

State Efforts in South Atlantic Region to Address 2021-2025 Research and Monitoring Plan

Florida

Fishery Dependent Projects/Monitoring

Florida's Marine Fisheries Trip Ticket Program

- Dealer based reporting system since 1984
- Mandatory trip level reporting
- Data include:
 - o Participant identifiers
 - o Date of landing
 - o Area fished
 - o County/port landed
 - o Gear used
 - o Species, amount of catch, unit price, size, grade, disposition
- Historical landings
- Species composition
- Temporal and spatial fishing effort and harvest
- CPUE
- Ex-vessel socio-economic value data
- Documentation
 - o <https://myfwc.com/research/saltwater/fishstats/commercial-fisheries/>

FWC For-Hire Fishery Observer Program – long-term monitoring, ongoing

- Year-round observer coverage in headboat (since 2005) and charter (2013-2015 and 2021-present) fisheries
 - o Statewide monitoring that includes Atlantic, Keys and Gulf
- Monitor species composition and size distribution of recreational discards in Atlantic waters (state and EEZ)
- Monitor fishing methods, release methods (including use of venting and descending device tools), release condition and immediate mortality for managed species
- Monitor latent discard mortality (through mark-recapture models) for managed reef fishes
- Monitor the spatial and temporal distribution of for-hire effort and recreational discarding
- Monitor movement of conventionally tagged reef fishes
- Collect biological samples from harvested fish for age and growth
- 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
- Documentation:
 - o http://sedarweb.org/docs/wsupp/SEDAR73_RD09_SEDAR52WP10%20Red%20snapper%20discard%20mortality%20in%20Florida%20recreational%20fisheries.pdf

- <https://sedarweb.org/documents/sedar-73-rd12-a-survey-to-characterize-harvest-and-regulatory-discards-in-the-offshore-recreational-charter-fishery-off-the-atlantic-coast-of-florida/>
- https://safmc.net/wp-content/uploads/2022/05/A06_SARSRP_Study_SA_SSC-4-27-22.pdf

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

- 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
- Monitor in-season use of venting and descender devices
- Monitor temporal and spatial distribution of recreational fishing effort during compressed fishing seasons
- Collect biological samples for age and growth that contribute to stock assessments
- 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
- Documentation:
 - http://sedarweb.org/docs/wsupp/S73-rd04_Survey%20Methods%20for%20Estimating%20Red%20Snapper.pdf
 - <https://sedarweb.org/documents/sedar-73-rd07-recreational-effort-catch-and-biological-sampling-in-florida-during-the-2019-south-atlantic-red-snapper-season/>
 - <https://sedarweb.org/documents/sedar-73-wp11-summary-of-length-and-weight-data-collected-from-harvested-red-snapper-in-florida-during-s-atlantic-recreational-seasons-2012-2019/>
 - https://safmc.net/wp-content/uploads/2022/05/A06_SARSRP_Study_SA_SSC-4-27-22.pdf

FWC State Reef Fish Survey (SRFS) – long-term monitoring, expanded to Atlantic coast July 2020 and ongoing

- 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)
 - Statewide monitoring, including Atlantic, Keys and Gulf
- Monitor spatial and temporal distribution of private boat recreational fishing effort for reef fishes
- Monitor use of artificial reefs by recreational anglers
- Monitor year-round use of venting and descender devices
- Collect biological samples for age and growth
- Collect biological samples, such as fin clips and gonads, that contribute to other research projects
- Documentation:
 - https://safmc.net/wp-content/uploads/2022/06/A2b_FL_Reef_Fish_Survey.pdf
 - <https://myfwc.com/fishing/saltwater/recreational/state-reef-fish-survey/?redirect=srfs>
 - <https://www.fisheries.noaa.gov/recreational-fishing-data/transitioning-new-recreational-fishing-survey-designs>

