South Atlantic Fishery Management Council

Citizen Science Research Priorities

Snapper Grouper AP Meeting

April 2019

CitSci Research Priority: *Age Sampling*

- **Target volunteers:** Recreational
- **Data needed:** otolith collection
- **Target species:** cobia, greater AJ, scamp, snowy grouper, gag, knobbed porgy, porgy complex
- **Anticipated outcome:** characterize the age of catches
- **Potential cost:** $$
- **Example project:**
  - Fishermen trained to remove otoliths
  - Otoliths would need to be removed, placed into envelope, and additional data collected (date, species, size, general location, etc.)
  - Otoliths & data sent to partner ageing lab for analysis

CitSci Research Priority:
Maturity Data

- **Target volunteers:** Recreational & commercial, tournaments
- **Data needed:** gonad collection (actual biological sample or pictures)
- **Target species:** cobia, red porgy, snowy grouper
- **Anticipated outcome:** improved reproductive information
- **Potential cost:** $$
- **Example project:**
  - Fishermen trained to remove and store gonad for analysis
  - Gonad sampled, stored, and additional data collected (date, species, size, general location, etc.)
  - Gonad sample on ice for short period otherwise more complicated storage likely needed
  - Gonad sample & data sent to partner reproductive lab for analysis

CitSci Research Priority: *Discard Info*

- **Target volunteers:** Recreational & commercial
- **Data needed:** length of fish, depth caught/released, number of fish, reason for discard, use of barotrauma reduction devices
- **Target species:** scamp grouper, red snapper, deepwater groupers, red porgy, greater AJ, cobia, king mackerel (sub-legal releases)
- **Anticipated outcome:** improved discard removal estimates, ability to characterize size composition of discards
- **Potential cost:** $-$$
- **Example project:**
  - Fishermen collect info on released fish using mobile app
  - Data collected could include: date, trip type, species, length, depth, location, release condition & treatment, photo of released fish
  - Data uploaded to database for analysis

CitSci Research Priority: *Genetic Sampling*

- **Target volunteers:** Recreational & commercial; bait & tackle; tournaments
- **Data needed:** fin clips
- **Target species:** cobia, hogfish (both stocks), red grouper, white grunt
- **Anticipated outcome:** stock ID
- **Potential cost:** $-$$
- **Example project:**
  - Fishermen trained to collect fin clips
  - Fin clips taken, placed in vial, and additional data collected (date, species, size, location, etc.)
  - Fin clips & data sent to partner genetics lab for analysis

CitSci Research Priority: *Monitoring in Managed Areas*

- **Target volunteers:** Recreational & commercial
- **Data needed:** species, length, depth
- **Target Species:** deepwater snapper & grouper
- **Anticipated outcome:** changes in fish abundance over time
- **Potential cost:** $$
- **Example project:**
  - Fishermen would sample/fish inside and outside managed area; if fishing in managed area Exempted Fishing Permit would likely be needed
  - Sampling would likely need to be more structured (e.g. fish at set locations using standardized gear a specific number of times)
  - Data collected could include species, length, depth, reproductive info; could be collected via paper forms or electronically
  - Data sent to partner scientists for analysis

CitSci Research Priority: *Bottom Habitat Mapping*

- **Target volunteers:** Recreational & for-hire captains
- **Data needed:** mapping data using multi-beam or side scan sonar equipped on fishing vessels
- **Anticipated outcome:** improved habitat maps, improved resolution
- **Potential cost:** $$-$$$
- **Example project:**
  - Fishing vessels equipped with sonar
  - Fishermen trained to deploy in identified areas or in conjunction/collaboration with scientists
  - Data sent to partnering scientists for analysis

CitSci Research Priority: *Fishing Infrastructure*

- **Target volunteers:** Recreational, commercial community members/citizens
- **Data needed:** GPS location of fishing infrastructure
- **Anticipated outcome:** baseline for fishing-related infrastructure to help document potential impacts from regs
- **Potential cost:** $
- **Example project:**
  - Participants collect GPS location, date, photo, location description over set time period using new or existing mobile app
  - Data uploaded to database for analysis

CitSci Research Priority: *Historic Fishing Photos*

- **Target volunteers:** Recreational & for-hire
- **Data needed:** digitized images/photos
- **Target Species:** commonly caught charter & headboat species
- **Anticipated outcome:** estimated length comps for some species, improved historical info
- **Potential cost:** $-$$
- **Example project:**
  - Fishermen help scan and archive historic photos
  - Participants are trained to help identify and measure species on project interface online
  - Fishermen help validate species ID made by participants
  - Validated data available for analysis

CitSci Research Priority: *Fishery Oral Histories*

- **Target volunteers:** For-hire and commercial captains
- **Data needed:** interviews with fishermen to learn about the history of fishery; possibly pair with photos
- **Anticipated outcome:** documentation of how fisheries operated over time & other observational data
- **Potential cost:** $
- **Example project:**
  - Fishermen interviewed to share knowledge on fisheries
    Fishermen trained to help interview other fishermen
  - Interviews transcribed for analysis

CitSci Research Priority:
Oceanographic/Environmental/Weather Conditions

- **Target volunteers:** recreational & commercial
- **Data needed:** bottom temperature, weather impacts to fishing; presence/absence of sargassum and size of area; movement of forage fish and shifts in patterns of a fishery
- **Anticipated outcome:** building database on climate and conditions; distribution of sargassum; how forage fish impacts patterns in a fishery
- **Potential cost:** $-$$
- **Example project:**
  - Fishermen collect environmental data via data logger deployed from boat during fishing activities at set stations
  - Fisherman trained on use of data logger
  - Data would need to be downloaded and submitted electronically for analysis

CitSci Research Priority: *Rare Species Observations*

- **Target volunteers:** recreational & commercial
- **Data needed:** point observations of unusual or rarely encountered species
- **Anticipated outcome:** baseline for species shift
- **Potential cost:** $-$$
- **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

CitSci Research Priority: *Additional Ideas?*

- **Target volunteers:**
- **Data needed:**
- **Target species:**
- **Anticipated outcome:**
- **Potential cost:**
- **Example project:**