Summary of the SAFMC Scamp Release Citizen Science Pilot Project for SEDAR 68

Julia Byrd

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SAFMC's Citizen Science Program

The South Atlantic Fishery Management Council (Council) developed its Citizen Science Program based on guidance from a wide array of stakeholders and partners. The aim was to build a program that would engage fishermen, scientists, and managers in co-creating citizen science projects that would align with the Council's research needs. The Program's overall approach is to support and/or pursue projects that fill data gaps and address management research needs; complement existing programs and partnerships (not compete); use intentional project design thinking about direct application to management and assessments during project development; and encourage fishermen and scientist collaboration. More information on the Program is available on the SAFMC's Citizen Science Program webpage.

SAFMC Scamp Release Pilot Project

Overview

SAFMC Scamp Release, the Council's initial citizen science pilot project, focuses on collecting data on released Scamp Grouper through the development and use of a mobile app. Improving information on discards is a prioritized research need in the South Atlantic region, as reliable discard characterization information for many species managed by the Council is very limited. Collecting information to better characterize released fish and inform discard mortality estimates is a priority to both fishermen and the Council due to the difficulty in efficiently sampling such fish by conventional methods. The SAFMC Release app is designed to collect data on released fish from commercial, for-hire, and recreational fishermen. The app focused on collecting data on Scamp Grouper as a pilot due to the SEDAR 68 Gulf of Mexico and South Atlantic Scamp Research Track Assessment.

The SAFMC Release app is open access, meaning that any interested fishermen that encounter Scamp Grouper can participate in data collection efforts. SAFMC Release is a free mobile app available in iOS and Android platforms. Participant user accounts are set up by Council staff through ACCSP's SAFIS. Fishermen who already have SAFIS accounts can use their current information to log into SAFMC Release. Otherwise staff provide fishermen with login details. Data fields collected through the app are summarized in Appendix A. Additional details on the project, including training materials, are available on the SAFMC Scamp Release webpage.

Data Collection Efforts

The SAFMC Scamp Release project launched in late June 2019. Staff used multiple avenues to promote and recruit fishermen to participate in the project – ranging from traditional Council outreach activities (news releases, social media posts, newsletter articles, constant contact) to one on one conversations with fishermen. Staff relied heavily on Council Advisory Panel members, Council members, and Program partners to help promote the project and recruit fishermen. A summary of current SAFMC Release user accounts by state and sector are provided in Table 1a and 1b. Currently limited data are available in the SAFMC Scamp Release app (Table 2). However, staff are continuing to focus on recruitment and retention of commercial, for-hire, and recreational fishermen to participate in the SAFMC Scamp Release project. Released scamp reported through the app were caught in waters from 80-132 feet and ranged in size from 16-22 inches. They were typically hooked in the jaw and fishermen reported use of

circle offset, circle non-offset, and j-hooks. All reported fish were released alive and four out of the six records reported using barotrauma mitigation devices (descending device or venting). As more trips are reported and sample size increases, analyses will be performed to check for potential biases in data including spatial distribution of releases, angler avidity, and representation of fishing sectors (Jiorle et al. 2016, Venturelli et al. 2016, Bradley et al. 2019). However due to the limited data, analyses have not been performed.

Anecdotal Information

While recruiting fishermen to participate in the SAFMC Release app, staff had conversations with many fishermen who encounter Scamp Grouper. The information below summarizes some common themes heard through these discussions.

- Scamp Grouper releases are not common during the open shallow water grouper season (May – December). The reason for discards during the open season is typically due to undersized fish (size limit in the South Atlantic is 20in TL), not due to possessions limits. Many indicated they do not typically see undersized fish. Some thought that could potentially be due to where they are fishing (depths and locations) or bait or hook size.
- Several fishermen, in particular for-hire and recreational fishermen, noted they don't fish as much in the winter and typically bottom fish less when the shallow water grouper season is closed (January – April). Some noted they are more likely to release Scamp Grouper in early spring when fishing effort is starting to increase, but the shallow water grouper closure is still in place.
- Several fishermen noted that Scamp Grouper catches have become less common in recent years. Some indicated this could potentially be due to abundance, others noted it was hard to get bait to the bottom where you would typically catch grouper due to large numbers of Red Snapper.
- Scamp Grouper tend to be in deeper water than other shallow water grouper species. This may impact the number of encounters with Scamp compared to other shallow water grouper species (e.g. Gag, Red, etc.).

