

**DEPARTMENT OF COMMERCE****National Oceanic and Atmospheric Administration****50 CFR Part 622**

[Docket No. 080225283–81561–02]

RIN 0648–AU28

**Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Snapper-Grouper Fishery off the Southern Atlantic States; Amendment 14**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Final rule.

**SUMMARY:** NMFS issues this final rule to implement Amendment 14 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region (FMP), as prepared and submitted by the South Atlantic Fishery Management Council (Council). This rule establishes eight marine protected areas (MPAs) in which fishing for or possession of South Atlantic snapper-grouper are prohibited. The prohibition on possession does not apply to a person aboard a vessel that is in transit with fishing gear appropriately stowed. The proposal in Amendment 14 to prohibit shark bottom longlines within these MPAs has been implemented by NMFS in a separate rulemaking. The intended effects of this final rule are to protect a portion of the population and habitat of long-lived, slow growing, deepwater snapper-grouper from fishing pressure to achieve a more natural sex ratio, age, and size structure within the proposed MPAs, while minimizing adverse social and economic effects.

**DATES:** This final rule is effective on February 12, 2009.

**ADDRESSES:** Copies of the Final Regulatory Flexibility Analysis (FRFA) may be obtained from Kate Michie, NMFS, Southeast Regional Office, 263 13th Avenue South, St. Petersburg, FL 33701.

**FOR FURTHER INFORMATION CONTACT:** Kate Michie, 727–824–5305.

**SUPPLEMENTARY INFORMATION:** The snapper-grouper fishery off the southern Atlantic states is managed under the FMP. The FMP was prepared by the Council and is implemented under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) by regulations at 50 CFR part 622.

On June 6, 2008, NMFS published a notice of availability of Amendment 14

and requested public comment (73 FR 32281). On July 16, 2008, NMFS published the proposed rule to implement Amendment 14 and request public comment on the proposed rule (73 FR 40824). NMFS approved Amendment 14 on September 2, 2008. The rationale for the measures contained in Amendment 14 is provided in the amendment and the preamble to the proposed rule and is not repeated here. Because the Atlantic shark fishery is managed by NMFS under the Consolidated Highly Migratory Species Fishery Management Plan, the Council's proposed prohibition on the use of shark bottom longlines in the MPAs was implemented by NMFS' Highly Migratory Species (HMS) Division in a separate final rule published June 24, 2008 (72 FR 35778).

**Comments and Responses**

NMFS received 12 comments on Amendment 14 and the proposed rule, 9 of which opposed proposed actions or suggested alternate management measures. Following is a summary of the comments and NMFS' responses.

*Comment 1:* Three commenters stated opposition to the establishment of the St. Lucie Hump MPA, otherwise known as Seabass Rocks. Two of the three commenters are concerned this MPA was designated based on the input of one commercial fisherman rather than through a consensus-based approach. These commenters also believe best available science was not used in the decision making process. Another commenter opposed to the St. Lucie Hump MPA indicated the claim that the area contains "prime habitat and spawning area for snapper-grouper populations" is simply not true and, therefore, no snapper-grouper species would benefit from its closure.

*Response:* NMFS believes the St. Lucie Hump MPA has the potential to contain snapper-grouper species, based on documentation of the presence of suitable habitat by the Southeast Area Monitoring and Assessment Program and public testimony that speckled hind, snowy grouper, and Warsaw grouper are present in the area. The supporting Environmental Impact Statement (EIS) was reviewed by the Southeast Fisheries Science Center and found to be based in the best scientific information available. Establishing the St. Lucie Hump MPA is expected to protect these species from fishing pressure within its borders and, over the long-term, promote a more natural sex ratio, age, and size structure. Additionally, loggerhead and leatherback sea turtles may occur in this area and would, therefore, benefit from

localized protection from incidental hook-and-line capture.

*Comment 2:* Protected areas "can create undue stress on the environment", and the MPAs will not solve the overall problem. The commenter also states opposition to the MPAs based on the perceived cost of their enforcement, and believes those costs would outweigh the biological benefits associated with MPAs.

*Response:* The Council's goal in establishing these deepwater MPAs was to develop a management measure that would complement existing management measures and add further protection to deepwater snapper-grouper. The Council does not consider the MPAs a stand-alone means of management for the snapper-grouper fishery, but considers them a logical extension of protective measures already in place.

Effective enforcement of MPAs is critical to their success in achieving biological objectives and the maintenance of a positive public attitude toward them. For the MPAs to be an effective management tool, local compliance and self monitoring will be necessary. After considering all potential effects including costs of enforcement, the Council voted to approve the establishment of designated MPA sites based in part on the expectation that biological benefits will outweigh costs associated with enforcement in the long-term.

*Comment 3:* One commenter opposed the establishment of MPAs based on the perceived overburdened work environment of the United States Coast Guard and the Department of Homeland Security, stating that these agencies should be utilized to patrol U.S. waters for illegal immigrants and illegal drug trafficking activities rather than enforcement of MPAs.

*Response:* NMFS agrees that United States Coast Guard and the Department of Homeland Security resources should be directed toward enforcement efforts their department administrators believe are most appropriate at any given time. Furthermore, NMFS realizes that self monitoring and local compliance within and around the MPAs will be essential for their long-term success.

*Comment 4:* The closure would be "devastating to all communities along the coast of Florida, especially here in the Keys...if such a great area were shut off to fishing." This commenter also stated the comment period for such a closure was too short.

*Response:* It is NMFS' understanding that several fishery participants may have interpreted the depth-contour line, shown on the map illustrating the MPA

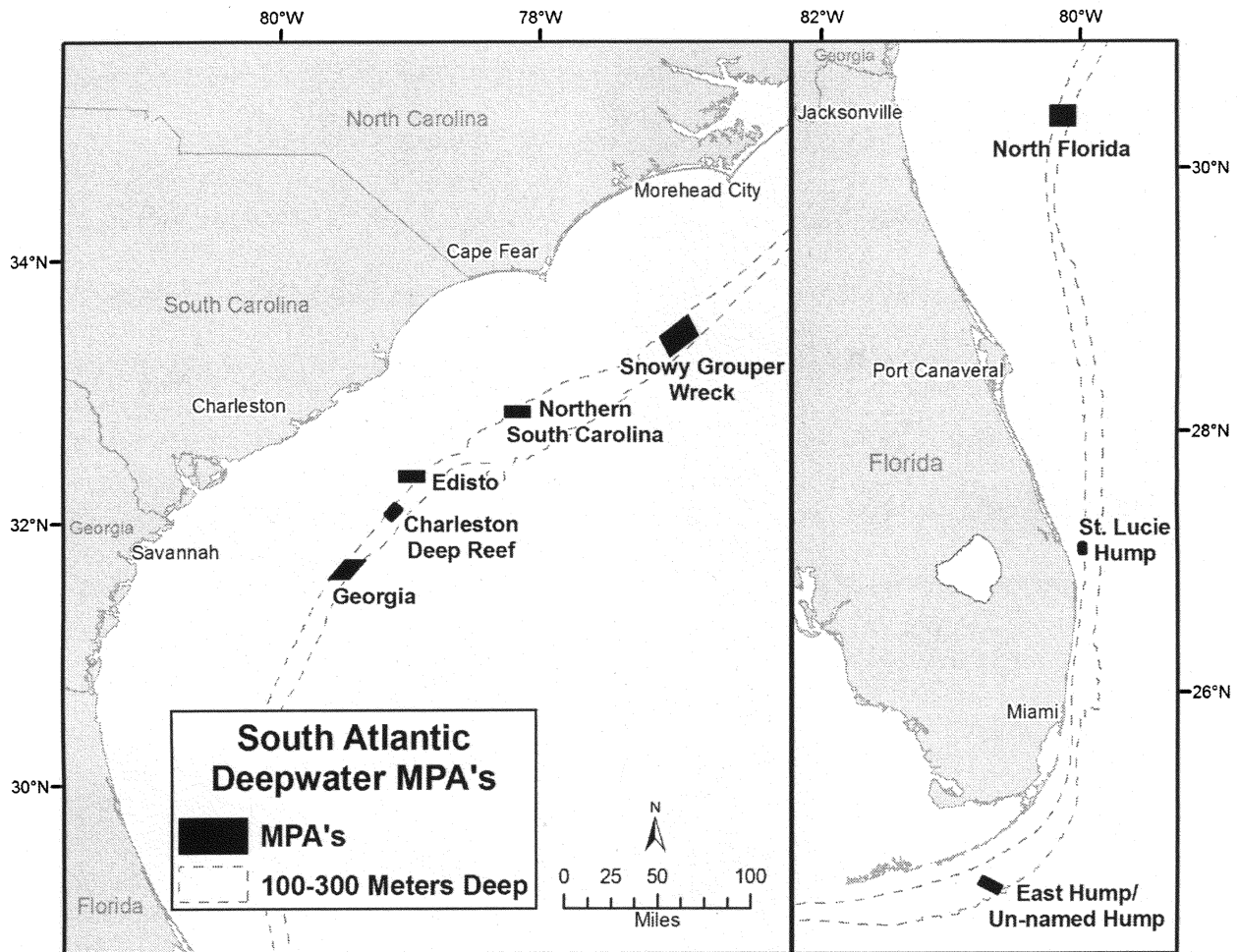
boundaries in the Fishery Bulletin and the proposed rule, as the area to be designated as one large MPA. This is not the case however, and NMFS has taken steps to clarify the map illustrating the small areas that do represent the

