

Fixed Gear Electronic Monitoring Workgroup - Minutes

May 15, 2018, NOAA AFSC, Seattle, WA

Workgroup: Bill Tweit (Chair)

Appointed fixed gear members: Dan Falvey (ALFA), Howard McElderry (AMR), Abby Turner-Franke (NPFA), Nancy Munro (SWI-absent), Jeff Stephan (UNMFS-phone)

Agency: Council – Elizabeth Figus, Diana Evans, Sam Cunningham (phone)
NMFS AFSC – Jennifer Ferdinand, Mike Vechter (phone), Lisa Thompson, Shannon Fitzgerald
NMFS Alaska Region – Jennifer Mondragon, Jennifer Watson, Alicia Miller
National Observer Program – Brett Alger; Lisa Peterson (Knauss Fellow)
NOAA Office of Law Enforcement – Brent Pristas
NOAA General Counsel – Tom Meyer, Alisha Falberg (Enforcement)
Pacific States Marine Fisheries Commission – Courtney Paiva, Dave Colpo, Jennifer Cahalan
ADFG – Trent Hartill
IPHC – Claude Dykstra

Others attending included: Mike Orcutt (AMR), Luke Szymanski (AIS-phone), Dane McFadden (AMR-phone), Brett Iwataki (Techsea; Observer), Brent Paine (UCB), Jim Johnson (DSFU), Michael Lake (AOI), Troy Quinlan (Techsea), Helena Delgado (Satlink)

The Chair opened the meeting with introductions and a discussion of the agenda.

Fixed gear EM program

Jennifer Ferdinand (AFSC) provided an **EM budget update**. Exact numbers were not available for the 2019 implemented program, but more information is expected by September. AFSC staff confirmed that it is the agency's priority to keep boats active that currently have EM systems installed, and further program expansion is dependent on agency funds. There are funds remaining on the PSFMC grant for reviewing 2017/2018 data, and the new EM contract will probably go into place in June of 2019.

One EMWG member mentioned that he would like to know whether the EM Workgroup wants the Council to authorize a move into EM as a maximum, and then have the ADP determine how that gets funded and what that might do to the sampling plan. *The NFWF has been receptive to funding startup costs for EM, especially purchasing startup systems. If the Council had a target number of vessels for the fixed gear EM program it would serve as a good backup for funding more of them.* One EMWG member knows of at least 3 vessels that were not able to get EM for 2018 due to various issues but would like to join in the future.

Coordination of funding sources

ALFA NFWF: Dan Falvey explained that ALFA got 450k for hardware and operations plus travel and stakeholder support funds for outreach. ALFA bought 230k of EM equipment for this round and they have another 55k left. They have 180k for work with Pac States for data review. That money is fully allocated and goes through the end of 2019.

Saltwater NFWF: Jared Fuller explained Saltwater received ~465k from NFWF to cover 2016-2018, ending August 31 this year and a second grant of ~445k running 2018 through 2019; this covered 11 vessels in the first and 26 vessels in the second grant, as well as increasing review efforts. Costs are hard to tie down due to shifts in funds and because EM gear is different across different vessel types. Saltwater has saved money by staging personnel in Anchorage, stacking system installs in both seasons, and mailing hard drives to PSMFC. Saltwater is trying to put together cost per sea day and is looking at roughly 10k per system. Overall, they used 260k in install costs, but 11 vessels came from the first fund, and there were additional changes to configure pot for longline EM systems. Review time has not been calculated yet. The Chair mentioned that in the longer term, the cost of an EM sea day under the smoothly running implementation scenario is a crucial number. Saltwater expects to have those numbers crunched at the end of 2018 or early 2019. *A trawl EMWG member said they thought the 2019 ADP would include projections for EM costs per day and encouraged providers to have that available. NMFS staff said that would likely mean having numbers available sometime in June.* The Chair emphasized that EM cost per day is a critical number, even if it must be ballparked for now. An EMWG member reminded everyone it is important to be clear about whether EM

cost per day includes review time or not. Another member added that estimates for 2019 costs from both providers to maintain their fleet and/or grow would be helpful for planning.

