

Update on Partial Observer Coverage Cost Efficiencies Integrated Analysis

September, 2021
Prepared by NMFS

Introduction	1
Analysis Goals	2
Implementation Structure of Observer Program	2
Approximate Analytical Timeline & Major Milestones	6

Introduction

At their October 2019 meeting, the North Pacific Fishery Management Council (Council) identified developing cost efficiencies in the partial coverage component of the observer program as its highest priority for the observer program moving forward. Specifically, the Council requested work to focus on:

- Pelagic trawl Electronic Monitoring (EM) combined with shoreside sampling;
- Integrated monitoring plan for fixed gear that combines EM, shoreside sampling, and at sea observer coverage as needed;
- Optimizing the size and composition of the fixed-gear fleet that is monitored with observers or EM, taking into account both cost priorities and data needs for average weights and biological samples.

Of these, the Council designated development of a pelagic trawl EM program as their highest priority. NMFS and industry prioritized that work and have made significant progress on developing the trawl EM program under the EFP. Pelagic trawl EM now comprises over half of pelagic trawl vessels in the Gulf of Alaska and BSAI. This collaboration is continuing and progressing with an analysis and development of regulations.

To address the other cost efficiency priorities, the NMFS has recommended development of an integrated analysis of the partial coverage category. This analysis will account for upcoming changes to the trawl components of partial coverage (BSAI Pacific cod Limited Access Program and transition of Trawl EM to a regulated program) and a new contract for observer coverage in the partial coverage category. An integrated view of fixed gear will enable evaluation of each data collection method (observers and EM) and design sampling that combines both to be most effective. The effort will be conducted holistically with a target date of being fully implemented by 2024. The outcome of the analysis will be a draft ADP with a scientifically robust sampling plan that would be fiscally sustainable.

The purpose of this update¹ is to outline the regulatory structure of the existing monitoring components in partial coverage and identify where regulatory changes would be needed if NMFS and the Council were to make changes to these monitoring components. This update does not yet attempt to analyze the pros and cons and impacts of potential options on fishermen, managers, or data users (e.g. stock assessment and research, catch accounting and inseason management). Nor is this meant to be inclusive of all the

¹ This document builds on an outline of [timeline and major milestones](#) that was reviewed by Council's Fishery Monitoring Advisory Committee (FMAC) in May, 2021, and also takes into account the [potential options to improve cost efficiency](#) that was reviewed by the PCFMAC in January, 2020.

analytical questions that could be evaluated. Rather, this review of the implementation structure highlights some of the options that could be further explored in the analysis and how those elements might be implemented. The process for modifying regulations takes considerable time, so it is important to complete this step now to enable NMFS and the Council to plan ahead if regulatory changes are needed to enable a more efficient, integrated fisheries monitoring plan.

Analysis Goals

The purpose of the partial coverage cost efficiencies integrated analysis is a draft ADP with a scientifically robust sampling plan that would be fiscally sustainable. In addition, the analysis would seek to achieve the following Council goals:

- Cost efficiency: Spend the limited, available funding more efficiently such that more coverage (both EM and observers) is achieved for the available budget;
- Increase coverage on trawl for PSC accounting;
- Monitoring that has least impact on fishing operations;
- A partial coverage program that isn't contentious.

The analysis will consider the multiple objectives asked of the partial coverage observer program, including providing information for catch and bycatch estimation and providing biological data collections to support stock assessment (addressing gaps in biological samples due to implementation of EM is one of the Council's 2022-2024 top research priorities).

Additionally, the draft 2024 ADP would incorporate the myriad changes affecting the observer program in recent years, including the expansion of pot fishing gear, new fishing effort and budget projections driven by the BSAI Pacific cod limited access privilege program, and the implementation of a trawl EM program under regulations, which includes a shoreside observer monitoring component.

Implementation Structure of Observer Program

To facilitate the discussion about how different elements of the partial coverage program might be modified for cost efficiency, the following describes how elements of the current partial coverage observer category are implemented. Implementation vehicles include: the Annual Deployment Plan (ADP) and Annual Report, Vessel Monitoring Plan (VMP) for vessels with electronic monitoring, observer service provider contracts, regulations, and NMFS administration.

- **Annual Deployment Plan (ADP):** documents how NMFS intends to assign observers and EM to vessels and processing plants by providing a flexible sampling design that may be adjusted annually. Some aspects of observer and EM deployment can be adjusted and are defined through the ADP including:
 - Definition of pool of vessels and shoreside processors eligible to be selected for coverage
 - Definition of strata based on factors that are known prior to vessel departure (e.g. gear type, vessel size).
 - Allocation strategy used to deploy observers and EM in strata
 - Selection rate for the strata based on estimated effort and budget
 - Criteria for vessels to be eligible to participate in the EM selection pool, which can include factors such as gear type, vessel length, home or landing port, and availability of EM systems.
- **Annual Report:** descriptive information, statistical analysis, and recommendations based on observer and EM deployment in the previous year. In particular, the deployment performance

review (chapter 3 of the report) evaluates whether monitoring goals detailed in regulation and the ADP were achieved and identifies recommendations for monitoring to enable the collection of data necessary to conserve and manage the groundfish and halibut fisheries.

