Electronic Monitoring and Reporting Program

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PARTNERS

- National Oceanic and Atmospheric Administration
- Walton Family Foundation

ABOUT NFWF

The National Fish and Wildlife Foundation (NFWF) works with partners to foster sustainable and impactful conservation solutions so that people and nature thrive together. Chartered by Congress in 1984, NFWF has grown to become the nation's largest conservation foundation. Since its founding, NFWF has funded more than 23,300 projects that have generated a total conservation impact of $11.3 billion. NFWF is an equal opportunity provider.

Learn more at **www.nfwf.org**

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Deckhand elogbook set up on vessel

OVERVIEW

The National Oceanic and Atmospheric Administration (NOAA) and the National Fish and Wildlife Foundation (NFWF) announce the 2024 – 2025 slate of projects for the Electronic Monitoring and Reporting Program (EMR). Fourteen new grants totaling nearly $4.9 million were awarded. The 14 awards announced leveraged $6.1 million in matching funds from the grantees, providing a total conservation impact of $11 million.

EMR supports innovation and electronic technologies implementation in U.S. fisheries to modernize data collection and data management systems for improved fisheries management. This year's grant slate funds projects to explore and expand the use of artificial intelligence tools in processing data and improve electronic technologies use in recreational and commercial fisheries.

The following 14 projects address two key strategies to advance electronic technology implementation in U.S. fisheries: 1) test and deploy e-technology in fishery data collection and 2) modernize data management systems. In many cases, projects address both strategic priorities.

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Artificial Intelligence Powered Fisheries Monitoring for Gulf of Mexico Red Snapper (FL, LA, TX)
Grantee: Reef Fish Conservation and Education Foundation
Grant Amount:. $355,000
Matching Funds:. $417,700
Total Project Amount:. $772,700
Improve data collection in the commercial reef fish fishery by utilizing artificial intelligence-powered electronic monitoring systems integrated with satellite telecommunications for real-time data transmission. Project will use five vessels to expand the use of electronic monitoring technology in the Gulf to enhance quota monitoring and support sustainable fisheries management.

Designing Computer-vision Artificial Intelligence Systems for Automated Fishery Monitoring (AK)
Grantee: Wild Salmon Center
Grant Amount:. $423,800
Matching Funds:. $838,500
Total Project Amount:. $1,262,300
Train artificial intelligence systems to automate species identification and data annotation with video data collected from fisheries monitoring in the Chignik River weir in Alaska. Project will enhance the understanding of salmon population health and inform management decisions that support both commercial and subsistence fisheries, ensuring long-term sustainability of communities that rely on salmon resources.

Developing Artificial Intelligence for Sea Scallop Research Fishery Data Collection (MA, NJ, RI)
Grantee: Cape Cod Commercial Fishermen's Alliance
Grant Amount:. $241,500
Matching Funds:. $241,500
Total Project Amount:. $483,000
Develop an innovative artificial intelligence technique to remove human error and make the visual identification of the scallop reproductive stage more cost-effective, accurate and efficient. Project will engage six commercial scallop fishing vessels to collect electronic monitoring image data on at least 2,800 scallops to inform the artificial intelligence training dataset and evaluate the data's use to inform population estimates on scallop seasonal variability of reproduction.

Electronic Dockside Monitoring in the New England Groundfish Fishery (MA, ME)
Grantee: New England Marine Monitoring
Grant Amount:. $338,200
Matching Funds:. $338,200
Total Project Amount:. $676,400
Demonstrate that an electronic dockside monitoring system can reliably collect critical fisheries data in support of retention-based electronic monitoring while reducing costs. Project will install a system of cameras in a fish processing plant to monitor and record scale weights and measure fish lengths, then compare the electronic dockside monitoring and human monitoring data provided by the project during the same offloads.

Enhancing Data Accuracy and Compliance in Seafood Dealer Electronic Reporting (MD)
Grantee: Oyster Recovery Partnership
Grant Amount:. $213,400
Matching Funds:. $245,000
Total Project Amount:. $458,400
Expand Maryland's electronic reporting system to include seafood dealers, transitioning from paper-based monthly reporting to real-time, trip-level submissions. Project will develop and test this system through a pilot study, targeting 25 seafood dealers to capture real-time data electronically to reduce manual data entry errors, enhance data accuracy, improve regulatory compliance and support timely sustainable fisheries management in the Chesapeake Bay region.

Enhancing Gulf Reef Fish Fishery Stock Assessments through Electronic Monitoring (FL, TX)
Grantee: Mote Marine Laboratory
Grant Amount:. $330,900
Matching Funds:. $372,100
Total Project Amount:. $703,000
Integrate electronic monitoring data to improve Gulf reef fish stock assessments. Project will maintain existing electronic monitoring efforts, develop long-term abundance indices from collected data and create standardized workflows to regularly submit data to assessment analysts, potentially enhancing the accuracy of stock management decisions.

Electronic Monitoring of Endangered Smalltooth Sawfish Bycatch in the Florida Pink Shrimp Fishery
Grantee: Sustainable Fisheries Partnership
Grant Amount:. $541,000
Matching Funds:. $828,700
Total Project Amount:. $1,369,700
Use vessel-mounted and underwater trawl cameras to detect smalltooth sawfish bycatch in the Florida pink shrimp fishery. Project will test a new electronic monitoring technique, increase the number of vessels and trips monitored in the shrimp fishery and supplement sawfish interaction data collected by NOAA's observer program.

