

**DECISION DOCUMENT**

**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**

****

**NOVEMBER 30, 2015**

South Atlantic Fishery Management Council

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Cover graphic by Amber Von Harten, SAFMC Staff

**Chapter 1. Introduction**

Why is the Council taking action?

* 1. **Protect spawning habitat & spawning fish** – The Council intends to protect spawning habitat and spawning fish. Certain habitat areas are very important for a number of species as sites where they move/aggregate to spawn. Depending on alternative selected by the Council, protecting these areas, and the associated habitat could produce more eggs, larvae, and subsequent recruitment of juvenile fish.
	2. **Measures limiting possession of deepwater species implemented** – The Council had previously included a restriction on the possession or harvest of some deepwater snapper grouper species in waters greater than 240 feet deep (240 feet seaward) to help protect warsaw grouper and speckled hind, two deepwater species extremely vulnerable to overfishing (Amendment 17B to the Snapper Grouper FMP; SAFMC 2010b). Those regulations became effective on January 31, 2011. Subsequent analysis showed that warsaw grouper and speckled hind were generally not caught when fishermen targeted deep water species such as blueline tilefish and snowy grouper. Furthermore, the negative socioeconomic impacts of the harvest prohibition were significant in some areas.
	3. **Measures limiting possession of deepwater species removed** – However, in Regulatory Amendment 11 to the Snapper Grouper FMP (SAFMC 2011b) the Council eliminated the restriction on the possession or harvest of six deepwater snapper grouper species in waters greater than 240 feet. Those regulations became effective on May 10, 2012. The Council originally planned to re-address measures to reduce bycatch of speckled hind and warsaw grouper in Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3). The Council then moved the issue of protecting speckled hind and warsaw grouper from CE-BA 3 to Regulatory Amendment 17 to the Snapper Grouper FMP and then to Amendment 36 to have changes implemented more quickly.

* 1. **Lawsuit** – The Natural Resources Defense Council and Ocean Conservancy sued the Secretary of Commerce, the Department of Commerce, and NOAA and NMFS on the final rule to implement Regulatory Amendment 11that removed some of the measures limiting possession of deepwater species. The court ruled in favor of the Secretary of Commerce, the Department of Commerce, and NOAA and NMFS. NMFS/Council stated they would take additional action. For example, as stated in the final rule for Regulatory Amendment 11, the Council and NMFS planned to develop area and species prohibitions that would most effectively reduce encounters with speckled hind and warsaw grouper while minimizing, to the extent practicable, socio-economic effects to the fishing industry.
	2. **So what’s the additional action?** Recent action taken by the Council includes the following:
		1. Snapper Grouper Amendment 36 (Spawning SMZs for a number of species including speckled hind & warsaw grouper)
		2. 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 (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 used the data compiled by the group and input during public hearings when determining spawning SMZ areas to evaluate.
		3. Coral Amendment 8 (SAFMC 2013h) – 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 became effective on August 17, 2015 (80 FR 42423). 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; NMFS SERO). The following actions affecting the total effective area under “MPA protection” are in Coral Amendment 8:
			1. 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”.
			2. Action 3. Expand Stetson-Miami Terrace Coral HAPC – 490 square miles of additional area would be added to the current area under “MPA protection”.
			3. Action 4. Expand Cape Lookout Coral HAPC – 10 square miles of additional area would be added to the current area under “MPA protection”.
	3. The **Council was evaluating additional action** regardless of how the outcome of the lawsuit relating to removal of measures limiting possession of deepwater species. The Council Conclusions stated in Regulatory Amendment 11: “The South Atlantic Council chose **Preferred Alternative 11** to remove the prohibition of fishing for deepwater snapper species. The South Atlantic Council concluded that the species that the 240-ft (40-fathom) closure was primarily intended to protect are rarely encountered in waters at these depths. In addition, the economic hardship imposed on fishermen from the 240-ft (40-fathom) closure is greater than was anticipated when Amendment 17B was approved by the South Atlantic Council. Speckled hind and warsaw grouper are more likely to be encountered at shallower depths in more specific, concentrated areas. However, recent data analyses suggest speckled hind and warsaw grouper rarely co-occur with snowy grouper, blueline tilefish, yellowedge grouper, misty grouper, queen snapper, or silk snapper. Warsaw grouper and speckled hind prefer hard bottom structure with relief. Manooch and Mason (1987) indicated warsaw grouper inhabit steep cliffs, notches, and rocky ledges of the continental shelf break. Huntsman and Dixon (1976) stated that speckled hind prefers to inhabit high- and low-profile hard bottom. The habitat preference for blueline tilefish appears to be somewhat different from warsaw grouper and speckled hind. The Council did not choose **Alternatives 1-10** because all were shown to not provide significant biological protection for speckled hind and warsaw grouper. Despite the increase in fishing mortality to the blueline tilefish stock, the system of ACLs, ACTs, and AMs, when implemented, is expected to keep harvest at sustainable levels, even with the expected increase in fishing mortality being proposed in **Alternatives 2-11**. The Council concluded the preferred alternative best meets the goals and objectives of the Snapper Grouper FMP as amended.” The final rule for Regulatory Amendment 11 states that the Council and NMFS planned to develop area and species prohibitions that would most effectively reduce encounters with speckled hind and warsaw grouper while minimizing, to the extent practicable, socio-economic effects to the fishing industry.

