



Fishery Monitoring Advisory Committee REPORT*

May 20-21, 2019, in Seattle, WA

The FMAC met to review the 2018 Annual Report, as well as receive updates about other monitoring issues in the North Pacific.

Committee Members in attendance:

Bill Tweit (Chair)	Kathy Hansen (SEAFA)	Abby Snedeker (Active Observer)
Elizabeth Figus (NPFMC)	Stacey Hansen (SWI)	Luke Szymanski (AIS)
Bob Alverson (FVOA)	Nicole Kimball (PSPA)	Abigail Turner-Franke (NPFA)
Julie Bonney (AGDB)	Michael Lake (AOI)	Caitlin Yeager (UFC)
Beth Concepcion (A80)	Chad See (FLCC)	
Dan Falvey (ALFA)		

Members absent: Noelle Rucinski (Active Observer), Tom Evich (Former Fisherman)

Agency Staff:

Jennifer Ferdinand (NMFS)	Jennifer Cahalan (PSMFC),	Brett Iwataki (PSMFC)
Craig Faunce (NMFS)	Phil Ganz (PSMFC)	Andy Kingham (NMFS)
Alicia Miller (NMFS)	Tom Meyer (NMFS)	

Others in attendance:

Molly Zaleski (Oceana-PH)	Stephen Keith (IPHC-PH)	Jim Johnson (DSFU-PH)
Ernie Weiss (AEB-PH)	Jaclyn Smith (OLE-PH)	Ruth Christiansen (UCB)
Charlotte Levy (AEB-PH)	Ed Hansen	

Introductions

The Chair opened the meeting with introductions and a discussion of the agenda. The FMAC was pleased to welcome new member Abby Snedeker, an active observer who comes to the FMAC with 4 years of experience, including working on electronic monitoring with Saltwater, Inc. since 2017.

2018 Annual Report

The 2018 Annual Report of the Observer Program was presented to the FMAC by Jennifer Ferdinand, Phil Ganz, Jaclyn Smith, and Andy Kingham. The Annual Report is an important component of the annual observer program process, because it provides information necessary to assess whether deployment objectives of the Observer Program have been met.

Jennifer Ferdinand presented fees and budget information. The FMAC had a variety of questions about adding context (in the form of additional text and/or footnotes) to aid in communicating how costs compare. This included a discussion about how to best present carryover funds across years. The Chair noted the importance of highlighting that the Fixed Gear EM program is focused on catch accounting, not

compliance, which impacts both data use and costs. One FMAC member also noted that **it would be good to develop a common structure for reporting costs per day in Fixed Gear EM across years, so that a potential future Trawl EM program can report costs using that same structure.**

Phil Ganz presented the deployment performance review that evaluated the deployment of observers and EM in 2018 relative to the intended sampling plan and goals (Chapter 3 of the 2018 Annual Report). In measuring and understanding temporal bias, one FMAC member recommended consulting with stakeholders who would be impacted by regulatory solutions. Another member noted that if the agency has ideas they want industry to review, earlier is better, and waiting until the September FMAC meeting may be too late to meaningfully inform the 2020 Annual Deployment Plan (ADP) document.

As they did during discussion of the previous Annual Report (2017), the FMAC also discussed some of the performance metrics results from 2018 that were presented as not meeting expectations. One member noted concern that in the Executive Summary and in presentations of the report, using “yes” and “no” to describe whether goals were achieved sometimes results in members of the public getting an unduly negative impression of the program overall. **The FMAC recommends that the agency provide context around summary slides in the Annual Report presentation, and Committee members suggested characterizing results in terms of whether a given metric is of meaningful concern for managers, or not.** A member further noted that understanding how statistical significance relates to real-life measurements like total trip lengths in hours would be helpful. Another member noted that an example of a helpful distinction to draw could be to note that temporal bias in EM data for 2018 resulted from the video review process, and not from the fleet. The FMAC agreed that timely review impacts whether performance metrics are achieved, how feedback is communicated between reviewers and EM vessels, and how well the overall catch accounting component of Fixed Gear EM functions.

