



**Citizen  
Science**

THE SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

# Updating Citizen Science Research Priorities



# CitSci Research Priorities



Guide the projects the Program develops and supports



Narrow focus from many data needs to tangible ideas important to South Atlantic fishermen, scientists, managers



Share with other groups interested in developing or collaborating on citsci projects

# CitSci Research Priorities



# Citizen Science Research Priorities

## Process to update citizen science research priorities

Sept 2025



**Update SAFMC's  
Research &  
Monitoring Plan**

Informed by SSC, SEP, APs,  
SEDARs, and SAFMC

Launched Summer 2024



**Citizen Science  
Project Idea Portal**

Online form to gather  
project ideas from the  
public

Oct 2025



**Update Citizen  
Science Research  
Priorities**

Citizen Science Projects  
Advisory & Operations  
Committees

Dec 2025



**SAFMC Reviews  
Updated Research  
Priorities**

Council members review,  
provide feedback, and  
consider for adoption

# CitSci Research Priorities: Timeline



Oct 6: CitSci Projects AP Meeting



Oct 16: CitSci Operations AP Meeting



Oct 23: DRAFT Updated CitSci Research Priorities sent out APs for review



Nov 6: Edits to research priorities due to Julia



Nov 14: DRAFT Updated CitSci Research Priorities finalized for SAFMC review

# Questions for consideration

- For each priority
  - Is this type of data feasible for fishermen or other volunteers to collect? If not, what type of data may be reasonable to collect?
  - Is this type of data collection more appropriate for a smaller, more targeted project and group of participants or a larger, broader project and group of participants?
- Do you think projects that require learning new skills (e.g. otolith removal) are of interest to volunteers? Would volunteers be more interested in participating in projects using existing skill sets and minimal training?
- Are there any priorities that should be removed or added to this list?
- Are there any additions/deletions to the species under the applicable priorities?
- Which of the priorities may help address the most immediate needs for fishermen and/or science and management?

# Questions for consideration

- For brainstorming new research and data needs
  - Are there changes in your fishery that would be helpful for scientists or managers to know? Would you and others be willing to help collect data on these issues?
  - What information could be collected or observed through typical fishing activities that would be helpful for scientists or managers to know?
  - Are there any issues that citizen science research projects could help address?
  - If you have specific citizen science project ideas, do they fit under the current research priorities? If not, what priority could be added to capture your project idea?

# Is CitSci the Right Approach?

Should you consider a citizen science approach?

	Clarity of aim/question	Importance of engagement	Resources available	Scale of sampling	Complexity of protocol	Motivation of participants
↑ Increasing suitability for a citizen science approach	Clear aim/ question	Engagement is important	Plenty of resources	Large-scale sampling	Simple protocol	Good reasons to participate
	Vague aim/ question	No engagement or only one-way communication	No resources	Small-scale sampling	Complex protocol	Reasons to participate are not clear

Pocock, M.J.O et al., 2014

# CitSci CURRENT Research Priorities



Current research priorities are summarized on the following slides



Research priorities are listed with a respective example and the feedback provided in 2023



Orange text highlights potential additions / deletions based on updated Council research and monitoring needs

# CitSci Research Priority: *Age Sampling\**

- Target volunteers: Recreational
- Data needed: otolith collection, fin clips (still developing)
- Target species: Cobia, Greater AJ (fin clips), Scamp, Snowy, Gag, Black Grouper, Knobbed Porgy, Porgy Complex, Wahoo, Lane Snapper, Hogfish (both stocks), Red Grouper, Vermilion Snapper, Blueline Tilefish, Black Seabass (private rec), Gray Triggerfish (spines), Red Snapper, Spiny Lobster (ossicles)
- Anticipated outcome: characterize age of catch
- Example project:
  - Fishermen trained to remove otoliths
  - Otoliths removed, placed into envelope, and additional data collected
  - Otoliths & data sent to partner ageing lab for analysis
- 2023 feedback:
  - More age data from recreational sector high priority
  - Changes to species included based on SAFMC R & M plan and/or due to difficulty in sampling
  - Sampling design and pilot testing critical
  - In-person training likely needed; training would need to include component on bias
  - Incorporated 'fin clips' into 'data needed' due to research

