

DRAFT

Regulatory Impact Review for a Proposed Regulatory Amendment to

Revise Monitoring Requirements for Pot Catcher/Processors Participating in Bering Sea/Aleutian Islands Groundfish Fisheries

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Abstract: This Regulatory Impact Review analyzes proposed changes to the monitoring requirements for the Pot Gear Catcher/Processor (CP) fleet participating in Bering Sea/Aleutian Islands (BSAI) groundfish fisheries. The measures under consideration include requiring participants to carry at least one Level 2 observer deployed at all times, requiring participants comply with pre-cruise meeting notifications, and clarifying requirements for participants choosing additional voluntary monitoring options such as an observer sampling station, motion-compensating platform and flow scales, or carrying additional observers. As the preferred source of information for catch and discards in this fishery, it is crucial that observer data used by NMFS for inseason management be as complete and accurate as possible. Due to the fishery's small number of participants and short seasons, errors in data collection or the inability for an observer to collect data have periodically led to substantial changes in the estimates of catch and bycatch. The proposed changes are intended to reduce the likelihood of data loss by ensuring experienced observers are deployed onboard pot CP vessels, effective collaboration, and an improved work environment.

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List of Acronyms and Abbreviations

Acronym or Abbreviation	Meaning	Acronym or Abbreviation	Meaning
AAC	Alaska Administrative Code	MMPA	Marine Mammal Protection Act
ABC	acceptable biological catch	MSST	minimum stock size threshold
ADF&G	Alaska Department of Fish and Game	t	tonne, or metric ton
AFA	American Fisheries Act	NAICS	North American Industry Classification System
AFSC	Alaska Fisheries Science Center	NAO	NOAA Administrative Order
AKFIN	Alaska Fisheries Information Network	NEPA	National Environmental Policy Act
BSAI	Bering Sea and Aleutian Islands	NMFS	National Marine Fishery Service
CAS	Catch Accounting System	NOAA	National Oceanic and Atmospheric Administration
CEQ	Council on Environmental Quality	NPFMC	North Pacific Fishery Management Council
CFR	Code of Federal Regulations	NPPSD	North Pacific Pelagic Seabird Database
COAR	Commercial Operators Annual Report	Observer Program	North Pacific Observer Program
Council	North Pacific Fishery Management Council	OMB	Office of Management and Budget
CP	catcher/processor	PBR	potential biological removal
CV	catcher vessel	PSC	prohibited species catch
DPS	distinct population segment	PPA	Preliminary preferred alternative
E.O.	Executive Order	PRA	Paperwork Reduction Act
EA	Environmental Assessment	PSEIS	Programmatic Supplemental Environmental Impact Statement
EEZ	Exclusive Economic Zone	RFA	Regulatory Flexibility Act
EFH	essential fish habitat	RFFA	reasonably foreseeable future action
EIS	Environmental Impact Statement	RIR	Regulatory Impact Review
ESA	Endangered Species Act	RPA	reasonable and prudent alternative
ESU	endangered species unit	SAFE	Stock Assessment and Fishery Evaluation
FMA	Fisheries Monitoring and Analysis Division	SAR	stock assessment report
FMP	fishery management plan	SBA	Small Business Act
FONSI	Finding of No Significant Impact	Secretary	Secretary of Commerce
FR	<i>Federal Register</i>	SPLASH	Structure of Populations, Levels of Abundance, and Status of Humpbacks
FRFA	Final Regulatory Flexibility Analysis	SRKW	Southern Resident killer whales
ft	foot or feet	TAC	total allowable catch
GOA	Gulf of Alaska	U.S.	United States
IRFA	Initial Regulatory Flexibility Analysis	USCG	United States Coast Guard
IPA	Incentive Plan Agreement	USFWS	United States Fish and Wildlife Service
JAM	jeopardy or adverse modification	VMS	vessel monitoring system
lb(s)	pound(s)		
LEI	long-term effect index		
LLP	license limitation program		
LOA	length overall		
m	meter or meters		
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act		

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Executive Summary

This Regulatory Impact Review analyzes proposed changes to the monitoring requirements for Pot Gear Catcher/Processors (CPs) participating in Bering Sea/Aleutian Islands (BSAI) groundfish fisheries. The measures under consideration include requiring participants to carry at least one Level 2 observer deployed at all times, requiring participants comply with pre-cruise meeting notifications, and clarifying requirements for participants choosing additional voluntary monitoring options such as an observer sampling station, motion-compensating platform and flow scales, or carrying second observers. The proposed changes are intended to reduce the likelihood of data collection errors by ensuring experienced observers are deployed onboard pot CP vessels, effective collaboration, and an improved work environment.

Purpose and Need

The purpose of this action is to maximize the utility of observer data collected onboard Pot CPs participating in the BSAI groundfish fisheries by reducing the likelihood of data collection errors. Due to the fishery's small number of participants and short seasons, the deletion of observer data due to data collection errors can lead to substantial changes in the estimates of catch and bycatch. As the preferred source of information for catch and discards in this fishery, it is crucial that observer data used by NMFS for inseason management be as complete and accurate as possible.

Alternatives

Alternative 1: No Action

Alternative 2: Implement additional monitoring requirements for Pot CPs participating in the BSAI groundfish fisheries.

Element 1: Require a minimum of one Level 2 observer on board at all times.

Element 2: Require vessel comply with pre-cruise notifications when requested by NMFS.

Element 3: Additional voluntary monitoring options:

Option 1: Allow a certified observer sampling station with motion compensated platform (MCP) scale for the observer's use.

Option 2: Allow a motion-compensated, NMFS-Certified Scale to measure total catch of Pacific cod, in conjunction with an MCP scale for testing, electronic logbook, and video monitoring.

Option 3: Allow a vessel to carry additional onboard observers.

Comparison of Alternatives for Decision-making

The No Action Alternative (Alternative 1) would result in status quo monitoring for pot CPs participating in BSAI groundfish fisheries, risking a continued high rate of data deletions. Alternative 2 is expected to reduce data deletions through the combined effect of observer expertise (Element 1), greater communication (Element 2), and an improved work environment (Element 3). Alternative 2 is expected to slightly reduce flexibility in observer deployments. Elements 1 and 2 may result in increased costs to participants; however, these costs are likely minimal. Additional costs to participants may be associated with the additional monitoring options available under Element 3, for example, if new equipment were to be installed. However, these options, and therefore costs, would remain voluntary to participants who choose to implement them.

1 Introduction

This Regulatory Impact Review analyzes proposed changes to the monitoring requirements for Pot Gear Catcher/Processors (CPs) participating in Bering Sea/Aleutian Islands (BSAI) groundfish fisheries. The BSAI Pot CP fishery is one of the only CP sectors in the full coverage category that does not require an observer endorsement above the initial Observer Certification, or require compliance with pre-cruise meeting notifications. The measures under consideration include requiring participants to carry a minimum of one Level 2 observer deployed at all times, requiring participants comply with pre-cruise meeting notifications, and clarifying requirements for participants choosing additional monitoring options such as motion-compensating platform and flow scales, carrying additional observers, and providing an observer workstation. The proposed changes are intended to reduce the likelihood of data loss by ensuring experienced observers are deployed onboard pot CP vessels, effective collaboration, and an adequate work environment.

This document is a Regulatory Impact Review (RIR). An RIR provides assessments of the benefits and costs of the alternatives, the distribution of impacts, and identification of the small entities that may be affected by the alternatives (the RIR). This RIR addresses the statutory requirements of the Magnuson Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act, 16 U.S.C. 1801, *et seq.*), the National Environmental Policy Act, Presidential Executive Order 12866, and some of the requirements of the Regulatory Flexibility Act. An EA/RIR is a standard document produced by the North Pacific Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) Alaska Region to provide the analytical background for decision-making.