- **Vessel Monitoring Plan (VMP):** defines the placement of EM equipment onboard each individual vessel, and sets out operator responsibilities for maintaining EM equipment and for fish handling practices conducive to camera monitoring.
- **Partial coverage observer provider contract:** supplies qualified observers to vessels in a timely fashion and provides logistical and operational support including travel to deployment locations, safety and communications. Other elements of the contract include:
 - Defines the qualification requirements for observers to be hired by the contractor
 - Defines observer duties and data collection requirement
 - Identifies the contractor roll in the ODDS call center
 - Describes the contractor's responsibilities regarding logistic and operational support for observer deployment
 - Requires the contractor to describe how the quality and timeliness of observer data will be ensured.
 - Describes performance standards contractors must meet to be considered successful and receive a positive past performance rating.
- **Regulations:** define which vessels are in the partial coverage category, require vessels to register in ODDS to receive instructions, outline that NMFS will notify the vessel of their selection pool, and require operators to comply with all further instructions set forth by ODDS. The regulations define vessel operator requirements for observer trip selection, observer vessel selection, and fixed-gear EM selection. Other elements that are defined in regulations include:
 - Logging fishing trips in ODDS
 - Paying fees
 - Making vessel available and carrying observers when selected for coverage
 - Ensuring observers have a safe environment and are able to collect required data
 - Process for vessels to participate in the EM selection pool and the requirements to comply with an approved VMP.
- **Agency administration:** ensures that NMFS is able to collect high quality data, and that observer and EM data are integrated into the catch accounting system in a timely manner so data can be used for management and data are available for stock assessment and science. Agency administration tasks include:
 - Training observers prior to deployment
 - Providing inseason support during deployment and debriefing observers at the end of deployment
 - Coordinating EM video review and review protocols
 - Managing and disseminate data collected by observers & EM
 - Maintaining and evaluating methods to integrate observer & EM data into catch accounting
 - Collecting and managing observer fees
 - Ensuring compliance

The table below outlines program elements that could be potential components of improving cost efficiency, explains the current implementation vehicle, and highlights where regulatory changes would be needed if NMFS and the Council were to make changes to these monitoring components.

Category / Council priority	Program Element	Potential cost efficiency and data collection evaluation	Current Implementation Structure	Changes to regulations necessary?
Trawl EM	Pelagic Trawl EM	The trawl EM EFP seeks to improve cost efficiencies by reducing monitoring costs through a combination of at-sea EM systems and shoreside observing. Key project goals include providing PSC counts at a lower cost than at-sea observers while also reducing the observer effect.	Currently operating under an EFP	Yes. Regulatory analysis being developed in coordination with the Council's Trawl EM committee.
Integrated fixed gear monitoring	Modify observer tasks at-sea on fixed-gear vessels	Integration of data collection across entire fixed gear fleet with EM focused on catch rates & discard and observers focused on biological data collection & average weights	Data collection protocols for observers are outlined in the observer training manual.	No changes to regulations needed. This could be accomplished through agency administration of observer tasking.
	Require vessel to carry both observer and EM on <u>some trips</u> (ie be in both EM pool and observer pool on specific trips)	Evaluate opportunities for cost savings by expanding the size of the fixed gear EM pool, under the assumption that a mature EM program proved to be more cost efficient than the current cost per observer day. To reduce data gaps, evaluate collection of biological samples and average weights by enabling some level of observer coverage on EM vessels.	<ul style="list-style-type: none"> - ADP defines which vessels are in the Observer trip selection and the EM selection pool. - Regulations require vessels to register in ODDS and receive instructions and the regulations outline that NMFS will notify the vessel of their selection pool. Owners and operators must comply with all further instructions set forth by ODDS. 	No changes to regulations needed. ADP could define when vessels are in both pools. For example, they'd be in the EM selection pool for all trips, and also in the trip selection pool when selected for observer coverage through ODDS on specific trips.
	Require EM vessels to run EM system on all trips & post-select trips that need to be submitted to NMFS	This approach could better enable space-based strata by determining which strata the boat was in based on what they did on the trip, rather than what they think they are going to do. This approach would eliminate any monitoring effect. It could also be applied to trawl EM if we determine we don't need every single trip reviewed for compliance monitoring purposes, which could have added cost efficiencies.	Currently fixed-gear EM vessels log their trips in ODDS and are informed whether or not they are required to run the EM systems and at the end of the trip, boats close their trip in ODDS and are given instructions about mailing their hard drives.	No changes to regulations needed. Vessels could be told in ODDS prior to the trip to run their cameras on all trips, and then told to mail hard drives only for trips that were selected.
	Observer sampling in processing plants	Evaluate shoreside observer sampling to collect data on retained catch as a potential lower cost option compared to at-sea observer days.	Current regulations define partial coverage and the requirements and responsibilities of a processing plant in partial coverage when an observer is present.	<ul style="list-style-type: none"> - No change to regulations needed. Definition of the observer sampling plan for processing plants in partial coverage can be defined in ADP. - Would require change to Observer Provider contract