# CitSci Research Priority: *Discard Info*

- Target volunteers: recreational and commercial
- Data needed: fish length, depth caught/released, number of fish, reason for discard, use of barotrauma reduction techniques, when/where fish are released, terminal gear use, disposition of fish
- Target species: all SAFMC managed species especially, Scamp, Red Snapper, deepwater groupers, Red Porgy, Greater AJ, Cobia, King Mackerel, Gray Triggerfish, **Spanish Mackerel**
- Anticipated outcome: improved discard removal estimates, ability to characterize the size of discards, could help monitor recruitment for some species (e.g., Gag)
- Example project:
  - Fishermen collect data on released fish using mobile app
  - Data collected could include: date, species, length, depth, photo, release condition/treatment
  - Data uploaded to database for analysis
- 2023 feedback:
  - Better info on released fish a high priority; use of barotrauma mitigation techniques is important and starting to be incorporated into assessments
  - Added 'when and where fish are released' into data needed & 'help monitor recruitment' to anticipated outcomes
  - Helpful to develop tools for fishermen to make data collection easier
  - Could explore incorporating info into commercial and for-hire logbooks for ease of participants

# CitSci Research Priority: *Genetic Sampling\**

- Target volunteers: recreational and commercial; bait & tackle shops; tournaments
- Data needed: fin clips
- Target species: Cobia, Hogfish (both stocks), Red Grouper, White Grunt, Spanish Mackerel, Dolphin, Wahoo, Black Grouper/Gag, Scamp/Yellowmouth, Red Snapper, Greater AJ
- Anticipated outcome: stock identification, species identification, ageing (still developing)
- Example project:
  - Fishermen trained to collect fin clips
  - Fin clips taken, placed in vial, and additional data collected
  - Fin clips & data sent to partner genetics lab for analysis
- 2023 feedback:
  - Added 'species identification' and 'ageing' under anticipated outcomes
  - Sampling and storage less complex than many other biological samples
  - Additional species added due to Council R & M plan
  - Genetics are an evolving and increasingly powerful tool – could be valuable to bank samples

# CitSci Research Priority: *Fishing Infrastructure*

- Target volunteers: recreational and commercial; community members; county / state government & municipalities
- Data needed: GPS location of existing and previously existing fishing infrastructure
- Anticipated outcome: baseline for fishing-related infrastructure to help document potential impacts from regulations; could help define communities and better understand key fishing hubs for FMP social analysis; track behavior change in fishery
- Example project:
  - Participants collect GPS location, date, photo, description over set time period via app
  - Data uploaded to database for analysis
- 2023 feedback:
  - Added more specific language to anticipated outcome
  - Important for the commercial and for-hire sectors; increasingly important due to loss of working waterfronts
  - Helpful to see what data already exist
  - Could be better suited to a dedicated group of individuals?

# CitSci Research Priority: *Historic Fishing Photos*

- Target volunteers: recreational, especially for-hire
- Data needed: digitized images
- Target species: commonly caught South Atlantic charter and headboat species
- Anticipated outcome: length compositions for certain species; improved historical information; potential for index development
- Example project:
  - Fishermen help compile, scan, and archive historic photos
  - Volunteers trained to identify and measure species on project via online portal
  - Fishermen and scientists help validate species ID made by volunteers
  - Validated data available for analysis
- 2023 feedback:
  - Added potential index development to anticipated outcomes
  - Fishermen, scientists, and members of public shown interest through FISHstory
  - Documenting historic fisheries can help us better understand health of current fisheries

