

Introduction

The US South Atlantic region (North Carolina/Virginia to Dry Tortugas, Florida) is a complex area for managing marine fisheries due to the variety of ecoregions including Bahamian, Carolinian, Floridian, and Virginian Ecoregions (Spalding et al. 2007). These ecoregions include a diverse group of species targeted by stakeholders in recreational and commercial fisheries. Governance is also complex, as the South Atlantic Council is situated between the Gulf of Mexico Council and the Mid-Atlantic Council. Some fish larvae are transported from the Gulf of Mexico via the loop current which is likely to change under different Gulf Stream speeds, and other species will likely migrate northward where water temperatures may be more suitable. Managing these fisheries and stakeholders requires an understanding of both the ecological balance of the fishery resources and socio-economic well-being of the stakeholders. It is imperative to understand how climate change can impact regional resources, stakeholders, and management entities. Consequently, robust strategies for climate resiliency are needed for effective fisheries management in the US South Atlantic region.

Climate change presents a myriad of threats to the stability and productivity of marine ecosystems. Rising sea temperatures, ocean acidification, changing currents, and extreme weather events all contribute to a dynamic and unpredictable environment. These factors, individually and synergistically, can disrupt the delicate balance of marine ecosystems, affecting the distribution, abundance, and reproductive success of key fish species. These changes have been detected in four recently assessed species in the region where stock assessments have estimated historic lows in recruitment in the last few years included in the assessment (**Figure 1**). Gag, Scamp, and Snowy Grouper have had a declining trend in recruitment since the early 2000s (SEDAR 2021, 2022a, 2023). Black Sea Bass has been decreasing since 2009. It should be noted that the last two years included in the time series are a function related to the stock recruitment curve or mean recruitment and are not based on age, catch, selectivity, and indices as previous years. Even more concerning is that Scamp became overfished without overfishing occurring in recent years. This indicates factors other than fishing mortality have resulted in an overfished stock (SEDAR 2022). These decreases in recruitment are resulting in decreased annual catch limits. Consequently, stakeholders that rely on these stocks are being negatively impacted and management strategies may need to be altered under the new productivity levels.

Although these stocks have had negative trends in productivity, other stocks have been showing signs of potential increase in productivity including Spanish Mackerel, Red Snapper, and White Shrimp. The average landings of Spanish Mackerel in the recreational fishery in the Mid-Atlantic region from 2018 to 2022 were four times the average landings from 1983 to 2017¹. Furthermore, only one year in the earlier period, 2016, had landings of Spanish Mackerel in the Mid-Atlantic region that exceeded 300,000 fish, which is 60% of the average from 2018 to 2022. This increase in landings could represent a northern expansion of Spanish Mackerel as waters in the Mid-Atlantic region warm. Management will need to address these potential shifts either through changes in regional allocations, modifying management boundaries, or adding flexibility in permitting structure.

¹ Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division December 3, 2023

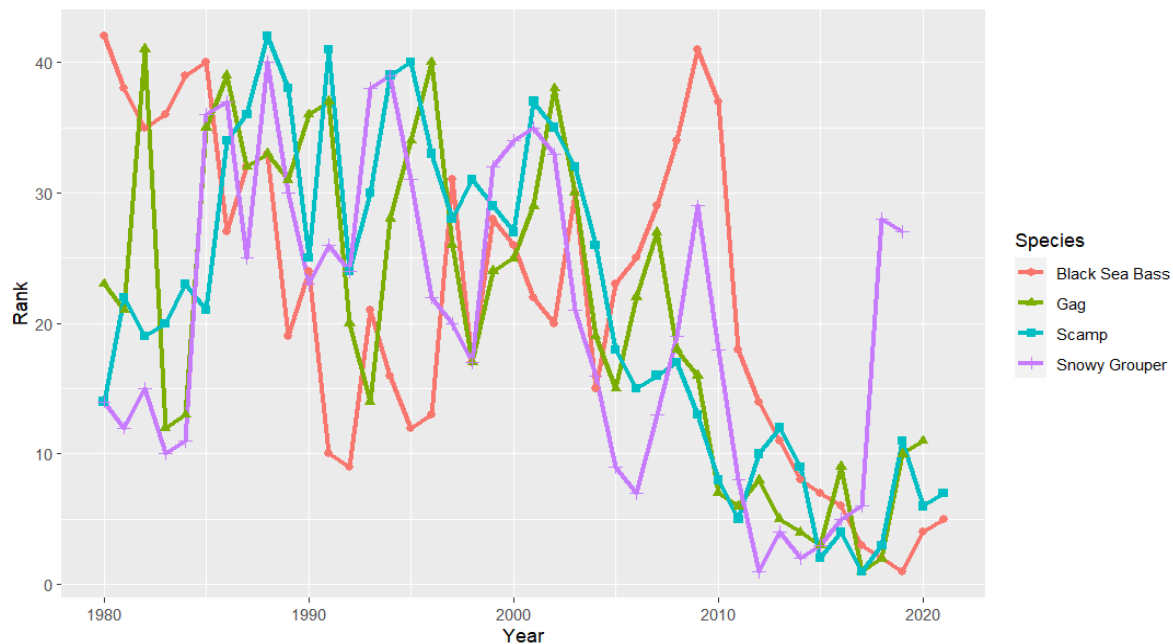


Figure 1. Ranked recruitment of Age 0 (Black Sea Bass) or Age 1 (Gag, Scamp, and Snowy Grouper) from 1980 to the last year estimated in recent stock assessments for Black Sea Bass (SEDAR 2023), Gag (SEDAR 2021b), Scamp (SEDAR 2022), and Snowy Grouper (SEDAR 2021a).

Some species may have higher productivity due to increases in recruitment. Red Snapper recruitment from 2014 to 2019 had five out of the top ten Age 1 recruitment estimates from 1978 to 2019 (SEDAR 2021). Also, these increases in recruitment are being observed in recreational fishery-dependent data series. The length of recreational seasons has decreased from 2017 to 2023 (six days to one day) as daily catch rates have increased with increasing stock abundance. Recreational releases also increased. The recreational releases from 2015 to 2022 exceeded one million fish, a level only reached once from 1983 to 2014. Further, the average number of Red Snapper released in the recreational fishery was 2.65 million fish per year. The high recruitment, high number of releases, and shortening season are all potential indicators of increased Red Snapper productivity. This high level of productivity is causing issues for management because the short season where Red Snapper can be retained has become highly contentious and is creating negative economic consequences for the recreational fishery.

New fisheries for SAFMC managed species are appearing in areas beyond SAFMC management boundaries. A white shrimp fishery started off Virginia in 2017 as an experimental fishery². Virginia promulgated regulations in 2021 to set a season. Maryland established an experimental fishery in 2023³. This expansion of white shrimp northward represents a potential shift in distribution and a potential increase in productivity where the Chesapeake and Delaware Bays could serve as new nursery areas. Management of white shrimp fishery in federal waters may

² Presentation from VMRC Staff to SAFMC at the December 2019 Meeting.

³ <https://www.undercurrentnews.com/2023/09/29/pilot-shrimp-fishing-program-launched-in-maryland/>

need to be extended north of the North Carolina and Virginia border to address the change in distribution.

The examples above describe a variety of ways climate change appears to be impacting fisheries managed by the SAFMC. Shifts in the distribution of fish stocks (Bacheler et al. 2023), changing in timing of spawning (Molto et al. 2021; Slesinger et al. 2021), changing productivity, and potential emergence of new and invasive species (Bacheler et al. 2016) challenge the traditional practices and management strategies that have been effective in managing stocks historically. Additionally, fishery infrastructure, such as fish houses and commercial and charter docks, are threatened by sea level rise and increased tropical storm frequency and strength (Weatherdon et al. 2016). The vulnerabilities within the system demand proactive measures to enhance the resilience of fisheries, ensuring their adaptability in the face of ongoing environmental changes.