Relating to pelagic and non-pelagic trawl, it was also noted that some patterns have emerged over time between the two gear types and at some point these should be assessed even if they are not part of the current set of metrics (they are currently assessed together as one gear type). One member noted that the potential 2020 Trawl EM Exempted Fishing Permit (EFP) may result in an easy way to compare pelagic and non-pelagic trawl trips. NMFS staff were receptive to all suggestions. **Staff further noted that the Draft 2020 ADP will include two coverage scenarios calculations for trawl vessels: one with all vessels in the observer coverage category and one with a selection of pelagic trawl trips removed from observer requirements and placed into zero coverage for a potential EFP (where the EFP would define the observer coverage).**

In May 2018, the FMAC heard from the agency that to help ensure that EM information is supplemental, *the Observer Program will work with stock assessment personnel to determine what observer-collected biological and ecosystem information is needed and on what spatial and temporal scale the data are required.* At this FMAC meeting in May 2019, **agency staff noted that a subgroup of stock assessment scientists and monitoring program staff have begun meeting to discuss ways to expand the Fixed Gear EM program and potentially develop a Trawl EM program without detrimentally impacting data which can currently only be collected by observers.** This is expected to result in a simulation of reducing the number of trips covered by observers in the pelagic trawl fleet via the EFP that could change rates on the resulting strata (including non-pelagic trawl) covered by observers. This scenario is anticipated to be presented alongside a typical deployment scenario (i.e., where all pelagic and non-pelagic trawl trips are placed in partial coverage using the existing ODDS system).

Jaclyn Smith presented the enforcement and compliance chapter of the Annual Report (chapter 5), noting observers play a compliance role in Alaska fisheries closely connected to their scientific role. Ms. Smith explained that the section on observer professionalism and safety is new this year, and the NOAA Office of Law Enforcement (OLE) plans to include a quantitative section about enforcement and compliance in the next Annual Report. Andy Kingham presented Appendix D. Appendix D is new this year, and provides an analysis of compliance and safety issues recorded as observer statements in 2018.

Specifically, Appendix D offers a new way of interpreting statements recorded by observers using *rates of incidents* recorded rather than raw numbers of statements recorded as described in Chapter 5. **The FMAC members appreciated the staff presentation of Appendix D, supported the work to date on developing rates in Chapter 5, and look forward to seeing more work on this in the future.**

Supplementary to the enforcement conversation, the FMAC discussed observer recruitment and employee retention by observer providers. One FMAC member noted that observer recruitment has typically tracked with the economy over time, but providers are currently experiencing unprecedented challenges with recruitment and retention of observers. The summer months are always a challenge, because there tends to be a broader set of work options for field biologists, and generally maintaining competitive pay structures for qualified observers is a challenge. **The FMAC as a whole noted concern about recent and potential future challenges with observer recruitment, as observer coverage is a critical element of the Council's management plans.**

Agency staff presented NMFS recommendations from section 7.1 of the 2018 Annual Report, which include recommendations for the 2020 Annual Deployment Plan. **The FMAC supports NMFS recommendations from section 7.1 (page 92) of the 2018 Annual Report**, and duplicated in the Executive Summary on page 11, and provides the following comments, organized by topic:

Relating to the 2020 Annual Deployment Plan:

- a. FMAC supports the agency's continued recommendation to address temporal bias (inherited trips) in ODDS and **recommends that the agency consult with FMAC and industry prior to implementing potential future changes to ODDS to address this issue.** FMAC members noted this sort of consultation could be added to ongoing outreach events for the Observer Program in the future.
- b. FMAC supports the agency's continued recommendation to revise the 6 trip (monitoring effect) metrics to be more relevant for management **and have proposed changes be reviewed by the partial coverage subgroup before implementation.**
- c. FMAC supports maintaining a single trawl gear stratum (i.e., NPT and PTR in a single stratum). **In addition, FMAC recommends 1) carrying forward the performance metrics on NPT and PT through the next two Annual Reports (to carry through the time series) and 2) evaluating whether the differential realized observed rates between NPT and PT are statistically significant.**
- d. FMAC supports the agency continuing to allocate observer deployment using a 15% hurdle plus optimization based on discarded groundfish, Pacific Halibut PSC, and Chinook Salmon PSC **for the 2020 ADP, until such time that the updated gap analysis from the fee analysis and the Plan Team's review of biological samples needed for stock assessments are available to consider in the future.**
- e. FMAC agrees with the Observer Science Committee recommendation that the draft 2020 ADP include a reexamination of tendering strata (tender pot and tender trawl). This could be accomplished in a variety of ways and should not be limited to eliminating tendering strata altogether nor holding selection rates the same between tendered and non-tendered strata within a gear type. **FMAC suggests that if NMFS decides to remove tender strata, the report should continue to provide descriptive characteristics on the tender trawl and tender pot trips.**
- f. **The FMAC is supportive of agency plans to include a scenario in the Draft 2020 ADP that assumes a Trawl EM EFP will go into place with a dockside monitoring component and a change to the ODDS system.**
- g. Finally, the FMAC especially highlights the NMFS recommendation that EM review rates are set to ensure that the entire year is sampled and review is timely enough so that data from EM can be used for catch accounting and fisheries monitoring as envisioned by the Council. The FMAC is concerned about the time lag for Fixed Gear EM data review experienced in 2018 was too long (~60 days, compared to ~8 days in 2017), which impacts the ability of the program to function.

