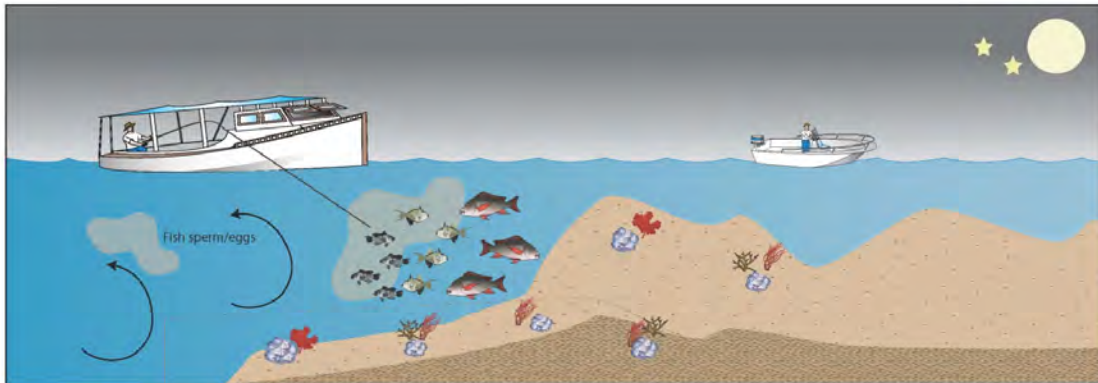




DECISION DOCUMENT

With September & December 2014 Council Motions and
AP October 2014 Motions

**Amendment 36 to the Fishery Management Plan
For the Snapper Grouper Fishery of the South Atlantic Region:
Spawning SMZs off NC, SC, GA, and FL**



Spawning Aggregations & Larval Transport around Specific Lunar Cycles

FEBRUARY 23, 2014

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(Note: Please put SGAmend36 in the Subject line of your email comment.)



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Cover graphic by Amber Von Harten, SAFMC Staff

INTRODUCTION

Why is the Council taking action?

1. **Protect spawning habitat & spawning fish** – Certain habitat areas are very important for a number of species as sites where they aggregate to spawn. Protecting these areas, and the associated habitat, will produce more eggs, larvae, and subsequent recruitment of juvenile fish.
2. **Measures limiting possession of deepwater species implemented** – Measures in Amendment 17B (SAFMC 2010) included a deepwater closure (240 ft. seaward) for deepwater species to help protect warsaw grouper and speckled hind, two deepwater species extremely vulnerable to overfishing. Regulations became effective on January 31, 2011.
3. **Measures limiting possession of deepwater species removed** – Regulatory Amendment 11 (SAFMC 2012) eliminated the restriction on the possession or harvest of some deepwater snapper grouper species in waters greater than 240 feet deep. Regulations became effective on May 10, 2012. The deepwater species closure was implemented in January 2011 to help protect speckled hind and warsaw grouper; however, data indicate that the closure may not significantly reduce bycatch of these species while the socioeconomic impacts of the closure are significant in some areas. The Council originally planned to re-address measures to reduce bycatch of speckled hind and warsaw grouper in Comprehensive Ecosystem-Based Amendment 3 (CEBA 3). The issue of protecting speckled hind and warsaw grouper was moved from CEBA 3 to Regulatory Amendment 17 to have changes implemented more quickly.
4. **Lawsuit** – the Natural Resources Defense Council and Ocean Conservancy sued The Secretary of Commerce on June 8, 2012 after removal of the measures limiting possession of deepwater species. NMFS/Council stated they would take additional action; judge has ruled in favor of NOAA/NMFS/Council.
5. **So what's the additional action?**
 - a. Snapper Grouper Amendment 36 (Spawning SMZs for a number of species including speckled hind & warsaw grouper)
 - b. MPA Expert Workgroup – the Council formed a group of MPA experts composed of scientists and fishermen with experience studying snapper grouper species or observing spawning in the South Atlantic Council's area. The group was requested to review scientific data on spawning sites, habitat mapping, and species occurrence and to provide recommendations on potential areas. The group met twice and provided a report that is available from the Council's website and included in the Background folder. (See: <http://www.safmc.net/managed-areas/marine-protected-areas>) The Council reviewed the areas recommended by the group and decided to move forward with looking at spawning SMZs rather than additional MPAs. The Council will use the data compiled by the group when

determining spawning SMZ areas to evaluate as they review the public input received during the scoping process.

- c. Coral Amendment 8 – expanded Coral HAPCs; sent to the Secretary of Commerce for formal review on 11/26/13; the proposed rule published in the Federal Register on June 3, 2014 and comments were due on or before July 3, 2014. Amendment 8 was approved on August 20, 2014; the final rule will be published in the near future. Based on regulations in the Coral HAPCs, fishing will be reduced (e.g., no anchoring). The MPA Rankings prepared by the MPA Expert Work Group assumed 50% protection efficiency for CHAPCs. This means that the Coral HAPCs are assumed to be 50% as effective as an MPA (Source: MPA Spreadsheet; Nick Farmer, NMFS SERO). The following actions affecting the total effective area under “MPA protection” are in Coral Amendment 8:
 - i. Action 1. Expand Oculina Bank HAPC – 267 square miles + 76 square miles = 343 square miles of additional area would be added to the current area under “MPA protection”.
 - ii. Action 3. Expand Stetson-Miami Terrace Coral HAPC – 490 square miles of additional area would be added to the current area under “MPA protection”.
 - iii. Action 4. Expand Cape Lookout Coral HAPC – 10 square miles of additional area would be added to the current area under “MPA protection”.

- 6. **The Council is evaluating additional action** regardless of how the outcome of the lawsuit relating to removal of measures limiting possession of deepwater species.
- 7. **System Management Plan** – the Council has directed Staff/IPT to develop a system management plan for the Spawning SMZs that will describe in detail the monitoring and evaluation requirements for the proposed sites. This SMP will be included as an Appendix to Snapper Grouper Amendment 36.

Scoping meetings were held in August 2014 from North Carolina through Florida.

DECEMBER COUNCIL ACTION:

- 1. Direct staff/IPT to address monitoring/evaluation needs upfront in the Amendment 36 document and reference the Monitoring/Evaluation Appendix. **Done.**
- 2. Direct staff/IPT to look within the areas identified for Spawning SMZs off each state and, using bottom topography, bring alternative boxes back at the March 2015 meeting for the Committee’s consideration. Include any surveys of biomass in the areas that are available. **Done.**

PURPOSE & NEED FOR ACTION

Purpose: Identify important spawning habitat for snapper grouper species that can be designated for protection to enhance spawning and increase recruitment. Reduce bycatch of snapper grouper species, including speckled hind and warsaw grouper.

Need: Protect spawning FISH AND THEIR habitat; promote recruitment; and reduce bycatch mortality of economically and ecologically important snapper grouper species, including speckled hind and warsaw grouper, while minimizing, to the extent practicable, social and economic impacts to snapper grouper fishermen.

The Snapper Grouper AP approved the Purpose & Need wording at their April 8-10, 2014 meeting. The Council approved the Purpose & Need for scoping at their June 2014 meeting.

SEPTEMBER COUNCIL ACTION:

MOTION: MODIFY AND APPROVE THE NEED FOR SNAPPER GROUPE AMENDMENT 36:

Need: Protect spawning FISH; promote recruitment; and reduce bycatch mortality of economically and ecologically important snapper grouper species, including speckled hind and warsaw grouper, while minimizing, to the extent practicable, social and economic impacts to snapper grouper fishermen.

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

Council provided direction to staff to modify the Purpose & Need to address new action to move MPA off SC.

DECEMBER COUNCIL ACTION:

MOTION: ACCEPT THE IPT'S RECOMMENDED CHANGES TO THE PURPOSE AND NEED

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

Purpose: Identify important spawning habitat for snapper grouper species that can be designated for protection to enhance spawning and increase recruitment. Reduce bycatch and bycatch mortality of snapper grouper species, including speckled hind and warsaw grouper. Align the existing South Carolina MPA with the permitted site.

Need: Protect spawning fish; promote recruitment; and reduce bycatch and bycatch mortality of economically and ecologically important snapper grouper species, including speckled hind and warsaw grouper, while minimizing negative short-term social and economic effects and maximizing beneficial long-term social and economic impacts to snapper grouper fishermen. Move the existing South Carolina MPA.

WHAT ACTIONS ARE BEING CONSIDERED

The Council is considering the following actions in Amendment 36:

- Specify a process for identifying spawning sites/aggregations for snapper grouper species, including speckled hind and warsaw grouper, based on the characteristics of sites important for spawning (bottom topography, current systems, etc.).
- **Note: Currently Spawning SMZs would only consider prohibiting fishing for and/or possession of snapper grouper species (species in the snapper grouper fishery management unit).**
- During scoping and public hearings, the public is encouraged to suggest sites that could be considered. The scoping document did not include any proposed sites/areas. It is anticipated that the public hearing draft would include preliminary sites/areas (based on public input from scoping, as well as additional information), and the final amendment would specify proposed Spawning SMZ sites.
- Explore placement of artificial reefs on appropriate bottom type within existing MPAs to target warsaw grouper, speckled hind, and other snapper grouper species.
- **Note: The Spawning SMZ approach would not make any changes to the existing MPAs.** The Council is developing a System Management Plan to specify the outreach, law enforcement, and monitoring/research projects (with cost estimates) necessary to effectively monitor and evaluate the existing MPAs.

The Snapper Grouper AP also approved the following motion related to using Spawning SMZs:

SG AP MOTION: RECOMMEND THE COUNCIL TAKE THE ALTERNATIVE APPROACH TO SCOPING IN AUGUST REGARDLESS OF THE RA 11 LAWSUIT OUTCOME, AND PRESERVING THE ABILITY TO LIMIT FISHING ON MORE SPECIES OTHER THAN JUST SNAPPER AND GROUPER SPECIES.

SEPTEMBER COUNCIL ACTION:

MOTION: IT IS THE COUNCIL'S INTENT THAT SPAWNING SMZS WOULD ONLY CONSIDER PROHIBITING FISHING FOR AND/OR POSSESSION OF SNAPPER GROUPER SPECIES (SPECIES IN THE SNAPPER GROUPER FISHERY MANAGEMENT UNIT).

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

Action 1. Modify the Special Management Zone (SMZ) procedure

Alternative 1. No Action. The current SMZ procedure does not allow protection of natural bottom important for spawning.

Preferred Alternative 2. Modify the SMZ procedure to include protection of natural bottom important for spawning by designating Spawning SMZs.

Note: It is the Council's intent that the Spawning SMZ approach would not make any changes to the existing Marine Protected Areas (MPAs) or SMZs. The Council is developing a System Management Plan to specify the outreach, law enforcement, and monitoring/research projects (with cost estimates) necessary to effectively monitor and evaluate the existing MPAs.