* 1. **System Management Plan** – The Council is developing a System Management Plan (SMP) for the Spawning SMZs that describes in detail the monitoring and evaluation requirements for the proposed sites. This SMP is included as **Appendix N** to Snapper Grouper Amendment 36.

Magnuson-Stevens Act (MSA) scoping meetings were held in August 2014 from North Carolina through Florida. NEPA scoping was held in April/May 2015 and two comments were received. The first round of public hearings was held in April 2015, and a second round of public hearings were held in August 2015.

A “Decision Tree” showing where we are and the remaining decisions is included on the next page.

**AMENDMENT 36 (SPAWNING SMZs) DECISION TREE**

AM 17B – 240’ closure

150,000 sq mi closed to deepwater species to end overfishing of speckled hind & warsaw grouper; 1/31/11

Sites selected in Sept.; Review in Dec. & Select remaining preferred alternatives

(NC=5, SC=3.1+2.99+2.99, GA=0 & FL=1; 15.08 sq mi total) (98.8% reduction from MPA Expert Workgroup)

IF No lawsuit

No more Spawning SMZs; Monitor MPAs with SMP to document benefits to speckled hind & warsaw grouper

Final approval in March; Monitor thru SMP & Citizen Science; Demonstrate work in X years or gone; Lower risk of lawsuit

Yes

Spawning SMZs (if largest)

65.75 sq mi SSMZs (NC=14.47, SC=21.18, GA=14.1 & FL=16) (94.6% reduction from MPA Expert Workgroup)

Additional action

Lawsuit

Natural Resources Defense Council & Ocean Conservancy sued on 6/8/12; NMFS/NOAA argue that action justified & NMFS/Council taking additional action; judge ruled in our favor

150,000 sq mi closure; Directed to propose additional closures to end overfishing of speckled hind & warsaw grouper

Lose lawsuit

Do not select Spawning SMZ sites; Conclude that Coral Am 8’s 843 square miles closed (50% as effective as MPA) is sufficient to end overfishing of speckled hind & warsaw grouper; Higher risk of lawsuit with no SSMZs

No

MPA Expert Workgroup

1,222.47 sq mi MPAs (NC=185.47, SC=40, GA=198 & FL=799) (99.2% reduction from 240’ closure)

RegAm 11 – removed 240’ closure 5/10/12 1. Socioeconomic impacts large

2. Bycatch higher < 240’

3. Develop area and species prohibitions to protect speckled hind & warsaw grouper

**PURPOSE & NEED FOR ACTION**

**APPROVED BY COMMITTEE**

**Purpose:** Protect~~Identify~~ important spawning habitat for snapper grouper species that can be designated for protection to enhance spawning ~~and increase recruitment~~. Reduce bycatch and bycatch mortalityof snapper grouper species, including speckled hind and warsaw grouper. ~~Align the existing South Carolina Marine Protected Area (MPA) with the permitted site.~~

**Need:** Prevent overfishing and achieve optimum yield (National Standard 1); reduce bycatch and bycatch mortality of economically and ecologically important snapper grouper species, including speckled hind and warsaw grouper, to the extent practicable (NS 9); and achieve conservation goals while minimizing to the extent practicable negative social and economic effects to snapper grouper fishermen and fishing communities (NS 8).

**COMMITTEE ACTION:**

**OPTION 1. APPROVE THE WORDING ABOVE.**

**OPTION 2. MODIFY THE WORDING ABOVE AND APPROVE.**

**OPTION 3. OTHERS???**

**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. This public hearing draft includes sample 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 proposed Spawning SMZs and the existing MPAs.