Relating to the Annual Report:

- a. The FMAC recommends future Annual Reports evaluate performance and cost metrics related to EM deployment/field services separately from data review services. This will allow continuity with time series developed since 2016, avoid conflation of objectives for deployment of cost efficiencies associated with separate element of EM coverage.
- b. The FMAC supports the agency providing context around summary slides in the Annual Report presentation.
- c. The FMAC recommends the agency create similar metrics for measuring costs across Fixed Gear EM and future potential Trawl EM.

Other Comments:

- a. The FMAC understands the Draft 2020 ADP will use 2018 effort, and the Final 2020 ADP (released in December 2019) will use 2019 effort through September and then project forward for Oct – Dec (using ratio from previous years). Some FMAC members were concerned that projections in the Draft ADPs have not been accurate in the past. The FMAC suggests the agency look into methods for more realistically estimating effort in Draft ADPs.
- b. The FMAC noted concerns about how challenging it can be for industry to see how sequestered and collected funds from the partial coverage fee compare, due to time lags and methods in reporting.

EM Updates

The FMAC received an update about Fixed Gear EM and learned that so far things have been going smoothly throughout this first year of implementation for Fixed Gear EM pot vessels in the catch accounting system.

The FMAC also received a brief staff report about ongoing activities of the Trawl EM Committee. The FMAC discussed the two-page document presented by staff and made recommendations about the information they would like to see in such presentations going forward. Partly under this agenda item, and partly under other agenda items (e.g., the Subgroup report, and the Annual Report), the FMAC discussed the role of EM more generally in the work carried out by the FMAC. The Committee questioned whether the role of FMAC and/or the FMAC Subgroup should be shifted to focus more heavily on EM issues, and made recommendations about that during their discussion of the partial coverage Subgroup report.

Partial Coverage Subgroup Report

The FMAC received a report from the partial coverage Subgroup. For the past two years, the Subgroup has been looking at many potential tools for making the partial coverage program more cost effective, while increasing coverage rates. The reports attached at this meeting included the March 2019 report and the May 2019 report. The March 2019 report describes all work done to date related to the Subgroup's task from the Council in October 2018 to: *develop additional recommendations for how to potentially lower costs and increase observer coverage rates in the partial coverage category while maintaining: the data sufficient for managing the fisheries; randomized deployment; and cost equity considerations among participants.* The May 2019 report describes work done to date related to the Subgroup's task from the Council in April 2019, to: *continue to flesh out ideas related to how to best integrate the different monitoring tools, such as dockside monitoring, EM, and monitoring cooperatives to meet overall monitoring objectives as recommended by the FMAC in their April 2019 report.*

In their May 2019 report¹, the Subgroup proposes a conceptual framework for integrating monitoring tools and focusing on exploring a system of shoreside observers for Fixed Gear EM vessels. The purpose of the proposed conceptual framework is to provide an opportunity for the Council to give direction, prioritize future work, and provide context for current and future recommendations by the partial coverage Subgroup. The framework proposed by the Subgroup is intended to leverage current investments in EM to the extent practicable in order to achieve a cost-effective approach to partial coverage that meets data needs and can be supported by fees. The framework includes fixed gear and trawl gear:

- Fixed Gear
 - An EM and zero selection optimized program supported by port sampling and some minimum level of observer coverage necessary to meet CAS and stock assessment needs
- Trawl Gear
 - Near Term: EM coverage on pelagic trawl with maximized retention and dockside monitoring; increased human observer coverage on non-pelagic trawl
 - Potential Long Term (important to track): some future regulated GOA trawl bycatch management program may or may not remove all GOA trawl vessels from the partial coverage sector

The FMAC supports the Subgroup’s proposed framework for organizing priorities and leveraging ongoing work in EM development to increase savings and efficiencies. Committee members also noted that the additional work in the March 2019 Subgroup report should be kept in mind going forward and revisited over time.

