



# Electronic Monitoring and Reporting Program

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## PROGRAM PARTNERS

- National Oceanic and Atmospheric Administration (NOAA)
- Shell USA

## ABOUT NFWF

Chartered by Congress in 1984, the National Fish and Wildlife Foundation (NFWF) protects and restores the nation's fish, wildlife, plants and habitats. Working with federal, corporate and individual partners, NFWF has funded more than 6,000 organizations and generated a total conservation impact of \$7.4 billion.

Learn more at [www.nfwf.org](http://www.nfwf.org)

## NATIONAL HEADQUARTERS

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Commercial fishing boat in Alaska

## OVERVIEW

The National Fish and Wildlife Foundation (NFWF) and National Oceanic and Atmospheric Administration, with the Shell Oil Company announce the 2022 slate of projects for the Electronic Monitoring and Reporting Grant Program. Twelve (12) new grants totaling \$3,701,000 were awarded. The 12 awards announced generated \$6,721,000 in matching contributions from the grantees, providing a total conservation impact of \$10,422,100.

The Electronic Monitoring and Reporting Grant Program drives innovation and electronic technologies implementation in U.S. fisheries data collection and works to systematically modernize data management systems for improved fisheries management. This year's grant slate funds projects to develop artificial intelligence tools and expand electronic technologies to new recreational and commercial fisheries.

The following 12 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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## GRANTS

**Improving Data Quality through ET Implementation in the Western Gulf of Alaska**

Grantee: Aleutians East Borough

Grant Amount: .....\$474,700

Matching Funds: .....\$680,000

Total Project: .....\$1,154,700

Aleutians East Borough will develop tools to enhance electronic monitoring data review, test solutions for data transfer in remote fishing communities, automate salmon bycatch record keeping, and explore the use of electronic monitoring in processing plants. This project will advance the adoption of electronic monitoring in Alaskan fisheries and demonstrate the potential of this technology to other fisheries.

**Testing Electronic Monitoring on Trawl Catcher Vessels Participating in the Central Gulf of Alaska (CGOA) Rockfish Program**

Grantee: Alaska Groundfish Data Bank

Grant Amount: .....\$80,600

Matching Funds: .....\$136,700

Total Project Amount: .....\$217,300

Alaska Groundfish Data Bank will evaluate electronic monitoring for its ability to improve data quality, consistency, and reduce data collection costs in Alaska's rockfish trawl fishery. This project will utilize existing onboard electronic monitoring systems to develop monitoring protocols in the fishery to verify salmon retention and to quantify halibut and groundfish discards for effective management.

**Artificial Intelligence Supported Management: Optimized Retention in the Gulf of Mexico (FL, TX)**

Grantee: Mote Marine Laboratory

Grant Amount: .....\$475,100

Matching Funds: .....\$475,200

Total Project Amount: .....\$950,300

Mote Marine Laboratory will reduce red grouper discard rates in the Gulf of Mexico reef fish fishery by applying existing electronic monitoring protocols and new artificial intelligence algorithms to facilitate an optimized retention fishery. This project will validate a feasible compliance monitoring strategy that addresses industry needs to incentivize sustainable fishing.

**Real Time Electronic Logbook Data Collection and Reporting in Halibut and Groundfish Fisheries (AK)**

Grantee: Real Time Data North America

Grant Amount: .....\$137,400

Matching Funds: .....\$290,500

Total Project Amount: .....\$427,900

Real Time Data North American will collect real time, fine scale spatial and temporal fisheries data useful for catch accounting and stock assessment through a commercial fisheries electronic logbook pilot in the Alaska halibut and sablefish fishery. The project will evaluate the ability of fishermen in



Sport fishermen off the coast of Miami

Alaska to collect this data during their fishing operations and explore the potential for the data collection approach to scale up in the future.

**Developing a Streamlined Highly Migratory Species Data Collection, Reporting, and Billfish Tagging Program in US East Coast, Gulf of Mexico, and Caribbean HMS Fisheries**

Grantee: Bluefin Data

Grant Amount: .....\$339,500

Matching Funds: .....\$345,400

Total Project Amount: .....\$684,900

Bluefin Data will develop a streamlined electronic reporting tool that meets the reporting requirements of the Highly Migratory Species recreational fishery in the Atlantic East Coast and Gulf of Mexico. The project will enhance data collection, support regionally led programs, and minimize angler's reporting burden in addition to integrating existing citizen science fish tagging data collection efforts.

