



Regulatory Flexibility Analysis for the Research Area within Gray's Reef National Marine Sanctuary: A 10-year Review



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U.S. Department of Commerce
Gina Raimondo, Secretary

National Oceanic and Atmospheric Administration
Richard W. Spinrad, Ph.D., Under Secretary of Commerce for Oceans and Atmosphere and
NOAA Administrator

National Ocean Service
Nicole LeBoeuf, Assistant Administrator

Office of National Marine Sanctuaries
John Armor, Director

Prepared by:
Conservation Science Division
Danielle Schwarzmann



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Regulatory Flexibility Act Analysis: Economic Effects to Small Business

Introduction

The Regulatory Flexibility Act (RFA), 5 U.S.C. § 601 et. seq., requires Federal agencies to consider the effects of regulations on small entities. The RFA does not require the agency to necessarily minimize a rule's impact on small entities if there are significant legal, policy, factual, or other reasons for the rule's having such an impact. Instead, the purpose of the RFA is to inform the agency and public of expected economic impacts of various alternatives contained within the regulatory action and to ensure the agency considers alternatives that minimize the expected impacts while meeting the goals and objectives of the applicable statutes. This report is an analysis after 10 years of regulation since a final rule took effect, as required by section 610 of the RFA.

An economic analysis of the initial regulatory flexibility analysis (IRFA) was provided in the proposed rule for the Gray's Reef National Marine Sanctuary (GRNMS) Research Area (Sept. 14, 2010, 75 FR 55692), in the draft and final environmental impact statements (EIS), and in the final rule for designation of the research area (Oct. 14, 2011, 76 FR 63824). The regulatory flexibility analysis provides:

1. a description of the reasons why action by agency is being considered;
2. a succinct statement of the objectives of, and legal basis for, the proposed regulatory action;
3. a description and, where feasible, an estimate of the number of small entities to which the proposed regulatory action will apply;
4. a description of the projected reporting, recordkeeping, and other compliance requirements of the proposed regulatory action, including an estimate of the classes of small entities that will be subject to the requirements of the report or record;
5. an identification, to the extent practicable, of all relevant federal rules, which may duplicate, overlap, or conflict with the proposed rule; and
6. a description of any significant alternatives to the proposed regulatory action which accomplish the stated objectives of applicable statutes and would minimize any significant economic effects of the proposed regulatory action on small entities.

This document provides a 10-year review and assessment of the net socioeconomic impacts of the regulations that implemented a Research Area within Gray's Reef National Marine Sanctuary, as required under the Regulatory Flexibility Act. The environmental impact analysis done at the time indicated there would be minimal impact on sanctuary users and the final rule asserted the same finding. However, there can be many factors that are important in determining if the regulatory changes did result in a significant impact on a substantial number

of small entities. Therefore, in this 10-year assessment, the cumulative impacts of the revised regulations are evaluated. Consistent with the RFA (5 U.S.C. § 610(b)), the report considers:

1. the continued need for the action;
2. the nature of complaints or comments received concerning the action from the public;
3. the complexity of the action;
4. the extent to which the action overlaps, duplicates or conflicts with other Federal rules, and to the extent feasible, with State and local government rules; and
5. the length of time since the action has been evaluated or the degree to which technology, economic conditions, or other factors have changed in the area affected by the rule.

Background

NOAA designated GRNMS as the nation's fourth national marine sanctuary in 1981 for the purposes of protecting the quality of this unique and fragile ecological community; promoting scientific understanding of this live bottom ecosystem; and enhancing public awareness and wise use of this significant regional resource. GRNMS is located 20 miles east of Sapelo Island, Georgia, on an area of the continental shelf stretching from Cape Hatteras, North Carolina, to Cape Canaveral, Florida (referred to as the South Atlantic Bight). GRNMS protects 22 square miles of open ocean and submerged lands of particularly dense nearshore patches of productive "live bottom habitat". "Live bottom" is a term used to refer to hard or rocky seafloor that typically supports high numbers of large invertebrates such as sponges, corals and sea squirts. These spineless creatures thrive in rocky areas, as many are able to attach themselves more firmly to hard substrate than sandy or muddy "soft" bottom habitats. Within the Gray's Reef National Marine Sanctuary there are rocky ledges with sponge and coral live bottom communities, as well as sandy bottom areas that are more typical of the seafloor off the southeastern U.S. coast. The sanctuary is influenced by complex ocean currents and serves as a mixing zone for temperate (colder water) and sub-tropical species. An estimated 200 species of fish, encompassing a wide variety of sizes, forms, and ecological roles, have been recorded at GRNMS. Loggerhead sea turtles, a threatened species, use GRNMS year-round for foraging and resting, and the sanctuary lies within the only known winter calving ground for the highly endangered North Atlantic right whale.

The sanctuary contains one of the largest nearshore live-bottom reefs in the southeastern United States. Within the sanctuary, rock outcroppings stand above the shifting sands. The series of rock ledges and sand expanses has produced a complex habitat of burrows, troughs, and overhangs that provide a solid base for the abundant sessile invertebrates to attach and grow. This topography supports an unusual assemblage of temperate and tropical marine flora and fauna. The flourishing ecosystem attracts numerous species of benthic and pelagic fish including mackerel, grouper, red snapper, black sea bass, angelfish, and a host of other fishes. Since GRNMS lies in a transition area between temperate and tropical waters, the composition of reef fish populations changes seasonally.

The concept of a research control area within the sanctuary was first raised by members of the public at scoping meetings held in 1999, during the early stages of the GRNMS management plan review process. A designated research control area would increase the opportunity to discriminate scientifically between natural and human-induced change to species populations in the sanctuary. Without having an area of the naturally-occurring live bottom reef tract devoted to research and devoid of human impacts, it was very difficult to study and understand the natural functions of live bottom reefs in the marine sanctuary. Significant research questions existed at GRNMS that could only be addressed by establishing a research area closed to fishing and other human activities.