Under the Magnuson-Stevens Act, the United States has exclusive fishery management authority over all marine fishery resources found within the exclusive economic zone (EEZ). The management of these marine resources is vested in the Secretary of Commerce (Secretary) and in the regional fishery management councils. In the Alaska Region, the North Pacific Fishery Management Council (Council) has the responsibility for preparing fishery management plans (FMPs) and FMP amendments for the marine fisheries that require conservation and management, and for submitting its recommendations to the Secretary. Upon approval by the Secretary, NMFS is charged with carrying out the Federal mandates of the Department of Commerce with regard to marine and anadromous fish.

The BSAI Pot CP fishery in the EEZ off Alaska is managed under the BSAI Groundfish FMP. The Observer Program is authorized by Section 3.2.4.1 of the FMP. The proposed action under consideration would amend the Federal regulations at 50 CFR 679. The experience requirements for observers deployed on specific vessels or fleets are specified in regulation and not specifically identified in the FMP. Therefore, none of the proposed alternatives would require an amendment to the FMP. Actions taken to amend FMPs or implement regulations governing these fisheries must meet the requirements of applicable Federal laws, regulations, and Executive Orders.

1.1. Purpose and Need

The purpose of this action is to maximize the utility of observer data collected onboard Pot CPs participating in the BSAI groundfish fisheries by reducing the likelihood of data collection errors. Due to the fishery's small number of participants and short seasons, the deletion of observer data due to data collection errors can lead to substantial changes in the estimates of catch and bycatch. As the preferred source of information for catch and discards in this fishery, it is crucial that observer data used by NMFS for inseason management be as complete and accurate as possible.

1.2. History of this Action at the Council

NMFS has expressed concern about data availability for management of the pot CP Pacific cod fishery. The need for action was most recently summarized in the analysis of a potential action considered by the North Pacific Fishery Management Council (NPFMC) to increase stability in the BSAI Pacific Cod Pot Gear CP fishery (NPFMC 2021). This analysis confirmed the high deletion rates of observer data in recent years and concluded that improvements in observer experience for this sector were needed (NPFMC 2021). While that action failed to pass the final action stage in February 2021, Council members reiterated support for NMFS to continue working on the observer data improvements that were identified through NMFS authority under section 305(d) of the Magnuson-Stevens Act and report back for Council and public consideration at a later NPFMC meeting date.

1.3. Description of Management Area

The BSAI management area is the United States (U.S.) Exclusive Economic Zone (EEZ) of the BS and that portion of the North Pacific Ocean adjacent to the AI, which is between 170°E W. longitude and the U.S.-Russian Convention Line of 1867 (Figure 1). The management area is divided into the two subareas of the BS and AI (Figure 1).

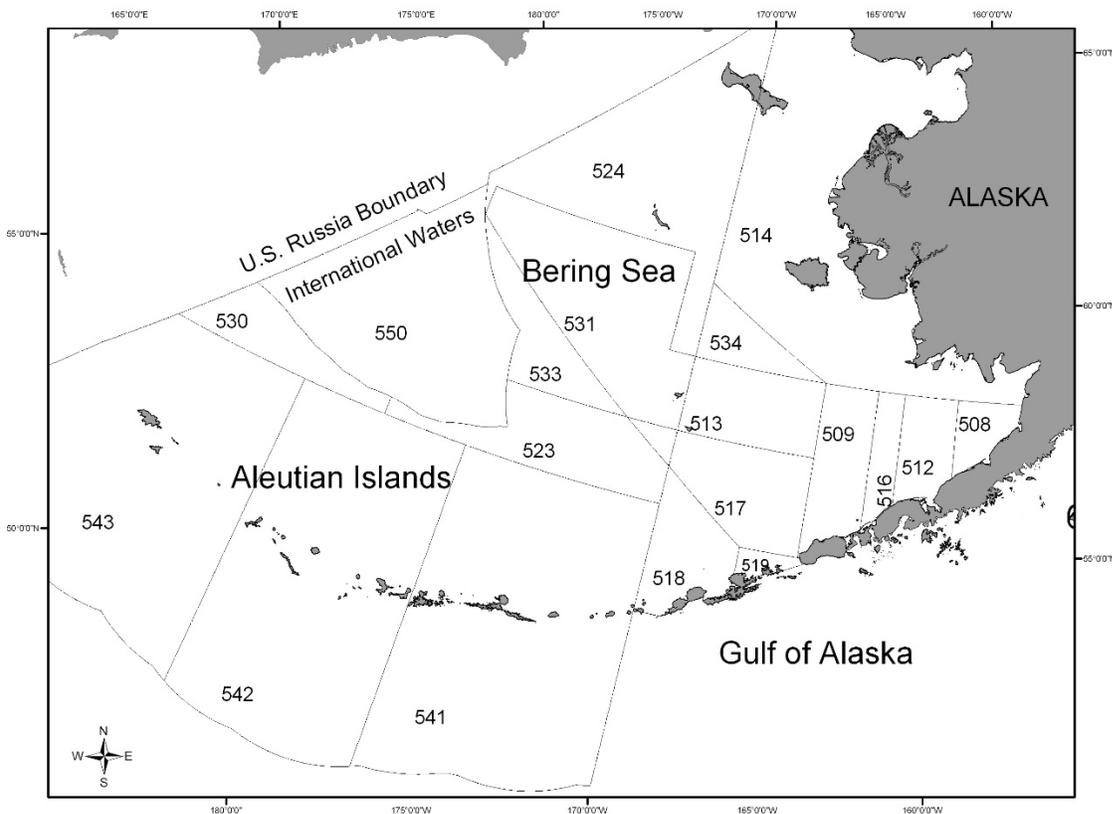


Figure 1-1 Map of Bering Sea and Aleutian Islands Groundfish FMP areas, with reporting areas (AI = 541, 542, 543)

1.4. RIR requirements

Regulatory Impact Review

The preparation of an RIR¹ is required under Presidential Executive Order (E.O.) 12866 (58 FR 51735, October 4, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following Statement from the E.O.:

In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider. Further, in choosing among alternative regulatory approaches agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.

As part of the RIR analysis, the need for the proposal is described in Section 1.1, and the alternatives in Chapter 2. Chapter 3 provides a description of the fisheries affected by this action, Chapter 4 analyzes the economic and social impacts of the proposed alternatives, including the impacts on small entities, and Chapter 5 addresses the management considerations relevant to the alternatives under consideration.

E.O. 12866 requires that the Office of Management and Budget review proposed regulatory programs that are considered to be “significant.” A “significant regulatory action” is one that is likely to:

- Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in E.O. 12866.

¹ Analysts have determined that this action would not have the potential to have an effect individually or cumulatively on the human environment. This action would be categorically excluded from the need to prepare an Environmental Assessment.

2 Description of Alternatives

The alternatives in this chapter are designed to accomplish the stated purpose and need for the action. All of the alternatives are designed to maximize the utility of observer data collected in the BSAI Pot CP fishery by reducing the likelihood of data errors.

2.1. Alternative 1, No Action

This alternative would maintain the current observer requirements for BSAI Pot CPs as they currently exist in 50 CFR Part 679. Observer endorsements are defined in 50 CFR 679.53 and include a general Observer Certification and annual deployment endorsement requirements, as well as “Level 2” and three types of “Lead Level 2” endorsements based on specific experience and gear type requirements. All observers must attend an annual briefing and a subsequent pre-cruise briefing for additional deployments throughout the year. The training and experience requirements to gain the various deployment endorsements are summarized in Table 2-1. Currently, the BSAI pot CP fishery is one of the only CP sectors in the full coverage category that does not require a Lead Level 2 (LL2) deployment endorsement (Table 2-2).

Table 2-1 Observer training and experience requirements for the various observer deployment endorsements

Endorsement	Requirements
Observer Certification	Minimum eligibility Initial observer training
Level 2	Observer certification 60 data collection days Met expectation on last cruise
Lead Level 2 (nontrawl gear)	Level 2 endorsement 2 cruises (contracts)—at least 10 days each Successfully completed LL2 training or briefing as required 30 sampled sets (nontrawl gear) or 100 sampled hauls (trawl gear)
Lead Level 2 (trawl gear)	Level 2 endorsement 2 cruises (contracts) 100 sampled hauls on a CP using trawl gear or a mothership

Table 2-2 Observer requirements in full coverage category fisheries.

