

COMMERCIAL FISHERIES RESEARCH FOUNDATION

The Commercial Fisheries Research Foundation is a non-profit, private research foundation founded and directed by members of the commercial fishing industry. The CFRF's primary mission is to conduct collaborative research and education projects that assist in the achievement of sustainable fisheries and vibrant fishing communities.

MESSAGE CORNER:

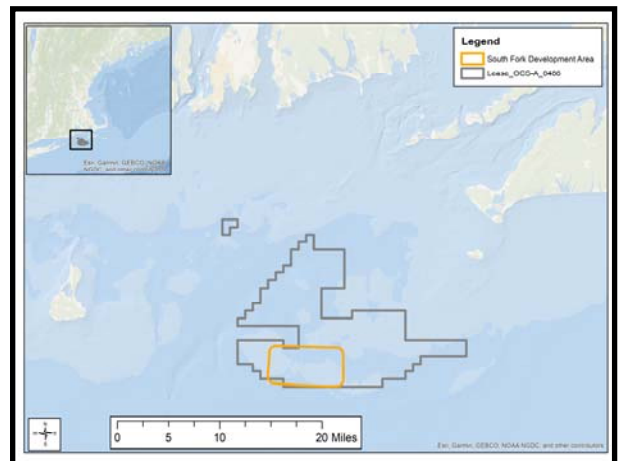
This year has been the most challenging and demanding year in many of our life times as we navigate through this unprecedented Pandemic. A true test of survival, literally, as fishermen struggle to preserve their businesses and demonstrate once again their resilience; never wavering to stay engaged and committed to collaborate in our research. The CFRF team was amazingly steadfast and compelled to maintain their research efforts for months at home, in the office and out in the field. A true testament of Leadership by Dr. Bethoney and awe-inspiring staff (Terry, Aubrey, Tom & Michael). This allows me to welcome two new researchers to the CFRF staff, Carl Huntsberger, M.Sc and Dr. Susan Inglis, both with years of experience working with industry and science. I am elated to acknowledge CFRF's key new project in 2020; South Fork Wind Farm Fisheries Monitoring. For 2 years CFRF will work with South Fork Wind LLC and local fishermen to conduct pre-construction monitoring surveys in the waters on and around Cox's Ledge. CFRF will be grateful for our growing sense of trust and cooperation among fisheries stakeholders as we progress on this project.

Fred Mattera, CFRF President

NEW PROJECT: SOUTH FORK WIND FARM FISHERIES MONITORING

In partnership with local fishermen the CFRF is conducting pre-construction fisheries monitoring surveys of the South Fork Wind Offshore Wind Farm near Cox's Ledge. The South Fork Wind Farm is an offshore wind energy project located in federal waters on the Outer Continental Shelf. It includes up to 15 wind turbine generators, submarine cables between turbines and an offshore substation (see map pictured). Our project aims to collect pre-construction data on 1) the abundance, size structure, and distribution of marine species and 2) oceanographic data that can be used to characterize the conditions in the South Fork Wind Farm lease area and adjacent waters. Monitoring will be conducted using fishing vessels and a suite of survey methods targeting different fish and invertebrate species. Most of the surveys will start in the spring of 2021, but a beam trawl survey was started in October.

The beam trawl survey will help determine the spatial scale of potential impacts on bottom dwelling animals. The beam trawl was designed to match the gear used for the ecosystem survey conducted in this area in 2015 and will be conducted with the same vessel; the F/V Mister G.



Three 20-minute tows in the development and two reference areas are conducted monthly to document the benthic animal diversity, distribution and abundance in each area prior to construction. In addition, we're examining what the commercially important fish species are eating and monitoring the health of scallops. The first trip showed one reference area to be dominated by crabs and skate with a handful of flatfish, while the second reference area was rocky with many small invertebrates and dominated by scallops (pictured). The development area was predominantly little skate, scup and scallops. Stay tuned for more results after a winter of sampling. Visit the CFRF South Fork Wind Farm Fisheries Monitoring website (www.cfrfoundation.org/south-fork-wind-farm) to stay up to date on this survey and others. Funding for this monitoring is provided by South Fork Wind LLC.

Learn more about CFRF at www.cfrfoundation.org



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PROJECT UPDATE: BLACK SEA BASS RESEARCH FLEET

The Black Sea Bass Research Fleet was able to record catch, effort, and biological data from over 3,500 black sea bass since May and bring the total number sampled by the Fleet since December 2016 to over 26,000! Through the summer, the Research Fleet wrapped up the Sarah K. DeCoizart Charitable Trust funded expanded collection program and, with the help of the Rhode Island Department of Environmental Management, complete the remaining stomach content analysis of the collected black sea bass. Research Fleet members F/V Johnny B, F/V Harvest Moon, F/V Priority Too, and F/V Matrix also assisted in the collection of juvenile black sea bass for genetic analysis by Northeastern University. These accomplishments were made possible by the dedication of the Research Fleet members despite the impacts of COVID-19 on our local fishing communities.