In 2006, the GRNMS Sanctuary Advisory Council (SAC) formed a broad-based Research Area Working Group (RAWG) to consider the concept of a research area within the sanctuary, consisting of representatives from research, academia, conservation groups, sport fishing and diving interests, education, commercial fishing, law enforcement and state and federal agency

representatives. The RAWG conclusion, which was ultimately adopted by the SAC and recommended to NOAA in 2008, was to create a research area and also included the unanimous recommendation that all fishing be prohibited in the research area.

In the decision to recommend prohibition of all fishing in the research area, the RAWG took into consideration new information on the growing knowledge of the linkages between benthic and pelagic natural communities. The RAWG also considered methods used by sport fishermen to fish both coastal pelagic and bottom fish (reef) species at the same time. In addition, downriggers and planers, types of fishing gear that are currently permitted in the sanctuary, allow anglers to fish the entire water column, including near the bottom. These gear types can impact benthic communities and allow catch of bottom fish, a primary marine resource to be studied in the research area. Therefore, allowing any fishing including trolling for pelagic fish species could significantly compromise the integrity and effectiveness of a research area.

Law enforcement officials expressed concern that the enforcement of prohibitions on fishing would be more difficult if diving activities or stationary vessels were allowed in the proposed research area, due to the difficulty of determining the activities of a boat's occupants from a distance or during approach of a boat by enforcement personnel. The SAC also observed that any recreational diving activity and spearfishing in the research area would make law enforcement difficult and could undermine the validity of the research area.

From 2004–2008, the RAWG and SAC continued to evaluate criteria and boundaries utilizing a geographic information system (GIS) tool and incorporating new information as it became available. Ultimately, four boundary scenarios were recommended as viable locations for a research area in GRNMS. In 2010 and 2011, these boundary scenarios and several activity restrictions became the focus of public scoping and public comments (during the proposed rulemaking and draft EIS comment period (Sept 10, 2010; 75 FR 55692)). Based on these public comments, several alternatives to the action were analyzed in the final rule (October 14, 2011; 76 FR 63824) and accompanying final environmental impact statement (FEIS) (dated August 2011 and available at: <https://nmsgraysreef.blob.core.windows.net/graysreef-prod/media/archive/management/research/pdfs/grnmsresearchareafeis.pdf>).

Regulations Implemented in 2011

Summary of Revisions to the Sanctuary Regulations

A. Establishment of a Research Area

The 2011 final rule established a research area within the GRNMS that prohibited fishing, diving, and stopping a vessel within the area (76 FR 63824). The alternative that NOAA selected was known as the Southern Option Boundary in the FEIS. The research area, which roughly comprises the southern third of the GRNMS, is wholly within the boundaries of the sanctuary and did not change the sanctuary's overall size. The total area designated as a research area inside GRNMS was 8.27 square miles.

B. Activities Prohibited Within the Research Area

In addition to the existing prohibitions set out in 15 CF.R. part 922.92, which apply throughout the Sanctuary, the following activities were prohibited in the research area by the 2011 final rule and thus became unlawful for any person to conduct or cause to be conducted: Injuring, catching, harvesting, or collecting, or attempting to injure, catch, harvest, or collect, any marine organism, or any part thereof, living or dead (there will be a rebuttable presumption that any marine organism or part thereof, living or dead, found in the possession of a person within the research area has been collected from the research area); possessing, carrying, or using any fishing gear or means for fishing unless such gear or means is stowed and not available for immediate use while on board a vessel transiting through the research area without interruption or for valid law enforcement purposes; diving; or stopping a vessel in the research area.

C. Enforcement

The regulations are enforced by NOAA and other authorized agencies (i.e., United States Coast Guard, and Georgia Department of Natural Resources) in a coordinated and comprehensive way. Enforcement actions for a violation will be prosecuted under the appropriate statutes or regulations governing that violation. The prohibition against catching or harvesting marine organisms includes a rebuttable presumption that any marine organism or part thereof found in the possession of a person within the research area has been collected from the research area.

D. Permitting

As stated previously, the purpose of a research area in the southern portion of the sanctuary was to provide researchers a valuable opportunity to discern between human-induced and natural changes in the Gray's Reef area. Researchers are required to obtain permits to conduct activities related to research that are otherwise prohibited by the regulations. ONMS regulations, including regulations for the GRNMS, allow NOAA to issue permits to conduct activities that are otherwise prohibited (15 CFR part 922 and 922.93). Most permits are issued by the GRNMS superintendent.

Requirements for filing permit applications are specified in ONMS regulations and the Office of Management and Budget-approved application guidelines (OMB control number 0648-0141). Criteria for reviewing permit applications are also contained in ONMS regulations at 15 CFR

922.93. In general, permits may be issued for activities related to scientific research, education, and management.

Small Entities: *Regulatory Flexibility Act*

In accordance with the requirements of section 604 of the Regulatory Flexibility Act (RFA) (5 U.S.C. 604), NOAA prepared a final regulatory flexibility analysis (FRFA) that described what impact NOAA believed the regulatory action would have on small entities. The 2011 FRFA incorporated the economic impacts and analysis summarized in the initial regulatory flexibility analysis (IRFA); a summary of the significant issues raised by public comments in response to the IRFA; a summary of NOAA's assessment of such issues; a statement of changes made from proposed rule to final rule as a result of public comments; and a description of the steps the agency took to minimize the significant economic impact on small entities, consistent with objectives of applicable statutes (including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and the reasons for rejection of the other significant alternatives to the rule that each included impacts to small entities).

2011 Final Regulatory Flexibility Act Analysis

The Small Business Administration has established thresholds on the designation of businesses as "small entities". The entities that may be impacted by this rule are fish-harvesting businesses, sports and recreation businesses, and scenic and sightseeing transportation businesses. A fish-harvesting business is considered a "small" business if it has annual receipts not in excess of \$3.5 million (13 CFR 121.201). Sports and recreation businesses and scenic and sightseeing transportation businesses are considered "small" businesses if they have annual receipts not in excess of \$6 million (13 CFR 121.201). According to these limits, all the vessels impacted by this rule are considered small entities. All analyses were based on the most recently updated and best available information.