FWC Recreational Fishing Survey Validation Research, ongoing research

- Identify potential sources of bias and evaluate methods to improve surveys and better account for recreational fishing effort and catch
- Develop methods to independently verify the accuracy of overlapping recreational fishing surveys for reef fishes on the Atlantic and Gulf coasts of Florida
- Includes pilot study using video monitoring of Atlantic Ocean inlets, paired with artificial intelligence
- Documentation:

<https://media.fisheries.noaa.gov/2022-02/FL-State-Reef-Fish-Survey-Consultant-Briefing-2022-02-02.pdf>

Other federal projects that SAFMC is already aware of: Atlantic coast stock assessment (ACFCMA), Southeast Region Headboat Survey program, MRIP

Florida Fishery Independent Projects/Monitoring

Southeast Florida reef fish spawning aggregations – addressing ecosystem management needs (funded by NOAA)

Research – acoustic telemetry

Through 2024

Gray Snapper site fidelity and movement

Reef Visual Census (RVC) in the northern portion of the Southeast Florida Ecological Conservation Area (funded by NOAA-NCRMP)

Monitoring

Ongoing

Includes reef fish along reef tract in Palm Beach and Martin County

Maintenance of FACT receivers (funded by Sport Fish Restoration)

Monitoring

Ongoing

Includes SE Florida; areas off NE Florida (Jacksonville/St Augustine) still in place (see FACT website for more information)

Reproductive characteristics and spawning migrations of Gulf of Mexico Cobia (*Rachycentron canadum*) along the Florida peninsula (funded by NOAA MARFIN)

Research – acoustic telemetry/ life history

Through 2024

Reproduction, genetic structure, and movements of cobia (focus on Gulf of Mexico stock, but may inform Atlantic stock at southern boundary)

Catch and release mortality of hogfish (funded by Sport Fish Restoration)

Research – acoustic telemetry

Through 2023

Study takes place off St Petersburg in Gulf, but information may be relevant for Atlantic

Goliath Grouper

Research – several studies wrapping up, continued opportunistic collection of life history information (genetics, otoliths).

Florida Marine Recreational Fishery Statistical Data Collection (Long-term fishery independent monitoring survey)

Monitoring

Ongoing

- Conduct routine, monthly monitoring in Jacksonville/St. John's-associated estuaries, northern Indian River Lagoon, and southern Indian River Lagoon; includes multi-species abundance, length information, and otoliths for use in stock assessments
- Water quality data (e.g., temperature, dissolved oxygen, pH, salinity) collected with each sample
- Indices/trends produced for several species in support of assessment and management (e.g., Atlantic Croaker, Spot, Red Drum)

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

Monitoring

Ongoing

- 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
- Water quality data (e.g., temperature, dissolved oxygen, pH, salinity) collected with each sample

Investigating chevron trap selectivity; a collaborative effort to compare trap, underwater stereo camera, and hook and line gears in SE US waters

Research – gear selectivity and utility

2022 – 2025

- FWRI contribution to the processing of stereo-video data from cameras which provides data on specific taxa or sized individuals not represented from trap-only catch data
- Collaborative effort with South Carolina Department of Natural Resources and data provided to federal stock assessment efforts for multiple species including Red Snapper, Black Sea Bass, Gray Triggerfish, Vermilion Snapper, and Red Porgy among others

The Great(er) Amberjack Count: Greater Amberjack (*Seriola dumerili*) Abundance, Distribution, and Movement in U.S. Waters in the South Atlantic and Gulf of Mexico

Research – gear selectivity and calibration and telemetry and Monitoring – estimating absolute abundance of Greater Amberjack

2022 – 2023

- Conduct standardized monitoring surveys with underwater stereo-video cameras using identical systems as used in the Gulf of Mexico. Surveys will provide data on Greater Amberjack across many depths and from both natural and artificial habitats.
- Will provide data on reef fish assemblages associated with both natural and artificial reef habitats from Southeast Florida north through North Carolina
- Additional, targeted sampling will provide movement and recapture data from tagged Greater Amberjack utilizing conventional dart tags and acoustic telemetry.

