



Field Notes

News and updates

from the CFF research crew on land and sea

Issue No. 2 February 2019

Dear Greetings!

With winter mostly behind us, we thought it was a good time to highlight some of the many ways CFF's work forges ahead in any weather.

- During the past three months, CFF celebrated the publication of three major studies authored or co-authored by our senior research biologists, Samir Patel, Ph.D. and Liese Sieman, Ph.D. Links to their studies can be found below.
- As sudden cold temperatures brought unprecedented numbers of cold-stunned sea turtles to Cape Cod Bay, CFF's sea turtle expert Samir Patel, along with Liese Siemann and former CFF employee Jasper Leavitt, assisted in necropsies with researchers from Wellfleet Bay Wildlife Sanctuary, MA Division of Marine Fisheries and Northeast Fisheries Science Center. Samir also continued to monitor turtle-borne telemetry devices deployed along the US eastern seaboard, gathering data critical to inform management and conservation decisions.
- Our new agricultural researcher, Allison Maikath (see bio below) beat the cold by heading to the greenhouse to explore cultivation methods for a new, potentially commercial crop of sunflower greens.
- Icy temperatures did not deter the at-sea research trips conducted by our bycatch or aquaculture research teams either. And, virtually every member of our research crew presented at or participated in national conferences on marine life and ocean ecology.

CFF has laid a lot of groundwork this winter. As we look forward to balmy days and new challenges, we recognize the key role our grantors, private donors, fishing and agriculture partners and friends. Thank you for the support and partnership.

Sincerely,

A handwritten signature in black ink, appearing to read "F. Almeida".

Frank Almeida
President, Board of Directors



Visit our website

Ready for their close-up: Tilefish mug for the camera in CFF's Baited Underwater Video (BUV) study

The colorful tilefish, sometimes known as "clown of the sea," may not be a household name, but to the coastal Atlantic fishing industry, it's serious business.

In 2017, the commercial value of tilefish landed in the U.S. was close to \$9 million, most of it caught between Nantucket, Massachusetts and Cape May, New Jersey. Popular with



Watch as two lucky
Tilefish enjoy a

commercial and recreational fishers alike, tilefish are long-lived, grow to a large size and are relatively plentiful. What's more, the longline method of fishing to capture them causes minimal impact to the sea floor. The fishing community would like to keep it that way.

A just-released, one-year study led by CFF's Liese Siemann and funded by the 2017 Saltonstall-Kennedy Competitive Research Program provides important data to help fisheries more accurately assess and predict tilefish abundance and cause minimal environmental impacts.

As with any study, there were challenges. "Tilefish are tricky to survey and study because they swim in deep waters," explained Siemann.

[Read more.](#)

prepared meal in front of CFF's Baited Underwater Video (BUV) camera.

Allison Maikath Joins CFF to Research Sustainable Farming

CFF's new agriculture researcher, Allison Maikath, knows her way around the farm, to say the least. For the past 11 years, she has traveled the globe (nine countries on six continents!) to deepen her knowledge of farming, agroforestry, soil health and aquaculture practices. Allison started her career serving in the Peace Corps in West Africa where she learned mud stove construction and food preservation techniques. Later, she planted olive and walnut trees in Greece, harvested oysters in French Polynesia, mustered cattle on horseback in Australia, worked with Burmese refugees in Thailand to improve water diversion, and taught students hoop house construction in Costa Rica. From 2005 to 2013, she worked at our collaborating farm, Coonamesett Farm in East Falmouth, helping to grow and maintain a 20-acre diversified fruit, vegetable and animal operation and conduct educational outreach and staff training. Drawing on that unparalleled experience, Allison's research focuses on optimal farming practices to support a local, sustainable foodshed in our community. Welcome Allison!



Raised gillnets get good grades.

"Gillnetting" is one of the oldest methods of catching fish and is still employed today in various forms around the world. Standing vertically from the seafloor to approximately 12 feet high, gillnets are one of the few fishing methods that have virtually no impact on benthic (seafloor) habitats. However, because the monofilament mesh nets are virtually invisible to fish, the capture of bycatch—non-target species—is a major concern.

Improving the selectivity of gillnet design to support sustainable fishing practices is an urgent need in the fishing industry and a major focus of research at CFF. With funding from the NOAA Bycatch Reduction and Engineering Program, CFF has been working with a local fishing crew this winter to test an alternative configuration to traditional groundfish gillnet gear.

