

Amendment to the Alaska Region Electronic Technologies Implementation Plan

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1 Introduction

In May 2013, NMFS issued Policy Directive 30-133, *Policy on Electronic Technologies and Fishery-Dependent Data Collection*,¹ which called for the development of Regional Electronic Technology Implementation Plans to address regionally specific fishery dependent data collection issues and electronic technologies to address these issues. In January 2015, NMFS finalized the Alaska Region Electronic Technologies Implementation Plan² to meet the milestone outlined in the Policy Directive. A biennial progress review of the implementation plan was completed in May 2017.³

In 2018, NMFS completed a significant milestone in the Alaska Region Electronic Technologies Implementation Plan by implementing regulations to allow electronic monitoring (EM) as an alternative monitoring option to carrying an observer for small fixed gear vessels in the partial coverage category of the North Pacific Observer Program. The data collected from this coverage is used to obtain catch and discard information from these vessels. After this achievement, in April 2018, the North Pacific Fishery Management Council (Council) shifted the focus of the EM Workgroup to developing EM for use in the trawl catcher vessel fisheries. In June 2018, the Council adopted the following preliminary monitoring objectives as recommended by the trawl EM Workgroup (now called the EM Trawl Committee) to guide the development of an EM program for trawl catcher vessels:

- improve salmon accounting;
- reduce monitoring costs; and,
- improve the quality of monitoring data.

This amendment to the Alaska Region Electronic Technologies Implementation Plan supplements the Council's revised prioritization of EM implementation on trawl vessels. This amendment does not restrict any work that the Council's EM Committee may undertake. As with the main document, this amendment borrows heavily from the products generated from the EM Committee and information in the Strategic Plan for Electronic Monitoring and Electronic Reporting in the North Pacific (EM/ER Strategic Plan).⁴ Where appropriate, we have provided cross-references to the strategic plan's goals and objectives.

2 Electronic monitoring and reporting approaches for EM aboard trawl vessels

Compliance monitoring for a specific requirement (Section 2.1.1 of the Alaska Region Electronic Technologies Implementation Plan) is likely the primary approach that will be used to implement EM aboard trawl vessels. The EM data obtained under the compliance monitoring approach will not feed into catch accounting or stock assessments. Instead, EM used in this approach supports data collection through other methods (e.g., observers or industry reports). EM and other advanced technologies may be used to augment current catch accounting methods, but this will be secondary to the compliance approach.

¹ Available at: <https://www.fisheries.noaa.gov/webdam/download/64692871>

² Available at: <https://alaskafisheries.noaa.gov/sites/default/files/akremerimplementationplan.pdf>

³ Available at: <https://www.fisheries.noaa.gov/resource/document/electronic-monitoring-and-reporting-implementation-plan-alaska-region-spring-0>

⁴ Available at: <https://www.afsc.noaa.gov/Publications/AFSC-TM/NOAA-TM-AFSC-276.pdf>

3 Updated list of Alaska fisheries suitable for implementation of EM and ER

The existing monitoring tools summary for Alaska fisheries in Table 3.1 is updated to reflect 1) implementation of EM aboard small fixed gear vessels and 2) the adjusted prioritization to implement EM aboard trawl vessels. The table provides a summary of fisheries where additional ER and EM could potentially be suitable. Yellow cells indicate those fisheries that have been identified as the highest priority for implementation.

