C1 NMFS Observer Annual Report

The SSC received a presentation from Sarah Cleaver (NPFMC), Geoff Mayhew and Jason Jannot (NOAA-Alaska Fisheries Science Center [AFSC]; Fisheries Monitoring and Analysis [FMA] Division) on the Observer Program 2024 Annual Report (Annual Report) Deployment Performance Review (Chapter 3) and the NMFS Recommendations for the 2026 Annual Deployment Plan (ADP; Chapter 6).

The North Pacific Observer Program is the largest in the nation. In 2024, the Observer Program sampled 3,863 trips on 421 vessels and observers logged a total of 29,665 days on vessels and in plants. **The SSC appreciates the outstanding and sustained efforts of observers, electronic monitoring (EM) reviewers and program staff, to sample, summarize, and interpret this information and reiterates that the Observer Program and the data products it generates are essential for sustainable fisheries management. Adequate funding of the Observer Program is critical to the ongoing success of in-season management, stock assessment, and specifications setting processes.**

The primary purpose of the Annual Report is to determine whether the Annual Deployment Plan (ADP) met its monitoring objectives and to provide a guide for future ADPs. In June 2024, the SSC reviewed the Observer Program 2023 Annual Report, including an overview of substantial changes to the ADP and NMFS recommendations for the 2025 ADP. Since a full year of data had not yet been collected under the proximity allocation method for the partial coverage strata, the SSC supported its continuation in 2025 to ensure consistency in deployment and allow for a more comprehensive review of its performance in the future (taken up at this meeting). The last time the SSC evaluated the performance of partial coverage observer deployment was in June 2019. The sampling and estimation methods used by the Observer Program are well documented and vetted, but substantial changes to the stratification approach were implemented under the 2024 ADP which are reviewed by the SSC at this meeting.

The Performance Review was prepared by staff from the FMA/ Analytical Services Program of the AFSC and the Sustainable Fisheries Division/ Catch Analysis and Data Quality Branch of the Alaska Regional Office (AKRO) using catch and monitoring data from the 2024 calendar year. In previous Annual Reports, the Fisheries Monitoring and Science Committee has reviewed the performance analysis and provided recommendations. However, the Committee did not meet this year due to uncertainty in budgets and staffing. The SSC noted this change, along with the planned Center for Independent Experts (CIE) review in 2026 and supports some form of additional review of each annual report before it reaches the SSC.

The Observer Program, which relies on individual observers (OB) and EM, has used a stratified hierarchical sampling design as a deployment guidance with randomization implemented at five levels (trips, hauls, species, individual fish lengths (OB-only), structures and tissues (e.g., otoliths, genetics; OB-only). The SSC notes that in 2024, NMFS implemented changes to both the stratification definitions and the allocation strategy. Briefly, the new strata definitions combine hook-and-line and/or pot gear trips together into a single fixed-gear type. Strata were further defined by the primary Fisheries Management Plan (FMP). A complete list of the ten new deployment strata with associated coverage rates are provided on pages 49 – 50 of the Annual Report. The sampling rates for the partial coverage strata were determined using the proximity allocation algorithm designed to reduce data gaps and small sample sizes.

The four primary objectives identified for evaluation in this Annual Report include achievement of 1) deployment sea days, 2) coverage rates, 3) Chinook and chum salmon tissue samples, and 4) randomization and deployment of observers into the partial coverage category as specified in the 2024 ADP. The performance metrics selected to assess the efficiency and effectiveness of observer deployment included deployment rates by stratum relative to intended targets, and representativeness of samples. These reflect

four mechanisms that can impact the quality of the data: (1) sample frame discrepancies, (2) non-response, (3) differences in trip characteristics, and (4) sample size. These metrics can identify places where observed results differ from ADP expectations, leading to further examination and consideration of management implications.

The SSC examined the performance of the partial coverage category and notes the following:

- Approximately 9% of the catch taken from the federal waters off Alaska is observed under the partial coverage category with 91% observed in the full coverage category.

- Effort allocation met expectations (within the range consistent with the sampling design) in six of seven strata. NMFS purchased 2,324 at-sea observer days in 2024; the total number of fishing trips in the observed strata was slightly (2.7%) lower than predicted and partial coverage expenditures were under budget by 16.7%. The number of EM FIXED BSAI stratum (eight vessels, 69 trips) sea days reviewed did not meet expectations (13.8% lower than predicted, 1,347 of 1,562 days) due to a temporary staffing shortage of EM video reviewers at PSMFC.

- The Observer Declare and Deploy System (ODDS), which facilitates the random selection of fishing trips by strata, worked as intended. Logged trips met expectations in all partial coverage strata. Rates of trip cancellation improved over previous years. Within the same gear-type, cancellation rates and the proportion of inherited trips were much larger for strata that used observers for at-sea monitoring than those that used EM.

- In combination across all strata 43.9% of trips/deliveries and 48.4% of vessels were successfully monitored. This compares to 43.7% and 50.2% monitored in 2023.