**RecFish: User Acquisition, Engagement and Retention**

Grantee: College of William and Mary, Virginia Institute of Marine Science

Grant Amount: .....\$271,200

Matching Funds: .....\$278,000

Total Project Amount: .....\$549,200

The College of William and Mary will expand participation and awareness of the RecFish mobile application, demonstrate the value of the application to state government partners, and continue refining the application to meet the needs of recreational anglers interested in recording and contributing their data. This project will draw potential users to the application through a social media campaign and grow the user base of this citizen science effort.

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### Accelerating New England Groundfish Discard Quantification Using Artificial Intelligence on Electronic Monitoring Vessels

Grantee: Teem Fish Monitoring

Grant Amount: .....\$159,600  
 Matching Funds: .....\$164,400  
 Total Project Amount: .....\$324,000

Teem Fish Monitoring will evaluate existing artificial intelligence tools for their ability to automate collection of discard information from electronic monitoring video in the New England groundfish fishery. Project will train and validate artificial intelligence models to perform species identification, fish counts, and length measurements for discarded fish, with the intention of reducing video review times and associated costs.

### Alaska Trollers Electronic Logbook (Data Collection and Analysis Program)

Grantee: Alaska Trollers Association

Grant Amount: .....\$155,900  
 Matching Funds: .....\$750,000  
 Total Project Amount: .....\$905,900

Alaska Trollers will reestablish a fisheries data collection and analysis program conducted by Alaska troll fishermen through a voluntary electronic logbook effort. The project will collect a wide range of physical and biological information on the southeastern Alaska marine ecosystem and provide managers and researchers real time access to data from participating fishermen.

### A Comprehensive On-Board Edge Artificial Intelligence Electronic Monitoring Data Management System

Grantee: Ai.Fish

Grant Amount: .....\$295,400  
 Matching Funds: .....\$797,000  
 Total Project Amount: .....\$1,092,400

Ai.Fish will develop and pilot deployment of software for processing electronic monitoring video data that can operate in real-time on board fishing vessels using low-power computing devices to improve automated catch accounting, streamline data collection, and deliver value for fishermen. This project will evaluate the feasibility of on board edge-based artificial intelligence and potentially encourage broader adoption of electronic monitoring.

### Scaling Innovations in an Operational Maximized Retention Electronic Monitoring Program in the Northeast Multispecies Fishery

Grantee: Gulf of Maine Research Institute

Grant Amount: .....\$356,400  
 Matching Funds: .....\$357,000  
 Total Project Amount: .....\$713,400

Gulf Maine Research Institute will help to transition dockside monitoring, an important component of retention based electronic monitoring, to a third-party provider model, develop standards that allow for technical innovations in



Crabs caught in fishing net, Bering Sea

dockside monitoring, and develop electronic infrastructure to support timely catch accounting. This project will convene industry members, including seafood dealers, to improve dockside monitoring and support continued regional uptake of electronic monitoring.

### Final Year of Pre-Implementation of a Regulated EM Program for Compliance Monitoring in the Bering Sea and Gulf of Alaska Pelagic Trawl Pollock Catcher Vessel Fisheries

Grantee: United Catcher Boats

Grant Amount: .....\$585,600  
 Matching Funds: .....\$2,075,300  
 Total Project Amount: .....\$2,660,900

United Catcher Boats will evaluate the cost efficiency and operation of electronic monitoring systems on Bering Sea and Gulf of Alaska pelagic pollock trawl catcher vessels to monitor compliance with retention regulations. The project will expand on past efforts to seek improved data quality, timeliness, and cost efficiency for salmon bycatch accounting and groundfish discards.

### Developing an Electronic Monitoring Program for the Gulf of Mexico Multi-passenger and Headboat Fleet

Grantee: Gulf Fisheries Research Foundation

Grant Amount: .....\$369,700  
 Matching Funds: .....\$371,400  
 Total Project Amount: .....\$741,100

Gulf Fisheries Research Foundation will test the use of remote electronic monitoring in the Gulf of Mexico multi-passenger charter headboat fishery to determine the cost-effectiveness of data collection and build an artificial intelligence image library for species identification. The project will explore the potential of artificial intelligence to minimize video review costs and contribute better information for science and management.