

# State Projects 2023-2025:

## Addressing SAFMC's Research and Monitoring Plan 2023-2027

### Summary

State partners across the South Atlantic made significant progress in addressing fisheries research, monitoring, and data collection efforts to support science-based management in the South Atlantic Region. The accomplishments follow the listing in the South Atlantic Fishery Management Council's Research and Monitoring Plan for 2023-2027 by state from north to south. It is an impressive list of accomplishments.

### North Carolina

1. Assessment Research Priorities
  - a. Initiate long-term continuous monitoring of age structures and age validation for species listed as Level 1
    - i. Program 438 collects trip information, lengths, and otoliths for Snapper Grouper species.
    - ii. Program 439 collects trip information, lengths, and otolith for pelagic species including: Dolphin, King Mackerel, Spanish Mackerel, and Wahoo.
  - b. Red Snapper – enhance data collection during the Red Snapper mini-season.
2. Fishery Dependent Data Collection
  - a. State Trip Ticket Program
  - b. Headboat Observer Program
    - i. For-hire observer (Federally Permitted Snapper-Grouper) - 2 years of funding from the SE Fisheries Science Center. Set to be implemented later this year, as long as funding is available.
  - c. MRIP- State funded additional sampling
    - i. ACCSP Recreational Discard Catch Card Project which could provide data for Council managed species.

### South Carolina

1. Short-Term Research Needs
  - a. Red Porgy
    - i. Investigate temporal trends in life history - Red Porgy life history information is completed through 2022, and data are available to explore temporal trends for the next assessment.

- ii. Red Porgy predators - Have been collecting stomachs from Red Snapper for a MARFIN project. Only one field season of sampling has occurred so far and funding for the second year has been delayed.
- b. Blueline Tilefish
  - i. Address life history gaps from SEDAR 50
    - 1. Age data were accepted for use in SEDAR 92 (Blueline Tilefish) though only for the model component that utilized a growth curve (northern portion).
    - 2. Additional data for age compositions and reproductive analysis are available, but due to the operational assessment, it could not be used.
  - ii. Evaluate SADL Survey as an index of abundance
    - 1. SADLS was reviewed by the SSC last year and deemed acceptable for use in assessments. It was still recommended to not use it for index development until after 5 years of consistent survey design.
    - 2. Currently a MARFIN proposal was submitted with NMFS and NC State University partners to explore standardization of index, optimization of sampling stratification, and funding to process and read life history samples obtained from the 2024-2026 sampling seasons.
  - iii. Detailed spatial information on catch location - SADLS data was utilized to determine allocation between the area north of Cape Hatteras between the South Atlantic and Mid-Atlantic Regions.
- c. Tilefish
  - i. Consider new fishery-independent abundance data or life history information.
    - 1. SADLS was reviewed by the SA-SSC last year and deemed acceptable for use in assessments. It was still recommended to not use it for index development until after 5 years of consistent survey design.
    - 2. Life history data from SADLS was utilized in the assessment.
  - ii. Collect information on pre-recruit (<age 7) - SADLS collects some individuals that are <7 years of age.
  - iii. Increase age sampling to improve age composition - Protocol attempts to maximize age sampling in SADLS for Golden Tilefish, Blueline Tilefish, and Snowy Grouper that can be utilized for age

composition data with the fishery independent index of abundance, once it becomes available.

- iv. Examine evidence for potential northward range shift - Utilizing funds from the MAFMC, the SADL Survey has expanded northward and currently has a slight overlap with the Golden Tilefish Survey in that region. This could be useful to provide baseline information regarding the abundance and distribution of Golden Tilefish.
- v. Examine evidence for hermaphroditism in the South Atlantic - This was explored for SEDAR89 and there was no evidence indicating hermaphroditism in the South Atlantic. A presentation was given and a working paper submitted outlining the steps taken to characterize the reproductive strategy.
- vi. Examine evidence for age or size dependence of spawning frequency and spawning season duration - This was explored for SEDAR 89 and a working paper was submitted which examined spawning fraction and frequency differences by size and age.

d. Snowy Grouper

- i. Explore methods to develop indices of abundance - Assuming funding for the 2025 sampling season, this assessment should be the first one in which the SADLS data is utilized as an index of abundance for an assessment.

e. King Mackerel

- i. Explore alternative age references, or age-specific time series for the SEAMAP - A juvenile index has been developed from the SEAMAP Coastal Trawl Survey.

2. Assessment Research Priorities

a. Spanish Mackerel

- i. Develop a fishery-independent survey for pelagic species - A juvenile index has been developed from the SEAMAP Coastal Trawl Survey

b. Gag

- i. Incorporate length composition from video survey, as feasible - Analysis is currently ongoing to explore potential selectivity differences between trap catch and videos.

c. Red Snapper

- i. Investigate possible historical changes in sexual maturity - This was explored in SEDAR90 but there were no differences temporally or spatially. This could be due to no differences being present or limited spatial sampling prior to 2010 from MARMAP.