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

Monitoring – reef fish hooked gear

2021 – 2023

- Conduct standardized hooked gear surveys to further time series of reef fish relative abundance data from Florida east coast.
- Data include size-frequency across multiple depths and habitats as well as otoliths used to contribute to life history data within stock assessments for several species including Red Snapper, Vermilion Snapper, and Black Sea Bass among others

Georgia

Fishery Dependent Data Collection

State Trip Ticket Program

Headboat Observer Program

MRIP

Fishery Independent Projects

- Additional acoustic and traditional tagging is needed on known spawning locations to document spawning migrations or aggregations and return of fish to non-spawning areas. Increasing acoustic receiver coverage on state artificial reefs to monitor reef habitat usage and fish movement. At the moment there are no plans to tag fish of our own (other than Red Drum),but we will continue to provide data for other organizations' tagged fish via cooperation with the FACT network.
- Validate age determination for species in the Snapper-Grouper FMP.
 - Collaborating with Florida FWC to age our Red Snapper otoliths collected through carcass donations from the recreational fishery during the season.

South Carolina

State Trip Ticket Program

MRIP

Headboat Observer Program

Fishery Independent

Investigating temporal trends in growth, sexual transition, and maturity for

Black Sea Bass, Red Porgy and samples are available to investigate changes for other species.

Published manuscripts related to Red Snapper and Red Porgy diets see Spanik et al. 2021.

Submitted proposal to conduct additional work throughout the region.

Working with SEFSC to address aging differences for Blueline Tilefish.

Working with SEFSC and fishermen as lead PI for South Atlantic Deepwater Longline Survey and SCDNR Short Bottom Longline to collect information on Blueline Tilefish, Snowy Grouper, Tilefish, and other deepwater species. Including:

- Collecting information on Tilefish < age 7
- Funding masters thesis to investigate assumptions regarding maximum age, sample size, and resulting natural mortality estimate.

SouthEast Reef Fish Survey (Trap and Video Survey)

- Procedural Workshop 8 addressed non-independence of SERFS trap and video indices.
- Working with FWC and SEFSC to place stereo-video cameras on traps.
- Collecting samples in Spawning SMZs which can target spring and summer spawners
- Sampling in Deepwater MPAs that can be used to explore temporal shifts as part of random sampling program

Working on a pilot project that started in 2022 to collect juvenile reef fish using small mesh traps and standardize hook and line.

Developing a manuscript on Black Sea Bass historical changes in distribution and presented a seminar series on Red Porgy temporal changes.

Collecting age samples for Almaco Jack since 2018 and working with SEFSC to analyze age and reproductive samples for GA-NC Hogfish stock.

Provided indices of abundance for several species during its annual update to SAFMC and SAFMC SSC. Includes the video index for species that have had an index developed as part of an index.

Assessment Priorities

- Provide life history information for Black Sea Bass, Blueline Tilefish, Gag, GA-NC Hogfish, Tilefish, Gray Triggerfish, Greater Amberjack, King Mackerel, Mutton Snapper, Red Grouper, Red Porgy, Red Snapper, Scamp, Snowy Grouper, Spanish Mackerel, Vermilion Snapper
- Provide information for indices of abundance for
- Collects life history information on Almaco Jack, Knobbed Porgy, Tomtate, White Grunt, Wreckfish.

North Carolina

Fishery Dependent Data Collection

State Trip Ticket Program

MRIP

Headboat Observer Program

- Completed data requests for for Gag and Black Grouper, Scamp and Yellowmouth Grouper, Gray Triggerfish, Black Sea Bass, Red Snapper, and Spanish Mackerel.
- Collected aging samples and accompanying data collected in NCDMF Program 438 (Offshore Live Bottom Fishery, Snapper Grouper Fishery) and Program 439 (Coastal Pelagic, Mackerel, Cobia, Dolphin, and Wahoo).