NMFS: Jennifer Ferdinand explained that 2017 figures for EM deployment costs are in Annual Report, posted for OAC, that is covered for the 118 boats from Archipelago. *Ms. Mondragon suggested reconvening a budget sub-group Chris Rilling had previously convened; the goal would be for cost estimates for 2019 from PSFMC for review and Saltwater, AMR, and ALFA boats; what different costs are, what is needed from NFWF and what is needed from the agency.* The Chair encouraged that group to continue, perhaps separately from trawl budget questions; that ongoing coordination has been valuable.

Update on 2018 implementation

Jennifer Watson provided an **update about VMP approvals** and explained that currently of the 141 vessels in the EM program, 34 still don't have VMPs approved as of May 15. That number on May 13 was 36, so they are coming in slowly. They have done 3 amendments, with a quick turnaround, mostly between EM review and service providers. The agency is providing information bulletins to fishermen. A challenge for the fixed gear fleet is showing seabirds to the cameras for accurate ID correctly.

E-signing of VMPs was discussed and it was confirmed that issue would be handed off to the OAC for future discussion. *An EMWG member further requested feedback about the opt-out period each year. NMFS staff confirmed that is November 1.* The member then mentioned that a feedback loop would be nice, to allow folks who have trouble complying with their VMP to know, so they might opt out before the next year if needed. A service provider representative explained they are struggling with the question of who should contact vessels about any issues (e.g., cleaning or turning off cameras), and Dane McFaddon has been contacting vessels for those reasons for Archipelago. Jared Fuller mentioned that Saltwater's reviewers have been contacting with their boats as needed. NMFS staff mentioned that she has heard vessels receive emails from providers or reviewers that are truncated, but they have had calls from owners not necessarily on the boat that they appreciate feedback when they are not on their vessel.

An EMWG member said when people tried to register last fall they received no confirmation about whether their registration went through, and then no response as to whether it was being processed. They received no word until providers called them. The EMWG member highlighted that people want confirmation that their emails have gone through, because one vessel did not make it into the program this year due to technical issues. NMFS staff responded that the issue was potentially related to the EM ODDS system being built just a few weeks before use, and they will work out something to resolve that issue in ODDS.

Courtney Paiva reported that overall **video review** is going well. Of 50 hard drives, 34 have been completed and PSFMC is currently working on last 16 of those; they are coming in fast now, so that number is going to skyrocket. PSFMC has had some water spots on cameras, but catch handling is good overall and the ODDS systems is working well. When there is an issue, reviewers can log it right away, so 2018 is going well. An EM service provider said one job of the service provider is to monitor comments logged, address them as appropriate, and close those comments with a date, so the history is logged. The provider representative said that the program needs tweaking but is working well for its first year.

A member of the public requested information about how hard disks are shipped. An EMWG member said they send hard drives within 2 days after a trip, in a mailer pre-addressed to PSFMC, and any post office in AK can send them. Ms. Paiva said the average is about 5 days from postmark to PSFMC and the turnaround time is about 7 calendar days right now. That results in roughly 2 weeks from fishing event to useable data.

A trawl EMWG member was interested in how they might prioritize video review if it takes a week to get a hard drive from a vessel. This could have implications for individual catch accountability for salmon. Courtney Paiva confirmed that for pollock vessels review would be a lot quicker; 7 calendar days would be lessened for trawl as opposed to longline. Ms. Paiva explained that whiting trawl takes 5-10 minutes per haul and one review can do multiple per day. Vessels send in hard drives with a tracking number, the office signs for it and logs everything. Then they upload the drive to server, wipe the drive, and send out hard drives to use again on the grounds. If no hard drive is received from a certain vessel for a few weeks, the ODDS system would flag that. A trawl EMWG member explained that data is encrypted at time of recording which

allows for flexibility because there is no opportunity for people without security to access it.

Another trawl EMWG member requested clarification about equipment failure protocols, because for him as a trawler the idea of having to end a trip in a remote area is a big deal. An EM provider explained that vessels are asked to run function tests prior to departure to identify issues that need addressing once they log into ODDS. In the event of a problem while at sea, a vessel is supposed to report the issue from sea by call or email if possible. If the issue cannot be resolved at sea, the vessel finishes the trip and must get the issue resolved upon return. A fixed gear member mentioned that issue was a big thing for longline (not having to return to port and leave gear on the grounds); self-check is great because it is due diligence for vessel owner and helps to have a really defined procedure for a fisherman to comply with and go.