designated MPA sites, as shown in Figure 1.

The comment periods for the Draft Environment Impact Statement (DEIS), the Final Environmental Impact Statement (FEIS), Amendment 14 and

the proposed rule are dictated by the National Environmental Policy Act, and the Magnuson-Stevens Act. All comment periods for this action were created in accordance with those requirements.

Figure 1. Type 2 deepwater MPAs off North Carolina, South Carolina, Georgia, and east Florida. Sizes of these MPAs



range from 2 by 4 nautical miles (nm), or 8 square nm, to approximately 15 by 10 nm, or approximately 143 square nm.

*Comment 5:* One commenter stated general opposition to any management measures that would further restrict recreational hook-and-line fishing for deepwater snapper-grouper species in Federal waters of the South Atlantic.

*Response:* NMFS recognizes the many restrictions placed on recreational

fishermen in the South Atlantic region, however, it is the agency's responsibility to protect fishery resources and associated habitat, with an emphasis on protecting those that are overfished, undergoing overfishing or approaching an overfished condition. A consensus-based approach involving a

multi-stakeholder group was used to determine the MPA sites with an effort to chose locations that would provide optimal biological benefits while limiting, to the extent practicable, any adverse economic effects on the fishery. The MPAs being implemented through this rule are expected to yield long-term

benefits for several species that are currently overfished, undergoing overfishing and/or approaching an overfished condition, in keeping with the goals and objectives of the FMP for the Snapper-Grouper Fishery of the South Atlantic Region.

*Comment 6:* The No Action Alternatives for each action were not analyzed in the Initial Regulatory Flexibility Analysis (IRFA), nor was the increasing price of fuel and its effect on enforcement of the MPAs. The commenter also stated there was a failure to describe the economic impacts of the MPA alternatives on recreational fishermen and associated community businesses, and the economic analysis relied on questionable trip data from 2005–2007 for South Carolina. Two commenters asked why establishing more near-shore and off-shore man-made fishing reefs to counteract economic impacts of Amendment 14 had not been considered.

*Response:* A No Action Alternative does not have economic impacts beyond the status quo, i.e. the fishery without the MPA. However, if recent increases in fuel prices have caused some commercial and/or charter fishing operators to permanently move out of areas to be designated as MPAs, the displacement of fishermen caused by the MPAs and the associated adverse economic impact will be less than the displacement and adverse economic impact caused by MPAs prior to the price-induced displacement.

The RFA is concerned with the expected direct effects of regulatory action on small entities and defines three types of small entities: small businesses, small organizations, and small government jurisdictions. While the businesses that support the recreational fishing industry may be small business entities, recreational anglers do not qualify as small entities under any of the classifications defined by the RFA. Further, no associated community businesses would be directly affected by the proposed rule. Consequently, the IRFA was correct in not including recreational anglers or associated community businesses in the analysis. The small entities that could be directly affected by this rule are small businesses in the commercial fishing and for-hire industries with permits to fish for and possess South Atlantic snapper-grouper species in the EEZ. These entities have been identified and included in the analysis.

Regarding the use of South Carolina trip data from 2005–2007, neither the IRFA nor Regulatory Impact Review (RIR) used or relied on that trip data to estimate and compare the economic

impacts of the alternatives for this amendment.

The Council did vote to establish an experimental deepwater artificial reef MPA called the Charleston Deep Artificial Reef MPA. The establishment of this deep artificial reef will facilitate research studies focused on answering questions about the practicability and effectiveness of deepwater artificial reefs. Once more research is conducted on this and other offshore artificial reefs, deploying additional materials to establish deepwater artificial reefs may be considered in a future amendment.

*Comment 7:* One commenter provided three suggestions to improve management of the snapper-grouper fishery in lieu of MPAs. The first suggestion is to impose trip limits on all fish that have a quota. The second is to do away with all size limits to avoid wasting the resource. The third suggestion is to require every fisherman to declare whether they are part of the recreational or commercial sector in order to reduce instances of recreational fishermen selling bag limit caught fish and, thus, counting those fish against the commercial quota.

*Response:* Commercial trip limits have been implemented for several snapper-grouper species in the South Atlantic such as greater amberjack, red porgy, snowy grouper, and golden tilefish. Adjustment to current trip limits and additional trip limits may be considered in future actions.

Minimum size limits are generally used to maximize the yield of each fish recruited to the fishery and to protect a portion of a stock from fishing mortality. The idea behind maximizing yield is to identify the size that best balances the benefits of harvesting fish at larger, more commercially valuable sizes against losses due to natural mortality. Protecting immature and newly mature fish from fishing mortality provides them increased opportunities to reproduce and replace themselves before they are captured. If the size limit chosen is larger than the size at first reproduction for the species in question, then a sufficient pool of spawners could be retained even if fishing pressure is heavy. There are many negative aspects of size limits too, but the benefits of any management measure depends on the species. NMFS uses a broad range of management measures for snapper-grouper species because of the diversity of species and habitats.

Sale of bag limit quantities of snapper-grouper is being addressed through Amendment 15B to the FMP for the Snapper-Grouper Fishery of the South Atlantic Region. In Amendment 15B the Preferred Alternative under

“Modifications to Sales Provisions” states: “A South Atlantic Snapper-Grouper harvested in the EEZ on board a vessel that does not have a valid Federal commercial permit for South Atlantic snapper-grouper, or a South Atlantic snapper-grouper possessed under the bag limits, may not be sold or purchased. A person aboard a vessel with both a for-hire vessel permit and a Federal commercial snapper-grouper permit is considered to be fishing as a charter when fishing as described in 50 CFR 622.2. Snapper-grouper caught on such a trip may not be sold or purchased.” Amendment 15B is under review and, if approved, would be expected to be implemented in 2009.

*Comment 8:* One commenter stated general support of the establishment of the MPAs in the South Atlantic region.

*Response:* NMFS agrees that the establishment of these MPAs is likely to protect a portion of the population (including spawning aggregations) and habitat of long-lived, slow-growing, deepwater snapper-grouper species from directed fishing pressure to achieve a more natural sex ratio, age, and size structure within the proposed MPAs, while minimizing adverse social and economic effects.

*Comment 9:* One agency issued a letter of support for the action but also urged NMFS to develop a detailed plan for specific research and monitoring actions and enforcement and outreach/education objectives for each of the MPAs.

*Response:* The effects of the Type II MPAs will be monitored through the assessment of spawning aggregations, tracking fish movement, identifying fish population demographics, and by determining age distribution, nursery grounds, migratory patterns, and mortality rates for dominant harvested fish stocks. Furthermore, the Council’s web site will be expanded to provide comprehensive education and outreach products on MPAs (e.g., regulations, publications, research and monitoring information, law enforcement activities, news releases, high resolution video and photographs, maps, etc.).

