur off the starboard side for the remainder of the trip. Otherwise return to port.</td>
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<td>Malfunction Type</td>
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<td>IFQ</td>
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<td></td>
<td>operator and crew will not discard off port side.</td>
<td></td>
</tr>
<tr>
<td>Starboard Discard Camera</td>
<td>Not critical when fishing mothership</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>Vessel operator may resume fishing.</td>
</tr>
<tr>
<td></td>
<td>Critical when fishing shorebased IFQ</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance. Vessel operator and crew will not discard off starboard side.</td>
<td>Vessel operator may resume fishing provided all discards occur off the port side for the remainder of trip. Otherwise return to port.</td>
</tr>
<tr>
<td>Both Port Discard and Starboard Discard Cameras</td>
<td>Not critical when fishing mothership</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance.</td>
<td>Vessel operator may resume fishing.</td>
</tr>
<tr>
<td></td>
<td>Critical when fishing shorebased IFQ</td>
<td>Y</td>
<td>Y</td>
<td>Restart system, follow troubleshooting guidance. Carry and connect spare camera.</td>
<td>If not resolved, vessel operator must return to port.</td>
</tr>
</tbody>
</table>
APPENDIX A. EM Installation:
LISA MELINDA

Vessel Overview

Vessel Name: LISA MELINDA
Vessel Number: 584360
Vessel ID: 584360
Vessel Name: LISA MELINDA
Skipper Name: Dave Smith
Skipper Phone: 541-270-2085
Skipper Email: fishingfool4.ds@gmail.com
Gear Type: Unspecified Midwater Trawls
Alternate Contact: Lisa Melinda Fisheries Inc. (permit holder)
Alternate Phone: (541) 270-2085
Alternate Email: fishingfool4.ds@gmail.com

Deck Diagram

Discards

Each Holds ~ 20,000 lbs

Discard Control Point

1.47m 2.03m 2.62m

1.47m 2.03m

1.73m 2.44m 1.73m

1.73m 2.44m 1.73m

2.44m 1.83m 1.83m 2.44m

Lisa Melinda Deck Diagram

Discards

1.14m

1.83m

1.83m

1.14m

2.44m
Cameras

Camera Name: Discard Starboard
Location: Purpose Built Structure
Objective: Discards
Aim: Starboard
Hardware: Vivotek (FD8134)
FPS: 5
Recording Trigger: ANO/ECA (pressure and rotation)
Run On Time: 2 hr
Recording Exceptions: In Port
Critical Camera

Camera Name: Deck View
Location: Mast
Objective: Deck
Aim: Overview
Hardware: Vivotek (FD8134)
FPS: 5
Recording Trigger: Always
Run On Time: 2 hr
Recording Exceptions: Disabled
Critical Camera

Camera Name: Stern View
Location: Mast
Objective: Deck
Aim: Stern
Hardware: Vivotek (FD8134)
FPS: 5
Recording Trigger: ANO/ECA (pressure and rotation)
Run On Time: 2 hr
Recording Exceptions: In Port
Critical Camera

525 Head Street, Victoria, BC V9A 5S1 Canada | ph: 1.250.383.4535 | fax: 1.250.383.0103 | amr@archipelago.ca
**APPENDIX A. EM Installation: LISA MELINDA**

<table>
<thead>
<tr>
<th>Camera Name</th>
<th>Discard Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Purpose Built Structure</td>
</tr>
<tr>
<td>Objective</td>
<td>Discards</td>
</tr>
<tr>
<td>Aim</td>
<td>Port</td>
</tr>
<tr>
<td>Hardware</td>
<td>Vivotek (FD8134)</td>
</tr>
<tr>
<td>FPS</td>
<td>5</td>
</tr>
<tr>
<td>Recording Trigger</td>
<td>ANO/ECA (pressure and rotation)</td>
</tr>
<tr>
<td>Run On Time</td>
<td>2 hr</td>
</tr>
<tr>
<td>Recording Exceptions</td>
<td>In Port</td>
</tr>
<tr>
<td>Critical Camera</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Discard Control Points**

Stern Ramp and forward scuppers on port and starboard sides.
## Installed Equipment