Table 3.1. Summary of the existing monitoring tools currently implemented in the North Pacific. Catch share programs require a more intensive suite of monitoring tools for management and are therefore listed separately from the non-catch share programs. Green cells indicate fisheries where electronic technologies have already been implemented and regulated programs are in place. Fisheries where additional Electronic Reporting (ER) and Electronic Monitoring (EM) could potentially be suitable are noted; yellow cells indicate fisheries that have been identified as high priority for implementation or have initiatives underway. (Note: AFA = American Fisheries Act; AI = Aleutian Islands; BSAI= Bering Sea/Aleutian Islands; CGOA = Central Gulf of Alaska; CP = catcher/processor; CV = catcher vessel; GOA = Gulf of Alaska; IERS=Interagency Electronic Reporting System; IFQ = Individual Fishing Quota; IPHC = International Pacific Halibut Commission; LOA = length overall of vessel; PSC = Prohibited Species Catch)

Program Type	Fishery	Current Requirements								Additional ER Potentially Suitable?	Potential EM Application?
		ER for Landings and/or Production (IERS)	Paper logbook ⁵	ER for logbook (eLogbook in IERS) ⁶	ER for Observer data (Atlas)	Flow Scale	VMS	Video	Observer Coverage		
Catch Share	BSAI pollock trawl CP and mothership (AFA)		N						200% (i.e., 2 observers on all trips)		
	BSAI non-pollock trawl CP (Amendment 80)		N						200%		
	CGOA rockfish trawl CP		N						200%		
	BSAI Pacific cod longline CP		N						100% or 200%		Y—supplement observer coverage for catch estimation
	BSAI rationalized crab CP		Y	Few—voluntary	N			N	100%—State observer program		
	BSAI pollock trawl CV (AFA)		Y	Few—voluntary		n/a		N	100%	Y—eLogbook; Atlas	
	BSAI shoreside processors receiving deliveries of pollock		N	n/a		n/a	n/a		200%		
	CGOA rockfish trawl CV		Y	N		n/a		N	100%	Y—eLogbook	Y—compliance monitoring of full salmon retention
	CGOA rockfish shoreside processors		N	n/a		n/a			NMFS staff visits processors to verify sorting and accounting		
	IFQ sablefish CP		Y	Few—voluntary		N	Y—AI only	N	100%		
	IFQ halibut CP		Y	Few—voluntary		N	Y—AI only	N	100%		
	IFQ sablefish CV		Y	N		n/a	Y—AI only		Partial	Y—eLogbook	
	IFQ halibut CV		Y ⁸	N		n/a	Y—AI only		Partial	Y—eLogbook	
IFQ halibut & sablefish < 40 ft LOA CV		Y ⁷	N		n/a	Y—AI only	N	None		Y— video for catch estimation	

⁵ Paper logbooks are required by NMFS for vessels > 60 ft

⁶ Vessels < 125ft may not provide daily transmission capabilities

⁷ Fixed gear vessels in the Observer Program partial coverage category may choose to opt in to the EM selection pool as an alternative to observer coverage.

⁸ Paper logbooks are required by IPHC for vessels > 26 ft fishing for halibut; vessels > 60 ft are also required to submit paper logbooks by NMFS, and there is a shared IPHC-NMFS paper logbook

Program Type	Fishery	Current Requirements								Additional ER Potentially Suitable?	Potential EM Application?
		ER for Landings and/or Production (IERS)	Paper logbook ⁵	ER for logbook (elogbook in IERS)	ER for Observer data (Atlas)	Flow Scale	VMS	Video	Observer Coverage		
Non-Catch Share	BSAI turbot longline CP		Y	Used voluntarily		N		N	100%		
	GOA trawl CP		Y	Used voluntarily		N		N	100%		
	GOA longline CP		Y	Used voluntarily		N		N	100%		
	BSAI Pacific cod trawl CV		Y	N		n/a		N	Partial; with option to opt in to 100%	Y—elogbook	Y—compliance monitoring
	GOA pelagic trawl CV		Y	N		n/a		N	Partial	Y—elogbook	
	GOA non-pelagic trawl CV		Y	N		n/a		N	Partial	Y—elogbook	Y—compliance monitoring and estimation of halibut PSC
	GOA shoreside processors receiving pollock trawl deliveries		N	n/a		n/a		N	Partial		
	Pot CP		Y	Used voluntarily		N		N	100%	Y—elogbook	Y—video for catch estimation
	Longline & pot ≥ 40 ft LOA CV		Y	N		n/a			Partial	Y—elogbook	
	Longline & pot < 40 ft LOA CV		N	N	N	n/a	Y—AI only	N	None		Y—video for catch estimation and PSC monitoring
Jig		Y	N	N	n/a	Y—AI only	N	None			

5 Update to EM/ER initiatives

This section identifies several initiatives to implement EM aboard trawl vessels in Alaska. These initiatives support new EM/ER implementation for the highest priority fisheries (yellow cells in Table 3.1).