Understanding climate change is not merely an academic pursuit; it is a fundamental prerequisite for formulating effective and sustainable fisheries solutions⁴. The Council, along with the Mid-Atlantic and New England Fishery Management Councils and the Atlantic States Marine Fisheries Commission, recently and proactively conducted an East Coast Climate Scenario Planning (ECCSP) effort to begin considering how to collectively address climate change in fisheries. One outcome of this effort is a prioritized list of specific actions that each group intends to pursue if resources, such as this grant opportunity, can be secured. The SAFMC is proposing a suite of projects to improve climate resiliency and management responsiveness, implement the initial action plan from the ECCSP project, evaluate the need for governance changes, and increase the resilience of underserved communities to climate change. The outcomes of these projects would be implemented or used to inform management. Through these projects, policymakers, scientists, and stakeholders can collaboratively design strategies that mitigate the impacts on fisheries while fostering their long-term viability. Through a holistic approach that combines scientific knowledge, policy frameworks, and community involvement, we can strive to manage stocks sustainably, build management actions that protect the livelihoods of coastal communities, and preserve the cultural and economic heritage of the region's fisheries.

Statement of Work –

Climate Project Coordinator Position

The South Atlantic Fishery Management Council is proposing to hire a Climate Project Coordinator through a contract to oversee day to day management of climate related projects pursued through IRA funding and in response to the ECCSP initiative. The Coordinator will also contribute to SAFMC's efforts to implement action items from the ECCSP. Executing projects supported with the level of funding available to the Council through the IRA program will require considerable effort. Current staff do not have the capacity to oversee and develop new projects related to IRA funds. However, current staff are expected to work on implementing outcomes from the projects including preparing fishery management plan amendments and updating Council planning and guidance documents (e.g., revisions to Regional Operating Agreements and assessment priorities).

⁴ <https://www.mafmc.org/climate-change-scenario-planning>

IRA Projects Management Tasks

The Coordinator will develop requests for proposals for potential projects described below, set up the review for the proposals, oversee the grant, and help coordinate the implementation of the projects into management. Each IRA project below will go through a process that includes developing a request for proposals, reviewing submissions, and preparing documentation to award funds. The new staff would be dedicated to managing all aspects of these projects as well as working with current staff to implement the results of the projects.

ECCSP Implementation Tasks

1. Serve on the Core Team of the ECCSP.
 - a. Serve on the Core Team with the SAFMC Habitat and Ecosystem Scientist. The Core Team is the primary POC for implementing ECCSP priority tasks.
2. Review AP Representation - ECCSP Priority G2
 - a. Climate-driven changes in species distributions are leading to increased concern about appropriate representation by geographic area in various parts of the management process. The ECCSP project identified a need to ensure that advisory panel (AP) representation remains appropriate and effective, including ensuring that it reflects the geographical distribution of the resource. The review would also consider how other ecological and socioeconomic changes may drive changing needs for AP representation.
3. Create a more adaptable permit structure ECCSP Priority M5
 - a. Lack of access to fishing permits, allocation, or quota can limit a fisherman's ability to adapt to changes in fish stocks. Fishing permits are not consistent between fishery management bodies or fisheries. As a first step to revising permit systems, this task would involve reviewing permit systems on the east coast and documenting permit issues raised by SAFMC constituents, advisors, and members. Areas of focus will include 1) identifying fisheries with permit limitations that could impede new entrants in new geographic areas or jurisdictions, 2) documenting challenges to permit renewals and transfers, and the level of misunderstanding about permit requirements that cross jurisdictions and 3) recommending changes to existing permit structures that would allow more flexibility. Cooperation and coordination with the MAFMC, NEFMC, and GARFO will be required to complete this task.

Climate and Ecosystem Data Workshop

Another responsibility of the Coordinator will be to plan and hold a Climate and Ecosystem Data Gaps Workshop. This would implement a recommendation in the Atlantic Science Coordination (ASC) Workshop held in 2021 (Saba et al. 2023) and would address ECCSP Potential Action Menu Item – *D3 Improve the use of existing data*.⁵ The ASC recommended developing a framework for increased cross-regional coordination and communication and a framework for

⁵ East Coast Climate Scenario Planning Potential Action Menu - <https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/649995a6fc23ab3227db2705/1687786943066/ECSP-Potential-Action-Menu>

coordination to share assessment results and techniques for species that are cross-managed between areas. The ECCSP Action Item to improve use of existing data recommended to hold meetings between Councils, Commission, Regional Offices, and Science Centers to better utilize historic datasets to inform management decisions.

The implementation of both the ASC recommendation and ECCSP action item will entail holding a meeting or meetings to improve communication amongst various data collection entities. Although the Core Team for the ECCSP continues to meet on the next steps for the ECCSP, others will need to be involved in the Climate and Ecosystem Data Workshop, particularly those familiar with the available data, stock assessments, and ecosystem status reports to improve coordination and communication. Since both the ASC Report and ECCSP Planning Meeting Report and Potential Action Menu were released in 2023, a follow-up meeting will foster the development of cohesive plan to implement the science-based recommendations coming out of the ASC and management-based action items coming out of the ECCSP.

The goal of the workshop will be to build on the earlier ASC workshop and identify important climate and ecosystem data sources available that could be used in management for the South Atlantic Region as well as critical gaps in scientific information. Attention will be given to identifying ways to improve use of existing programs and datasets through better coastwide cooperation, improving participation by the fishing industry in data collection, identifying climate related data gaps, and fostering outside partnerships for data sharing to expand the overall suite of available datasets. Data resources identified through the workshop can be immediately incorporated into the Council's Fishery Management Plan amendments to improve consideration of climate impacts and made available to the SEDAR process for consideration in stock assessments. Amendments can also update required data and monitoring needs sections to address data gaps identified through the workshop. The Council's Research and Monitoring plan, required by MSA, will be updated following the workshop to include greater attention to climate needs.

The workshop will be held in early 2025 and the report completed in late 2025. Throughout 2025 and 2026, workgroups will be assigned to specific programs or datasets to develop a framework for implementing recommended changes. Project participants from SAFMC IRA funded projects will also be invited to attend the meeting to ensure their projects can help to improve climate and ecosystem data useful for management in the region.

Project Objectives – Project Coordinator

- Implementation of fishery management measures or processes necessary to improve climate resiliency and responsiveness to climate impacts.
 - Project coordinator will work to identify measures or processes that can be implemented to improve management and climate resiliency.
 - Assist other staff in the development of fishery management plan amendments using knowledge gained through funded projects.
 - Plan and organize a workshop on Climate and Ecosystem Data Gaps
 - Develop a request for proposals that can address climate change including approaches such as management strategy evaluations (MSE), Adaptable Implementable Management (AIM) Framework, FishPath, and Framework for Integrated Stock and Habitat Evaluation (FISHE), and all of which use

stakeholder-supported management processes that are more responsive for data-limited species and potentially operationalize the CVA.

- Development and advancement of climate-related fisheries management planning and implementation efforts, including those in support of underserved communities (see ECCSP Implementation Tasks).