An EM provider pointed out that moving forward for trawl EM, folks should consider where field services should be located. NMFS staff said they have templates for fixed gear; moving into trawl, there is need to determine EM objectives as well as what to do when issues arise; details may or may not be different. NMFS staff pointed out EM systems are new to trawl in AK but not elsewhere, so there are established practices to learn from.

A trawl member mentioned that in the report for last year, some percent of the longline fleet were not deploying streamer lines. NMFS staff clarified they were all fishing in areas where streamers were not required, so the system flagged it and they followed up. An EM provider added it is not always appropriate for the service provider to contact a vessel about enforcement issues; the EMWG might want to further define that. The Chair noted his assumption the Council does not want service providers to make those decisions on behalf of the agency. Another trawl member pointed out the EMWG was created to facilitate EM implementation and these are implementation issues that are likely over the next few years. NMFS staff confirmed EM data is now being used for catch accounting.

Other implementation issues

The ODDS system is working for the time-being, but staff were happy to report that the it is being improved, since it was initially put together very quickly. *The agency is planning to hire a new developer to focus exclusively on ODDS for EM.* That position needs to be recruited and filled, so users may expect to see a new system in 18 months at the earliest. An EMWG member reminded the group that re-programming of ODDS to allow pot fishermen who switch to trawl to be in pool would be helpful. Mr. Falvey drew the EMWG's attention to the multi-area question in ODDS, and a discussion took place about the limitations and requirements of the ODDS software program logic. Brent Pristas stressed the importance of people calling OLE with questions or concerns, because everyone's circumstance is a little different and any local enforcement office should be able to help. Staff agreed that was the best option until the ODDS program is significantly improved, which will not happen until the new developer is hired. Staff also reminded the EMWG that smaller improvements to ODDS are ongoing. *One EMWG member explained that clear advice about dealing with the multiple area question in ODDS would be helpful, so fishermen do not have to call in for assistance every time they use the system. Staff agreed this may be added to an FAQ list.*

Agency staff reminded the EMWG that moving forward in the long-term for video review, the goal of cooperative research was for Saltwater to build up protocol for video review. The agency wants data review to happen at the first source. Saltwater staff added that as the first source hard drive recipient, issues were able to be addressed as soon as the hard drives hit the dock, during processing and before review. Ongoing feedback is key for data quality and maybe it is less important to have the hard drives, if issues can be addressed. NMFS staff mentioned the agency is interested in transitioning to wireless data transfer but expects some boats will always send hard drives in the mail. An EM provider mentioned a lack of clear definition of service delivery approach envisioned for this program and choosing a type of information flow early may be beneficial. A trawl EMWG member added that in a perfect world, there would still be competition for data review. A fixed gear member questioned if the 3rd party review model is dropping out of the discussion, since a lot has been invested to develop that process.

It would be beneficial to remind the Council that they have not 'picked a lane' for service delivery and information flow/data review. The Council is interested in seeing how a couple different lanes will play out

over time, to allow different ideas to emerge about tackling one challenge. *NMFS staff confirmed NMFS has expressed the benefits of separating service providers and video review in the past, and they are interested in keeping options open.* The Chair reminded the EMWG that PSFMC reviews all longline EM footage, and addressing other service models may be a question for the trawl EMWG to tackle. An EM provider reminded the EMWG that Saltwater's model approaches EM like the observer program, where observer collects data and has a debrief. EM cameras are like observer eyes and then have reviewers be like the observer's brain and then the de-briefer checks those reviewer data. If a company were not allowed to review its own cameras, it would be sort of like saying that the observer wouldn't be able to use their own pen to record information. Another EM provider reminded the EMWG that the fixed gear EM program was backed into this issue because in one NFWF grant analysis was separated from field service and equipment provision and in another it was not. *One member added that the trawl EMWG may also want to think about differences between EM possibilities in full vs. partial coverage.*

Identifying pot gear catch handling requirements

Mr. Fuller provided an update on EM progress on pot vessels at Saltwater. In 2017, Saltwater had a total of EM trips 54, 40 of which were pot and 13 longline (1 trip was cancelled). This was a total of 357 sea days (256 pot and 101 longline). The average pot trip length was 6.4 days (two tender vessels were elected for tender pot trips). Determining what to do when a vessel is going out for 48 and 62 days was a challenge. The average longline trip for their vessels was 7.8 days.

