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Electronic Monitoring in U.S Fisheries

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U.S. Electronic Monitoring Programs

Electronic monitoring (EM) is being piloted and implemented across the U.S. to expand and improve fisheries-dependent data collection, while reducing costs and increasing the timeliness of information. EM is used to audit logbook data, monitor compliance with discard requirements, and collect information on discards and bycatch. The programs on this map are listed in three categories: Operating under regulations; operating under an exempted fishing permit (EFP) and/or being developed by a Fishery Management Council (FMC); and operating as a pilot project.

For more information, visit fisheries.noaa.gov/national/fisheries-observers/electronic-monitoring.

Alaska

Under Regulation

- Bering Sea and Aleutian Island (BSAI) Non-Pollock Trawl Catcher/Processor (C/P)
- Bering Sea Pollock Trawl C/P and Motherships
- Central Gulf of Alaska Rockfish Trawl C/P
- BSAI Pacific Cod Longline C/P
- Small Boat Fixed Gear (Longline and Pot)
- Halibut Deck Sorting Trawl C/P

Under FMC Development or EFP

- Pollock Trawl Catcher Vessels

West Coast

Under FMC Development or EFP

- Whiting Mid-Water Trawl
- Fixed Gear IFQ
- Non-Whiting Mid-Water Trawl
- Groundfish Bottom Trawl

Pilot Project

- Nearshore Rockfish

Pacific Islands

Pilot Project

- Pelagic Longline—Hawaii Deep and Shallow Set

Greater Atlantic

Under FMC Development or EFP

- Northeast Multispecies
- Herring Mid-Water Trawl

Pilot Project

- Northern Gulf of Maine Scallop
- Northeast Multispecies For-Hire

Atlantic HMS

Under Regulation

- Pelagic Longline

Southeast

Pilot Project

- Snapper-Grouper
- Gulf of Mexico Shrimp

Applications of EM in the U.S.

Scientific data collection – support stock assessments, bycatch reporting, ecosystem research

Management – near real-time monitoring (individual quotas, catch limits), auditing logbook reporting

Compliance monitoring – verify catch retention, access to closed areas, increased accountability

Additional Uses

- sustainability certifications
- improved traceability
- value-added products
- data monetization



2019 - Policy on Allocating EM Costs

Sampling costs may include:

- **Hardware - purchases, leases, and installation**
- **Hardware - maintenance**
 - Software and system upgrades
 - Replacing hardware
- **Training for captain and crew**
 - How to use, troubleshoot, and maintain equipment
- **Develop vessel monitoring plans (VMPs)**
 - Identification of camera placement, catch handling protocols, and other requirements to facilitate third-party video review
- **Data transmittal**
 - Raw video footage and metadata
- **Service provider fees and overhead**

2019 - Policy on Allocating EM Costs

Administrative costs may include:

- **Program administration support**
 - Address science, enforcement, and management needs
 - Staff time and equipment
- **Certification of EM service providers**
 - Review service contracts
 - Review EM summary reports
- **Program performance**
 - Audit service providers
 - Review additional video (if needed)
 - Ensure data quality standards
 - Monitor relative to program objectives

2019 - Policy on Allocating EM Costs

- Sampling – Hardware, video review, and data storage
- Administrative – Program support, provider certification/auditing, data analysis, and storing Federal records

Function	Cost Responsibility
Sampling	<ul style="list-style-type: none">• Industry• NOAA Fisheries - fees collected from industry<ul style="list-style-type: none">- EX: North Pacific landings fee• NOAA Fisheries for specific Federal programs<ul style="list-style-type: none">- EX: ESA, MMPA, SBRM
Administrative	<ul style="list-style-type: none">• NOAA Fisheries• NOAA Fisheries - fees collected from industry<ul style="list-style-type: none">- EX: West Coast cost recovery program

Funding Mechanisms - Alaska EM Programs

Pay as You Go:

- Catcher/Processor vessels
- Vessels arrange and pay for EM hardware directly
- Imagery retained onboard for 120 days
- NMFS can request imagery at any time for agency staff review



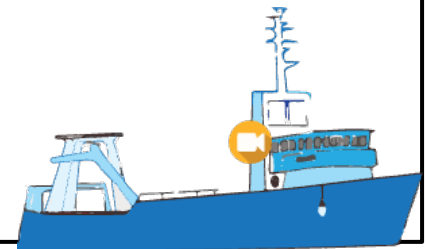
Ex-Vessel Value Fee:

- Longline and pot catcher vessels and Gulf of Alaska pollock trawl catcher vessels
- Harvesters pay 1.65% fee on the value of landings
- Fee revenue supports observers, EM hardware, and imagery review costs



Combination:

- Bering Sea pollock trawl catcher vessels
- Vessels arrange and pay for EM hardware directly
- Participants will pay a proportional annual fee based on landings
- Fee revenue supports EM review, data storage, and transmission