According to boat sighting data from 1999–2007, only 9.2 percent of boats sighted in the sanctuary visited or transited the area of the research area, leading to the conclusion that this area is not as popular with sport fishermen and sport divers as the north-central portion of the sanctuary. During designation of the research area, NOAA stated the action provided a balance between user concerns and the research opportunities that are emphasized in the sanctuary's goals and objectives.

In 2002, a survey of charter fishing boat owners/operators was completed. This survey identified 15 charter fishing boats that utilize GRNMS as one of their fishing locations. It was estimated that their 2001 total gross revenue was \$1,029,000 and their total operating expenses were \$582,000 with total profit of \$447,000. Converting these values to 2008 dollars using the consumer price index results in gross revenue of \$1,251,264 with total operating expenses of \$707,712, and total profit of \$543,552. The survey found that approximately 40 percent of their fishing activity took place in GRNMS. These statistics relate to the entire sanctuary.

The economic impact of the five alternatives considered for this action, and further described in the FEIS, were estimated by combining results from the 2002 survey with a boat location study completed in 2009. The results of this analysis were summarized in Table 1 of the FRFA. The five alternatives contained a no action alternative (i.e., no designation of a research area) and four alternatives distinguished by different research area locations and sizes within the sanctuary. The Southern Option Boundary (the preferred alternative, implemented in 2011) was estimated to impact 9 percent of recreational fishing, resulting in impacts of \$46K to total gross revenue and \$20K to total profit. The Optimal Scientific Option Boundary was estimated to impact 67 percent of recreational fishing, resulting in impacts of \$335K to total gross revenue and \$146K to total profit. The Minimal User Impact Option Boundary was estimated to impact 15 percent of recreational fishing, resulting in impacts of \$75K to total gross revenue and \$32K to total profit. The Compromise Option Boundary was estimated to impact 35 percent of recreational fishing, resulting in impacts of \$175K to total gross revenue and \$76K to total profit. The last three alternatives were rejected because they all had more impact on sanctuary activities (mainly recreational fishing) than the preferred alternative, while the preferred alternative had a minimal impact on sanctuary users and still fulfilled the purpose and need for the action.

The 2011 analysis assumed that all economic value associated with the areas closed would be lost. Any factor that could mitigate or off-set the level of impact was also not addressed. The estimated impacts were thought of as “maximum potential losses” because impacted businesses may take action to at least mitigate or off-set most losses (i.e., by conducting charter operations somewhere nearby).

Table 1. from the 2011 FRFA. Estimated Economic Impacts to Recreational Charter Fishing Businesses by Alternative, in 2008 \$

Alternative	Percent Impact	Total Impact to Gross Revenue	Total Impact to Annual Profit
No Action	0%	-	-
Southern Boundary Option (Preferred)	9%	46,047	20,003
Optimal Scientific Boundary Option	67%	335,339	145,672
Minimal User Impact Boundary Option	15%	75,076	32,613
Compromise Boundary Option	35%	175,177	76,097

The Anticipated Impact

The research area at GRNMS was originally designed to have minimal impact on users of the sanctuary while also providing access to a sufficient variety of undisturbed habitat for comparative scientific studies. Delineation of the boundaries for the research area represented a joint effort between various user groups, including the sport fishing and diving communities, educators, marine resource managers, and scientists. Economic impact studies conducted during this process indicated that the maximum potential aggregate loss to charter fishing

business profits would be roughly \$20,000 for the Southern Boundary option. Further, impediments to current and future business development based on the resource were driven primarily by the physical location of GRNMS approximately 20 miles offshore, the unpredictability of weather and sea conditions, and other similar challenges that would make operating a business solely or primarily based on GRNMS volatile.

No economic impact was expected to result in the recreational charter diving businesses because there appeared to be none currently operating within the sanctuary. In September 2007, in-person interviews were conducted with all businesses and organizations offering scuba diving trips along the Georgia coast. Four charter scuba operations and one scuba diving club were identified and interviewed. The interviews gathered information that included operating profiles, preferred diving locations and methods, detailed business data (revenue and costs), and general opinions of the current state of scuba diving and spearfishing off the Georgia coast. None of the businesses offered scuba diving trips to GRNMS.

10-year Assessment of the Grays' Reef Research Area Regulations

Summary of Comments Received

On June 29, 2021, NOAA released a Federal Register notice requesting input on the socioeconomic impacts or value the research area has provided over the past 10 years since the implementation of the research area within Gray's Reef NMS (86 FR 34169). A total of five (5) public comments were received during the 30-day public comment period. Two (2) of the comments were out of scope but generally were not supportive of regulations limiting public use (specifically, SCUBA diving and fishing). Three (3) of the comments were very informative on the intervening 10 years of economic input through the activities in the research area and its (positive) impacts to surrounding businesses. Recognizing the research area was designed for conducting controlled scientific studies in the absence of certain human activities, these commenters noted that:

1. The FEIS for the Research Area as designated, published in 2011, reports an overall finding that the “impacts of the changes [which include creation of the RA] will be minimal” (page 88, item 9) with an estimate of “total impact to profit” for recreational charter fishing businesses of \$20,000 (page 83). Notable is that analyses in the FEIS are considered “maximum potential losses” and do not address mitigating factors such as fishing or diving at other locations (pages 51-52 in the FEIS).
2. Data used in the GRNMS FEIS analysis was from 2008 as well as public comments throughout the process. The commenters infer that unless there was a substantial investment and planning by a business to use the Research Area, despite the ongoing public process for designation and subsequent 10 years under this current management regime, the economic impact would not increase beyond inflation at most and would remain “minimal.” That is, any new business would have been developed and implemented with the full knowledge that the designated Research Area would potentially affect income.
3. The economic consequences of research expenditures were not contemplated in the 2011 final rule but are important to consider now (addressing such research expenditures seems to be consistent with Section 610, (b), (5) that indicates an evaluation can consider “... other factors have changed in the area affected by the rule.”).
4. There have been nearly annual research cruises of NOAA ships as well as multiple research cruises by other vessels (i.e., academic and state research vessels on multi-day cruises as well as day trips) to the Research Area since 2011, supporting the work of multiple investigators. These investigators represent multiple federal and state agencies as well as a diversity of academic institutions. These institutions have invested in: researchers' time to conduct this research, funding for student labor, donated time from interns and student researchers, as well as travel funding.
5. There are travel costs for researchers that are expensed into the local economy (e.g., fuel, food, lodging) as well as the economic benefits from support for ship costs (i.e., vessel costs and the payroll for ship operators). Research expenditures that benefit the local

economy greatly exceed the estimated loss of profit identified in the 2011 FRFA and FEIS.

6. The Research Area has provided a living laboratory where natural processes can be investigated without the threat of direct human interference. These activities in themselves have generated financial gains that would not have been available in the absence of the Research Area. As an example, since 2011, one lab alone has attracted external funding in excess of \$400,000 that has partially supported the education of at least 12 undergraduate and graduate students at institutions within the region with additional funds pumped into local businesses through purchases of various equipment and supplies.
7. In the last few years researchers have also witnessed the founding and development of a local scuba shop and dive charter business that has capitalized on regular trips to GRNMS. There is a good collaboration between the business owner, sanctuary personnel, and the scientific community. Anecdotally, commenters saw no evidence indicating that the Research Area is an impediment to small business development and growth.
8. Studies conducted using the Research Area have shown that 10 years are not adequate to develop a complete picture of how the ecosystem in this region functions and how it may be changing with ocean warming. Since the latter has significant implications for guiding and managing fisheries and other ocean-related industries, commenters can see the knowledge lost from removing the Research Area designation being a potential impediment to future business development and persistence.
9. Other comments included: “With the establishment of the Gray’s Reef research area in 2011, scientists from across the region have been able to conduct controlled scientific study in the absence [of] most human activities. The information gathered from these studies informs both management at the sanctuary and broader scientific understanding of hard bottom habitats across the region.” And “given a nearly continuous and expansive research effort was implemented in the Research Area since 2011, the metrics to assess trade-offs should extend beyond direct economic costs and benefits.”

The following observations were also submitted by commenters during NOAA’s periodic review:

- Two thirds of the sanctuary is open to fishing, diving, and stopping a vessel, which provides ample area for human use within sanctuary jurisdiction.
- Interested parties and user groups were invited to engage and provide feedback throughout the designation process, leading to selection of a research area that represents the sanctuary’s diverse habitats, while limiting impacts on use.
- Direct impacts from human activities have been observed within the sanctuary (e.g., broken coral, derelict fishing gear, and anchoring material) which demonstrates the value of having a control site.
- Multiple research and long-term monitoring projects are underway that incorporate the research area as a control site. Changing the regulations could impact the scientific validity of these efforts.

Although out of scope, the commenters also suggested this type of review is too narrow in scope to assess the impacts of the Research Area based on the original purpose of the designation.

Commenters stated, “This regulation was not designed as a fishery management tool (e.g., to regulate fishing effort to control mortality) but as a consequence of delineating an area to facilitate research in the absence of direct human impacts, excluded fishing and other activities.” Commenters further stated that, “While an analysis of the multiple trade-offs between closure and reopening might be appropriate, an assessment based solely on economic effects to ‘small entities, such as small businesses, small organizations, and small governmental jurisdictions’ ignores the societal benefits of new knowledge gained from research related to natural resource management, facilitated by the closure.

Socioeconomic Assessment

Small entities are defined by the Small Business Administration (SBA). The definition of the relevant small businesses are presented here and are from the most recent size standards published by the SBA in 2019 (US SBA, 2019). Business size standards are based upon the average annual receipts (all revenue) or the average employment of a firm. The commercial small-entity size standards for fin fishing (NAICS code—114111) is \$22.0 million or less, shellfish fishing (NAICS code—114112) is \$6.0 million or less and other marine fishing (NAICS code—114119) is \$8.0 million or less. For-hire recreational fishing and dive/snorkeling for-hire operations (NAICS code—713990) have small-entity size standards of \$8.0 million or less.

This updated analysis considers the effects on the charter fishing industry, scuba/diving charters and research entities. Public comments revealed that there were positive effects to research entities and it would be appropriate to include a discussion of them here. Commercial fishing is not considered in this analysis, as it was not a factor in the original decision to not certify 10-years ago, and was not mentioned in public comments as being affected.

Charter Fishing

The analysis provided here gives an overview of fishing activity off the coast of Georgia. The data is not specific to activity within GRNMS, but provides information on the status and trends of charter fishing over the past ten years. The data for this analysis is from the Marine Recreational Information Program (MRIP), 2021. The data presented shows the number of charter trips from 2001 through 2019 for more than three miles off the coast of Georgia (Figure 1). Although the trend is declining, it is not statistically significant (p value of .15). Based on this, although there is variation in the year to year number of charter trips, there is no evidence that the total number of charter trips 3 miles off the coast of Georgia has declined. Additionally, Figure 2 shows the various artificial reefs along the coast of Georgia that are closer to shore than the sanctuary. Many of these provide similar habitat and fish species to GRNMS, but with the benefit of requiring less time and effort to access.