Vessel/Gear Type	Fishery Description	Observer Endorsements Required
Mothership	Groundfish CDQ – delivery of unsorted codends	Lead Level 2 (LL2) + Observer Certification (OC)
Trawl CP/Mothership	Pollock CDQ Groundfish CDQ BSAI Pollock Amendment 80 in BSAI Rockfish Program	LL2 + OC
HAL CP	BSAI Pacific cod Groundfish CDQ	Increased observer option: LL2 + OC
		Scales option: LL2 (with flow scale)
CP/Mothership All gear types	All other fisheries (including HAL CPs that “opt out” of BSAI Pacific cod fishery)	OC
Trawl CV	Groundfish CDQ BS Pollock Rockfish Program	OC
HAL CV	46’ LOA CDQ Groundfish	OC
Pot CP	Groundfish CDQ	LL2
	Groundfish (non-CDQ)	OC

In recent years, the management of the BSAI Pot CP fishery has been challenged by a high rate of observer data loss, either by deletion or failure to collect data. Of the 13 fishing seasons (A and B seasons) between 2014 and 2020, NMFS replaced all or a portion of the observer data with industry reported production data for a vessel in nine of the seasons (NPFMC 2021). Due to the fishery’s small number of participants and short seasons, the deletion of samples due to observer error can lead to substantial changes in the estimates of catch and bycatch, in some cases roughly doubling harvest estimates (NMFS 2017). Across all sectors, data deletions are strongly correlated to experience, with roughly 54 to 69% percent of deletions occurring from trips on an observer’s first or second contract (Figure 2-1).

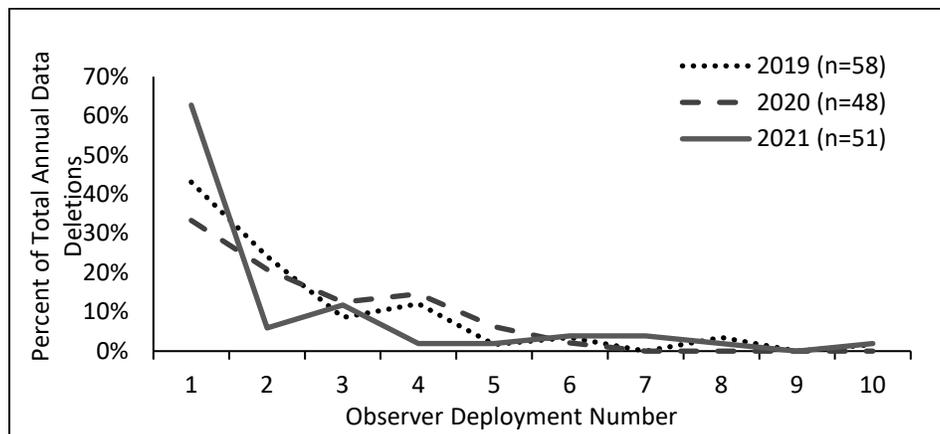


Figure 2-1 Percent of annual data deletions tracked by the Alaska Fisheries Science Center’s Fisheries Monitoring and Analysis Division (AFSC FMA) by observer contract number, 2019 through 2021. For 2019, only the number of contracts are available. Although some contracts can contain multiple deployments, contracts assumed to be equivalent to the number of deployments for comparison. . AFSC FMA data 2022.

In addition to data errors, the participants in the BSAI Pot CP fishery have recently expressed concern with the extrapolated haul estimates by the observer and their production weights. Although the BSAI Pot CP fishery is not included in a Limited Access Privilege Program (LAPP), accurate haul estimates are important to the fleet for catch accounting during their short seasons, typically only a few weeks long.

2.2. Alternative 2, Implement additional monitoring requirements for pot CPs participating in BSAI groundfish fisheries

2.2.1. Element 1: Require a minimum of one Level 2 Observer on board at all times.

Regulations would be modified to require an observer with a Level 2 endorsement be deployed on CPs using pot gear in the BSAI non-CDQ groundfish fisheries. By requiring Level 2 observers for this fleet, a certified observer on their first deployment could not be deployed on CPs using pot gear.

NMFS has consistently required experienced observers, usually with Lead Level 2 deployment endorsements for vessels participating in groundfish catch share programs because of the unique incentives to misreport catch that are created by the act of assigning quota and therefore accountability to individual entities (cooperatives or vessels). Catch share programs with additional monitoring and equipment requirements include the following: Community Development Quota (CDQ) Program (63 Fed. Reg. 30381, June 4, 1998), Pollock Fishery American Fisheries Act (AFA) Program (67 Fed. Reg. 79692, December 30, 2002), the Amendment 80 Program (72 Fed. Reg. 52668, September 14, 2007), Central Gulf of Alaska (GOA) Rockfish Pilot Program (71 Fed. Reg. 67210, November 20, 2006), and its successor, the Central GOA Rockfish Program (76 Fed. Reg. 81248, December 27, 2011; 86 FR 11895, March 1, 2021).

This Element would increase the experience requirement for observers deploying on CPs using pot gear, however this Element would only require the Level 2 endorsement rather than the more advanced Lead Level 2 endorsement that is required for most observers deployed in catch share programs.

2.2.2. Element 2: Require vessel operators comply with pre-cruise notifications when requested by NMFS.

A pre-cruise meeting provides an opportunity for AFSC FMA staff to participate in a conversation between the vessel crew and a newly assigned observer prior to embarking on a trip. This allows staff to clarify expectations and provide knowledgeable advice about anticipated sampling scenarios that an observer may encounter at sea, better preparing the observer and the crew to work together collaboratively and develop clear communication strategies. The pre-cruise meeting would minimally include the vessel operator or manager and any observers newly assigned to the vessel. A pre-cruise meeting may be necessary to ensure an observer is adequately prepared to complete sampling duties and facilitate communication between observers and vessel crew prior to embarking on a trip. Pre-cruise meetings are required for CPs participating in groundfish CDQ (63 FR 30381, June 4, 1998), Rockfish (76 FR 81248, December 27, 2011), Amendment 80 (72 FR 52668, September 14, 2007), non-pollock groundfish while participating in halibut deck sorting (84 FR 55044, October 15, 2019), and BSAI Pacific cod (77 FR 59053, September 26, 2012). Pre-cruise meetings are additionally offered on a voluntary basis as requested. Pre-cruise meetings are typically available in Dutch Harbor or Kodiak, or, upon request and pending staff availability, in other ports such as Seattle or Anchorage.

Regulations would be modified to require that the owner or operator of a CP using pot gear in the BSAI non-CDQ groundfish fisheries notify the AFSC FMA at least 24 hours prior to departure when a vessel will be carrying an observer that has not deployed on that vessel in the past 12 months. This notification would allow NMFS to determine if a pre-cruise meeting is necessary and for staff with the AFSC FMA to

contact the vessel to arrange for a pre-cruise meeting. NMFS would identify the need for a pre-cruise meeting based on several factors including the observer's prior experience, and feedback from observers previously assigned to the vessel. AFSC FMA staff participation would depend on staff availability and port of departure. After NMFS has contacted the vessel to arrange a pre-cruise meeting, the meeting would happen prior to the vessel leaving port with the newly assigned observer. By notifying the AFSC FMA at least 24 hours prior to departure, a pre-cruise meeting may be arranged and held with minimal impact on vessel operations.

2.2.3. Element 3: Additional voluntary monitoring options

This element would add regulations to provide the framework for voluntary use of additional monitoring options for a CP using pot gear in the BSAI groundfish fisheries.

2.2.3.1. Option 1: Allow a certified observer sampling station with motion-compensated platform (MCP) scale for the observer's use.

