Draft 2026 Annual Deployment Plan for Observers and Electronic Monitoring in the Groundfish and Halibut Fisheries off Alaska

September 2025

Fisheries Monitoring and Analysis Division, Alaska Fisheries Science Center
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115

National Marine Fisheries Service, Alaska Regional Office
P.O. Box 21668
709 W. 9th Street
Juneau, Alaska 99801

Accessibility of this Document: Every effort has been made to make this document accessible to individuals of all abilities and compliant with Section 508 of the Rehabilitation Act. The complexity of this document may make access difficult for some. If you encounter information that you cannot access or use, please email us at Alaska.webmaster@noaa.gov or call us at 907-586-7228 so that we may assist you.

Suggested Citation

National Marine Fisheries Service (NMFS). 2025. *Draft* 2026 Annual Deployment Plan for Observers and Electronic Monitoring in the Partial Coverage Groundfish and Halibut Fisheries off Alaska. National Oceanic and Atmospheric Administration, 709 West 9th Street. Juneau, Alaska 99802.

Contents

Executive Summary

This draft 2026 Annual Deployment Plan (ADP) describes how the National Marine Fisheries Service (NMFS) intends to assign at-sea and shoreside fishery observers and electronic monitoring (EM) to vessels and processing plants engaged in halibut and groundfish fishing operations in the North Pacific.

The North Pacific Observer Program (Observer Program) is the largest observer program in the country and is responsible for monitoring a fleet of nearly a thousand vessels that fish a combination of hook-and-line, pot, and trawl gear across the Alaska Exclusive Economic Zone (EEZ) area of roughly 3.77 M km^2. Fishing activities are classed as belonging to either partial or full coverage components of the program. In the full coverage component of the program, every trip is monitored by 1 or 2 observers and the vast majority of groundfish harvest is covered by this portion of the program. In the partial coverage component, a subset of fixed gear trips are randomly selected for monitoring by an observer or EM system, and vessels in the trawl EM category are subject to monitoring on all fishing trips. In 2026, NMFS expects to monitor 2,824 trips, consisting of an estimated 16,872 days in the full coverage component of the program, and 1,228 trips and 4,647 days in the partial coverage component. Despite being a much smaller component of the overall monitoring, the ADP focuses on the partial coverage component of the program and outlines the science-driven method for deployment of observers and EM systems to support statistically reliable data collection. Specifically, the ADP describes the scientific deployment design and selection rate—the portion of trips that are sampled by observers and EM—for the partial coverage category.

Preliminary Budget & Cost Assumptions

For this draft ADP, the NMFS set a ***preliminary*** **budget of $4.75M** to support monitoring of the partial coverage fisheries in 2026. Both the cost estimates and the budget are ***preliminary*** and will be updated in the final 2026 ADP to be presented to the North Pacific Fishery Management Council (Council) at their December 2025 meeting.

The Observer Program has three monitoring models: 1) at-sea observers, 2) fixed-gear EM, and 3) at-sea compliance EM on vessels combined with shoreside observers to sample deliveries in the pollock trawl fishery.

For partial coverage trips, vessel owners/operators declare each trip in a NMFS database and if the trip is selected for coverage, a NMFS-contracted observer provider company arranges for coverage. Funding for partial coverage is obtained from an ex-vessel fee on landings from the prior year and is used by NMFS to pay for observer and EM services. To estimate the costs of monitoring in the partial coverage category, cost models were constructed for each monitoring method. Each model incorporates: the best available information; assumptions about both fixed and variable costs; and known economy of scale.

In full coverage, every trip is monitored by 1 or 2 observers if monitoring is completed at sea, or by an EM system at sea and an observer at the processing plant receiving catch from the EM monitored vessel. For full coverage trips, vessel and processing plant owners/operators are

responsible for procuring observer and EM hardware services directly through NMFS-authorized companies and EM service providers.

Deployment Design

The deployment design for the partial coverage component of the program involves three elements: 1) the selection method to accomplish complete or random sampling; 2) division of the full and partial populations into selection groups or strata; and 3) the allocation of deployment among strata.

Selection method

For 2026 in the partial coverage category, NMFS will implement trip selection from all ports throughout Alaska to assign both at-sea observers and EM to fishing events for partial coverage vessels. Trip-selection refers to the use of the fishing trip as the primary sampling unit, and is accomplished using the Observer Declare and Deploy System (ODDS). The rates at which trips are randomly selected by ODDS for monitoring are determined by the analysis in the ADP.

In the Gulf of Alaska (GOA), every trawl EM trip is monitored by an EM system at sea and by a partial coverage observer at the processing plant receiving catch from EM monitored vessels. NMFS will sample for all salmon and halibut in the offload and randomly select offloads for biological sampling by observers assigned to the shoreside processing plants.

In full coverage, every trip is selected and monitored by 1 or 2 observers if monitoring is completed at sea, or by an EM system at sea and an observer at the processing plant receiving catch from the EM monitored vessel.

Sampling strata

Fishing trips are broadly divided into groups, or selection pools, defined by whether monitoring is required on all trips (Full Coverage) or a subset of trips (Partial Coverage) as well as whether the trips will be monitored at sea by observers or EM. Selection pools may be further split into sampling strata, each with a specified monitoring rate.

In 2026, NMFS will implement 6 selection pools (listed below) and 10 sampling strata.

1. Full Coverage Observer Pool

Vessels and processors in the full observer coverage category must comply with observer and EM coverage requirements at all times when fish are harvested or processed. Every trip is monitored. Vessels and processing plants in full coverage include: Catcher/Processors (C/P),with limited exceptions; Motherships; Catcher Vessels (CVs) participating in programs that have transferable Prohibited Species Catch (PSC) allocations as part of a catch share Limited Access Privilege Program; and shoreside processors receiving or processing Bering Sea pollock.

2. EM Trawl BSAI Pool

Pollock CVs using pelagic trawl gear must opt-in annually by 1 November, and be approved by NMFS, to participate in the trawl EM category for the upcoming fishing year. In the Bering Sea and Aleutian Islands (BSAI), these vessels are in full coverage and compliance monitoring with an EM system is required on every trip. In addition, processing plants are responsible for

procuring observers to ensure that all trawl EM deliveries by CVs or tender vessels to shoreside processors are subject to required dockside monitoring.

3. Partial Coverage Observer Trip-Selection Pool

There are 4 observer trip-selection strata based on gear and FMP area for 2026:

- *At-sea Observer Fixed-gear BSAI*
- *At-sea Observer Fixed-gear GOA*
- *At-sea Observer Trawl BSAI*
- *At-sea Observer Trawl GOA*

4. Partial Coverage EM Fixed-Gear Pool

The EM Fixed-gear selection pool consists of 2 sampling strata:

- *EM Fixed-gear BSAI*
- *EM Fixed-gear GOA*

All requests to be in or out of the EM selection pool for 2026 must be received in ODDS by 1 November 2025.

Vessel owners/operators opt into the EM Fixed-gear selection pool and, if approved by NMFS, a vessel will remain in the EM selection pool for the duration of the following calendar year (1 January–31 December). NMFS may approve or deny requests by vessels to be added to the EM Fixed-gear pool based on the priorities identified by NMFS and supported by the Council, including: vessel size, fishing effort, minimizing data gaps, and cost efficiency (e.g., the requesting vessels had either no fishing history or fished too few trips to indicate cost-effectiveness).

Each year, all vessels in the EM Fixed-gear selection pool—including those that were previously in the pool—are required to submit and follow an NMFS-approved Vessel Monitoring Plan (VMP). As part of the VMP approval, NMFS will assess a vessel's past adherence to their approved VMP. The quantity and severity of compliance issues that negatively impact data quality and collection will be used to assess vessel eligibility to participate in the EM Fixed-gear program.

5. EM Trawl GOA Pool

Pollock CVs using pelagic trawl gear must opt-in annually by 1 November, and be approved by NMFS, to participate in the trawl EM category for the upcoming fishing year. Once approved, all trips where the vessel targets pollock with only pelagic trawl gear will be subject to the trawl EM regulations. Vessels must indicate prior to the trip whether they intend to deploy pelagic trawl gear during a trip and compliance monitoring with an EM system is required on every trip. In addition, observers will monitor EM deliveries by CVs or tender vessels to shoreside processors.

6. No-selection Pool

The no-selection pool is composed of vessels that will have no probability of carrying an observer or EM system on any trip for the 2026 fishing year. This stratum includes vessels <40 feet length overall (LOA) and/or fishing with jig gear.

Allocation of Monitoring in Partial Coverage
In 2026, the NMFS proposes to use the Proximity Allocation method to deploy fixed-gear EM and at-sea observers in the partial coverage category. This method is precautionary with respect to obtaining data from all types of fishing activity (decreasing data gaps) while protecting against high variance associated with low sample sizes. This allocation method applies to all sampled partial coverage strata (i.e., does not apply to the no-selection stratum) except the EM Trawl GOA stratum.

For the EM trawl GOA stratum, NMFS will implement dockside monitoring and allocate funds for monitoring according to estimates of the number of plant observers required.

Dockside Monitoring
In 2026, dockside monitoring at shoreside processing plants by observers will enable sampling of deliveries from pollock vessels fishing with pelagic trawl gear. The data collection objectives are to 1) enumerate salmon bycatch from EM deliveries and deliveries that were observed at sea; 2) enumerate halibut bycatch from EM deliveries; 3) collect salmon genetic information to determine bycaught salmon area of origin; and 4) collect biological samples from non-salmon species from EM deliveries.

For EM trawl vessels in the GOA that deliver pollock to shoreside processors or tenders, observers in the processing plant will complete objectives 1–3 (above) for every EM offload and will complete objective 4 (above) for a randomly selected subset of EM offloads.

For vessels in the GOA pollock fishery that do not participate in the trawl EM program and deliver to shoreside processors, observers in the processing plant will also complete objectives 1 and 3 for the offloads from trips that are randomly selected for at-sea observer coverage. Halibut PSC estimates will be based on sample data collected by at-sea observers using current Catch Accounting System (CAS) methods. Objective 4 will be completed *at-sea* by the vessel observer, as has been the norm in the past.

For observed trips in the GOA pollock fishery outside of the trawl EM strata that are delivered to tender vessels (as well as trawl trips outside of the pollock fishery), data to meet objectives 1 through 4 will be obtained from observer at-sea samples of the total catch.

For trips in the BSAI trawl pollock fishery, for CVs both in the trawl EM pool and those not in trawl EM, a census of salmon will be completed during the offload.

Selection Rates

The *preliminary* selection rates (rounded to the nearest whole number) for strata in 2026 are:

Component	Pool	Stratum	Selection Rate (%)	Number of Trips Expected to be Observed	Monitoring Location & Purpose
Partial Coverage	**Observer Trip Selection**	Fixed-gear BSAI	19	66	At-sea for discard & PSC estimation / biological sampling **Plus pollock trawl deliveries monitored dockside for salmon on selected trips**
		Fixed-gear GOA	7	149	
		Trawl BSAI	45	14	
		Trawl GOA	13	39	
	EM Fixed-gear Trip Selection	EM Fixed-gear BSAI	38	32	At-sea for discard & PSC estimation
		EM Fixed-gear GOA	13	134	
	EM Trawl GOA	EM Trawl GOA	100	794	At-sea EM compliance monitoring
			100	794	Dockside salmon & halibut PSC accounting
			33	265	Dockside biological sampling
	No-selection	No-selection	0	0	n/a
Full Coverage	**Full Coverage**	Full Coverage	100	1,051	At-sea for discard & PSC estimation / biological sampling Plus pollock trawl deliveries monitored dockside for salmon
	EM Trawl BSAI	EM Trawl BSAI	100	1,773	At-sea EM compliance monitoring
					Dockside salmon & halibut PSC accounting / biological sampling

Introduction

Purpose and Authority

This 2026 ADP describes how NMFS intends to assign at-sea and shoreside fishery observers and EM to vessels and processing plants engaged in halibut and groundfish fishing operations in the North Pacific. This plan is developed under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1862), the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area

(BSAI FMP), the Fishery Management Plan for the Groundfish Fisheries of the Gulf of Alaska (GOA FMP), and the Northern Pacific Halibut Act of 1982. The ADP outlines the science-driven method for deployment of observers and EM systems to support statistically reliable data collection. The ADP is a core element in implementation of section 313 of the Magnuson-Stevens Act, which authorizes the Council (Council) to prepare a fishery research plan in consultation with NMFS.