Two Alternatives Considered

Section 1502.14(a) of the National Environmental Policy Act (NEPA) states that "agencies shall: rigorously explore and objectively evaluate all reasonable alternatives...." Two reasonable alternatives for this action, including the no action alternative, have been identified by NMFS and the South Atlantic Fishery Management Council (South Atlantic Council). The Council is considering modifying the existing SMZ procedure to include protection of natural bottom important for spawning and is not considering any other modifications at this time. Therefore, the South Atlantic Council and NMFS have determined it is not reasonable to include additional alternatives for modifications to the SMZ procedure.

Scoping Comments – comments received were positive for moving forward with Spawning SMZs; there was one negative opinion, one suggesting using as a last resort, and a couple identifying things that need to take place before and after Spawning SMZs are established.

AP Comments – the Snapper Grouper AP previously approved a motion that the Council take the alternative approach (Snapper Grouper Amendment 36) to scoping in August regardless of the Regulatory Amendment 11 lawsuit outcome, and preserving the ability to limit fishing on more species other than just snapper grouper species, that is all species in the snapper grouper fishery management unit.

SEPTEMBER COUNCIL ACTION:

MOTION: APPROVE THE WORDING OF ACTION 1 AND THE RANGE OF ALTERNATIVES.

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

DECEMBER COUNCIL ACTION:

MOTION: SELECT ALTERNATIVE 2 UNDER ACTION 1 AS PREFERRED

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

Discussion

Artificial Reef Special Management Zones (SMZs) were established in the original Snapper Grouper Fishery Management Plan (SAFMC 1983) to limit certain gear used on artificial reefs. The following is taken directly from the Original Snapper Grouper FMP (SAFMC 1983):

“Management Measure #17: Prohibition or Restraint of Specific Fishing Gear From Artificial Reefs. Upon request to the Council from the permittee (possessor of a Corps of Engineers permit) for any artificial reef or fish attraction device (or other modification of habitat for the purpose of fishing) the modified area and an appropriate surrounding area may be designated as a Special Management Zone (SMZ) that prohibits or restrains the use of specific types of fishing gear that are not compatible with the intent of the permittee for the artificial reef or fish attraction device. This will be done by regulatory amendment similar to adding or changing minimum sizes (Section 10.2.3):

1. A monitoring team* will evaluate the request in the form of a written report considering the following criteria:
 - a. fairness and equity
 - b. promote conservation
 - c. excessive shares
2. At the request of the Steering Committee, the Council Chairman may schedule meetings of the Advisory Panel (AP) and/or Scientific and Statistical Committee (SSC) to review the report and associated documents and to advise the Council. The Council Chairman may also schedule a public hearings.
3. The Council, following review of the Team’s report, supporting data, public comments, and other relevant information, may recommend to the Southeast Regional Director of the National Marine Fisheries Service (RD) that a SMZ be approved. Such a recommendation would be accompanied by all relevant background data.
4. The RD will review the Council’s recommendation, and if he concurs in the recommendation, will propose regulations in accordance with the recommendations. He may also reject the recommendation, providing written reasons for rejection.
5. If the RD concurs in the Council’s recommendations, he shall publish proposed regulations in the Federal Register and shall afford a reasonable period for public comment which is consistent with the urgency of the need to implement the management measure(s).

*Monitoring Team – The Team will be comprised of members of Council staff, Fishery Operations Branch (Southeast Region, NMFS), and the NMFS Southeast Fisheries Center.

Impact and rational

The intent of a SMZ is to create incentive to create artificial reefs and fish attraction devices that will increase biological production and/or create fishing opportunities that would not otherwise exist. The drawback to “investing” in artificial reefs or fish attraction devices is that they are costly and have limited advantages that can be rapidly dissipated by certain types of fishing gear (e.g. traps harvesting black sea bass from artificial reefs). Fishing gear that offers “exceptional advantages” over other gear to the

point of eliminating the incentive for artificial reefs and fish attraction devices for users with other types of fishing gear prevent improved fishing opportunities that would not otherwise exist.”

Action 2. Modify the framework procedure to allow modifications of and/or additional Spawning Special Management Zones (Spawning SMZs).

Alternative 1. No Action. The existing framework for the Snapper Grouper FMP does not include modifying or establishing new Spawning SMZs.

Preferred Alternative 2. Modify the framework for the Snapper Grouper FMP to include modifying or establishing new Spawning SMZs.

Alternative 3. Modify the framework for the Snapper Grouper FMP to include modifying existing Spawning SMZs.

SEPTEMBER COUNCIL ACTION:

MOTION: APPROVE THE WORDING OF ACTION 2 AND THE RANGE OF ALTERNATIVES

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

DIRECTION TO STAFF FOR ACTIONS 3-6:

1. ANALYZE THE AREAS IDENTIFIED OFF EACH STATE – will be done in March and June 2015.
2. AREA NAMES DESIGNATE AN AREA TO BE ANALYZED; SPECIFIC SIZE/LOCATION WILL BE DETERMINED AFTER ANALYSES ARE COMPLETED – **done.**
3. EXPANDED CHARTS WITH AREAS – will have more in March and June 2015.
4. SYSTEM MANAGEMENT PLAN FOR THE SPAWNING SMZS AS AN APPENDIX – will be included in June 2015.
5. MODIFY THE PURPOSE & NEED TO ADDRESS NEW ACTION TO MOVE MPA OFF SC – **done.**

DECEMBER COUNCIL ACTION:

MOTION: SELECT ALTERNATIVE 2 UNDER ACTION 2 AS PREFERRED

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

Action 3. Establish new Spawning Special Management Zones (Spawning SMZs) off North Carolina

Alternative 1. No Action. There are no Spawning SMZs off North Carolina.

Alternative 2. Establish the following new Spawning SMZ(s) off North Carolina.

Sub-Alternative 2a. Candidate area NC-1. MALCHASE WRECK

Sub-Alternative 2b. Candidate area NC-2. 780 BOTTOM

Scoping Comments – no suggestions for areas were received.

AP Comments – the Snapper Grouper AP approved a motion selecting Alternative 2 as preferred. Approved by AP with 2 negative votes.

The AP also approved a motion that for every square mile the Council closes with the new SMZs, they open at least an equivalent amount of previously closed areas. Approve by the AP with one negative vote.

SEPTEMBER COUNCIL ACTION:

Directed staff to analyze the areas known as the “Malchase Wreck” and the “780 Bottom” and bring alternatives to the Council in December.

DECEMBER COUNCIL ACTION:

MOTION: ACCEPT THE IPT WORDING FOR REVISING ACTION 3 AND THE ALTERNATIVES

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

The Council also removed the specific size in Sub-alternative 3a.

Action 3. Establish new Spawning Special Management Zones (Spawning SMZs) off North Carolina

Alternative 1. No Action. There are no Spawning SMZs off North Carolina. Fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit is prohibited year-round in the Snowy Grouper Wreck MPA (190 square miles).

Alternative 2. Establish Spawning SMZs in the MALCHASE WRECK area that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round.

Sub-alternative 2a. Malchase Wreck (2.47 square miles)

Sub-alternative 2b. Malchase Wreck (1 square mile)

Alternative 3. Establish Spawning SMZs in the 780 BOTTOM area that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round.

Sub-alternative 3a. 780 Bottom (larger area)

Sub-alternative 3b. 780 Bottom (smaller portion)

Sub-alternative 3c. 780 Bottom (still smaller portion)

Committee Action:

Option 1. Approve the Action 3 alternatives for detailed analyses and round 1 of public hearings.

Option 2. Modify the Action 3 alternatives, and approve for detailed analyses and round 1 of public hearings.

Option 3. Others???

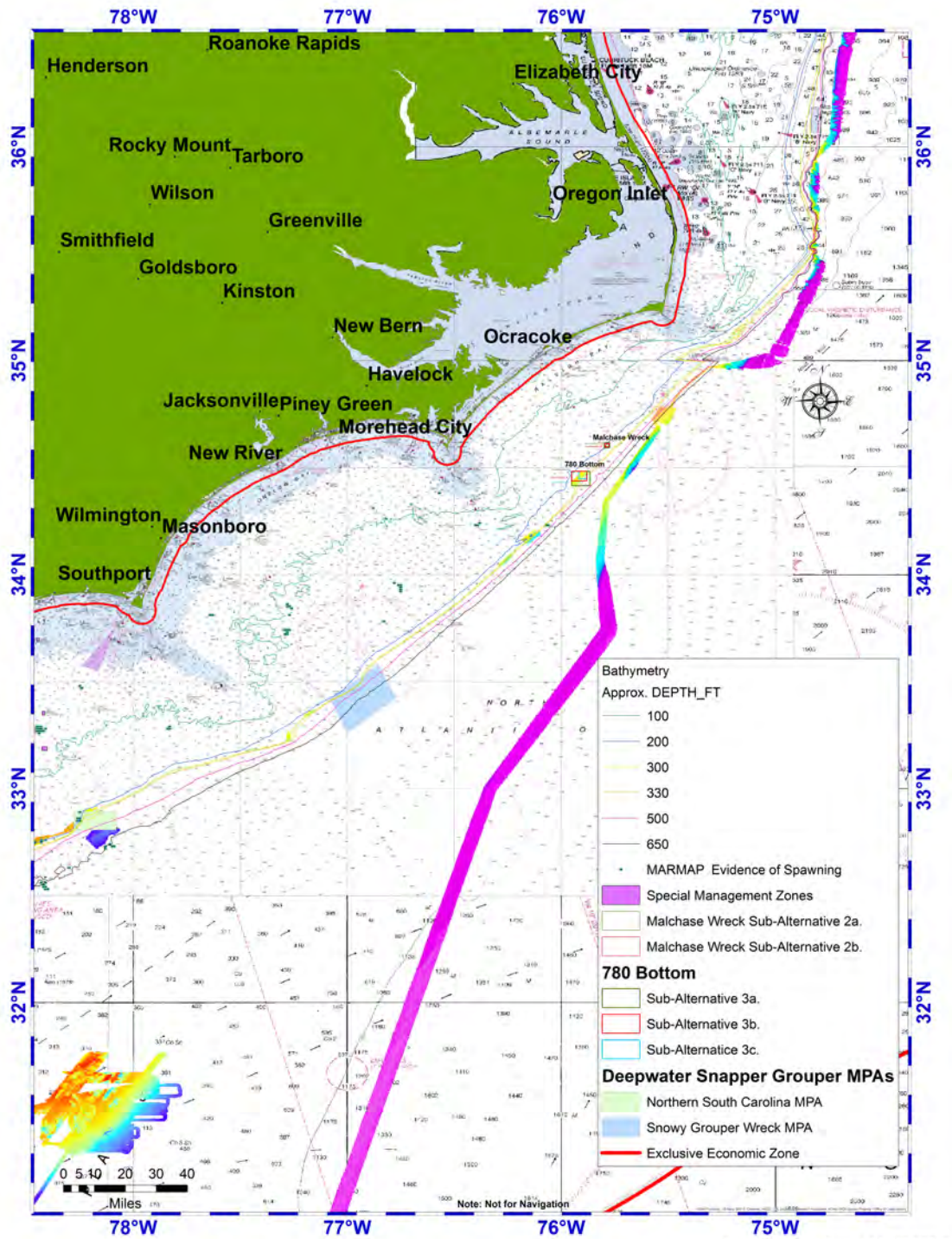


Figure 1a. Chart showing location, associated bathymetry and size of Spawning SMZ Alternatives for “Malchase Wreck” and “780 Bottom” off North Carolina. Source: Roger Pugliese, SAFMC Staff.