The FMAC also agrees with the Subgroup’s proposal to increase the Fixed Gear EM pool size for the 2020 ADP. Contingent on receipt of external funding and contingent on stock assessment needs for human observer coverage, **FMAC recommends the Council ask NMFS to consider allowing 30 more boats allowed into the Fixed Gear EM pool this year.** The FMAC noted that this could lead to a 16-17% increase in the number of vessels in Fixed Gear EM this year. Committee members noted that they thought it would be best to grow the EM fleet incrementally rather than trying to envision growing through an entire fleet in one year (as equipment ages and needs replacement, a staggered entry may help reduce future costs).

Finally, **the FMAC recommends a discussion paper be added to the Observer Analytical Tasks, exploring potential development of a shoreside observer component for Fixed Gear EM that would be paired with the appropriate amount of at sea human coverage.** Key information needed for such a discussion paper would include:

- Feasibility of using shoreside observer data to provide proxy weights for EM discard piece counts, currently the catch accounting system uses annual proxy weights by area from observer data
- Biological sampling needs that can be supported by shoreside observers
- Gaps that would still require some level of at-sea sampling (and options for meeting these data gaps; such as viabilities for halibut and potentially sablefish discard mortality rates)
- Scope of a shoreside observer program to meet catch accounting vs. biological samples needs. (# ports, amount of sampling by port, staffing, integration with trawl port sampling program)
- Contracting options for a shoreside observer program, preliminary cost estimates and the potential ability to cross-train trawl port samplers
- Pilot program/research needs prior to operational testing and potential regulatory change

¹ The FMAC Subgroup report from May 2019 is accessible at:
<http://meetings.npfmc.org/CommentReview/DownloadFile?p=28ae2328-236f-40b4-8a5a-eeef57f5b14.pdf&fileName=FMAC%20Subgroup%20Report%200519.pdf>

The FMAC also recommends the Council task the Subgroup with developing performance and cost metrics that are consistent between the Trawl and Fixed Gear EM Programs to the extent practicable, noting the distinction between deployment and data review costs and performance metrics.

As stated above, the FMAC supports the agency's continued recommendation to revise the 6 trip (monitoring effect) metrics to be more relevant for management **and have proposed changes be reviewed by the partial coverage subgroup before implementation.**

As noted above, the FMAC spent some time during this meeting discussing the role of FMAC and/or whether the FMAC Subgroup should be shifted to focus more heavily on EM issues. **The FMAC requests the Council support broadening the scope of the partial coverage Subgroup to address monitoring issues in partial coverage and full coverage as needed, which may benefit from additional membership.** The FMAC typically meets twice each year: once in May and once in September. As the recommended task list for the Subgroup and EM in general continue to grow, **the FMAC requests a between-meeting Teleconference during the winter (potentially before the February Council meeting).** A meeting during the winter months would provide more timely opportunity for the FMAC to hear a report from the Subgroup and make recommendations to the Council regarding Subgroup work.

Contract Update

The FMAC received a brief informational update about the status of the observer contract. The FMAC learned that the agency will pursue extending the existing observer contract through at least August 2019, with a goal of starting the new contract in August 2019. The agency will pursue extending the grant with Pacific States Marine Fisheries Commission while they work through a Fixed Gear EM contract, which falls under the new Fisheries Pro-Tech² contract vehicle.

Deck Sorting Proposed Rule

FMAC heard about outreach and how to comment on the [proposed rule on deck sorting](#). FMAC members noted their strong appreciation for this process. It was noted that the EFP will remain on the Observer Analytical Task Status document through the end of 2019, as that is the formal end date of the EFP.

Observer Insurance Updates

FMAC members received a presentation about observer insurance issues. The National Observer Program is working on a proposed rule to establish uniform, nationally applicable minimum insurance requirements for companies that provide observer or at-sea monitor services for federally managed fisheries subject to vessel or shore side monitoring requirements. This action would remove outdated, duplicative, or inappropriate regulatory insurance requirements thereby easing the regulatory and cost burden for observer/at-sea monitor providers. Additionally, this action would reduce observer and at-sea monitor deployment risks for vessel owners and processors.