*Comment 10:* One agency asked whether the MPAs would be established for a set term, indeterminately, or if they would exist until monitoring demonstrates recovery, and whether or not the MPA sites are adaptable to incorporate any identified modifications. The agency also noted that the “Dear Reviewer” letter accompanying the FEIS, sent out to interested parties, was dated June 2, 2008, but the amendment itself was dated July 2007, and requested clarification on this discrepancy.

*Response:* The MPAs will exist unless and/or until future actions to modify or eliminate one or all of them are implemented through the amendment process. If new information becomes available, suggesting an MPA should be altered in any way, such changes would be addressed through the amendment process as well.

The "Dear reviewer" letter sent to interested parties and commenters was attached to a copy of the FEIS and was dated June 2, 2008, while the finalized amendment is dated July 2007. This discrepancy stemmed from the action to prohibit the use of shark bottom longline gear within the MPAs. The HMS Division manages the shark bottom longline fishery and, therefore, implemented the action to prohibit the gear in the MPAs in their Amendment 2 to the Consolidated HMS FMP. However, the Council approved Amendment 14 before HMS Amendment 2 was finalized and chose to move forward by submitting Amendment 14 for Secretarial review in July of 2007. In an effort to implement compatible regulations with Amendment 2 to the Consolidated HMS FMP on the same timeline, NMFS waited to disseminate the Amendment 14 FEIS until after the notice of availability (NOA) for Amendment 2 FEIS was published. Subsequently, the process of Secretarial review for Amendment 14 was not initiated until June of 2008 when the "Dear reviewer" letter was issued.

### Classification

The Administrator, Southeast Region, NMFS determined that Amendment 14 is necessary for the conservation and management of the South Atlantic snapper-grouper fishery and is consistent with the Magnuson-Stevens Act and other applicable laws.

This final rule has been determined to be not significant for purposes of Executive Order 12866.

NMFS prepared an FRFA for this action. The FRFA incorporates the initial regulatory flexibility analysis (IRFA), a summary of the significant economic issues raised by public comments, NMFS' responses to those comments, and a summary of the analyses completed to support the action. A summary of the analyses follows.

In summary, this final rule will establish eight Type II MPAs in the South Atlantic EEZ. The objective of this rule is to assist in the recovery of overfished stocks and persistence of healthy fish stocks, fisheries and habitats.

Four issues associated with the economic analysis were raised through public comment on the proposed rule. Additional comments were received which did not pertain to the economic analysis. A complete summary of these comments and NMFS' responses is provided in the Comments and Responses section of this rule. No changes were made to the final rule as a result of public comment. The first issue raised on the economic analysis was that the IRFA did not include an economic analysis. Although an analysis of the expected economic effects of the proposed rule and significant alternatives was conducted, the IRFA did not contain a description of the analysis conducted or provide an in-depth presentation of the results. Because of the absence of harvest and effort data at the small areal scale necessary to quantitatively assess harvests in the specific areas of the proposed MPAs, the analysis of the expected social and economic effects of the proposed rule relied upon the results of an iterative survey methodology called a modified Delphi method. Under this methodology, individuals familiar with the various fishing sectors and areas under consideration were surveyed to identify the potential effects of MPAs and determine an ordinal ranking system that was used to compare the economic impacts of the various MPA alternatives. This FRFA corrects the omission in the IRFA by including an explanation of why the Delphi method was used, providing a description of the Delphi process, and reporting the resulting forecasts of the expected adverse economic impacts of the various alternatives.

The second issue raised on the economic analysis was that the analysis of the No Action Alternatives did not include consideration of the effects of the recent increases in fuel prices, which have caused some fishermen to relocate from the deep-water areas, including areas to be designated as MPAs, to areas closer to shore. The comment stated that the displacement of fishing pressure has reduced catch and revenues from these future MPAs and, therefore, the No Action Alternatives would have adverse economic impacts that have not been evaluated. NMFS agrees that increasing fuel prices have impacted fishing practices in both the recreational and commercial sectors, affecting both the number of trips fishermen take and the location of their fishing activity. NMFS disagrees, however, that the IRFA analysis is deficient because an assessment of the

economic effects of increasing fuel costs for the No Action Alternatives was not explicitly conducted. This comment suggests a misunderstanding of the no action baseline and the analytical objective of the analysis. The no action baseline consists of an assessment of what the relevant fisheries and entities would be like if the rule is not adopted, otherwise known as the status quo. The analytical objective of the analysis is to determine the effects a rule or alternative is expected to have relative to the baseline. Thus, the analytical objective in evaluating the expected effects of an action is not to identify the absolute level of economic performance, but, rather, to identify the expected amount and direction (gain or loss) of change. Although increasing fuel prices may alter fishing behavior and reduce the profitability of small businesses in the fishing industry, such effects would continue to occur under the No Action Alternatives. As a result, because the No Action Alternatives would not impose any new restrictions on the fisheries, they would not result in any additional economic impacts beyond those expected to occur under the status quo, which includes the snapper-grouper fishery without the MPAs, but with rising fuel costs, and other economic pressures. Thus, while knowledge of baseline conditions (status quo) is important to identifying the effects of alternatives to the status quo, the No Action Alternatives would not result in any change in these baseline conditions. It should also be noted that, due to the methodology employed, neither fuel costs nor any other cost considerations, were explicitly used in the effects analysis. However, such effects were assumed to be implicitly factored into the determinations of potential effects of the MPAs and resultant ordinal ranking of alternatives. Because of their experience and knowledge of the fisheries and areas under consideration, the participants in the modified Delphi process were assumed to be cognizant of current fishing costs, travel distances, and other appropriate fishing factors and trends, and are assumed to have included these considerations in their determination of the effects of the alternative MPAs. Finally, from a practical perspective, it should be noted that if recent fuel price increases have caused fishermen to permanently move out of areas that will be designated as MPAs, the additional displacement and associated adverse economic effects as a result of MPA designation will be less than the effects which would occur absent any fuel price-induced

displacement because an MPA would not displace effort that no longer exists.

The third issue raised on the economic analysis was that the analysis failed to describe the economic impacts of the MPA alternatives on recreational fishermen and associated community businesses. The RFA is concerned with the expected direct effects of regulatory action on small entities and defines three types of small entities: small businesses, small organizations, and small government jurisdictions. While the businesses that support the recreational fishing industry may be small business entities, recreational anglers do not qualify as small entities under any of the classifications defined by the RFA. Further, no associated community businesses would be directly affected by the proposed rule. Consequently, the IRFA was correct in not including recreational anglers or associated community businesses in the analysis. The small entities that could be directly affected by this rule are small businesses in the commercial fishing and for-hire industries with permits to fish for and possess South Atlantic snapper-grouper species in the EEZ. These entities have been identified and included in the analysis.

The fourth issue raised on the economic analysis was that the economic analysis utilized faulty assumptions of fishing pressure. The comment implied, using 2005 through 2007 data for South Carolina, that the analysis assumed all trips occurring in Federal waters constituted pressure on the snapper-grouper fishery. NMFS disagrees with this comment. When evaluating the expected economic effects of a proposed rule, NMFS uses a measure of directed effort and not total effort. Proxies for directed effort include target trips (trips that target a particular species), catch trips (trips that catch a particular species), or harvest trips (trips that harvest a particular species but do not include catch and release trips). These measures of directed effort typically constitute a small portion of total effort. For example, for the snapper-grouper fishery from 1999 through 2003, catch trips comprised the largest portion of total trips, yet equaled only approximately 15 percent of total trips. Additionally, because the analysis of the expected economic effects of the alternative MPAs used the modified Delphi methodology, as described above, rather than a traditional quantitative analysis, neither the IRFA nor the RIR used or relied on specific trip data to estimate and compare the economic impacts of the alternatives for this amendment.

No duplicative, overlapping, or conflicting Federal rules have been identified.

This rule will regulate commercial fishermen and for-hire fishing operators who fish for snapper-grouper species in eight areas to be designated as Type II MPAs in the South Atlantic EEZ. These eight MPAs are the Snowy Grouper Wreck, Northern South Carolina, Edisto, Georgia, North Florida, St. Lucie Hump, East Hump, and Charleston Deep Artificial Reef Type II MPAs.