ADDITIONAL PROJECTS : \$2,125,000 REQUESTED

PROJECT 1

1. South Atlantic Fishery Management Council

2. Project Title: Comprehensive Program Review

The Comprehensive Program Review project will conduct a program review of the South Atlantic Fishery Management Council (Council) and NMFS Southeast Regional Office (SERO) process for developing federal fisheries management regulations from early action considerations to initiation of the rulemaking stage. It is expected such a review would identify ways to increase the efficiency and nimbleness of the management process. Additionally, the project would identify ways to operationalize recommendations from the East Coast Climate Change Scenario Planning initiative (ECCSP) that address streamlining of the management process and governance issues in the face of climate change and subsequent changes to fish stocks.

3. Funding Priority

This project would directly address the IRA funding priorities below:

- Developing and implementing management changes or processes that address climate vulnerability or improve climate resiliency of fisheries.
- Developing and implementing measures or processes that increase responsiveness of allocations or other management measures to climate impacts.
- Operationalize recommendations from climate scenario planning efforts.

Contribution to Funding Goals:

By evaluating the process used for developing regulations and identifying ways to improve efficiency, this project would address the goal of improving the Council's responsiveness to climate impacts and lead to greater climate resiliency in the management process. By operationalizing recommendations from the East Coast Climate Scenario Planning initiative, this project would support the Council's efforts toward climate-related fisheries management planning and implementation.

4. Objectives

- Identify opportunities for increased efficiency, timeliness, and adaptability in the Council's and SERO processes for developing fishery management actions and regulations and their supporting documentation.
- Identify ways that management can be more responsive to the risks and challenges fisheries face as a result of climate change.
- Identify bottlenecks and time consuming steps in the process to determine changes to improve responsiveness and make the process more nimble.
- Ensure that applicable laws continue to be addressed while continuing to provide meaningful opportunities for public input.
- Determine ways to operationalize recommendations from the ECCSP Initiative that increase resiliency in the management process and address governance issues across Councils and other fishery management organizations along the U.S. east coast.

5. Summary of Activities

The project would utilize a contractor to conduct the program review and the measurable outcome or deliverable within the grant period would be a report documenting the management process, identifying the areas in programs, policies, and practices that create bottlenecks or that render the process slow and inefficient, and recommend measures the Council could take to address those inefficiencies and improve the overall process. The contractor should identify areas

of inefficiency and propose solutions. The contractor will need to interact with Council and SERO staff, Council members and advisors, and other fishery constituents to evaluate program performance at various steps in the process, and will be expected to specify the the proposal how input will be gathered. This could include interviews and written correspondence as well as observations of the process at Council meetings. The contractor will also need to review various operating guidelines such as Regional Operating Agreements and be familiar with the federal laws guiding federal fisheries management procedures.

Once the contract work is completed, the Council’s practices would need to be updated and revised including documentation in staff guidance materials, Council Standard Operating Procedures (SOPS) and Operations Handbook, and the Regional Operating Agreement between the SAFMC and SERO. Some measures will likely need to be adopted into the Council’s FMPs and in subsequent related federal regulations, such as modifications to framework provisions that provided expedited methods of making regulatory changes. Additionally, Council may need to implement and incorporate the recommended measures, where feasible, into fisheries management actions taken by the SAFMC and SERO. This outcome may be started during the grant period but work would likely need to continue for several years for full implementation due to MSA timelines.

To conduct the program review, the contractor would meet regularly with a Contract Oversight Team (COT) to ensure that the scope of work is addressed. The COT would be composed of staff from the SAFMC, SERO, and the Southeast Fisheries Science Center (SEFSC), with direct expertise and involvement in regulatory action development and the ECCSP Initiative. The COT would assist the contractor in identifying information needed and points of contact within the SAFMC, SERO, and SEFSC to support the program review. Council staff time will needed on the project to carry out the activities described including supervising the project, serving on the COT and implementing any resulting regulations through updating staff documents, regional operating agreements, and leading FMP amendments.

Deliverable Summary:

1. Report detailing the process and bottlenecks, recommendations for Council and SERO to implement.
2. Update and revise Council practices, staff guidance materials, Council SOPS and Operations Handbook, and the Regional Operating Agreement, to increase efficiency and climate preparedness.
3. Implement recommended actions in FMPs (e.g., framework provisions).

Summary of activities

Activity	Expected Timeframe
Develop RFP for project, solicit bids, and hire contractor.	Q2 2024 (April-June)
Contractor meets with COT and conducts research for deliverable report.	Q3 2024 (July-Aug)– Q2 2025 (April-June 2025)
Draft report and recommendations reviewed by COT.	Q3 2025 (July-Aug)
Finalize report and recommendations.	Q4 2025 (Sept-Dec)

Report presented to the Council. The Council approves the report and directs staff to implement the recommendations.	December 2025
Council staff begins work on updating the staff guidance materials, Council standard operating procedures (SOPS) and Operations Handbook, and the Regional Operating Agreement between the SAFMC and SERO.	Q1 2026 (Jan-March) – Q1 2027 (Jan-March)
Council and staff work on an amendment to update the framework procedures in FMPs to reflect recommendations from the report.	Q1 2026 (Jan-March) – Q2 2027 (April-June)

6. Budget Summary

a. Personnel: \$47,729

Council staff time will need to be dedicated to the project to carry out the activities described including supervising the project while on the COT and implementing any resulting regulations through updating staff documents, regional operating agreements, and leading FMP amendments. Specifically, the Deputy Director for Management and a Fishery Management Plan Coordinator will be assigned to this task from Council staff.

Personnel costs are based on the Deputy Director for Management, at an initial rate of \$60.9/hr and an FMP coordinator, at an initial rate of \$49.61/hr, each contributing 5% of annual hours in year 1 (104 hours ea/208 hours total), 5% of annual hours in year 2 (104 hours ea/208 hours total), and 10% of annual hours year 3 (208 hours ea/416 hours total). Initial salary rates are increased 3% per year to account for anticipated federal cost of living increases.

Time	Year 1 (5% of time)	Year 2 (5% of time)	Year 3 (10% of time)	Total
Deputy Director Management	\$6,336	\$6,526	\$13,443	\$26,304
FMP Coordinator	\$5,160	\$5,315	\$10,949	\$21,425
Total	\$11,496	\$11,841	\$24,392	\$47,729

b. Fringe Benefits : \$31,177

Fringe is calculated as 60% of salary for year 1 and then increased by 10% per year multiplied by the time worked on the project. Fringe includes health insurance (medical, dental, and HSA), 401k match, FICA, retirement, and leave balance. Fringe is increased by 10% per year to account for increases in medical expenses.

Fringe	Year 1	Year 2	Year 3	TOTAL
Deputy Director Management	\$3,801	\$4,182	\$9,199	\$17,182
FMP Coordinator	\$3,096	\$3,406	\$7,493	\$13,995
Total	\$6,898	\$7,587	\$16,692	\$31,177

c. Travel: \$0

No travel costs are included in this project.

d. Supplies and Materials: \$0

No supplies and materials costs are included in this project.

e. Contractual/Consulting Services: \$250,000

A contractor will be hired to conduct the program review to address the objectives of the project as described and to complete a report detailing the review and recommendations (deliverable #1). Contract costs are \$100,000 year 1 and \$150,000 year 2 for total costs of \$250,000. Estimates for costs have been developed by communicating with experts in the field and considering similar work contracted by other Councils.

The contract will be awarded through a competitive process. A request for proposals will be prepared to solicit applications. Applications will be reviewed and ranked by several council staff using a scoring rubric based on NOAA's Cooperative Research Programs review evaluation process. Final selection will be made through consensus of a panel consisting of the Chair and Executive Director of the Council and Chair of the Council's Scientific and Statistical Committee. The SAFMC external grant process will be used to develop the contract details to define the timing, terms, deliverables, and conditions of contracts.

f. Other Costs: \$0

No other costs are included in this project.