	Hail in system for catcher vessels to communication upcoming offload (ie prior notification of landing)	Hail in system establishes a sampling frame of offloads that could be selected for shoreside monitoring.	<ul style="list-style-type: none"> - Halibut and sablefish vessels are required to complete a Prior Notice of Landing - EM vessels have a requirement to close their tips in ODDS. - Vessels in trawl EM EFP are communicating offload timing with observers. 	Yes. As noted, some vessels already have a requirement to provide notification of landing, however, this is not consistent across the entire partial coverage fleet and regulations would need to be developed.
	Strata for CPs in partial coverage	Evaluate a separate strata for partial coverage CPs as a cost efficient method to decrease data gaps	Currently, CPs in partial coverage are included in the strata that are defined by gear.	No changes to regulations needed. A new strata and sampling rates could be defined through the ADP.
Optimize size and composition of fixed gear EM pool	Change the Definition of Zero Selection	Changing the definition of the Zero Selection pool could provide an opportunity for cost savings but it could also have a negative impact of increasing data gaps. If vessels that take very few trips per year were added to Zero Selection, and these vessels were taken out of the EM pool, then it could improve the efficiency of the EM program, but it is less certain the level of impact these changes would have on observer deployment rates.	Currently, the ADP defines vessels in zero selection as fixed-gear vessels less than 40 ft LOA and vessels fishing with jig gear, which includes handline, jig, troll, and dinglebar troll gear.	No changes to regulations needed. The definition of zero selection is outlined in the ADP and could be modified.
	Eligibility to be in the EM pool	Evaluate ways to optimize the fixed gear EM program for cost efficiencies by modifying eligibility for the fixed-gear EM program to ensure EM equipment is used cost effectively (for example, not installed on vessels taking very few trips).	<ul style="list-style-type: none"> - Eligibility for the fixed-gear EM selection pool based on criteria specified in Annual Deployment Plan - Regulations define the opt-in process and vessel requirement to follow their VMP. - VMP defines vessel operator requirements 	No changes to regulations needed. NMFS has the ability to set the criteria for eligibility in the EM pool in the ADP. Based on these criteria, NMFS can either approve (or disapprove) vessels that opt into EM voluntarily..
	Utilize trawl EM equipment on vessels that also fish fixed gear	Vessels in the trawl EM program that already have EM equipment could also use that EM equipment to collect data in fixed-gear fisheries.	Currently it isn't clear if the EM set up and VMP established for trawl gear will work for fixed gear.	No changes to regulations needed. This could be implemented through changes to VMPs and definitions of EM selection pools in the ADP.
Cost Implications of Partial Coverage Flexibilities	Extending the length of the notice for deploying at-sea observers	Cost savings could potentially be incurred by requiring vessels to log their fishing trips in the ODDS system further in advance from their departure date. The 72 hour window is expensive, as it gives both the agency and the observer provider a relatively short advance warning.	Currently, vessels are required to provide 72 hour advance notice for deploying at-sea observers. This design was utilized to increase the level of flexibility afforded to fishermen to minimize the impact of their fishing trip (e.g., timing of the trip).	Yes - regulations specify the requirement for vessels to register an anticipated trip in ODDS a minimum of 72 hours prior to embarking on each fishing trip.

	Port-based deployment	There are potential programmatic cost savings by reducing the number of ports from which observers can deploy. The approach that was implemented due to COVID introduced bias, but another approach could be to reduce flexibility and require vessels to pick up observers in particular ports.	The current partial coverage program allows vessels to operate out of any port with a Federal Fishing Permitted processor.	Yes. There could be flexibility to adjust the list of ports annually in the ADP. But there would need to be a regulation requiring vessels to pick up observers in, and return them to, one of the ports listed in the ADP.
--	-----------------------	--	--	---

Approximate Analytical Timeline & Major Milestones

This table outlines the approximate timeline and major milestone for the Integrated cost efficiency analysis and the targeted implementation in the 2024 ADP along with other upcoming actions that will impact the partial coverage observer program including: implementation of the BSAI Pacific cod Limited Access Program, transition of Trawl EM to a regulated program, and a new contract for observer coverage in the partial coverage category. The timeline also includes potential timeliness to gather input from stakeholders, including the Council’s monitoring committees and data users on the Plan teams.