Current regulations require commercial vessels to have a Federal permit in order for persons aboard to possess South Atlantic snapper-grouper species in the South Atlantic EEZ in excess of the recreational bag limit (50 CFR 622.4). For-hire vessels that fish for snapper-grouper in the EEZ, which are subject to recreational bag limits, are also required to have a Federal permit. As of August 18, 2008, 771 commercial fishing vessels had active South Atlantic snapper-grouper permits, 142 of which were trip-limited and 629 of which were unlimited. Similarly, there were 1,513 charter-fishing vessels with an active permit for South Atlantic snapper-grouper species.

The Small Business Administration (SBA) defines a small business in the finfish fishing or charter-fishing industry as one that is independently owned and operated, is not dominant in its field of operation, and has annual receipts not in excess of \$4 million for finfish fishing (NAICS 114111) or \$6.5 million in charter fishing (NAICS 487210). It is assumed for this analysis that each permit represents a small business. Thus, it is estimated that there are 771 small businesses in finfish fishing and 1,513 in charter-fishing that catch South Atlantic snapper-grouper species in the South Atlantic EEZ.

The U.S. Atlantic EEZ is divided into statistical areas referred to herein as grids. The eight MPAs will be located within nine grids with one of the MPAs, Snowy Grouper Wreck, occurring in two grids and the others located in single grids. Of the seven MPAs to be contained within single grids, the size of the respective MPAs represents from 0.25 percent to 3.26 percent of the area of the grid where it is located. The one MPA contained within two grids comprises 2.48 percent of the combined area of the two grids.

Under current regulations, all fishermen with a Federal commercial permit to catch South Atlantic snapper-grouper species are required to maintain a fishing logbook and submit a trip report for every fishing trip related to that permit. Among the information that is required is the vessel name and

identification number, gear used, pounds caught and sold of each species, and the numeric code of the grid where the majority of the catch of each species was made. Fishermen are not required to report the longitudes and latitudes where the snapper-grouper species were caught within a grid, so the smallest unit of fishing area is the grid.

The initial analysis of the expected economic impacts of the MPA alternatives considered quantifying the expected effects by identifying the total snapper-grouper catch in the respective grid containing the MPA or any portion of the MPA and assuming that the catch originating from the MPA was between 0 to 100 percent of the total catch in the grid. This approach would have established upper and lower bounds on the potential level of catch affected by each MPA designation. For example, the Preferred Alternative for the Edisto MPA (Alternative 1) is contained within grid 3279. This approach would have estimated that 0 to 100 percent of the vessels with recorded fishing activities in that grid and 0 to 100 percent of the landings of snapper-grouper species recorded from that grid would be affected by the MPA. However, all of the MPAs considered comprised relatively small portions of their respective grids. The Preferred Alternative for the Edisto MPA, for example, represents only 1.65 percent of the total area within the grid in which it lies. As a result, this approach would not have produced meaningful estimates of the expected effects of the alternative MPAs and was rejected.

The second approach to quantifying the expected economic impacts considered assuming that the vessel participation and harvest from each alternative MPA was proportional to the percentage of area of the MPA relative to the total area in the grid. For example, because the Preferred Alternative for the Edisto MPA represents 1.65 percent of the area of grid 3279, this approach would have assumed that the designation of this area as an MPA would affect 1.65 percent of the snapper-grouper vessels that reported landings in that grid and reduce the total snapper-grouper landings in that grid by 1.65 percent. This method, however, was rejected because it assumed each grid was a homogeneous area of physical, chemical and biological characteristics or habitat resulting in identical types and rates of fishing effort and harvest everywhere within the grid, conditions which are known with certainty not to be true. Consequently, it was decided that an adequate quantitative evaluation of the

economic impacts using traditional techniques was not possible.

Because the empirical data do not exist at the spatial scale necessary to quantify the number of small entities that would be affected and adverse economic impacts of the various MPAs, a second best alternative, a modified Delphi approach, was developed to assess the expected socioeconomic effects of each of the proposed alternatives and support ranking of the alternatives. The Delphi method has been applied in the management of other natural resources and advocated for use in fishery management.

The Delphi method is an experiment in group communication among a panel of experts with expertise representative of diverse geographic areas. It involves repetitive response, discussion and judgment among a panel of diverse experts with the purpose of resulting in a sound collective opinion. The technique allows experts to deal systematically with a complex problem or task where relevant empirical data is lacking. The particular Delphi experiment developed for this amendment was a modified Delphi, which consisted of three rounds: a Policy Delphi, a traditional iterative Delphi, and a cross-impact analysis.

Twelve experts, representing expertise from the Carolinas to the Florida Keys, participated in the Delphi experiment. They were selected based on a spectrum of fishing and researching backgrounds with different perspectives on the policy issue of MPAs, including stakeholders with commercial, for-hire, and recreational fishing interests, as well as others with expertise covering marine resources administration, anthropology, biology, economics, enforcement, and protected marine resources. This was a priority in order to represent contrasting viewpoints of different stakeholders. Their viewpoints were treated as expert testimony and systematically disseminated to the rest of the panel of experts so that each panelist could consider other viewpoints and discuss them.

The first phase was a Policy Delphi, which culminated in a comprehensive list of positive and negative effects (i.e. benefits and costs, advantages and disadvantages) of implementing a Type II MPA in general. Although the diversity of experts created instances of divergence regarding the direction (positive, negative, or neutral) of individual effects during Round One, the panel generally displayed strong majority support on the direction and level of impacts resulting from the implementation of Type II MPAs.

This and the following four paragraphs identify and describe the economic impacts of Type II MPAs in general, which were identified and described by the expert panelists during Round One of the Delphi experiment. According to the panelists, negative impacts on small businesses would be realized mainly in the form of displacement costs on commercial and for-hire vessels that currently, but would no longer be able to, fish in areas designated as Type II MPAs. These displacement costs were divided into the following categories: catch and landings changes, trip-level search and associated costs, crowding and congestion costs, and personal safety costs.

The most obvious and direct displacement cost would be the cost to commercial and charter-fishing vessels that historically catch snapper-grouper species in the areas designated as MPAs. These vessels would lose the revenues that come from sales of species caught in those areas and customer trips to those areas. To reduce the loss of catch and associated revenue, vessels would have to travel to new fishing locations, maybe target new species, or even learn new types of fishing. These new trip-level decisions would have a direct impact on trip-related variable costs as well as time-related opportunity costs. In particular, fuel usage and costs would likely change. The immediate search for profitable alternative fishing grounds could result in additional fuel expenditures and lost opportunities to fish, especially if those grounds require vessels to travel greater distances and avoid traveling through closed areas in order not to be caught with snapper-grouper species in the MPAs. However, vessels could actually use less fuel if the new fishing grounds were closer to shore. If displaced fishermen purchase new gear or modify existing gear and lack experience with the new/modified gear, it could take time for them to become proficient and improve profits.

Related displacement costs could be congestion, increased harvest and user conflicts in areas outside an MPA, and decreased personal safety. Additional fishing pressure in areas surrounding an MPA might further stress already overfished species, and vessels may experience lower catch rates per unit of effort as they compete for the limited biomass in the open fishing areas. This could create incentives for additional capital expenditures, such as for fish finding equipment. Additionally, user conflicts may develop and gear may be lost due to entanglement. The panel suggested that the farther displaced vessels had to move inshore, the more

conflict could result with recreational vessels. MPA regulations could cause fishermen to incur extra risk to personal safety as they seek new and unfamiliar fishing grounds or employ unfamiliar fishing techniques. However, if the MPAs were in deepwater areas, there could be a decrease in personal risk to crew and paying passengers if vessels moved closer to shore. The short-term revenue losses could translate into long-term income gains and reduced variability of revenue. In the long run, benefits could be realized if spillover effects are assumed to affect aggregate harvest levels in the remaining fishable areas as stocks become healthier. Increased protection of the spawning stock biomass may lead to more natural population structures with older and larger individuals and greater genetic diversity. As a result, there could be increased harvestable biomass, increased dispersal, and greater recruitment to the remaining open areas in the fishery. These attributes likely would lead to a reduction in the annual variation in the biomass of deepwater stocks and the resulting harvests and revenues. If spillover occurs, then the abundance and harvest levels in surrounding areas will become less variable. The amount of economic benefit that would eventually be derived due to spillover effects from the MPA depends on a myriad of biological and economic factors specific to species in question and the vessels that target them. Future harvest increases may not be realized exclusively by the fishermen who were displaced by designation of an MPA.