This option would provide vessel operators the choice to install an observer sampling station to the specifications required in 50 CFR 679.28(d), including a working area of 4.5 square meters, a work table, and a motion-compensated platform (MCP) scale, all in proximity to where the observer can see gear retrieved and obtain fish samples (Figure 2-2). The purpose of a sampling station is to provide observers with a low traffic area, in close proximity to the catch, where there is adequate space and equipment to process samples (Rickett 2016). Additionally, when paired with video system monitoring, a sampling station can simultaneously allow observers to monitor the catch to ensure no sample bias occurs (Rickett 2016).

An MCP scale compares the weight of fish to a reference weight at least 60 times per second, allowing the scale to compensate for the motion of the vessel which can otherwise cause an inaccurate weight reading (AFSC 2022). MCP scales can be read to the hundredth of a kilogram, providing higher precision than the tenth of a kilogram reading obtained by the NMFS-issued brass scales or hanging Salter scale (AFSC 2022). Like all scales to be used by observers, an MCP scale must be selected from the list of approved scales published by NMFS AKR².

NMFS has consistently required observer sampling stations in many of the region's fisheries. All CPs participating in a Limited Access Privilege Program (LAPP) are required to have an observer sampling station, including the CDQ Program (63 FR 30381, June 4, 1998), AFA (Pollock) Program (67 FR 79692, December 30, 2002), Amendment 80 Program (72 FR 52668, September 14, 2007), and the Central Gulf of Alaska Rockfish Program (76 FR 81248, December 27, 2011).

² Scales Approved for Use At-Sea: <https://www.fisheries.noaa.gov/alaska/resources-fishing/scales-approved-use-sea>.



Figure 2-2 Observer sampling station with motion-compensated platform (MCP) scale. Photo credit: Fisheries Monitoring and Analysis Division, AFSC.

2.2.3.2. Option 2: Allow a motion-compensated, NMFS-Certified Scale to measure total catch of Pacific cod, in conjunction with an MCP scale for testing, electronic logbook, and video monitoring.

This option would allow the use of a motion-compensated, NMFS-Certified Scale to measure total catch of Pacific cod weight, which may include flow scales (Figure 2-3) or hopper scales (Figure 2-4) certified on a case-by-case basis. A flow scale operates by continuously recording weights as the catch is moved through the factory with conveyor belts, and can provide accurate at-sea haul weight estimates in a timely manner (Dorn et al. 1999). A hopper scale also operates a continuous flow, but weighs fish as batches within a steel hopper. With proper maintenance and testing, these types of haul-level measurement exclude the uncertainty involved from estimating total catch using a randomized sample approach. Although voluntary, if vessel operators choose to acquire such scales, they would be required to be maintained within the scale requirements at § 679.28(b) to ensure data quality. These requirements include an initial inspection, followed by annual re-inspections, by a NMFS-staff scale inspector. Additionally, daily testing by the vessel operator would be required in the presence of an observer for each calendar day the scale is used at sea. This testing would require confirmation of test weights using a NMFS-approved and certified MCP scale as described in Option 1.



Figure 2-3 Flow scale. Photo credit: Marel (https://marel.com/media/sl0ivt3e/marel_fish_flowscale.pdf). This image is for example purposes only and does not represent an endorsement by NMFS.



Figure 2-4 Hopper scale. Photo credit: Marel (<https://marel.com/en/products/hopper-scales/fish>). This image is for example purposes only and does not represent an endorsement by NMFS.

Current regulations authorizing these scales in other fisheries require several steps for daily testing using a motion-compensated platform scale, recording test results through an electronic logbook, and using video to monitor the flow of catch and ensure no scale tampering has occurred (79 FR 68610, November 18, 2014). These regulations require scales to perform within 3% of test weights (50 CFR 679.28(b)(3)(i)(A)).

2.2.3.3. Option 3: Allow vessels to carry additional onboard observers.

Under this option, additional observers would provide a shared workload, and provide the opportunity for observers to operate as a team, supporting and advising each other about their collection duties based upon their training. Only one observer under this option would be required to meet the Level 2 Endorsement requirement specified in Element 1. NMFS has required two observers in several of the region's fisheries, including Trawl CPs and Motherships fishing Pollock and Groundfish CDQ (63 FR 30381, June 4, 1998), Pollock (67 FR 79692, December 30, 2002), Amendment 80 (non-Pollock Groundfish) (72 FR 52668, September 14, 2007), and Rockfish (76 FR 81248, December 27, 2011). In addition, freezer longline vessels participating in BSAI Pacific cod or Groundfish CDQ are also required to have two observers onboard when choosing the increased observer option (77 FR 59053, September 26, 2012). In each of these fisheries, more than two observers are additionally required if the observer workload restriction would otherwise preclude their required sampling. Define in 50 CFR 679.51(a)(2)(iii), observer workload is the time required for an observer to complete sampling, data recording, and data communication duties per paragraph (a)(2) of that section and may not exceed 12 consecutive hours in each 24-hour period. Pot CPs participating in Groundfish CDQ are similarly required to obtain more than one observer if the observer workload restriction would otherwise preclude the required sampling.

This option would not require modifications to regulations. CPs using pot gear are already in the full coverage category under existing regulations at 50 CFR 679.51(a)(2) and there are no regulatory impediments to a vessel choosing to contract with an observer provider to carry more than one observer.

2.3. Comparison of Alternatives

The No Action Alternative (Alternative 1) would result in status quo monitoring for pot CPs participating in BSAI groundfish fisheries. This option risks the continued high rate of data loss occurring in this fishery.

Alternative 2 is expected to reduce data loss in the BSAI Pot CP fishery. The requirements in Element 1 (Level 2 Observers) and Element 2 (pre-cruise compliance) would reduce the likelihood of errors made during sampling events by having experienced observers, who tend to make fewer errors, and greater communication with the crew, which tends to improve data collection. The additional voluntary options available through Element 3 may reduce the likelihood of data loss in several ways. Option 1 (observer sampling stations) may reduce data loss by providing an improved workspace for storing fish in an observer's sample, providing dedicated space to collect data, and more rapid and accurate weigh information with motion-compensated scales. Option 2 (motion-compensated total weight scales) may reduce errors by eliminating the need to extrapolate weighed samples to the total numerical estimate of Pacific cod catches. For all other species (i.e., bycatch), weighed samples would continue to be extrapolated to total numerical estimates. Finally, Option 3 (additional observers) may reduce data errors by providing a greater likelihood of sampling every haul on the trip. Reduced flexibility in observer deployments are possible from Element 1 of Alternative 2. However, recently implemented training options provide the support needed to ensure the availability of experienced observers. Additionally, the voluntary options in Element 3 provide participants with more options to improve data collection based on their vessel's needs. Some substantial costs to participants may be associated with these additional monitoring options available. However, these options, and therefore costs, would remain voluntary to participants who choose to implement them. In addition, some vessels may have equipment already required in other fisheries they participate in (crab), such as NMFS-certified scales and observer sampling stations.

3 Description of Fisheries

3.1. Harvests

3.1.1. Catch in Target Fishery

The BSAI pot CP sector targets primarily Pacific cod. Between 2005 and 2021, the sector’s initial TAC has ranged from 3,484 mt in 2012 to 1,667 mt in 2021. Initial TAC was relatively stable between 3,200 mt and 3,400 mt from 2012 to 2017 but has been in steady decline since then (Table 3-1). For 2021, the combined BS and AI Pacific cod ABC was set to 144,405 mt (86 FR 11449, February 25, 2021), and increased to 173,983 mt for 2022 (87 FR 11626, March 2, 2022). In most years, the sector’s utilization percentage relative to final TAC (initial TAC plus reallocations) is around 100%, meaning that the sector is usually able to harvest all that is available to it. The lowest utilization rate of final TAC was 80% in 2021.