Year	Month	Milestones
2021	September	<ul style="list-style-type: none"> ● Ongoing work on trawl EM EFP ● Draft 2022 Annual Deployment Plan to PCFMAC: ● Update on analysis to PCFMAC - review of monitoring elements and their regulatory structure to determine if regulatory changes would be needed. ● Groundfish Plan Team briefing on ADP
	October	<ul style="list-style-type: none"> ● Draft 2022 Annual Deployment Plan to Council ● BSAI Pacific cod trawl CV program: Final Action
	December	<ul style="list-style-type: none"> ● Final 2022 Annual Deployment Plan to Council <ul style="list-style-type: none"> ○ Updated fishing effort and budgetary projections ○ Incorporate externally funded projects that impact coverage and/or fishing effort
2022	January / Feb	<ul style="list-style-type: none"> ● Work on 2021 Annual Report ● Fisheries Monitoring Science Committee Meetings <ul style="list-style-type: none"> ○ Identification of monitoring goals - review proposed analyses ● Partial Coverage Contract: <ul style="list-style-type: none"> ○ NMFS works on a performance work statement for observer services for a partial coverage observer program that includes shoreside observers and a re-evaluated minimal size (currently at 2000 sea days). ○ NMFS will also explore with AGO if there are alternatives to having a minimum size program contract that would be more cost efficient. ● Trawl EM Committee Meeting <ul style="list-style-type: none"> ○ Preliminary analysis on Trawl EM (e.g. EFP results, sampling issues, key decision points, etc)

	April / May	<ul style="list-style-type: none"> ● Fisheries Monitoring Science Committee Meetings <ul style="list-style-type: none"> ○ Review 2021 Annual Report ● PCFMAC Meeting <ul style="list-style-type: none"> ○ Initial review of questions and recommendations arising from partial coverage integrated analysis; gather input from stakeholders ○ Initial review <i>if regulation changes are required</i> to implement integrated deployment model ○ Tradeoffs of the goals - proposed analyses, including those that were considered by the agency but not pursued and why ● FMAC Meeting <ul style="list-style-type: none"> ○ 2021 Annual Report
	June	<ul style="list-style-type: none"> ● 2021 Annual Report to Council ● Trawl EM: Initial Review ● BSAI Pacific cod trawl CV program: Publish Final rule
	September	<ul style="list-style-type: none"> ● PCFMAC Meeting <ul style="list-style-type: none"> ○ Present preliminary results of partial coverage integrated analysis ● Groundfish Plan Team Meeting <ul style="list-style-type: none"> ○ Present preliminary results of partial coverage integrated analysis
	October	<ul style="list-style-type: none"> ● Partial Coverage Contract: AGO releases the RFP for observer services
	December	<ul style="list-style-type: none"> ● Final 2023 Annual Deployment Plan to Council ● Trawl EM: Proposed rule for the Trawl EM program and associated shoreside observers
2023	Jan / Feb	<ul style="list-style-type: none"> ● BSAI Pacific cod trawl CV program: Publish Final Rule
	May	<ul style="list-style-type: none"> ● FMAC Meeting <ul style="list-style-type: none"> ○ 2022 Annual Report presented ○ Preliminary results of partial coverage integrated analysis and 2024 Annual Deployment Plan ● BSAI Pacific cod trawl CV program: pre-implementation (initial allocations, cooperative formation, etc)
	June	<ul style="list-style-type: none"> ● Trawl EM: Publish final rule for the Trawl EM program and associated shoreside observers ● 2022 Annual Report presented to the Council
	August	<ul style="list-style-type: none"> ● Partial Coverage Contract: Award new observer services contract
	September	<ul style="list-style-type: none"> ● PCFMAC Meeting <ul style="list-style-type: none"> ○ Review draft 2024 Annual Deployment Plan that incorporates partial coverage integrated analysis ● Groundfish Plan Team Meeting <ul style="list-style-type: none"> ○ Review draft 2024 Annual Deployment Plan that incorporates partial coverage integrated analysis

	October	<ul style="list-style-type: none"> • Draft 2024 Annual Deployment Plan presented to the Council, AP and SSC
	December	<ul style="list-style-type: none"> • 2024 Annual Deployment Plan
2024	January	<ul style="list-style-type: none"> • Trawl EM: Implementation of regulatory program begins • BSAI Pacific cod trawl CV program: fishing starts under the program • Fishing begins under the 2024 ADP