Jason Clermont, lead biologist on CFF's gillnet improvement project explains, "By raising the bottom portion of the gillnet webbing 2-1/2 feet off the sea floor, we are aiming to reduce bycatch while still catching the target species, in this case haddock." Preliminary results show the experimental "raised webbing" nets are yielding a reduction in bycatch of cod, monkfish and lobster, and also appear to virtually eliminate depredation (preying upon of fish caught in the net by crabs, lobsters, and other animals. "Modifications to gillnet design can play an important role in improving the quality—and ultimately the

CFF Studies Just Published!

Congratulations on their recent studies, published in peer-reviewed publications:

- Patel, Samir H., Barco, S., Crowe, L., Manning, J., Matzen, E., Smolowitz, R.J., Haas, H. 2018. Loggerhead turtles are good ocean-observers in stratified mid-latitude region, Estuarine, Coastal and Shelf Science, Vol. 213: 128-136.
- Yang, T., Haas, H. L., Patel, S. H., Smolowitz, R. J., James, M. C., Williard, A.S. 2019. Blood biochemistry and haematology of migrating loggerhead turtles (Caretta caretta) in the Northwest Atlantic: reference intervals and intra-population comparison. Conservation Physiology, Vol. 7, Issue 1.
- Siemann, L, Huntsberger, C. J., Leavitt, J.L., Smolowitz, R.J. 2018. Summering on the Bank: Seasonal distribution and abundance of monkfish on Georges Bank. PLOS ONE, November 2018.



CFF Receives Award to Engage Falmouth High School Students in Loggerhead Sea Turtle Research

Students at the high school level have few opportunities to engage in science outside their classrooms.

But with the help of a generous grant from the Falmouth Fund of The Cape Cod Foundation, CFF will soon bring active research on the threatened loggerhead sea turtle to classrooms at Falmouth High School.

The “Turtle Tagging Project: Tracking Loggerheads in the Atlantic Ocean with Falmouth High School Students” centers around the study of a single loggerhead turtle to which CFF has affixed (or “tagged” with) an underwater, GPS monitoring device. CFF researchers will share select data from the tagging device with FHS students at regular intervals, providing a window into the methods scientists use to conduct marine research, as well as the tools for understanding of ocean ecology and marine life. Students will have the opportunity to assimilate the real-world concepts into their current classroom curriculum.

High School science teacher Cheryl Milliken adds, “It is exciting to be able to collaborate with local scientists to bring authentic technology into our classrooms at Falmouth High School. Students will be able to understand the impact of ocean currents and turtle behavior on the distribution of loggerheads in the Atlantic Ocean. Our classes represent students with a wide range of abilities and interests, and you never know how connections between what we teach and learn in science class will inspire students to engage in STEM-related issues beyond our classroom walls. As a citizen, I appreciate how the science behind this turtle tagging information can improve fishing activities by informing fishers while adhering to conservation rules.”

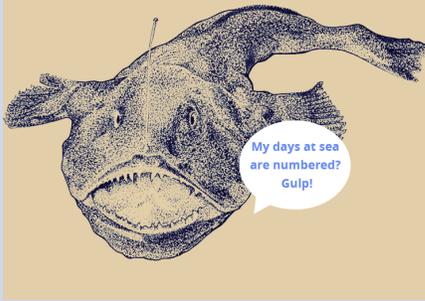
Turtle Tag Facts:

CFF has tagged more than 100 turtles in the last 10 years with funding from the local sea scallop industry.

Satellite tags transmit position, water temperature, and dive depth providing a wealth of oceanographic data that can be used to monitor climate change.

Satellite tagging studies provide the local fishing community with valuable data and insights, which contributes to a healthy and sustainable food system and a vibrant blue economy.

CFF is Selling Monkfish Days At Sea!



monkfish days at sea (DAS) for the study, "Exploring Non-Lethal Techniques for Sex Determination and Evaluation of Maturity Stage of Southern New England Monkfish, *Lophius americanus*." The two-year study aims to develop low-stress, non-lethal techniques for determining sex and maturity stages in monkfish. **In order to develop this project we are making some of our DAS available to fishing partners.** Each DAS costs: \$410, the equivalent of 4,000 pounds of monkfish! Interested? Email: Contact@cfarm.org, or call us: (508) 356 3601

How You Can Support CFF's Work

CFF's independent scientific research focuses on areas of importance to a sustainable food system which are not necessarily on the radar of government funding agencies. Our generous financial contributors, research collaborators, public and private grantors and supportive friends make CFF's studies possible. A donation of any size is appreciated.

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