**SEPTEMBER 2014 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

**Chapter 2. Alternatives**

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

**Alternative 1. No Action.** The current SMZ procedure addresses the use of certain gear on areas including artificial reefs, fish attraction devices, and other modified areas of habitat used for the purpose of fishing. Possession limits can also be regulated in SMZs.

**Preferred Alternative 2.** Modify the SMZ procedure to include protection of any area important for spawning by designating Spawning SMZs.

Note: It is the South Atlantic Fishery Management Council’s (Council’s) intent that the Spawning Special Management Zone (SMZ) approach would not make any changes to the existing Marine Protected Areas (MPAs) or Special Management Zones (SMZs).The Council is developing a System Management Plan (SMP) 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.

**SEPTEBMER 2014 COUNCIL ACTION:**

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

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

**DECEBMER 2014 COUNCIL ACTION:**

MOTION: SELECT ALTERNATIVE 2 UNDER ACTION 1 AS PREFERRED

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

Discussion

**Alternative 1** would maintain the existing SMZ procedures, which apply only to artificial reef areas and fish attraction devices. 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:*
				1. *fairness and equity*
				2. *promote conservation*
				3. *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 hearing.*
			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.”*

**Preferred Alternative 2** would allow the Council to establish Special Management Zones (SMZs) to protect natural bottom important for spawning. Designation of natural spawning habitat as “Spawning SMZs” would provide additional protection as Essential Fish Habitat-Habitat Areas of Particular Concern (EFH-HAPCs) without any additional action by the Council given that localities of known or likely periodic spawning aggregations and medium to high profile offshore hardbottom where spawning normally occurs is already defined as EFH-HAPCs. Spawning SMZs include areas where spawning normally occurs and would meet the EFH-HAPC definition. As part of the Essential Fish Habitat consultation process, permit applicants (e.g., wind farms, ocean turbines, drilling, or mineral extraction) would be required to provide a detailed assessment of how impacts to these areas and the species and fisheries dependent on these unique habitats would be eliminated or reduced to the maximum extent practicable.

Designating areas as Spawning SMZs would provide the opportunity to monitor such areas using citizen science in cooperation with fishery independent surveys to document expected changes in the size, age, and abundance of snapper grouper species within these areas. The Council concluded that protecting species within the Spawning SMZs could enhance the opportunity of snapper grouper species to reproduce and provide more larvae into the environment. Future evaluation of the results, as outlined in the System Management Plan (**Appendix N**), will provide input on how to refine this approach to characterize and protect spawning locations to enhance the abundance of snapper grouper species.

**Action 2. Modify the framework procedure to allow modifications of and/or additional Spawning Special Management Zones (Spawning SMZs) to be added and/or modified through framework action**

**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.

CLARIFY COUNCIL’S INTENT: MODIFYING SPAWNING SMZS INCLUDES REMOVING THE SUNSET PROVISION.

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

**SEPTEBMER 2014 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. **done.**
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. **Done.**
4. SYSTEM MANAGEMENT PLAN FOR THE SPAWNING SMZS AS AN APPENDIX – will be included in June 2015. **Done.**
5. MODIFY THE PURPOSE & NEED TO ADDRESS NEW ACTION TO MOVE MPA OFF SC – **done.**

**DECEBMER 2014 COUNCIL ACTION:**

MOTION: SELECT ALTERNATIVE 2 UNDER ACTION 2 AS PREFERRED

APPROVED BY COMMITTEE

APPROVED BY COUNCIL

Discussion

**Alternative 1 (No Action)** would require a plan amendment to modify or add new Spawning SMZs. **Preferred Alternative 2** would allow the Council to modify or establish new Spawning SMZs through the framework procedure. If monitoring (e.g., using citizen science in cooperation with fishery independent surveys) shows that the area needs to be adjusted, then the framework would allow the Council to modify the boundary using an abbreviated process instead of a plan amendment. The Council would consider this action over at least 2 Council meetings and there would be a number of opportunities for public input prior to any Council decision.

**Alternative 3** would require the Council to use a plan amendment to establish new Spawning SMZs but would allow the Council to modify areas through the framework procedure. If the monitoring using citizen science in cooperation with fishery independent surveys were to identify a new area that needed to be protected, the Council would require more time to implement such a change though a plan amendment.