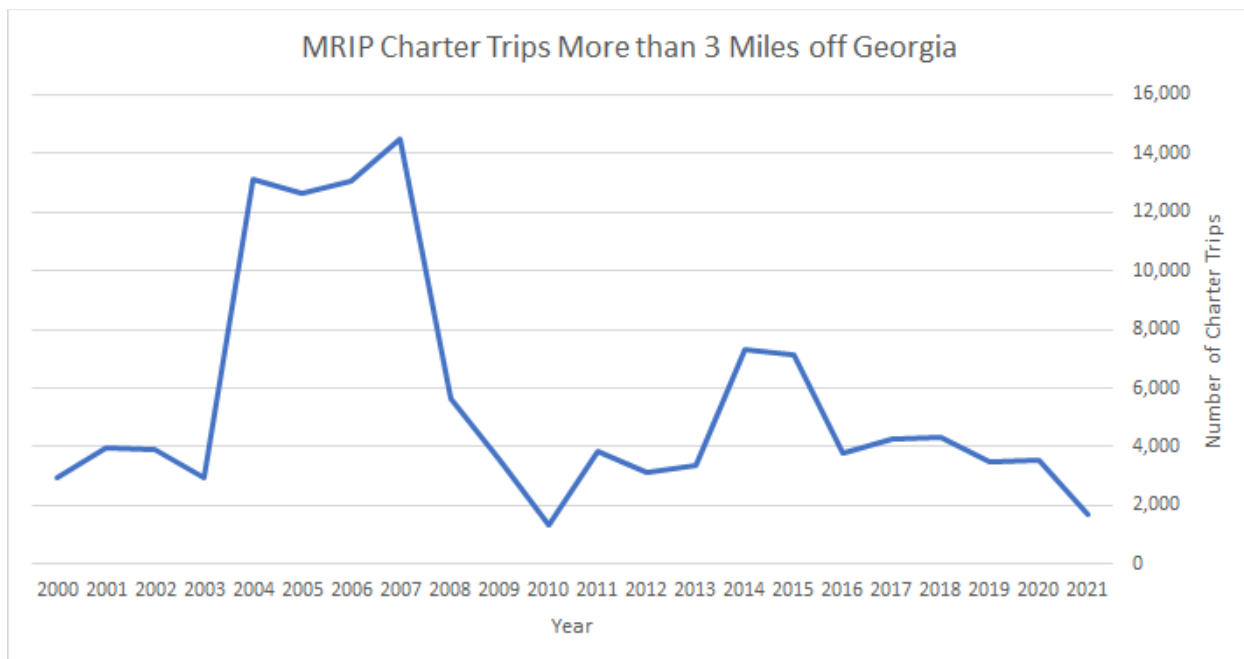


Figure 1: MRIP Charter Trips 2000-2021, 3 miles or more off the coast of Georgia.

Source: MRIP, 2021.

During the public comment period, no comments were received indicating that the designation of the research only area had a negative effect on small businesses (including charter fishing). Additionally, the following preliminary results are from a survey conducted in 2020 by the West Virginia University that focused on users and non-users of Gray's Reef National Marine Sanctuary, and surrounding coastal areas of Georgia (Samonte et al., 2021 personal comms). Respondents were selected based upon their selection of the saltwater information program permit registration in the state of Georgia. The study assessed sanctuary user and non-user views toward activity participation and use of coastal and ocean waters off the Georgia coast both inside and outside GRNMS. The collected data included perceptions of resource conditions, sources of public information on GRNMS, familiarity with sanctuary regulations, and attitudes about selected management strategies. In general, the results revealed high public concern regarding coral health or other live bottom habitat in the area, habitat loss from coastal development and pollution with 80% of the users familiar with the rules and regulations at Gray's Reef National Marine Sanctuary. When users of the GRNMS were asked about supporting the protection of ocean and coastal resources inside GRNMS, more than half (58%) reported that they strongly support it. In addition, 40% strongly support protection outside GRNMS. With regard to the support of the use of marine zoning in ocean & coastal areas, around two-thirds (64%) stated they support the use of marine zoning. For non-users of the GRNMS, more than half (54.1%) reported that they strongly support the protection of ocean & coastal resources in and around Georgia outside GRNMS. Almost two-thirds (59.4%) of the non-users strongly support protection of ocean & coastal resources inside GRNMS. Over two-thirds (69.3%) of non-users support the use of marine zoning in ocean & coastal areas off the coast of Georgia.

