SAFMC Citizen Science Program

Citizen Science

2022 Annual Report

Credits: Historic photos from Rusty Hudson. Divers from Daryl Duda.

A Busy Year

The South Atlantic Fishery Management Council's Citizen Science Program was busy during 2022! The 2022 Annual Report highlights key activities and accomplishments during the past year. **This work wouldn't be possible without our amazing partners and volunteers.** With their help we accomplished a lot in 2022 and are excited to see what we will achieve together in 2023!

Staff Transitions

2022 saw some transitions to the Council's Citizen Science Program staff. Nick Smillie moved from the Citizen Science Project Coordinator position into the Council's new Digital Media & Communications Specialist. We're grateful for Nick's valuable contributions while on the Citizen Science Team and are excited the Program is still working closely with him in his new position.

We were thrilled to welcome Meg Withers as the new Citizen Science Project Coordinator in June 2022. She has been an incredible addition to the team, helping with many aspects of the Program including leading the efforts on our SAFMC Release project.

Contributions to Publications, Symposia, & Conferences Focused on Citizen Science

In collaboration with NOAA Fisheries colleagues, our Citizen Science Team coordinated a special issue of the American Fisheries Society's *Fisheries* magazine focused on citizen science. The idea for the special issue was inspired by an American Fisheries Society symposium held in 2020 exploring citizen science and its applications to fisheries management. The special issue was published in November 2022. In addition to helping coordinate the issue, staff co-authored the introductory article, 'How Fishery Managers Can Harness the Power of the Crowd: Using Citizen Science and Non-traditional Data Sources' and authored an article on our FISHstory project, 'Designing the FISHstory Project to Support Fisheries Management'.

Staff participated in the Citizen Science Association's CitSci C*Sci 2022 virtual conference. Staff presented and co-authored a poster on the SciFish platform and participated on a discussion panel focused on how we build sustainable projects for sustainable solutions.

PC: *Fisheries* Magazine

Working with colleagues, staff helped coordinate two citizen science focused symposia at the American Fisheries Society's 2022 Annual Meeting: 'Growing Fisheries Research & Management Through Angler Engagement' and 'Challenges and Solutions Using Citizen Science Data in Fisheries Management'.

SAFMC Release Adds Another Species & Focuses on Outreach in 2022
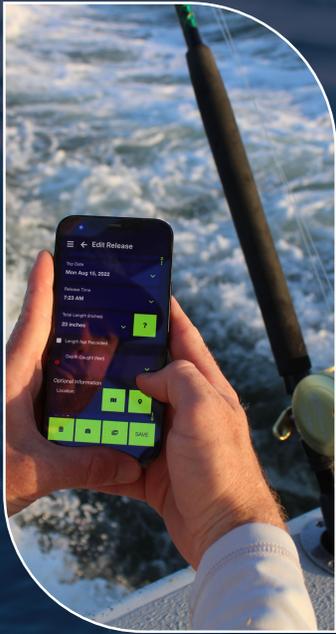
In April 2022, the SAFMC Release project added Red Snapper to its list of species. This project works with recreational, for-hire, and commercial fishermen to gather information on released shallow water grouper and Red Snapper via the free mobile app SciFish. Participants are providing vital insights into the snapper grouper fishery – helping us better understand the size of released fish and how many of these released fish survive. Want to see the valuable contributions our participants made in 2022? Check out the SAFMC Release 2022 Data Summary.

Staff focused on outreach during 2022, working to recruit new and retain current participants. We've worked closely with the SAFMC's Best Fishing Practices campaign by visiting tackle shops, collaborating with captains on fishing seminars, posting on social media, and partnering with other organizations to help spread the word about these projects. Project participants receive monthly newsletter updating them about the latest SAFMC Release happenings.

Want to join other anglers in the SAFMC Release community? **Set up an account** and learn more on the project webpage!

SAFMC Release Species List

Red Snapper

Scamp

Graysby

Black

Yellow-mouth

Gag

Rock Hind

Yellowfin

Red Hind

Red

Coney

The species included in SAFMC Release as of April 2022.

Development of the SciFish Project Builder and Mobile App Platform Continues

The Council, North Carolina Division of Marine Fisheries (NCDMF), and Atlantic Coastal Cooperative Statistics Program (ACCSP) have continued developing the SciFish platform to support collecting and sharing of information about Atlantic fish species. SciFish is a mobile application and menu-driven project builder designed to collect citizen science data. It will allow ACCSP partners to easily create a customizable app without the need to develop stand-alone applications for each new project or data need. SciFish will act as an umbrella app administered by ACCSP that will house multiple citizen science projects. Current projects include SAFMC Release & NCDMF's Catch U Later. During 2022, work continued on the SciFish project builder and an Organizing Committee began drafting policies to support the development of new projects within SciFish.