In the 2017 pot A season, Saltwater EM covered a total of 75 sea days and the average trip length was only 3.75 days, since there were no tender trips during this time. About 87% of logbooks were completed and there were only a handful of issues overall (mostly water spots and dirty cameras—two vessels made up majority of these issues because they had two trips back to back and were not able to be hailed about the issues). Most vessels are getting hard drives out when they are supposed to, and some are using tender supply vessels to take hard drives back to port. Once a hard drive is postmarked, Saltwater can turn it around and process it in 1 day and get it reviewed in 1-3 days (longline takes 3-5 days). Saltwater encountered the issue of a vessel calling about ODDS program issues of multiple areas. Saltwater typically has feedback for boats the same day hard drives are processed and can talk to skippers about feedback forms in real time. They have reminded people where to stand while showing birds or if using the restroom, and feedback with the agency has gone remarkably smooth considering the short turnaround time of installs and start dates. Saltwater is very thankful that the agency staff worked over the weekend to get all their boats in the water and fishing on time.

The Chair requested an update on catch handling time (and clearing tables between hauls) for EM on pot hauls. Agency staff explained that the low cod TACs have made this a challenging year to do that. Mr. Fuller explained that between 2017 and 2018 whelks and some other invertebrates were overwhelming in some areas, but minimal crew handling changes have helped make sure that those pots get properly cleared for seeing what is in them. The Chair mentioned the theory that EM fishing requires some slowing of fishing. Mr. Fuller indicated it may be possible to measure on a pot by pot basis, but he was not sure. An EMWG member mentioned it is easier to clear the table without altering behavior when fishing is bad, and clearing take more effort and time when fishing is good. *Agency staff indicated willingness to wait a little longer on requiring specific standards for catch handling, until clearer answers are available.* They expect to incorporate EM into Chapter 3 of the Annual Report and look at monitoring effects. If there are more cod next year, longer-term decisions may be made about catch handling on pot vessels.

Implementation of data into catch accounting system

Staff noted implementation of pot EM data into the catch accounting system will be kicking into gear over the summer. There is no anticipation of issues having this in place and ready to go for next year. There is an issue of time for review with pot vessels and catch handling procedures that have to do with estimating retained catch, especially for cod. There have been issues of snails and brittle stars, and staff envision issues with little crab, in terms of estimating with large numbers of small organisms in pots. Saltwater had a boat had a discard tote, which could make it easier for a video reviewer to hone in on just discards; so, there are some things to think about. *After the June Council meeting people will be getting together to meet about that*

whether to seek discarded or retained catch accounting for pot vessels, and they expect to have the decision made by the next OAC meeting, to be written into VMPs. An EMWG member reminded the agency of the importance of communicating with the fleet about planned changes, to inform vessels as well as get feedback about feasibility of proposed changes before they are formally added to the ADP.

The future of fixed gear implementation

The group discussed the future of fixed gear implementation. Members reflected on successes and challenges and discussed how best to hand off the future of EM implementation to the OAC. **Reflections included points for trawl EMWG members to think about regarding EM development:**

- There is a need for clear objectives for EM monitoring early in the process
- ‘It’s about people not technology’ = There is a need for a process to align interests of stakeholders, in-season fishery managers, stock assessment scientists, regulatory writers, and EM service providers early on. If aligned, progress can be swift; if not, there will be long delays.
- There is a need for regular, timely written reporting on EM program development metrics including system reliability, data quality, costs, and success in meeting monitoring objectives. Third party review in pilot program EM data may be helpful to ensure completeness and objectivity.
- Developing a workplan and timeline to align NMFS Regional EM Implementation Plan updates with the EMWG workplan, and incorporate Council validation of milestones increases potential for successful NMFS and NFWF funding of start-up costs.
- There is a need to build ‘EM socialization’ into timeline to allow uptake of new approaches.