The Council's role in the ADP process is described in the analysis that was developed to support the restructured observer program (NPFMC 2011) and in the preamble to the proposed rule to implement the restructured observer program (77 FR 23326). The preamble to the proposed rule notes that:

> *NMFS would consult with the Council each year on the deployment plan for the upcoming year. The Council would select a meeting for the annual report consultation that provides sufficient time for Council review and input to NMFS. The Council would likely need to schedule this review for its October meeting. The Council would not formally approve or disapprove the annual report, including the deployment plan, but NMFS would consult with the Council on the annual report to provide an opportunity for Council input. The final deployment plan would be developed per NMFS' discretion to meet data needs for conservation and management. (77 FR 23344 & 23345).*

The ADP follows the process envisioned by the Council and NMFS when the restructured observer program was developed and implemented. As a result, both the ADP development and the evaluation of data collected by observers and EM is an ongoing process. NMFS is committed to working with the Council throughout the annual review and deployment cycle to identify improved analytical methods and ensure Council and public input is considered.

More details on the legal authority and purpose of the ADP are found in the Final Rule for Amendment 86 to the BSAI FMP and Amendment 76 to the GOA FMP (77 FR 70062, 21 November 2012). Further details on the integration of EM deployment into the ADP process are found in the final rule to integrate EM into the Observer Program (82 FR 36991).

North Pacific Groundfish and Halibut Observer Program

NMFS implements the Council's fishery research plan through the North Pacific Groundfish and Halibut Observer Program (Observer Program). The Observer Program provides the regulatory framework and support infrastructure for stationing observers and EM systems to collect data necessary for the conservation, management, and scientific understanding of the commercial groundfish and Pacific halibut fisheries of the BSAI and GOA management areas. EM is broadly defined as technological tools which collect fishing data to support stock assessment and fishery management. In the North Pacific, EM is usually specifically referencing video imagery and sensors to provide catch and discard information and compliance monitoring after video review.

The Observer Program is the largest observer program in the country and is responsible for monitoring a fleet of nearly a thousand vessels that fish a combination of hook-and-line, pot, and trawl gear across the Alaska EEZ area of roughly 3.77 M km^2. The deployment of monitoring

assets (observers and/or EM) is the first stage of a hierarchical sampling design (Cahalan and Faunce 2020). Since 2013, the fishing trip has been the primary sampling unit. Fishing trips made by vessels are assigned to either full or partial coverage.

In full coverage, every trip is monitored by 1 or 2 observers if monitoring is completed at sea, or by an EM system at sea and an observer at the processing plant receiving catch from EM monitored vessels. For full coverage trips, vessel and processing plant owners/operators are responsible for procuring observer and EM hardware services directly through NMFS-authorized companies. There are currently three NMFS-permitted observer service providers, two NMFS-approved EM hardware service providers, and one EM review service provider.

For partial coverage trips, vessel owners/operators declare each trip in a NMFS database and if the trip is selected for coverage, a NMFS-contracted observer provider company arranges for coverage. Funding for partial coverage is obtained from an ex-vessel fee on landings from the prior year and is used by NMFS to pay for observer and EM services. In the partial coverage component, the ADP specifies the scientific sampling design and the selection rate—the portion of trips that are sampled. NMFS and the Council recognized that selection rates in partial coverage, for any given year, would be dependent on available revenue generated from fees on groundfish and halibut landings. The annual apportionment of the budgets for observer deployment and EM system deployment is also reflected in the ADP process. The ADP process allows NMFS to adjust deployment in each year so that sampling can be achieved within financial constraints. While fisher participation in observer monitoring is automatic, if a vessel wishes to participate in at-sea EM they must volunteer, be approved by NMFS, and follow a VMP. Cost efficiency of an EM vessel may change over time, but hardware infrastructure cannot be easily or cheaply modified to respond to different fishing effort patterns. As a result of these different rules of participation, NMFS evaluates each vessel volunteering for EM for cost efficiency, minimization of data gaps, and vessel size (as a proxy for ability to carry an observer) prior to accepting them into the EM strata.

Observer Program Data Collection

Data collection through the Observer Program provides a reliable and verifiable method for NMFS to gain fishery discard and biological information on fish, and data concerning seabird and marine mammal interactions with fisheries. These data contribute to the best available scientific information used to manage the fisheries in the North Pacific. The design of the holistic monitoring program that meets mandates of the Magnuson-Stevens Act, Marine Mammal Protection Act (MMPA), and Endangered Species Act (ESA) ensures that multiple monitoring programs are not required on the fleet. Observers and EM systems provide fishery-dependent information that is used to estimate total catch and interactions with protected species. Managers use these data to manage groundfish and PSC within established limits and to document and quantify fishery interactions with protected species. Much of this information is expeditiously available (e.g., daily or at the end of a trip, depending on the type of vessel) to ensure effective management. Scientists also use fishery-dependent data to assess fish stocks, evaluate marine mammal and seabird interactions with fishing gear, characterize fishing impacts on habitat, and provide data for fisheries and ecosystem research and fishing fleet behavior. While both observers and EM systems provide fishery-dependent data, these monitoring methods provide different information on catch and interactions with protected species. Table 1 summarizes the

broad suite of data collection through the different monitoring approaches under the Observer Program.

ADP Process

On an annual basis, NMFS develops an ADP to explain how observers and EM will be deployed for the upcoming calendar year, and prepares an Annual Report that evaluates the performance of the prior year's ADP implementation. NMFS and the Council created the ADP - Annual Report process to provide flexibility in the deployment of monitoring assets used to gather reliable data for estimation of catch in the groundfish and halibut fisheries off Alaska.

The Annual Report is presented to the Council in June each year and informs the Council and the public about how well various aspects of the program are working. The review highlights areas where improvements are recommended to: 1) collect the data necessary to manage the groundfish and halibut fisheries; 2) maintain the scientific goal of unbiased data collection, and; 3) accomplish the most effective and efficient use of the funds collected through the observer fees.

A draft ADP that outlines sampling for the upcoming year is prepared in October each year and a final ADP is completed in December. The ADP defines partial coverage strata, participation requirements, allocation methods, and selection rates each year. Strata define how trips will be monitored (for example which vessels belong to observer or EM selection pools and the requirements necessary to participate in each) and may be based on factors such as gear type, vessel length, home or landing port, availability of EM systems, funding, and monitoring goals. Since 2013, aspects of deployment have been adjusted through the ADP (e.g., NMFS 2020; AFSC and AKR 2025). The modifications have included moving types of partial coverage trips between selection pools or strata, varying the selection unit from vessel to trip, and changes in selection rates used to deploy observers and EM in the partial coverage category (Table 2).

The flexibility offered by the ADP allows NMFS and the Council to achieve transparency, accountability, and efficiency from the Observer Program to meet its myriad objectives. The ADP process ensures that the best available information is used to evaluate deployment, including scientific review and Council input, to annually determine deployment methods. The Observer Program is accountable to operate within annual financial constraints that are dependent on the amount of fee revenue collected from groundfish and halibut landings in the prior year and the anticipated future costs of monitoring and fishing effort.

Recent updates to the ADP

At the October 2019 Council meeting, the Council recommended an increase in the observer fee percentage from 1.25 percent to 1.65 percent for the Partial Coverage Observer Program and dovetailed that recommendation with continued development of mechanisms to improve cost efficiency in the program as its highest priority. In response to a Council priority to improve cost efficiencies in the partial coverage category and to integrate changes into the observer program, including incorporating regulatory changes required by the Pacific Cod Trawl Cooperative (PCTC) and trawl EM, NMFS initiated an evaluation of partial coverage monitoring to compare alternative scientifically robust, cost-effective sampling plans. The integrated evaluation of data

collection methods (observers and EM) was presented in the draft 2024 ADP (NMFS 2023a) and incorporated the goal of spending the limited, available funding more efficiently such that the most coverage (both EM and observers) is achieved for a range of budgets. The analysis evaluated the trade-offs between different monitoring designs, including:

- Relative per unit cost efficiency of each design
- Statistical efficiency of each design
- Relative impact on data quality (e.g., timeliness, ability to detect rare events)
- Relative scalability of each design

The evaluation in the draft 2024 ADP (NMFS 2023a), included several stratification methods (ways to divide the sample population of trips into groups, or strata) and allocation approaches (how much to sample in each stratum) and provided an appropriate sampling plan for deployment in 2024 and beyond.

The final 2024 ADP created a stratification definition based on monitoring method (Observer, EM Fixed-gear, trawl EM), FMP area (BSAI, GOA), and gear (Fixed, Trawl), where fixed-gear combines hook-and-line and pot gear (Table 2).

In 2024, NMFS implemented the Proximity Allocation Method to deploy observers and EM (NMFS 2023a; 2023b). The Proximity Allocation Method is designed to spread sampled trips throughout the fisheries to increase the proportion of trips that are sampled or near a sampled neighbor and to be consistent between strata within a specified budget, while also protecting against small sample sizes within a stratum. As such, the Proximity Allocation Method is precautionary with respect to obtaining data from all types of fishing activity, thereby reducing data gaps, and the occurrence of high variance associated with low sample sizes.

The Proximity Allocation Method was applied to all sampled strata except the no-selection stratum and the trawl EM stratum. The no-selection stratum is not sampled and thus no allocation method is applied. Shoreside fishery observers will enumerate salmon and halibut and collect salmon genetics on all EM deliveries (100%) and will randomly select and sample 33% of all deliveries for other biological samples from vessels participating in the trawl EM strata in the GOA. In the BSAI, all offloads from trawl EM trips will be monitored.

Table 1. Data collected by at-sea observers, trawl EM with shoreside observers, and EM Fixed-gear. A green checkmark (✔) indicates that the data are collected, a red ✘ indicates that the data are not collected, and blue arrows (⇔) indicate that compared to at-sea observers, some, but not all, data are collected.

Data Collected		**At-sea Observers**	**EM Trawl + Shoreside Observers**	**EM Fixed-gear**
Catch				
	Trip Characteristics (e.g., duration, total effort)	✔	✔	✔
	Haul Characteristics (e.g., location, effort, depth, gear performance)	✔	⇔	⇔
	Haul Level Species Composition - Counts	✔	✘	✔

	Haul Level Species Composition - Weights	✔	✘	✘
	Trip Level Species Composition - Counts	✔	✔	✔
	Trip Level Species Composition - Weights	✔	✔	✘
	Speciation of Similar Species (e.g., large red rockfish, king crabs)	✔	✔	✘
	Haul Specific Salmon PSC Enumeration	✔	✘	⇔
	Trip Specific Salmon PSC Enumeration	✔	✔	⇔
	USCG Marine Casualty Information	✔	⇔	⇔
Biologicals				
	Sex Length Data (fish and crab)	✔	✔	✘
	Pacific Halibut Size and Mortality Assessment	✔	✔	✘
	Trip Specific Age Structures (e.g., otoliths, scales, fin rays)	✔	✔	✘
	Trip Specific Tissue for Genetic Analyses	✔	✔	✘
	Tagged Organism Information	✔	✔	✘
	Stomach Samples (trophic interactions)	✔	⇔	✘
	Maturity Information	✔	⇔	✘
Protected Species				
	Marine Mammal Injury and Mortality	✔	⇔	⇔
	Marine Mammal Tissue (genetics, trophic information, contaminants)	✔	✘	✘
	Marine Mammal Interactions (non-lethal, non-injury)	✔	✘	⇔
	Marine Mammal Sightings	✔	✘	✘
	Verify Use of Seabird Avoidance Methods	✔	n/a	✔
	Seabird Mortality (catch by gear)	✔	✔	✔
	Seabird Mortality (vessel interactions)	✔	⇔	⇔
	ESA-Listed Seabird Carcass	✔	⇔	✘

Table 2. The planned partial coverage percentages (trips at-sea and deliveries shoreside) set through the Annual Deployment Plan for each stratum 2022–2025. GOA= Gulf of Alaska; BSAI = Bering Sea and Aleutian Islands; Fixed-gear = Hook and Line and/or Pot Gear; EM = electronic monitoring; Composition = species composition sampling; Disposition = retained or discarded catch; Tissues = biological tissue sampling.