The Research Fleet will continue data collection, with support by the Atlantic Coastal Cooperative Statistics Program, through August of 2021. Currently, the Research Fleet is expanding and looking to bring on additional vessels from Rhode Island and the New Jersey fish pot fishery. If you are interested in applying, visit the project website at www.cfrfoundation.org/black-sea-bass-fleet to find more information and an application form.

PROJECT UPDATE: LOBSTER AND JONAH CRAB RESEARCH FLEET



The Lobster and Jonah Crab Research Fleet provides year-round biological data and environmental data from lobster and Jonah crab caught on commercial trips. Since our last update in May, the Research Fleet has sampled over 12,063 lobsters and 9,108 Jonah crabs. In total, our fleet has sampled over 161,300 lobsters and 92,990 Jonah crabs since June 2013! Despite COVID-19, this summer CFRF welcomed three offshore vessels to the fleet: F/V Timothy Michael and F/V Endeavour out of Newport, RI and F/V Kristin & Michael out of Portland, ME. CFRF is also excited to announce that in September, the Northeast Fisheries Science Center provided funding to the Atlantic States Marine Fisheries Commission to support the research fleet's work! The CFRF will be working to add additional biological data parameters to our sampling protocols and expand the analysis of our data to further support sustainable management. We will continue to share data with participant fishermen, stock assessment scientists, fishery managers, and regional ocean modelers. Lastly, CFRF staff were excited to be involved in the discussion and present the work our fleet is doing to support the management and sustainability of the Jonah crab fishery at the Pre-Assessment Data Workshop for Jonah Crab. For more information, visit the project website at www.cfrfoundation.org/jonah-crab-lobster-research-fleet.

PROJECT UPDATE: PILOTING A N-VIRO DREDGE IN THE SOUTHERN NEW ENGLAND SCALLOP FISHERY

The N-Viro dredge is used in Europe and can potentially reduce bycatch and habitat impacts, while improving fuel efficiency in the U.S. scallop fishery. CFRF staff and participating fishing vessels were busy throughout the summer completing all research trips with the N-Viro dredge on both Limited Access General Category (LAGC) and Limited Access (LA) vessels. The three participating LAGC vessels (F/V Brooke C, F/V Harvest Moon, and F/V Mister G) completed 10 research sampling trips each from February – September 2020; over the course of the 30 total trips, 120 tows were conducted with the N-Viro dredge and 120 tows were conducted with the vessels' own New Bedford style dredges. The F/V Karen Elizabeth completed the LA research sampling trip in July 2020, which consisted of 80 paired tows of the N-Viro dredge and a New Bedford style dredge in open bottom around Cox Ledge and the Nantucket Lightship Access Area.

Preliminary results from both LAGC and LA vessel data show improved fuel efficiency and reduced bycatch rates and habitat impacts for the N-Viro dredge compared to New Bedford style dredges, but reduced scallop catch rates were also observed for the N-Viro dredge. Underwater GoPro video showed scallops avoiding the dredge both under and between the tines and over the top of the bag and twine top; however, there was also video of the dredge successfully avoiding flatfish, rocks, and other large debris on the bottom more efficiently than New Bedford style dredges. CFRF staff are continuing to analyze data to compare the N-Viro and New Bedford style dredges, and participant fishermen have several ideas of how to improve the scallop catch efficiency on the N-Viro dredge while maintaining its positive characteristics. To find out more about the N-Viro dredge, receive updates on an N-Viro dredge workshop, and follow along with project final results, visit the project website at www.cfrfoundation.org/piloting-novel-dredge-type.



PROJECT UPDATE: SHELF RESEARCH FLEET

The Shelf Research Fleet, in partnership with scientists from Woods Hole Oceanographic Institution (WHOI), collects oceanographic data to better understand how environmental changes may impact the distribution and abundance of key fisheries resources. As of November 1st, over 662 salinity, temperature and depth profiles have been collected by the Shelf Research Fleet off the coast of Rhode Island. In the past six months, CFRF welcomed the F/V Finast Kind II and the F/V Stormy Elizabeth to the Research Fleet. In the late summer, oceanographic data displayed some very active intrusions of warm, salty water. During that time, our fishermen reported sightings of Portuguese man o' wars, as well as noted catching many octopus this year. Lastly, Mark Sweitzer, a fleet member of the CFRF/WHOI Shelf Research Fleet, was interviewed by WBUR NPR Boston this summer about his involvement in data collection. While traditional scientific surveys were postponed or canceled this year due to COVID-19, we are grateful to have fishermen still collecting real-time data for our Research Fleets and other scientific groups! More information on the Shelf Research Fleet can be found at www.cfrfoundation.org/shelf-research-fleet.