FMAC members expressed their appreciation for the work completed by the agency to date and noted that the proposal will allow flexibility going forward across regions. The FMAC supports this work going forward.

² Professional and Technical (ProTech) services is a suite of contracting vehicles that consists of Indefinite Delivery, Indefinite Quantity (IDIQ) multiple award contracts, multiple award and single award Blanket Purchase Agreements (BPAs), and other contract types organized into five Domains: Satellite, Fisheries, Oceans, Weather, and Enterprise Operations (<https://www.protechservices.noaa.gov/mission.php>). Information on the Fisheries domain can be found at <https://www.protechservices.noaa.gov/fisheries.php>.

Observer Analytical Task Status

FMAC members heard a presentation on the analytical task document from Alicia Miller and provided feedback regarding the order and content of the tasks. **The FMAC recommends the Council take no further action on the “Observer Disembark Location Initial Review” and remove this action from the task list and from the three-meeting outlook.** The rationale supporting this recommendation included that the issue has largely been resolved through the use of EM on fixed gear vessels that previously experienced challenges with disembark rules. The FMAC made a series of other recommendations to agency staff regarding the order and content of tasks on the document. The agency was receptive to the FMAC recommendations and will present a revised version of the tasks document including recommended edits from the FMAC to the Council at this meeting.

Other Items

The FMAC appreciated receiving a staff presentation about the new [NOAA Fisheries website](#), including where to find information that Committee members typically search for and how to provide feedback to the site designers.

The FMAC also briefly discussed results from a recently released observer attitudes and experiences survey and made plans to discuss the document further at their September meeting.

Scheduling

The Chair noted that the next meeting of the FMAC will take place September 23-24, at the Alaska Fisheries Science Center in Seattle, WA, to review the 2020 Annual Deployment Plan, the Trawl EM EFP application document, the Fee Analysis Public Review document, and other issues as necessary.

Addendum to the June 2019 FMAC Report

FMAC SUBGROUP REPORT

May 15, 2019 Teleconference

Subgroup Members in attendance:

Elizabeth Figus (NPFMC
Staff, Acting Chair)
Bob Alverson (FVOA)

Julie Bonney (AGDB)
Dan Falvey (ALFA)
Nicole Kimball (PSPA)

Abigail Turner-Franke
(NPFA)

Members absent: Bill Tweit (Chair)

Others in attendance:

Jennifer Ferdinand (NMFS)
Alicia Miller (NMFS)
Caitlin Yeager (UFC/DC)
Michael Lake (AOI)

Tom Meyer (NMFS)
Craig Faunce (NMFS)
Jim Johnson (FVOA)
Luke Szymanski (AIS)

Jennifer Cahalan (PSMFC)
Geoff Mayhew (PSMFC)
Lisa Thompson (NMFS)
Ernie Weiss (AEB)

Introductions

The FMAC Subgroup convened via teleconference to discuss their latest task from the Council, to: *continue to flesh out ideas related to how to best integrate the different monitoring tools, such as dockside monitoring, EM, and monitoring cooperatives to meet overall monitoring objectives as recommended by the FMAC in their April 2019 report.*

During the meeting, Subgroup members, agency staff, and members of the public discussed a scoping document prepared prior to the meeting (by Subgroup members). The scoping document outlines a conceptual framework for integrating different monitoring tools that might make the partial coverage category of the Observer Program more effective and efficient. The edited scoping document in full is attached as Appendix 1 of this report and constitutes the subgroup's proposed approach to the Council's objective of improving coverage rates in partial coverage.

Conceptual Framework

The Subgroup noted that the purpose of a conceptual framework is to provide an opportunity for the Council to give direction, prioritize future work, and provide context for current and future recommendations by the Subgroup. The framework proposed by the Subgroup is intended to leverage current investments in EM to the extent practicable in order to achieve a cost-effective approach to partial coverage that meets data needs and can be supported by fees:

- Fixed Gear
 - An EM and zero selection optimized program supported by port sampling and some minimum level of observer coverage necessary to meet CAS and stock assessment needs
- Trawl Gear
 - Near Term: EM coverage on pelagic trawl with maximized retention and dockside monitoring; increased human observer coverage on non-pelagic trawl.
 - Potential Long Term (important to track): A regulated GOA trawl bycatch management program - removes all GOA trawl vessels from the partial coverage sector

Part 1: Optimizing Fixed Gear EM—Optimizing fixed gear EM is an ongoing process some of which can be incorporated into existing Council and NP Observer program processes, and some of which would require new tasking.

