

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:

I am excited and grateful to be writing to you as the new Executive Director of the CFRF. Before this, I spent nearly 12 years at the University of Massachusetts Dartmouth School for Marine Science and Technology conducting fisheries research guided by the principles of practical application and collaboration. This fundamental alignment with the Foundation's mission will help me to be an effective leader that will sustain CFRF's excellence while guiding it to new opportunities and through new challenges. These days, one cannot mention challenges without recognizing COVID-19. For our small part we tried to help the fishing community through these times by paying Research Fleet members their stipends if they couldn't sample because of COVID-19 related reasons. We value and recognize that without the support of the fishing community none of the projects described below would be possible.

N. David Bethoney, CFRF Executive Director

PROJECT UPDATE: BLACK SEA BASS RESEARCH FLEET

The Black Sea Bass Research Fleet produces year-round estimates of black sea bass catch, bycatch, and biological data for seven different gear types in the Southern New England and Mid-Atlantic regions. Since our last update in November, the Research Fleet has sampled over 2,000 black sea bass with the total sampled by the Research Fleet just shy of **23,000!** This winter members of our Black Sea Bass Research Fleet began recording black sea bass offshore in December, with a substantial increase in catch in January when the winter season opened. Multiple Research Fleet Members fishing through the winter noticed a substantial increase in juvenile (less than 10 centimeters) black sea bass in the offshore fishery. This is good news as young of the year black sea bass that are able to reach warmer, offshore, waters and survive their first winter in southern New England are believed to play a large role in overall recruitment. Further, the inshore fishing vessels in the Research Fleet active over the winter noticed a high number of adult black sea bass within Narragansett Bay.



The effort from the Research Fleet has also been used to support two supplemental projects to help better manage black sea bass. One project, in collaboration with Northeastern University, collects tissue samples from black sea bass for stable isotope and genomics work. This will allow scientists to trace where the black sea bass in southern New England came from and for direct comparison of black sea bass further north in their range, through Massachusetts and even Maine, to look at demographic differences between the groups of fish. This project was started last summer and will continue this summer. The second project, funded by the Sarah K. De Coizart Charitable Foundation, expands the lab sampling program of the Black Sea Bass Research Fleet to offshore, federal, waters to investigate sexual maturity, diet composition, and aging as black sea bass overwinter off southern New England. Historically, there has been very little data collection on black sea bass during this period of the year due to the relative difficulty of obtaining samples, particularly here in southern New England at the northern end of the species range. Since January, the CFRF has purchased about 600 black sea bass and is currently finishing up the remaining laboratory work described above. We extend a huge thank you to John Peabody and the crew of the F/V Lady Clare for offering the black sea bass needed to complete this project. Stay tuned in the coming months as the data



becomes available and we compare the offshore black sea bass from this past winter to the fish we've been collecting inshore from the past three years!

We are pleased to announce the Research Fleet will continue to operate through 2021 thanks to additional funding from the ACCSP! More information on the Black Sea Bass Research Fleet can be found at: <http://www.cfrfoundation.org/black-sea-bass-fleet>.

Learn more about CFRF at www.cfrfoundation.org



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PROJECT UPDATE: DEVELOPMENT OF A MARKETABLE SEAFOOD PRODUCT FROM SCUP

This project seeks to develop the techniques needed to produce a frozen, boneless, skinless, scup fillet product that meets the needs of consumers and is endorsed by fishermen, fish processing companies, chefs, and food scientists. CFRF, Pier Fish Company, and Johnson and Wales University (JWU) staff have continued efforts with processing, freezing, and tasting trials. After months of trials, the most recent trials conducted in February finally produced promising results with individual vacuum sealed frozen fillets. Through blind taste tests, the vacuum sealed frozen fillets received positive feedback from JWU chefs and students which were on par with fresh fillets tested in previous tasting trials. The project team is now looking into the feasibility of larger batch vacuum sealing of frozen fillets for expanded marketing opportunities. However, due to COVID-19 impacts and social distancing requirements, further trials with the vacuum sealed frozen fillets have temporarily been put on hold. The project team is eager to continue testing and improving this refreshed scup fillet product in the coming months! If you'd like to follow along with our scup processing and marketing efforts, visit the CFRF website: www.cfrfoundation.org/scup-fillet.



PROJECT UPDATE: LOBSTER AND JONAH CRAB RESEARCH FLEET

The Lobster and Jonah Crab Research Fleet collects critically needed biological data for two commercially important species, the American lobster and the Jonah crab. From the 18 vessels participating in the Research fleet, 148,600 lobsters and 83,900 Jonah crabs have been sampled since June 2013. The Research Fleet continues to evolve and expand vessel participation to address spatial gaps and data needs of American lobster and Jonah crab. Since our last update in November, the Research Fleet sampled consistently through the winter and spring. In April, CFRF welcomed Jon Grant of the F/V Linda and Laura (pictured right) from Block Island, RI to the Research Fleet, and also received 5 additional vessel applications this spring from fishermen interested in being involved. Due to COVID-19, CFRF staff have recorded 2-3 minute-long videos for training purposes as part of a “virtual training” effort and are working with each fishing vessel operator to secure work agreements, and schedule in-person training when safe to do so. Stay tuned for our upcoming announcement of new vessels added to the fleet!



