

Saltonstall Kennedy Grant Program
Summaries of Recommended FY2018 SK projects
Greater Atlantic Region, National Marine Fisheries Service

Overview: The Greater Atlantic Region Fisheries Office (GARFO) received **59** proposals for funding under the FY2018 Saltonstall-Kennedy (SK) grant program. This represents **38%** of the **155** proposals received from all over the United States. Of the **38** projects selected nationally, **13** projects were from the Greater Atlantic Region, requesting approximately **\$3** million in federal funding. These **13** projects represent **34%** of the projects selected nationally and 34% of the **\$8,997.6** million in funds available nationwide.

With regard to the priority areas listed in the request for proposals published in the Federal Funding Opportunity announcement, the breakdown of new GARFO projects by priority follows:

Aquaculture: **5**

Adapting to Environmental Changes and Other Long Term Impacts in Marine Ecosystems: **5**

Promotion, Development, and Marketing: **3**

Territorial Science: **N/A**

An abbreviated summary for each of these Regional projects follows:

Aquaculture

18GAR003-107, University of Rhode Island, “**Probiotics for bivalve aquaculture: Commercial production and hatchery implementation.**” Co-Principal Investigators are Dr. Marta Gomez-Chiarri, Dr. David Nelson, and Dr. David Rowley.

The project’s purpose is to implement the use of probiotics to improve productivity in bivalve shellfish hatcheries at a commercial scale, using two probiotic strains: *Bacillus pumilus* (695) and *Phaeobacter inhibens* (S4). The project will (1) develop methods for the production of strains 695 and S4; (2) test the efficacy of the formulated probiotics in a commercial setting; (3) develop a standard protocol for the effective use of probiotics in bivalve shellfish hatcheries; and (4) make this protocol industry accessible.

18GAR006-031, Rutgers, The State University of New Jersey, “**Superior Eastern Oyster Stocks for Enhancing Coastal Aquaculture.**” The Co-Principal Investigators are Dr. Ximing Guo, Lisa Calvo, and Gregory DeBrosse.

The project aims to identify the best-performing oyster stock for enhancing oyster aquaculture in high-salinity waters of NJ and the NE. The project proposes to: 1) produce different stocks that may perform well in coastal bays; 2) evaluate the stocks at four sites in NJ; and 3) transfer project results to New Jersey and regional shellfish farmers.

18GAR013-111, Salem State University, “**Development of Offshore Shellfish Aquaculture in Federal Waters Along the Atlantic Coast.**” The Co-Principal Investigators are Dr. Mark Fregeau and Edward Maney Jr.

The purpose of this project is to demonstrate the development of offshore commercial shell aquaculture as a sustainable, viable alternative or enhancement to current fishing practices that is compatible with conservation of protected species. It will expand the NEMAC site off Cape Ann, MA to three longlines linked to extensive monitoring of biological and chemical oceanographic parameters, in addition to time lapse video, visual observations, and acoustic recordings of marine mammal activity in the area. It will also refine hatchery and natural spat collection technologies to support commercial-scale farms. A major deliverable will be collection of field data to support a USACE permit modification allowing full build out of a commercial-scale farm.

18GAR050-180, University of Maine, “**Optimizing production and products for scallop aquaculture.**” The Co-Principal Investigators are Dr. Damian Brady and Dana Morse.

This project will use a stakeholder driven process to identify and address bottlenecks in the sea scallop aquaculture production process that will improve returns and advance this as a profitable industry in Maine (and elsewhere). It will also advance the critical issue of fisherman-to-fisherman technology transfer.

18GAR058-124, Virginia Institute of Marine Science, “**Understanding disease progression in polyploid eastern oysters.**” The Principal Investigator is Dr. Ryan Carnegie.

The study has two objectives: (1) to determine when *Perkinsus marinus* (dermo) and *Haplosporidium nelsoni* (MSX) infections are most prevalent and intense in polyploid *Crassostrea virginica* at Virginia aquaculture sites and to compare these data with contemporary observations from the thirty Virginia oyster reefs surveyed as part of the VIMS Oyster Disease Monitoring Program; and (2) to communicate results to regional regulators and industry so they may inform regional management of shellfish transfers.

Adapting to Climate Change and other Long Term Impacts in Marine Ecosystems

18GAR012-070, Bigelow Laboratory for Ocean Sciences, “**Do small female lobsters produce lower quality eggs?**” The Principal Investigator is Dr. David Fields.