			Year				
Stratum Description	**Coverage Type**	**Data Focus**	**2022**	**2023**	**2024**	**2025**	**2026**
EM Fixed-gear BSAI	At-sea	Composition and Disposition			74.29	47.91	38.47
EM Fixed-gear GOA	At-sea	Composition and Disposition			24.20	11.11	13.06
EM Hook-and-line	At-sea	Composition and Disposition	30.00	30.00			
EM Pot	At-sea	Composition and Disposition	30.00	30.00			
EM Trawl BSAI	At-sea	Compliance	100.00	100.00	100.00	100.00	100.00
	Shoreside	Composition, Tissues, Halibut and Salmon Counts	100.00	100.00	100.00	100.00	100.00
EM Trawl GOA	At-sea	Compliance	100.00	100.00	100.00	100.00	100.00
	Shoreside	Composition, Tissues, Halibut and Salmon Counts	33.33	33.33	33.33		
		Composition and Tissues				33.33	33.33
		Halibut and Salmon counts				100.00	100.00
Fixed-gear BSAI	At-sea	Composition, Disposition, and Tissues			43.97	19.83	19.19
Fixed-gear GOA	At-sea	Composition, Disposition, and Tissues			13.17	6.16	7.45
Hook-and-line	At-sea	Composition, Disposition, and Tissues	19.00	17.90			
Pot	At-sea	Composition, Disposition, and Tissues	17.50	17.10			
Trawl	At-sea	Composition, Disposition, and Tissues	29.70	22.70			
Trawl BSAI	At-sea	Composition, Disposition, and Tissues			72.28	40.39	45.21
Trawl GOA	At-sea	Composition, Disposition, and Tissues			20.58	15.45	13.46
Vessels < 40’ LOA and Jig Gear	At-sea	Design efficiency (No data collected)	0.00	0.00	0.00	0.00	0.00

Partial Coverage Preliminary Budget and Cost Assumptions

For this analysis, the NMFS set a **preliminary budget** of $4.75M to support monitoring of the partial coverage fisheries in 2026. The preliminary budget includes revenues generated from ex-vessel fees collected from fishing in 2024, estimated ex-vessel fees that are expected to be collected from fishing in 2025, and federal funds that are able to be secured for monitoring. However, there is still a lot of uncertainty in the annual budget. This uncertainty is due to: 1) difficult predictions regarding the amount of revenue that will be generated from fees for landings in 2025; 2) shoreside facility operations in the EM Trawl GOA program, including the number of shoreside observers required by each plant; 3) adjustments to observer cost models now that observer assignments are billed by the hour rather than half days. The estimated **budget presented here is preliminary** and will be updated in the final 2026 ADP that will be presented to the Council at their December 2025 meeting.

The partial coverage monitoring program has three monitoring methods: 1) at-sea observers; 2) EM fixed-gear; and 3) at-sea compliance EM on vessels combined with shoreside observers to sample deliveries in the GOA pollock trawl fishery (note that trawl EM trips in the Bering Sea are full coverage and therefore monitoring costs for those trips are excluded from the partial coverage budget). To estimate the costs of monitoring, cost functions were constructed for each of the three monitoring methods. Each function incorporates: the best available information; assumptions about both fixed and variable costs; and known economy of scale. An in-depth description of how the cost functions were generated is provided in Appendix B.

The at-sea observer costs were a function of the number of sea days purchased, the price per guaranteed day and optional day, and travel costs. However, the cost function for plant observers monitoring the Trawl EM GOA stratum considered the shoreside observer cost per plant-day, including the number of guaranteed and optional days purchased, lodging, and food costs.

This 2026 draft ADP assumes: five shoreside observers to monitor processing plants in Kodiak during A season and B season with an additional 6th shoreside observer in B season at Sand Point; all observers monitor on all calendar days while pollock fishing is open; plant operations in 2026 are similar to the 2023–2025 period. This draft also assumes no partial coverage-shoreside observers are stationed at False Pass, Akutan, or Dutch Harbor plants. These assumptions are subject to change in the final ADP.

The trawl EM and EM fixed-gear cost functions also considered the annual cost for EM equipment maintenance by EM service providers (which is dependent on the number of vessels in the pool) and video review costs. The cost models did not include new EM system installations and EM equipment replacements because those are supported separately by the Congressional Directed Spending funds that are administered through a grant with Pacific States Marine Fisheries Commission (PSMFC).

In total, trawl EM was estimated to cost $863K which was deducted from the total $4.75M budget prior to allocation of the remaining funds (approximately $3.887M) to deploy at-sea observers and EM fixed-gear. Again, this is a preliminary budget and these cost allocations are subject to change in the final ADP.

2026 Deployment Methods

Selection Method

For 2026, NMFS will implement trip selection from all ports throughout Alaska to assign both at-sea observers and EM to fishing events for vessels in the partial observer coverage category. Trip-selection refers to the use of the fishing trip as the primary sampling unit, and is accomplished using the Observer Declare and Deploy System (ODDS; Faunce et al. 2021).

In the EM trawl GOA stratum, every trip is monitored by an EM system at sea. Moreover, all offloads by catcher and tenders vessels are monitored for salmon and halibut by an observer at the processing plants. A subset of these deliveries will also be randomly selected by the shoreside observers for biological sampling.

In full coverage, every trip is selected and monitored by 1 or 2 observers if monitoring is conducted at sea, or by an EM system at sea and an observer at the processing plant receiving catch from EM vessels.

Selection Pools and Stratification Scheme

Fishing trips are broadly divided into groups, or selection pools, defined by whether monitoring is required on all trips (full coverage) or a subset of trips (partial coverage) as well as whether the trips will be monitored by observers or EM. Selection pools may be further split into sampling strata, each with a specified monitoring rate.

In 2026, NMFS will implement 6 selection pools and 10 sampling strata, discussed below.

Full Coverage

1. Full Coverage Observer Pool

Vessels and processors in the full observer coverage category must comply with observer coverage requirements at all times when fish are harvested or processed. Every trip is monitored by one or more observers. Specific requirements for the observer component of the full coverage stratum are defined in regulation at 50 CFR 679.51(a)(2) and observers are required on every trip. Vessels and processing plants in full coverage includes the following:

- C/Ps (with limited exceptions).
- Motherships.
- CVs participating in programs that have transferable PSC allocations as part of a catch share program, which includes: CVs harvesting PCTC quota; Bering Sea pollock (both American Fisheries Act [AFA] and Community Development Quota [CDQ] programs), the groundfish CDQ fisheries (CDQ fisheries other than Pacific halibut and fixed-gear sablefish; only vessels greater than 46 ft LOA); and the Central GOA Rockfish Program.
- CVs using trawl gear that have requested placement in the full coverage category for all fishing activity in the BSAI for one year.
- Inshore processors receiving or processing Bering Sea pollock.

2. EM Trawl BSAI Pool

Pollock CVs using pelagic trawl gear must opt-in annually by 1 November, and be approved by NMFS, to participate in the trawl EM category for the upcoming fishing year. In the BSAI, these vessels are in full coverage and compliance monitoring with an EM system is required on every trip. In addition, processing plants are responsible for procuring observers to ensure that all trawl EM deliveries by CVs or tender vessels to shoreside processors are subject to required dockside monitoring (for more details, see section below on Dockside Monitoring).

Partial Coverage

3. Partial Coverage Observer Trip-Selection Pool
There are 4 observer trip-selection strata based on gear and FMP area for 2026.

- The *At-sea Observer Fixed-gear in the BSAI* stratum is composed of trips in the partial coverage category on vessels that are greater than or equal to 40 ft LOA, fishing pot or hook-and-line gear, and where the vessel declared in ODDS that they intend to harvest the majority of catch on the trip in the BSAI.
- The *At-sea Observer Fixed-gear in the GOA* stratum is composed of trips in the partial coverage category on vessels that are greater than or equal to 40 ft LOA, fishing pot or hook-and-line gear, and where the vessel declared in ODDS that they intend to harvest the majority of catch on the trip in the GOA.
- The *At-sea Observer Trawl gear in the BSAI* stratum is composed of all trawl trips in the partial coverage category that are not in trawl EM where the vessel declared in ODDS that they intend to harvest the majority of catch on the trip in the BSAI.
- The *At-sea Observer Trawl gear in the GOA* stratum is composed of all trawl trips in the partial coverage category that are not in trawl EM where the vessel declared in ODDS that they intend to harvest the majority of catch on the trip in the GOA.

4. EM Fixed-Gear Trip-Selection Pool

The EM Fixed-gear selection pool consists of 2 sampling strata:

- The *EM Fixed-gear in the BSAI* stratum is composed of vessels in the EM Fixed-gear selection pool, fishing pot or hook-and-line gear, where the vessel declared in ODDS that they intend to harvest the majority of catch on the trip in the BSAI.
- The *EM Fixed-gear in the GOA* stratum is composed of vessels in the EM Fixed-gear selection pool, fishing pot or hook-and-line gear, where the vessel declared in ODDS that they intend to harvest the majority of catch on the trip in the GOA.

The vessel owner/operator receives notification of NMFS approval of their placement in the EM Fixed-gear pool by logging into ODDS. Once approved, that vessel will remain in the EM selection pool for the duration of the following calendar year (1 January–31 December). Each year, all the vessels in the EM Fixed-gear selection pool—including those that were previously in the pool —are required to submit and follow a NMFS-approved VMP[1].

As part of the VMP approval, NMFS will assess a vessel's past adherence to their approved VMP. The quantity and severity of compliance issues that negatively impact data quality and collection will be used

[1] The VMP template is available at: https://alaskafisheries.noaa.gov/fisheries/electronic-monitoring

to assess vessel eligibility to participate in the EM Fixed-gear program. As an example, a vessel operator with recurring issues that have consistently resulted in unusable or very poor quality EM data (e.g., obstructing the camera view) might be grounds for removal. NMFS will notify the vessel operator of their status through a cover letter attached to the VMP approval on an annual basis. A vessel with poor standing will be placed into probationary status and the vessel owner/operator will be notified of specific issues they need to address to bring the vessel into compliance. Failure of a vessel operator to address issues or comply with conditions of the VMP could result in the vessel being ineligible to participate in the EM Fixed-gear pool the following year. Vessels which are removed from the EM Fixed-gear pool automatically revert to the observer pool.

Any vessel in the EM Fixed-gear selection pool in 2025 remains eligible to be in the EM selection pool for 2026 unless:

- the vessel owner/operator submitted a request to leave the EM selection pool;
- NMFS has disapproved the vessel's VMP; or
- the vessel owner/operator was placed into probationary status due to repeated problems with EM system reliability and/or video quality, were notified of specific issues needed to bring the vessel into compliance, and the vessel owner/operator failed to address the problems; or they failed to adhere to the requirements in their VMP.

All requests to be included or removed from the EM selection pool for 2026 must be received in ODDS by 1 November 2025. NMFS reserves the right to approve or deny requests by vessels to be added to the EM Fixed-gear pool based on the priorities identified in the 2024 Annual Report (AFSC and AKR 2025), criteria specified at 50 CFR 679.51(f)(1)(iv), and supported by the Council (Appendix A) including vessel size, fishing effort, minimizing data gaps, and cost efficiency (e.g., the requesting vessels had either no fishing history or fished too few trips to indicate cost-effectiveness).

This draft report precedes the deadline to opt in or out of the EM Fixed-gear selection pool, so this analysis will assume the number of participants in 2026 will be the same as in 2025. The final report will account for any changes to the list of participants.

5. EM Trawl GOA Pool

Vessels utilizing pelagic trawl gear[2] must opt-in annually by 1 November, and be approved by NMFS, to participate in the trawl EM category for the upcoming fishing year. Once approved, all trips where the vessel targets pollock with only pelagic trawl gear will be subject to the trawl EM regulations, as specified at 50 CFR 679.51(g). Vessels must indicate in ODDS whether they intend to deploy pelagic trawl gear during a trip and compliance monitoring with an EM system is required on every trip. In addition, observers will monitor EM deliveries by CVs or tender vessels to shoreside processors (for more details, see section below on Dockside Monitoring).

6. No-selection Pool

The no-selection pool is composed of vessels that will have no probability of carrying an observer or EM on any trips for the 2026 fishing season and represents a single stratum. The *No-selection* stratum is comprised of fixed-gear vessels less than 40 ft LOA, where length overall is defined in regulations at 50

[2] If a vessel intends to deploy non-pelagic trawl gear, they will be subject to observer coverage as part of the Partial Coverage Observer Trip-Selection Pool.

CFR 679.2 and means the centerline longitudinal distance, rounded to the nearest foot; and vessels fishing with jig gear, which includes handline, jig, troll, and dinglebar troll gear.

Partial Coverage Allocation Strategy

Allocation strategy refers to the method of allocating monitoring among strata to sample units. In 2026, the NMFS proposes to implement the Proximity Allocation Method to deploy EM fixed-gear and at-sea observers in the partial coverage category. This method is precautionary with respect to obtaining data from all types of fishing activity (decreasing data gaps) while protecting against high variance associated with low sample sizes.

NMFS first implemented the Proximity Allocation Method in 2024 after presenting the draft 2024 ADP (NMFS 2023a) that compared multiple allocation methods, including a "hurdle" allocation approach that had been implemented starting in 2018. The hurdle approach allocated a single, set level of monitoring across all strata, and placed additional monitoring as resources allowed to meet specific monitoring goals. When reviewing the draft 2024 ADP, the Council supported implementation of the Proximity Allocation Method (Appendix A).