- ii. Estimate discard mortality associated with release techniques, gear, and size - SCDNR was funded to characterize discards of Red Snapper in the recreational fishery, including private rec and the for-hire sector. An observer will be on board select trips to record encounters including size, handling practices, and release practices of the fishery.
    - iii. Monitor impact of climate change on distribution and peak spawning - Distribution and reproductive information is collected regularly from the SERFS and would show distribution shifts or changes in peak spawning occurring over time.
  - d. Black Sea Bass
    - i. Investigate the potential for a range shift in the black sea bass population, and the potential causes, such as climate change. Determine if stock boundaries should remain at their current boundary - SERFS expanded their sampling range in 2024 to include the area from Cape Hatteras to the NC/VA state border. Additionally, the SAFMC has funded population genetics work for BSB. Fin clips were collected from fish in MA to FL, the samples have been processed, and the analysis is beginning now to explore breaks in stocks along the entire eastern coast of the United States.
  - e. Blueline Tilefish
    - i. Develop aging techniques for future Blueline Tilefish assessments - SCDNR has validated age estimates through bomb-radiocarbon studies and is working with other labs to exchange calibration sets that can align the age readers.
  - f. Obtain life history information for priority unassessed species - SCDNR has been collecting these data, and they are available to characterize life history traits for Almaco Jack and White Grunt (northern stock).
  - g. Collect genetic information to develop baseline information - SCDNR has collected fin clips for Black Sea Bass coastwide and continues to collect genetic samples upon request of additional species that we encounter through the SERFS.
3. Research Managed Areas
- a. Document occurrence of spawning within Spawning SMZs.
    - i. Routine SERFS sampling is occurring that may be within Spawning SMZ boundaries.

- ii. Additionally, SCDNR is working with TNC to process and stage reproductive samples that they have collected within the Spawning SMZs
- b. Characterize usage of Deepwater MPAs by managed species - Routine SERFS sampling is occurring that may be within Deepwater MPA boundaries.
- c. Develop annual monitoring to collect data inside and outside managed areas to enable comparison among managed sites and reference sites - Routine SERFS sampling is occurring that may be within managed and adjacent areas.
- 4. Annual Reporting
  - a. Provide, by October 1 annually, a report on the SERFS program for the previous year's work - Presented at the April SSC meeting and will be presented to the SAFMC and Snapper-Grouper AP in 2025.
- 5. Fishery Dependent Data Collection
  - a. State Trip Ticket Program
  - b. Headboat Observer Program
    - i. For-hire observer (Federally Permitted Snapper-Grouper) - 2 years of funding from the SE Fisheries Science Center. Set to be implemented later this year, as long as funding is available.
  - c. MRIP-State funded additional sampling began in 2024 to sample Wave 1.

## Georgia

- 1. Fishery Dependent Data Collection
  - a. State Trip Ticket Program
  - b. Headboat Observer Program
    - i. For-hire observer (Federally Permitted Snapper-Grouper) - 2 years of funding from the SE Fisheries Science Center. Set to be implemented later this year, as long as funding is available.
  - c. MRIP- State funded additional sampling set to begin late summer 2025
    - i. ACCSP Recreational Discard Catch Card Project which could provide data for Council managed species.
- 2. Fishery Independent Projects
  - a. Red Snapper –
    - i. Document spawning migrations or aggregations and return of fish to non-spawning areas.
      - 1. Increasing acoustic receiver coverage on state artificial reefs to monitor reef habitat usage and fish movement. Tagging state managed species at the moment (Red Drum and Southern

Flounder). Data for other organizations' tagged fish will be shared via cooperation with the FACT network.

### 3. Assessment Research Priorities

- a. Initiate long-term continuous monitoring of age structures and age validation for species listed as Level 1 - Collaborating with Florida FWC to age our Red Snapper otoliths collected through carcass donations from the recreational fishery during the season.

## Florida

### 1. Short Term Research Needs

#### a. Hogfish Benchmark Assessment

- i. Improve sampling of Hogfish in all regions from fishery-dependent data sources

- 1. Catch and release mortality of hogfish

### 2. Assessment Research Priorities

#### a. Red Snapper –

- i. Estimate discard mortality associated with different release techniques, gear, and size classes –

- 1. Comparing reef fish catch rates between single- and double-hook tackle off the Atlantic coast of Florida

- i. Document spawning migrations or aggregations and return of fish to non-spawning areas Assessment Research Priorities –

- 1. Maintenance of Florida Acoustic Telemetry receivers

- ii. Develop monitoring programs to estimate recruitment

- 1. Reef Visual Census (RVC) in the northern portion of the Southeast Florida Ecological Conservation Area

- 2. Developing indices of relative abundance and size/age composition for the assessment of Red Snapper and other reef fishes in the U.S. South Atlantic using data from a fishery-independent hooked-gear survey – 2021- 2023, 2024, and 2025

- 3. Exploratory reef fish survey and gear testing and calibration on the South Atlantic side of the Florida Keys

### 2. Specific Monitoring Priorities

- a. Implement a monitoring and research program to address issues relevant to ecosystem management. Topics include trophic interactions, food preferences, predator-prey relationships, and ecosystem connectivity.