5.1.3 Deck sorting of halibut prohibited species catch (PSC)

Goal

Provide compliance monitoring to ensure all halibut sorted on deck are provided to the observer and only halibut are sorted on deck on non-pollock trawl catcher/processors in the BSAI and the GOA. Additionally, evaluate and test technology to reduce observer duties on deck.

Description

Several Exempted Fishing Permits (EFPs) have been conducted to test the efficacy of sorting halibut on deck to reduce halibut mortality. Observers are required to count, obtain a length, and assess the halibut sorted on deck. In order to ensure all halibut sorted are provided to the observer for sampling and to ensure no other catch is sorted on deck, video cameras are used in the EFP. Additionally, other technologies are being tested (such as electronic length boards and chute cameras) to automate the collection of some observer data. Halibut deck sorting is expected to become a regulated program by 2020. The video monitoring system for compliance will be in the regulated program. The regulated program would allow any advanced technologies to be implemented in the future without further regulatory action. The EFP applications and permits as well as the Regulatory Impact Review for the Halibut Deck Sorting Program can be found on the Alaska Region website at <https://alaskafisheries.noaa.gov/>.

Linkage to the EM/ER Strategic Plan

This project addresses the following components of the EM/ER Strategic Plan in the North Pacific:

- Goal II, Objective 1: Conduct scientific research to advance the science of monitoring and data integration.
- Goal III, Objective 2: Implement EM/ER technology where appropriate and cost effective to enhance compliance monitoring.

Timeline

- Fishing under EFP with continued testing of advanced technologies and improvements to video monitoring systems will continue through December 2019.
- Regulations to enable halibut deck sorting are currently being developed. The proposed rule is expected to be published in March 2019.
- Continued testing of advanced technologies under the regulated program in 2020 and thereafter.

5.1.4 Evaluation of alternative sampling methods for salmon

Goal

Evaluate alternative sampling methods for estimating salmon PSC at shore-based processing plants.

Description

Salmon bycatch monitoring at shore-based processors is critical to management of Alaska's groundfish fisheries. Salmon bycatch caps require fishing operations to cease when they are exceeded. A collaborative project, led by FishNext Research in partnership with Alaska Groundfish Data Bank and funded by the NOAA Saltonstall-Kennedy Grant program, is working with CGOA rockfish shore-based processors and NMFS to evaluate alternative sampling methods to estimate salmon bycatch. The project is testing the use of video systems installed in the shore-based processor sorting areas to monitor sorting activities to detect the presence of salmon during the sorting process. The purpose of this project is to determine if video monitoring can confirm that industry counts of salmon recorded on fish tickets are accurate. A secondary focus of the project is testing the use of a chute camera to automatically count and identify salmon species.

Early results have indicated that most or all salmon can be detected in video, depending on video reliability and image quality, and that their disposition can be tracked. Additional work to develop an image library of salmon bycatch found during the sorting process, as well as testing an automated detection system, would be needed to implement this approach. Automated methods to replace or augment human review of video for the presence of salmon could result in cost and time savings.

Linkage to the EM/ER Strategic Plan

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- Goal II, Objective 1: Conduct scientific research to advance the science of monitoring and data integration.
- Goal III, Objective 2: Implement EM/ER technology where appropriate and cost effective to enhance compliance monitoring.