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

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

**Alternative 2.** Establish a Spawning SMZ 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 a Spawning SMZ 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 (4 square miles)

 **Sub-alternative 3b.** 780 Bottom (3 square miles)

**Alternative 4.** Establish a Spawning SMZ in the NC Deep Wreck (3 square miles) that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round.

**Preferred Alternative 5.** Establish a Spawning SMZ~~s~~ in the South Cape Lookout (5 square miles) that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round. SG AP Preferred Alternative

**SNAPPER GROUPER ADVISORY PANEL APRIL 2015:**

MOTION: COUNCIL CONSIDER 2B AND 3C OFF NC AS SPAWNING SMZs.

APPROVED BY AP (7/3)

MOTION: INCLUDE AN AREA NORTH OF THE 780 B0TTOM (40,005.5 ON THE NORTH AND 26,905.5 ON THE SOUTH) AS AN ALTERNATIVE TO THE 780 BOTTOM.

APPROVED BY AP (11/0)

**SPAWNING SMZ WORKSHOP APRIL 13, 2015:**

* Support for area north of the 780 bottom as an alternative to the 780 bottom

**PUBLIC HEARING & WRITTEN COMMENTS APRIL 2015:**

* Urge the Council to fully analyze the South Cape Lookout Site

Table 2.3.1.6. Fish species in proposed spawning SMZs off North Carolina with evidence of spawning.

|  |  |  |
| --- | --- | --- |
| **Proposed Spawning SMZ off North Carolina** | **Sub-Alts** | **Species** |
|  |  |  |
| **780 Bottom** | **3a** | *Lutjanus campechanus* (Red Snapper) |
|  | **3b** | *Lutjanus campechanus* (Red Snapper) |
| **South Cape Lookout** | **5** | *Epinephelus morio* (Red Grouper) |

Source: Southeast Reef Fish Survey (SERFS – MARMAP/SEAMAP/SEFIS)

Discussion

Reductions in expected catch are very difficult to measure given the large statistical grids used for reporting catch data. A quantitative approach, as described in **Section 4.3.2**, was developed by the SERO and estimated landings reductions from areas proposed as Spawning SMZs are shown in **Table 4.3.1.4**. Off North Carolina, the largest projected impacts were a 0.1% reduction in commercial silk snapper landings under Malchase Wreck **Sub-Alternative 2a** and a 1.4% reduction in headboat lesser amberjack landings under South Cape Lookout **Preferred** **Alternative 5** (**Table 4.3.1.4**). The estimated reduction in commercial landings in lbs (gw) for each snapper grouper species was multiplied by the average annual price per lb (gw) (2012 through 2014)[[1]](#footnote-1) for each species to obtain estimates of displaced ex-vessel revenue for each Spawning SMZ alternative. Aggregated across all snapper grouper species, Malchase Wreck **Sub-Alternative 2a** is estimated to reduce total revenue by the most in comparison to the other alternatives (**Table 4.3.2.1**). Assuming this $1,377 reduction in revenue (2014 dollars) is borne entirely by the vessels described in **Section 3.3.1**, and that they are unable to substitute landings in other areas, on average (2010 through 2014), these vessels would experience a 0.01% reduction in total ex-vessel revenue. **Sub-Alternative 2b**, **Sub-Alternatives 3a** and **3b**, **Alternative 4**, and **Preferred** **Alternative 5** are all estimated to have a smaller effect on total ex-vessel revenue than **Sub-Alternative 2a** (**Table 4.3.2.1**); however, given the high uncertainty in the model[[2]](#footnote-2), these estimates should not serve as the sole criteria for comparing different locations. A reasonable assumption based on the results of the model is that the reduction in total ex-vessel revenue would be minimal for all of the Spawning SMZ alternatives and for each proposed site, the larger the area is, the greater the economic effects will be. If in fact fishermen are harvesting species within the proposed Spawning SMZ areas at a much higher rate than elsewhere in the South Atlantic, the true effects of these closures on ex-vessel revenue could be more substantial than predicted.

Table 4.3.2.1. Estimated reduction in ex-vessel revenue and headboat angler CS from each proposed Spawning SMZ alternative for North Carolina (2014 dollars).

|  |  |  |
| --- | --- | --- |
| **SMZ alternative** | **Reduction in ex-vessel revenue** | **Reduction in headboat angler CS** |
| Malchase Wreck Sub-Alternative 2a | $1,377 | $1,218 |
| Malchase Wreck Sub-Alternative 2b | $592 | $498 |
| 780 Bottom Sub-Alternative 3a | $952 | $0 |
| 780 Bottom Sub-Alternative 3b | $48 | $0 |
| NC Deep Wreck Alternative 4 | $1 | $0 |
| South Cape Lookout **Preferred Alternative 5** | $588 | $15,887 |

Source: SERO Social Science Branch (August 2015).