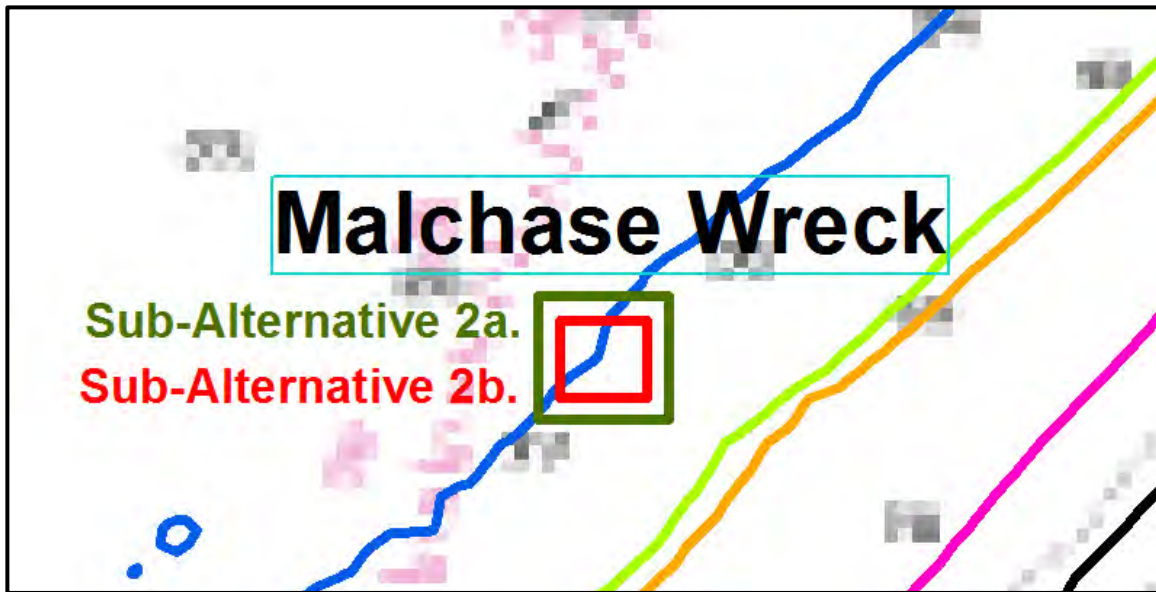


Figure 1b. Chart showing location and approximate size of Sub-Alternative 2a. (2.47 square miles) and Sub-Alternative 2b. (1 square mile) for the area off North Carolina known as the “Malchase Wreck.” Source: Roger Pugliese, SAFMC Staff.

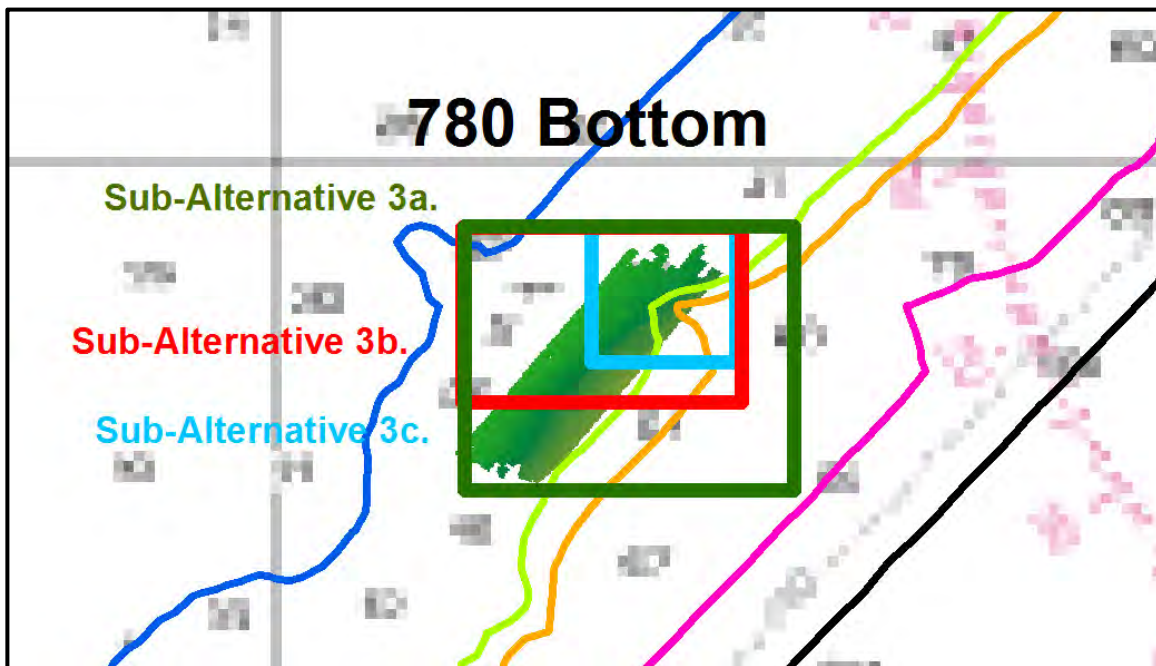


Figure 1c. Chart showing location and approximate size of Sub-Alternative 3a. (24.75 square miles), Sub-Alternative 3b. (12 square miles), and Sub-Alternative 3c. (4 square miles) for the area off North Carolina known as the “780 Bottom”. Source: Roger Pugliese, SAFMC Staff.

Action 4. Establish new Spawning Special Management Zones (Spawning SMZs) off South Carolina

Alternative 1. No Action. There are no Spawning SMZs off South Carolina.

Alternative 2. Establish the following new Spawning SMZ(s) off South Carolina.

Sub-Alternative 2a. Candidate area SC-1. DEVILS HOLE 3

Sub-Alternative 2b. Candidate area SC-2. AREA 51

Sub-Alternative 2c. Candidate area SC-3. AREA 53

Scoping Comments – no suggestions for areas were received.

AP Comments – the Snapper Grouper AP previously approved a motion asking the Council to consider reducing the size of the proposed Devils Hole/Georgetown Hole area to 1 square mile. Note: the MPA Expert Workgroup also suggested this site.

At their October 2014 meeting, the AP approved two motions:

Motion #1: Support Alternative 1 as preferred. Approved with 4 negative votes.

Motion #2: Not choose a preferred alternative at this time. Approved unanimously.

SEPTEMBER COUNCIL ACTION:

Directed staff to analyze the areas known as “Devils Hole 3”, “Area 51”, and “Area 53” and bring alternatives to the Council in December.

DECEMBER COUNCIL ACTION:

MOTION: ACCEPT THE IPT RECOMMENDATION FOR THE CHANGES TO ACTION 4

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

The Council also removed the specific size in Sub-alternative 2a.

Action 4. Establish new Spawning Special Management Zones (Spawning SMZs) off South Carolina

Alternative 1. No Action. There are no Spawning SMZs off South Carolina. Fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit is prohibited year-round in the Northern South Carolina (67 square miles), Edisto (66 square miles), and the Charleston Deep Artificial Reef (28 square miles) MPAs.

Alternative 2. Establish Spawning SMZs in the DEVIL’S HOLE area that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round.

Sub-alternative 2a. Devil’s Hole 3 (larger area)

Sub-alternative 2b. Devil’s Hole 3 (smaller portion)

Sub-alternative 2c. Devil’s Hole (1 square mile)

Alternative 3. Establish Spawning SMZs in the AREA 51 area that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round (2.24 square nautical miles).

Alternative 4. Establish Spawning SMZs in the AREA 53 area that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round (2.24 square nautical miles).

Discussion

Area 53 – established April 24, 1998. The SCDNR experimental artificial reef site designated Area 51 was established April 24, 1998 to investigate the feasibility of using artificial reef materials as an experimental Marine Protected Area (MPA). By monitoring and documenting the reef community development and fisheries production of an unfished artificial reef area and comparing this to regularly fished areas, the potential value of artificial reef-MPAs as a supplement to traditional methods of managing fisheries could be evaluated. Man made MPAs could also serve as effective demonstration sites in documenting the potential benefits that could be derived from larger scale MPAs where none existed at the time. Area 51 is a 1.5 mile X 1.5 mile permitted artificial reef site located in approximately 70 feet of water off the South Carolina coast. Clusters of low profile concrete reef units are placed in several locations within the boundaries of the permitted area.

In order to more accurately measure the productivity of the reef, it was necessary to eliminate public fishing pressure on it by limiting public awareness and, therefore, public use of the site during the study period. The US Army Corps of Engineers allowed SCDNR to utilize a special permitting process to by-pass the standard public comment period normally required for typical open access artificial reef sites.

Observations from Area 51:

- Total number of taxa was not significantly different between fished and unfished (MPA) reefs. However, total biomass was significantly greater at unfished (MPA) sites, while total numbers of fishes was greater at fished sites.

Analysis: Unfished (MPA) sites had significantly higher abundance of commercially and recreationally important species (i.e. black seabass, gag) while small, schooling baitfish (scad, cigar minnows) dominated at fished sites.

- Recruitment of juveniles and sub-adults was observed at all study sites but, over time, concentrations of black seabass increased exponentially at unfished (MPA) sites and decreased exponentially at fished sites.
- Concentrations of black seabass on unfished (MPA) sites were higher than in any previous similar study.
- Two years after cessation of all fishing activities population levels of black seabass remained near zero at fished sites but remained high at unfished (MPA) sites.
- Gonad analysis indicated spawning activity in black seabass and triggerfish at the sites.
- Tagging studies revealed minimal movement between reef corners. After initial tagging period, (May-Aug) recaptures revealed 100% site fidelity during subsequent seasons.

After a series of hurricanes passed by the coast (Arlene, Dennis, Floyd, Irene) there was migration from the sites.

- Very few tags were returned from off site; however, all off site recaptures were of fish originally tagged at unfished (MPA) sites, possibly because over-crowding at these sites prompted emigration.
- Trophic analysis showed that the artificial reefs served as a primary food source for both permanent and transient fish species and that reefs protected from harvest can enhance fisheries by increasing long-term habitat space, cover and food.