Table 3-1 BSAI Pacific cod CP pot sector allocations, participation, and catch (2005 through 2021)

Year	Available Harvest (non-CDQ)				Participation				Harvest			Utilization	
	Initial allocation (mt)	Reallocations (mt)	Final allocation (mt)	Final allocation as % of initial allocation	Vessel count for target fishery	Vessel count for all Pacific cod catch	Vessel count in the Pacific cod CDQ fishery	Vessel count in GHL fisheries	Non-CDQ Pacific cod federal target catch (mt)	CDQ Pacific cod total catch (mt)	GHL total catch (mt)	Total catch of BSAI Pacific cod as % of initial allocation	Total Pacific cod catch as % of final allocation
2005	3,190	162	3,352	105%	2	2	-	-	*	-	-	*	*
2006	2,938	115	3,053	104%	4	4	1	-	3,148	*	-	107%	103%
2007	2,641	27	2,668	101%	3	3	1	-	2,755	*	-	104%	103%
2008	2,274	815	3,089	136%	6	6	-	4	3,671	-	912	161%	119%
2009	2,352	1,198	3,550	151%	4	4	-	2	3,513	-	*	149%	99%
2010	2,248	1,102	3,350	149%	5	5	-	3	3,358	-	1,753	149%	100%
2011	3,041	0	3,041	100%	4	4	-	1	3,098	-	*	102%	102%
2012	3,484	800	4,284	123%	5	5	2	-	4,173	*	-	120%	97%
2013	3,470	2,600	6,070	175%	3	3	1	-	6,332	*	-	182%	104%
2014	3,389	2,500	5,889	174%	4	4	2	-	5,477	*	-	162%	93%
2015	3,329	3,500	6,829	205%	4	4	2	-	6,166	*	-	185%	90%
2016	3,357	3,250	6,607	197%	4	4	2	-	5,698	*	-	170%	86%
2017	3,194	1,805	4,999	157%	4	5	1	-	4,921	*	-	154%	98%
2018	2,720	0	2,720	100%	5	5	3	1	2,810	1,295	*	103%	103%
2019	2,410	335	2,745	114%	5	5	3	-	2,693	1,521	-	112%	100%
2020	2,074	0	2,074	100%	5	5	2	-	2,058	*	-	99%	99%
2021	1,667	0	1,667	100%	4	4	1	-	1,336	*	-	80%	80%

* denotes confidential data

Note: In 2006 the Initial allocations for all BSAI Pacific cod sectors were adjusted twice mid-season; once to accommodate the newly formed AI GHL fishery and later to receive unused GHL fish back from the State (see Info Bulletin, September 22, 2006). The 115 mt of “reallocations” reflects the business-as-usual inseason reallocations between Federal Pacific cod sectors based on the ability to harvest TAC that was not anticipated to be utilized.

Source: NMFS Alaska Region

3.1.2. Non-target Catch in Target Fisheries

The pot CP sector is highly selective for Pacific cod, with roughly 99.9% of the total catch being its intended target (Table 3-2). Other retained groundfish species combine to account for roughly one-tenth of one percent of total estimated retained catch (Table 3-2), some of which may be used for bait. From 2014 through 2021, groundfish discards accounted for 4.1% (1,342 mt) of the sector’s 32,716-mt total catch (Table 3-3). Yellowfin sole accounted for roughly 71% of the discarded volume (957 mt) over the period (Table 3-3).

Table 3-2 Retained catch (mt) in BSAI pot CP sector, by species (2014 through 2021)

BSAI FMP Species	2014	2015	2016	2017	2018	2019	2020	2021	Total	% Total
<i>Vessel Count</i>	4	4	4	4	5	5	5	4		
Pacific Cod	5,477	6,166	5,698	4,921	2,983	2,688	2,056	1,336	31,327	99.8%
Octopus	*	*	5.54	*	*	*	*	5.81	20.40	0.07%
Pollock	*	2.62	*	*	*	*	*	*	14.43	0.05%
Yellowfin Sole	*		*	*	*				11.06	
Atka Mackerel					*				*	
Sculpin		*							*	
Rougheye Rockfish					*				*	
Total	5,482	6,172	5,720	4,923	2,987	2,689	2,056	1,342	31,374	100.0%

* denotes confidential data

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA.

Table 3-3 Discarded catch (mt) in BSAI pot CP sector, by species (2014 through 2021)

BSAI FMP Species	2014	2015	2016	2017	2018	2019	2020	2021	Total	% Total
<i>Vessel Count</i>	4	4	4	4	5	5	5	4		
Yellowfin Sole	296.58	222.95	93.97	121.06	107.81	68.19	33.52	12.48	956.6	71%
Sculpin	51.72	66.23	41.93	39.07	35.71	10.25	16.16	^eco	261.3	19%
Octopus	*	22.76	10.04	5.23	9.90	3.91	3.41	7.42	65.3	5%
Pacific Cod		*	*	26.48			2.39		32.6	2%
Pollock	3.14	2.36	0.77	0.61	0.25	0.07	0.45	0.13	7.8	1%
Rock Sole	0.77	0.07	*	2.51	0.14	*	*	*	4.2	0.3%
Arrowtooth Flounder	0.49	0.40	0.32	0.49	0.05	*	*	*	4.0	0.3%
Atka Mackerel	*	*	0.02		*		*	*	2.4	0.2%
Other Flatfish	*	*	0.43	0.23		*			1.4	0.1%
Flathead Sole	*	*	0.34	0.80	*	*		*	1.3	0.1%
Sablefish										
Northern Rockfish										
Other Rockfish										
Greenland Turbot										
Kamchatka Flounder										
Skate										
Rougheye Rockfish										
Shorthead Rockfish										
Alaska Plaice										
Pacific Ocean Perch										
Squid										
Total	355.6	319.2	149.1	196.8	156.4	83.1		17.9	1,342	

* denotes confidential data

^eco denotes a species reclassified as non-target Ecosystem Component species.

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA.

Prohibited species catch (PSC) limits are established for the BSAI trawl and non-trawl fisheries according to guidelines outlined in 50 CFR 679.21. Prohibited species include halibut, herring, red king crab, opilio (snow) crab, Tanner crab, and salmon (divided into Chinook and non-chinook). The pot sector does not have herring, crab, or salmon PSC limits. Pursuant to Section 3.6 of the FMP, pot gear is exempt from halibut PSC limits. Table 3-4 shows the estimated amount of crab and halibut PSC that occurred in the BSAI pot Pacific cod CP sector from 2004 through 2021. PSC species that do not appear in the table did not occur in the pot CP fishery during the analyzed period (e.g., salmon and herring).

This document reports bycatch estimates since 2004. PSC trends for halibut and crab do not appear to be correlated to the number of active vessels in the pot CP fishery. From 2004 through the present, the data

are derived from Catch Accounting and only reflect the Federal limited access pot CP sector that was restricted to pot CPs associated with Pacific cod-endorsed LLP licenses throughout that period.

Estimated crab PSC is reported in “number of animals”. There is no crab PSC limit for the pot CP sector, but NMFS could impose inseason area-based closures to move the fishery away from crab stocks to prevent overfishing, such as Pribilof Islands and St. Matthews blue king crab. Blue king crab bycatch was highly variable, ranging from zero to a few individuals recorded to over 30,000 in on year (2010); zero were reported in 2020 or 2021. Annual red king crab PSC was consistently below 10,000 animals through 2012 but jumped to more than 50,000 from 2013 through 2015 before a relative decline in recent years; red king crab PSC are at recent lows with 108 in 2021. Tanner crab PSC was similarly variable over the reported years. Over 100,000 Tanner crab were caught in five years during the reported period, but fewer than 20,000 Tanner crab were caught in each of the past 5 years. Opilio crab PSC reached the highest annual peaks during the analyzed period (over 400,000 animals in 2007), with an overage of around 93,000 crab between 2004 and 2021. During the most recent 10 years, however, the annual average was roughly 28,000 crab per year and fewer than 5,000 crab in two years. Golden king crab PSC levels tend to be lower than other crab species, and trending low in recent years relative to the full period.