# **CitSci Research Priority: *Fishery Oral Histories\* & Historic Personal Fishing Logbooks/Diaries***

- Target volunteers: for-hire and commercial captains
- Data needed: interviews with fishermen to learn about the history and current state of fishery; translate fishermen's historic logbooks into electronic data; possibly pair with photos
- Anticipated outcome: documentation of how fisheries operated over time (catchability over time with improvements in technology, markets, species distribution, size of fish, weather) & other observational data
- Example project:
  - Fishermen interviewed to share knowledge on fisheries
  - Fishermen trained to help interview other fishermen
  - Interviews transcribed for analysis
- 2023 feedback:
  - Shared examples where oral history information have been informative to mgmt.
  - Discussed if/how this information may be used to inform catchability

# CitSci Research Priority: *Oceanographic, Environmental, Weather Conditions*

- Target volunteers: recreational & commercial
- Data needed: bottom temperature; weather impacts to fishing; movement of forage fish (bait) and shifts in patterns of fishery
- Anticipated outcome: building database on climate and conditions; how forage fish impacts pattern in fishery
- Example project:
  - Fishermen collect environmental data via data logger deployed from boat during fishing activities at set stations
  - Fishermen trained on use of data logger
  - Data downloaded and submitted electronically for analysis
- 2023 feedback:
  - Data increasingly important with climate change
  - Would be feasible to collect during normal fishing activities, especially if data logger placed on fishing gear and passively collects data
  - Could provide info on a smaller scale
  - Depending on what type of data logger collects – some of the data collected could be sensitive

# CitSci Research Priority: *Shifting Species & Rare or Data Limited Species Observations*

- Target volunteers: recreational & commercial; divers
- Data needed: point observations of data limited or unusually encountered species for areas along the ATL coast; length information on data limited species
- Target species:
  - Shifting & Rare Event – all managed species – especially Dolphin, King & Spanish Mackerel, Shrimp, Wahoo, Black Seabass, Tilefish
  - Data limited – Hogfish (both stocks), snapper/grouper species, spiny lobster
- Anticipated outcome: baseline and/or early warning for species shift; increase info for data limited species, in particular length
- Example project:
  - Fishermen report rare species observations via website or mobile app
  - Data collected could include: date, photo, species, location, etc.
  - Fishermen help validate species ID by participants
  - Validated data available for analysis
- 2023 feedback:
  - Could be valuable to capture info on shifting species which is a Council topic of interest
  - AI or social media could be used to collect data for a project like this and then follow up with fishermen
  - Council combined ‘Shifting Species’ & ‘Rare/Data Limited Species’ into one research priority

# CitSci Research Priority: *Observations in Managed Areas\**

- Target volunteers: recreational & commercial; divers
- Data needed: species, length, depth, videos/photos, effort in closed areas; observations on edge effects
- Target species: snapper and grouper
- Anticipated outcome: species composition, changes in fish abundance over time, occurrence of spawning; info on compliance
- Example project:
  - Fishermen would sample/fish inside and outside managed area (EFP likely needed)
  - Sampling likely need to be more structured
  - Data collected could include species, length, photo/image, depth
  - Data sent to partner scientists for analysis
- 2023 feedback:
  - May be more cooperative research than citsci
  - Interest by fishermen and managers (spawning SMZ's sunset in 2027)

# CitSci Research Priority: *Movement & Migration*

- Target volunteers: recreational & commercial; focus on supporting and working with existing tagging programs
- Data needed: species, location, length, tag details
- Target species: Dolphin, Wahoo, Spanish Mackerel, **Spiny Lobster?**
- Anticipated outcome: movement and migratory patterns
- Example project:
  - Fishermen trained to tag species; log information on tagged fish via website/app via existing programs
  - Fishermen report tagged fish that they catch via website/app via existing programs
  - Tag program managers analyze data
- 2023 feedback:
  - Emphasis on SUPPORTING already existing programs