Table 1a. SAFMC Release User Account Summary by State

State	**# of User Accounts**	**% of User Accounts**
North Carolina	17	32.7%
South Carolina	20	38.5%
Georgia	6	11.5%
Florida	9	17.3%
TOTAL	52	100%

Table 1b. SAFMC Release User Account Summary by Sector

Sector	# of User Accounts	% of User Accounts
Commercial	10	19.2%
Commercial / Recreational	6	11.5%
For-Hire	19	36.5%
Recreational	14	26.9%
Unknown	3	5.8%
TOTAL	52	100%

Table 2. Summary of SAFMC Release Data Submissions

Description	Data Summary
# Release Report	8
Length Range	15-22 inches
Depth Range	80-132 feet
# No Release Reports	19 Several 'No Release' reports were submitted when Scamp were caught and kept but not released; depth for kept Scamp ranged from 80-265 feet.

References

Bradley D, M Merrifield, KM Miller, S Lomonico, JR Wilson, MG Gleason. 2019. Opportunities to improve fisheries management through innovative technology and advanced data systems. Fish and Fisheries 20: 564–583.

Jiorle, RP, RNM Ahrens, MS Allen. 2016. Assessing utility of a smartphone app for recreational fishery catch data. Fisheries 41: 758-766.

Venturelli, PA, K Hyder, C Skov. 2016. Angler apps as a source of recreational fisheries data: Opportunities, challenges, and proposed standards. Fish and Fisheries 18: 578-595.

Appendix A. Additional details & data fields for SAFMC Release app

The SAFMC Release app was developed by Harbor Light Software through funding from the Pew Charitable Trusts with the Citizen Science Association serving as a fiscal sponsor. ACCSP is the project's data management partner and all data are stored in the ACCSP Data Warehouse. A project design team - consisting of scientists, fishermen, app developers, data management personnel, and outreach/extension specialists – provided guidance throughout project development. The app was beta tested by fishermen and Council's Citizen Science Action Team members.

Table 1a. Required and optional data fields for the Release form in the SAFMC Release app. Required fields are bolded. Each released fish is stored as a separate record.

Data Field	Description
User (Ue)	Auto-generated when signed into app
Trip Type	Commercial, Charter, Headboat, or Private; defaults to most recent record; user can edit as needed
Trip Start Date	Date the fishing trip started; auto-populates with today's date; user can edit as needed
Discard Time	Time fish is discarded; auto-populates with current time; user can edit as needed
Latitude/Longitude	Location where fish caught/discarded; can drop pin using a map or can manually enter; will auto-populate if location services turned on
Depth	Depth fish was caught in feet; manually entered by user
Species ITIS	Species ITIS code; currently defaults to Scamp Grouper
Common Name	Species common name; currently defaults to Scamp Grouper
Fork Length	Fork length of fish entered to the nearest inch; if not able to get length must check box indicating could not get length
Photo	Photo submission of released fish
Hook Type	Drop down menu to select between circle (offset), circle (non-offset), j-hook, and other
Hook Location	Drop down menu to select between jaw, gill, throat, eyes, body
Release Condition	Radio button to select whether fish released alive or released dead; defaults to null
Release Treatment	Checkboxes to select if line was cut, if the fish was vented, or if a descending device was used during release

Table 1b. Data fields for the No Releases form in the SAFMC Release app.

Data Field	Description
User (Ue)	Auto-generated when signed into app
Trip Type	Commercial, Charter, Headboat, or Private; defaults to most recent record; user can edit as needed
Trip Start Date	Date the fishing trip started; auto-populates with today's date; user can edit as needed
Comments	Trip descriptive information entered by user