UPDATE DRAFT: Nov 2025

SAFMC Citizen Science Program

Citizen Science Research Priorities

YELLOW HIGHLIGHTED AND STRIKETHROUGH TEXT HIGHLIGHT RECOMMENDED CHANGES TO THE RESEARCH PRIORITIES.

Age Sampling^:

a. Target volunteers: Recreational
b. Data needed: otolith collection (carcass collection or collaborate with scientists for removal), fin clips (still developing)
c. Target species: Cobia, Greater Amberjack (fin clips), Scamp, Snowy Grouper, Gag, Knobbed Porgy, Porgy complex, Wahoo, Lane Snapper, Hogfish (both stocks), Red Grouper, Black Grouper, Vermilion Snapper, Blueline tilefish, Black Seabass (private recreational), Gray Triggerfish (spines), Red Snapper, Spiny Lobster (ossicles)
d. Anticipated outcome: characterize the age of catches
e. Potential cost: $$

RECOMMENDATION: Support keeping as a research priority

- *Age sampling from the recreational sector remains a critical data gap*
- *CitSci APs noted otolith collection by fishermen would likely be challenging and could be barrier to participation*
- *Fin clip data collection (once methods developed), carcass drop off programs, or collaborating with scientists for otolith removal would be easier and more feasible methods for volunteers to gather biological samples for ageing*
- *Sampling design and pilot testing would be critical for successful project; likely helpful to pilot on a single species to test feasibility*
- *May be helpful to prioritize or narrow the list of target species to those that have biggest data gaps and line up with assessment needs*
- *Projects developed under this priority should identify partners with existing projects (e.g. carcass programs) and collaborate, as appropriate*

Discard Information*:

a. Target volunteers: Recreational, commercial, tournaments
b. Data needed: species, length of fish; depth caught/released; number of fish; reason for discard; devices used; when and where fish are released; terminal gear use;, disposition of fish (e.g., released alive/dead), observation of depredation events
c. Target species: all SAFMC managed species in particular, Scamp, Red Snapper, deepwater groupers, Red Porgy, Greater Amberjack, Cobia, King Mackerel (sub-legal releases), Gray Triggerfish, and Spanish Mackerel

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d. Anticipated outcome: improved discard removals estimates; ability to characterize size composition of discards; help characterize effort for snapper grouper species; could help monitor recruitment for some species (e.g., Gag)
e. Potential cost: $-$$

RECOMMENDATION: Support keeping as a research priority

- *Better information on released fish remains a high priority for many Council managed species; these data can be challenging to collect – opportunity for citsci / cooperative research methods to help supplement*
- *Recommend adding Spanish Mackerel under target species due to SEDAR 78 highlighting recreational discard data needs*
- *Recommend adding tournaments to target volunteers; may be a good avenue to explore for project promotion and volunteer recruitment*
- *CitSci data on released fish is already proving useful in scientific and management contexts (e.g., SEDAR 90 - SAFMC Release and MyFishCount data)*
- *Feedback loop back to participants on data usage is critical; these communications may help increase participation as well*
- *New technologies may be able to help with data collection and validation (e.g., apps developing technology to be able to estimate size of fish in photos if item of known length included in photo)*
- *Noted additional avenues being explored to collect data on discards (e.g., ACCSP pilot catch card program); there has been communication with projects leads – catch card focused on species not included in SAFMC Release*
- *Recreational discard estimates have great impact on many South Atlantic stock assessments; need to better figure out how/if voluntary data can be used to supplement recreational monitoring programs to get discard estimates and how to address data validation challenges; there is some research being done on how to combine design based monitoring programs with voluntary programs*

Genetic Sampling^ *:

a. Target volunteers: Recreational and commercial; bait and tackle shops; tournaments
b. Data needed: fin clips
c. Target species:
    - Stock ID: Cobia, Hogfish (both stocks), Red Grouper, White Grunt, Spanish Mackerel, Dolphin, Wahoo, Red Snapper, Greater Amberjack, King Mackerel
    - Species Identification: Black Grouper/Gag, Scamp/Yellowmouth
d. Anticipated outcome: stock identification; species identification; ageing (still developing; see 'Age Sampling' priority)
e. Potential cost: $-$$

RECOMMENDATION: Support keeping as a research priority

- *Could consider combining with the 'ageing' priority when research methods to get ages from fin clips are further developed*

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- *Recommend adding King Mackerel under target species due to research need identified during the Mackerel Port Meetings to explore whether the 'mixing zone' has shifted*
- *Target species would depend on data use (e.g., stock ID vs species ID vs ageing (in future);*
- *May be helpful to delineate target species by potential data use*
- *Fin clip sampling well suited for citsci; sampling and storage is less complex than other biological samples; several successful projects have partnered with fishermen to gather fin clips; genetic sampling evolving and likely able to provide more data over time (e.g., ageing)*

Fishing Infrastructure:

~~a. Target volunteers: Recreational, commercial, community members/citizens, county/state government and municipalities~~

~~b. Data needed: GPS location of existing and previously existing/closed fishing-related infrastructure (commercial fishing facilities, marinas, bait/tackle shops, ice house, fuel docks, boat ramps, piers, roadside seafood stands, retail markets, etc.)~~

~~c. 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 social analysis for FMP amendments; track behavior changes in a fishery~~

~~d. Potential cost: $~~

RECOMMENDATION: Remove as a research priority for now

- *AP members agreed this was a critical issue but may be best addressed initially via dedicated social science research*
- *After foundational work is complete - a citsci approach could potentially provide supplemental info, help fill data gaps, and/or help update info over time*
- *AP members noted some data collection has been done in the South Atlantic states; there is a need to collect consistent data across the region to help inform social analyses for FMPs; first step in a project on infrastructure would be to review the work that has already been done in the region*
- *Noted Council has limited influence on infrastructure*

Historical Fishing Photos:

a. Target volunteers: Recreational and for-hire
b. Data needed: digitized images (will need to scan print photos into digital format)
c. Target species: commonly caught charter/headboat species
d. Anticipated outcome: length comps for certain species; improved historical information; potential for index development
e. Potential cost: $-$$

RECOMMENDATION: Support keeping as a research priority

- *Strong interest shown by fishermen, scientists, and members of public through FISHstory*
- *FISHstory data proving useful in scientific context (e.g., SEDAR 90 – FISHstory length data)*
- *Low barrier for participation and high engagement potential*
- *AI could potentially make analyses easier in future*

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Fishery Oral Histories^ and Historic Personal Fishing Logbooks/Diaries:

a. Target volunteers: For-hire and commercial captains
b. Data needed: interviews with fishermen to learn about the history and current state of a fishery; translate fishermen's historic logbooks into electronic data; possibly pair interviews or logbooks with topic #6 (Historical Fishing Photos)
c. Anticipated outcome: documentation of how fisheries operated over time (catchability changes over time with improvements in technology; markets; clients; species distribution; size of fish; weather; etc.) and other observational data
d. Potential cost: $-$$

RECOMMENDATION: Support keeping as a research priority

- *Can be a powerful research tool; could be a unique and irreplaceable source of information especially as older fishermen transition out of the industry*
- *AP noted oral histories require specific training and methods – so if project is developed, training would need to be a key component so information would be gathered in a systematic way*
- *Potential issue with recall bias – having 'rose colored glasses' for the past; this may be less of an issue when documenting how fisheries operated over time, improvements in technology, etc.*
- *If project developed under this priority – it would be important to consult with fishermen to see what data/info they would be comfortable sharing*
- *AP member noted recent SFA report supported sharing more anecdotal information with NOAA Fisheries to inform decision making; projects like these may help gather this info in a systematic way*
- *CitSci APs noted this was a lower priority*

Oceanographic/Environmental/Weather Conditions:

a. Target volunteers: Recreational and commercial
b. Data needed: Bottom temperature; weather impacts to fishing; movement of forage fish (bait) and shifts in patterns of a fishery (i.e., mackerel)
c. Anticipated outcome: building database on climate and conditions; how forage fish impacts patterns in a fishery
d. Potential cost: $-$$

RECOMMENDATION: Support keeping as a research priority

- *Information increasingly important with environmental changes; could collect data on finer scale and help fill gaps not captured by fixed buoys or satellites; technology to collect these data getting less expensive (e.g., data loggers)*
- *Passive gear mounted data loggers could reduce burden and increase participation*
- *Some info collected by data logger could be sensitive (e.g., specific location); would be critical to address and work through participant concerns on data privacy*
- *Examples of successful projects in other regions where these types of data have helped inform assessments (e.g., eMOLT)*

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- *Would be helpful to link environmental info with app based reporting/projects; could be useful to fishermen – linking fishing outcomes to environmental conditions*

Shifting Species and Rare Event or Data Limited Species Observations:

a) Target volunteers: Recreational and commercial, divers
b) Data needed: Point observations of data limited and/or unusual or rarely encountered species for areas along the Atlantic coast; length information for data limited species
c) Target species:
    - Shifting and rare event: all managed species, but especially – Dolphin, King Mackerel, Spanish Mackerel, shrimp, Wahoo, Black Seabass, Tilefish
    - Data limited: Hogfish (both stocks), snapper and grouper species, spiny lobster
d) Anticipated outcome: baseline and/or early warning for species shift; increasing information available for data limited species, in particular length compositions
e) Potential cost: $-$$

RECOMMENDATION: Support keeping as a research priority

- *These types of data will be increasingly important due to environmental changes that may be impacting species' ranges*
- *Valuable and relevant research area for citsci; noted there are examples of successful fisheries efforts in other regions (e.g., Gulf Stream Orphan ID) and within other disciplines (birding communities)*
- *Potential to include both new sightings and integrate historical information to provide context to better understand shifting patterns*
- *These data could be collected as part of a more comprehensive effort to collect catch and discard data from fishermen electronically (e.g., logbooks, events)*
- *Noted there is some overlap between this research priority and the 'movement and migration' priority*