Graduate student theses from Area 51

Gold, Hansje. 2001. Investigation of the impact of fishing on artificial reef structure off the South Carolina coast.

Kauppert, Petra. 2002. Feeding habits and trophic relationships of an assemblage of fishes associated with a newly established artificial reef off South Carolina.

Area 53 – established April 29, 2003. Due in part to the results obtained from work on the Area 51 reef site, the South Atlantic Fishery Management Council (SAFMC) provided funding to replicate that study design in deeper water in order to specifically target a wider range of snapper/grouper species. The permitting process and all reef parameters for the new site, designated Area 53, were identical to Area 51 except that water depth for this site was 105 feet. In addition to the dart tags that were used in Area 51, acoustic tags were also implanted in numerous fish of several larger species on Area 53 and receiver arrays established on all four corners of the permitted area in order to monitor site fidelity on the reef.

Observations from Areas 53:

- Diversity was not significantly different between fished and unfished (MPA) reefs. However, total abundance of black seabass, gag and scamp grouper, and gray triggerfish was significantly greater at unfished (MPA) sites.
- Gonad analysis indicated spawning activity in black seabass, red porgy, and gray triggerfish at the sites.
- Tagging studies revealed high site fidelity for black seabass, gag and scamp grouper, red snapper, and gray triggerfish.
- Protected sites had significantly larger size and faster growth rates for black seabass and gray triggerfish.
- Unfished reefs had greater biomass than exploited reefs; increasing the reproductive output and larval spillover of protected artificial reef systems.

Graduate student theses from Area 53

Burgess, Dany. 2008. [Development of Invertebrate Assemblages on Artificial Reef Cones off South Carolina: Comparison to an Adjacent Hard-Bottom Habitat](#)

Kolmos, Kevin. 2007. Succession and biodiversity of an artificial reef Marine Protected Area: A comparison of fish assemblages on protected and unprotected

habitats.

One additional student, Jacqueline Shapo, attempted to examine the possibility of coral transplants onto the newly established reef cones in order to hasten invertebrate development but this attempt did not work out.

Committee Action:

Option 1. Approve the Action 4 alternatives for detailed analyses and round 1 of public hearings.

Option 2. Modify the Action 4 alternatives, and approve for detailed analyses and round 1 of public hearings.

Option 3. Others???

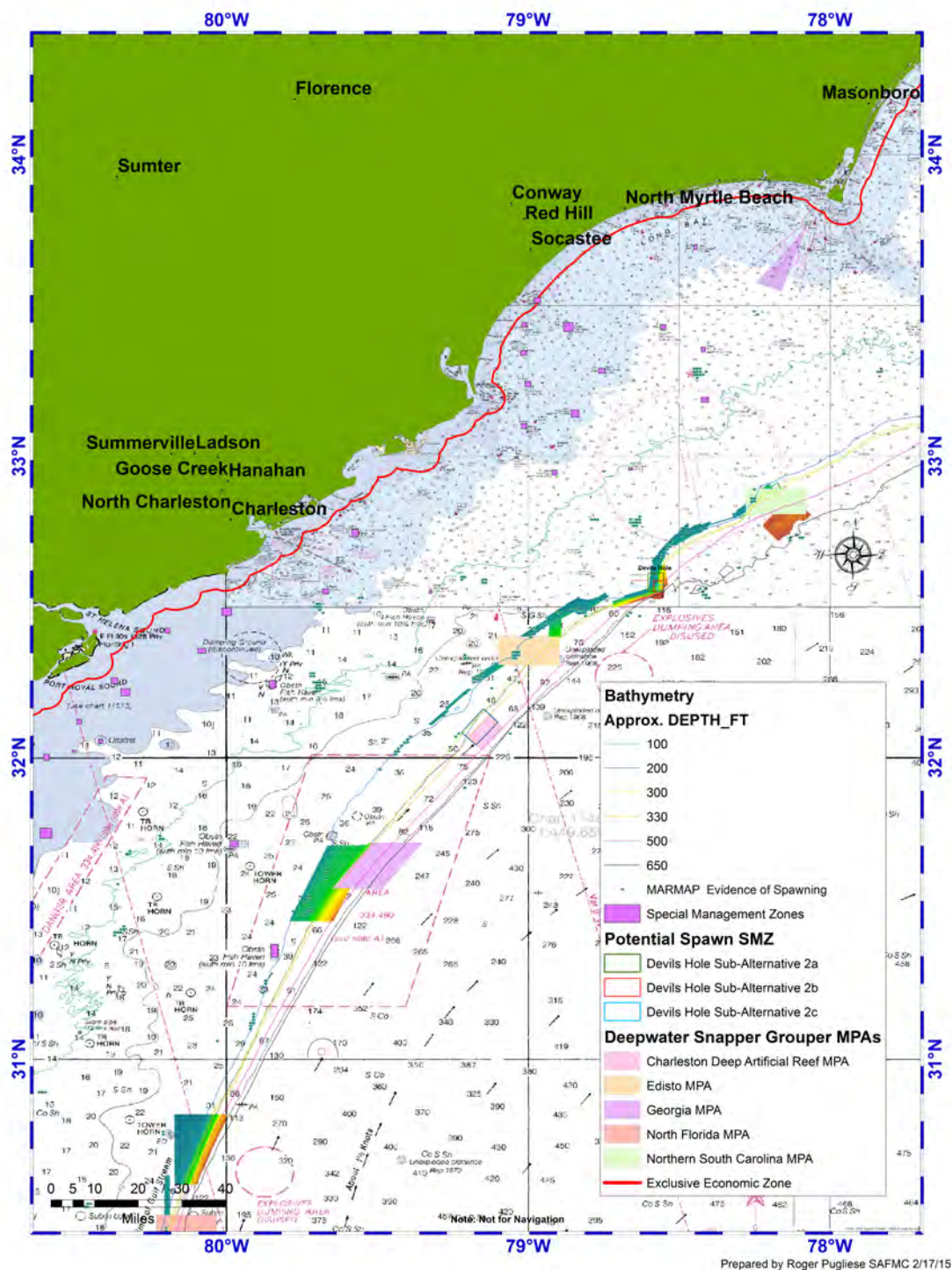


Figure 2a. Chart showing location, associated bathymetry and size of Spawning SMZ Alternatives for the area known as “Devils Hole” off South Carolina. Note: The locations of Area 51 & 53 are not being shown at this time to protect these areas. Area 51 is 2.25 square nautical miles and Area 53 is 2.25 square nautical miles. Source: Roger Pugliese, SAFMC Staff

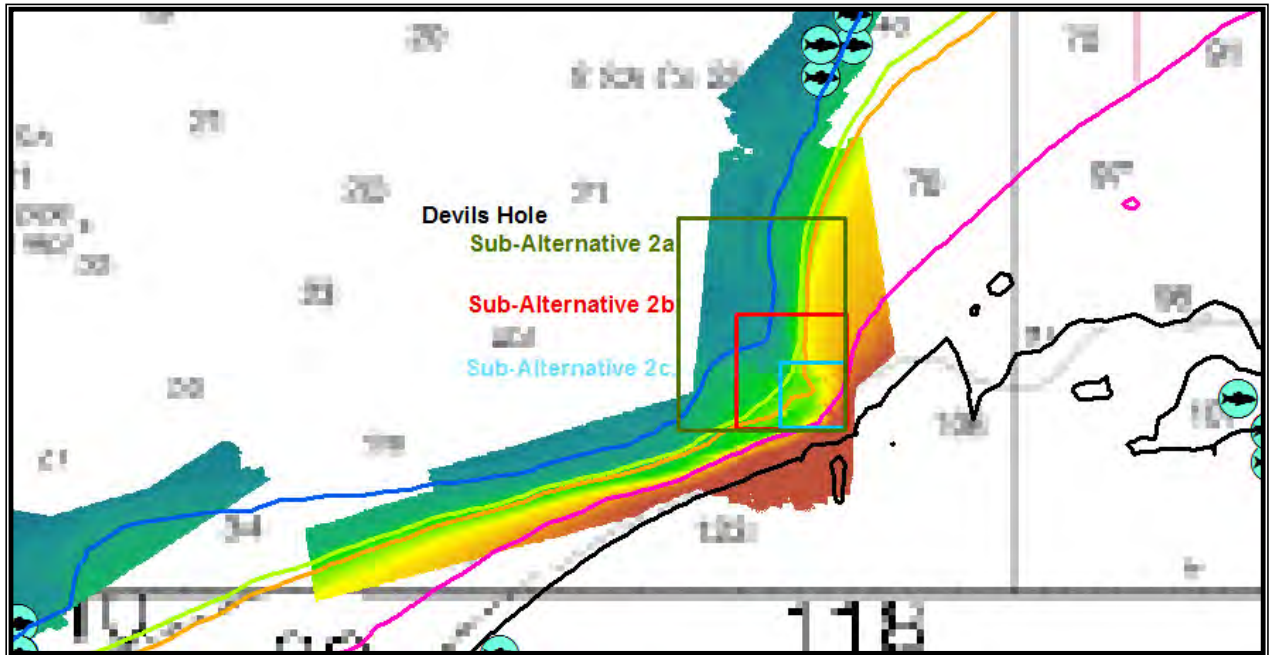


Figure 2b. Chart showing location, associated bathymetry and approximate size of Sub-Alternative 2a. (13.5 square miles), Sub-Alternative 2b. (4 square miles), and Sub-Alternative 2c. (1 square mile), for the area off South Carolina known as “Devils Hole.” Source: Roger Pugliese, SAFMC Staff.

Action 5. Establish new Spawning Special Management Zones (Spawning SMZs) off Georgia

Alternative 1. No Action. There are no Spawning SMZs off Georgia.

Alternative 2. Establish the following new Spawning SMZ(s) off Georgia.

Sub-Alternative 2a. Candidate area GA-1. GA MPA RECONFIGURATION
(the area outside the existing MPA)

Sub-Alternative 2b. Candidate area GA-2. ST. SIMONS 2 AREA

Scoping Comments – no suggestions for areas were received.

AP Comments – the Snapper Grouper AP approved a motion changing “Establish” to “Investigate” in Alternative 2 with the same sub-alternatives and making it a new Alternative 3. Approved by AP unanimously.

SEPTEMBER COUNCIL ACTION:

Directed staff to analyze the areas known as “GA MPA Reconfigurations” (only the area outside the existing GA MPA) and “St. Simons 2 Area” and bring alternatives to the Council in December.

DECEMBER COUNCIL ACTION:

MOTION: ACCEPT THE IPT’S RECOMMENDED CHANGES FOR ACTION 5

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

The Council also removed the specific size in the Sub-alternatives.

Action 5. Establish new Spawning Special Management Zones (Spawning SMZs) off Georgia

Alternative 1. No Action. There are no Spawning SMZs off Georgia. Fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit is prohibited year-round in the Georgia MPA (102 square miles).