The Proximity Allocation Method is designed to spread sampled trips throughout the fisheries to increase the proportion of trips that are sampled or near a sampled neighbor and to be consistent between strata within a specified budget, while also protecting against small sample sizes within a stratum. This allocation method applies to all strata sampled at sea, i.e., does not apply to the no-selection stratum or the EM trawl GOA stratum which is sampled shoreside. Details on how selection rates were determined are provided in Appendix B.

Dockside Monitoring

Dockside sampling methods

Dockside monitoring by observers will occur in shoreside processing plants to enable sampling of deliveries from pollock vessels fishing with pelagic trawl gear (Table 3). The data collection objectives are to: 1) enumerate salmon bycatch from EM deliveries and deliveries that were observed at sea; 2) enumerate halibut bycatch from EM deliveries; 3) collect genetic information from salmon in EM and observed deliveries; and 4) collect biological samples from non-salmon species from EM deliveries.

For EM trawl GOA vessels that deliver to shoreside processors or tenders, observers in the processing plant will complete an enumeration of salmon and halibut bycatch for every EM offload. Observers will collect salmon tissue samples for genetic analysis to determine the river of origin of bycaught salmon from all EM deliveries. In addition, for deliveries from trips with at-sea observer coverage, salmon enumeration and collection of salmon tissue samples for genetic analysis will be conducted at the shoreside processing plant. For 2026, NMFS proposes to collect genetic samples from 1 in 10 Chinook and 1 in 30 chum, which is the same sampling rate used in the full coverage fisheries. This would result in consistent sampling rates across all EM and observed trips and would spread genetic tissue collections over a larger number of offloads at a lower collection rate, decreasing the amount of time an observer spends on tissue collection for deliveries with large numbers of salmon.

For vessels in the GOA pollock fishery that do not participate in the trawl EM and deliver to shoreside processors, the offloads from trips that are randomly selected for at-sea observer coverage will be monitored for salmon bycatch by an observer during offload of the catch at the shoreside processing plant.

For trips in the GOA pollock fishery outside of the trawl EM strata that are delivered to tender vessels (as well as trawl trips outside of the pollock fishery), salmon counts and tissue samples will be obtained from salmon found within observer at-sea samples of the total catch.

For trips in the BSAI trawl pollock fishery, for CVs both in the trawl EM category and those not in trawl EM, a census of salmon will be completed during the offload.

Dockside observer coverage and Catch Monitoring Control Plans

To ensure that shoreside processors are meeting dockside monitoring requirements they are required to submit and maintain Catch Monitoring Control Plans (CMCPs). Shoreside processors that receive landings from vessels in the trawl EM category are required to have an approved CMCP, as specified at 50 CFR 679.28(g)(2). The CMCP is submitted by the owner and manager of a shoreside processing plant to NMFS for approval, and outlines how the processor will meet the applicable catch monitoring and control standards.

For processors receiving pelagic pollock deliveries in the BSAI full coverage fisheries, their CMCP indicates the specific number of observers that are necessary to meet program sampling objectives. NMFS may update the CMCP throughout the year to ensure that sufficient data can be collected, as processing effort may change seasonally. At a minimum, processors receiving AFA deliveries are required to have one observer per 12 hour period, as specified at 50 CFR 679.51(b)(2). Shoreside processors in the BSAI that receive AFA pollock trawl deliveries, both EM and non-EM, may be required to carry 4 observers per day (2 per 12 hour shift) to meet the observer program sampling requirements. Each shoreside processor has a unique operation and, as such, NMFS will work with each shoreside processor to determine the number of observers necessary to meet data collection needs and document the plant-specific requirements in the CMCP.

The deployment of observers, both at sea and for dockside monitoring in the partial coverage program is determined through the ADP process, using estimated costs and anticipated budget. As such, the agency will determine the total number of observers needed in the GOA shoreside processors. Based on the agency data needs and sampling duties outlined for shoreside observers, one observer will be necessary per pollock processing line at the shoreside plant. If a shoreside plant has two lines of operation for pollock then two observers will be necessary. NMFS estimates that five observers will be needed to monitor processing plants in Kodiak while pollock fishing is open.

Table 3 summarizes the 2026 dockside sampling protocols for salmon and groundfish delivered by CVs in the pelagic pollock fishery in the GOA and BS. Trips by non-pollock trawl vessels in the GOA fall under the partial coverage category and will be randomly selected for coverage by at-sea observers who will sample at sea for salmon, salmon genetics, and groundfish biological samples.

Communication with observers

The CMCP also facilitates communication between the vessels, shoreside processors, and observers. This is achieved by requiring all necessary information be supplied to the observers. CV and tender vessel operators will be required to follow landing notice procedures specified in their respective VMPs, as specified at § 679.51(g)(3). The landing notice will be transmitted by the CV or tender vessel to the intended shoreside processor, as outlined in the VMP. Once the landing notice is received by the shoreside processor, that information will be provided to the shoreside observers. Beginning on 1 January 2025, Bering Sea shoreside processors will have an internal email account that allows observers to

monitor daily schedules, and other communications. The Alaska Regional Office (AKR) will be included on these emails. This process will give observers adequate information to perform their sampling duties, and gives the agency the ability to track communications. These emails will be listed in the communication section of the CMCP. A similar process will be put in place for the GOA shoreside processing plants.

Table 3. Summary of dockside sampling for CVs in the pelagic pollock fishery in 2026.

FMP Area	Strata	Fishery	Offload location	Salmon and halibut PSC accounting	Salmon genetic samples	Biological sampling of groundfish in the plant
GOA	EM Trawl	Pelagic pollock	Shoreside plant or tender	Enumeration of all salmon and halibut PSC on 100% of deliveries.	1 in 10 Chinook and 1 in 30 chum	33% of deliveries
	Partial Coverage At-sea Observer Trips	Pelagic pollock	Shoreside plant	Enumeration of all salmon PSC on deliveries for selected trips. Estimates from halibut found within observer at-sea samples of the total catch on selected trips.	1 in 10 Chinook and 1 in 30 chum	Collected at sea on random selection of trips
			Tender	Estimates from salmon and halibut found within observer at-sea samples of the total catch on selected trips.	Within observer at-sea samples	Collected at sea on random selection of trips
BS	EM Trawl	Pelagic pollock	Shoreside plant	Enumeration of all salmon and halibut PSC on 100% of deliveries.	1 in 10 Chinook and 1 in 30 chum	100% of deliveries
	Full Coverage At-sea Observer Trips	Pelagic pollock	Shoreside plant	Enumeration of all salmon PSC on 100% of deliveries Estimates from halibut found within observer at-sea samples of the total catch on selected trips.	1 in 10 Chinook and 1 in 30 chum	Collected at sea on 100% of trips

Selection Rates

The **preliminary** selection rates for deployment of observers (50 CFR 679.51(a)) and EM (50 CFR 679.51(f)) in 2026 are summarized in Table 4. Using a combination of at-sea observers, shoreside observer sampling, and EM, NMFS expects to monitor 2,824 trips in full coverage and 1,228 trips in partial coverage in 2026 (Table 4). Details on how selection rates were determined are provided in Appendix B. As noted above, both the budget for 2026 and the estimated costs presented in this draft ADP are preliminary. **Any change in the estimated 2026 budget or costs will affect the final selection rates in the final ADP.** The final ADP will be presented to the Council in December 2025.

Table 4. Summary of total trips, selection rates (rounded to the nearest whole number), the number of trips expected to be observed, and monitoring location and purpose, in each sampling stratum in 2026.

Selection rates presented here are **preliminary** based on estimated budget and costs. Final selection rates will be provided in the final ADP in December 2025.

Component	Pool	Stratum	Total No. Expected Trips	Selection Rate (%)	No. Trips Expected to be Monitored	Monitoring Location	Monitoring Purpose
Partial Coverage	**At-sea Observer**	Fixed-gear BSAI	346	19.19	66	At-sea	Discard & PSC estimation/ biological sampling
		Fixed-gear GOA	1,996	7.45	149		
		Trawl BSAI	30	45.21	14		
		Trawl GOA	289	13.46	39		
	EM Fixed-gear	Fixed-gear BSAI	84	38.47	32	At-sea	Discard & PSC estimation/ biological sampling
		Fixed-gear GOA	1,029	13.06	134		
	EM Trawl	EM Trawl GOA	794	100	794	At-sea	EM Compliance
				100	794	Dockside	PSC accounting
				33	265	Dockside	Biological sampling
	No-selection	No-selection	1,484	0	0		
Full Coverage	**Full Observer**	Full Observer Coverage	1,051	100	1,051	At-sea	Discard & PSC estimation/biological sampling
	EM Trawl BSAI	EM Trawl BSAI	1,773	100	1,773	At-sea	EM Compliance
				100	1,773	Dockside	PSC accounting
				100	1,773	Dockside	Biological sampling

Observer Declare and Deploy System (ODDS)

Vessels in the partial coverage strata are required to notify NMFS and their fishery monitoring service provider with their intended fishing plans prior to departure. This is accomplished through phone or direct access to the ODDS web-application. The strata and associated selection rates are programmed into ODDS for each ADP prior to the start of the year. For each logged trip, ODDS selects a four digit random number. If the random number is equal to or below the stratum-specific selection rate, the trip is selected for monitoring; otherwise the trip is not selected for monitoring. In this way, ODDS facilitates random selection of which trips will be monitored. In addition, owners or operators of vessels making trips in the EM Fixed-gear selection pool must also use ODDS to close each trip following the instructions in their VMP.

Users of ODDS are given flexibility to accommodate their fishing operations; up to three trips may be logged in advance of fishing and trips can be canceled or changed to accommodate changing plans. In the 2023 Annual Report presented to the Council in June 2024, NMFS noted an increasing percentage of logged trips being canceled. The analysis showed that the ODDS rules which governed how and when monitored trips are canceled were not enough to ensure unbiased data. As a result, NMFS worked with the Partial Coverage Fishery Monitoring Advisory Committee (PCFMAC) to develop an ODDS trip

cancellation policy that does not significantly impede industry, affords the observer provider adequate time to deploy an observer, and reduces impacts to coverage rates and non-random monitoring. The new policy was implemented in January 2025 and eliminates the ability of vessel operators to cancel trips, while preserving the ability of vessel operators to change the date and location of trips. This maintains the order of selected and unselected trips and is identical to the trip cancellation policy that has been in place for the fixed-gear EM strata since its creation.

Operators of CVs in the partial coverage trawl EM category with a NMFS-approved VMP must register anticipated trips in ODDS. Prior to embarking on each fishing trip, the owner or operator must specify the use of pelagic or nonpelagic trawl gear to determine trawl EM category participation for the upcoming fishing trip.

For new partial coverage trip selection participants, vessel owners should contact NMFS at odds.help@noaa.gov requesting an ODDS account. NMFS will then create a user account for the new partial coverage trip-selection participant so that they may access the application at http://odds.afsc.noaa.gov/ and log eligible fishing trips electronically. Vessel owners can also log, change, or cancel trips through the ODDS call center (1-855-747-6377). Communication between users and NMFS is facilitated through odds.help@noaa.gov.

Annual Coverage Category Requests

Partial coverage catcher/processors

Under Observer Program regulations at 50 CFR 679.51(a)(3), the owner of a non-trawl C/P can request to be in the partial observer coverage category, on an annual basis, if the vessel processed less than 79,000 lb (35.8 mt) of groundfish on an average weekly basis in a particular prior year. The deadline to request placement in the partial observer coverage category for the following fishing year is 1 July and the request is accomplished by submitting a form[3] to NMFS. Consistent with the 2025 ADP, two previously approved vessels are in the partial coverage category for the 2026 fishing year. NMFS also communicated with the fleet regarding vessels not fishing as a C/P, but have C/P endorsements on their FFP. These vessels have never been in full coverage and are not included in full coverage for 2026. These vessels were primarily salmon trollers and NMFS anticipates they will remove their C/P endorsement in the next permit cycle.

Full coverage CVs

Under Observer Program regulations at 50 CFR 679.51(a)(4), the owner of a trawl CV may annually request the CV to be placed in the full observer coverage category for all directed fishing for groundfish using trawl gear in the BSAI management area for the upcoming year. Requests to be placed into full observer coverage in lieu of partial observer coverage must be made in ODDS[4] prior to 15 October 2025 for the 2026 fishing year. Each year, the list of CVs that have been approved to be in the full coverage category is available on the NMFS website.[5]

[3] The form for small catcher/processors to request to be in partial coverage is available at: https://media.fisheries.noaa.gov/dam-migration/catcher-processor-observer-partial-coverage-request.pdf

[4] Instructions for catcher vessels to request to be in full coverage using ODDS are available at: https://www.fisheries.noaa.gov/resource/document/bsai-trawl-catcher-vessel-annual-full-observer-coverage-request

[5] List of BSAI trawl catcher vessels in full coverage available at https://www.fisheries.noaa.gov/resource/document/bsai-trawl-catcher-vessels-cvs-full-coverage

Vessels Participating in Halibut Deck Sorting

On 24 October 2019, NMFS published a final rule to implement regulations allowing halibut to be sorted on the decks of trawl C/Ps in the non-pollock fisheries off Alaska. Fishing under the new regulations began on 20 January 2020. The final rule implementing this program does not specify the amount of time allowed for vessel crew to sort, and observers to discard, deck-sorted halibut. This flexibility enables NMFS to adjust sorting times in response to new information. In 2026, NMFS will continue to allow all vessels operating under these regulations 35 minutes to deck-sort and discard halibut. This uniform time allowance maintains the protocol from previous years and is consistent with the fact that there is no data to support vessel-specific deviations from the current time limit.