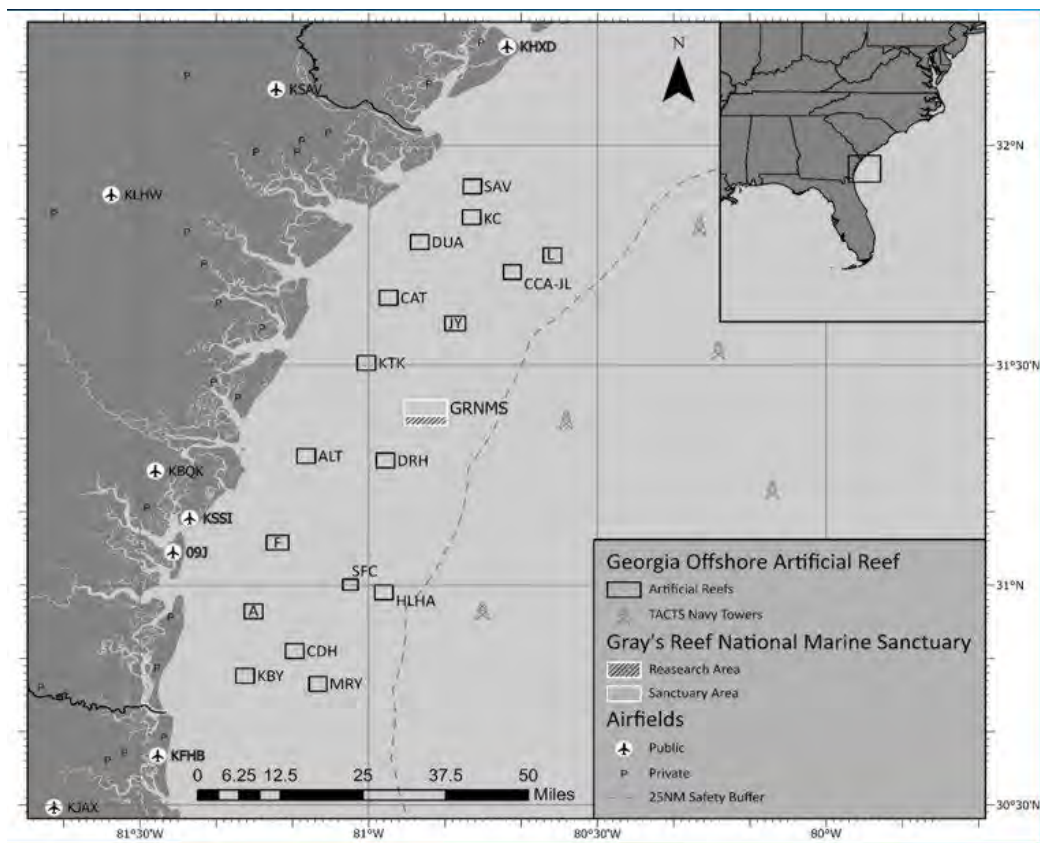


Figure 2: Artificial reefs along the coast of Georgia.

Source: <https://coastalgadnr.org/HERU/offshore>.

SCUBA and Dive Operations

The original analysis found that there were no for-hire scuba and charter operations that operated anywhere within GRNMS. Thus, the research area designation could not have had an effect on scuba/dive operations. However, it is worth noting there is at least one scuba operation that now provides customers with an experience in GRNMS. (See comment 7 above in the Summary of Comments Received). The public comment that addresses the new shop also indicates there has been no indication of hardship as a result of the Research Only Area (Appendix A).

Research Entities

Not considered in the previous analysis, was the potential effect on research entities (including academic, non-profit and for-profit businesses). Public comments received suggest that the designation of the research only area attracted researchers to the area and brought in additional monies to the economy via research expenditures. Given the size and potential effect of these research expenditures, it is important to acknowledge them now. A study looking at the review of scientific research in and around the designated research area of GRNMS documented sixteen research projects that used the Research Only area in some capacity between 2011 and 2016

(Roberson, K., et al., 2020). Projects included researchers from academic institutions within Georgia, Pennsylvania, Connecticut and California, in addition to the National Marine Fisheries Service and the South Carolina Department of Natural Resources and the Mystic Aquarium.

The summary of public comments (04 & 05) above specifically notes these institutions have invested in: researchers' time to conduct this research, funding for student labor, donated time from interns and student researchers, as well as travel funding. Additionally, the travel costs for researchers occur within the sanctuary communities (e.g., fuel, food, lodging) and provide economic benefits from support for ship costs (i.e., vessel costs and the payroll for ship operators).

Public comments also reflected that the research expenditures that benefit the local economy greatly exceed the estimated maximum potential loss to the for-hire fishing industry identified in Table 1 (above) from the 2011 FRFA and FEIS. As an example, since 2011, one lab alone has attracted external funding in excess of \$400,000 that has partially supported the education of at least 12 undergraduate and graduate students at institutions within the region with additional funds pumped into local businesses through purchases of various equipment and supplies (Appendix A).

Discussion of the Five Statutory Factors

NOAA reviewed the research area in GRNMS with respect to the five factors set forth in Section 610 of the Regulatory Flexibility Act. In conducting this review, NOAA considered 5, comments received, and completed the above analysis.

1. Continued Need for the Rule

NOAA considered the continued need for the action in light of the passage of time since its promulgation. In 2008, NOAA released the GRNMS Condition Report, a report on the condition of GRNMS providing a summary of the status of resources, pressures on those resources, current conditions and trends, and management responses to the pressures that threaten the integrity of the marine environment. Because fishing was allowed throughout sanctuary, NOAA had limited options for gaining better management information on the effects the sanctuary had on fish and invertebrate populations and their habits. In addition to other purposes referenced in the 2011 Final Rule (76 FR 63824), the research area has allowed investigations to evaluate possible impacts from fishing and researchers to more accurately determine the effects of natural events (e.g., hurricanes) and cycles (e.g., droughts) on the sanctuary.

The need for maintaining the research area in GRNMS continues. As the analysis shows, this research area is very important for ongoing study of non-impacted areas. It has also created research and economic opportunities for research institutions, researchers, students, and local businesses to provide research cruises and associated lodging and food accommodations. NOAA concludes that the research area in GRNMS continues to appropriately fulfill the needs identified in the 2011 Final Rule.

2. Nature of Complaints or Comments Received Concerning the Rule

NOAA received five public comments during the 610 review period. Two (2) of the comments

were out of scope but generally were not supportive of regulations limiting public use (specifically, SCUBA diving and fishing). Three (3) of the comments were very informative on the intervening 10 years of economic input through the activities in the research area and its (positive) impacts to surrounding businesses. The analysis above specifically explains the nature of the five comments and provides NOAA's response to these comments. Regarding the comments that were not supportive of the regulations, the comments identified that there has been no indication of hardship as a result of the Research Only Area on SCUBA diving. No comments were received indicating that the designation of the research only area had a negative effect on small businesses (including charter fishing) and NOAA has studied data from the MRIP to consider the status and trends of charter fishing off the coast of Georgia.

NOAA has determined that the nature of the comments received within the scope of review weigh in favor of finding that the research area in GRNMS continues to minimize the significant economic impacts on small entities.

3. Complexity of the Rule

NOAA considered the complexity of the action under review. The complexity of the research area regulations is very low and not complex. The GRNMS research area regulations restricted use in only approximately one third of the sanctuary, that was furthest from shore and for which data showed very little commercial use. The provisions involved with the research area in GRNMS do add some degree of complexity, those requirements are not overly complex. NOAA concludes that the action does not need to be amended or rescinded due to its level of complexity.