Alternative 2. Establish Spawning SMZs in the GEORGIA MPA RECONFIGURATION area that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round.

Sub-alternative 2a. Georgia MPA Reconfiguration (area outside the existing MPA; larger area)

Sub-alternative 2b. Georgia MPA Reconfiguration (area outside the existing MPA; smaller area)

Sub-alternative 2c. Georgia MPA Reconfiguration (area outside the existing MPA; even smaller area)

Alternative 3. Establish Spawning SMZs in the ST. SIMONS area that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round.

Sub-alternative 3a. St. Simons 2 Area (larger area)

Sub-alternative 3b. St. Simons 2 Area (smaller area)

Sub-alternative 3c. St. Simons 2 Area (even smaller area)

Committee Action:

Option 1. Approve the Action 5 alternatives for detailed analyses and round 1 of public hearings.

Option 2. Modify the Action 5 alternatives, and approve for detailed analyses and round 1 of public hearings.

Option 3. Others???

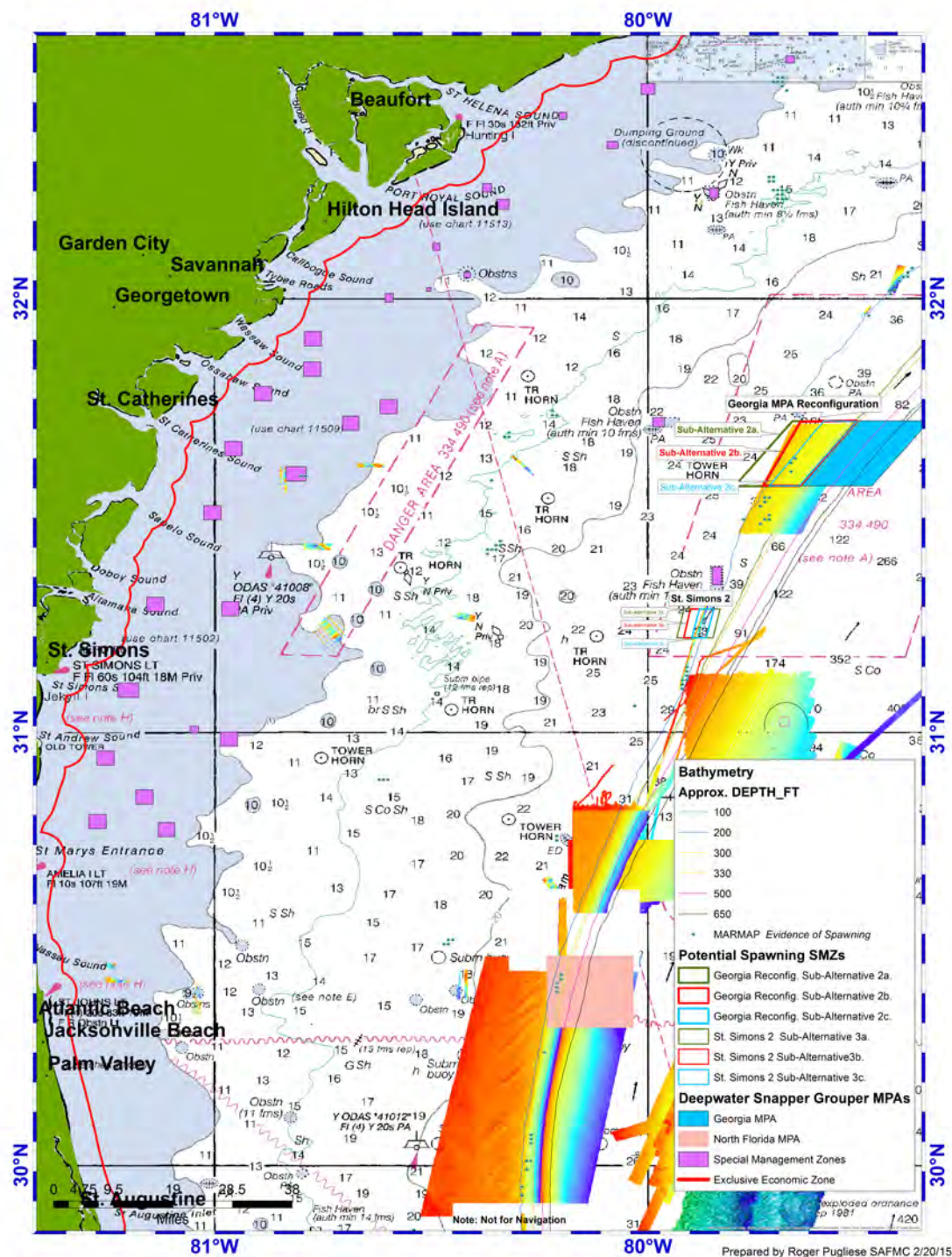


Figure 3a. Chart showing location, associated bathymetry, and size of Spawning SMZ Alternatives for areas known as “Georgia MPA Reconfiguration” and “St. Simons 2” off Georgia. Source: Roger Pugliese, Council Staff.

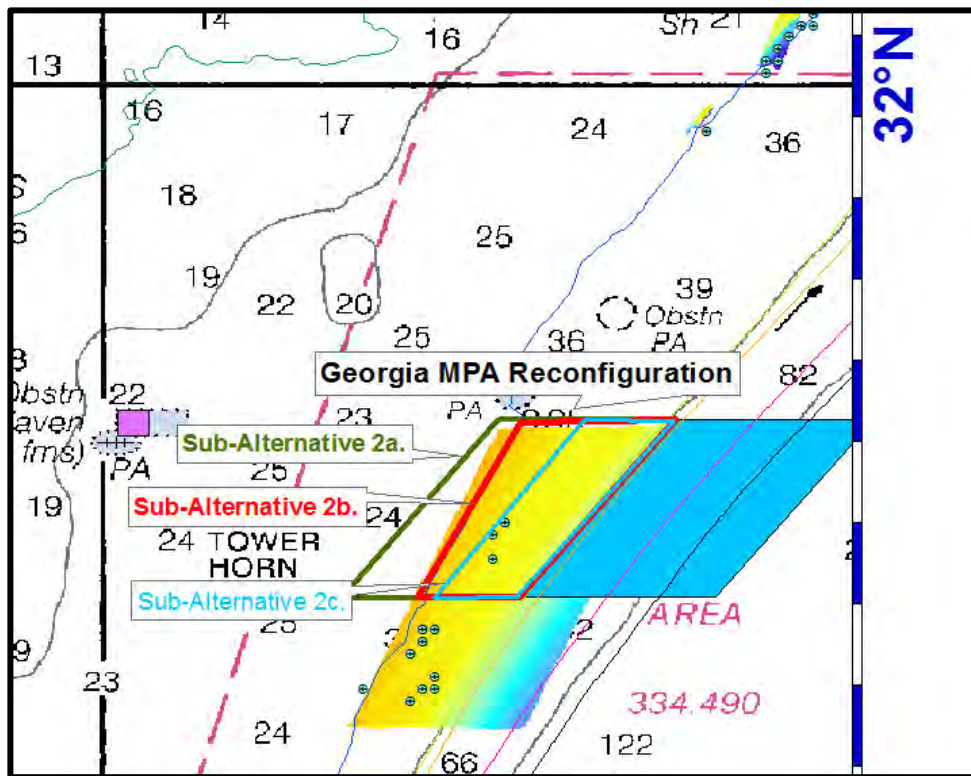


Figure 3b. Chart showing location, associated bathymetry and approximate size of Sub-Alternative 2a. (113 square miles), Sub-Alternative 2b. (71.5 square miles), and Sub-Alternative 2c. (52 square miles), for the area off Georgia known as the “Georgia MPA Reconfiguration.” Source: Roger Pugliese, SAFMC Staff.

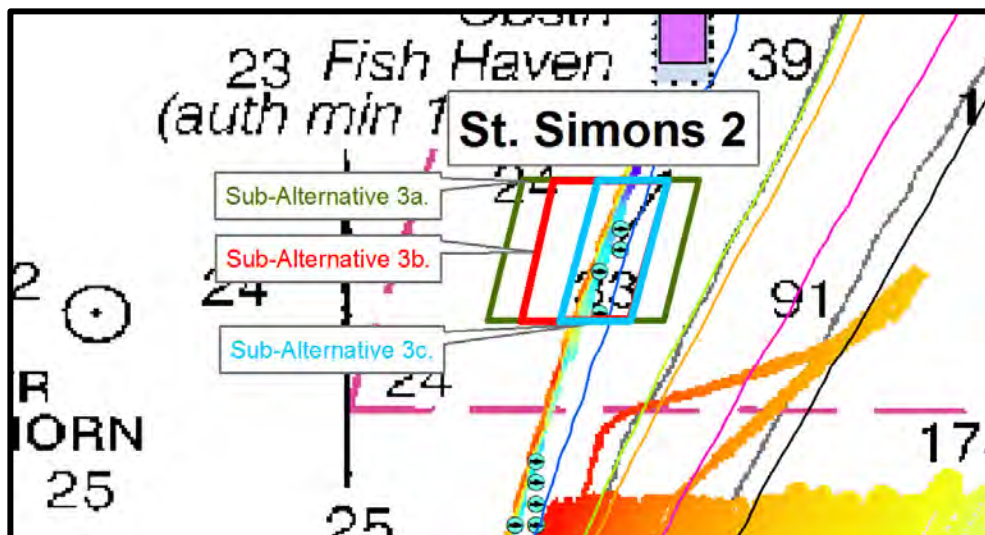


Figure 3c. Chart showing location, associated bathymetry and approximate size of Sub-Alternative 3a. (23.5 square miles), Sub-Alternative 3b. (14.1 square miles), and Sub-Alternative 3c. (9.4 square miles), for the area off Georgia known as the “St. Simons 2.” Source: Roger Pugliese, SAFMC Staff.

Action 6. Establish new Spawning Special Management Zones (Spawning SMZs) off Florida

Alternative 1. No Action. There are no Spawning SMZs off Florida.

Alternative 2. Establish the following new Spawning SMZ(s) off Florida.

Sub-Alternative 2a. Candidate area FL-1. WARSAW HOLE

Sub-Alternative 2b. Candidate area FL-2. DAYTONA STEEPLES

Scoping Comments – suggestions were received to modify the area previously considered as the Warsaw Hole and to consider three wrecks off Jupiter for goliath grouper.

AP Comments – the Snapper Grouper AP discussed sites off Florida and a motion to recommend the Warsaw Hole died on a tie vote. At their October 2014 meeting, the AP approved a motion that the AP holds off on any decisions until Council staff gives us the analysis so we can make an informed decision. Approved by AP unanimously.