Funding Mechanisms - West Coast EM Programs

- **Industry - Direct**

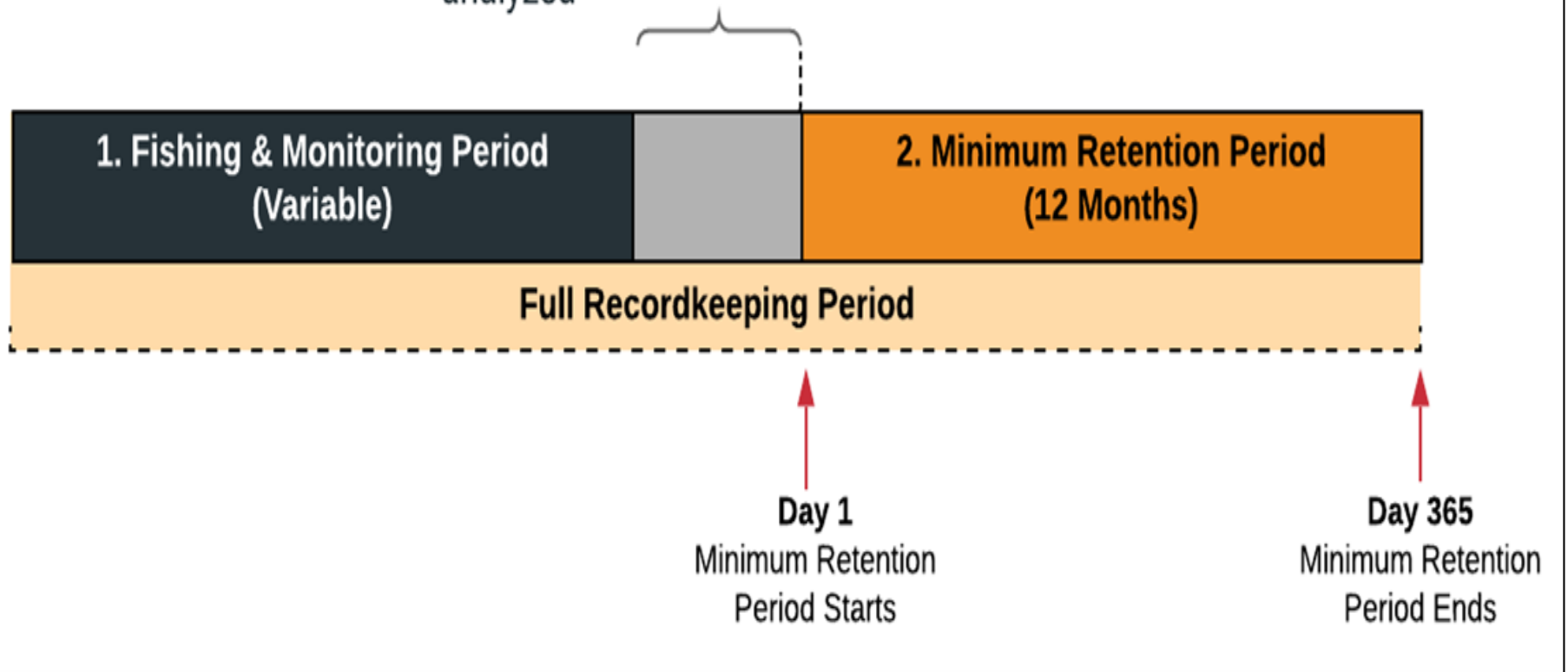
- Vessel owners contract with 3rd party EM service providers
 - Onboard EM hardware, technical support
 - EM data review, feedback, and storage

- **Industry - Cost Recovery**

- Affects participants in the trawl catch share program
- NMFS recovers incremental costs associated with management, data collection and analysis, and enforcement of the program
- Fee of up to 3% of ex-vessel value of groundfish by sector

Third-Party Data Retention Procedural Directive

Review and analysis of EM data often extends beyond the close of a fishery as data are collected, processed, and analyzed



Summary of Information Law Guidance

Party Maintaining Raw EM Data	FRA	MSA 402(b)	FOIA
NOAA Fisheries	Applies	Applies	Applies
NOAA Fisheries Contractor	Does Not Apply ^{4,5}	Applies ¹	Does Not Apply ⁴
NOAA Fisheries Federal Financial Assistance Recipient ²	Does Not Apply ^{4,5}	Applies ¹	Does Not Apply ⁴
Fishing Industry Contractor/Service Agreements	Does Not Apply	Applies ³	Does Not Apply

¹NOAA Fisheries would include a requirement in any contract or financial assistance award to maintain the confidentiality of EM data.

²Entity is a recipient of a grant or is a party to a cooperative agreement.

³Given applicability of MSA §402(b), NOAA Fisheries expects regulations for an industry-funded EM program to require that third parties have a means to protect EM data.

⁴Does not apply if the EM data are stored on a non-NOAA system. Any EM data stored on a NOAA system would be subject to the FRA and FOIA.

⁵By default, NOAA Fisheries would not include a provision in a contract or federal financial assistance award to require that the EM data be stored on a NOAA system. However, Section III.1.A. provides clarity on when NOAA Fisheries would consider requiring that the EM data be maintained on a NOAA system.

Available Resources on EM

Electronic Technologies Policies

- National Electronic Technologies Policy Directive (04-115)
- EM Cost Allocation Procedural Directive (04-115-02)
- EM 3rd-Party Data Retention Procedural Directive (04-115-03)
- Procedural Directive on Applying Information Law to EM Data (04-115-04)

National EM Workshops (2019 and 2020)

- Report and video recordings from workshops

ICES Working Group to Integrate Technology in Fisheries (WGTIFD)

- Reports from 2019 - 2021; TORs approved 2022 - 2024

Regional EM Programs

- [Alaska](#)
- [West Coast](#)
- [Northeast](#)

Public Websites

- NOAAs ET [Website](#) and [EM Story Map](#)
- [EM4Fish](#)
- [SAFET](#)

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Thank you!