Round Two of the Delphi experiment required panelists to group and rank the effects listed in the previous round. A time dimension was introduced to distinguish immediate (less than one year) impacts of implementing a Type II MPA from medium (one to five years) and long-term (over five years) impacts. The results were groupings of effects ranked on their expected overall impacts throughout various time periods after implementation of Type II MPAs In General.

The primary objective of Round Three was to differentiate the socioeconomic consequences of the alternatives for each proposed MPA in Amendment 14. A weighted scoring system was used based on the results from the previous rounds. In Delphi method terminology, this scoring system is an impact analysis. Each panelist was asked to estimate the impact of each group of effects in each time period on a scale from negative three to plus three, with a score of zero representing a neutral impact. Negative 3 represented a high

adverse economic impact, negative two a moderate adverse economic impact, and negative 1 a minimal adverse economic impact. Similarly, 3 represented a high beneficial economic impact, 2 a moderate beneficial economic impact, and 1 a minimal beneficial economic impact. A score of zero represented neutral or no impact. One of the groups of effects was impact on commercial, charter-fishing and recreational fishermen. Overall impact scores for each grouping of effects in each time period were calculated with a probabilistic consensus model that enabled a test for agreement in responses among panelists. Relative weights based on the rankings of effects from Round Two were used to calculate the overall weighted impact scores in each time period that were employed to compare the alternatives associated with the Amendment 14 MPA sites. The Wilcoxon Signed-Rank Test produces a nonparametric statistic that was used to formally test for differences in scores among the alternatives. The No Action alternative was not explicitly evaluated by the panelists and was defined to have a score of zero because it represented no change from baseline (or status quo) economic conditions.

#### **Snowy Grouper Wreck Type II MPA Alternatives**

Alternative 1, the Preferred Alternative, will establish the Type II Snowy Grouper Wreck MPA located off North Carolina in the area that is bound by the following coordinates: The northwest corner at 33°25'N, 77°4.75'W; northeast corner at 33°34.75'N, 76°51.3'W; southwest corner at 33°15.75'N, 77°0'W; and the southeast corner at 33°25.5'N, 76°46.5'W. It comprises an area approximately 143 square nautical miles and is located approximately 55 nautical miles southeast of Southport, North Carolina.

Alternative 2, a rejected alternative, would have established a Type II MPA that protects the Snowy Grouper Wreck off North Carolina in the area that is bound by the following coordinates: The northwest corner at 33°23.35'N, 77°4'W; northeast corner at 33°33.25'N, 76°50.5'W; southwest corner at 33°14.1'N, 76°59.35'W; and the southeast corner at 33°24'N, 76°45.75'W. The MPA would have comprised an area approximately 144 square nautical miles and been located approximately 57 nautical miles southeast of Southport.

Alternative 3, another rejected alternative, was the No Action Alternative and would not have established the Type II Snowy Grouper Wreck MPA. It would not generate any

economic impacts beyond the baseline. Alternative 3 would not protect the fish that are still present on the snowy grouper wreck and other wrecks and natural bottom sites within the area from directed fishing pressure. By allowing fishing to continue as is, it is less likely that the natural size and age structure of the deepwater stocks will be restored, which reduces the long-term benefits of increased catches and associated revenues.

The MPA created by Preferred Alternative 1 is situated a little further inshore than the MPA created by rejected Alternative 2 and contains more hard-bottom habitat than Alternative 2. The MPAs created by Alternative 1 and Alternative 2 include an area ranging from 150 meters (492 feet) to 300 meters (984 feet) deep. Alternative 1 also includes a shallow area ranging from 60 meters (197 feet) to 100 meters (328 feet), and Alternative 2 includes a deeper area exceeding 300 meters (984 feet) in depth. Both of the alternatives contain a wreck that was once the site of a known aggregation of snowy grouper, which was believed to be targeted heavily by a few individuals in the late 1990s and fished down.

According to the commercial fishing industry, the areas of Alternatives 1 and 2 hold many snowy grouper, speckled hind, gag, and red porgy. It is reported that red grouper, graysby, and hogfish have also been caught at the snowy grouper wreck. Information from public hearings indicates that the snowy grouper wreck is mostly fished by commercial snapper-grouper fishermen out of Little River, SC, and the ports of Carolina Beach and Southport, NC. This area is also heavily fished by fishermen who troll for tuna, marlin, dolphin, and wahoo during certain times of the year.

The charter fishing industry may also be impacted by Alternatives 1 and 2 because they would have to target these bottom snapper-grouper species in other areas, potentially increasing fishing pressure on other sites. It may also have a negative effect because these longer trips are usually built into the annual round of these boats, designated for specialized fishermen.

The results of the Delphi experiment forecast moderate to minimal adverse economic impacts from either Preferred Alternative 1 or rejected Alternative 2, with impacts ranging from immediate, moderate, adverse impacts of -1.94 to -1.57 to less than minimal adverse impacts of -0.14 after 5 years.

The Delphi approach forecasts higher adverse economic impacts of Preferred Alternative 1 than those of Alternative 2 due to greater displacement effects. This result corroborated expert

testimony from Round One that suggested Preferred Alternative 1 encroaches into the mid-shelf region and would affect more fishing operations than Alternative 2. Commercial activity in the outer continental shelf of Alternative 2 is relatively light (about 6 boats) while more than 12 additional commercial vessels and an unknown number of charter-fishing operators regularly fish for snapper and shallow-water groupers in the mid-shelf region of Preferred Alternative 1. Expert testimony revealed that no significant recreational effort exists within the Snowy Grouper Wreck MPA alternatives. Although the Delphi results forecast the same long-term adverse economic impacts for Alternatives 1 and 2, the Council expects the biological benefits of Preferred Alternative 1 would be greater than those of Alternative 2.

#### **Northern South Carolina Type II MPA Alternatives**

Preferred Alternative 2 will establish a Type II MPA in the area bounded by the following coordinates: The northwest corner at 32°53.5' N, 78°16.75' W; the northeast corner at 32°53.5' N, 78°4.75' W; the southwest corner at 32°48.5' N, 78°16.75' W; and the southeast corner at 32°48.5' N, 78°4.75' W. It comprises an area approximately 50 square nautical miles and is located approximately 54 nautical miles from Murrells Inlet, SC.

Alternative 1, a rejected alternative, would have established a Type II MPA in the area bounded by the following coordinates: The northwest corner at 33°8.5' N, 77°54' W; the northeast corner at 33°8.5' N, 77°42' W; the southwest corner at 33°3.5' N, 77°54' W; and the southeast corner at 33°3.5' N, 77°42' W. The MPA would have had an area approximately 50 square nautical miles and been located approximately 61 nautical miles from Murrells Inlet.

Alternative 3, another rejected alternative, would have established a Type II MPA in the area bounded by the following coordinates: The northwest corner at 33°2.75' N, 79°52.75' W; the northeast corner at 33°9.25' N, 77°43.5' W; the southwest corner at 32°58.83' N, 77°48.83' W; and the southeast corner at 33°5.3' N, 77°39.9' W. The MPA would have been located approximately 65 nautical miles from Murrells Inlet and been approximately 50 square nautical miles in size.

Alternative 4, the rejected No Action Alternative, would have not established a Type II MPA off northern South Carolina. It would generate no economic impacts beyond the baseline.

The MPAs of Preferred Alternative 2 and rejected Alternatives 1 and 3 are areas of low relief that were previously heavily trawled by roller rigs before they were prohibited in 1989 through Snapper Grouper Amendment 1 (SAFMC 1988). Fishermen refer to the area as “smurfville” because it holds many small vermilion snapper. Information received during the public input process indicates that this area is fished mostly in the winter and that it holds deepwater species like snowy grouper and speckled hind as well as other snapper-grouper species such as red pogy, triggerfish, and gag.