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Location/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position Tracking Sensor</td>
<td>GPS OEM19xHVS</td>
</tr>
<tr>
<td>Position Tracking Sensor Location</td>
<td>Mast</td>
</tr>
<tr>
<td>Position Tracking Power Source</td>
<td>Control Box</td>
</tr>
<tr>
<td>Rotation Sensor</td>
<td>Rotation Sensor FALN-BN-0A</td>
</tr>
<tr>
<td>Rotation Sensor Location</td>
<td>Winch</td>
</tr>
<tr>
<td>Hydraulics Sensor 1</td>
<td>Analog Pressure Sensor (2500 PSI rated)</td>
</tr>
<tr>
<td>Hydraulics Location 1</td>
<td>Hydraulic System Engine Room</td>
</tr>
<tr>
<td>Hydraulics Sensor 2</td>
<td></td>
</tr>
<tr>
<td>Hydraulics Location 2</td>
<td></td>
</tr>
<tr>
<td>Electric Switch Sensor</td>
<td></td>
</tr>
<tr>
<td>Electric Switch Location</td>
<td></td>
</tr>
<tr>
<td>Sleep Sensor</td>
<td></td>
</tr>
<tr>
<td>Control Centre Location</td>
<td>Wheelhouse</td>
</tr>
<tr>
<td>Control Centre Power Source</td>
<td></td>
</tr>
<tr>
<td>Monitor Location</td>
<td>Wheelhouse</td>
</tr>
<tr>
<td>EM Observe Version</td>
<td>Rev5</td>
</tr>
<tr>
<td>Software</td>
<td>EMR 5.0.17</td>
</tr>
<tr>
<td>Encryption Installed</td>
<td></td>
</tr>
</tbody>
</table>

## Comments

**System Settings:**
The EM system records sensor every 10 seconds for the duration of the fishing trip when powered on. The EM system is configured to record video from the first fishing activity until return to port. To achieve this, video recording is triggered when the hydraulic sensor detects pressure equal to or greater than 125 psi or the drum sensor registers 1 or more turns. The overview camera will record continuously while the EM system is on until the EM system is manually turned off.
Appendix B: EM Reference Guide

Running a Function Test

Answer each question by clicking either the “Yes” or the “No” button.

1. **Run**: On the EM Record home screen, click “Run a Function Test”.
2. **Start**: To begin the test, click the “Proceed” arrow.
3. **GPS Test**: Check the displayed GPS location. Is it accurate? (Note that EM Record displays GPS coordinates in degrees).
4. **Pressure (Hydraulic) Tests**: Start the engine and turn on the hydraulics. With the hydraulics engaged, does the AN0/AN1 value exceed the “Trigger if” value? (If you have more than one hydraulic sensor, there will be a separate test for each one.)
5. **Drum Counter Test (will only appear if you have a drum sensor)**: Activate the drum that engages the rotation sensor. Does the counter indicate each rotation?
6. **Camera Recording Test**: Allow each camera view to load, and the top banner to turn RED (this may take several seconds). Does the camera view banner turn RED and say “Function Test” to indicate recording? Is each camera properly aimed and focused?
7. **Disk Space Test**: Is there enough disk capacity (recording time) to cover your trip?
8. **Function Test Done**: If you answered NO to any questions during the test, call the EM Service Line (see Program Contacts To finish the test, click the green check mark.

---

Start

GPS

Pressure

Drum

Disk

Done

#2 Proceed

#3 GPS location in degrees

#4 Does the AN0 value exceed the “Trigger if” value with hydraulics engaged?

#5 Does the count (turns) increase as the drum/equipment turns?

#6 Does the count (turns) increase as the drum/equipment turns?

#7 Is there enough recording time to cover your trip? Ration?

#8 Did you answer NO to any questions? If so, call the EM Service Line to report this information.

Finish test

---

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Exchanging a Data Drive

To exchange a data drive with a new one, follow this procedure. **Note that before you begin**, ensure that you have the protective case for the data drive that is currently in your EM system, and a new blank data drive and protective case.

**To exchange a data drive:**

1. With the EM system running, click on the Data Integrity Report icon located on the top row of the home screen. It may take several minutes for the Data Integrity Report to open if you have a full or nearly full data drive.

2. The Data Integrity Report window will be displayed. Click the “Shutdown and end trip or swap drive” button located on the bottom left corner of the Data Integrity Report window. The system will automatically initiate the shutdown sequence.

3. When the control center has shut down (no display on monitor), remove the data drive from the control center and place it in the protective case. (See the following section “Removing a Data Drive.”)

4. Install and secure the new drive in the drive bay (see “Installing a Data Drive” later in this section), and then press and hold the power button for three seconds and allow the system to restart.

5. The system will display several messages as it starts up and will need to restart itself, as indicated by the onscreen message. After the system restarts, the “60 second disk test” will run.

6. At the end of the 60 second disk test, the system will display several messages while the data drive is being prepared, and will automatically restart a final time before loading to the home screen with live camera views. This process will take approximately one minute.