The proposed study will fill in the knowledge gap of the relationship between the observed shift in size at maturity, and the survivorship and performance of their offspring across New England lobster subpopulations. Investigators will evaluate how female size impacts fecundity and egg quality at three study areas spanning New England’s steep north-south thermal gradient and evaluate larval performance as a function of maternal size.

18GAR022-046, Coonamessett Farm Foundation, Inc., “**Improving oceanographic models of bottom temperature within the Mid-Atlantic Bight through novel data assimilation and stakeholder input.**” Co-Principal Investigators are Dr. Samir Patel and Jason Clermont.

This proposal will (1) compare data acquired through animal-borne sensors, bottom trawls, and oceanographic gliders with data currently being used to inform oceanographic models for the Mid-

Atlantic Bight region (MAB), (2) improve real-time temperature models for the MAB by integrating high-resolution, observed data, and (3) develop a collaborative Working Group between industry, managers and scientists to establish practical application of improved forecast model and tools.

18GAR025-022, Coonamessett Farm Foundation, Inc., **“Using climate change scenarios to project loggerhead turtle distributions in the U.S. Mid-Atlantic.”** The Principal Investigator is Dr. Samir Patel.

This project will apply recently developed geostatistical models incorporating sea surface temperature projections to project shifts in the distribution of loggerheads in the northwest Atlantic. The project will determine the fundamental thermal niche of loggerheads in the Mid-Atlantic Bight, use the fitted models to incorporate projections from climate models, and disseminate results to local stakeholders.

18GAR036-084, Northeastern University, **“The northern range expansion of Black Sea Bass: Understanding population dynamics and socioeconomic impacts of a rapid distribution shift.”** Co-Principal Investigators are Dr. Jonathan Grabowski, Dr. Katie Lotterhos, and Dr. Steven Scyphers.

This study aims to enhance understanding of life history traits, diet, and genomic population structure of sea bass in its native and newly expanded range (the Gulf of Maine and southern New England) and its native range (the Mid-Atlantic). This study will provide metrics for stock assessment of sea bass at the northern extent of its range. Researchers will also survey commercial and recreational fishermen to understand the societal impacts of the northern distribution shift and subsequent management.

18GAR039-136, The University of Maine, **“The consequences of a changing environment to the health of American lobsters.”** Co-Principal Investigators are Dr. Heather Hamlin, Deborah Bouchard, and Cathy Billings.

A primary goal is to examine the hypothesis that increasing ocean temperatures concurrent with acidification are causative agents in the emergence of disease in American lobsters. Objectives are (1) to analyze whether elevated ocean temperature and acidification contribute to disease emergence; (2) to examine lobsters' ability to handle a subsequent stress event after experiencing ocean acidification and elevated temperatures; (3) to train citizen scientists to detect early signs of disease and to collect samples for analysis; and (4) to inform regulatory personnel and stakeholders of project outcomes.

Promotion, Development, and Marketing

18GAR015-077, Cape Cod Commercial Fishermen’s Alliance, **“Overcoming the Last Hurdle of Dogfish: Changing the Name.”** The Principal Investigator is John Pappalardo.

The objective is to obtain Food and Drug Administration (FDA) approval of an alternate name for spiny dogfish to assist with domestic dogfish marketing efforts. This will involve conducting background research, consumer surveys and market testing for potential new names, application submittal to FDA, and conduct marketing efforts and build consumer awareness.

18GAR017-047, Commercial Fisheries Research Foundation, “**Development of a Marketable Seafood Product from Scup (*Stenotomus chrysops*), an Abundant, Low Value Species in the Northeast and Mid-Atlantic USA.**” Co-Principal Investigators are Dr. Anna Mercer and Fred Mattera.

This project will (1) determine the at-sea handling, shore-side processing, and storage techniques to produce a high quality, fully traceable scup fillet, (2) determine the economic viability of this product, (3) certify the sustainability, organoleptic quality, and nutritional value of refreshed scup fillets to ensure suitability for retail markets and consumers, and (4) introduce and market the product to food businesses and consumers.

18GAR019-129, Manomet, Inc. “**Investigating the viability of a soft-shell green crab industry in New England.**” The Principal Investigator is Dr. Marissa D. McMahan

The project aims to create a mechanism for controlling green crab populations while also creating a source of economic opportunity for fishers. Researchers will explore critical components of fishery development including when and where to harvest pre-molt crabs, how to produce soft-shell crabs, and marketing the final product.

Territorial Science

N/A