NEW PROJECT: ASSESSING VULNERABILITY OF THE ATLANTIC SEA SCALLOP SOCIAL-ECOLOGICAL SYSTEM

The Atlantic sea scallop fishery is worth more than \$500 million per year and Northeast fishing communities are increasing reliance on the fishery. At the same time, the coastal ocean ecosystem of the Northeast is experiencing dynamic changes in temperature, precipitation and ocean acidification. Ocean acidification can potentially require scallops to need more energy to make and grow their shells and impact their metabolism, factors which have potential consequences for the fishery. This project's objective is to determine the vulnerability of the sea scallop fishery, both the scallops and the communities that rely on them, to ocean acidification and temperature changes. We will also investigate ways in which the fishery could become more resilient, specifically testing if a spatially explicit regional projection of changes reflecting scallop fishing areas can inform fishery management. The study relies on a social ecological system vulnerability approach using data from stakeholder workshops, lab experiments, and biological and oceanographic models. Two industry collected data sets from CFRF will be used to evaluate historical simulations. Further, CFRF will organize and facilitate a series of workshops between scientific partners and the fishing community during year of this project. Visit www.cfrfoundation.org/atlantic-sea-scallop-social-ecological-system to find out more. Funding for this project is provided by the NOAA Ocean Acidification Program, partners include the National Marine Fisheries Service, the University of Connecticut, and Rutgers University.



NEW PROJECT: PILOTING A LOW-BY-CATCH COMMERCIAL SQUID JIG FISHERY IN SOUTHERN NEW ENGLAND

In partnership with The Town Dock, CFRF is pleased to announce a new project piloting the use of automatic squid jigging gear. The intent of the project is to investigate the feasibility of automatic squid jigging machinery, used in other large-scale squid fisheries worldwide, in the southern New England Longfin squid fishery. Automatic squid jigging has almost no by-catch, is less expensive to operate than a traditional trawler, and allows vessels to fish in areas inaccessible with trawl gear. Further, jig caught squid can fetch a premium price on the international market. The CFRF and Town Dock will be purchasing automatic squid jigging machinery and installing it on two vessels, a larger trip vessel and a smaller day trip vessel, and undertaking at-sea trials in the spring and summer of 2021. Throughout the project we will be tracking the catch rates, squid quality, operational procedures as well as startup expenses with the aim of developing a "best practices" guide for interested fishermen. Stay tuned to the [CFRF website](http://www.cfrfoundation.org) for further announcements about the project when it officially begins in January 2021! Funding for this project is provided by the NOAA Bycatch Reduction Engineering Program.



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Research Biologist

Susan Inglis
Research Associate

Michael Long
Research Biologist

OFFICE LOCATION:

2nd Floor, Building #61B
Commercial Fisheries Ctr of RI
East Farm Campus, URI
Kingston, RI 02881
Phone: (401) 515-4892
Fax: (401) 515-3537

MORE ON-GOING PROJECTS:

- **A Pro-Seafood Climate Action Agenda:** A group of Rhode Island and Massachusetts fishing organizations initiated a process to craft a narrative on climate solutions that places wild seafood production at its core. Contact Mike Roles (mtroles@gmail.com) and Sarah Schumann (schumannsarah@gmail.com) for more information.
- **Development of a Marketable Seafood Product from Scup:** This project is developing a frozen scup fillet product that meets consumer, fisherman, fish processor, and chef needs. More information can be found at www.cfrfoundation.org/scup-fillet.
- **River Herring Bycatch Avoidance Program:** This project provides area specific information to help fishermen stay under river herring bycatch limits. Information on the this program can be found at www.umassd.edu/smast/bycatch/
- **Salinity Maximum Intrusions:** This project will map intrusions of warm, salty water that may influence fish distributions in Southern New England. Information on this project can be found at www.cfrfoundation.org/salinity-max

EDUCATION AND OUTREACH:

- In August, Aubrey Ellertson presented about CFRF's collaborative research fleets and the Northeast Fisheries Observer Program to the Commercial Fisheries Center of Rhode Island Apprenticeship Program trainees.
- In November, Aubrey Ellertson and Michael Long teamed with Fred Mattera from the Commercial Fisheries Center of Rhode Island to share information about CFRF projects and seafood education with 40 students from 38 nations. The students were from the U.S. Naval War College, Naval Command College International Program.
- In November, Carl Huntsberger and Aubrey Ellertson presented at the Atlantic States Marine Fisheries Commission Jonah Crab Pre-Assessment Workshop about Jonah Crab growth and the CFRF Lobster and Jonah Crab Research Fleet.

RECENT RELEASES, PUBLICATIONS, AWARDS AND UPCOMING EVENTS:

- Mark Sweitzer, CFRF Board member and lobsterman, was interviewed by WBUR NPR Boston for the article "[Fishermen and Scientists Join Forces to Track Effects of Climate Change](#)". Visit www.cfrfoundation.org/news-releases to read the article.