FISHstory Pilot Project Wraps Up and Proposal Funded to Expand Project

The FISHstory pilot project wrapped up in 2022! This pilot analyzed historic photos from the 1940s to 1970s from a for-hire fleet based in Daytona Beach, FL. These photos captured diverse species from reef fish to mackerels to blue water species like dolphinfish. The project had three primary components: digitizing and archiving historic fishing photos; analyzing historic photos to estimate for-hire catch using the online crowdsourcing platform, Zooniverse; and developing a method to estimate fish length in historic photos. Key findings from these components are highlighted in the schematic below.

The methods developed for archiving and analyzing historic photos through the FISHstory project show a lot of promise. Project volunteers made valuable contributions – from classifying photos in Zooniverse, to serving on the Validation Team, to providing photos to archive. The length compositions developed through the pilot will be considered for use in the next South Atlantic King Mackerel stock assessment. What we learned through the pilot will help us improve data quality and increase efficiency of the project moving forward. One of the most exciting lessons we learned is that fishermen seem to be interested in sharing their photos and stories as part of this project.

PC: Rusty Hudson

📷 Digitize & archive historic photos	⟶	Over 1,374 photos digitized & archived
🐟 For-hire catch composition in Zooniverse	⟶	Over 2,120 volunteers made 35,740 classifications Validation Team reviewed 180 photos
📏 Method to estimate length developed & tested on King Mackerel	⟶	All 1,374 photos reviewed and King Mackerel were measured whenever present

The FISHstory pilot project had three main components: digitizing and archiving historic photos, describing for-hire catch composition via Zooniverse, and developing a method to estimate fish size in the photos. Key findings and achievements are described above.

We're excited to be receiving funding through ACCSP during 2023 to help move FISHstory from a pilot to a full-scale project. We'll be collaborating with NC State University NOAA Fisheries Southeast Fisheries Science Center, Rusty Hudson, and many other fishermen and volunteers. We will begin with gathering and archiving additional historic fishing photos from across the South Atlantic. Interested in seeing more results from the FISHstory pilot project? Check out our results page in our Zooniverse project or watch a seminar on FISHstory we gave through the Council's seminar series.

PC: Rusty Hudson

PC: Rusty Hudson

Examples of historic fishing photos, provided by Captain Rusty Hudson, used in the FISHstory project. Some photos are easier to analyze, such as the photo on the left. In this photo all the fish are hung on leaderboards and are shown clearly. The photo on the right is more challenging because some fish are in wheelbarrows.

New SMILE Project Launched in 2022

PC: Daryl Duda

Size matters – especially when it comes to fisheries management. Length data support stock assessments and provide valuable insight for ecologically and economically important fish species. But collecting this information can be difficult, usually requiring a fish in hand to make a measurement. A new collaborative project SMILE, Size Matters: Innovative Length Estimate, launched in 2022 to work with recreational divers to help collect information on fish lengths using stereo video technology.

The SMILE project team includes Reef Environmental Education Foundation (REEF), the Council's Citizen Science Program, the Southeast Coastal Ocean Observing Regional Association (SECOORA), The Semmens Lab at Scripps Institution of Oceanography, and Axiom Data Science. Check out the SMILE webpage to learn more about this exciting new project!

Citizen Science Program
Evaluation & Stakeholder Assessment

To help us evaluate our Program, we've been working with researchers to begin the process of establishing baseline levels of knowledge about, confidence in, and trust in the citizen science process of collecting data to inform fisheries management from three of our main audiences – fishermen, scientists, and managers.

As a first step in this process, Rick Bonney, Director Emeritus of the Public Engagement in Science Program at the Cornell Lab of Ornithology and an advisor to our Program, interviewed key members of the South Atlantic fishing community. Interview findings are helping guide the collection of information from a broader group of fishermen, scientists, and managers.

During Summer 2022, additional funding was obtained for this project through NOAA Fisheries and the SAFMC. Rick Bonney will lead the research to gather information from a broader group of scientists and managers. A request for proposals was put out in December 2022 to gather information from a broader group of fishermen.

Thank You!

The success and growth of our Citizen Science Program is the result of our amazing partners, volunteers, and collaborators. We are incredibly thankful to all who have contributed to the development and growth of the Program and projects and look forward to working with all of you in the years to come!

Want to join a project or learn more about the Citizen Science Program? Staff would love to talk with you about how to get involved.

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