4. Extent to Which the Rule Overlaps, Duplicates, or Conflicts with Other Federal, State, or Local Government Rules

NOAA has considered the extent to which the rule overlaps, duplicates, or conflicts with other federal, state, or local government rules. The research area regulations are a complement to the existing GRNMS regulations that were designed to be compatible with other federal, state, and local rules. This research area is one of many uses within the sanctuary, and the analysis of research opportunities since the inception of the research area demonstrates that this does not conflict with the purpose of the sanctuary. NOAA does not believe at this time that the action duplicates or conflicts with other federal, state, or local government rules.

5. Relevant Changes to Technology, Economic Conditions, or Other Factors

Finally, NOAA considered the degree to which technology, economic conditions, or other factors have changed in the area affected by the rule under review in light of the length of time since it has been evaluated. In this analysis, NOAA has considered the public comments suggesting that the designation of the research only area attracted researchers to the area and brought in additional monies to the economy via research expenditures.

NOAA does not believe that there have been any changes that have introduced any significant additional burdens on small entities subject to this rule. NOAA is not aware of any new technologies that would lead NOAA to revise the conclusion made in 2011.

Overall Conclusion

There were no observed negative impacts on small entities (primarily small businesses) due to designation of the research area in GRNMS in either the recreational fisheries or non-consumptive recreation industries. There is still a need to maintain the research area in GRNMS. The requirements for maintaining the research area in GRNMS are not overly complex. The regulations surrounding the research area do not duplicate or conflict with other federal, state, or local government rules. Additionally, no public comments were received regarding negative impacts to small businesses nor the rule's impact as related to changes to technology, economic conditions, or other factors. As such, upon the ten-year review, there were no observed significant economic effects to a substantial number of small businesses. Therefore, the research area in GRNMS will be continued without change.

REFERENCES

Roberson, K.W., P.J. Auster, S. Fangman, M. Harvey (Eds.). 2020. Review of Scientific Research in and around the Designated Research Area of Gray's Reef National Marine Sanctuary (NW Atlantic). Marine Sanctuaries Conservation Series ONMS-20-08. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, MD. 185 pp.

<https://nmssanctuaries.blob.core.windows.net/sanctuaries-prod/media/docs/grnms-research-area-report-final-for-publication-5-21-20.pdf>

APPENDIX A: Public Comments Received on 30-Day Notice

1. (Private citizen) Recreational SCUBA diving doesn't seem to me to have significant negative impacts. This activity should be allowed in this marine environment. It would encourage the support of the diving community to continue the protection of this marine environment and maybe provide a revenue for its protection.
2. (Private citizen) Prohibiting public activities such as fishing or diving should only be done when there is a clear, specific value to be obtained in doing so. The proposed closure in this case may not generate such value. Without further, more specific justification I am opposed to any such restriction(s).
3. (Peter J. Auster, SAC member) Thank you for the opportunity to comment on NOAA's "Plan for Periodic Review of Regulations" (docket NOAA-NOS-2021-0047) and specifically, the regulations related to the "Research Area Within Gray's Reef National Marine Sanctuary" (76 FR 63824; October 14, 2011). These comments address NOAA's Office of National Marine Sanctuaries "review of the regulation that established the research area within Gray's Reef National Marine Sanctuary in 2011. The research area was designed for conducting controlled scientific studies in the absence of certain human activities. Fishing, diving, and stopping a vessel are prohibited in the research area."

The review, based on Section 610 of the Regulatory Flexibility Act, addresses regulations "that have a significant economic impact on a substantial number of small entities, such as small businesses, small organizations, and small governmental jurisdictions." The Federal Register notice indicates "NOAA is accepting public comments on the economic impacts of the research area and will conduct an analysis in accordance with the requirements of the Regulatory Flexibility Act."

The FEIS for the Research Area as designated, published in 2011, reports an overall finding that the "impacts of the changes [which include creation of the RA] will be minimal" (page 88, item 9) with an estimate of "total impact to profit" for recreational charter fishing businesses of \$20,000 (page 83). Notable is that analyses in the FEIS are considered "maximum potential losses" and do not address mitigating factors such as fishing or diving at other locations (pages 51-52 in the FEIS).

I understand that ONMS may exercise its discretion to review rules certified under RFA section 605 as not having significant impacts. If ONMS determined that changed conditions may mean that existing rules now do have a significant economic impact, and should be reviewed under RFA section 610, then it would have been useful to clearly state such a rationale in the FR notice to better focus public comment.

The recent elective RFA review of amended regulations at Channel Island National Marine Sanctuary (from a FR notice in 2018), that received no comments, resulted in a decision by ONMS that an updated RFA analysis was not required. While demonstrating that ONMS is providing ample opportunity for the public to assess regulations, the costs of staff time and the

time for the public to evaluate and (potentially) respond, appear to be related more to process than need.

Data used in the GRNMS FEIS analysis was from 2008 as well as public comments throughout the process. From this I infer that unless there was a substantial investment and planning by a business to use the Research Area, despite the ongoing public process for designation and subsequent 10 years under this current management regime, the economic impact would not increase beyond inflation at most and would remain “minimal.” That is, any new business would have been developed and implemented with the full knowledge that the designated Research Area would potentially affect income.

That said, I suggest that this type of review is too narrow in scope to assess the impacts of the Research Area based on the original purpose of the designation. This regulation was not designed as a fishery management tool (e.g., to regulate fishing effort to control mortality) but as a consequence of delineating an area to facilitate research in the absence of direct human impacts, excluded fishing and other activities. While an analysis of the multiple trade-offs between closure and reopening might be appropriate, an assessment based solely on economic effects to “small entities, such as small businesses, small organizations, and small governmental jurisdictions” ignores the societal benefits of new knowledge gained from research related to natural resource management, facilitated by the closure. An analysis that reveals the Research Area was not used to conduct research that broadly informs management would clearly indicate that any economic loss exceeds benefits. However, given a nearly continuous and expansive research effort was implemented in the Research Area since 2011, the metrics to assess trade-offs should extend beyond direct economic costs and benefits (see the following as an example of diverse research effort: Roberson, K.W., P.J. Auster, S. Fangman, M. Harvey, editors.

