



# New England Gear Innovation Fund

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## PARTNERS

- National Oceanic and Atmospheric Administration
- 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 \$8.1 billion.

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

## NATIONAL HEADQUARTERS

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Lobster fishing boat

## OVERVIEW

The National Fish and Wildlife Foundation (NFWF) and the National Oceanic and Atmospheric Administration (NOAA) announced funding for 2023 New England Gear Innovation Fund projects. Eighteen grants totaling nearly \$18.3 million were awarded, focused on developing or trialing innovative fishing gears and engaging fishermen in the use of innovative gear. The 18 awards announced leveraged more than \$1.4 million in match from the grantees, providing a total conservation impact of \$19.7 million.

The New England Gear Innovation Fund seeks to promote the development and adoption of innovative fishing gear technologies that reduce the risk of lethal or sub-lethal fishing gear entanglement for the critically endangered North Atlantic right whale (right whale) in fixed gear fisheries throughout New England. To address this conservation goal, the New England Gear Innovation Fund furthers the wider Fisheries Innovation Fund approach of working in coordination with fishermen and fishing communities, such as the lobster fishery, to identify innovative solutions to pressing sustainability and marine conservation needs.

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### Assessing Costs and Benefits of On-Demand Gear for Entanglement and Fisheries Management (MA)

Grantee: Massachusetts Division of Marine Fisheries  
 Grant Amount:.....\$475,000  
 Matching Funds:.....\$0  
 Total Project Amount:.....\$475,000  
 Create a socioeconomic model that incorporates on-demand gear testing and new socioeconomic data from the Massachusetts lobster fishery to estimate the operational and fixed costs of using on-demand fishing gear. Project will provide state and federal managers, protected resources staff, on-demand gear developers, fishery stakeholders and the public with a detailed picture of the economic costs and benefits of any on-demand gear system for which testing has been undertaken.

### Centralized System for On-Demand Fishing Gear Marking (CT, MA, ME, NH, NY, RI, VT)

Grantee: The Allen Institute for Artificial Intelligence  
 Grant Amount:.....\$1,481,300  
 Matching Funds:.....\$0  
 Total Project Amount:.....\$1,481,300  
 Create a mobile app for marking, sharing and aggregating location data of on-demand fishing gear with new features that expand upon an existing partnership with NOAA. Project will work with the Cape Cod fishing community and regional stakeholders to remove right whale fishing gear entanglement threats and address gear conflict issues by informing vessels of gear deployed beneath them.

### Developing a Lightweight Acoustic or Timed Ropeless Fishing Gear System (CT, MA, ME, NH, NY, RI)

Grantee: EdgeOne  
 Grant Amount:.....\$261,800  
 Matching Funds:.....\$0  
 Total Project Amount:.....\$261,800  
 Develop a lightweight, easy-to-use, acoustically actuated or timed release remote fishing system. Project will provide fishermen with an easy and mature remote fishing system option suitable for smaller vessels in shallow water that can help address entanglement risk of right whales.

### Engaging the Market to Accelerate the Adoption of Innovative Fishing Gears (MA, ME, RI)

Grantee: Sustainable Fisheries Partnership  
 Grant Amount:.....\$735,000  
 Matching Funds:.....\$225,000  
 Total Project Amount:.....\$960,000  
 Engage seafood industry retailers and foodservice companies to support continued development and adoption of innovative fishing gear by fishermen in New England pot and trap fisheries. Project will convene industry stakeholders to develop solutions and promote the participation of fishermen in trials of innovative gear through the use of market incentives.

### Evaluating Technologies to Replace Vertical Lines to Surface Fishing Buoys (ME)

Grantee: Maine Department of Marine Resources  
 Grant Amount:.....\$2,000,000  
 Matching Funds:.....\$0  
 Total Project Amount:.....\$2,000,000  
 Facilitate a reduction in entanglement risk to right whale from fixed fishing gear by increasing understanding of how acoustic geolocation of gear can replace vertical lines from traps to surface buoys. Project will evaluate the performance and feasibility of up to four different acoustic geolocation systems in various gear densities.

### Gearing Up for Change in Maine's Lobster Dependent Communities (ME)

Grantee: Maine Center for Coastal Fisheries  
 Grant Amount:.....\$625,500  
 Matching Funds:.....\$0  
 Total Project Amount:.....\$625,500  
 Build community capacity of Maine fishermen to engage in the discussion of innovative fishing gear technology, interoperability solutions, and workflow processes. Project will support the adoption of innovative fishing technologies through outreach, partnership and education efforts that promote grassroots community-level dialogue with the fishing economy.



Lobster fisherman



### **Grappling with Technology for Cost-Effective Solutions in Fishing Gear Innovation (MA)**

Grantee: Lobster Foundation of Massachusetts

Grant Amount:..... \$1,189,400  
 Matching Funds:..... \$0  
 Total Project Amount:..... \$1,189,400

Test grappling paired with gear marking technology as a cost-effective solution to allow the retrieval of fixed gear, such as lobster traps, without the use of vertical lines. Project will work with 15 fishermen to assess the ability of this method to address both fishing gear conflict and right whale entanglement risk in an economically viable way for New England fixed gear fishermen.

### **Improving Adoption of On-Demand Fishing Gear in New England Trap Fisheries (CT, MA, ME, NH, RI)**

Grantee: Sub Sea Sonics

Grant Amount:..... \$927,500  
 Matching Funds:..... \$663,300  
 Total Project Amount:..... \$1,590,800

Address impediments to implementation of on-demand fishing gear through cost reduction, adaptability, outreach and training. Project will reduce the risk of entanglements to marine species and the impacts of time-area closures on traditional trap fishing communities through increasing the adoption of innovative fishing gear.