The MPAs of rejected Alternative 1 and Preferred Alternative 2 run east to west, while rejected Alternative 3 runs parallel to shore. Alternatives 1 and 3 share an area ranging in depth from 70 to 140 meters (230 to 460 feet). The MPA that would have been created by Alternative 1 would have included more shallow water ranging from 40 to 80 meters (131 to 262 feet) deep, while that of Alternative 3 would have included a greater area of deep water (100–150 meters (328–492 feet)). Waters in the MPA created by Preferred Alternative 2 are from 50 to 180 meters (164 to 591 feet) deep. The depth profiles of Alternatives 1 and 2 are similar, but the MPA created by Preferred Alternative 2 is located farther offshore and includes deeper water than Alternative 1.

Southeast Area Monitoring and Assessment Program (SEAMAP) data indicate the presence of hard bottom within Alternatives 1 through 3, with Preferred Alternative 2 and rejected Alternative 1 having the highest occurrence of known hard bottom. These data show that snowy grouper can be found in all the alternatives while speckled hind have only been found in Alternative 2. Marine Resources Monitoring, Assessment, and Prediction (MARMAP) program data indicate many mid-shelf snapper-grouper species such as gray triggerfish, red pogy, knobbed pogy, and vermilion snapper are also found within all three alternatives for this MPA. Many mid-shelf species including vermilion snapper have been found in spawning condition in these areas.

The results of the Delphi experiment forecast Preferred Alternative 2 would have the largest immediate and medium-term adverse economic impacts due to the largest displacement costs. Rejected Alternative 3 is inferior to Preferred Alternative 2 and Alternative 1 in the long-term because it would have adverse economic impacts as compared to the others' beneficial economic impacts in the long-term. Although Preferred Alternative 2 is

forecast to have larger adverse economic impacts than Alternatives 1 and 3 and smaller beneficial economic impacts than Alternative 1, it is expected to have greater biological benefit because it has more hard-bottom habitat and spawning areas for snowy grouper, golden grouper and blueline tilefish.

#### Edisto Type II MPA Alternatives

Preferred Alternative 1 will establish a Type II MPA in the area bounded by the following coordinates: The northwest corner at 32°24'N, 79°6'W; the northeast corner at 32°24'N, 78°54'W; the southwest corner at 32°18.5'N, 79°6'W; and the southeast corner at 32°18.5'N, 78°54'W. It will be oriented perpendicular to the coast and located approximately 45 nautical miles southeast of the Charleston, SC, harbor. Its area is approximately 50 square nautical miles. According to public testimony, it is heavily fished by commercial and headboat fishermen.

Alternative 2, a rejected alternative, would have established a Type II MPA in the area bounded by the following coordinates: The northwest corner at 32°17'N, 79°3'W; the northeast corner at 32°24.75'N, 78°54.2'W; the southwest corner at 32°13.5'N, 78°59.5'W; and the southeast corner at 32°21'N, 78°50.83'W. It would have oriented the MPA along the shelf break and been 50 nautical miles southeast of Charleston, SC, harbor. The MPA would have had an area of 50 square nautical miles.

Alternative 3, the rejected No Action Alternative, would not have established a Type II MPA off central South Carolina. It would generate no economic impacts beyond the baseline.

The MPAs of Preferred Alternative 1 and rejected Alternative 2 include an area ranging in depth from 80 meters (262 feet) to 140 meters (459 feet). The MPA created by Alternative 1 is perpendicular to the shoreline and includes more shallow water ranging from 45 to 80 meters (148 to 262 feet) deep. Alternative 2 would have created an MPA that runs parallel to the shoreline and includes additional water 60–150 meters (197–492 feet) deep.

The Delphi results forecast minimal to moderate adverse economic impacts during the first year of implementation of either Preferred Alternative 1 or rejected Alternative 2 due to immediate displacement costs. After the first year, these displacement effects would lessen to zero to minimal and after 5 years there would be beneficial economic impacts. Preferred Alternative 1 would have larger adverse economic impacts during the first 5 years of implementation and larger beneficial economic impacts after 5 years.

Although Preferred Alternative 1 is forecast to have larger adverse economic impacts than Alternative 2 for the first 5 years, it is expected to have a larger biological benefit because it has more hard-bottom habitat than Alternative 2.

#### Georgia Type II MPA Alternatives

Preferred Alternative 1 will establish a Type II MPA off Georgia in the area bounded by the following coordinates: The northwest corner at 31°43'N, 79°31'W; the northeast corner at 31°43'N, 79°21'W; the southwest corner at 31°34'N, 79°39'W; and the southeast corner at 31°34'N, 79°29'W. It is located approximately 69 nautical miles southeast of the mouth of Wassaw Sound, GA, and has an area of approximately 100 square nautical miles.

Alternative 2, a rejected alternative, would have established a Type II MPA off the Georgia coast in the area that is bounded by the following coordinates: The northwest corner at 31 38'N, 79 41'W; the northeast corner at 31 38'N, 79 31'W; the southwest corner at 31 28'N, 79 41'W; and the southeast corner at 31 28'N, 79 31'W. It would have located the MPA approximately 65 nautical miles southeast of Wassaw Sound and, like the Preferred Alternative, have had an area of 100 square nautical miles.

Alternative 3, the rejected No Action Alternative would have not established a Type II MPA off the Georgia coast. It would not generate any economic impacts beyond the baseline.

Preferred Alternative 1 runs parallel to shore and includes waters ranging from 90 to 300 meters (295 to 984 feet) deep, while Alternative 2 includes an area with a wider depth range from 65 to 380 meters (213 to 1,247 feet) deep. Input received from the public hearing process indicates that golden tilefish are often caught within both Preferred Alternative 1 and rejected Alternative 2. The vast majority of fishing that occurs in the area of Alternatives 1 and 2 is trolling for pelagic species such as tuna and dolphin. The area is occasionally fished commercially for snapper grouper species, but lies east of an area called Triple Ledge that is an important area for the finfish fishing industry.

The Delphi results forecast minimal to moderate immediate adverse economic impacts from Preferred Alternative 1 and rejected Alternative 2, with slightly larger adverse impacts caused by Alternative 2. Similarly, Alternative 2 would have larger adverse economic impacts in the medium-term and smaller beneficial impacts after 5 years than the preferred alternative. The Council expects larger biological benefit



from Preferred Alternative 1 because it has more hard-bottom habitat than Alternative 2.

#### **North Florida Type II MPA Alternatives**

Preferred Alternative 4 will establish a Type II MPA off north Florida in the area bounded by the following coordinates: The northwest corner at 30°29'N, 80°14'W; the northeast corner at 30°29'N, 80°2'W; the southwest corner at 30°19'N, 80°14'W; and the southeast corner at 30°19'N, 80°2'W. It is located approximately 60 nautical miles off the mouth of the St. Johns's River near Jacksonville, FL, and is approximately 100 square nautical miles in size. Alternative 1, a rejected alternative, would have established a Type II MPA off the north Florida coast in the area that is bounded by the following coordinates: The northwest corner at 30 29'N, 80 18'W; the northeast corner at 30 29'N, 80 8'W; the southwest corner at 30 19'N, 80 18'W; and the southeast corner at 30 19'N, 80 8'W. It would have located the MPA approximately 57 nautical miles off the mouth of the St. John's River and is about 100 square nautical miles in size.

Rejected Alternative 2 would have established a Type II MPA off the north Florida coast in the area that is bounded by the following coordinates: The northwest corner at 30 5'N, 80 25'W; the northeast corner at 30 5'N, 80 15'W; the southwest corner at 29 55'N, 80 25'W; and the southeast corner at 29 55'N, 80 15'W. It would have located the MPA approximately 47 nautical miles east of St. Augustine, FL, and would have been about 100 square nautical miles in size.