In most cases, halibut is a prohibited catch species and catch should be minimized at all times to the extent practicable under MSA National Standard 9. To monitor halibut PSC mortality, NMFS uses halibut discard mortality rates (DMRs) and estimates of groundfish catch. Halibut DMRs are based on observers' estimates of the proportion of incidentally caught halibut that do not survive after being returned to the sea. The annual halibut PSC mortality is the product of a DMR multiplied by the estimated halibut PSC. DMRs are estimated in conjunction with the annual BSAI stock assessment and harvest specifications processes. The estimated total halibut PSC mortality is predictably low compared to other sources of halibut mortality in BSAI groundfish fisheries. Since 2004, annual halibut PSC mortality has only exceeded 1 mt in one year (2011; four active vessels), and has been as low as 0.05 mt. The average annual halibut PSC between 2004 and 2021 period is roughly 0.48 mt.

Table 3-4 Estimated prohibited species catch of crab (number of animals) and halibut (mt of mortality) in BSAI pot CP sector (1998 through 2021)

Year	Vessels	Halibut (mt)	Blue king crab	Red king crab	Tanner crab	Golden king crab	Opilio crab
2004	3	0.10	17	243	11,418		74,598
2005	2	*	*	*	*		*
2006	4	0.05	209	1,268	26,539	1	101,533
2007	3	0.04	22,492	8,393	134,457	2	432,989
2008	6	0.60	31	3,571	160,788		125,778
2009	4	0.20	1,651	147	94,534	240	411,372
2010	5	0.51	34,303	86	24,088	4	138,131
2011	4	1.30		8,479	26,257	27	20,449
2012	5	0.79		4,123	18,090		1,506
2013	3	0.75	9	51,913	100,697		4,500
2014	4	0.90		72,552	179,499		24,808
2015	4	0.57	975	94,632	217,500	7	40,226
2016	4	0.54	3,486	13,479	99,345		15,824
2017	4	0.41	16,198	3,968	15,944		41,937
2018	5	0.28	3,811	12,289	19,223	4	35,919
2019	5	0.16	2,967	1,491	2,842	27	57,668
2020	5	0.10	0	46	2,210	0	52,698
2021	4	0.83	0	108	3,803	0	5,151

* denotes confidential data

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_PSC.

3.2. License Limitation Program

As of January 1, 2000, a Federal License Limitation Program (LLP) license is required for vessels participating in directed fishing for LLP groundfish species in the GOA or BSAI that is endorsed for that area. A vessel must be named on the LLP license onboard the vessel. Exceptions are explained below. The LLP is authorized in Federal regulations at 50 CFR 679.4(k), definitions relevant to the program are at 679.2, and prohibitions are at 679.7. The LLP license requirement is in addition to all other permits or licenses required by Federal regulations. The LLP is a Federal program and LLP licenses are not required for participation in fisheries that occur in the waters of the State of Alaska.

There are four exceptions to the LLP license requirement:

- Vessels that do not exceed 26 feet in Length Overall (LOA) in the GOA;
- Vessels that do not exceed 32 feet LOA in the BSAI;
- Vessels that do not exceed 60 feet LOA and that are using jig gear (but no more than 5 jig machines, one line per machine, and 15 hooks per line) are exempt from the LLP requirements in the BSAI; and
- Certain vessels constructed for, and used exclusively in, Community Development Quota fisheries.

3.3. Harvesting Vessels

Currently, eight LLP licenses hold an endorsement to fish for Pacific cod with pot gear in the BS or AI as a CP (Table 3-5). Five of those licenses have been attached to a single vessel during the “cod-endorsement era” dating back to BSAI Amendment 67 (effective in May 2002), while the other three have been assigned to two or three vessels over that span. All of the eight pot CP LLP licenses are endorsed to fish Pacific cod with pot gear as a CP in the Bering Sea. Five of those eight licenses are endorsed to fish Pacific cod with pot gear as a CP in the Aleutian Islands. Three of the eight licenses – each of which are endorsed for pot gear in both the BS and AI – are also endorsed to fish with HAL gear in the BS and AI. One LLP license is endorsed to operate as a CP for HAL gear in both the Central and Western GOA. One license is endorsed for HAL and pot gear in the Western GOA. One license is endorsed for pot gear in the Central GOA. Finally, one license is endorsed to operate as a CV for HAL gear in the BS and AI.

Table 3-5 CP LLP license gear and area endorsements for LLPs potentially affected by Alt. 2

Endorsements	LLP licenses								Total endorsements
	A	B	C	D	E	F	G*	H	
AI CP PCOD POT	1	1			1	1	1		5
BS CP PCOD POT	1	1	1	1	1	1	1	1	8
AI CP PCOD HAL	1				1	1	1		4
BS CP PCOD HAL	1				1	1			3
CG CP PCOD POT				1					1
CG CP PCOD HAL	1								1
WG CP PCOD HAL	1					1			2
WG CP PCOD POT						1			1

* This LLP license is also endorsed for BS CV HAL and AI CV HAL.
CG = Central Gulf of Alaska; WG = Western Gulf of Alaska

3.3.1. Community-linked ownership of LLP licenses

Three of the eight affected licenses can be linked, through a combination of confidential NMFS RAM data and public attestations to the Council, to either a CDQ group or an Alaska Native Regional Corporation created under the Alaska Native Claims Settlement Act of 1971 (ANCSA). Two licenses are, at present, at least partially owned by the CDQ groups Yukon Delta Fisheries Development Association (YDFDA) and the Central Bering Sea Fishermen’s Association (CBSFA) or their wholly owned subsidiaries, although the specific ownership stake that these community entities hold in each license cannot be reported. One license is owned by an LLC that – through public testimony to the Council – the analysts can infer is controlled by the Bristol Bay Native Corporation (BBNC).

4 Analysis of Impacts

4.1. Benefits

4.1.1. Alternative 2, Elements 1 (Require a minimum of one Level 2 Observer on board at all times) and 2 (Require vessel comply with pre-cruise notifications).

Alternative 2 is expected to reduce data loss in the BSAI Pot CP fishery through the requirements in Elements 1 and 2. The deployment of experienced observers through Element 1 would minimize the need for modifying or deleting data during the debriefing and data quality checking process. As described in Figure 2-1, data deletions are strongly correlated to experience. As more experienced observers tend to make fewer errors and have better communication with the crew, eliminating first time observers on pot CP vessels would reduce the high instances (54 to 69% percent) of the deletions occurring from trips on an observer's first or second contract.

Pre-cruise meetings can help improve data quality, reduce conflicts between observers and vessel crew, and can assist vessel operators and managers to comply with observer related regulations. The meetings provide an opportunity for vessel crew and a newly assigned observer to discuss sampling and vessel operations prior to embarking on a trip. This conversation can resolve questions about sampling expectations, and provide vessel specific advice about anticipated sampling scenarios that the observer might encounter at sea, ultimately supporting the collection of high-quality data.

4.1.2. Alternative 2, Element 3: Additional voluntary monitoring options.

The additional voluntary options available through Element 3 may increase data precision and reduce the likelihood of sampling errors in several ways. Option 1 (Allow a certified observer sampling station with MCP scale for the observer's use) may reduce collection errors by providing an improved workspace for greater organization. Additionally, more precise weight estimates may be rapidly obtained using motion-compensated scales. Option 2 (Allow a motion-compensated, NMFS-Certified Scale to measure total catch of Pacific cod, in conjunction with an MCP scale for testing, electronic logbook, and video monitoring) may reduce collection errors by eliminating the need to extrapolate weighed samples to the total numerical estimates of catches. Finally, Option 3 (Allow a vessel to carry additional onboard observers) may improve data precision by providing a greater likelihood of sampling every haul on the trip. Additionally, the shared workload of each observer would provide the opportunity for both observers to operate as a team, supporting and advising each other about their collection duties based upon their training, reducing the likelihood of data collection errors. The voluntary options in Element 3 may additionally provide participants with more options to improve data collection based on their vessel's needs.