Elements currently tasked or incorporated into existing processes:

- **EM pool size**--The EM pool can continue to grow by setting annual targets and using the ADP process to determine EM pool size based on industry interest, available funding, and the gap analysis presented in Appendix C of the 2019 Final ADP.
- **Biological sampling needs**—The Plan Team has been tasked with evaluating biological sampling needs to support stock assessments.
- **EM/Observer fee sharing**--Developing annual cost estimates for sharing fee revenues between EM and observers using the Annual ADP process.
- **EM program coordination**--Coordinating development of common elements in the trawl and fixed gear EM programs, such as port sampling, cost metrics, data review options etc., to the extent possible using the existing FMAC Subgroup or Trawl EM Committee.

Elements toward EM optimization which would require new tasking include:

- **EM cost model**--Development of a cost model to evaluate optimal size of the fixed gear EM pool; or further discussions with providers to determine efficiencies gained by scaling up EM.
- **Port sampling**--Evaluation of port sampling as a lower cost means of providing biological samples and proxy weights for piece counts.
- **EM deployment cost efficiencies**--Improving the cost effectiveness of EM deployment within the current EM pool and by reevaluating the zero selection criteria.
- **Fixed gear EM workgroup**--Reconstituting the Fixed Gear EM workgroup or identifying another forum (existing FMAC subgroup?) to provide detailed guidance on optimization.

Part 2: EM Coverage on Pelagic Trawl—This action is likely to have a significant near-term impact on the number of observer days needed in partial coverage. The Council has prioritized EM on pelagic trawl vessels in partial coverage and the trawl sectors are planning to test such a program through an Exempted Fishing Permit followed by regulations. The intent of the program is to use EM for compliance with maximized retention requirements and dockside monitoring/PSC sampling.

Elements currently tasked or incorporated into existing processes:

- **Trawl EM committee**-- The Council has established a Trawl EM committee to provide detailed guidance on program development, including dockside monitoring.
- **Trawl EFP**--Industry and NMFS are currently working on the EFP for 2020 and 2021 and are proposing the annual ADP process be used to exempt these vessels from carrying observers for the project for the partial coverage sector when fishing with pelagic gear for pollock.
- **Trawl EM/Observer fee sharing**--Fee revenues needed to support EM on pelagic trawl vessels in partial coverage will need to be evaluated in the annual ADP process.
- **EM program coordination** --Coordinating development of common elements in the trawl and fixed gear EM programs, such as port sampling, cost metrics, data review options etc., to the extent possible using the existing FMAC Subgroup or Trawl EM Committee.

Elements which may require new tasking include:

- Funding for the EFP from grant sources.
- Port sampling program to support an EM pelagic trawl compliance monitoring program (i.e. stock assessment and PSC sampling needs).
- ODDS programming to incorporate EFP and non-EFP trawl trip selections

Part 3: Increased observer coverage on non-pelagic trawl. This is the expected outcome if EM coverage for fixed gear and pelagic trawl prove successful in meeting data quality and lowering cost per day of monitoring. This may facilitate or necessitate a separate coverage category for non-pelagic trawl.

Other Issues

New Gap analysis: The October 2018 Council Motion noted “*subgroup should also continue to provide input on differential deployment base levels by gear type.*” The new gap analysis completed for the fee analysis Initial Review Draft document provides the opportunity to generate new G1 and G3 metrics to evaluate the 15% hurdles, and optimizing days above the base hurdle to meet Council objectives of discards of groundfish, halibut PSC and Chinook salmon PSC.

Key information needs:

- Evaluate utility of new gap analysis in determining the base hurdle coverage rates (partially tasked by October 2018 Council motion to subgroup to “continue to provide input on differential deployment base levels by gear type”)
- Articulate data quality cost/benefit implications on PSC closures (SSC recommendation April 2019)
- Status of Plan Team review of at sea observer biological data needed to support stock assessment needs. (Tasked in 2018)

Next Steps: Subgroup recommends FMAC formulate suggestions about whether and how to integrate the new gap analysis into the 2020 ADP for the Council.

Improving the 6 bias metrics used in the annual report: Used to identify whether observed vessels are representative of unobserved vessels and identify bias in each coverage stratum. This has already been tasked but will not be available for the 2020 ADP. FMA staff will provide an update to the FMAC.