Voluntary Increase in Observer Coverage on Freezer Longline Vessels

The Freezer Longline Coalition and Alaskan Observers are intending to deploy two observers on select C/P longliners to increase the number of non-trawl lead level 2 (LL2) endorsed observers. This unique approach combines the two monitoring options in 50 CFR 679.51(a)(2)(vi)(E) and § 679.100(b) by taking increased observer coverage and using a flow scale.

Combining the monitoring options provides increased opportunities for observers to gain a non-trawl LL2 endorsement; supports the collection of high quality data by increasing sampling on these select vessels and sharing the sampling workload; and uses a flow scale to determine the weight of all retained Pacific cod. Additionally, deploying two observers to a challenging sampling platform has the potential to increase observer retention by improving the inexperienced observer's experience through mentorship and minimizing burn-out for the experienced observer.

Communication and Outreach

NMFS will continue to communicate the details of the ADP to affected participants through letters, public meetings, NMFS Information Bulletins, and information on NMFS websites:

- Information about the Observer Program and Frequently Asked Questions on observer deployment are available at: https://www.fisheries.noaa.gov/alaska/fisheries-observers/north-pacific-observer-vessel-plant-operator-faq
- Frequently Asked Questions about EM fixed-gear are available at: https://www.fisheries.noaa.gov/alaska/resources-fishing/frequent-questions-electronic-monitoring-em-small-fixed-gear-vessels
- Frequently Asked Questions about trawl EM are available at: https://www.fisheries.noaa.gov/s3//2025-01/Common-Questions-Trawl-Electronic-Monitoring-EM-Category.pdf
- For technical information and Frequently Asked Questions regarding ODDS go to http://odds.afsc.noaa.gov/ and click the "ODDS login" button.

NMFS continues to communicate with industry groups and past participants as we work to ensure smooth monitoring of fisheries in 2026. AKR Staff are available for outreach meetings upon request. To request a meeting, please contact Joel Kraski at joel.kraski@noaa.gov.

Observer Program staff are also available for outreach meetings upon request by teleconference and/or video conferencing pending staff availability and local interest. A community partner would be needed to organize a location and any necessary equipment to facilitate additional meetings. To request a meeting or suggest a topic for discussion, please contact Lisa Thompson at 1-206-526-4229 or Lisa.Thompson@noaa.gov.

List of Preparers and Contributors

ADP Analysis Team (in alphabetical order):

Craig Faunce, Alaska Fisheries Science Center (AFSC)
Phil Ganz, Alaska Regional Office (AKR)
Christian Gredzens, AFSC
Geoff Mayhew, AFSC

Other contributions from:

Jason Gasper, AKR
Jason Jannot, AFSC
Josh Keaton, AKR
Joel Kraski, AKR
Brian Mason, AFSC
Melanie Rickett, AKR
Lisa Thompson, AFSC
Mike Vechter, AFSC

References

Alaska Fisheries Science Center (AFSC) and Alaska Regional Office (AKR). 2025. North Pacific Observer Program 2024 Annual Report. AFSC Processed Rep. 2025-10, 139p. Alaska Fish. Sci. Cent., NOAA, Natl. Mar. Fish. Serv., 7600 Sand Point Way NE, Seattle WA 98115. Available at: https://doi.org/10.25923/nnhn-jc60

Cahalan, J. and C. Faunce. 2020. Development and implementation of a fully randomized sampling design for a fishery monitoring program. Fish. Bull (U.S). 118:87–99. doi: 10.7755/FB.118.1.8.

Faunce, C., M. Moon, P. Packer, G. Campbell, M. Park, G. Lockhart, and N. Butterworth. 2021. The Observer Declare and Deploy System of the Alaska Fisheries Science Center. U.S. Dep. Commer.,NOAA Tech. Memo. NMFS-AFSC-426, 86p. Available at: https://repository.library.noaa.gov/view/noaa/32909

National Marine Fisheries Service (NMFS). 2023a. Draft 2024 Annual Deployment Plan for Observers and Electronic Monitoring in the Partial Coverage Groundfish and Halibut Fisheries off Alaska. National Oceanic and Atmospheric Administration, 709 West 9th Street, Juneau, Alaska 99802. Available at: https://www.fisheries.noaa.gov/resource/document/draft-2024-annual-deployment-plan-and-partial-coverage-cost-efficiencies-analysis

NMFS. 2023b. 2024 Annual Deployment Plan for Observers and Electronic Monitoring in the Groundfish and Halibut Fisheries off Alaska. National Oceanic and Atmospheric Administration, 709

West 9th Street, Juneau, Alaska 99802. Available at: https://www.fisheries.noaa.gov/s3//2023-11/Final-2024-ADP.pdf

NMFS. 2020. 2021 Annual Deployment Plan for Observers in the Groundfish and Halibut Fisheries off Alaska. National Oceanic and Atmospheric Administration, 709 West 9th Street. Juneau, Alaska 99802. Available at: https://www.fisheries.noaa.gov/resource/document/2021-annual-deployment-plan-observers-and-electronic-monitoring-groundfish-and

North Pacific Fishery Management Council (NPFMC). 2011. Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Proposed Amendment 86 to the Fishery Management Plan for Groundfish of the Bering sea/Aleutian Islands Management Area and Amendment 76 to the Fishery Management Plan for Groundfish of the Gulf of Alaska: Restructuring the Program for Observer Procurement and Deployment in the North Pacific. March 2011. 239 p. plus appendices. Available at: https://www.fisheries.noaa.gov/resource/document/ea-rir-irfa-proposed-amendment-86-fmp-groundfish-bsai-and-amendment-76-fmp

Appendix A: Council motions on the ADP

C-1 Council motion
2024 Observer Annual Report & 2026 Annual Deployment Plan
June 6, 2025

2024 Annual Report

The Council appreciates the 2024 Annual Report on the observer program and recommends the following for future reports, in addition to SSC recommendations as practicable:

- The executive summary should include program summary statistics, such as the percentage of catch observed as indicated on p. 85:
    - In the Bering Sea/Aleutian Islands (BSAI), all pelagic trawl catch was on trips with 100% or 200% coverage. In the BSAI and Gulf of Alaska combined, **91.2% of pelagic trawl catch was on trips with 100% or 200% coverage and 8.8% was on trips in partial coverage.** All partial coverage trips were in the Gulf of Alaska and 34% of the catch was monitored. This percentage is higher if trawl trips covered by electronic monitoring (EM) are considered.
    - In the BSAI and Gulf of Alaska combined, **95.6% of non-pelagic trawl catch was on trips with 100% or 200% coverage and 4.4% was on trips in partial coverage.** Partial coverage trips occurred in both the BSAI and GOA, with 79.1% and 16.4% of their catch monitored, respectively.
- The executive summary should include identification of any notable changes from the previous year's deployment scheme and resulting changes in trends or conclusions as to their effectiveness. • Include the amount and timeliness of EM data review for the pelagic gear EM program similar to the fixed gear EM program.
- Highlight the results of the ODDS trip cancellation policy change in 2025 (i.e., ability to edit not cancel selected trips) and its effect on reducing temporal bias.

2026 Annual Deployment Plan (ADP)

The Council supports the following recommendations for the 2026 ADP:

- For the partial coverage program, similar to 2025, use the proximity allocation method (except for pelagic trawl EM) and the following strata for deployment: (observer, EM fixed-gear, trawl EM), Fishery Management Plan areas (BSAI, GOA), and gear type (fixed, trawl)
- For pelagic trawl EM, maintain 100% EM at-sea monitoring and the 33% sampling rate of EM deliveries by shoreside observers
- Maintain fixed-gear EM selection pool of up to 178 vessels. If needed, prioritize placement in the EM selection pool based on vessel size, fishing effort, minimizing data gaps, and cost efficiency. Remove vessels with repeated problems causing data loss from the EM pool.
- Improve EM video review times with Pacific States Marine Fisheries Commission and use prioritization rules to better allocate review effort to the fisheries, gear types, times, and areas most dependent on EM data for management.
- As practicable for this or future ADPs, consider revisions to the zero selection pool (currently <40' fixed-gear catcher vessels and jig gear) for cost efficiency purposes to potentially include fixed-gear catcher vessels with: 1-2 annual trips and/or low quota/catch volume.

C-1 Council motion
2023 Observer Annual Report & 2025 Annual Deployment Plan
June 8, 2024

2023 Annual Report

The Council appreciates the 2023 Annual Report on the observer program and recommends the following, in addition to SSC recommendations as practicable:

- Future annual reports should include the cost and number of full coverage observer days in the executive summary.
- Continue efforts to attempt to include data on the amount of catch monitored by electronic monitoring (EM) similarly to data on observed catch.
- Continue to provide a summary of issues highlighted in the previous year's annual report and how they were addressed. The 2023 annual report was informative regarding issues previously identified including EM image quality and EM video review timeliness.
- Given changes to the database used by observers to report potential violations in 2023, the Council supports OLE not including trends over time periods that are not comparable.

2025 Annual Deployment Plan (ADP)

The Council supports the following recommendations for the 2025 ADP:

- For the partial coverage program, use the 2024 proximity allocation method (except for pelagic trawl EM) and the following strata for deployment: (observer, EM Fixed-gear, EM Trawl), Fishery Management Plan areas (BSAI, GOA), and gear type (fixed, trawl)
- For pelagic trawl EM, maintain 100% EM at-sea monitoring and the 33% sampling rate of EM deliveries by shoreside observers
    - Continue to evaluate shoreside sampling priorities to balance observer workloads
    - Work with EM service providers and industry to budget for pelagic trawl EM
    - Modify the ODDS system to include pelagic trawl EM
- Maintain EM Fixed-gear selection pool of up to 177 vessels. As additional funds are available, increase the number of fixed-gear vessels in the EM selection pool up to 200. If needed, prioritize placement in the EM selection pool based on vessel size, fishing effort, minimizing data gaps, and cost efficiency. Remove vessels with repeated problems causing data loss from the EM pool.
- Improve EM video review times:
    - NMFS collaborate with PSMFC to establish a video review selection rate and review strategy to improve EM video review times to result in the most useful information for the most number of trips for a given cost
    - NMFS work with the Partial Coverage Fishery Monitoring Advisory Committee to develop prioritization rules that can be used to allocate review effort to the fisheries, gear types, times, and areas most dependent on EM data
    - NMFS conduct an assessment of any management impacts of delayed/missing EM Fixed-gear data
- To reduce temporal bias resulting from trip cancellations, NMFS work with the Partial Coverage Fishery Monitoring Advisory Committee to develop an ODDS trip cancellation policy that will not significantly impede industry, affords adequate time to deploy an observer, and reduces impacts to coverage rates and non-random monitoring

Funding delays

The Council recommends sending a letter to NOAA expressing concern with delays in the transfer of observer fee revenue, cost recovery funds, and pelagic trawl EM start-up funds to AFSC and NMFS due to the new Commerce Department financial system. The letter should also express concern with the 2022 and 2023 sequestered portion of the observer fees not yet being transferred and available for observer deployment.

C-2 Observer 2024 Annual Deployment Plan
Council Motion

October 6, 2023

2024 ADP

The Council supports the following for the 2024 draft Observer Annual Deployment Plan (ADP) for partial coverage fisheries. Observer coverage rates resulting from the selected design and the final budget are expected in the final ADP in December 2023. Fisheries with 100% and 200% coverage requirements in regulation are not covered under the ADP. For the 2024 ADP:

- Use combined fixed-gear-FMP stratification scheme: fixed-gear: hook-and-line/pot gear (combined); trawl gear - - Monitoring method: Observer; fixed-gear electronic monitoring (EM); pelagic trawl gear EM Exempted Fishing Permit (EFP): BSAI; GOA
- Use proximity allocation scheme with the exception of the pelagic trawl EM EFP.
- 100% EM on pelagic trawl vessels participating in the EFP, plus 33% observer shoreside sampling rate for partial coverage EM EFP trips.
- Remove fixed-gear vessels which have not fished nor used their EM systems for 3 or more years from the EM stratum. Place such vessels under 50 feet into the no-selection pool and larger vessels into the observer-selection pool.