4.2. Impacts on Industry Participants

4.2.1. Alternative 2, Element 1: Require a minimum of one Level 2 Observer on board at all times.

This element would modify the experience requirement necessary for an observer to deploy on a CP vessel using pot gear. This would primarily affect observer deployment logistics and is discussed in more detail in Section 4.3. This element would reduce the number of observers that are available at any given time to deploy on these vessels, but due to the small number of participating vessels, and the relatively large number of observers with the level 2 endorsement, this is unlikely to be problematic. This element may increase the importance of coordination and advance notice between vessel operators and observer providers to ensure that observers are available in a timely manner to deploy.

4.2.2. Alternative 2, Element 2: Require vessel comply with pre-cruise notifications.

This requirement could affect vessel operations because vessels would be required to notify NMFS 24-hours before departure that they are carrying a newly assigned observer. This timing is necessary to ensure NMFS can evaluate if the observer and vessel need a pre-cruise meeting and if NMFS has staff available to conduct one. Additionally, vessel personnel would be required to participate in the pre-cruise meeting rather than doing other work. Prior planning and cooperation with NMFS staff when arranging the pre-cruise meeting may minimize impacts and costs to a vessel. NMFS staff may or may not be available to participate in a pre-cruise meeting depending on port of departure. NMFS would only require a pre-cruise meeting as needed to assist observers when first boarding a CP vessel using pot gear or as needed to resolve ongoing sampling challenges on a particular vessel. Pre-cruise meetings would be scheduled during a vessel's time in port. There is no minimum or maximum time requirement for how long a pre-cruise meeting must be. Typically, meetings can be as short as 30 minutes to an hour or as long as a couple hours if there are specific sampling challenges to discuss or a high level of interest from vessel personnel.

4.2.3. Alternative 2, Element 3, Option 1: Allow a certified observer sampling station with motion compensated platform (MCP) scale for the observer's use.

This element would allow a vessel to install and maintain a certified sampling station with a MCP scale for use by the observer. Installation of a sampling station and MCP scale would be voluntary, however if one is installed, this element would prescribe regulatory requirements necessary for the proper maintenance and inspection of the MCP scale which would allow the observer to use the vessel supplied scale and increase the precision of at-sea sample weights. The installation and maintenance of an observer sampling station and MCP scale for the observer's use could increase operating costs for a vessel; however, these would not be mandatory costs for CP vessels operating in the non-CDQ groundfish fisheries. Information is provided below to estimate the cost of installing an observer sampling station and MCP scale if a vessel does not already have this equipment installed and were to choose to do so.

In a previous analysis estimating the installation cost for an observer sampling station on freezer longline vessels, NMFS estimated the total installation costs to likely fall between \$30,000 and \$100,000 (NMFS 2012). Costs would include the physical installation, engineering design work, the purchase of a scale, and materials for construction, and the actual costs of installation and of modifications necessary to provide room for the observer station and the motion compensated scales in the factory. The largest cost may arise from the fabrication of the workstation, which may depend considerably from vessel to vessel.

A platform scale is estimated to cost between \$7,000 and \$10,000, and some vessels may additionally acquire a second backup scale, or spare parts costing between \$5,000 and \$6,000 (NMFS 2012). Firms will also incur ongoing annual costs for scale maintenance and inspections (NMFS 2012). Some vessels covered by this action may already have platform scales onboard. For example, vessels fishing CDQ groundfish are required to carry these. Some vessels may also carry platform scales for their own purposes, such as quality control (NMFS 2012).

In addition to purchase and installation, observer workstations and MCP scales must also meet annual inspections by agency staff (50 CFR 679.28(b)(2)). Based on past estimates, an inspection of observer workstation and MCP would require a range of 3.5 to 7.5 person-hours of agency time per inspection, and 0.5 to 1.5 hours for a vessel's officer.

4.2.4. Alternative 2, Element 3, Option 2: Allow a motion-compensated, NMFS-Certified Scale to measure total catch of Pacific cod, in conjunction with an MCP scale for testing, electronic logbook, and video monitoring.

This element would allow a vessel to install and maintain a NMFS-Certified Scale to measure total catch of Pacific cod. Installation of a scale to weigh total catch would be voluntary, however if one is installed, this element would prescribe regulatory requirements necessary for the proper maintenance and inspection of the scale which would allow the at-sea scale weights to be used for catch accounting. The installation and maintenance of a NMFS-Certified Scale to measure total catch of Pacific cod could increase operating costs for a vessel; however, these would not be mandatory costs for CP vessels using pot gear. Information is provided below to estimate the cost of installing a NMFS-Certified Scale to measure total catch of Pacific cod if a vessel does not already have this equipment installed and were to choose to do so.

In the previous analysis estimating the installation cost of a flow scale for freezer longline vessels, NMFS estimated the purchase and installation of a flow scale to likely fall between \$65,000 and \$76,000 (NMFS 2012). The cost of the scale itself can range between \$61,000 and \$70,000, while installation services may range \$4,000 to \$5,000, with an additional \$200 to \$700 for crew training time (NMFS 2012). Similar to an MCP scale, flow scales are subject to initial and annual inspection by agency staff (50 CFR 679.28(b)(2)), with the firm's responsibility to pay costs for a range on 1 to 10 person-hours of inspection, depending on any problems identified, as well as roughly 2 hours of paperwork, scheduling, and documentation (NMFS 2012).

Previous cost estimates to install a video monitoring system ranged between \$7,000 (for a two-camera system with minimal installation costs) and \$36,000 (for a five-camera system with high installation fees) (NMFS 2012). Additionally, the cost of electronic logbook requirement is estimated around \$200 for software acquisition and training (NMFS 2012).

4.2.5. Alternative 2, Element 3, Option 3: Allow a vessel to carry additional onboard observers.

This element is already authorized in existing regulations and could improve observer data by reducing the number of unsampled sets. A single observer is not available at all hours of the day to sample all hauls and randomly samples sets with breaks to allow time for paperwork, sleep, and meals. If a vessel conducts fishing operations 24 hours a day, which many CP vessels do in such a short derby style fishery, there may be sets where no samples are taken and catch estimates are generated from observer samples collected during other hauls and extrapolated to unsampled sets. If an additional observer was onboard, each observer could work a 12-hour shift and reduce the number of sets that are not sampled, and improve the accuracy of catch estimates. This element is already authorized in existing regulations; however, use of this option could be limited by observer availability and the increased operational costs to contract with an observer provider for a second observer.

Based on recent daily rates (AFSC and Alaska Regional Office 2021), it is estimated that each additional observer would add roughly \$375 per day for each trip the vessel takes, roughly doubling the cost of observer coverage for each vessel that might choose to take a second observer voluntarily.

4.3. Impacts on Observer Availability

4.3.1. Observer Deployment Logistics

A vessel in the full coverage category contracts directly with a permitted observer provider to procure observer coverage. Four companies are currently permitted by NMFS to provide observer services to

vessels and processors participating in North Pacific fisheries. The four companies are A.I.S., Inc.; Alaskan Observers, Inc.; Saltwater, Inc.; and TechSea International. A principal activity of these companies is to provide observers for the North Pacific Observer Program, and most of them provide observers for other observer programs within or outside of Alaska or are involved in other business activities. These observer providers contract with individual fishing operations to supply observers. They also contract with individual observers and deploy them on fishing vessels and at processing plants as necessary to meet the requirements of the fishing operations. Vessels cannot request specific individuals or discriminate on a number of other grounds, including gender.

4.3.2. Element 1: Require a minimum of one Level 2 observer on board at all times.

Pot CPs are often subject to a fast rotation of new observers on their first or second contract, leading to the sector having the highest data deletion rate of any CP gear type in the region (NMFS 2017). Requiring one Level 2 endorsement may reduce the operational flexibility of observer providers in deploying observers. However, the majority of certified observers (263 out of 441 certified observers in 2020) are Level 2 qualified and would be eligible for deployment on the affected fleet (Table 4-1). Additionally, a large number of newly certified observers gain the Level 2 endorsement within their first year (82 newly qualified level 2 observers in 2020) and this has remained relatively stable through time (Table 4-2). When compared to the distinct number of observer deployments on the pot CP fleet in any given year, the likelihood that this new experience requirement would result in an observer shortage or deployment delay is small and can be mitigated by clear communication and deployment planning between the vessel owner and operator and the permitted observer provider.

