Electronic Monitoring Workgroup Meeting
July 30-31, 2015 | Anchorage, AK
Overview of Spring 2015 EM Trip Debrief Survey Responses

Twelve in-person skipper surveys were administered by Archipelago Marine Research Ltd. (AMR) field staff between March and June of 2015. The survey was developed by Alaska Longline Fishermen's Association (ALFA). One vessel filled out a separate survey after each of two EM trips. The 11 other vessels completed a single survey for the season. Based on skippers' feedback, AMR determined that filling out surveys after each trip would yield repetitive results, and was not the best use of time resources. A blank copy of the survey can be found at the end of this report.

Experience with the performance of EM system attributes:

The survey provided the respondent with six prompts on a Likert scale, where a discreet selection is made from among the following: strongly satisfied, somewhat satisfied, neutral, somewhat dissatisfied, strongly dissatisfied.

- **Camera Trigger Sensor**
- **GPS**
- **Camera View Angles**
- **Monitor Placement**
- **Camera View**
- **Reliability & Consistency of System Function**

For each of the above prompts, the respondent could also offer a comment response to, *"What improvements are needed to the above?"* Responses to that question are included in this report under the heading for general observations and suggestions.

Table 1 Skipper ratings of EM system attributes

	Strongly Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Strongly Dissatisfied
CAM_TRIGGER_SENSOR	5	1	1	3	2
GPS *	7	0	3	0	0
CAM_VIEW_ANGLE	7	2	1	1	1
MONITOR_PLACEMENT	8	2	1	1	0
CAM_VIEW	7	2	1	2	0
SYSTEM_RELIABILITY **	4	2	2	1	2

* Two respondents did not answer this question
** One respondent marked System Reliability as "Neutral/Somewhat Dissatisfied"

The camera trigger sensor elicited the most negative responses (5). System reliability was rated below neutral four times, including one response of "Neutral/Somewhat Dissatisfied". It should be noted that the one skipper who completed the survey after each of two trips upgraded all responses to "Strongly Satisfied" after the second trip. After the first trip, that skipper had rated the camera trigger sensor as "Neutral", and the camera view angles, camera view, and system reliability as "Somewhat Satisfied".

System installation:

Respondents were asked about the amount of skipper and crew time (hours) spent coordinating with AMR field staff to install the system. The survey did not ask whether an EM system had been installed on the vessel in a previous year, in which case installation time would be expectedly shorter due to residual wiring and experience with settings; the author of this summary will follow up on that point.

Skipper responses took various forms when stating how much time they spent coordinating with AMR staff to install the EM system. Eight individuals provided a number of hours, as requested. Those responses ranged from one to six hours, with an average of 3.75 and a median of four. One skipper indicated that he or she spent more than 24 hours on installation, though it was not clear whether that was all personal work time or whether 24 hours was meant to reflect a work-day or actual hours. Two skippers noted the total installation time (1.5 days and 3 days), but did not mark skipper or crew time. One of the latter skippers marked "N/A" for skipper and crew time, suggesting that he or she was reporting the amount of time that it took AMR staff to complete their work.

Only one of the 11 surveyed skippers reported that crewmembers spent time on the EM system installation. That vessel also reported an amount skipper-time much higher than that of other respondents.

System performance issues and technical support:

Five of 11 skippers reported experiencing and "issue" with their EM system. Descriptions included the following:

- Camera failure
- Computer error ("green screen", "check disk utility", failure to record or unable to confirm recording)
- Snow on camera lens
- Trouble cleaning camera while at-sea
- Intermittent power
- False recording events
- Camera continued recording to hard drive long after engine shut off

Skippers who experienced camera or computer failure reported calling for technical report, while those who experienced intermittent power, false recording, and other events did not. Three skippers reported spending one hour resolving, or attempting to resolve, the problem while at sea. No skipper reported that technical issues caused him or her to alter the fishing plan for the trip. Five skippers reported spending one or two hours resolving the technical issue or coordinating with AMR field staff while in port (one skipper noted that this occurred during regular "delivery time"). One skipper who experienced extra, unnecessary recording time noted that the hard drive would need to be replaced, which might indicate the expectation of a small amount of time spent in the future.

Safety hazards:

Two skippers responded to the prompt that asked if there were safety hazards associated with the system. One skipper noted that the system interfered with the VHF radio. Another skipper noted that cleaning the stern camera required a crew member to "hang out of the boat."