7. If you are required to ship the drive, place the removed data drive (in its protective case) inside the shipping envelopes along with copies of all appropriate logbooks within 24 hours of landing.
   - See Program Contacts for the shipping address.
   - For safe packaging instructions, see “Packaging a Data Drive” later in this section).
   - Ship via priority mail, UPS or FedEx only.
Removing a Data Drive

To remove the data drive:

1. Loosen the security fastener knob by turning it counter clockwise, and swing the security fastener counter clockwise to the upside down position.

2. Slide the drive door release to the right until the door springs open.

3. Pull out the drive, holding the left corner to avoid damage. Avoid touching any other areas of the drive with your fingers to prevent damage.

4. Insert the drive into the protective case.

5. Snap the protective case lid shut, and record your vessel name on the label.
Installing a Data Drive

To install the data drive:

1. Open the drive door all the way. Remove the new data drive from the protective case. Ensure you grab it on the corner shown below. **Avoid** touching any other areas of the drive with your fingers to prevent damage.

2. Insert the drive fully, with the manufacture’s label facing up, and the gold colored contacts facing towards the drive bay.

3. Close the drive door until you hear it click. It should not spring open independently. Slide the security fastener back in place and tighten the security knob, turning clockwise.
4. Press and hold the power button for two seconds and allow the system to re-start.

Packaging a Data Drive

To protect the hard drive (and ensure the integrity of the stored data) follow these guidelines when packing a hard drive for shipping.

1. Place the hard drive inside the protective plastic case and ensure that the lid of the case is firmly closed.

2. When shipping more than one hard drive at a time, stack the cases together. The protective plastic cases have tabs on the top and bottom that allow the cases to slide together and lock. If the tabs are broken, lightly tape the protective cases together instead.

3. Place the drives inside a postal or courier service envelope or wrapping bag along with the appropriate logbook pages. Add a layer or two of bubble wrap or other protective padding material around the hard drive case(s).
EM System Troubleshooting Procedures

If you are having technical issues with your EM equipment, please complete the appropriate troubleshooting steps before calling to report the issue.

- You will be asked to verify the troubleshooting procedures that you have completed by the support technician answering your call.
- If you are having camera view issues, you will be asked to report which camera(s) is having the issue (stern view, deck view, checker/hopper view, hauler view etc.)
- If the appropriate troubleshooting step asks you to reboot the system, record the time and date of the reboot in your logbook.
- If error messages are displayed on your screen, take a photo of the error message or record the exact wording of the message.

After you have performed the appropriate troubleshooting, call the Technical Support Line to in Program Contacts.

System Does Not Start / No Display on Monitor

Consider the following:

- If you have a sleep sensor installed, the system should automatically start within three minutes of starting the main engine.
- If you do not have a sleep sensor installed, press and hold the power button for two seconds to begin the power up process. Be patient as the system may take up to three minutes to start after pressing the power button. (The longer the system has been off, the longer it may take for the internal UPS to charge and enable the system to start.)

If, after turning the main engine on (or pressing the power button) and waiting three minutes, the system still has not started (no signal on the monitor), do the following:

1. **Ensure the system is receiving adequate power**
   a. Examine the status lights located on the front right of the control center.
   b. The **power light** should be solid **GREEN** indicating sufficient power is being supplied to the control centre. If the power light is not solid green:
      i. If the control centre is DC powered, ensure sufficient DC power is being supplied to the system (between 11 to 34 volts DC)
      ii. If the system is being power by an AC power supply, ensure all connections to the power supply are good, and that the green LED light on the power supply is on.
2. **Check the monitor function**
   a. Ensure the monitor’s power cable is connected at the rear of the monitor and that the monitor is powered on (green power light on at front of monitor)
   b. Ensure the VGA cable is properly connected and secured at the rear of the monitor and that all VGA extension connections are good.

**System Display Frozen or Solid Green Screen**
If the live video feed on the monitor has frozen, or the screen has turned solid green (nothing displayed), do the following:

**Reboot the system:**
1. **Shutdown the system:** Press and hold the power button for two seconds to initiate the shutdown sequence. A number of messages will be displayed during the shutdown sequence. The shutdown is complete when the monitor displays “no signal.”
2. **Restart the system:** Press and hold the power button for two seconds to initiate the start-up sequence (it may take up to three minutes for the system to start after the power button has been pressed).

**Camera Issues: No Live Video Feed Displayed**
If the system has lost a camera view, the camera Status banner (located at the top of each camera view window) will display either “Searching” or “Initializing”;

**If the camera view status banner displays “Searching”:**
- **Reboot the system:** Press and hold the power button for two seconds to initiate the start-up sequence (it may take up to three minutes for the system to start after the power button has been pressed).