2020. Review of Scientific Research in and around the Designated Research Area of Gray’s Reef National Marine Sanctuary (NW Atlantic). Marine Sanctuaries Conservation Series ONMS-20-08. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, MD. 185 pp.)

In any case, the FR notice suggests that the economic consequences of research expenditures, again worth noting that this is the focus of the designation, are not considered (but addressing such research expenditures seems to be consistent with Section 610, (b), (5) that indicates an evaluation can consider “... other factors have changed in the area affected by the rule.”). There have been nearly annual research cruises of NOAA ships as well as multiple research cruises by other vessels (i.e., academic and state research vessels on multi-day cruises as well as day trips) to the Research Area since 2011, supporting the work of multiple investigators. These investigators represent multiple federal and state agencies as well as a diversity of academic institutions. From my own efforts in the Research Area, the University of Connecticut and Mystic Aquarium have invested in my time to conduct this research, funding for student labor, donated time from interns and student researchers, as well as travel support.

Similar investments are made by other institutions. There are travel costs for researchers that are expensed into the local economy (e.g., fuel, food, lodging) as well as the economic benefits from support for ship costs (i.e., vessel costs and the payroll for ship operators). I suggest that research expenditures that benefit the local economy greatly exceed the estimated loss of profit.

I would be happy to discuss any of the details expressed here. Thank you, in advance, for your consideration.

Sincerely,

Peter J. Auster

Professional Affiliations (noting the opinions expressed here are my own)

Senior Research Scientist, Mystic Aquarium

and

Research Professor Emeritus, Department of Marine Science, University of Connecticut, Groton

4. The Research Area at Gray's Reef National Marine Sanctuary (GRNMS) was originally designed to have minimal impact on users of the Sanctuary while also providing access to enough habitat variety by the scientific community to allow comparative studies to be conducted. Delineation of the boundaries for the Research Area represented a joint effort between various user groups including the sport fishing and diving communities, educators, marine resource managers, and scientists. Economic impact studies conducted during this process indicated that the potential total cost to the local business community would at maximum, only range in the low tens of thousands of dollars and that impediments to business development based on the resource were driven primarily by the physical location of GRNMS approximately 17 miles off shore, the unpredictability of weather and sea conditions, and other similar challenges. In contrast, at minimal cost to business interests, the Research Area has provided a living laboratory where natural processes can be investigated without the threat of direct human interference. These activities in themselves have generated financial gains that would not have been available in the absence of the Research Area. As an example, since 2011, my lab alone has attracted external funding in excess of \$400,000 that has partially supported the education of at least 12 undergraduate and graduate students at institutions within the region with additional funds pumped into local businesses through purchases of various equipment and supplies.

In the last few years I have also witnessed the founding and development of a local scuba shop and dive charter business that has capitalized on regular trips to GRNMS. In my interactions with the shop owner I have heard no reports of hardship regarding the functioning of this business and the existence of the Research Area. Rather, there is a good collaboration between the business owner, sanctuary personnel, and the scientific community. At this point I see no evidence indicating that the Research Area is an impediment to small business development and growth. In contrast, studies conducted using the Research Area have shown that 10 years are not adequate to develop a complete picture of how the ecosystem in this region functions and how it may be changing with ocean warming. Since the latter has significant implications for guiding and managing fisheries and other ocean-related industries, I can see the knowledge lost from removing the Research Area designation being a potential impediment to future business development and persistence.

5. (The Nature Conservancy) This letter is in response to NOAA's Plan for Periodic Review of Regulations which, this year, includes the Research Area Within Gray's Reef National Marine

Sanctuary (docket NOAA-NOS-2021-0047). The Nature Conservancy (Conservancy) appreciates the opportunity to provide comments on the value the research area has provided over the past 10 years for consideration in the regulatory review process.

The Conservancy is a non-profit organization whose mission is to conserve the lands and waters on which all life depends. With the support of more than one million members, the Conservancy has protected over 120 million acres of land 5,000 river miles and currently manages more than 150 marine conservation projects. The Conservancy has been working to conserve, protect, and restore coastal and marine habitats and species for over four decades. We use a science-based and pragmatic approach to work collaboratively with natural resource users like farmers, timber harvesters and fishermen to find solutions that are good for people and nature. In the Southeast U.S, our marine conservation programs are focus healthy and resilient ocean ecosystems, sustainable seafood, and strong coastal communities. We have partnered with Gray's Reef National Marine Sanctuary, including serving on the Sanctuary Advisory Council (SAC) for over a decade.

The seafloor habitats and associated species found at Gray's Reef NMS are a prime example of the biological diversity found around hard bottom habitats across the South Atlantic Bight's continental shelf. The NMS Program's mission enables the protection of important natural places, while still allowing people to enjoy and use the ocean for recreation, research, and education purposes. With the establishment of the Gray's Reef research area in 2011, scientists from across the region have been able to conduct controlled scientific study in the absence most human activities. The information gathered from these studies informs both management at the sanctuary and broader scientific understanding of hard bottom habitats across the region. For this reason, the Conservancy believes the research area regulations should remain in place.

More specifically, we provide the follow considerations for inclusion during NOAA's periodic review:

- Two thirds of the sanctuary is open to fishing, diving, and stopping a vessel, which provides ample area for human use within sanctuary jurisdiction.
- Interested parties and user groups were invited to engage and provide feedback throughout the designation process, leading to selection a research area that represents the sanctuary's diverse habitats while limiting impacts on use.
- Direct impacts from human activities have been observed within the sanctuary (e.g., broken coral, derelict fishing gear, and anchoring material) which demonstrates a value of having a control site.
- Multiple research and long-term monitoring projects are underway that incorporate the research area as a control site. Changing the regulations could impact the scientific validity of these efforts.

Thank you for the opportunity to provide comments to NOAA's Office of National Marine Sanctuaries on the value of the research area at Gray's Reef National Marine Sanctuary. Please reach out if you have any questions.



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