Timeline

The project timeline is dependent on the success of the initial work as well as funding availability. Change and refinement of the timeline is expected to be an ongoing process with a sustained commitment to automated EM capacity building. Input from the EM committee and potential integration of this project with the EM Committee's cooperative research plan may also change this timeline.

- Initial testing of chute cameras and compliance video in processing plants: June 2018
- Presentation of initial results: September 2018
- Continued testing with expanded scope to other fisheries: 2019 – 2020
- Development and testing of automated salmon detection: 2018 – 2020
- Pre-implementation testing with integration into at sea EM: 2020 and 2021

5.1.4 Full retention of salmon on CVs using EM for compliance monitoring

Goal

Evaluate and test the feasibility of EM as a compliance monitoring tool to verify full retention of all species of salmon aboard pollock trawl CVs in the BSAI and the GOA to allow for full salmon accounting at the shore-based processor.

Description

Pollock catcher vessels in the GOA and BSAI are required to retain all salmon until delivery and have very little at sea discard. Testing the feasibility of using EM for compliance monitoring aboard catcher vessels with minimal discards would be a focus of this project. This would also include pollock catcher vessels that deliver to tender vessels.

This project will be conducted through a cooperative research plan with the Council's EM Committee. The cooperative research would include the phases of pilot testing, operational testing, pre-implementation, and full implementation into a regulated program. The cooperative research can benefit from other regions' work to minimize the time spent in the pilot and operational testing phases. While EM has been used to monitor compliance with minimal discards in other regions aboard similar or the same vessels, several outstanding issues remain that need to be resolved prior to full implementation. These outstanding issues would benefit from some level of pilot and operational testing. These include—

- Identifying and addressing potential regulatory hurdles that could make verification of full retention of salmon bycatch difficult, including maximum retainable amounts, species designated as PSC during a season, and mandatory trip limits.
- Identifying and addressing the need for discards related to safety concerns, gear problems, and the catch of extremely large objects or organisms.
- Testing EM systems aboard vessels with complex configurations, such as below deck conveyor belts or vessels that pump fish aboard.
- Determining the feasibility of verifying full retention of salmon when delivering to a tender vessel.
- Establishing the required observer coverage to collect species composition data, biological information, and marine mammal interaction.
- Establishing the method to incorporate any EM data into the catch accounting system, if necessary.

Data and analysis produced on costs, data quality, timeliness, operational procedures, and vessel compatibility will inform decisions on future investments in technology and identify the combination of tools that will best meet NMFS, Council, and stakeholder management objectives. Based on the Council's recommendation and subsequent NMFS rulemaking, EM for monitoring compliance with full retention of salmon species would be integrated into the suite of monitoring tools for fisheries management.

Linkage to the EM/ER Strategic Plan

This project addresses the following component of the EM/ER Strategic Plan in the North Pacific:

- Goal III, Objective 2: Implement EM/ER technology where appropriate and cost effective to enhance compliance monitoring.
 - Strategy B: Expand use of EM in compliance applications.

Preliminary Timeline

The preliminary timeline is still under development. Depending on the availability of funds and other resources, the activities and milestones could be delayed or advanced. EFPs may be needed during the pilot and pre-implementation phases.

Table 5.2 Preliminary Timeline

Activity/Milestone	Timeline
EM Committee presents cooperative research plan to Council	December 2018
Pilot testing/operational testing to address the outstanding issues above <i>without</i> the need for EFPs	June 2018 – December 2019
Development of EFP application and permit	November 2018 – Mid 2019
Pilot testing/operational testing to address the outstanding issues above <i>with</i> the need for EFPs	Mid 2019 – December 2020
Pre-implementation Year 1—likely to require EFPs ⁹	January – December 2020
Pre-implementation Year 2—likely will require an EFP and will be refined from Year 1 results ¹⁰	January – December 2021
Full implementation into a regulated program	January 2022

⁹ Development of the Council analysis will occur during this phase.

¹⁰ Development of the proposed and final rules will occur during this phase.