Budget Summary Table

Category	Yr 1	Yr 2	Yr 3	Total
Personnel	\$11,496	\$11,841	\$24,392	\$47,729
Fringe	\$6,898	\$7,587	\$16,692	\$31,177
Travel	\$0	\$0	\$0	\$0
Equipment	\$0	\$0	\$0	\$0
Supplies	\$0	\$0	\$0	\$0
Contract	\$100,000	\$150,000	\$0	\$250,000
Other	\$0	\$0	\$0	\$0
Total	\$118,394	\$169,428	\$41,084	\$328,906

1. South Atlantic Fishery Management Council

2. Project Title: Climate Response for Data-Limited Fisheries: Explore new approaches to managing data-limited Golden Crab or Wreckfish fisheries.

The Council manages several data-limited species, including Golden Crab and Wreckfish, that its SSC has highlighted as needing additional information to support catch level recommendations. Of particular concern to climate preparedness is that catch level recommendations have remained static since being established in 2012 (Golden Crab) and 2015 (Wreckfish, terminal year of assessment was 2010) without review despite being identified as species potentially impacted by climate change (Burton et al. 2023¹). Additionally, management measures in the fishery management plans may prevent these fisheries from adapting to changing climate conditions.

New tools or management frameworks, such as AIM, FISHE, and FishPath, are available to evaluate management of species and provide guidance on which management measures may need to change to ensure the fishery is climate resilient. All of these tools or frameworks have been used in undermanaged fisheries (AIM – 3 case studies and more being developed², FISHE – 7 case studies³, FishPath – 17 case studies⁴) to improve communication between stakeholders and managers, use data-limited techniques to assess the status of the stock, and identify management actions that best achieve the recommendations of the stakeholders and requirements of management. The tools or frameworks can incorporate findings from climate vulnerability analysis while others can recommend management actions that are adaptable to make the fishery resilient to climate change.

Management has been static in both the Golden Crab and Wreckfish fisheries since the original FMPs. The Golden Crab FMP included recommendations for a limited entry system, fishery zones, depth limitations, and prohibition of female sales in 1995. The fishery has likely changed over time, but the only changes in the management plan have been through comprehensive amendments that involved broad changes across several FMPs to address MSA revisions. The only amendment focused on specific management changes for the Golden Crab fishery was in 2002 which changed gear requirements, created another fishery zone, and imposed vessel permitting specifications. The fishery exhibits an increase in landings from 2002 to 2014 followed by a decline. Causes for the decline are unknown. Effort may be changing which could result in reduced landings, population abundance may be decreasing, or other factors such as climate change may be influencing landings levels.

Golden Crab were predicted to have a high exposure to climate change. Climate change could impact the distribution of the species although a recent climate vulnerability analysis indicated that a potential change in distribution was not likely (Burton et al. 2023). This is important when thinking about stock dynamics where productivity in the different management zones could be impacted differently.

¹ Burton, M.L. et al. 2023. A Climate vulnerability assessment for fish and invertebrates in the United States South Atlantic large marine ecosystem. NOAA Technical Memorandum NMFS-SEFSC-768. <https://doi.org/10.25923/f90h-1z90>.

² Presentation provided to NOAA Ecosystem-Based Fisheries Management Seminar Series June 2022. <https://www.youtube.com/watch?app=desktop&v=4QHVIKhOE9s>

³ Sun, M., A. Setiawan, P.B. Susila, T. Ernawati, L. Fang, R. Fujita, L. Guan, H. Harlisa, J. Ingles, S. Mesa, K. Kleisner, Y. Chen. 2023. Evaluating adaptive management frameworks for data-limited crustacean fisheries. *Journal of Environmental Management* 341. <https://doi.org/10.1016/j.jenvman.2023.118074>

⁴ <https://fishpath.org/case-studies>

Wreckfish in the north Atlantic Ocean are one genetic stock with mixing of the population off the eastern seaboard of the US and western Europe (Presa et al. 2023⁵). These fish are exploited throughout the Atlantic Ocean including harvest from the Azores, Bermuda, Mediterranean Sea, and Atlantic coasts of Europe and US (Sedberry et al. 1999⁶). The species can be subjected to overfishing as evidenced in the crash of the Brazilian population (Wakefield et al. 2013⁷). A similar fate may have been avoided off the US when the Wreckfish fishery was established as one of the first individual transferable quota fisheries in the US. The quota was set to 2,000,000 pounds from 1990 until 2012 when the ABC was reduced to 250,000 pounds based on average catch from 1997 to 2009. The ABC recommendation was increased by the SSC to 433,000 lbs. in 2015 and then scheduled to decrease to 389,100 lbs. in 2020 based on a length-based stock assessment. The 2020 ABC has remained in place since the last assessment with data through 2010. Over this period, the South Atlantic region has seen changes in productivity for several assessed species and the Mediterranean region, a potential nursery area for juvenile Wreckfish, has seen warming 20% faster than the rest of the world (IPCC 2022⁸). Landings for the species are often confidential according to the NOAA Fisheries One Stop Shop, but the trend in landings based on information reported in the Atlantic Coast Cooperative Statistics program indicates landings have decreased since 2012. Based on a trendline fit to the landings, the landings decreased by approximately 40,000 lbs. per year. Given that the ACL is only 389,100 lbs., this decrease of 400,000 lbs. over ten years should be reason for significant concern in the fishery.

More rapid approaches to managing international species, such as Wreckfish, with harvest control rules may outperform traditional stock assessment approaches. A similar approach is being taken for NMFS Dolphin on the Atlantic Coast by developing a management strategy evaluation for the Atlantic Coast Fishery. Tools such as FISHE and AIM are very similar to management strategy evaluations in their use of assessments and stakeholder input to develop a harvest control rule. FISHE and AIM are also designed to follow the harvest control rule into implementation of the results. In these systems, the harvest strategy would be based on harvest control rules that illustrate how allowable harvest and management measure may change in response to fishery conditions and that are developed in consultation with stakeholders, SSC, and Council. Both AIM and FISHE are frameworks that enable the incorporation of climate impacts on stocks and harvest control rules. The FISHE framework has a climate vulnerability analysis module incorporated into the system so that the results from Burton et al. (2023) can aid in the development of a management framework that is resilient to climate impacts and incorporates stakeholder knowledge in the process. AIM can also incorporate climate change into the development of a sustainable harvest control rule.

⁵ Presa P, Pita A, Matusse NR, Pérez M. Genetic Divergence and Connectivity among Gene Pools of *Polyprion americanus*. *Animals*. 2023; 13(2):302.

⁶ Sedberry, G.R.; Andrade, C.A.P.; Carlin, J.L.; Chapman, R.W.; Luckhurst, B.E.; Manooch, C.S., III; Menezes, G.; Thomsen, B.; Ulrich, G.F. Wreckfish *Polyprion americanus* in the North Atlantic: Fisheries, biology and management of a widely distributed and long-lived fish. *Am. Fish Soc. Symp.* 1999, 23, 27–50.

⁷ Wakefield, C.B.; Newman, S.J.; Boddington, D.K. Exceptional longevity, slow growth and late maturation infer high inherent vulnerability to exploitation for bass groper *Polyprion americanus* (Teleostei: *Polyprionidae*). *Aquatic Biol.* 2013, 18, 161–174

⁸ IPCC, 2022: *Climate Change 2022: Impacts, Adaptation, and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Lösschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 pp., doi:10.1017/9781009325844.

