Research and Monitoring Plan for the South Atlantic Fishery Management Council: 2025-2029

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Overview – Research and Monitoring Plan (RPM)

- MSA requires Councils develop a multi-year research priorities list to be provided to NOAA Fisheries to aid in the development of their research budget for the region.
  - Useful in development of requests for proposals or responses to proposals.
  - Allocating Council budget and Advisory Panel and staff time.
- Previous RPM had a short list so that targeted items could be accomplished.
  - Focused on upcoming stock assessments.
  - Provided focused research and monitoring topics for different FMPs and included habitat focused priorities.
- The revised version is expanded to help develop a plan for the FMP and support management, stock assessments, and ecosystem-based fisheries management (EBFM)
  - Integrate biological, socioeconomic, and habitat data for resilient management

Talk Outline

- General Research and Monitoring Priorities
- Stock Assessment Research Recommendations
- Monitoring and Data Collection
- FMP Priorities

Council will be requested to discuss High Priorities (Section 1.1.3) in the document

General Research and Monitoring Priorities

- Maintain and enhance fishery-dependent and fishery-independent data streams
- Collect biological data (age, growth, reproduction)
- Strengthen social & economic data, community well-being indicators
- Monitor habitat & ecosystem change, ecosystem drivers, and impacts

Stock Assessment Research Recommendations (2025–2027)

- Prioritize near-term inputs for scheduled SEDAR assessments
- Current species include: Black Grouper (FWC MSE), Hogfish, Gag, Snowy Grouper, King Mackerel, Red Grouper
- Provides list of research recommendations identified during stock assessment development or during SSC review.

Monitoring & Data Collection

- Leverage NOAA portals, logbooks, observer programs, MRIP/SRHS/SEFIS, dealer data
- Enhance real-time social and economic data and ethnographic studies
- Establish feedback loops with fishers (e.g., citizen science, advisory panels)
- Data interoperability and documentation for reuse

Monitoring and Data Collection: Social & Economic & Enforcement and Compliance

- Continued integration of human-dimensions data in management decisions
- Community resilience
- Effects of regulatory changes, closures, and disasters
- Stakeholder engagement and citizen science pathways
- Monitor compliance with fishing regulations and provide regular updates at Council meetings.
- Investigate issue of Caribbean and American Red Snapper mixing in imported catches.

FMP Priorities — CMP

- Develop an adaptive management approach for Spanish and King Mackerel
- Evaluate indices of abundance for adult coastal migratory pelagics.
- Investigate methods to calibrate data collected through NEAMAP and SEAMAP.
- Improve estimates of shore-based catches for Atlantic Spanish mackerel.
- Conduct surveys to understand the economic and cultural value of the commercial and recreational fishery.
- Conduct research to better understand tradeoffs between different management options for commercial, for-hire, and recreational fisheries.
- Describe how infrastructure availability for fishery has changed and could affect for-hire and commercial fisheries.

FMP Priorities —Dolphin/Wahoo

- Conduct studies to investigate distinct population segments.
- Use advanced modeling techniques to evaluate trends in population abundance or fishing mortality.
- Conduct social-ecological systems studies to improve understanding of interactions and connections between the fishery and marine ecosystem.

FMP Priorities — Shrimp

- Test alternative methods or gears to reduce shark impacts to gear.
- Update community profiles.
- Assess regulatory and environmental risks to fleet and shore-based infrastructure.
- Conduct cost-earnings surveys.
- Quantify economic resilience and adaptation strategies in coastal communities.
- Track market trends, export dependencies, and fleet profitability.
- Evaluate the requirement for the limited access permit (RSLA) in the South Atlantic region.
- Evaluate the requirement for operator cards in the South Atlantic Rock Shrimp Fishery.
- Continue to support the NOAA Fisheries Shrimp Futures project.