One EMWG member mentioned the opportunity to work with agency and Council staff through the EMWG has been extremely valuable, rather than just pushing ideas through as quickly as possible. She would not have wanted implementation to go faster, because the fleet was provided time to get socialized to the idea and the technology. Another member noted appreciation of the PSFMC annual report. Cooperative research funds have allowed the group to go in a different direction than what might be the first choice of the agency alone, which gives industry a lot of control. The member also mentioned that it took a few years for the fixed gear EMWG to clarify objectives and get on the same page, but once they agreed on equipment and objectives, things went quickly. NMFS staff mentioned background work was key to the success of getting from Final Action in December 2016 to writing regulations in a short amount of time. The Chair added that consistent and collaborative work with the agency is key for ensuring timely achievement of goals.

The agency noted an interest in hearing the questions the fleet is asking in relation to research and development and what they think would be functional on their vessels. It is also important to remember grants for research and development work are competitive, and applications must have applicability to other regions. Alaska has been pushing the envelope in developing new technologies in part because we have a fleet willing to adopt the products of the work. EMWG members agreed that having a dialogue between folks in the fleet and the national level impacts is important. Brett Alger mentioned the example that the chute research work that Farron Wallace and others have done is interesting and innovative at the national level. There is national interest in developing pilot programs in one region with the goal of being able to implement them in multiple regions. Agency staff mentioned that regional implementation plans for EM will be updated, potentially in time for the 2019 funding cycle. The Chair highlighted that the trawl EMWG might want to put some time or energy into helping agency write those in a way that will help get funding.

A trawl member asked about interest in joining the EM program throughout the fixed gear fleet. A fixed gear member stated interest is strong and recruiting people to join EM is not hard. The member also asked about fixed gear EM costs. Another fixed gear member said part of the fee will go to replacing equipment as it ages out, but to date they have focused on startup costs. In full coverage, vessels would buy their own equipment.

In their discussion about handing off fixed gear EM issues to the OAC, the fixed gear EMWG members recommended short and long-term considerations for the OAC. In the short-term, *members requested NMFS finalize an estimate of 2019 EM pool grant funds available, including NMFS funds available for EM operations before/after the start of the new EM contract. It was noted that for planning purposes, in the past it has been helpful for the Council to identify a total number of vessels as a goal for the EM selection pool.*

For the 2018 ADP, the Council approved including up to 165 boats, provided funding was available; as the current pool includes 141 vessels, this would still allow some opportunity for growth in 2019. Members also requested NMFS collect cost data from all EM service providers in a timely and consistent manner for inclusion in the 2018 Annual Report. Members noted the importance of summarizing information about the amount and disposition of ALFA and Saltwater grant funds for equipment and field support.

In the long-term, fixed gear EMWG members recommend the OAC set aside time on every meeting agenda for tracking and discussing the fixed gear EM, including:

1. Tracking the ongoing number of boats in the EM program
2. Tracking opportunities for startup funding for new equipment
3. Clarifying vessel operator responsibilities concerning EM logistics and data quality, including providing advanced notice of changes at May meeting for September ADP when possible.
4. Advising the agency on how best to formalize a process to include costs in the Annual Report.
5. Supporting integration of new technologies into the ongoing EM program and providing input to NMFS on research and development needs, including providing feedback about work at the national level. This may include creation of a subgroup for vetting the status of development of new technologies.
6. Providing input to the Council and NMFS about ways to gain efficiencies and general EM cost reduction, including promoting synergies within the region and across sectors and seeking new opportunities for EM (e.g., on vessels <40 ft LOA).
7. Discussing Council prioritization for vessels <40 ft LOA.
8. Tracking the development of EM services and video review contracts and/or grants and providing input on potential different service provider and data review models (this is linked to #6).

The Chair said since the OAC has a lot on its plate, he would not expect the OAC to track all details of EM implementation and the agency will play a stronger role in the details over time. Generally, it will be expected for the agency to flag things that may benefit from OAC consideration each year, and the OAC will be expected to track vessels using EM each year and think about cost allocation in the EM program. NMFS staff confirmed cost distribution issues will emerge in the ADP each year.

Scheduling & Other issues

The Chair thanked fixed gear EMWG members for their service and noted that the next meeting of the reconstituted trawl EMWG will take place August 23-24, in Seattle, WA, without a fixed gear component.