3. *Funding Priorities*

This project would address the following IRA priorities:

- Developing and implementing management changes or processes that address climate vulnerability or improve climate resiliency of fisheries (e.g., potential revisions to harvest control rules to account for changes in ecosystems related to climate change), including those that are important to underserved communities;
- Developing and advancing climate-related fisheries management planning (e.g., conducting climate scenario planning) and implementation efforts, including those in support of underserved communities.

Contribution to Funding Goals:

This project would address the funding goal to implement management measures to improve climate resiliency by improving the information available to define management criteria and catch limits for data limited species that have been subject to static regulations for over a decade. The information provided would help the Council determine if the selected stocks are exhibiting a climate response and support more robust and resilience catch recommendations.

4. *Objectives*

- Develop and apply a stakeholder driven MSE process, using newly emerging tools that can incorporate climate information, to inform catch levels and management recommendations for a selected data limited species (Golden Crab or Wreckfish).
- Implement updated catch levels and management actions through Council FMPs.
- Provide proof of concept that novel, stake-holder driven methods can fill in data and analytical gaps that exist for many managed species in the South Atlantic and provide information suitable for us in the federal fisheries management process.

5. *Summary of Activities*

The Council will develop a request for proposals listing specifically Wreckfish and Golden Crab as species to work with for developing a stakeholder driven process to establish a harvest control rule.

A contractor will be hired to develop a stakeholder driven approach to develop management recommendations supported by a harvest control rule to allow for more timely and adaptable management that will be implemented through FMP amendments. Extensive stake holder involvement would be incorporated to gather climate and fishery information for these data limited species. While it can take considerable time to apply a stakeholder oriented approach, the small size of these fisheries and relatively low number of participants increases the likelihood of success in the available time of this funding opportunity.

Stakeholder groups have already been appointed by the Council for Golden Crab and Wreckfish and are available to serve as advisory bodies. The SSC can serve as the review body for the assessment of the stock and subsequent development of catch level recommendations.

Meetings will occur between the contractor, Council staff, and stakeholders to identify the goals for the fishery and develop recommended management strategies for specific criteria. These will be reviewed by the Council during development. Council staff and contractor will hold

stakeholder meetings in 2024 and 2025 to develop the goals, objectives, and harvest control rule. Council staff will take the lead for organizing meeting locations and dates.

Council staff will gather appropriate data for the project to describe stock status and inform stakeholders. Data will be provided to the contractor, who will develop an assessment for the selected species. The assessment will be peer reviewed by the SSC following Council peer review practices.

The final product, including the harvest control rule and recommended management measures, will be reviewed by the SSC in April 2026 and be presented to the Council in June 2026. This will enable the Council to begin developing an appropriate amendment to implement the findings of the study.

Deliverable Summary:

1. Report detailing the tool applied, process followed, input parameters, findings, and recommendations.
2. FMP amendment to implement changes in catch levels and management.

Activities Summary Table

Activity	Expected Timeframe
Develop RFP for project, solicit bids, and hire contractor.	Q2 2024 (April-June)
Contractor meets with staff and stakeholders.	Q3 2024 (July-Aug)– Q2 2024 (April-June 2025)
Draft stock status reviewed by SSC.	Q4 2025 (Oct)
Finalize report and recommendations.	Q2 2026 (April-June)
Report presented to the Council. The Council approves the report and directs staff to implement the recommendations.	June 2026
Council staff develops FMP amendments to implement recommendations.	Q3 2026 (July-Sept) – Q2 2027 April-June)

6. Budget Summary

- a. Personnel: \$48,485

A council fishery scientist will work on this project to gather data in 2024, help to analyze data in 2025, and develop an amendment in 2026. Costs are based on a base salary of \$6,667/month and time spent on this project of 1 month in 2024, 3 months in 2025, and 3 months in 2025. Base salaries are increased by 3% per year to account for anticipated federal cost of living increases.

- b. Fringe Benefits: \$30,796

Fringe is calculated as 60% of salary for year 1 and then increased by 10% per year multiplied by the time worked on the project. Fringe includes health insurance (medical, dental, and HSA), 401k match, FICA, retirement, and leave balance. Fringe is increased by 10% per year to account for increases in medical expenses.

c. Travel: \$44,610

Travel is expected for 2 trips in years 1 and 2. Travel is expected for 15 stakeholders to attend the meetings. The per diem is \$79 per day with 75% of the per diem on the first and last day of travel (\$59.25). Hotel room costs are approximately \$150 per person for three nights. Average travel costs based on travel for other SAFMC related meetings to Charleston are approximately \$500 per person.

d. Supplies and Materials: \$0

No supplies and materials costs are included in this project.

e. Contractual/Consulting Services: \$300,000

A contractor will be hired to apply the data limited tool and develop a report detailing findings and recommendations that address the objectives of the project as described (deliverable #1). Contract costs are \$75,000 year 1 and \$150,000 year 2, \$75,000 in year 3 for total costs of \$300,000. Estimates for costs have been developed by communicating with experts in the field and considering the complexity of the target fisheries.

The contract will be awarded through a competitive process. A request for proposals will be prepared to solicit applications. Applications will be reviewed and ranked by several council staff using a scoring rubric based on NOAA's Cooperative Research Programs review evaluation process. Final selection will be made through consensus of a panel consisting of the Chair and Executive Director of the Council and Chair of the Council's Scientific and Statistical Committee. The SAFMC external grant process will be used to develop the contract details to define the timing, terms, and conditions.

f. Other Costs: 0

No other costs are included in this project.

Budget Summary Table

Category	Yr 1	Yr 2	Yr 3	Total
Personnel	\$6,667	\$20,600	\$21,218	\$48,485
Fringe	\$4,000	\$13,200	\$13,596	\$30,796
Equipment	\$0	\$0	\$0	\$0
Supplies	\$0	\$0	\$0	\$0
Travel	\$22,305	\$22,305	\$0	\$44,610
Contract	\$75,000	\$150,000	\$75,000	\$300,000
Other	\$0	\$0	\$0	\$0
Total	\$107,972	\$206,105	\$109,814	\$423,891

PROJECT 3

1. South Atlantic Fishery Management Council

2. Project Title: Evaluate and update stock boundaries and Essential Fish Habitat

Stock boundaries for South Atlantic Snapper Grouper species have historically been set at the North Carolina-Virginia border to the north and in the Florida Keys to the south, aligned with Council jurisdictions by default. The Coastal Migratory Pelagics (CMP) management boundary extends to the Rhode Island/New York state lines following the regional division into federal waters. The Dolphin and Wahoo Fishery Management Plan (FMP) extends the South Atlantic Fishery Management Council (Council) jurisdiction through Maine. These boundaries have not been reviewed since the creation of the FMPs in 1982 for Coastal Migratory Pelagics, 1983 for Snapper Grouper, and 2003 for Dolphin and Wahoo. Given the potential for distribution shifts northward and evidence for connections between the Gulf of Mexico and South Atlantic via the transport of eggs and larvae (Brothers et al. in prep), additional work is needed to better delineate stock boundaries. Due to shifts in distribution, essential fish habitat descriptions may need to be revised. It is also important to note if new species are moving into the area and are becoming a component of the fishery.

Spanish Mackerel and other species in the CMP FMP currently have Essential Fish Habitat (EFH) only described for the South Atlantic region. However, Spanish Mackerel are collected in the Chesapeake Bay as part of the Virginia Institute of Marine Science Juvenile Fish Trawl Survey in 2022 and 2023¹. The Chesapeake Bay may now be essential fish habitat and revisions of the current description may be appropriate.