# CitSci Research Priority: *Shark & Mammal Depredation*

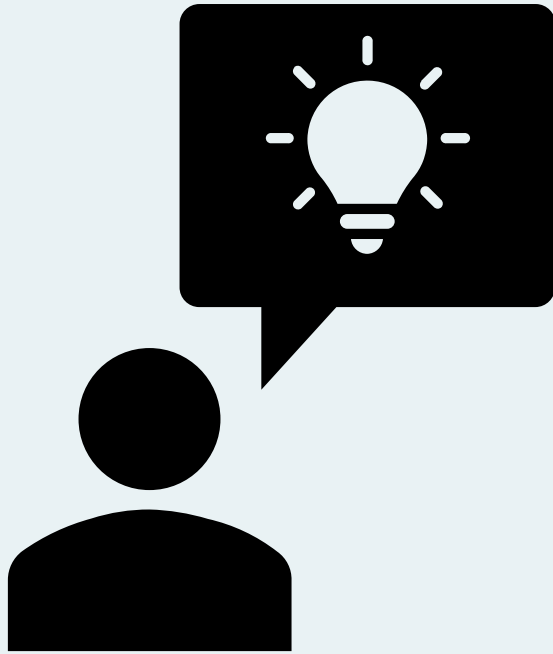
- Target volunteers: recreational & commercial
- Data needed: observations of depredation, location, species, photo, DNA swabs
- Anticipated outcome: document shark and mammal depredation observations
- Example project:
  - Fishermen log observations of shark depredation via a website or app
  - Data uploaded to website
  - Likely need collaboration with HMS to help with analysis, data usage, etc.
- 2023 feedback:
  - Fishermen very concerned and interested in topic
  - Submission to project idea portal on shark depredation
  - Info could be helpful as species distributions are shifting; could see how overlap with predator species
  - Mentioned depredation rate may be more informative to assessment

# CitSci Research Priority: *Habitat Characterization*

- Target volunteers: recreational and commercial; divers
- Data needed: photos/videos, location (focus on South Atlantic Essential Fish Habitat)
- Anticipated outcome: ground truth bathymetry data
- Example project:
  - Fishermen or diver collects information via app
  - Data is submitted electronically and compared with available bathymetry data
- 2023 feedback:
  - Was added in 2023 per the recommendation of CitSci APs
  - Council added the focus on South Atlantic essential fish habitat

# CitSci Research Priority: *Spiny Lobster Data*

- Target volunteers: recreational and commercial; divers
- Data needed: catch, effort, carapace length, sex, presence/absence, presence of eggs, **local and regional movement**
- Anticipated outcome: characterize fishery in FL and GA north (higher priority; data more limited)
- Example project:
  - Fishermen collect data on spiny lobster using mobile app
  - Data collected could include: catch, effort, carapace length, presence of eggs
  - Data uploaded to database for analysis
- 2023 feedback:
  - Added to research priorities in 2023 based on CitSci AP recommendations
  - Council noted data are more limited GA north



## **CitSci Research Priorities: *Additional Ideas***

The following slide notes additional ideas for research priorities that were discussed during 2023, have been brought up during 2023-2025 meeting discussion, or are in the Council's Research & Monitoring Plan.

# CitSci Research Priority: *Additional Ideas*

- Use citsci projects to supplement recreational catch data
  - This general idea is in the Council's Research & Monitoring Plan and has been mentioned at a variety of Council related meetings
  - Ideas on more specific ways citsci projects could help supplement recreational catch data have included
    - Recreational Wreckfish and/or deepwater complex landings
    - Supplement MRIP rare event species
    - Using team of trained citizen scientists to gather info on recreational fisheries (e.g., 'study fleet')
- Expand the FISHstory project to include more recent photos
  - Mentioned at SEDAR 90 Data Workshop and at AP meeting
- Help monitor potential impacts to fishing communities due to floods or storms
  - Included in Council's Research & Monitoring Plan
- Maturity Data
  - Was included in CitSci Research Priorities in 2021; was removed in 2023 due to logistical challenges (e.g., gonad samples challenging to store)
- Others?