Odds inherited trips and programming issues: This has already been tasked and FMA will provide an update for the FMAC. This includes addressing temporal bias that occurs when trips are cancelled and the next trip is automatically selected (pushes higher coverage rates later in the year).

Scheduling

The Subgroup can further flesh out the conceptual framework, pending such a recommendation by the FMAC and subsequent direction from the Council to move the partial coverage program toward this approach. Aside from the multiple EM issues, including new pelagic trawl implementation and existing fixed gear data review issues/protocols, the new emphasis on port sampling is the most significant new component that will require Council and NMFS staff resources to develop.

Appendix. Issues related to integrating multiple monitoring tools

PART 1. Conceptual framework for an integrated, cost effective approach to partial coverage that can be supported by fees

A conceptual framework would provide context for current and future recommendations by the Subgroup and FMAC and provide something for the Council to formally approve and work toward. Having the Council review and comment on a conceptual framework would help coordinate and prioritize tasks and inform funding requests.

Priority: HIGH

Tasking: Completed by Subgroup

Key information needed: Core elements of such a framework will likely include:

- Fixed Gear
 - An EM and zero selection optimized program supported by port sampling and some minimum level of observer coverage necessary to meet CAS and stock assessment needs
- Trawl Gear
 - Near Term: EM coverage on pelagic trawl with maximized retention and dockside monitoring; increased human observer coverage on non-pelagic trawl.
 - Potential Long Term (important to track): A regulated GOA trawl bycatch management program - removes all GOA trawl vessels from the partial coverage sector

Next Steps: Subgroup defines conceptual framework and scope of document needed, and then makes recommendation to FMAC for referral to Council.

PART 2. Details

Optimizing fixed gear EM

There are 5 parts to this issue:

1. **2020 Fixed gear EM pool size:** This is likely the final year for fixed gear equipment start-up funding. After 2020, there will be an EM contract that likely incorporates equipment amortization. Industry is proposing a 2020 target of outfitting 200 fixed gear vessels for the EM pool with priority on HAL boats. This would be 30 more boats or a 17% increase.

Priority: HIGH

Tasking: Funding proposal submitted by industry and analysis of EM pool ongoing part of Draft ADP process

Key information needed: Need input from agency to determine if this would work for 2020 ADP or should be put off until 2021

Next Steps: Subgroup recommends 2020 fixed gear target EM pool size to FMAC for referral to Council.

2. **EM cost analysis:** Fixed gear EM will be paid for by fees in 2020.

Priority: HIGH

Tasking: NEW

Key information needed:

- Estimate recurring cost to maintain current EM pool (may not include SWI in 2020 but will by 2021)
- Estimate cost scaling as EM pool increases (the number of vessels is one key metric, but the number of days/trips fished by those vessels is just as important)
- Estimate data review and storage costs—need separate HAL and POT data review costs

Next Steps: NMFS provide update on EM contract process in June. Have subgroup review the cost methodology?

3. **Port sampling:** A preliminary evaluation will be important to understand limiting factors on EM pool size and future observer sea day demand for the fee analysis in October. Long-term, the feasibility and cost of port sampling will influence whether an EM optimized program for fixed and pelagic trawl gear will be feasible.

Priority: HIGH (if the Council directs to support this overall approach)

Tasking: NEW

Key Information needed:

- Feasibility of using port sampling data to provide proxy weights for EM discard piece counts. Currently CAS uses annual proxy weights by area from observer data.
- Biological sampling needs that can be supported by port sampling.
- Gaps that would still require some level of at-sea sampling (and options for meeting these data gaps; such as viabilities for halibut and potentially sablefish DMR)
- Scope of port sampling program to meet catch accounting vs. biological samples needs. (# ports, amount of sampling by port, staffing, integration with trawl port sampling program)
- Contracting options for port sampling program, preliminary cost estimates and ability to cross train trawl port samplers.
- Pilot program needs prior to operational testing.

Next Steps: Subgroup considers recommendation to develop a discussion paper on port sampling that is paired with the appropriate amount of at sea human coverage to FMAC for referral to Council.

4. **EM cost effectiveness:** Is there a better way to structure the existing EM fixed gear sector to create cost efficiencies and meet monitoring objectives?