### **Interoperable Ropeless Fishing Gear Integrated into a Chart Plotter (MA)**

Grantee: Teledyne Benthos

Grant Amount:..... \$975,000  
 Matching Funds:..... \$200,000  
 Total Project Amount:..... \$1,175,000

Modify commercially available underwater and on vessel acoustic equipment to operate both Teledyne Benthos and EdgeTech based ropeless fishing gear on a common chart plotter. Project will address interoperability of gear from different manufacturers, improve fishing gear marking technology and integrate a chart plotter for ease of gear recovery and marking.

### **Maine Innovative Fishing Gear Library and Community Engagement (ME)**

Grantee: Maine Department of Marine Resources

Grant Amount:..... \$3,005,700  
 Matching Funds:..... \$100,000  
 Total Project Amount:..... \$3,105,700

Build familiarity with innovative gear technologies among Maine's fishermen and coastal communities by increasing local access to learn about and trial this gear through community organizations. Project will collect data on the use of multiple innovative gears purchased for and available in the library and support fishermen engagement through six regional hubs for information sharing.

### **Partnering with Stakeholders to Build Enforceable On-Demand Gear for Commercial Fisheries (MA, ME)**

Grantee: Sea Mammal Education Learning Technology Society (SMELTS)

Grant Amount:..... \$1,458,200  
 Matching Funds:..... \$0  
 Total Project Amount:..... \$1,458,200

Add acoustic marking technologies to proven lift-bag fishing gear and on vessel technology to automatically mark fishing gear both on and off vessels. Project will aid in adoption of technologies for conservation of right whales that remove line entanglement risk through collaboration, practice, support, education and outreach.

### **Piloting Galvanic Timed Release Systems to Reduce Entanglement Risks in the Lobster Fishery (ME)**

Grantee: New England Marine Monitoring

Grant Amount:..... \$420,100  
 Matching Funds:..... \$18,000  
 Total Project Amount:..... \$438,100

Test galvanic timed releases on fishing gear to reduce vertical lines present in lobster fishery. Project will partner with 10 Maine lobster vessels to explore the efficacy and utility of the timed release gear used in comparison to traditional fishing gear as a means of reducing risk, as well as provide fishing community outreach and training on the gear.

### **Preparing Ropeless Technology for Widespread Adoption and High-Volume Manufacturing (MA, ME, RI)**

Grantee: Ropeless Systems

Grant Amount:..... \$170,100  
 Matching Funds:..... \$175,000  
 Total Project Amount:..... \$345,100

Incorporate feedback from fishing trials and operator engagement to achieve a design for innovative fishing gear capable of widespread production in quantities and pricing suitable for commercial fisheries. Project will use stakeholder feedback to manufacture the lowest achievable production cost for the grantee's ropeless systems with acoustic location and recovery.

### **Reducing Gear Conflicts and Improving Safety of On-Demand Fishing Gear (MA, ME, RI)**

Grantee: Whale and Dolphin Conservation Society

Grant Amount:..... \$398,800  
 Matching Funds:..... \$36,300  
 Total Project Amount:..... \$435,100

Develop and test software that provides both a quick man-overboard release option which immediately surfaces all gear if a person is caught during deployment of on-demand gear and an audible alarm that alerts vessels that there is fishing gear within 2 miles that does not have surface marking buoys. Project will work with 20 fixed and mobile gear commercial fishers along with gear manufacturers to improve the safety and efficacy of on-demand fishing gear.



Lobster traps

**Ropeless Fisheries through Software-Defined Acoustic Communications and Geolocalization (MA)**

Grantee: delResearch

Grant Amount:.....\$768,600  
 Matching Funds:.....\$0  
 Total Project Amount:.....\$768,600

Adapt proven underwater acoustic modem technology to create a low-cost, open-source, software-defined acoustic communications and geolocalization system for innovative fishing gear. Project will align with emerging ropeless fishing standards, fostering a safer and eco-friendly fishing industry while protecting marine life and ensuring sustainable fisheries.

**Solving On-Demand Ropeless Interoperability with a Multi-Manufacturer Deck Box (MA, ME)**

Grantee: DESERT STAR SYSTEMS

Grant Amount:.....\$1,354,800  
 Matching Funds:.....\$28,000  
 Total Project Amount:.....\$1,382,800

Develop a standardized deck box for vessels that allows law enforcement to communicate with and inspect ropeless fishing gear from all participating gear manufacturers. Project will create a system that addresses enforcement concerns about innovative gear, while ensuring fishermen have a range of options for ropeless systems in terms of cost and performance.

**A Standardized Means of Underwater Fishing Gear Marking in the Gulf of Maine (MA, ME)**

Grantee: Blue Ocean Gear

Grant Amount:.....\$799,700  
 Matching Funds:.....\$0  
 Total Project Amount:.....\$799,700

Develop a communication buoy that is capable of determining and transmitting fishing gear location whether on the surface or submerged. Project will create a standalone device that has the ability to identify and communicate positions of ropeless fishing gear.

**A Tool to Display and Share Location Data for Multiple Innovative Fishing Gears (MA, ME)**

Grantee: Blue Ocean Gear

Grant Amount:.....\$1,233,500  
 Matching Funds:.....\$15,300  
 Total Project Amount:.....\$1,248,800

Develop a vessel transceiver able to display aggregated location data on an onboard GPS chart plotter, providing critical information to avoid gear conflict issues between innovative gear users and other maritime uses. Project will complete development of the product and deploy units with 11 fixed gear and mobile gear fishers to provide accurate, near real-time position data of fixed gear at or below the surface.