Operational impacts:

No skippers indicated that they had altered fish handling procedures on their vessel as a result of the EM system. One skipper asked the surveyor to let him know whether they needed to "show" unsellable fish to the camera prior to discarding.

No skippers indicated that they had changed the manner or time of day in which they set or hauled gear as a result of the EM system.

No skippers indicated that they had to reconfigure their deck space in order to accommodate the EM system.

One skipper indicated that he or she had installed additional equipment in order to make the EM system work better (examples provided included "additional lighting, maintenance tools, etc."). That respondent claimed to have purchased a hydraulic fitting at a cost of $30. One surveyed skipper did not provide a response (yes or no).

One skipper checked "Yes" when asked whether he or she used an eLog. No respondents provided recommendations for eLog improvements.

Observations and suggestions:

- Reliability ratings ranged from "very satisfied" and "robust" to "needs improvement" (paraphrased)
- Only survey to comment on service provider noted that support was courteous, professional, and the vessel was left in a clean condition
- Power
    - One skipper concerned about adequacy of power source
    - Skippers want to know how much power (amps) is being used – concerned about draining batteries while the engine was off
- Cameras
    - Camera angles needed to be adjusted for a shelter-deck setup
    - Seabird camera needed to be raised
    - Seabird camera doesn't need to record when the engine is off (shorten cut-off time to 15 minutes after hydraulics are switched off)
    - Aft and rail cameras were difficult to reach for cleaning and adjustment
    - Requested a bird's-eye camera view (180- degree or 360-degree)
- One skipper noted that dark daytime image made it difficult to speciate from the display

- Comments on suitability of the tested EM system for different types of vessels:
    - "Would be more difficult with a covered deck"
    - Vessels with good AC power supply
    - Not as suitable for a "wet vessel" (assumed to mean a hull design that sprays a lot of water)
    - Any vessel (2 respondents)

** Prepared by Sam Cunningham, NPFMC Staff

EM Trip Debrief Form

Vessel Name:_____ Date:_____

Please tell us about your experience with the performance of the following system attributes:

	Strongly Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Strongly Dissatisfied
Camera trigger sensor	☐	☐	☐	☐	☐
What improvements are needed to the above?					
GPS	☐	☐	☐	☐	☐
What improvements are needed to the above?					
Camera view angles	☐	☐	☐	☐	☐
What improvements are needed to the above?					
Monitor placement	☐	☐	☐	☐	☐
What improvements are needed to the above?					
Monitor view	☐	☐	☐	☐	☐
What improvements are needed to the above?					
Reliability & consistency of system function	☐	☐	☐	☐	☐

How much skipper and crew time was required to coordinate with EM field staff to install the system?

Skipper hours: _____. Crew hours: _____.

Were there any issues with this system during this trip? (e.g. intermittent power, unexpected recording times, dead batteries, dirty camera lenses, etc.)

Approximate number of hours spent to resolve the issue(s) at sea: _____.
Did you need to call for technical support? (Yes/No) _____

Did technical issues cause you to alter the plan for your fishing trip? If so, in what manner? (e.g. trip took longer, returned to port early, returned to a different port than originally planned, etc.)

Did the skipper or crew spend time in port resolving technical issues with the system, or coordinating with EM field service technicians?

Approximate number of hours spent to resolve the issue(s) in port: _____.

Were there any safety hazards associated with the system? (e.g. placement of wiring, interference with any vessel systems, placement of deck equipment, etc.)

*** Survey was designed by Alaska Longline Fishermen's Association (ALFA), and administered by Archipelago Marine Research Ltd.*

EM Trip Debrief Form

Please tell us about your experience with the responsibilities of a vessel operator carrying an EM system:

Did you alter fish handling because of the EM system? (e.g. different procedures for sorting, discarding, stowing catch, etc.)

Did the EM system cause you to change the way you set or haul gear? If so, how? (e.g. took longer to set/haul gear, set/hauled gear at a different time of day than normal, etc.)

Did you reconfigure your deck space to accommodate the EM system? If so, how?

Did you install additional equipment in order to make the EM system work better? (e.g. additional lighting, maintenance tools, etc.)

If you can, please estimate the amount of money spent: _____.

Did you use an eLog ? ☐ Yes ☐ No If yes, do you have recommendations for improvements?

General Comments:

Do you have any suggestions for improving the EM system (e.g. sensor used, equipment placement, power issues, etc.)?

What types of vessel would/would not be suited for this EM system? (e.g. overall size, deck configuration, fishery, etc)

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