Present Fixed Gear EM Pool: Vessels are equipped with systems but these systems are only used when the vessel's trips are selected by ODDS. Is this system cost effective or is there a better system to utilize sunk capital for equipment and infrastructure to support the EM fixed gear sector?

Priority: _____

Tasking: NEW

Key information needed:

- Number of trips selected by ODDs for each vessel in the EM pool
- Capital costs for installation, support and maintenance of each EM system
- Evaluation of the present EM fixed gear mechanics versus a restructured system that creates efficiencies resulting in cost saving and increased coverage rates
- Potential to pass some EM costs on to vessel in addition to fee. (i.e. fee covers annual license, data review, 24-hour support line, annual VMP update, and one site visit/year. Additional services are paid for by vessel)

Next Steps: Subgroup consider priority, timing, and next steps.

Present Zero Selection Pool: Zero selection has significant effect on # of vessels in EM pool, seaday, and equipment costs but minimal impact on # of trips in sample frame. Preliminary work has been done based on 2013-2016 data. Implementation of new zero selection criteria is non-regulatory, so could be done through 2021 or 2022 ADP.

Priority: _____

Tasking: NEW

Key information needed:

- Update preliminary work to include 2017 and 2018 data.
- Feasibility and logistics of using previous year effort to establish selection pool.
- Evaluate data quality and management impacts.
- Estimate cost efficiency gains from revised zero selection.
- Scope out periodic supplemental program for remaining zero selection vessels.

Next Steps: Subgroup consider priority, timing and recommendation to FMAC for a discussion paper.

5. **Fixed gear EM optimization forum:** No forum currently exists for refinement of pot gear data review protocols, detailed development of fixed gear EM optimization options, or revision of zero selection. There is also no forum to align EM innovation research with operational program needs of trawl or fixed gear EM programs.

Priority: _____

Tasking: NEW

Key information needed:

- Time estimate for fixed gear EM optimization meetings.
- Feasibility of integrating with Trawl EM workgroup, or overlap existing meeting schedules to minimize impact on staff and stakeholders.
- Evaluation of POT EM review protocols, costs, and options
- EM innovation current project status, budget, and proposal development timing.

Next Steps: The subgroup needs direction from the FMAC chair or Council on whether the subgroup is the appropriate forum for this task. If so, consider whether need to selectively add more members to the subgroup in order to adequately address EM optimization.

EM Coverage on Pelagic Trawl with Maximized Retention and Dockside Monitoring

This action is likely to have a significant near-term impact on the number of observer days needed in partial coverage.

Priority: HIGH

Tasking: Tasked via Trawl EFP (Council expected to review EFP in October 2019)

Key information needed:

- Feasibility of a maximized retention program for pelagic trawl.
- Feasibility of dockside sampling to support pelagic trawl EM program.
- Pelagic trawl EM vessels assigned to zero selection pool. # Trips/days removed from observer pool for pelagic trawl EM & likely number remaining in observer pool in 2020 and 2021?
- Costs estimates for pelagic trawl EM that will be paid by fees after transitioning to regulated program

Next Steps: Discuss EFP timing and how to incorporate this information in 2020 DRAFT ADP. Need NMFS to consider timing between NFWF funding and ADP; also need NMFS to consider how non-EFP trips will be handled under 2020 ADP; information tracking by FMAC but no direct role at this time.

Optimizing Human Observer Coverage on Non-Pelagic Trawl

The Council has requested subgroup evaluate ways to increase and improve coverage rates on PSC limited fisheries. Low coverage in GOA non-pelagic trawl fisheries was identified by FMAC and Council as a focus subject for 2017 and 2018 Annual reports, in light of potential for separate coverage category for non-pelagic trawl.

Priority: _____

Tasking: Annual ADP process

Key information needed:

- Evaluate observer effects at finer resolution than gear-level strata, so that observer effects in pelagic and non-pelagic trawl can be investigated (tasked in June 2018 Council Motion).
- Evaluate PSC impact of gear/targets with low quality data using new gap analysis.
- Evaluate feasibility of separating pelagic trawl vs. non-pelagic trawl strata for at sea observer days versus the de facto stratification for the Pelagic EM strata versus the number of at sea observer days in general available for trawl gear in 2020 or 2021. This could affect the number of observer days (and costs) needed to achieve higher coverage rates on halibut PSC limited fisheries.

Next Steps: Further discussion by FMAC at June meeting and develop recommendation to Council for 2020 draft ADP.