- i. Southeast Florida reef fish spawning aggregations – acoustic telemetry of Gray Snapper to assess site fidelity and movement

### 3. Management Research Needs

- a. Characterize usage and evaluate compliance with best fishing practices recommendations for reducing discard mortality
  - i. Comparing reef fish catch rates between single- and double-hook tackle off the Atlantic coast of Florida
- b. Development of updated annual trap and video indices and SEAMAP for all managed species effectively sampled by the fishery-independent surveys.
  - i. The Great(er) Amberjack Count: Greater Amberjack (*Seriola dumerili*) Abundance, Distribution, and Movement in U.S. Waters in the South Atlantic and Gulf
  - ii. Investigating chevron trap selectivity; a collaborative effort to compare trap, underwater stereo camera, and hook and line gears in SE US waters

### 4. Habitat Research and Monitoring Needs

- a. Collect data and research necessary to move EFH classification
  - i. Maintenance of FACT receivers
  - ii. Florida Marine Recreational Fishery Statistical Data Collection
    - 1. Conduct routine, monthly monitoring in Jacksonville/St John's and Indian River Lagoon including data on water quality.
  - iii. Assessment of changes in nekton abundance and community assemblages in select tidal tributaries and mainstem portions of the lower St. John's River estuary in response to channel deepening.
    - 1. Conduct monthly, standardized monitoring surveys to generate abundance data for multiple species of economic or ecological importance including length data and otoliths for use in stock assessments

### 5. Citizen Science Priorities

- a. Collect Maturity Data
  - i. Reproductive characteristics and spawning migrations of Gulf of Mexico Cobia (*Rachycentron canadum*) along the Florida peninsula

### 6. Fishery Dependent Data Collection

- a. [State Trip Ticket Program](#)
  - i. Dealer based reporting system since 1984
  - ii. Mandatory trip level reporting
  - iii. In July of 2025 all Florida Trip ticket reporting will be electronic and with a weekly reporting period
    - 1. Paper trip tickets will no longer be allowed.

2. The monthly reporting window for state only dealers will also end.

b. For-Hire Observer Program

- i. Year-round observer coverage in headboat (since 2005) and charter (2013-2015 and 2021-present) fisheries
- ii. Statewide monitoring that includes Atlantic, Keys, and Gulf
- iii. Monitor species composition and size distribution of recreational discards in Atlantic waters (state and EEZ)
- iv. Monitor fishing methods, release methods (including use of venting and descending device tools), release condition and immediate mortality for managed species
- v. Monitor latent mortality (through mark-recapture models) for managed reef fishes
- vi. Monitor the spatial and temporal distribution of for-hire effort and recreational discarding
- vii. Monitor movement of conventionally tagged reef fishes
- viii. Collect biological samples from harvested fish for age and growth
- ix. Contribute biological samples for other research projects, including genetic samples for close-kin mark-recapture study as part of the ongoing S. Atlantic Red Snapper absolute abundance study that began in 2021, and epigenetic ageing from fin clips that will contribute to better understanding of age composition of discards

c. FWC South Atlantic Red Snapper Recreational Survey – monitoring, implemented in 2012 and ongoing

- i. Provide in-season estimates of total effort and landings during S. Atlantic recreational season for private boat and charter modes for use in management and assessment
- ii. Monitor in-season use of venting and descender devices
- iii. Monitor temporal and spatial distribution of recreational fishing effort during compressed fishing seasons
- iv. Collect biological samples for age and growth that contribute to stock assessments
- v. Contribute biological samples for other research projects, including genetic samples for close-kin mark-recapture study as part of the ongoing S. Atlantic Red Snapper absolute abundance study that began in 2021

d. FWC Recreational Fishing Survey Validation Research, ongoing research



- i. Identify potential sources of bias and evaluate methods to improve surveys and better account for recreational fishing effort and catch
  - ii. Develop methods to independently verify the accuracy of overlapping recreational fishing surveys for reef fishes on the Atlantic and Gulf coasts of Florida
- e. FWC State Reef Fish Survey (SRFS) – long-term monitoring, expanded to Atlantic coast July 2020 and ongoing
  - i. Provide year-round, monthly estimates of private boat recreational fishing effort, landings and discards for 13 reef fish species (including snappers, groupers, triggerfish, amberjacks, hogfish)
    - 1. Statewide monitoring, including Atlantic, Keys and Gulf
  - ii. Monitor spatial and temporal distribution of private boat recreational fishing effort for reef fishes
  - iii. Monitor use of artificial reefs by recreational anglers
  - iv. Monitor year-round use of venting and descender devices
  - v. Collect biological samples for age and growth
  - vi. Collect biological samples that contribute to other research projects
  - vii. Monitor species composition and size distribution of recreational harvest of reef fish
- f. Other federal projects
  - i. Atlantic coast stock assessment (ACFCMA),
  - ii. Southeast Region Headboat Survey program,
  - iii. MRIP