- Data timeliness - the duration between the completion of a trip or delivery and when the data are available to analysts in the Catch Accounting System (CAS) – was as expected for both observed and EM strata. A coding error delayed fixed-gear EM data availability in CAS, so the analysts have reported Review Timeliness, which is the time from the end of delivery to completion of review (median = 33 days for EM FIXED and 26 days for EM FIXED GOA strata).

- Dockside monitoring met expectations and the sampling design in 2024 remained unchanged from 2023. A total of 2,121 pollock deliveries were monitored by observers for salmon in 2024. This includes 1,775 deliveries to Bering Sea ports and 346 in the GOA. Salmon monitoring covered 35.73% of EM TRW GOA (Exempted Fisheries Permit [EFP]) deliveries, meeting expectations.

- Temporal patterns were within expectations in all but one of the seven monitored partial coverage strata. The EM FIXED BSAI realized rate was 49.28% (74.29% expected) because of a temporary staffing shortage of EM video reviewers at PSMFC noted above.

- Spatial biases in the distribution of coverage were apparent in two of the seven monitored partial coverage strata. Fishing effort was either over- or under-represented in multiple locations in all strata, but patterns indicative of biases were apparent in OB FIXED BSAI and the EM FIXED BSAI stratum. The video reviewer shortage in the EM FIXED BSAI stratum contributed to this issue by over-representing trips taken early in the year which were spatially clustered.

- Spatiotemporal patterns met expectations (proximity index of ≥0.92) in all strata except one. The EM FIXED BSAI stratum (index = 0.64) under-sampled pot gear trips in the BSAI from mid-March to November due to a temporary shortage in reviewer capacity.

- Permutation tests comparing monitored and unmonitored trips indicate a modest "observer-effect" in two strata. Monitored trips in the OB FIXED GOA stratum were half a day (10.4%) shorter than unmonitored trips. In the EM FIXED BSAI stratum monitored trips were on vessels 14.0 ft (16.2%) shorter than unmonitored trips.

The Annual Report was well organized and clearly written, and the SSC commends the analysts for their responsiveness to previous recommendations for the partial coverage performance review. The SSC finds that under the current deployment plan, the program is generally meeting its anticipated goals. Further, the SSC supports all the NMFS Recommendations for the 2026 ADP.

The SSC concurs with the analysts' choice of performance metrics and agrees that these are informative with respect to difference from expectations.

The SSC continues to be concerned about the potential impacts of EM use over observers on species identification, bycatch, collection of biological data and tissue samples, interactions with marine mammals and seabirds, and the downstream effects on information support for management decisions. **The SSC recommends that going forward the analysts work with assessment authors to characterize and report EM-related changes in data quantity (sample sizes) and quality (e.g., precision and accuracy) of the biological data and catch metrics used in stock assessments, by-catch and Prohibited Species Catch (PSC) estimation.** The SSC suggests the analysts prioritize salmon, crab, and halibut PSC and Tier 6 stocks (e.g., sharks/ skates), which use catch information exclusively for management.

The SSC appreciated efforts by the analysts to capture program performance metrics in appropriate figures and tables and requests (as in Table 3-4) clear indication of whether program expectations were realized, not realized or unknown. We understand that in many instances these determinations may be qualitative or subjective. The SSC requests a brief written synopsis including tables or figures of performance metrics to allow a holistic look at program performance. Where possible the SSC requests input from the analysts indicating high-priority areas of concern relative to unachieved ADP objectives.

The SSC finds the permutation tests used to compare monitored and unmonitored trips effective and recommends the analysis be expanded to other metrics including depths fished, and catch rates of species of concern (e.g., PSC, Tier 6 stocks). The SSC also recommends the analysts include the full color ramp on maps of positive and negative differences in coverage rate expectations.

The SSC notes that the temporary staffing shortage of EM video reviewers resulted in failure to meet effort allocation and coverage rate expectations in the EM FIXED BSAI strata. This resulted in temporal and spatial biases, as well as reduced spatiotemporal proximity, and differing vessel lengths for monitored and unmonitored trips. While the outcome is unfavorable, the SSC views this situation as a confirmation of performance metric responsiveness. Understanding that staffing shortages may not be predictable going forward, the **SSC recommends that the analysts consider how to selectively review EM data to prevent outsized impact on one stratum, and consider how to representatively select trips for review to reduce temporal imbalance across the season.**

The SSC appreciates the efforts to develop a more robust approach to assessing the difference between monitored and unmonitored trips outlined in Appendix A and looks forward to seeing the results in future reports.

The SSC appreciates the continued efforts by the Office of Law Enforcement (OLE) to encourage compliance and concurs with OLE that the safety and security of observers remains the highest priority.

The SSC is pleased that a CIE Review is forthcoming in early 2026 and offers the following recommendations for incorporation in the Terms of Reference for this review:

- The proximity allocation method, including the criteria used to calculate the proximity indices – 200 km and 1 week and whether these criteria are appropriate for use in all strata.

- Methods proposed for detection of observer effects from catch (Appendix A)

- Whether the current deployment is sufficient to provide the necessary analytical products and biological data to inform stock assessment and bycatch evaluation.