The Council requests NMFS re-evaluate the cost estimates for both fixed-gear and trawl EM, which directly affect the cost efficiency analysis and the resulting coverage rates.

If the final ADP combines fixed-gear types for selection, the Council recommends NMFS make clear to fishermen, NMFS staff, and OLE that there is no prohibition on vessels fishing both FMP areas in one trip, despite needing to choose a predominant area when logging trips into ODDS.

The Council supports additional EM Fixed-gear vessels added to the EM pool in 2024 (up to 200 total vessels) provided they opt-in prior to November 1, 2023, funding is available, and they meet the criteria in the ADP.

Future work (2025 ADP)

For the 2025 ADP, the Council recommends exploration of a revised hurdle and an analysis of how to effectively deploy days in addition to that hurdle, per the PCFMAC recommendation. The intent is to base the hurdle on the appropriate time and proximity scale to meet biological data collection needs, and then deploy additional monitoring, using at-sea observers, shoreside observers, and/or EM, to be placed where they are most cost effective for catch accounting purposes and for targeting specific types of information deemed necessary to meet legal mandates or assessment purposes. This will require further evaluation of the needed time/space scale for biological samples.

The Council requests NMFS re-evaluate the cost estimates for both Fixed-gear and EM Trawl without including the cost of initially purchasing the EM hardware for both fixed and trawl gear, clearly separating ongoing costs from start-up costs.

Pilot project proposal

The Council encourages submittal of an industry cooperative research grant proposal and encourages NMFS to provide data to support the project: 1) the ports of departure and return for the partial coverage fleet (e.g., how many vessels/trips/catch are associated with smaller remote ports, aggregated as necessary to protect confidentiality); and 2) data on the amount of prior notice vessels are providing when registering trips in ODDS (e.g., is it the 72 hour minimum or are many vessels providing more notice). This project envisions a group of partial coverage fixed-gear vessels that continue to be selected for coverage through ODDS but procure observers through a private contract with an observer provider (remove the Federal contract component).

2024 NFWF proposals

The Council will provide written support for the proposals on p. 6 of the September 2023 PCFMAC report submitted for funding from the National Fish and Wildlife Foundation (NFWF) for the 2024 Electronic Monitoring and Reporting Grant Program. Funding for continuation of the pelagic trawl EM EFP is the highest priority, until NMFS completes regulations for the program (anticipated 2025).

Appendix B: Calculation of the Selection Rates for the Partial Coverage Strata of the 2026 ADP

Introduction

The Annual Deployment Plan (ADP) specifies how fishery monitoring assets (observers and electronic monitoring [EM] equipment) are deployed into federal fisheries off Alaska by the Observer Program. Fishery monitoring data are used for near real-time catch estimation for quota monitoring as well as in fish and marine mammal stock assessments as authorized through several statutes. The observer program is administered by the Fisheries Monitoring and Analysis Division (FMA) of the Alaska Fisheries Science Center (AFSC).

The sampling hierarchy used by FMA to obtain fishery dependent data has several levels, and the ADP is important because it affects the first, and top-most level of this hierarchy (Cahalan and Faunce, 2020). The ADP is focused predominantly on fishing operations for which sampling rates will be less than 100% (i.e., the partial coverage fleet). The partial coverage fleet consists of catcher vessels (CVs) and some catcher/processors (C/Ps, when they are not participating in a catch sharing or cooperative style management program) and accounts for approximately 10% of the landed tonnage in the federal fisheries off Alaska. Changes to the composition of the partial coverage fleet have resulted from National Marine Fisheries Service (NMFS) policy, North Pacific Fishery Management Council (Council) actions, and regulations. Since the inception of the ADP process in 2012 (2013 ADP), trip-selection has been the preferred method to deploy fishery monitoring assets into the partial coverage fleet (NMFS 2013).

For the sampling design employed by the observer program to be statistically defensible, it must include several key elements. These elements include randomized data collections over spatial and temporal scales (a probability sample) coupled with the use of stratification and prespecification of sampling intensity to control precision of estimates, while also making efficient use of available funding (Cahalan and Faunce, 2020). Therefore, the sampling design for the deployment of fishery monitoring assets (i.e., the deployment design) in the partial coverage fleet involves two components; how the population of partial coverage trips is subdivided (*stratification*), and what proportion of the total observer deployments are to occur within these subdivisions (*allocation*). The Observer Declare and Deploy System (ODDS) is used to identify the strata of fishing trips and randomly select trips for monitoring at the sampling rates defined by this ADP.

The ADP process includes a draft and final version. The draft ADP is focused on presenting the best deployment design for consideration for the year ahead, while the final ADP is focused on refining the design presented in the draft ADP and providing the most likely coverage rate that available budgets can afford. In this way, the ADP provides an annual process for the NMFS and the Council to evaluate and recommend improvements to fisheries monitoring in response to changing needs.

This appendix contains the analyses used to define the deployment design for fishery monitoring in 2026 and presents **preliminary selection rates based on preliminary budgets** that are likely to differ from those presented in the final ADP. The final version will incorporate updates to the partial coverage monitoring budget, predicted fishing effort, EM participation, and monitoring costs—all of which may influence final prescribed selection rates.

Methods

Data Preparation: Defining the Partial Coverage Fleet

A dedicated dataset developed by the staff of the Sustainable Fisheries Division of the Alaska Regional Office and the FMA was used in this analysis. Briefly, these data consist of gear types used, fishing dates, locations, observation status, and associated ADP strata that occurred on partial coverage fishing trips between 1 January 2013 to 12 August 2025. For this analysis, the expected fishing effort for 2026 was assumed to be similar to all partial coverage fishing effort for the most recent 12 month period (between 13 August 2024 through 12 August 2025).

As in past ADPs, trip data were adjusted to reflect fishing effort in the partial coverage fleet for the upcoming year. These adjustments included: 1) using deployment data to more accurately model the duration that observers are assigned to selected fishing trips; 2) labeling fishing activity by two 'historically low volume' C/Ps as belonging to the partial coverage category (i.e., those exempted from full coverage through regulatory flexibility); 3) labeling fishing by AFA eligible trawl vessels targeting Pacific cod in the BSAI FMP as belonging to the full coverage fleet if they opted into full coverage for 2025; and 4) removing vessels with no probability of selection (i.e., all trips corresponding to the no-selection pool) from the analysis. Vessel lists for the EM Fixed-gear pool and trawl EM category were assumed to be the same as those in the 2025 final ADP (NMFS 2024a) and will be updated following later deadlines to opt in/out of various programs for the 2026 final ADP.

The 2026 partial coverage sampling design includes the following strata, defined by gear type, monitoring method (observers, EM, or none), and fisheries management plan area (FMP; Bering Sea and Aleutian Islands - BSAI or Gulf of Alaska - GOA):

1. At-sea Observer Fixed-gear BSAI: Observer monitoring of trips that occur primarily in the BSAI using hook-and-line, pot, or both gears on vessels that are greater than or equal to 40 ft length overall (LOA), are not in EM Fixed-gear.

2. At-sea Observer Fixed-gear GOA: Observer monitoring of trips using hook-and-line, pot, or both gears that occur primarily in the GOA on vessels that are greater than or equal to 40 ft LOA, are not in EM Fixed-gear.

3. At-sea Observer Trawl BSAI: Observer monitoring of trips that occur primarily in the BSAI by vessels using trawl gear, excluding trips where vessels participate in trawl EM.

4. At-sea Observer Trawl GOA: Observer monitoring of trips that occur primarily in the GOA by vessels using trawl gear, excluding trips where vessels participate in trawl EM.

5. EM Fixed-gear BSAI: EM of trips using hook-and-line, pot, or both gears that occur primarily in the BSAI on vessels that are greater than or equal to 40 ft LOA.

6. EM Fixed-gear GOA: EM of trips using hook-and-line, pot, or both gears that occur primarily in the GOA on vessels that are greater than or equal to 40 ft LOA, have been approved to carry EM.

7. EM Trawl GOA: EM compliance monitoring of trips that occur primarily in the GOA by vessels participating in the trawl EM category with shoreside monitoring of offloads by observers.

8. No-selection: No monitoring, includes vessels less than 40 ft LOA and trips fishing exclusively with jig gear.

Accounting for Uncertainties

Uncertainty in Monitoring Costs Due to Random Trip Selection

The ADP prescribes monitoring rates such that the predicted monitoring costs incurred in 2026 will be roughly equal to the budget available to deploy observers and EM into partial coverage (i.e., the monitoring budget). However, in practice random processes in trip selection introduce uncertainty in the realized costs.

The random process of trip selection in ODDS may impact the realized costs in several ways. First, although ODDS is programmed to select trips for monitoring at a specified rate, some degree of variation in each stratum's realized sampling rate is to be expected, and this affects the total number of trips monitored. Second, trip durations vary, with longer trips being generally more expensive to monitor than shorter trips, causing monitoring costs to vary depending on which trips are randomly selected. In addition, at-sea observer monitoring costs vary depending on the time of year (i.e., which contract year is active). To account for this variability, randomization was incorporated by simulating trip selection in ODDS at the prescribed trip selection rates 10,000 times.

Uncertainties to Be Addressed in the Final ADP

Uncertainties that were not included in this draft analysis:

1. EM vessel participants: The current analysis assumes the vessels participating in EM in 2026 are the same as those that participated in 2025. The application deadline for opting in or out of the EM pools is November 1. The final analysis will include the final list of EM participants for 2026.

2. Partial coverage fishing effort: In this analysis, fishing effort in 2026 was assumed to be equal to the number of trips that fished between 13 August 2023 and 12 August 2024. The final analysis will incorporate modeled predictions of expected 2026 fishing effort by stratum, calculated using historical fishing effort, and will include measurements of uncertainty around predictions.

3. Number of EM Trawl GOA deliveries and participating processing plants: The pollock B season in the GOA was shorter than expected in 2024, thus the fishing effort from B season in 2023 was used instead. Through discussions with industry, expectations of fishing effort in this stratum, as well as which processing plants will require shoreside observers and in which seasons, will be incorporated into the budgeting process in the final version of this analysis.

4. Avoidance behavior: unpredictable processes, such as whether trips logged into ODDS are canceled, inherited, or waived, are not easily modeled.

Uncertainties 1–3 are included in final ADPs.

Budget and Monitoring Costs

The preliminary budget for monitoring the partial coverage fisheries was set at $4.75M and includes revenues generated from ex-vessel fees in 2024 and 2025 and federal funds. The budget does not include the Congressional Directed Spending funds allocated to Pacific States Marine Fisheries Commission

(PSMFC) to support new installations of EM systems and EM equipment replacements. However, the annual cost of EM equipment maintenance by EM service providers is included in budget calculations.

Cost Assumptions

The partial coverage monitoring program has three monitoring methods: 1) at-sea observers; 2) fixed-gear EM; and 3) at-sea compliance EM with shoreside observers to monitor and sample deliveries in the GOA inshore pollock fishery. To estimate the costs of monitoring, cost models were constructed for each monitoring method. Each model incorporates the best information available on monitoring costs paid by contracted sources and available budgets - assumptions about both fixed and variable costs, and known economy of scale.

What follows are the most detailed descriptions of costs for each deployment stratum possible while maintaining the confidentiality of estimated prices included in the partial coverage observer contract.

EM Trawl GOA

Vessels in the partial coverage trawl EM program in the GOA carry EM systems for at-sea compliance and are monitored shoreside by observers for prohibited species catch (PSC), total catch, and collection of biological samples. The 2026 cost estimate for EM trawl GOA is the sum of: 1) estimated shoreside observer plant day costs; 2) estimated shoreside observer travel costs; 3) estimated EM data and video review costs; and 4) estimated vessel EM equipment maintenance costs.

In 2026, 153 days are estimated to occur across the GOA pollock A and B seasons. The shoreside observer cost estimate assumes: 5 observers are required to monitor processing plants in Kodiak in both A and B season and 1 observer is required at Sand Point during B season; all observers monitor on all calendar days while the pollock fishery is open; the duration of A season (86 days) is similar to that of 2025; the duration of B season (67 days) is similar to that of 2023. Under these assumptions, 832 plant observer days are predicted in the GOA for 2026. This preliminary cost estimate also assumes that no observers are required at processing plants in False Pass, Akutan, or Dutch Harbor. This is subject to change in the final ADP.