CFRF is excited to announce that the Lobster and Jonah Crab Research Fleet was selected for funding under the NOAA Fisheries Saltonstall-Kennedy Program and received renewed funding from The Campbell Foundation. More information on the Lobster and Jonah Crab Research Fleet can be found at: www.cfrfoundation.org/jonah-crab-lobster-research-fleet.

PROJECT UPDATE: OPERATIONALIZING REAL-TIME TELEMETRY SYSTEMS

The CFRF staff continues to work with the Gulf of Maine Lobster Foundation and the Northeast Fisheries Science Center to install real-time telemetry systems on fishing vessels throughout the Northeast. The system includes a wireless temperature, depth, and orientation probe that attaches to fixed or mobile gear. The goal of this project is to expand the availability of real-time oceanographic data (pictured right) on the New England continental shelf and to allow ocean circulation modelers to better understand changing ocean conditions. This winter, the CFRF staff helped install telemetry equipment on the F/V Nathaniel Lee a lobster-crab boat out of Newport, RI and the F/V Brooke C, a scalloper out of Point Judith, RI. To view real time bottom temperatures from fishing vessels involved please visit: <https://studentdrifters.org/huanxin/telemetry.html>.



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

This project seeks to pilot a dredge which could reduce bycatch, minimize habitat impacts, and improve fuel efficiency in the sea scallop fishery. Following some delays to the start of field season, CFRF staff have been busy in 2020 conducting research trips to compare the performance of the N-Viro dredge (pictured right) to New Bedford style dredges on Limited Access General Category (LAGC) vessels. There was a learning curve through the first few research trips with the N-Viro dredge due to new bags that were made for the individual dredges, slower tow speeds, adjustments to the dredge tines and tine bar, and testing of different bottom types and depths. Preliminary results show reduced bycatch rates with the N-Viro dredge, but lower scallop catch rates compared to the participant vessels' New Bedford style dredges. Staff have now completed roughly half of the research trips for the project on LAGC vessels, and there will also be a five-day research trip aboard a Limited Access (LA) vessel to conduct paired tows of the N-Viro dredge with a New Bedford style dredge.



Once all research trips and data analyses have been completed, CFRF staff and participant vessel captains will host a workshop to discuss the project results and applicability of the N-Viro dredge to LAGC and LA vessels in Southern New England. This workshop will take place later this fall or winter – be sure to check back in so you don't miss it! To find out more about the N-Viro dredge project results, visit the CFRF website: <http://www.cfrfoundation.org/piloting-novel-dredge-type>.

PROJECT UPDATE: SHELF RESEARCH FLEET

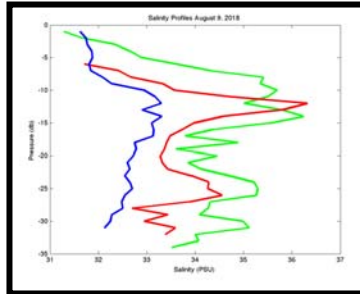
The Shelf Research Fleet works with scientists at the Woods Holes Oceanographic Institution (WHOI) to measure changes in oceanographic conditions, particularly temperature, to better understand how these changes may impact the distribution and abundance of key fisheries resources. As of April 1, 2020, over 630 salinity, temperature and depth profiles in six areas off the coast of Rhode Island have been collected by the Shelf Research Fleet. This data contributed to a recent scientific manuscript by lead WHOI Shelf Research Fleet scientist Dr. Glen Gawarkiewicz and others that described a marine heat wave that occurred in 2017 over the Mid-Atlantic Bight. In January 2020, members of the Shelf Research Fleet and fishing industry met with WHOI scientists to discuss recent oceanographic conditions and to share at-sea observations. Data showed that in 2019, the first half of the year was generally cool and



fresh, while the second half of the year was very warm and salty due to warm core rings. After that meeting, there were several media requests by Yahoo Finance and WBUR NPR Boston. The Yahoo Finance piece on climate change and the impacts to fishing businesses can be found here: <https://finance.yahoo.com/news/how-warming-oceans-are-disrupting-the-food-supply-chain-in-america-151557695.html>. More information on the Shelf Research Fleet can be found at: <http://www.cfrfoundation.org/shelf-research-fleet>.