Additionally, recreational landings of Spanish Mackerel have increased in the Mid-Atlantic region over the past 20 years. New fisheries may start and previous seasonal or occasional fisheries may expand as Spanish Mackerel are increasingly moving northward. The fishery north of North Carolina needs a better description to include gears used, areas fished, and information on bycatch and incidental catch. This will benefit future stock assessments and management actions that will need to better incorporate data from New England and the Mid-Atlantic Region.

Also of concern are recreational landings of Spanish Mackerel appearing in the New England region. Currently, the Council management jurisdiction only extends through the Mid-Atlantic region. An evaluation of available data should help to determine if management needs to extend into the New England Region.

This project will address East Coast Climate Scenario Planning Action Plan Priority 3(d), to “conduct evaluations and/or develop tools to describe and visualize past, current, and projected spatial distribution of managed resources to inform management.” Outcomes will include describing species commonly caught and the spatial distribution of the fishery, determining the biological distribution of the stock, comparing distributions of the biological stock and fishery, and reviewing essential fish habitat related to the updated biological descriptions.

3. Priorities Addressed

- Operationalizing recommendations from climate scenario planning efforts;
- Developing and implementing management changes or processes that address climate vulnerability or improve climate resiliency of fisheries (e.g., potential revisions to harvest

¹ https://www.vims.edu/research/units/programs/juvenile_surveys/data_products/reports/

control rules to account for changes in ecosystems related to climate change), including those that are important to underserved communities;

Contribution to Funding Goals:

Essential fish habitat designations must be kept up to date as species shift to ensure appropriate protections are kept in place. This project would allow the Council to take a direct action to update EFH designations in response to observed changes in species distribution and thereby improve climate resiliency and responsiveness. This project will also implement an action identified in the East Coast Climate Scenario Planning initiative, a regional, climate related fisheries management planning effort.

4. Objectives

- Updated information on species and fishery spatial distribution
- Comparisons between existing EFH designations to updated species distributions
- Recommendations for potential future EFH changes in response to climate change
- Improved display of EFH information on the Council website

5. Activities

The Council will develop a request for proposals listing to develop species distributions, describe spatial distribution of the fishery, and redefine essential fish habitat for the Snapper Grouper, Coastal Migratory Pelagics, and Dolphin Wahoo Fishery Management Plans.

Council staff will work with the contractor to gather appropriate data for the project to understand spatial distribution.

Meetings will occur between the contractor, Council staff, and data managers to gather information on the species associated with the FMPSs.

The contractor will use available methods to describe species distribution, fishery spatial distribution, and EFH.

The final product including recommended changes to EFH will be reviewed by the SSC and Habitat and Ecosystem Advisory Panel in April 2026.

Once complete, the findings will be presented to the Council in June 2026. Findings will be provided to the Mid-Atlantic Council, New England Council, Atlantic States Marine Fisheries Commission, and ECCSP for review. The Council will develop an amendment based on the results of the project, with coordination with other Councils and the Commission as necessary.

Council staff will develop an app to display new EFH maps similar to the tool developed by the Mid-Atlantic Fishery Management Council for Northeast Regional Marine Fish Habitat Assessment².

² <https://nrha.shinyapps.io/dataexplorer/#!/model>

Deliverable and Implementation Actions Summary

1. Project reports addressing EFH, fishery and stock distributions, changes over time, and potential for future changes related to climate impacts.
2. FMP amendments to revise FMUs, EFH, and implement other recommendations.
3. A web-based tool to display heat maps of fisheries and stocks over time.

Activity	Expected Timeframe
Develop RFP for project, solicit bids, and hire contractor.	Q2 2024 (April-June)
Contractor meets with Habitat and Ecosystem Scientist and data providers.	Q3 2024 (July-Aug)– Q2 2025 (April-June 2025)
Draft spatial distributions and EFH descriptions reviewed by SSC.	Q2 2026 (April)
Finalize report and recommendations.	Q2 2026 (April-June)
Report presented to the Council. The Council approves the report and directs staff to implement the recommendations.	June 2026
Council staff develops amendments to implement recommendations. Staff develops new maps to visualize EFH and interactive tool to describe fishing effort.	Q3 2026 (July-Sept) – Q2 2027 (April-June)

6. Budget Summary

a. Personnel: \$49,725

The Habitat and Ecosystem Scientist (base salary of \$65,000/year) will work on this project. Time spent includes 3 months in 2025 to gather data and help with analysis and 6 months in 2026 to develop amendments to revise EFH and develop webpages to describe EFH and fishery distribution. Base salaries are increased by 3% per year to account for anticipated federal cost of living increases.

b. Fringe Benefits: \$31,200

Fringe is calculated as 60% of salary for year 1 and then increased by 10% per year multiplied by the time worked on the project. Fringe includes health insurance (medical, dental, and HSA), 401k match, FICA, retirement, and leave balance. Fringe is increased by 10% per year to account for increases in medical expenses.

c. Travel: \$0

No travel costs are included in this project.

d. Supplies and Materials: \$0

No supplies and materials costs are included in this project.

e. Contractual/Consulting Services: \$325,000

A contractor will be hired to work with the Habitat and Ecosystem Scientist to evaluate EFH and develop a report describing changes to spatial distribution and changes to EFH (deliverable #1). Contractor costs are \$100,000 year 1, \$175,000 year 2, \$50,000 year 3 for a total of \$325,000.

The contract will be awarded through a competitive process. A request for proposals will be prepared to solicit applications. Applications will be reviewed and ranked by several council staff using a scoring rubric based on NOAA’s Cooperative Research Programs review evaluation process. Final selection will be made through consensus of a panel consisting of the Chair and Executive Director of the Council and Chair of the Council’s Scientific and Statistical Committee. The SAFMC external grant process will be used to develop the contract details to define the timing, terms, and conditions for each job or contracted component within a job.

f. Other Costs .

No other costs are included in this project.

Budget Summary Table

Category	Yr 1	Yr 2	Yr 3	Total
Personnel	\$0	\$16,250	\$33,475	\$49,725
Fringe	\$0	\$9,750	\$21,450	\$31,200
Travel	\$0	\$0	\$0	\$0
Equipment	\$0	\$0	\$0	\$0
Supplies	\$0	\$0	\$0	\$0
Contract	\$100,000	\$175,000	\$50,000	\$325,000
Other	\$0	\$0	\$0	\$0
Total	\$100,000	\$201,000	\$104,925	\$405,925

1. **South Atlantic Fishery Management Council**
2. **Project Title: Identification of Underserved Communities in the South Atlantic to Improve Communication on Climate Change Effects and Best Practices for Newly Encountered Species.**

Sea level rise has shown a consistent long-term trend in the South Atlantic region, with some acceleration in the most recent years. Furthermore, damaging storms are increasing in severity and frequency. A better understanding of how observed rates of sea level rise and increased storm damage threaten infrastructure and communities is needed. Information on the location of fishing-related infrastructure (commercial fishing facilities, marinas, bait/tackle shops, ice houses, fuel docks, boat ramps, piers, roadside seafood stands, retail markets, etc.) is needed to develop a baseline for fishing-related infrastructure to help document potential changes due to sea level rise and increased storm damage. Various local and state organizations have information on fishing-related infrastructure past and present, but this information does not currently exist in a comparable form for the South Atlantic region in its entirety. Information on infrastructure and its vulnerability throughout the Council's jurisdiction is essential for conducting the social impact analyses associated with management actions under consideration. For example, stringent regulations on a commercially or recreationally important species may cause waterfront business reliant upon harvest (fish houses, marinas, docks, etc.) to decrease employment, go into disrepair, or close altogether. If that infrastructure was the last remaining of its kind in a given community or region, the sustained participation of that community would no longer be possible even if regulations are less stringent in the future.