Alternative 3, a rejected alternative, would have established a Type II MPA off the north Florida coast in the area that is bounded by the following coordinates: The northwest corner at 29 36.3'N, 80 12.5'W; the northeast corner at 29 40'N, 79 50'W; the southwest corner at 29 17.3'N, 80 8.3'W; and the southeast corner at 29 21.3'N, 79 45.5'W. The MPA would have been approximately 506 square nautical miles in size and located approximately 43 nautical miles off New Smyrna Beach, FL.

Rejected Alternative 5 would have established a Type II MPA off north Florida in the area bounded by the following coordinates: The northwest corner at 30§ 5' N, 80§ 16' W; the northeast corner at 30§ 5' N, 80§ 6' W; the southwest corner at 29§ 55' N, 80§ 16' W; the southeast corner at 30§ 55' N, 80§ 6' W. Similar to Alternative 2, the MPA would have been located approximately 55 nautical miles east of St. Augustine, and like

Preferred Alternative 1 and rejected Alternatives 2 and 4, the MPA would have been about 100 square nautical miles in size.

Alternative 6, another rejected alternative, would have established a Type II MPA off north Florida in the area bounded by the following coordinates: The northwest corner at 29§ 36.3' N, 80§ 15' W; the northeast corner at 29§ 40' N, 79§ 52.5' W; the southwest corner at 29§ 17.3' N, 80§ 10.8' W; the southeast corner at 29§ 21.3' N, 79§ 48' W. Like Alternative 3, it would have located the MPA off New Smyrna Beach, but about 45 nautical miles from that location. Also, like Alternative 3, the MPA would have been about 506 square nautical miles in size.

The rejected No Action Alternative, Alternative 7, would have not established a Type II MPA off north Florida. It would not generate any economic impacts beyond the baseline.

The Delphi results forecast moderate to high adverse economic impacts in the first year for Preferred Alternative 4 and rejected Alternatives 1, 2, and 5 and minimal to moderate immediate adverse impacts for rejected Alternatives 3 and 6. From 1 to 5 years, minimal to moderate adverse impacts would be incurred from Alternatives 1, 2, 4 and 6, with zero to minimal adverse impacts caused by Alternatives 3 and 6. None of the alternatives were forecast to have positive long-term economic impacts, and Alternatives 1 through 5 were forecast to generate zero to minimal adverse economic impacts after 5 years.

Alternatives 1 and 2 were proposed to the Council by the Habitat Advisory Panel. Input received during the public scoping and meeting process indicated that these alternatives are heavily fished both commercially and recreationally for mid-shelf snapper-grouper species and that there are few deepwater species found in either area. Alternatives 4 and 5 were modifications suggested by the Council to capture a greater amount of deepwater habitat. Alternative 6 is similar to Alternative 3 but located closer to shore. Alternative 3 is a site proposed at a public hearing held in the affected area. Although Alternatives 3 and 6 have smaller adverse economic impacts than Preferred Alternative 4, the preferred alternative is expected to yield a larger biological benefit.

#### **St. Lucie Hump Type II MPA Alternatives**

Preferred Alternative 1 will establish a Type II MPA protecting St. Lucie Hump in the area bounded by the following coordinates: The northwest corner at 27°8'N, 80°W; the northeast

corner at 27°8'N, 79°58'W; the southwest corner at 27°4'N, 80°W; and the southeast corner at 27°4'N, 79°58'W. The MPA will be located approximately 9 nautical miles southeast of St. Lucie, FL, and have a size of 8 square nautical miles. It is located in water 66 to 69 meters (216 to 234 feet) deep.

The No Action Alternative, rejected Alternative 2, would have not established the St. Lucie Hump Type II MPA. It would not generate any economic impacts beyond the baseline.

According to input received from the Council's advisors and through the public scoping and hearing process, the MPA created by Alternative 1 represents an area that is very habitat rich with many speckled hind, juvenile snowy grouper, Warsaw grouper, and mid-shelf species such as sea bass, red porgy, and red snapper present. The MPA will be located between two inlets that make the area less popular to fish than other hard-bottom areas such as Pushbutton Hill. However, it is heavily targeted by fishermen who troll for pelagic species. The Council considered other possible sites, but only Alternative 1 came out of the public process used to identify potential sites.

The results of the Delphi experiment forecast minimal to moderate adverse economic impacts during the first year of implementation, followed by zero to minimal adverse impacts in the medium-term and zero to minimal beneficial economic impacts after 5 years.

#### **East Hump Type II MPA Alternatives**

Preferred Alternative 1 will establish a Type II MPA protecting the East Hump in the area bounded by the following coordinates: The northwest corner at 24°36.5'N, 80°45.5'W; the northeast corner at 24°32'N, 80°36'W; the southwest corner at 24°32.5'N, 80°48'W; and the southeast corner at 24°27.5'N, 80°38.5'W. The MPA will be located approximately 13 nautical miles southeast of Long Key, FL, and about 50 square nautical miles in size.

The No Action Alternative, rejected Alternative 2, would not have established an MPA in this area. It would not generate any economic impacts beyond the baseline.

The East Hump MPA is an area of very rich habitat. The MPA is located in waters that are 194 to 296 meters (636 to 971 feet) deep, while the tops of the humps are 155 to 165 meters (509 to 541 feet) deep. The Council considered other possible sites, such as the Islamorada Hump, but only Alternative 1 came out of the public process used to identify potential sites. The Islamorada Hump site is a much more

popular fishing site. According to expert testimony, an MPA directly off the coast of the so-called "Fishing Capital of the World" would have led to extensive displacement costs to the fishing industry.

The results of the Delphi experiment forecast zero to minimal adverse economic impacts from Preferred Alternative 1 during the first year of implementation, followed by beneficial economic impacts after the first year. After 5 years, there would be a minimal to moderate beneficial economic impact.

The following insights from the panel reflect the possible dynamics associated with the East Hump MPA. There are ample fishing opportunities in the Florida Keys. Initially, increased search and learning costs might be incurred by displaced commercial and charter fishing fishermen. Over time the abundance of fishing opportunities in the Keys would allow them to regain their level of past fishing catch, likely targeting the same species. Some congestion effects might take place in nearby areas. However, bottom fishermen should benefit from stock rejuvenation in the long term.

**Charleston Deep Artificial Reef Type II MPA Alternatives**

Preferred Alternative 1 will establish an experimental artificial reef Type II MPA off the Coast of South Carolina in the area identified by the following boundaries: The northwest corner at 32°4' N, 79°12'W; the northeast corner at 32°8.5'N, 79°7.5'W; the southwest corner at 32°1.5'N, 79°9.3'W; and the southeast corner at 32°6'N, 79°5'W. The MPA will be located about 50 nautical miles southeast of Charleston Harbor, SC. It will have an area of 21 square nautical miles and be in waters from 100 to 150 meters (328 to 492 feet) deep.

The No Action Alternative, rejected Alternative 2, would have not established a Charleston Deep Artificial Reef MPA. It would not generate any economic impacts beyond the baseline.

Throughout the many rounds of public meetings the Council held regarding MPAs, one of the most common sentiments from members of the public was that the Council use artificial reefs instead of natural habitat as MPAs and/or build more artificial reefs to mitigate for the loss of natural bottom that has been designated as an MPA. Preferred Alternative 1 was developed by Council staff and biologists from the State of South Carolina who looked to avoid hard-bottom habitat from SEAMAP data while locating the site just offshore where other artificial reefs were being studied.

The results of the Delphi experiments forecast no adverse economic impacts and zero to minimal beneficial economic impacts from Preferred Alternative 1.

**Summary of Impacts of Preferred Type II Alternatives**

This rule will establish eight Type II MPAs: Snowy Grouper Wreck MPA, Northern South Carolina MPA, Edisto MPA, Georgia MPA, North Florida MPA, St. Lucie Hump MPA, East Hump MPA, and Charleston Deep Artificial Reef MPA. Fishing for or possession of any snapper-grouper species within any of the MPAs will be prohibited. It will regulate commercial fishers and charter-fishing operators who fish for snapper-grouper species in the eight areas of the South Atlantic EEZ to be designated as Type II MPAs. Four of the MPAs that will be established by this rule, Snowy Grouper Wreck, Northern South Carolina, Edisto, and North Florida, are expected to have significant adverse economic impacts during their first year after implementation. However, no significant adverse economics impacts are expected after the first year for any of the eight MPAs.