SEPTEMBER COUNCIL ACTION:

Directed staff to analyze the areas known as “Warsaw Hole” and “Daytona Steeples” and bring alternatives to the Council in December.

DECEMBER COUNCIL ACTION:

MOTION: ACCEPT THE IPT’S RECOMMENDED CHANGES FOR ACTION 6

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

The Council also removed the specific size in Sub-alternatives 3a-3c.

Action 6. Establish new Spawning Special Management Zones (Spawning SMZs) off Florida

Alternative 1. No Action. There are no Spawning SMZs off Florida. Fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit is prohibited year-round in the North Florida (X miles), *Oculina* Experimental Closed Area (108 square miles), St. Lucia Hump (9 square miles), and the East Hump (66 square miles) MPAs.

Alternative 2. Establish Spawning SMZs in the WARSAW HOLE area that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round.

Sub-alternative 2a. Warsaw Hole (2 square miles)

Sub-alternative 2b. Warsaw Hole (less than 2 square miles)

Alternative 3. Establish Spawning SMZs in the DAYTONA STEEPLES area that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round.

Sub-alternative 3a. Daytona Steeples (larger area)

Sub-alternative 3b. Daytona Steeples (smaller area)

Sub-alternative 3c. Daytona Steeples (even smaller area)

Committee Action:

Option 1. Approve the Action 6 alternatives for detailed analyses and round 1 of public hearings.

Option 2. Modify the Action 6 alternatives, and approve for detailed analyses and round 1 of public hearings.

Option 3. Others???

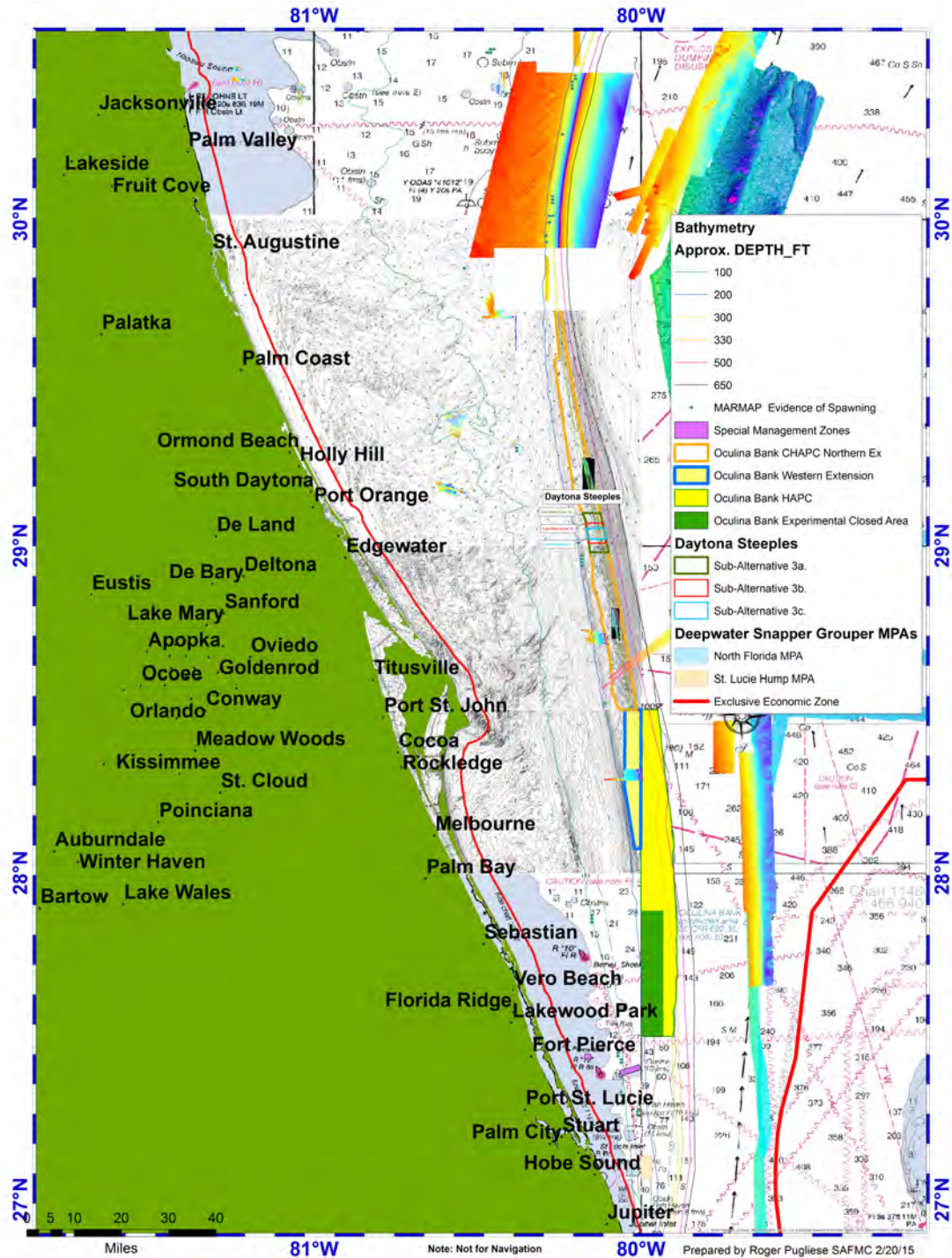


Figure 4a. Chart showing location, associated bathymetry, and size of Spawning SMZ Alternatives for the area known as “Daytona Steeples” off Florida. Source: Roger Pugliese, SAFMC Staff.

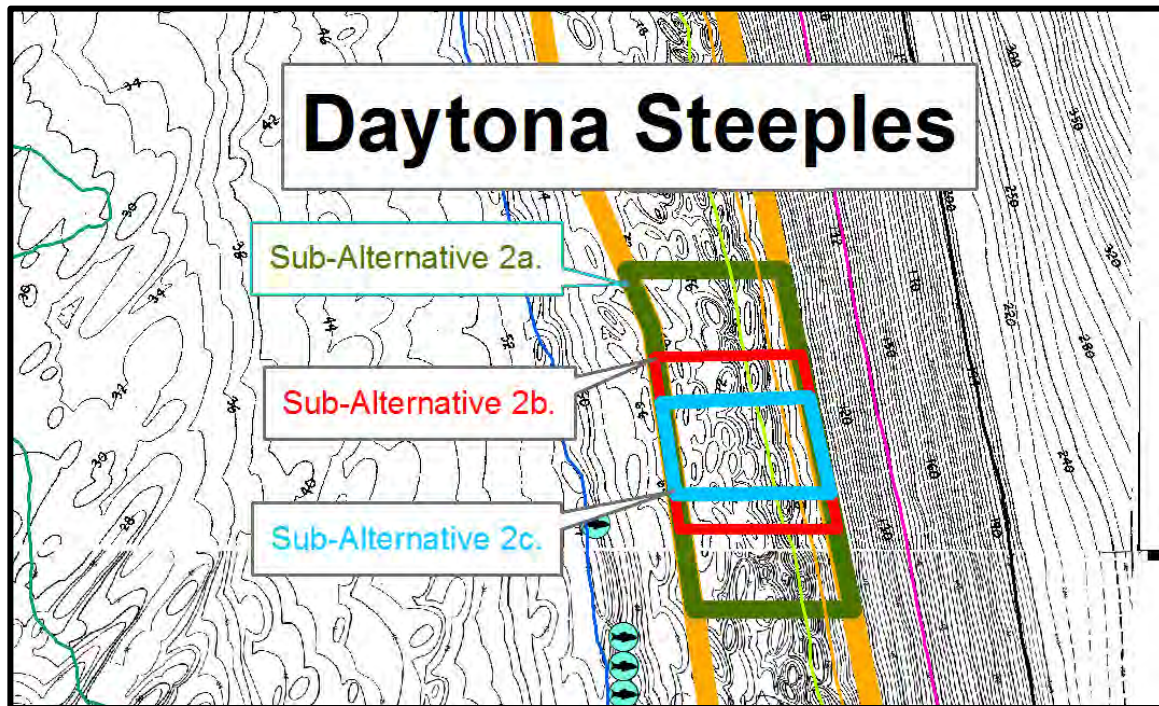


Figure 4b. Chart showing location, associated bathymetry and approximate size of Sub-Alternative 2a. (27 square miles), Sub-Alternative 2b. (12 square miles), and Sub-Alternative 2c. (6 square miles), for the area off the east coast of Florida known as the “Daytona Steeples.” Source: Roger Pugliese, SAFMC Staff.

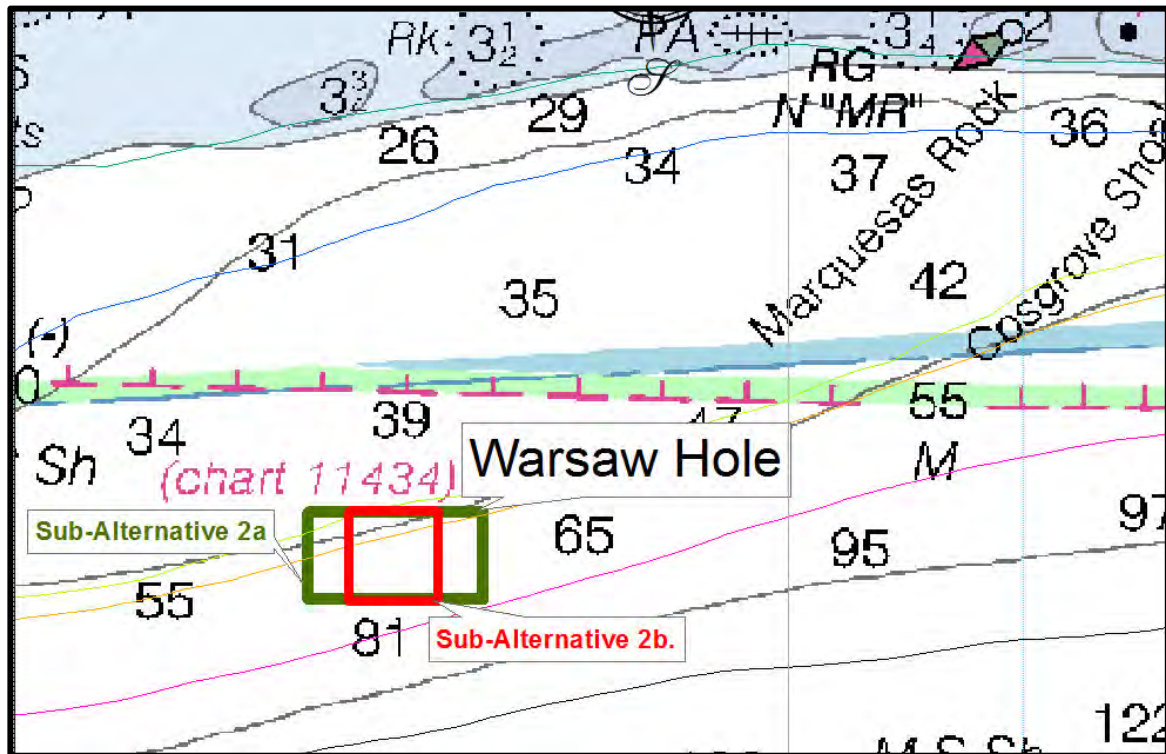


Figure 4d. Chart showing location and approximate size of Sub-Alternative 2a. (2 square miles), and Sub-Alternative 2b. (1 square mile), for the area off the Florida Keys known as the “Warsaw Hole.” Source: Roger Pugliese, SAFMC Staff.