Table 4-1 Total number of distinct qualified observers and newly qualified observers who attained each endorsement type as of December 31 in each year: 2012 through 2020.

Year	Total Qualified (Population)					Newly Qualified (Annual Growth)			
	Attrition	Certified	Level 2	Trawl LL2	Non-trawl LL2	Certified	Level 2	Trawl LL2	Non-trawl LL2
2012	N/A	511	275	208	214	165	102	64	60
2013	133	501	285	224	216	123	101	75	55
2014	164	500	292	229	202	163	99	73	39
2015	113	532	321	241	215	145	119	77	60
2016	126	515	339	254	213	109	110	77	53
2017	143	477	318	253	192	105	85	70	35
2018	134	473	300	253	165	130	91	78	32
2019	137	477	292	246	159	141	104	90	33
2020	166	441	263	232	129	130	82	77	15

Source: NMFS AFSC FMA Database, January 2021.

Note: Some observers may be accounted for in more than one column.

4.4. Management and Enforcement Considerations

There are some new programs in consideration through the Council process, which may influence the deployment logistics and availability of observers in the BSAI Pot CP sector. In the broader context of the North Pacific Observer Program, adding experience requirements in one fishery can influence the overall availability of observers as mentioned above.

For future actions that may add or remove observer requirements in the full coverage category such as Trawl Electronic Monitoring (EM), the Council may wish to consider the potential implications of these actions on the full coverage observer deployment system as a whole. Incremental changes to observer experience requirements and observer coverage requirements could have a cumulative impact on the ability of Observer Provider companies to adjust to the market for observer services. Additionally, the Council may wish to consider the observer sampling described in this analysis in its upcoming action to potentially allow the use of pot gear in the Greenland turbot fishery³.

Enforcement

Although some of the additional monitoring options considered in Element 3 of this analysis will be voluntary, specifying the user requirements of the additional options through regulations will provide NMFS the authority to enforce the monitoring standards needed to ensure the quality of data collected.

Cost Recovery

The Magnuson-Stevens Act authorizes and requires the collection of cost recovery fees for the CDQ program and limited access privilege programs. The (non-CDQ) BSAI Pot CP sector at the focus of this analysis does not incur cost recovery fees.

Safety Considerations

The requirements and additional options provided under Alternative 2 may increase the safety of onboard observers in the BSAI Pot CP sector. In addition to making less measurement errors, an experienced observer as required by Element 1 may be more likely to adapt to the high workload of pot CP vessels due to their expertise. The pre-cruise notification requirement of Element 2 may also provide a safer work environment through greater communication and cooperation with the captain and crew. Additionally, some of the voluntary options in Element 3 may provide a safer work environment through a shared workload and cooperation with a second observer.

4.5. Summary of Impacts

As a whole, each of the elements considered in this analysis would benefit fishery managers and fishery participants by incrementally improving observer data availability (by reducing data deletions (Element 1 and Element 2) and providing additional tools to the observer and vessel (Element 3) to improve the accuracy of observer data.

³ Council Motion: D2 Greenland turbot with longline pots:
<https://meetings.npfmc.org/CommentReview/DownloadFile?p=d7ce752b-2d4a-4789-a156-d9676aa423a3.pdf&fileName=D2%20Motion%20Bering%20Sea%20Greenland%20Turbot.pdf>

Table 4-2 Summary of Impacts of each Alternative, Element, and Option.

Impacts	Alternative 1	Alternative 2				
	No action	Implement additional monitoring requirements for Pot CPs participating in the BSAI groundfish fisheries				
		Element 1: Require one Level 2 observer	Element 2: Require pre-cruise meeting compliance	Element 3: Additional voluntary monitoring options:		
				Option 1: Allow a certified observer sampling station with motion compensated platform (MCP)	Option 2: Allow motion-compensated, NMFS-Certified Scale to measure total catch of Pacific cod	Option 3: Allow additional onboard observers
Observer Data Quality	No impact	May reduce likelihood of collection error from experience	May reduce likelihood of collection error through communication	May reduce collection error through organized workspace and more precise weight data	May reduce collection errors by eliminating the uncertainty involved in extrapolating haul samples to total catch	May reduce collection error through shared workload and increased data quality from more hauls sampled
Industry Participants	No impact	May increase the importance of coordination between vessel operators and observer providers	May affect vessel operations when personnel required to participate in the meeting	Costs of installation, maintenance, and NMFS inspection	Costs of installation, maintenance, and NMFS inspection	Costs (roughly doubling) of additional observer
Observer Availability	No impact	Small possibility of observer shortage or deployment delay	No impact	No impact	No impact	Small possibility of observer shortage or deployment delay
Enforcement	No impact	Added requirement for compliance monitoring	Added requirement for compliance monitoring	Although voluntary overall, the user requirements for the options under Element 3 will provide NMFS authority to enforce monitoring standards needed to ensure data quality		
Cost Recovery	No impact					
Safety	No impact	Level 2 observer may be more likely to adapt to the high workload of pot CP vessels	May provide a safer work environment through greater communication and cooperation with the captain and crew	May provide safer work environment through organized workspace and improved tools	No impact	May provide safer work environment through shared workload and cooperation

5 Magnuson-Stevens Act and FMP Considerations

5.1. Magnuson-Stevens Act National Standards

To be completed prior to submission of Secretarial Review Draft Analysis.

Below are the 10 National Standards as contained in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). In recommending a preferred alternative consistency with the national standards must be considered.

A brief discussion of this action with respect to each National Standard will be prepare for final action.

National Standard 1 — Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

National Standard 2 — Conservation and management measures shall be based upon the best scientific information available.

National Standard 3 — To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

National Standard 4 — Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be; (A) fair and equitable to all such fishermen, (B) reasonably calculated to promote conservation, and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

National Standard 5 — Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.

National Standard 6 — Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

National Standard 7 — Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

National Standard 8 — Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of National Standard 2, in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

National Standard 9 — Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

National Standard 10 — Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

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7 References

7.1. Literature cited

- AFSC (Alaska Fisheries Science Center). 2022. 2022 Observer Sampling Manual. Fisheries Monitoring and Analysis Division, North Pacific Groundfish Observer Program. AFSC, 7600 Sand Point Way N.E., Seattle, WA, 98115. 574 p. Available from: https://media.fisheries.noaa.gov/2021-11/2022_Observer_Sampling_Manual_2022_508_0.pdf.
- AFSC and Alaska Regional Office. 2021. North Pacific Observer Program 2020 Annual Report. AFSC Processed Rep. 2021-03, 143 p. Alaska Fish. Sci. Cent., NOAA, Natl. Mar. Fish. Serv., 7600 Sand Point Way NE, Seattle WA 98115.
- Dorn, M. W., S. K. Gaichas, S. M. Fitzgerald, and S. A. Bibb. 1999. Measuring total catch at sea: Use of a motion-compensated flow scale to evaluate observer volumetric methods. *N. Am. J. Fish. Manage.* 19: 999-1016.
- North Pacific Fishery Management Council (NPFMC). 2021. Regulatory Impact Review for a Proposed Regulatory Amendment to Adjust License Limitation Program License Endorsements for Bering Sea/Aleutian Islands Pacific Cod Pot Gear Catcher/Processors. NPFMC, 1007 W 3rd Avenue, Suite 400, Anchorage, AK 99501. Available from: <https://meetings.npfmc.org/CommentReview/DownloadFile?p=0b885d01-5199-42fb-b6bb-66ef0b12981d.pdf&fileName=C1%20BSAI%20Pot%20CP%20Analysis.pdf>.
- Rickett, M. 2016. The synergistic relationship between compliance monitoring and scientific data collection in the North Pacific Observer Program. Pages 127 to 131 in Proceedings of the 8th International Fisheries Observer and Monitoring Conference, San Diego, USA.