SAFMC Citizen Science Program

Citizen Science Research Priorities

1. Age Sampling:

a. Target volunteers: Recreational
b. Data needed: otolith collection
c. Target species: cobia, greater amberjack, scamp, snowy grouper, gag, knobbed porgy, porgy complex
d. Anticipated outcome: characterize the age of catches
e. Potential cost: $$

RECOMMENDATION: Support keeping as research priority; concern that anticipated outcome may be too lofty since sampling design often critical to how age data can be used – however, no language was suggested to change anticipated outcome

2. Maturity Data:

a. Target volunteers: Recreational and commercial; tournaments
b. Data needed: gonad collection (either actual biological samples or pictures)
c. Target species: cobia, red porgy, snowy grouper, spiny lobster
d. Anticipated outcome: improved reproductive information
e. Potential cost: $$

RECOMMENDATION: Support keeping as research priority; potentially add additional target species (e.g. Spiny Lobster per Projects Advisory Committee recommendation; reaching out to reproductive biologists in region to identify additional species)

3. Discard Information:

a. Target volunteers: Recreational and commercial
b. Data needed: length of fish; depth caught/released; number of fish; reason for discard; devices used
c. Target species: all SAFMC managed species in particular, scamp grouper, red snapper, deepwater groupers, red porgy, greater amberjack, cobia, king mackerel (sub-legal releases)
d. Anticipated outcome: improved discard removals estimates, ability to characterize size composition of discards
e. Potential cost: $-$$

RECOMMENDATION: Support keeping as research priority; add additional target species as all species managed by the SAFMC have limited discard data available

4. Genetic Sampling:

a. Target volunteers: Recreational and commercial; bait and tackle shops; tournaments
b. Data needed: fin clips
c. Target species: cobia, hogfish (both stocks), red grouper, white grunt
d. Anticipated outcome: stock identification
e. Potential cost: $-$$

RECOMMENDATION: Support keeping as research priority; currently checking with genetics researchers to determine if additional target species should be added

5. Bottom Habitat Mapping:

a. Target volunteers: Recreational and for-hire captains
b. Data needed: mapping data using multi-beam or side scan sonar equipped on fishing vessels
c. Anticipated outcome: improved habitat maps, improved resolution
d. Potential cost: $$-$$$

RECOMMENDATION: Remove from current research priorities, but revisit topic when update in two years; NOAA project (https://www.citizenscience.gov/catalog/485/#) *may potentially already be doing this and want to avoid duplication; likely challenging to coordinate; could be interest in sharing this information which could potentially lead to further exploitation*

6. Monitoring in Managed Areas (MPAs, Spawning Special Management Zones):

a. Target volunteers: Recreational and commercial
b. Data needed: species, length, depth
c. Target species: deepwater snapper and grouper
d. Anticipated outcome: changes in fish abundance over time
e. Potential cost: $$

RECOMMENDATION: Remove from current research priorities, but revisit topic when update in two years; may be more appropriate for Cooperative Research Program than citizen science; may be challenging to sample and coordinate; compensation may be needed; perception of fairness could be an issue

7. Fishing Infrastructure:

a. Target volunteers: Recreational, commercial, and community members/citizens
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
d. Potential cost: $

RECOMMENDATION: Support keeping as a research priority; recommended adjusting data needed to include locations for infrastructure that no longer exists (e.g. closed fish houses, old commercial dock areas, etc.); a lot of fishing infrastructure has already been lost, so it would be helpful to capture this information

8. 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
e. Potential cost: $-$$

RECOMMENDATION: Support keeping as a research priority

9. Fishery Oral Histories:

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; possibly pair interviews with topic #8 (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; recommend adjusting data needed to include interviews with fishermen to learn about the history of the fishery as well as the current state of the fishery

10. Oceanographic/Environmental/Weather Conditions:

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

RECOMMENDATION: Support keeping as a research priority

11. Rare or Data Limited Species Observations:

a. Target volunteers: Recreational and commercial
b. Data needed: Point observations of data limited or unusual or rarely encountered species
c. Anticipated outcome: baseline for species shift; increasing information available for data limited species
d. Potential cost: $-$$

RECOMMENDATION: Support keeping as a research priority and broadening to include collecting observations on data limited species

12. Diet Samples: NEW

a. Target volunteers: Recreational, for-hire, and commercial
b. Data needed: stomach collection
c. Target species: GET FROM PEEPS
d. Anticipated outcome: improved diet information
e. Potential cost: $$

RECOMMENDATION: Add this topic as a research priority; improved diet data could be helpful for Ecopath model; biological sample preservation challenges likely similar to reproductive info

13. Personal Fishing Logbooks/Diaries: NEW

a. Target volunteers: For-hire and commercial
b. Data needed: translate fishermen logbooks into electronic data/database
c. Anticipated outcome: develop relative indices of abundance
d. Potential cost: $-$$

RECOMMENDATION: Add this topic as a research priority; there are examples where this type of information has been used to develop historical indices of abundance

Other suggestions not recommended for inclusion in the current version of the Citizen Science Research Priorities

- Fishing Effort: could potentially focus on getting higher spatial and temporal resolution and/or potentially estimate effort differences between public and private access points for the recreational sector; was noted that this is a sensitive topic and could be challenging for citizen science approach; recommend revisiting when updating priorities in two years
- Stone Crab: recreational harvest; not managed by the Council – may be better to pass on idea to state agencies?