Action 7. Move the Existing Charleston Deep Artificial Reef MPA 1.4 miles to the Northwest to Match the Boundary of the Permitted Site

Alternative 1. No Action. Do not move the existing Charleston Deep Artificial Reef MPA from the existing boundaries: The northwest corner at 32°4' N, 79°12'W; the northeast corner at 32°8.5'N, 79° 7.75'W; the southwest corner at 32°1.5'N, 79°9.3'W; and the southeast corner at 32°6'N, 79°5'W.

Preferred Alternative 2. Move the Existing Charleston Deep Artificial Reef MPA 1.4 miles to the northwest to match the boundary of the permitted site.

AP Comments – the Snapper Grouper AP did not provide any recommendations on moving the SC Deepwater MPA.

SEPTEMBER COUNCIL ACTION:

MOTION: ADD A NEW ACTION TO MOVE THE SC DEEPWATER MPA 1.4 MILES TO THE NORTHWEST TO MATCH THE BOUNDARY OF THE PERMITTED SITE

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

DECEMBER COUNCIL ACTION:

MOTION: SELECT ALTERNATIVE 2 UNDER ACTION 7 AS PREFERRED

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

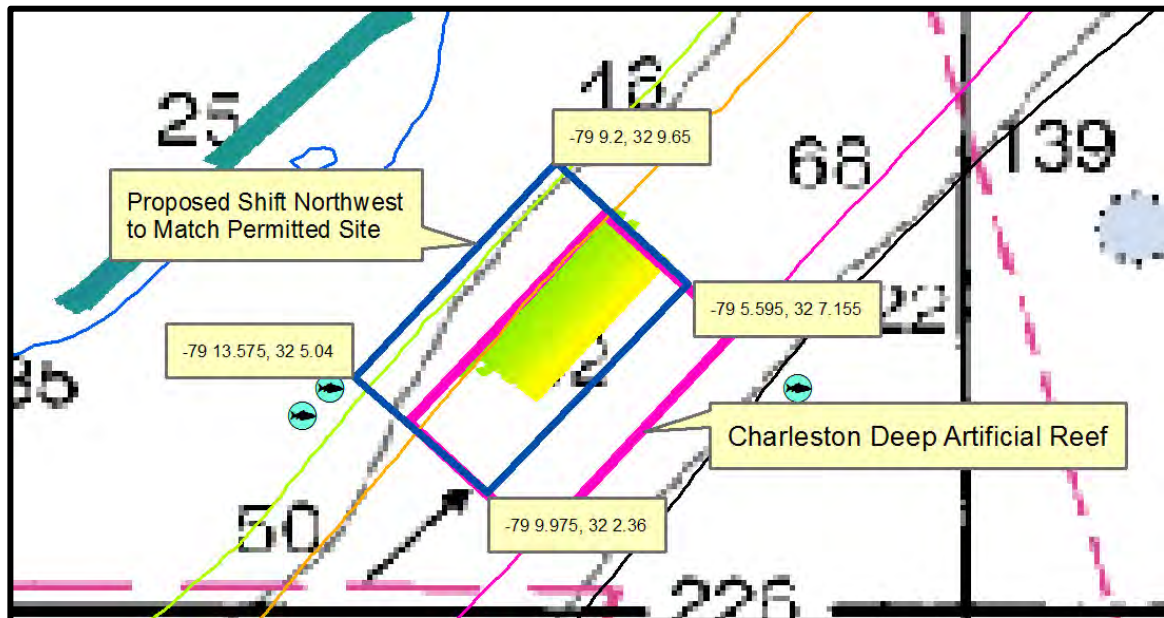


Figure 5. Chart showing location and coordinates for the proposed shift of the Charleston Deep Artificial Reef northwest to match the existing permitted site. Source: Roger Pugliese, SAFMC Staff.

Action 8. Establish Transit and Anchoring Provisions

Alternative 1. No Action. There are no Spawning SMZs so there are no transit and anchoring provisions. However, there are transit and anchoring provisions for other managed areas and those are shown below.

Alternative 2. Establish the following transit provisions:

§ 622.183 *Area and seasonal closures.* Modified for Spawning SMZs.

(a) Area closures--(1) Spawning Special Management Zones (Spawning SMZs).

(i) No person may fish for a South Atlantic snapper-grouper in an MPA, and no person may possess a South Atlantic snapper-grouper in a Spawning SMZ. 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 (a)(1)(ii) 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.

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

(A) 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.

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

(C) 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.

(D) 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. (Note: May want to modify the rod and reel requirement to track what is proposed for dolphin/wahoo and snapper grouper fillet amendment: that is For the purpose of this paragraph, fishing gear appropriately stowed means that 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. Sinkers must be disconnected from the down rigger and stowed separately.

(E) 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.

Alternative 3. Prohibit anchoring by fishing vessels in Spawning SMZs.

Committee Action:

Option 1. Approve the Action 8 alternatives for detailed analyses and round 1 of public hearings.

Option 2. Modify the Action 8 alternatives, and approve for detailed analyses and round 1 of public hearings.

Option 3. Select Alternatives 2 and 3 as preferred alternatives for Action 8.

Option 4. Others???

What Next?

At the September 2014 meeting, the Council provided guidance on candidate areas to be analyzed for consideration. At the December 2014 meeting, the Council provided additional guidance on the size of areas to examine within the broad areas identified; provided guidance to include of Action 7 (SC Deepwater MPA) and removed Action 8 (Time-Area Spawning Closures); and provided guidance on completion of a draft amendment for the March 2015 meeting. The tentative timing would have the Council approve Amendment 36 for public hearings at the March 2015 meeting, conducting webinar public hearings in April/May 2015, and final approval in June or September 2015.

Draft Revised Timing:

- A. March 2015 meeting** – review an expanded Decision Document (included in 2nd BB) that will have draft alternatives for each State (large, medium, and small as directed at the December 2014 meeting). We will have charts that can be expanded to see the bottom topography and where we have spawning information. In addition, we will be able to modify these boxes during the committee meeting. The Committee/Council would approve alternatives to be analyzed and for the public to comment on; approve for Public Hearings I.
- B. Round I Public Hearings/Informal Meetings** – April/May via webinar to obtain public input on list of alternatives and a measure of how much each alternative would impact their fishing. Informal meetings with individuals to refine suggested areas. This is critical because the data we have is by the large grids and the SG AP did not agree with the previous analysis done by NMFS on the sites recommended by the Expert Work Group. During the development of Amendment 14 MPAs, we used 2 rounds of hearings and it worked well.
- C. Staff/IPT** – prepare a draft amendment between March and June meetings and incorporate the impact information from the hearings.
- D. June 2015 meeting** – review public hearing comments and Draft Amendment 36 with analysis of impacts and choose preferred alternatives. Approve for Public Hearings II.
- E. Round II Public Hearings** – July/August via webinar to obtain public input on Draft Amendment 36 with preferred alternatives.
- F. September 2015 meeting** – review public hearing comments and revised Amendment 36. Modify as necessary and approve for formal review.

Public hearings for Amendment 36 are currently scheduled for Spring 2015. The public hearing document, PowerPoint presentation, and video presentation will be made available on the Council's website prior to the public hearings. An informal question/answer webinar will be held prior to the public hearings.

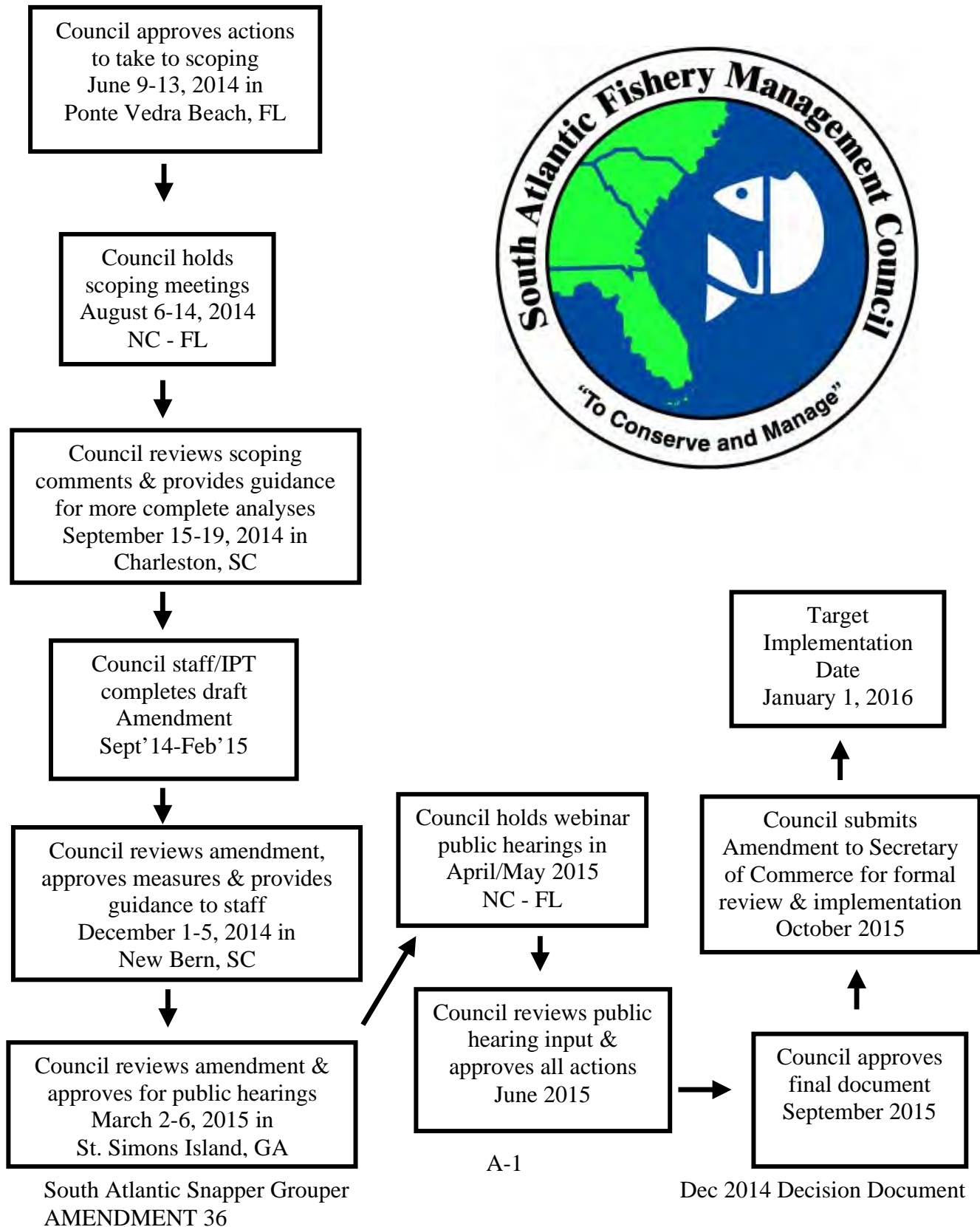
Written comments must be received by 5 P.M. on _____, 2015. All comments will be considered by the Council in drafting Snapper Grouper Amendment 36. There will be a number of opportunities to provide public input if the Council moves forward to develop an amendment. A simplified schematic of the Council process is presented in **Appendix A.**

References

SAFMC (South Atlantic Fishery Management Council). 2010. Snapper Grouper Amendment 17B to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405. Available online at: www.safmc.net

SAFMC (South Atlantic Fishery Management Council). 2012. Snapper Grouper Regulatory Amendment 11 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405. Available online at: www.safmc.net

Appendix A. A Simplified Schematic of the Council Process for this amendment.