Information on available infrastructure in the region would help staff meet the National Standard 8 mandate to consider the importance of fishery resources to fishing communities and providing continued access to the fishery. Information on available infrastructure is not only useful for more accurately identifying fishing communities and their level of dependence on fishing activities, but also for understanding if a local or regional approach is more appropriate for social impact analyses, how loss of working waterfronts may change fishing behavior, and how management measures and climate change may affect working waterfronts and fishing community sustainability. This has been identified as an important topic to address by the Southeast Regional Administrator (personal conversation with Andy Strelcheck).

Complementary to understanding infrastructure, it is important to understand what communities are reliant upon that infrastructure and for the Council, how they interact with managed species. This is increasingly important as climate change continues to modify the fisheries management landscape, causing new communities to interact with managed species and vulnerable underserved communities to experience increasing stresses due to changing environmental conditions and species distributions. Currently, there is limited information on underserved communities in the region and even less information on their vulnerabilities to climate change. Identifying these communities and building relationships with key stakeholders is essential to better understanding how they value managed species, their vulnerabilities, and how they would prefer to engage in the management process. As noted in the NMFS Equity and Environmental Justice (EEJ) Strategy, pursuing early and more importantly effective communication is key to ensuring management is responsive to changing needs under climate change from initial discussions to final implementation of management measures.

3. Priorities Addressed

- Developing and advancing climate-related fisheries management planning (e.g., conducting climate scenario planning) and implementation efforts, including those in support of underserved communities.
 - The “Where” of Communities: Baseline information on fishing infrastructure availability and vulnerability to climate change effects.
- Developing and implementing management changes or processes that address climate change vulnerability or improve climate resiliency of fisheries, including those that are important to underserved communities.
 - The “Who” and “How” of Communities: Identification of underserved communities and their preferences for engagement in the South Atlantic region.
- Operationalizing recommendations from climate scenario planning efforts.
 - The ‘What’ to Communicate to Communities: Stakeholder Engagement Meetings and expansion of best fishing practices and Citizen Science Program outreach to new communities.

Contribution to Funding Goals:

This project addresses the IRA funding goal of advancing climate related fisheries management planning, particularly for underserved communities, by identifying communities and individuals within them and then developing communication plans to inform those communities about the management process, how they may be impacted as species shift and the climate changes, and how they can engage within the process. The project intends to reach beyond the existing Council area of jurisdiction to engage with constituents who may be impacted by Council actions through climate change and shifting stocks.

4. Objectives:

1. Develop a report presenting baseline infrastructure data for the South Atlantic region and the extent to which that infrastructure may be vulnerable to climate change stressors such as sea level rise for use in management decisions and associated analyses.

Implementation: Use report findings to improve social environment and social effects sections of FMP amendments and improve the Council’s ability to develop climate resilient management.

2. Develop a report summarizing work done with underserved communities focusing on the extent to which they interact with Council managed species, their communication preferences, and what challenges they may face under climate change.

Implementation: Develop a communication plan that addresses the needs of underserved communities to support them actively engaging in the management process and climate change discussions.

3. Expand Council outreach programs to build relationships with underserved communities and improve information sharing related to climate change.
 - a. Continued development of the Council’s stakeholder engagement meetings, which would meet fishermen in their communities and provide an opportunity for Council members to have productive dialogues with fishery participants on climate change,

Implementation: Information gathered during stakeholder engagement meetings would improve the Council’s ability to be responsive to climate impacts, especially those being experienced by underserved communities who might not otherwise have the ability to speak with Council members in-person.

- b. Increased outreach on best fishing practices and Citizen Science focusing on communities that are newly interacting with snapper grouper species and development of best fishing practices outreach for additional species managed by the Council.

Implementation: Executing this outreach campaign will improve community resiliency and responsiveness to climate impacts as fishermen must change their fishing portfolios due to changing species ranges.

5. Activities

A request for proposals will be developed to complete the work needed to achieve the goals of the project. Contractors will be asked to provide details on how they intend to collate information on the location of existing and previously existing/closed fishing-related infrastructure and determine how that infrastructure is vulnerable to changing environmental conditions. Contractors will be expected to exhibit a process for moving from identifying key infrastructure areas to identifying underserved communities reliant upon that infrastructure. Contractors will be asked to work with key community stakeholders to understand how they interact with Council managed species, their communication preferences, and climate change challenges they face.

Activity	Expected Time Frame
Request for proposals developed, contractor chosen.	May 2024 – September 2024
Objective One (infrastructure) work completed.	October 2024 – September 2025
Final infrastructure report presented to Council.	December 2025
Objective Two (underserved communities) completed.	October 2025 – September 2026
Final report and communication plan presented to Council	December 2026

Input from communities has always been a fundamental component of the Council process. However, fisheries stakeholders, especially those from underserved communities, may lack confidence in management institutions and feel their concerns are not heard or addressed. As climate change continues to impose challenges to communities and the ecosystems, stocks, and fisheries they rely on, improving the resolution and timeliness of the decision-making information available to the Council is essential.

Council staff are developing a plan for stakeholder engagement meetings along the South Atlantic coast, meeting fishermen in their communities. Traveling to communities will enable interaction with stakeholders who might not otherwise have the opportunity for in-person discussions with members due to financial or time constraints. Additionally, the traditional public comment format does not always allow for two-way discourse between Council members and stakeholders. These meetings will provide an opportunity for Council members to have dialogues and build relationships with fisheries participants to gain feedback and increase engagement in the management process. Building relationships and momentum for participation in the management process would allow the Council to better incorporate qualitative

information, specifically local ecological knowledge, into their decision-making process to improve management in a changing climate, one of the goals identified during climate change scenario planning.

Activity	Expected Timeframe
Work with a hired facilitator and South Atlantic Council planning team to develop a plan for stakeholder engagement meetings.	May 2024 – December 2024
Hold the first round of stakeholder engagement meetings in two of the four south Atlantic states (Objective 3a).	January 2025 – February 2025
Present information gathered during stakeholder engagement meetings to the South Atlantic Council.	March 2025
Modify stakeholder engagement meetings plan based on experiences during the first round of meetings.	April 2025 – December 2025
Hold the second round of stakeholder engagement meetings in two of the four south Atlantic states (Objective 3a).	January 2026 – February 2026
Present information gathered during the stakeholder engagement meetings to the South Atlantic Council.	March 2026

A climate change scenario planning theme was managing fisheries under increased uncertainty and the need to improve the ability of fishermen and other stakeholders to adapt to climate change. As fish stocks continue to shift or expand their ranges due to climate change, communities will interact with new species with different life histories and handling needs. Snapper grouper species, which are increasingly being seen further north, can suffer from high release mortality rates related to a variety of factors including barotrauma and higher water temperatures. The Council has a Best Fishing Practices Initiative, focused in the South Atlantic regio, to improve the survivorship of released snapper grouper species through outreach and education.¹ Expanding outreach on best fishing practices into the mid-Atlantic where fishermen are increasingly interacting with snapper group species will be key to supporting resiliency for communities that are highly engaged and reliant upon these species. Expanding Citizen Science efforts for SAFMC Release, which partners with commercial, for-hire, and recreational fishermen to collect information on shallow water grouper and red snapper releases, will allow managers to understand which of these species are being released further north, the size of the released fish, and help better understand how many survive. Information collected through SAFMC Release will help inform the stock assessment process, especially as the subject species expand into new habitats under climate change. To help adapt and implement Best Fishing Practices and Citizen Science outreach efforts to new areas, staff intend to connect and collaborate with agencies, organizations, and industry partners in the new areas such as the Mid-Atlantic Fishery Management Council and the mid-Atlantic state agencies.