Electronic Reporting Improvements for Observer Catch and Effort Data Collection (AL, FL, LA, MS, TX)
Grantee: Big Fin
Grant Amount:. $97,800
Matching Funds:. $97,800
Total Project Amount:. $195,600
Develop software capacity for deployed observers to collect and manage complex recreational catch and effort data currently not recorded by most Gulf states. Project will streamline data processing, reduce fish handling and discard mortality, and generate better estimates of recreational reef fish harvest in the Gulf.

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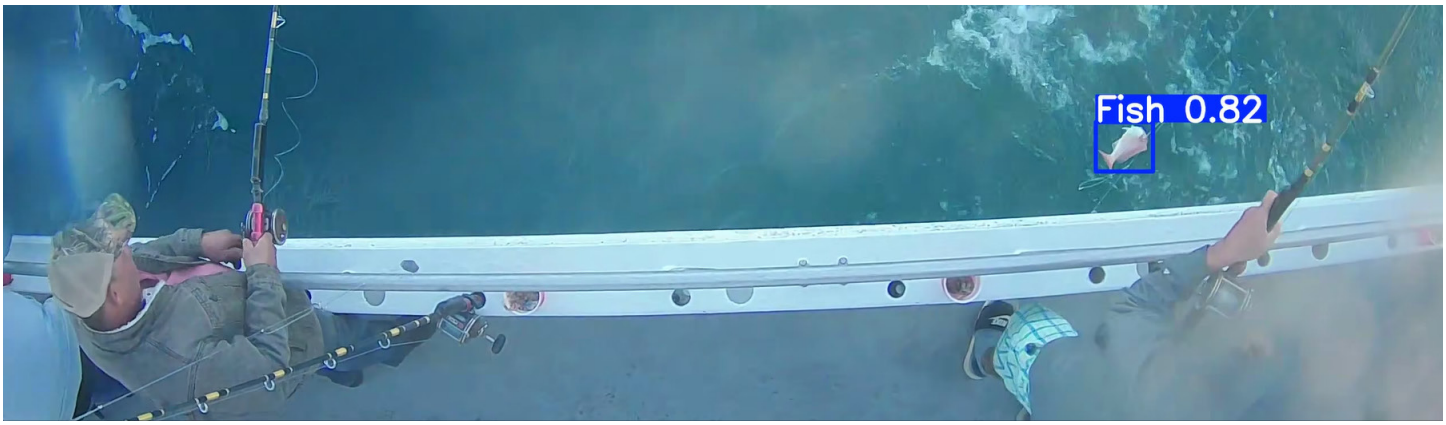

AI camera detection of fish

Establishing a Pathway for Middle Supply Chain Support of Electronic Monitoring Efforts (RI)
Grantee: Trust for Conservation Innovation
Grant Amount:..... $37,500
Matching Funds:..... $37,500
Total Project Amount:..... $75,000
Demonstrate how middle supply chain seafood companies that do not purchase seafood directly from harvesting vessels can collaborate to collectively support and advance electronic monitoring and reporting efforts in U.S. fisheries. Project will demonstrate a market-based approach that provides a broad group of seafood supply chain stakeholders with opportunities to advance and amplify electronic technology innovations.

Expanding Artificial Intelligence Discard Accounting in Groundfish Fisheries (MA, ME, RI)
Grantee: A.I.S.
Grant Amount:..... $583,600
Matching Funds:..... $616,400
Total Project Amount:..... $1,200,000
Expand and optimize artificial intelligence driven electronic monitoring discard accounting systems on vessels in the New England high-volume groundfish fishery. Project will explore the use of artificial intelligence algorithms in controlled and uncontrolled conditions to support the use of these tools across different vessel types in the region.

Implementation of Artificial Intelligence in Electronic Monitoring Review of Fixed Gear Fishery (AK)
Grantee: Alaska Longline Fishermen's Association
Grant Amount:..... $485,600
Matching Funds:..... $518,100
Total Project Amount:..... $1,003,700
Incorporate artificial intelligence algorithms into electronic monitoring video review protocols in the Alaska groundfish fixed gear fishery. Project will build on existing artificial intelligence tools and incorporate them into the operational workflow for electronic monitoring data review to increase efficiency and shorten data turnaround times for more than 160 fixed gear vessels using electronic monitoring in Alaska.

Piloting an eLogbook to Improve Data Collection in the Caribbean Highly Migratory Species Fishery
Grantee: Bluefin Data
Grant Amount:..... $495,000
Matching Funds:..... $543,700
Total Project Amount:..... $1,038,700
Modernize data collection and management system for the U.S. Caribbean highly migratory fishery small boat fleet using elogbook data submissions. Project will implement elogbooks with image capture in up to 14 vessels to facilitate species identification through artificial intelligence models supported by genetic verification, aiming to enhance the accuracy of catch species composition and support more accurate quota allocations.

Pioneering Universal Species Identification for Automated Electronic Monitoring in U.S. Fisheries
Grantee: OnDeck Fisheries AI
Grant Amount:..... $465,800
Matching Funds:..... $737,000
Total Project Amount:..... $1,202,800
Develop and test a novel artificial intelligence system capable of classifying fish species in video across multiple fisheries regardless of vessel or camera system, without needing labeled training data. Project will potentially improve the capabilities for fisheries management by providing generalizable and scalable automated video review capabilities, bringing reduced costs and more timely data.

Scaling Real-time eLogbook Data Collection and Reporting in Halibut and Groundfish Fisheries (AK)
Grantee: Real Time Data North America
Grant Amount:..... $250,000
Matching Funds:..... $269,500
Total Project Amount:..... $519,500
Facilitate the transition to electronic technology by providing fishermen with training and insights into the benefit of elogbooks and additional technologies. Project will expand an existing elogbook effort by up to 30 vessels collecting data in real time to enable fine-scale spatial and temporal catch information for more accurate catch accounting and stock assessment of halibut and sablefish.