According to the partial coverage observer contract, the cost of a shoreside plant day is a function of total plant days, which contract year the days occur in, and the number and type of days purchased (guaranteed or optional). Based on the assumptions above, approximately 75% of the 2026 GOA pollock fishery will occur during the base year (1 Jan 2025–30 September 2026) of the partial coverage contract and 25% during the next contract year (1 October 2026–31 December 2026). The total plant day costs were estimated by combining the estimated number of guaranteed and optional days with independent government estimates of day prices for the upcoming observer partial coverage contract.

The travel costs include estimates of the total lodging costs and total per diem costs. Air travel costs were assumed to be negligible because, unlike at-sea observers, shoreside observers are not expected to travel while deployed at a processing plant. Lodging costs were assumed to be similar to those reported by A.I.S., Inc., the provider responsible for deploying observers on vessels and at processing plants within Alaskan partial coverage fisheries, during A season of 2025, taking into account which processing plants provide lodging and food for plant observers which do not incur these costs. The sum of the total lodging costs and the total per diem costs yielded the total GOA travel costs.

The costs of EM were separated by 1) video review costs and 2) vessel equipment maintenance costs. Data and video review costs for 2026 were calculated using inflation adjusted values from previously published estimates (Table E-1-2, NMFS 2024b). The review cost per day was determined by dividing the sum of the transmittal, review, processing, and storage costs by the total number of reviewed days. This review cost per day multiplied by the assumed fishing effort resulted in the estimate for video review costs for 2026. Vessel equipment maintenance costs were determined by multiplying estimates for the annual EM equipment upkeep fee per vessel in a year ($5,000) by the number of GOA-only trawl EM catcher and tender vessels, assumed to be 39 catcher vessels and 6 tender vessels based on participation during 2025, giving an estimate of $225,000. Any vessels participating in trawl EM that fish in the Bering Sea are responsible for the costs of their equipment and its upkeep. Distinct from equipment maintenance costs, new EM system installation and replacement costs were assumed to be funded externally by the Congressionally Directed Spending funds, which are administered through a grant with the PSMFC.

In total, EM Trawl GOA was deducted from the total $4.75M budget prior to allocation of the remaining funds to the At-sea Observer and EM Fixed-gear strata. Because this cost is known, the costs for the remaining portions of the partial coverage fleet are estimated from cost rates and predicted effort.

At-sea Observers

At-sea observer costs were estimated as a function of sea day costs and travel costs. Twelve hundred ‘guaranteed’ sea days are purchased before ‘optional’ sea days are purchased. Estimating sea day costs for the 2026 calendar year involved two steps: 1) calculation of the number of days under the base contract that will have already been utilized from 1 October to 31 December 2025; and 2) an estimate of the total number of days to be monitored 1 January to 31 December 2026. We first estimated the number of days monitored between 1 October and 31 December 2025 using fishing effort data from the same period in 2024 and the sampling rate for each stratum from the 2025 ADP. The values were then summed for each stratum to estimate the number of guaranteed/optional days remaining on the base contract as of 31 December 2025. Next, the total number of days that could be monitored by at-sea observers in 2026 was determined using the Proximity Allocation algorithm (described in the Allocation Method section later), which accounted for the number of days already used on the base contract, the additional number of guaranteed and/or optional days afforded on the base contract through 30 September 2026, and additional days expected to occur during the next contract year beginning 1 October 2026. An estimate of travel cost per sea day was calculated using detailed monitoring expenses compiled from internal reports for years 2017–2025. Annual totals of travel costs were divided by the number of sea days monitored in each year and resulted in annual estimates of travel cost per monitored day that were then inflation-adjusted to 2026 dollars. Based on cost trends, the inflation-adjusted average travel day cost from 2023 to 2025 was then used as the value for travel day costs in 2026. The sum of sea day costs and travel costs represented the total cost of at-sea observers.

EM Fixed-gear

The 2026 cost estimate function for EM Fixed-gear includes the recurring costs for EM system maintenance and estimates of video review. Similar to trawl EM, equipment installation or replacement costs for EM Fixed-gear were not included in the partial coverage budget as these costs were assumed to be covered through funds from Congress and administered through a grant with PSMFC.

The costs of EM service provider management and equipment maintenance that recur each year for EM Fixed-gear are assumed to scale with the number of vessels in the EM Fixed-gear pool. Equivalent 2026 costs were compiled for each year 2017–2021 by calculating the estimated inflation-adjusted review costs

from the product of the number of reviewed days and the inflation-adjusted unamortized costs. The recurring costs from each year were derived by subtracting review costs from unamortized costs. The yearly total recurring costs divided by the sum of the number of vessels in the EM Fixed-gear pool in each year yielded the recurring cost per vessel. In this draft analysis, the recurring annual cost per vessel was estimated as $4,855.36.

Video review costs were calculated using summaries from years with complete EM cost information (2018–2021). For each year, the total review cost was adjusted for inflation and totalled. Annual totals were then divided by the annual number of reviewed days for each year and averaged to estimate the 2026 review cost per day.

The total cost of the EM Fixed-gear program was estimated as a function of the number of vessels in the pool (178 based on the 2025 EM Fixed-gear vessel pool), the per-vessel EM service provider management and equipment maintenance costs, and the estimated number of video review days determined by the sampling rates prescribed by the proximity allocation algorithm multiplied by the estimated cost per review day.

Allocation Method

The allocation method involves several steps that are depicted in Figure B-1. The sample allocation method used here, named Proximity Allocation, was introduced in the 2024 draft ADP (NMFS 2023) and has two primary objectives: 1) minimize data gaps and 2) guard against low stratum-specific sample sizes. The algorithm evaluates the extent to which a stratum's sample rate achieves these objectives (weighing both objectives equally), and maximizes the sample rates to the extent that the budget supports. This method is designed to distribute sampled trips throughout the strata by increasing the proportion of trips that are sampled or near a sampled neighbor in space and time while also protecting against high variance resulting from small sample sizes (and remaining within budget). This allocation method was applied to the at-sea observer and EM Fixed-gear strata only because sample rates in the EM Trawl GOA and no-selection strata were predetermined.

Defining Spatiotemporal Boxes

Expected fishing effort was categorized based on each trip's stratum, gear type used, and the Alaska Department of Fish and Game (ADF&G) statistical areas fished. The spatial positions of each trip were categorized by overlaying a hexagonal grid with cells 200 km wide and identifying which cells contained the centroids of the ADF&G statistical areas. Trips were also assigned to temporal categories 1-week in duration based on each trip's start and end date. The spatial and temporal categorizations together created spatiotemporal units, or "boxes". Trips could belong to different weeks and hexagons but their weighting was set to total to one trip (e.g., a trip that crossed three boxes was counted as 0.33 trips in each box). The "neighborhood" of a box was defined as the number of trips in directly adjacent spatial or temporal boxes. Hence, the overall extent of the neighborhood of a box is 600 km across and 3 consecutive weeks. The use of neighborhoods allows the boxes to be defined with finer resolution and reduces the impacts of the arbitrarily placed boundaries of each box (i.e., how the hexagon grid is placed or which day each 7-day block begins), including edge effects.

Data gaps were quantified as the proportion of trips that are in boxes without any monitored trips in their neighborhoods. For any given monitoring rate, boxes containing a greater number of fishing trips have a higher probability of being monitored, and the neighborhood of the box will also have a higher probability of containing a monitored trip. Therefore, strata with fishing trips that are distributed widely in space and

time (e.g., many boxes and each with few trips) are more likely to have a greater proportion of boxes with unmonitored neighborhoods and vice versa. Strata with diffuse fishing effort require a higher monitoring rate to achieve the same proportion of data gaps as a stratum with concentrated fishing effort.

The probability that there are no sampled trips in a neighborhood, $\hat{A}_b$, was estimated using the binomial approximation of the hypergeometric distribution:

$$\hat{A}_b = (1 - r)^{t_{G_b}} \quad \text{Eq. 1}$$

where b is defined as the box of interest. G_b defines the neighborhood of box b (i.e., includes the adjacent 20 boxes—6 spatial cells in the same week and 7 cells in the week prior and 7 in the week after), t_G is the number of trips, t, in a neighborhood, G, and r is the initial (assumed) sample rate of each fishing trip. Hence, t_{G_b} is the number of fishing trips, t, in the neighborhood, G, of a particular box, b.

Proximity Index

The proximity index is the expected proportion of trips in a stratum's boxes that are in monitored neighborhoods and is therefore the opposite of our measure for data gaps—as sampling rate increases, the proximity index also increases. The proximity index is a function of the available budget, each stratum's monitoring cost and size (total number of trips), spatiotemporal distribution of fishing effort, and sample rate. Strata with clustered fishing effort will achieve a specified proximity index at a lower sample rate than strata with more diffuse fishing effort. Equation 1 was used to generate the probability that there were no monitored trips in the neighborhood of box b, $\widehat{A_b}$.

The expected number of trips in sampled neighborhoods is the sum of the number of trips in the neighborhood, w_b, multiplied by the probability that one or more of those trips are sampled, $(1 - \widehat{A_b})$. The proximity index, $\hat{T}$, is the average of the expected proportion of trips in monitored neighborhoods averaged over the b ($b = 1, \ldots, B$) boxes in the stratum:

$$\hat{T} = \frac{\sum_{b=1}^{B} w_b (1 - \hat{A}_b)}{B} \quad \text{Eq. 2}$$

The proximity index is useful for prioritizing the allocation of samples to highly spatiotemporally dispersed strata. For a given budget, we could maximize the proximity index, increasing sample rates until reaching the budget cap. However, strata with highly concentrated fishing effort and relatively small stratum sizes would be allocated a small portion of the total sample amount (i.e., few monitored trips). For these strata, virtually all unmonitored trips are located near monitored trips even at low sample rates, and allocation based solely on this index can result in small sample sizes for these strata. Since variance is a function of sample size, these small sample sizes can lead to catch estimates with high variability. In addition, estimated length and age composition data that drive some stock assessments will be sparse, leading to stock assessment harvest recommendations with higher uncertainty. For these reasons, the proximity allocation also includes a variance scaling factor.

Variance Scaling Factor

To control for high uncertainty associated with estimates (e.g., buffer against low sample sizes [numbers of monitored trips]), the mathematical relationship between sample size and the variance of an estimated parameter (such as the sample mean) was incorporated into the allocation algorithm. By quantifying how the level of uncertainty around a stratum-level estimate changes based on its sample size and the

proportion of the population sampled, this variance scaling factor causes the allocation algorithm to allocate more samples (monitored trips) to strata prone to higher uncertainty.

All populations have a base variance; the variability in a measured parameter between all sample units (both in the sampled and unsampled). For the ADP, the population base variance is the between trip variance of a parameter over all trips in a stratum and will be different for different strata (years, gear types, etc.). The variance of a parameter, x, is given by

$$Var(x) = \frac{\sum_{i=1}^{N} (x_i - \bar{x})^2}{N - 1} \quad \text{Eq. 3}$$

Note that in Eq. 3 we are not summing only over those sample units that were sampled, but all sample units in the population (i.e., $i = 1, \ldots, N\}$ where N is the total number of units in the population, rather than the number of sampled units in the population ($i = 1, \ldots, n$). Note that this variance does not change with sampling intensity (sample rate).

The estimated variance of the sample mean (or other parameter of interest) has two terms in addition to the population variance: the finite population correction (FPC, (N-n)/N, equal to 1 minus the proportion of the population sampled) and the inverse of the sample size ($1/n$):

$$\widehat{Var}(\bar{x}) = \frac{(N-n)}{N} \frac{1}{n} \frac{\sum_{i=1}^{n} (x_i - \bar{x})^2}{n - 1} \quad \text{Eq. 4}$$

As the sample size n increases, we know more about the population, and hence estimates will have less variance. The estimated variance of the sample mean will decrease with increasing sample rates until all sample units are included in the sample (sample rate = 100%), at which point we have a census of the population and there is no variance. In addition, as a larger and larger portion of the population is sampled (smaller FPC), we know more about the population, and the uncertainty about the estimate decreases.

The FPC and sample size combine to form a single variance scaling factor, F:

$$F = \frac{(N - n)}{N} \frac{1}{n} \quad \text{Eq. 5}$$

F was incorporated into the proximity allocation algorithm such that a higher sample rate is assigned to strata with fewer total trips, and its influence lessens rapidly as stratum size (N) increases. In addition, when used in combination with the proximity index, it acts as a strong buffer against small stratum-specific sample sizes that would otherwise occur if allocation was strictly based on the proximity index.