**If the camera view status banner displays “Initializing”:**
1. Be patient: The system software is designed to automatically reboot the system after four minutes of a camera entering the “Initializing” state. The system will display a message in the centre of the screen “Restarting system: a camera failed to initialize” as it initiates the reboot sequence.
2. Ensure you have waited four minutes to allow the system to reboot.
3. The software will attempt to reboot the system up to three times (if necessary) in order to reset the cameras. (Allow four minutes between each reboot)
4. If the system fails to automatically reboot, initiate a manual reboot;
a. **Shutdown the system:** Press and hold the power button for two seconds to initiate the shutdown sequence. A number of messages will be displayed during the shutdown sequence. The shutdown is complete when the monitor displays “no signal.”

b. **Restart the system:** Press and hold the power button for two seconds to initiate the start-up sequence (it may take up to three minutes for the system to start after the power button has been pressed).

**Data Drive Exchange: System Does Not Shutdown**

If after you click the Data Integrity Report icon and click “Shutdown and end trip or swap drive,” the control centre does not shut itself down (this should take about 30 seconds), do the following:

1. **Shutdown the system:** Press and hold the power button for two seconds to initiate the shutdown sequence. A number of messages will be displayed during the shutdown sequence. The shutdown is complete when the monitor displays “no signal.”

2. Remove the data drive, insert a new blank data drive and restart the system to initialize the new data drive.

3. Package the removed drive for shipping along with the appropriate log pages as per normal.

**Data Drive Exchange: Error Messages**

If, after exchanging a data drive, you encounter an error that reads “**Hard Disk Initialization Error, system cannot run**” or “**Media Read/Write Error,**” the data drive that was just installed is non-functional. Do the following:

4. **Shutdown the system:** Press and hold the power button for two seconds to initiate the shutdown sequence. A number of messages will be displayed during the shutdown sequence. The shutdown is complete when the monitor displays “no signal.”

5. Remove the currently installed data drive from the drive bay and perform a data drive exchange using your backup data drive (See Exchanging a Data Drive” earlier in this document).
# Appendix C: EM Program Contacts

## Primary Contacts

<table>
<thead>
<tr>
<th>Service Line</th>
<th>Contact Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EM Service Line</strong></td>
<td>Call: 1-844-AMR-FISH (1-844-267-3474)</td>
</tr>
<tr>
<td><strong>Pacific States Marine Fisheries Commission - shipping address for data drives</strong></td>
<td>PSMFC&lt;br&gt;Attn: EM Program&lt;br&gt;205 Spokane Street, Suite 100&lt;br&gt;Portland, Oregon 97202&lt;br&gt;(503)-595-3100</td>
</tr>
</tbody>
</table>

## Secondary Contacts

<table>
<thead>
<tr>
<th>Archipelago Marine Research</th>
<th>Office: 1-250-383-4535 (Monday through Friday, 8:30 to 4:30 Pacific Time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific States Marine Fisheries Commission</td>
<td>Courtney Paiva: 503-595-3118</td>
</tr>
</tbody>
</table>
APPENDIX D. Observer Information Sheet

Project Objective: To test the viability of Electronic Monitoring (EM) as a source of data to document individual accountability of catch and bycatch in the Pacific Trawl Rationalization Program.

Welcome Aboard an Electronic Monitoring (EM) Exempted Fishing Permit (EFP) Vessel

The EM program has plans to deploy EM systems on IFQ fishing vessels fishing bottom trawl, fixed, and midwater trawl gears. Please take a few minutes to read through this instruction sheet and acquaint yourself with camera and equipment positioning and the skipper’s instructions.

Electronic Monitoring System (EMS) Equipment for Archipelago Marine Research

Observer Instructions:

• Perform all WCGOP duties as you would on any standard trip.
• Do not handle or interact with the equipment in any manner (e.g., adjusting, blocking, cleaning).
• Avoid interaction with winch and hydraulic sensors.
• Use the monitor in the wheelhouse to get a sense of where cameras are pointing on the deck. Think about body positioning relative to the camera focused on your work area to avoid blocking view of the fish.
• Any discarding of catch must be done in full view of a camera, if safe. All vessels have designated “discard control points”. Refer to the vessel’s Individual Vessel Monitoring Plan to learn where these are. Please use these locations on the vessel when discarding sampled catch.
• Skippers are required to fill out logbooks as part of the EFP. If asked, and you have information or expertise that might be useful in this process (identification, weight estimation, etc.), please provide what assistance you can, as time allows.