¹ For detail on outreach and education efforts see the South Atlantic Council’s [Best Fishing Practices webpage](#), [SAFMC Release webpage](#), and [Appendix H](#) in Regulatory Amendment 35 to the Fishery Management Plan for the Snapper Grouper Fishery in of the South Atlantic Region.

Activity	Expected Timeframe
Develop a communication plan for best fishing practices and SAFMC Release in the mid-Atlantic region.	May 2024 – July 2024
Conduct initial outreach trips in the mid-Atlantic region.	August 2024 – December 2024
Revise communication plan as needed and continue outreach efforts in the mid-Atlantic region.	January 2025 – December 2025
Wrap up outreach efforts in the mid-Atlantic region	January 2026 – June 2026
Evaluation of outreach efforts in the mid-Atlantic region.	July 2026 – December 2026

6. Budget Summary

a. Personnel: \$99,772

In year one, an outreach specialist and a project coordinator are each expected to dedicate 2.5 months of staff time (432 hours each) to developing outreach materials and traveling to new areas for outreach related to best fishing practices and citizen science initiatives. In year 2 and 3 of the grant, these positions are each expected to dedicate 3 months (520 hours) and 2 months (346 hours) respectively, to developing best fishing practices for pelagic species while promoting SAFMC best fishing practices for bottom fishing and citizen science initiatives.

The Social Scientist and Citizen Science Program Manager are each expected to dedicate 5% of time (104 hours) in years 1 and 3 and 10% of time (208 hours) in year 2 to provide oversight and administration of the activities under this project.

Base rate salaries for these positions are the current salary range; salaries are increased by 3% per year to account for expected federal cost of living adjustments.

Salary Cost Detail by Year and Employee

Person	Base Rate		Yr1	Yr2	Yr3	Total
BFP Outreach Specialist	\$23.10 per hour	<u>Time</u> <u>Cost</u>	<u>432h</u> \$9,991	<u>520h</u> \$12,372	<u>346h</u> \$8,479	\$30,842
Citizen Science Project Coordinator	\$23.10 per hour	<u>Time</u> <u>Cost</u>	<u>432h</u> \$9,991	<u>520h</u> \$12,372	<u>346h</u> \$8,479	\$30,842
Social Scientist	\$40.70 per hour	<u>Time</u> <u>Cost</u>	<u>104h</u> \$4,233	<u>208h</u> \$8,971	<u>104h</u> \$4,491	\$17,695
Citizen Science Program Manager	\$46.90 per hour	<u>Time</u> <u>Cost</u>	<u>104h</u> \$4,878	<u>208h</u> \$10,338	<u>104h</u> \$5,175	\$20,391
TOTAL			\$29,093	\$44,053	\$26,624	\$99,770

b. Fringe Benefits: \$69,369

Fringe is calculated as 60% of salary for year 1 and then increased by 10% per year multiplied by the time worked on the project. Fringe includes health insurance (medical, dental, and HSA), 401k match, FICA, retirement, and leave balance. Fringe is increased by 10% per year to account for increases in medical expenses.

Fringe Costs Detail by Year and Employee

Person	Rate	Yr1	Yr2	Yr3	Total
BFP Outreach Specialist	\$23.10/hr	\$1,270	\$7,928	\$5,802	\$15,000
Citizen Science Project Coordinator	\$23.10/hr	\$1,270	\$7,928	\$5,802	\$15,000
Social Scientist	\$40.70/hr	\$2,927	\$5,748	\$3,073	\$11,748
Citizen Science Program Manager	\$46.90/hr	\$17,455	\$6,624	\$3,541	\$27,620
TOTAL		\$22,921	\$28,228	\$18,219	\$69,368

c. Travel : \$65,340

Funds will support Council member travel to stakeholder engagement meetings in year 2 and 3. Travel costs are estimated for three Council members to each travel 9 days (2 trips, 4.5 days each). Hotel costs are estimated at \$150 per person per night. Per diem is estimated at \$79 per day with 75% of the per diem on the first day of travel. Average travel costs are estimated at \$500 per person per trip based on travel for other SAFMC related meetings. Council member stipends for non-state agency members (2 of the 3) are estimated at \$70.75 per hour for 72 hours (9 days at 8 hours per day).

Funds will support travel for best fishing practices and citizen science outreach into new areas. In years 1 and 3 travel costs are estimated for a total of 12 travel days for two people (2 trips, 3 days each). In year 2 travel costs are estimated for a total of 24 travel days for two people (4 trips, 3 days each). Hotel costs are estimated at \$150 per person per night. Per diem is estimated at \$79 per day with 75% of the per diem on the first day of travel. Average travel costs are estimated at \$1000 per person per trip based on doubling the travel rate for other SAFMC related meetings since travel to the northern regions will be more expensive.

d. Supplies and Materials : \$21,797

Funds will be used to print informational materials (e.g., wallet cards, rack cards, brochures, flyers) to promote best fishing practices and citizen science initiatives. Cost of print materials range from wallet cards (~\$0.05 each) to brochures (~\$1.25 each). Using an average cost of ~\$0.65 per item, in year 1, \$2,500 will support obtaining 3,850 items for distribution. In year 2, \$5,500 support obtaining 8,461 items for distribution. Left over materials from Year 1 and Year 2 will be used in Year 3 plus \$1,519 will be used to purchase an additional 2,337 items for distribution.

Funds will also be used to purchase small promotional items (e.g. stickers, fishing towels, rulers, etc.) to promote best fishing practices and citizen science initiatives. Cost for promotional items range between stickers (~\$1.50 each) to towels (~\$4.50 each). Using an average cost of \$3.00 per item, in year 1, \$3,500 will support obtaining approximately 1,166 items for distribution. In year 2, \$6,500 support obtaining approximately 2,167 items for distribution. Left over materials from Year 1 and Year 2 will be used in Year 3 plus \$2,280 will be used to purchase 760 items for distribution.

e. Contractual/Consulting Services: \$710,000

Contractors will be hired for objective 1 (infrastructure) and objective 2 (underserved communities) in years 1-3, and objective 3 (stakeholder engagement meetings) in years 1 and 2.

Contract estimates are based on communication with potential contractors. Objective 1 contractor expenses are: \$100,000 year 1, \$150,000 year 2, and \$100,000 year 3. Objective 2 contractor expenses are \$100,000 per year for year years 1-3. Objective 3 contractor expenses are \$40,000 in year 1, and \$60,000 in year 2.

The contract will be awarded through a competitive process. A request for proposals will be prepared to solicit applications. Applications will be reviewed and ranked by several council staff using a scoring rubric based on NOAA’s Cooperative Research Programs review evaluation process. Final selection will be made through consensus of a panel consisting of the Chair and Executive Director of the Council and Chair of the Council’s Scientific and Statistical Committee. The SAFMC external grant process will be used to develop the contract details to define the timing, terms, and conditions.

f. Other Costs : 0

No other costs are included.

Budget Summary Table

Category	Yr 1	Yr 2	Yr 3	Total
Personnel	\$29,093	\$44,053	\$26,624	\$99,770
Fringe	\$22,921	\$28,228	\$18,219	\$69,369
Travel	\$6,709	\$32,670	\$25,961	\$65,340
Equipment	\$0	\$0	\$0	\$0
Supplies	\$6,000	\$12,000	\$3,799	\$21,799
Contract	\$240,000	\$270,000	\$200,000	\$710,000
Other	\$0	\$0	\$0	\$0
Total	\$304,724	\$386,951	\$274,603	\$966,278