FMP Priorities — Snapper–Grouper

- Improve discard monitoring for high-release mortality species (e.g., Red Snapper, Deepwater Groupers) using observer programs or other methods.
- Update estimates of discard mortality based on adoption of regulations designed to reduce discard mortality (e.g., circle hook, dehooking device, descending device).
- Cooperate with State partners to secure funding for programs to support long-term, multi-year standardized monitoring of artificial reefs and their communities, with the necessary long-term funding to provide multi-year trends in reef fish productivity and allow valid future comparisons of temporal and spatial data.
- Investigate state-space models and non-stationarity as shifting stocks or changing distribution could impact estimates of productivity, catchability, and selectivity.
- Enhance survey coverage in south Florida and north of Cape Hatteras and offshore deep habitats, as appropriate.

FMP Priorities — Social and Economic

- Work with NMFS to update community snapshots using census, fishery, and local data.
- Study social science use in fisheries management decision-making process and what motivates stakeholders to participate.
- Assess stakeholder perceptions of management measures, enforcement, equity, and trust.
- Develop social dimensions of the South Atlantic shrimp fishery.
- Identify communities vulnerable to climate change, habitat loss, species distribution changes, and regulatory shifts.
- Develop methods to understand the social impact and cultural value of managed areas.

FMP Priorities — Social and Economic *(continued)*

- Collect economic information on the seafood supply chain for SAFMC managed species covering from the seafood dealer to the final consumer.
- Collect and update economic information on how the recreational sector values catching or harvesting SAFMC managed species.
- Monitor the social and economic effects of closures, access changes, and natural disasters on fishing communities.
- Evaluate the cumulative economic effects of regulations and environmental events (e.g., hurricanes, algal blooms, upwelling events) including methods to understand the economic effects or value of managed areas.

FMP Priorities — Habitat and Ecosystem

- Habitat Research
  - Beneficial use of thin layer placement
  - Gather information related to space infrastructure, frequency of launches, hazard zones, space debris and their impact on local fisheries and fisheries habitat/water quality.
- Shallow Water Coral Research
  - Increase spatial coverage using diver surveys, autonomous underwater vehicles (AUVs), citizen science, and satellite/aerial imagery.
  - Track prevalence of stony coral tissue loss disease (SCTLD) and bleaching events.
- Deepwater Coral Research
  - Use multibeam sonar, ROVs, and drop cameras to define coral mound structures and habitat extent.
  - Investigate vulnerability to acidification and temperature changes through in-situ sensors and lab experiments.

FMP Priorities — Habitat and Ecosystem *(continued)*

- Pelagic Sargassum
  - Conduct species-specific EFH dependency analysis.
  - Forecast climate-related changes in Sargassum bloom dynamics.
  - Assess cumulative impacts from frequent inundation on coral resilience.
- Habitat and Ecosystem
  - Compile the impacts of sand and sediment dredging and beneficial use projects on estuarine dependent species.
  - Characterize juvenile reef fish use of habitat.
  - Identify shallow-water habitat of Coastal Migratory Pelagic species.
  - Develop models that better incorporate habitat changes and environmental variability into stock assessments (e.g., habitat suitability).
  - Develop and prioritize environmental indicators (metrics used to track and assess the state of the environment) and define triggers for management action.
  - Determine if warmer winters are disrupting natural recruitment mechanisms of larvae and post larvae (i.e., brown shrimp) to the estuaries.
  - Determine how changes in the Gulf Stream dynamics and shelf stratification are affecting recruitment dynamics of Snapper-Grouper species in the South Atlantic.

FMP Priorities — Coral, Golden Crab, Sargassum, Spiny Lobster

- Coral: restoration efforts, stony coral tissue loss disease and bleaching event updates, interactions with fishing gear
- Golden Crab: develop a CPUE to describe trends, collect social and economic data to better understand changes in fishery
- Sargassum: ecological role, monitoring options
- Spiny Lobster: cross-jurisdictional economics; community reliance

Questions and Discussion

- Council input on high priority items