Proximity Allocation Index

The final *proximity allocation index* used to allocate sampling effort to strata h, $\widehat{D}_h$, is the product of $\hat{T}_h$ and $(1 - F_h)$ (the variance scaling factor), where all terms are as previously defined:

$$\widehat{D}_h = (1 - F_h)\, \hat{T}_h \quad \text{Eq. 6}$$

The expanded version of Eq. 6 highlights the estimation process, noting that the stratum-specific sample size, n_h, is an estimated parameter that is the product of stratum size, N_h, and the stratum monitoring rate, r_h:

$$\widehat{D}_h = \left[1 - \frac{N_h}{(N_h - N_h r_h)} \frac{N_h r_h}{1}\right] \frac{\sum_{b=1}^{B} w_{bh}(1-\hat{A}_{bh})}{B_h} = \left[1 - \frac{N_h}{(N_h - n_h)}\right] \frac{\sum_{b=1}^{B} w_{bh}(1-\hat{A}_{bh})}{B_h} \quad \text{Eq. 7}$$

Equation 7 cannot be solved for stratum sample sizes or monitoring rates because $\widehat{T}$, F, and costs are functions of sample size. Therefore, iterative numerical methods were used to determine the strata sample sizes that maximize the proximity allocation index while not exceeding the predetermined budget. The overall cost is the product of the number of trips in the stratum, the stratum-specific sampling rate, and the cost per trip for that stratum:

$$Cost = \sum_{h=1}^{H} N_h r_h c_h \quad \text{Eq. 8}$$

Where r_h is the stratum specific rate for the final proximity allocation index value, c_h is the cost per trip for stratum h, and N_h is the total number of trips for stratum h.

Proximity allocation index values were calculated for each stratum over a range of sampling rates 0.0001 to 0.9950, as well as the associated monitoring costs. From these estimates, the sample rates for each stratum that were associated with the maximal proximity allocation index value, $\widehat{D}_h$, for the budget were identified.

Determining Selection Rates for 2026

The selection rates of the EM Trawl GOA and no-selection strata were specified by policy. In EM Trawl GOA, 100% of trips are to be monitored at sea for compliance of discard retention, 100% of shoreside deliveries are to be monitored for PSC enumeration and salmon genetic tissue sampling by observers, and 33.33% (one in three) of shoreside deliveries are monitored by observers for biological and specimen data collection. The no-selection stratum is not monitored.

The total costs for the EM Trawl GOA (~$863K) was deducted from the total available budget, and the selection rates of the remaining partial coverage strata were determined using the proximity allocation algorithm.

Results and Discussion

Table B-1 summarizes how the $4.75M partial coverage monitoring budget was allocated to each monitoring method and the expected number of vessels participating in each stratum. Note that the overall budget is a 13.4% increase from the $4.19M monitoring budget set in the 2025 ADP. The allocation indices and selection rates resulting from the partial coverage allocation algorithm are provided in Table B-2. **These indices are provided with the caveat that they will change and be updated in the final ADP to reflect updates to fishing effort predictions, cost estimates, and/or budgets.** The proximity allocation index, a general measure of the degree of monitoring coverage allocated to the At-sea Observer and EM Fixed-gear strata, was 0.7793. This represents an increase from the value afforded in the 2025 ADP of 0.7430, indicating a lower potential for data gaps.

The selection rates, estimated number of trips, and estimated number of days to be monitored are summarized in Table B-3 for all partial and full coverage strata. Note that the EM Trawl GOA stratum's monitoring rate of 33.33% strictly represents the subset of deliveries that will be monitored shoreside by observers for biological and specimen collection. All trips will be monitored at sea by EM systems for compliance with regulations and all associated EM deliveries will be monitored shoreside by observers

for salmon and halibut enumeration as well as the collection of tissues from salmon to determine genetic stock of origin.

References

Cahalan, J. and C. Faunce. 2020. Development and implementation of a fully randomized sampling design for a fishery monitoring program. Fish. Bull (U.S). 118:87–99. doi: 10.7755/FB.118.1.8

National Marine Fisheries Service (NMFS). 2013. 2013 Annual Deployment Plan for Observers in the Groundfish and Halibut Fisheries off Alaska. National Oceanic and Atmospheric Administration, 709 West 9th Street, Juneau, Alaska 99802. Available at: https://media.fisheries.noaa.gov/dam-migration/final2013adp.pdf

NMFS. 2023. Draft 2024 Annual Deployment Plan for Observers and Electronic Monitoring in the Groundfish and Halibut Fisheries off Alaska. National Oceanic and Atmospheric Administration, 709 West 9th Street, Juneau, Alaska 99802. Available at: https://media.fisheries.noaa.gov/2023-11/Draft-2024-ADP.pdf

NMFS. 2024a. 2025 Annual Deployment Plan for Observers and Electronic Monitoring in the Groundfish and Halibut Fisheries off Alaska. National Oceanic and Atmospheric Administration, 709 West 9th Street, Juneau, Alaska 99802. Available at: https://www.fisheries.noaa.gov/resource/document/2025-annual-deployment-plan-observers-and-electronic-monitoring-groundfish-and

NMFS. 2024b. FINAL Environmental Assessment/Regulatory Impact Review for Proposed Amendment 126 to the Fishery Management Plans for Groundfish of the Bering Sea / Aleutian Islands Management Area and Proposed Amendment 114 to the Fishery Management Plan for Groundfish of the Gulf of Alaska Integrating Electronic Monitoring on Pollock Catcher Vessels using Pelagic Trawl Gear and Tender Vessels in the North Pacific Observer Program March 28, 2024 National Marine Fisheries Service, Alaska Region National Oceanic and Atmospheric Administration. https://www.fisheries.noaa.gov/s3/2024-01/0648-BM40-Trawl-EM-Analysis.pdf

Table B-1. Budget allocation and vessel participation. The preliminary budget through the observer fee and NMFS funds for monitoring (both observer and EM) is $4.75 million. The number of vessels participating is estimated as the number of unique vessels that fished within each stratum within 365 days prior to the completion of the analyses. Some vessels may fish in multiple strata (e.g., a fixed-gear vessel may fish within the At-sea Observer Fixed-gear GOA and BSAI strata.)

	Draft 2026 ADP
Partial Coverage Monitoring Budget ($)	
At-sea Observer	$2,889,000
EM Fixed-gear	$996,000
EM Trawl GOA	$863,000
Total	**$4,748,000**
Vessels Participating (Partial Coverage)	
At-sea Observer Fixed-gear BSAI	48
At-sea Observer Fixed-gear GOA	294
At-sea Observer Trawl BSAI	3
At-sea Observer Trawl GOA	29
EM Fixed-gear BSAI	11
EM Fixed-gear GOA	118
EM Trawl GOA	51
No-selection	314
Vessels Participating (Full Coverage)	
Full Coverage	98
EM Trawl BSAI	66

Table B-2. Partial coverage allocation proximity index ($\hat{T}_h$), variance scaling factor (F_h), and proximity allocation index ($\hat{D}_h$).

Stratum (h)	$\hat{T}_h$	F_h	$\hat{D}_h$
Draft 2026 ADP			
At-sea Observer Fixed-gear BSAI	0.8759	0.1103	0.7793
At-sea Observer Fixed-gear GOA	0.8459	0.0789	0.7793
At-sea Observer Trawl BSAI	0.9753	0.2010	0.7793
At-sea Observer Trawl GOA	0.9158	0.1492	0.7793
EM Fixed-gear BSAI	0.9041	0.1380	0.7793
EM Fixed-gear GOA	0.8475	0.0804	0.7793

Table B-3. Estimated number of trips in a stratum (N_h), number of observed or monitored trips/deliveries (n_h), observed or monitored days (d_h), and coverage rates (r_h) resulting from the deployment sampling design for the 2026 Annual Deployment Plan (ADP).

Stratum (h)	N_h	n_h	d_h	r_h (%)
Draft 2026 ADP				
At-sea Observer Fixed-gear BSAI	346	66	351	19.19
At-sea Observer Fixed-gear GOA	1,996	149	749	7.45
At-sea Observer Trawl BSAI	30	14	33	45.21
At-sea Observer Trawl GOA	289	39	104	13.46
Total	**2,661**	**268**	**1,237**	**10.07**
EM Fixed-gear BSAI	84	32	148	38.47
EM Fixed-gear GOA	1,029	134	681	13.06
Total	**1,113**	**166**	**829**	**14.91**
EM Trawl GOA	**794**	**794**	**2,581**	**100.00***
No-selection	**1,484**	**0**	**0**	**0.00**
Full Coverage	1,051	1,051	10,635	100.00
EM Trawl BSAI	1,773	1,773	6,237	100.00
Total	**2,824**	**2,824**	**16,872**	**100.00**

* The sample rate and estimated number of monitored deliveries for the EM Trawl GOA stratum is for salmon and halibut enumeration. Biological and specimen data collection by shoreside observers will occur in every one out of three deliveries, or an estimated 265 deliveries.

Figure B-1. Process diagram for the analyses used to determine Annual Deployment Plan selection rates and realized costs. Green boxes indicate inputs and blue boxes indicate iterative and random processes.

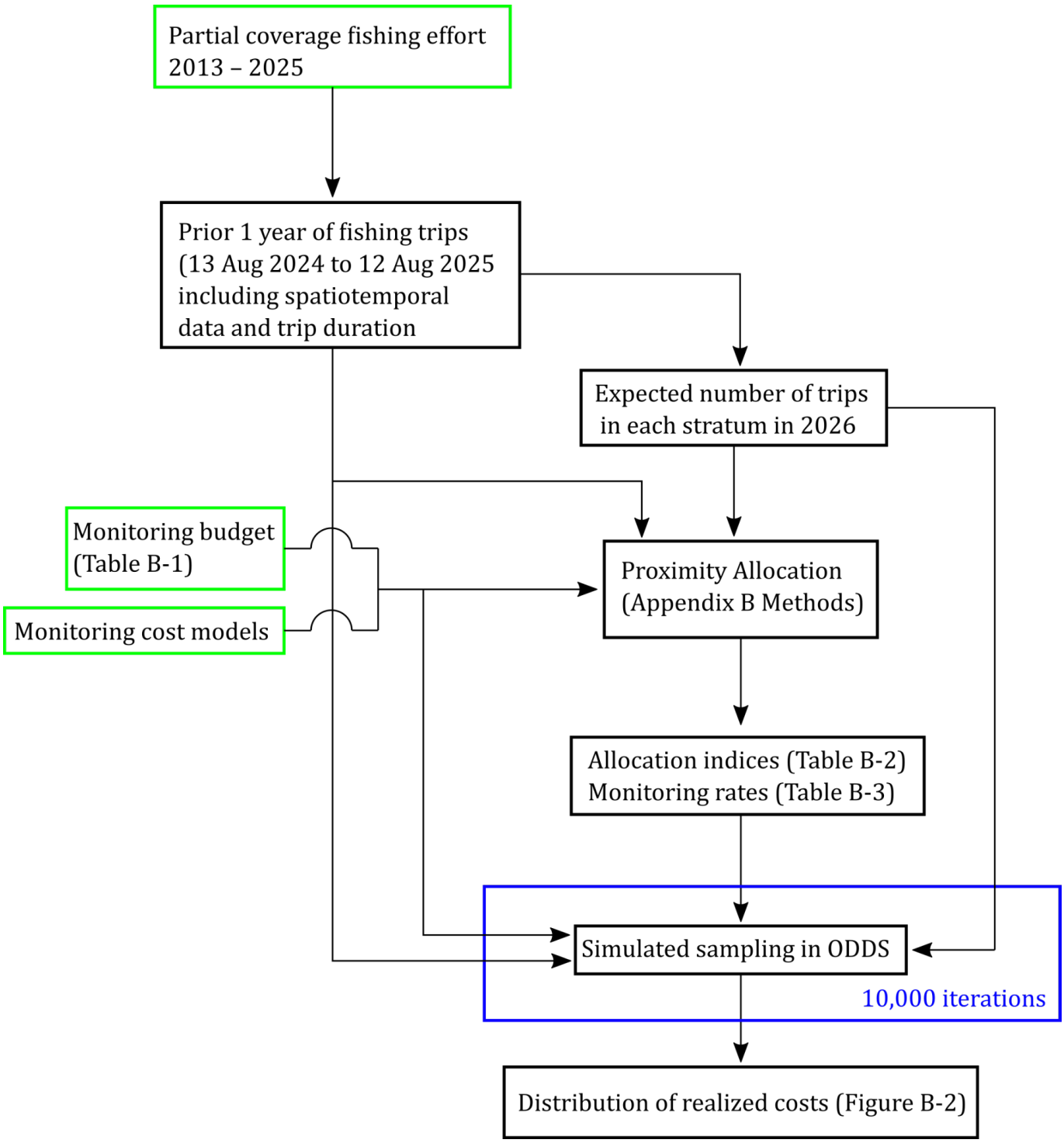

Figure B-2. Summary of 10,000 outcomes of simulated sampling in ODDS showing the total costs of the partial coverage monitoring program expected for 2026. Vertical lines depict the available budget (purple line), median expected cost (blue line), and 95% confidence limits (red lines).