PROJECT UPDATE: SALINITY MAXIMUM INTRUSIONS

CFRF has partnered with oceanographers from the Woods Hole Oceanographic Institute, the University of Massachusetts Dartmouth School for Marine Science and Technology and the National Marine Fisheries Service on this project. The oceanographers, led by Dr. Glen Gawarkiewicz, will be attempting to map mid-depth salinity maximum intrusions on the Southern New England Continental Shelf. A salinity maximum intrusion is as an important exchange process that contributes significantly to the salt balance over the continental shelf.



One of these intrusions, increasing salinity to 36 PSU, is depicted at 15 meters of depth in the Shelf Research Fleet profile taken off of Martha's Vineyard in 2018 shared here. Researchers will use autonomous underwater vehicles to measure the physical properties of the salinity maximum intrusions, which are associated with warm core rings. The combination of this data and the daily surveys from two REMUS vehicles will be used to create daily three-dimensional maps of temperature, salinity, and microstructure in the salty intrusions. The initial 7-day pilot cruise was delayed until August 2020 due to COVID-19 and the 14-day main cruise is scheduled for May 2021. The CFRF will be leading the outreach efforts included in the project, which seek to share project information and discuss implications with the commercial fishing industry. Look forward to more information in the coming months at <http://www.cfrfoundation.org/salinity-max>!

NEW PROJECT: A Pro-Seafood Climate Action Agenda

A group of Rhode Island and Massachusetts fishing organizations recently initiated a process to craft a new narrative on climate solutions - one that places wild seafood production at its core. In February, the Commercial Fisheries Center of Rhode Island, Massachusetts Fishermen's Partnership, and Fishing Partnership Support Services conducted the first in a series of learning circles designed to identify climate solutions that fishermen can get behind. The series was cut short by the COVID-19 pandemic. In March, the Food and Farm Communications Fund awarded a 16-month grant to the CFRF, on behalf of the three fishermen's organizations, to undertake a narrative building project. Through this project, fishermen will complete a scan of available climate solutions that could complement or replace a reliance on offshore wind, build networks with other frontline communities, and participate actively in state- and federal-level energy planning processes. Fishermen are invited to contact Mike Roles (mroles@gmail.com) and Sarah Schumann (schumannsarah@gmail.com) for more information and to help shape the project. The partners are grateful to the Food and Farm Communications Fund for making this important work possible!



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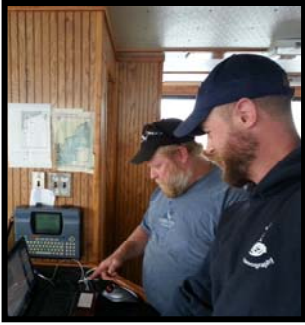
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NEW PROJECT: River Herring Bycatch Avoidance Program



This is an established project that CFRF has become a new partner in with the arrival of Dr. Bethoney. CFRF is now part of a collaboration between the University of Massachusetts Dartmouth School for Marine Science and Technology, the Massachusetts Division of Marine Fisheries and 8 fishing companies representing 13 vessels. The program, started in 2010, provides area specific information to help fishermen stay under river herring bycatch limits while targeting Atlantic herring and Atlantic mackerel. The information includes the location of unsustainable bycatch events, calculation of tons of target species that may be caught at current observed bycatch rates, the impact that observed bycatch will have on the overall bycatch rate in the fishery, and communications that compare individual vessel bycatch rates to the fleet's rates. These consistent communications have positively influenced fishing habits and played a role in the approximately 60% decrease in total bycatch and 20% decrease in the bycatch ratio observed during the program prior to river herring catch limits. More information on the River Herring Bycatch Avoidance Program can be found at: <https://www.umassd.edu/smast/bycatch/>

EDUCATION AND OUTREACH

- Four undergraduate students from Brown University worked with CFRF staff and Board of Directors member Norbert Stamps to produce a video in conjunction with a bill moving through the Rhode Island state legislature. The bill would ban the release of bulk balloons in the state. Photos and videos provided by fishermen who found balloons floating at sea were used along with an interview of Norbert to spread awareness about this issue. Check out CFRF's Facebook page to see the final video, and share with your friends to spread awareness to the issue of mass balloon release!
- This February, Aubrey Ellertson and Michael Long (CFRF staff) teamed with Kate Masury (Eating with the Ecosystem), and joined Dr. Dawn Kotowicz's Sustainable Seafood panel created as part of her Human Use and Management of the Marine Environment class at the University of Rhode Island. The goal of this panel was to present students with an overview of a few issues related to sustainable seafood focusing on Rhode Island fisheries. CFRF staff presented an overview of Rhode Island commercial fisheries, research initiatives underway by CFRF, as well as highlighted two specific projects: CFRF's Lobster and Jonah Crab research Fleet and Scup fillet production and marketing.



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