Observations in Managed Areas^:

a. Target volunteers: Recreational and commercial, divers
b. Data needed: species, length, depth, videos/photos; effort in closed areas; observations on edge effects
c. Target species: snapper and grouper
d. Anticipated outcome: species composition; changes in fish abundance over time; occurrence of spawning, information on compliance
e. Potential cost: $$

RECOMMENDATION: Support keeping as a research priority

- *Projects in this area could be considered a mix of cooperative research and citizen science*
- *Noted these types of data could be helpful in informing Council decisions on SSMZs (set to sunset in 2027); TNC project underway in the South Atlantic focused on Spawning Special Management Zones (SSMZs) and project in the Gulf collaborating with recreational anglers*

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- *Narrowing down to a specific focus (e.g., SSMZ's) with a discrete time window may make more feasible for citsci effort*
- *There could be enforcement challenges with projects allowing fishing / data collection in closed areas; may be better suited for smaller group participation*
- *There may be sensitivities in sharing data on 'Compliance / effort monitoring'; noted technology (e.g., satellite imagery) may allow these types of data to be collected more passively which may help alleviate these sensitivities*

Movement and Migration:

a. Target volunteers: Recreational and commercial, focus on supporting and working with existing tagging programs
b. Data needed: species, location, length, tag details (e.g., data of tagging/recapture, disposition, treatment)
c. Target species: Dolphin, Wahoo, Spanish Mackerel, Greater Amberjack
d. Anticipated outcome: movement and migratory patterns
e. Potential cost: $-$$

RECOMMENDATION: Support keeping as a research priority

- *Emphasis on supporting already existing programs*
- *Many examples of successful tagging programs (federal, state, private) – tagging is popular among fishermen and provides a positive engagement experience*
- *Keeping on the list provides a way to highlight target species of interest for Council*
- *Noted the importance of lead time when tagging data are needed for specific species; can take time to tag and get enough recaptures for analyses*
- *Noted there is some overlap between this research priority and the '*Shifting Species and Rare Event or Data Limited Species Observations' *priority*

Shark & Marine Mammal Depredation:

a. Target volunteers: Recreational and commercial
b. Data needed: observations of shark depredation, location, species, photo, DNA swabs
c. Anticipated outcome: document shark and mammal depredation observations
d. Potential cost: $-$$

RECOMMENDATION: Support keeping as a research priority

- *Strong interest in this issue from fishermen; Sweeney Tookes et al. research found this was topic fishermen would be willing to gather info on; shark depredation idea submitted through CitSci Project Idea Portal*
- *Could provide helpful insight on concern impacting fisheries in many areas*
- *AP members noted additional avenues are being explored to collect these data (e.g., depredation being incorporated into MRIP (in 2026 via new disposition codes; additional question may potentially be added in 2027)*

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Habitat Characterization:

a. Target volunteers: Recreational and commercial, divers
b. Data needed: photo/videos, location (concentrate on South Atlantic Essential Fish Habitat)
c. Anticipated outcome: ground truth bathymetry data
d. Potential cost: $-$$

RECOMMENDATION: Support keeping as a research priority

- *Noted some concerns about the quality and usefulness of photos; noted it would be important to collaborate with researchers / data end users early on to ensure data collected would be useable in management context*
- *Could be valuable in supporting broader ecosystem understanding; may be easier to develop project if volunteers can easily integrate in their existing equipment*
- *Specific location information would likely be needed for data to be able to show habitat changes*
- *CitSci APs noted this was a lower priority*

Spiny Lobster Data

a. Target volunteers: Recreational and commercial, divers
b. Data needed: catch, effort, carapace length, sex, presence of eggs, presence/absence, local and regional movement
c. Anticipated outcome: characterize fishery in FL and GA north (data more limited for this portion of the fishery so this higher priority)
d. Potential cost: $

RECOMMENDATION: Support keeping as a research priority

- Recommend adding 'local and regional movement' to the data needed due to updated Council Research & Monitoring Plan
- Support GA north focus area where data are more limited; AP members mentioned potential for migratory shifts – seeing larger lobsters and lobsters more frequently north of FL

Additional feedback provided through the research priority process that the Council may want to consider

- Using CitSci projects to help supplement recreational catch data is an idea that has come up in different Council related meetings and is included in the Council's Research & Monitoring Plan
    - AP noted it could be helpful to incorporate information on harvested fish into platforms that are being used to collect data on released fish; this would allow additional data to be collected that could potentially be used to supplement recreational catch information for things like rare event species; could potentially add a new citizen science priority or broaden the 'discard' priority to cover recreational catch/harvest

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