In an attempt to minimize the adverse economic impacts of the rule, all MPAs considered were identified by a process that extensively involved scientists, fishermen, and the public. A Habitat Advisory Panel, consisting of scientists and fishermen, assembled available data to identify locations that would provide the greatest biological benefit to snapper-grouper species. Experts on MPAs traveled throughout the South Atlantic region and discussed the benefits of MPAs with the public. Public input during the scoping process and the public hearings revealed that closure of certain sites would generate intense public disapproval. The Council realized the implementation of those sites would create a degree of controversy that would impede implementation of the closures and compliance. Following public input, the Council employed a bottom-up process where stakeholders proposed sites that would reduce potential adverse social and economic effects yet still achieve the biological objectives. As an example, the Council worked with fishermen in the Florida Keys following the Council's proposed placement of an MPA on the popular location referred to as the Islamorada Hump. The proposal generated intense controversy due to the popularity of fishing at this site. The Council worked with the local fishing community to propose a nearby site that would achieve the biological objectives of the MPA designation, invoke less

controversy, and have lower adverse economic impact than the originally proposed site. This approach was replicated, where necessary, for all the MPAs that will be established by this final rule.

**List of Subjects in 50 CFR Part 622**

Fisheries, Fishing, Puerto Rico, Reporting and recordkeeping requirements, Virgin Islands.

Dated: January 7, 2009

**Samuel D. Rauch III,**

*Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.*

■ For the reasons set out in the preamble, 50 CFR part 622 is amended as follows:

**PART 622—FISHERIES OF THE CARIBBEAN, GULF, AND SOUTH ATLANTIC**

■ 1. The authority citation for part 622 continues to read as follows:

**Authority:** 16 U.S.C. 1801 *et seq.*

■ 2. In § 622.2, the definition of "MPA" is added in alphabetical order to read as follows:

**§ 622.2 Definitions and acronyms.**

\* \* \* \* \*

MPA means marine protected area.

\* \* \* \* \*

■ 3. In § 622.35, paragraph (i) is added to read as follows:

**§ 622.35 Atlantic EEZ seasonal and/or area closures.**

\* \* \* \* \*

(i) *MPAs.* (1) No person may fish for a South Atlantic snapper-grouper in an MPA, and no person may possess a South Atlantic snapper-grouper in an MPA. However, the prohibition on possession does not apply to a person aboard a vessel that is in transit with fishing gear appropriately stowed as specified in paragraph (i)(2) of this section. In addition to these restrictions, see § 635.21(d)(1)(iii) of this chapter regarding restrictions applicable within these MPAs for any vessel issued a permit under part 635 of this chapter that has longline gear on board. MPAs consist of deepwater areas as follows:

(i) *Snowy Grouper Wreck MPA* is bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	33°25'	77°04.75'
B	33°34.75'	76°51.3'
C	33°25.5'	76°46.5'

Point	North lat.	West long.
D	33°15.75'	77°00.0'
A	33°25'	77°04.75'

(ii) *Northern South Carolina MPA* is bounded on the north by 32°53.5' N. lat.; on the south by 32°48.5' N. lat.; on the east by 78°04.75' W. long.; and on the west by 78°16.75' W. long.

(iii) *Edisto MPA* is bounded on the north by 32°24' N. lat.; on the south by 32°18.5' N. lat.; on the east by 78°54.0' W. long.; and on the west by 79°06.0' W. long.

(iv) *Charleston Deep Artificial Reef MPA* is bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	32°04'	79°12'
B	32°08.5'	79°07.5'
C	32°06'	79°05'
D	32°01.5'	79°09.3'
A	32°04'	79°12'

(v) *Georgia MPA* is bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	31°43'	79°31'
B	31°43'	79°21'
C	31°34'	79°29'
D	31°34'	79°39'
A	31°43'	79°31'

(vi) *North Florida MPA* is bounded on the north by 30°29' N. lat.; on the south by 30°19' N. lat.; on the east by 80°02' W. long.; and on the west by 80°14' W. long.

(vii) *St. Lucie Hump MPA* is bounded on the north by 27°08' N. lat.; on the south by 27°04' N. lat.; on the east by 79°58' W. long.; and on the west by 80°00' W. long.

(viii) *East Hump MPA* is bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	24°36.5'	80°45.5'
B	24°32'	80°36'
C	24°27.5'	80°38.5'
D	24°32.5'	80°48'

Point	North lat.	West long.
A	24°36.5'	80°45.5'

(2) For the purpose of paragraph (i)(1) of this section, transit means direct, non-stop progression through the MPA. Fishing gear appropriately stowed means—

(i) A longline may be left on the drum if all gangions and hooks are disconnected and stowed below deck. Hooks cannot be baited. All buoys must be disconnected from the gear; however, buoys may remain on deck.

(ii) A trawl or try net may remain on deck, but trawl doors must be disconnected from such net and must be secured.

(iii) A gillnet, stab net, or trammel net must be left on the drum. Any additional such nets not attached to the drum must be stowed below deck.

(iv) Terminal gear (i.e., hook, leader, sinker, flasher, or bait) used with an automatic reel, bandit gear, buoy gear, handline, or rod and reel must be disconnected and stowed separately from such fishing gear. A rod and reel must be removed from the rod holder and stowed securely on or below deck.

(v) A crustacean trap, golden crab trap, or sea bass pot cannot be baited. All buoys must be disconnected from the gear; however, buoys may remain on deck.

[FR Doc. E9-497 Filed 1-12-09; 8:45 am]

BILLING CODE 3510-22-S

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**50 CFR Part 679**

[Docket No. 080302360-7686-03]

RIN 0648-AT91

**Pacific Halibut Fisheries; Bering Sea and Aleutian Islands King and Tanner Crab Fisheries; Groundfish Fisheries of the Exclusive Economic Zone Off Alaska; Individual Fishing Quota Program; Western Alaska Community Development Quota Program; Recordkeeping and Reporting; Permits; Correction**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Final rule, correction.

**SUMMARY:** This action corrects the regulatory text of a final rule published on December 15, 2008 (73 FR 76136).

Among its measures, the final rule will implement new recordkeeping and reporting requirements; a new electronic groundfish catch reporting system, the Interagency Electronic Reporting System, and its data entry component, eLandings. This action is intended to promote the goals and objectives of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and other applicable law.

**DATES:** Effective January 14, 2009.

**FOR FURTHER INFORMATION CONTACT:** Patsy A. Bearden, 907-586-7228.

**SUPPLEMENTARY INFORMATION:**

**Background**

NMFS manages the U.S. groundfish fisheries of the exclusive economic zone off Alaska under the Fishery Management Plan for Groundfish of the Gulf of Alaska and the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (collectively, FMPs). General provisions governing fishing by U.S. vessels in accordance with the FMPs appear at subpart H of 50 CFR part 600.

**Need for Corrections**

In FR Doc. E8-29625, published in the **Federal Register** on December 15, 2008 (73 FR 76136), the following errors occur in §§ 679.4 and 679.5. This document corrects those errors.

NMFS is correcting the heading for the table in § 679.4(a)(1) by removing the phrase “If program permit or card type is:” and replacing it with “If program permit type is:”. This correction is necessary because, as described in the supplemental proposed rule, NMFS no longer issues permit cards.

Section 679.4(e)(2) was revised in the final rule, but NMFS inadvertently deleted the phrase “legible copy of” a permit and replaced it with “copy of” a permit. In a final rule published May 19, 2008 (73 FR 28733), NMFS no longer required an original permit onboard a vessel or onsite at a shoreside facility, but required a “legible copy” of a permit. However, NMFS inadvertently omitted the word “legible” in the supplemental proposed rule.

Section 679.5(c)(1)(vi)(B)(3) is an in-text table and describes the distribution of the yellow logsheet of the daily cumulative production logbooks (DCPLs). This correction removes check marks from the columns for catcher/processor longline or pot gear, catcher/processor trawl gear, and motherships that were mistakenly included in the supplemental proposed rule and the