Appendix B. An Approach to Establishing Spawning SMZs off NC, SC, GA, and FL

ALTERNATIVE APPROACH TO PROTECT SNAPPER GROUPEL SPAWNING/AGGREGATIONS

Note: The alternative approach would only consider prohibiting fishing for and/or possession of snapper grouper species (species in the snapper grouper fishery management unit); fishing for all other species would be allowed! The alternative approach would not make any changes to the existing MPAs. The Council is preparing a System Management Plan for the existing MPAs.

- 1. Site Selection** – identifying spawning sites/aggregations for snapper grouper species, including speckled hind and warsaw grouper, will be based on the characteristics of sites important for spawning (e.g., bottom topography, current systems, etc.). This would be done with scientific input on bottom topography and current systems to identify likely sites. Where possible, actual on-site observations would be made by scientists (pulled from scientific literature based on previous work) but preferably based on more current collaborative work between scientists and fishermen (e.g., Dr. Will Heyman's cooperative research contracts off South Carolina and the Florida FWC spawning aggregation study currently underway through a co/op research grant). Potential areas off each state suggested by the public/fishermen outside of cooperative research efforts would also be examined and considered.

During scoping meetings, the public would be encouraged to suggest areas that could be considered. The Council will consider all input from scientists (e.g., MARMAP research results, sites considered by the Council's MPA Expert Workgroup, and Dr. Will Heyman's sampling trips), fishermen, and others. It is anticipated that the Council would prepare a draft list of areas for consideration and evaluation at the September 2014 meeting. Not all areas would be proposed as Spawning SMZs. The Council will determine which are included for detailed analyses. This draft list would be analyzed/evaluated and then at the December 2014 meeting, the Council would approve a draft list for public hearings.

During public hearings, the Council would also consider additional areas if suggested during the hearing/public comment process.

- 2. Size** – the appropriate size would be determined on a case-by-case basis. Law Enforcement favors large square boxes to help with enforcement. Results from other countries indicate benefits from small areas and benefits from larger areas. For a particular area, a square would be drawn with the center of the square at the center of the area and drawn sufficiently large to protect the area identified as important for spawning/aggregations. No buffer would be included. Every attempt would be made to keep the areas as small as possible to protect the important bottom topography while minimizing the impacts to recreational and commercial fishermen from any area closed to snapper grouper harvest. Note: the Snapper Grouper AP commented that if the area were small (e.g., 2x2 or 4x4 square miles), the

Council could consider prohibiting all fishing to improve enforcement; the Council could also look at Type III to seasonally prohibit all fishing. There was some discussion during the Council's June 2014 meeting that if the area were small, the Council could consider prohibiting all fishing on a case-by-case basis to improve enforcement. Any such designation would need to address enforcement concerns. For example, if no one can go into an area, then there would be fewer eyes on the water and it would be easier for poachers to fish the area and not get caught. Public comments on this issue would be very helpful.

3. **Seasonal versus Year-round Closures** – year-round closure would provide protection to the physical bottom and associated habitat while protecting resident fish on the site from any fishing. Remember that these areas would be considered EFH and EFH-HAPCs so we want to protect the habitat in addition to the fish. Seasonal closures would protect the spawning fish/aggregation while allowing access to fishermen but could lead to negative impacts on the habitat and removal of resident fish.
4. **Artificial Reefs to improve habitat** – encourage placement of artificial reefs on appropriate bottom within existing MPAs to target warsaw grouper, speckled hind, and other snapper grouper species. Research has shown that placement of artificial reefs will attract snapper grouper species including warsaw grouper. Protecting these fish within these areas would increase the amount of egg production and subsequent recruitment.
5. **Descending devices** – the Snapper Grouper AP recommended the Council include use of descending devices to improve survival of released fish. Use of innovative descending devices in other areas of the country appears to reduce release mortality.

Snapper Grouper AP MOTION: STRONGLY RECOMMEND THE COUNCIL
REQUEST THE SEFSC CONDUCT RESEARCH ON DESCENDING DEVICES FOR
ALL SNAPPER GROUPE SPECIES
APPROVED BY SNAPPER GROUPE AP

6. **Transit** – the Snapper Grouper AP recommended the Council include a provision to allow transit through the Spawning SMZs with gear appropriately stowed.
7. **Spawning SMZ Enforcement, Monitoring, & Evaluation Plan** –a written plan outlining the specific levels of outreach, enforcement, and research/monitoring that are necessary to determine the effectiveness of the Spawning SMZs will be developed. Specific dates will be set for periodic evaluation reports and review by the Snapper Grouper AP, Scientific and Statistical Committee, and the Council.

8. Artificial Reef Special Management Zones (SMZs) – these were established in the original Snapper Grouper Fishery Management Plan (SAFMC 1983) to limit certain gear used on artificial reefs.

a. Taken directly from the Original Snapper Grouper FMP (SAFMC 1983):

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“Management Measure #17: Prohibition or Restraint of Specific Fishing Gear From Artificial Reefs. Upon request to the Council from the permittee (possessor of a Corps of Engineers permit) for any artificial reef or fish attraction device (or other modification of habitat for the purpose of fishing) the modified area and an appropriate surrounding area may be designated as a Special Management Zone (SMZ) that prohibits or restrains the use of specific types of fishing gear that are not compatible with the intent of the permittee for the artificial reef or fish attraction device. This will be done by regulatory amendment similar to adding or changing minimum sizes (Section 10.2.3):

6. A monitoring team* will evaluate the request in the form of a written report considering the following criteria:
 - a. fairness and equity
 - b. promote conservation
 - c. excessive shares
7. At the request of the Steering Committee, the Council Chairman may schedule meetings of the Advisory Panel (AP) and/or Scientific and Statistical Committee (SSC) to review the report and associated documents and to advise the Council. The Council Chairman may also schedule a public hearings.
8. The Council, following review of the Team’s report, supporting data, public comments, and other relevant information, may recommend to the Southeast Regional Director of the National Marine Fisheries Service (RD) that a SMZ be approved. Such a recommendation would be accompanied by all relevant background data.
9. The RD will review the Council’s recommendation, and if he concurs in the recommendation, will propose regulations in accordance with the recommendations. He may also reject the recommendation, providing written reasons for rejection.
10. If the RD concurs in the Council’s recommendations, he shall publish proposed regulations in the Federal Register and shall afford a reasonable period for public comment which is consistent with the urgency of the need to implement the management measure(s).

*Monitoring Team – The Team will be comprised of members of Council staff, Fishery Operations Branch (Southeast Region, NMFS), and the NMFS Southeast Fisheries Center.

Impact and rational

The intent of a SMZ is to create incentive to create artificial reefs and fish attraction devices that will increase biological production and/or create fishing opportunities that would not otherwise exist. The drawback to “investing” in artificial reefs or fish attraction devices is that they are costly and have limited advantages that can be rapidly dissipated by certain types of fishing gear (e.g. traps harvesting black sea bass from artificial reefs). Fishing gear that offers “exceptional advantages” over other gear to the point of eliminating the incentive for artificial reefs and fish attraction devices for users with other types of fishing gear prevent improved fishing opportunities that would not otherwise exist.”

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- b. Regulatory Amendment 1 (SAFMC 1987): Prohibited fishing in SMZs except with hand-held hook-and-line and spearfishing gear. Prohibited harvest of goliath grouper in SMZs. Implemented Special Management Zones (SMZ) off SC and GA.
 - c. Regulatory Amendment 2 (SAFMC 1989): Established two artificial reefs off Ft. Pierce, FL as SMZs.
 - d. Regulatory Amendment 3 (SAFMC 1989): Established an artificial reef at Key Biscayne, FL as an SMZ in Dade County, FL; prohibited fish trapping, bottom longlining, spearfishing and harvesting of Goliath grouper in SMZ.
 - e. Amendment 4 (SAFMC 1992): Prohibited the use of powerheads in Special Management Zones off SC.
 - f. Regulatory Amendment 5 (SAFMC 1993): Established eight additional Special Management Zones (SMZs) off the coast of South Carolina.
 - g. Regulatory Amendment 7 (SAFMC 1999): Established 10 SMZs at artificial reefs off South Carolina.
 - h. Regulatory Amendment 8 (SAFMC 2000): Established 12 SMZs at artificial reefs off Georgia; revised boundaries of seven existing SMZs off Georgia to meet CG permit specs; restricted fishing in new and revised SMZs.
 - i. Amendment 23 – Comprehensive Ecosystem-Based Amendment 2 (SAFMC 2011): This amendment was included under the Comprehensive Ecosystem-Based Amendment 2 (CE-BA 2) and included measures to limit harvest of snapper grouper species in SC Special Management Zones to the bag limit. Regulations became effective on January 30, 2012. **Preferred Alternative 2.** Limit harvest and possession of snapper grouper species (with the use of all non-prohibited fishing gear) in SMZs off South Carolina to the recreational bag limit. **Preferred Alternative 3.** Limit harvest and possession of coastal migratory pelagic species (with the use of all non-prohibited fishing gear) in SMZs off South Carolina to the recreational bag limit.
9. **Artificial Reef Special Management Zone Procedure** – the current procedure is specific to artificial reefs, fish attraction devices, and/or other modifications of habitat for the purpose of fishing. If this alternative approach moves forward, the current SMZ procedure would need to be expanded to provide for the creation of Spawning Special Management Zones targeting natural habitat.