With respect to headboats, the estimated reduction in landings for each species in numbers of fish, as originally reported, was multiplied by consumer surplus (CS) values from **Section 3.3.2** to estimate the reduction in CS from each alternative[[3]](#footnote-3). The aggregate reduction in CS across all snapper grouper species for South Cape Lookout **Preferred** **Alternative 5** is estimated to be approximately $16,000 (2014 dollars) **(Table 4.3.2.1)**. If headboat anglers are unable to substitute landings in other areas, this would be a 0.07% reduction in total estimated CS for all snapper grouper species harvested on headboats in the South Atlantic. **Sub-Alternatives 2a** and **2b**, **Sub-Alternatives 3a** and **3b**, and **Alternative 4** are all estimated to have a smaller effect on headboat angler CS than **Preferred** **Alternative 5**; however, given the high uncertainty in the model, these estimates should not serve as the sole criteria for comparing different locations.. A reasonable assumption based on the results of the model is that the reduction in headboat angler CS would be minimal for all of the Spawning SMZ alternatives and for each proposed site, the larger the area is, the greater the economic effects will be. If in fact anglers are harvesting species within the proposed areas at a much higher rate than elsewhere in the South Atlantic, the true impacts to CS could be more substantial than predicted. CS impacts for other recreational modes, private/rental vessels and charter vessels, are unavailable because there is insufficient spatial resolution in corresponding landings data. It is expected that these other recreational modes would experience comparable reductions in landings and CS to the headboat mode.

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

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

**Preferred Alternative 2.** Establish a Spawning SMZ~~s~~ in the Devil’s Hole/Georgetown 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/Georgetown Hole (13.5 square miles)

 **Sub-alternative 2b.** Devil’s Hole/Georgetown Hole (4 square miles)

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

 **Sub-alternative 2d.** Devil’s Hole/Georgetown Hole (15.2 square miles)

**Sub-alternative 2e.** SC South (8 square miles) (Alternative to Devils Hole)

**Preferred Sub-alternative 2f.** Devil’s Hole/Georgetown Hole (3.1 square miles) SG AP Preferred Alternative

**Preferred Alternative 3.** Establish a Spawning SMZ~~s~~ in the Area 51 site ~~area~~ that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round (2.99 square miles).

**Preferred Alternative 4.** Establish a Spawning SMZ~~s~~ in the Area 53 site ~~area~~ that prohibits fishing for, harvest, and/or possession of species in the snapper grouper fishery management unit year-round (2.99 square miles).

**SNAPPER GROUPER ADVISORY PANEL APRIL 2015:**

MOTION: SUPPORT THE GEORGETOWN HOLE AREA BUT NO LARGER THAN 3.1 SQUARE MILE AND ADD ALTERNATIVE FOR AREA 51 AND 53. APPROVED BY AP (10/0)

MOTION: COUNCIL CONSIDER AN AREA ADDING TO THE NORTHERN SC MPA TO THE SOUTH AND OFFSHORE TO BE EVALUATED AS AN ALTERNATIVE TO THE GEORGETOWN HOLE.

APPROVED BY AP (10/0)

**SPAWNING SMZ WORKSHOP APRIL 13, 2015:**

* Support for area south/offshore of the Northern SC MPA as an alternative to the Georgetown Hole

**PUBLIC HEARING & WRITTEN COMMENTS APRIL 2015:**

* Suggest 15.2 square mile Georgetown Hole Spawning SMZ

Table 2.4.1.3. Fish species in proposed Alternative 2 Spawning SMZs off South Carolina with evidence of spawning.

|  |  |  |
| --- | --- | --- |
| **Proposed Spawning SMZ off South Carolina** | **Sub-Alts** | **Species** |
| **Devils Hole** |  |  |
|  | **2a** | *Balistes capriscus* (Gray Triggerfish )*Rhomboplites aurorubens* (Vermilion Snapper)*Seriola dumerili* (Greater Amberjack)*Epinephelus nigritus* (Warsaw Grouper)*Mycteroperca phenax* (Scamp) |
|  | **2b** | *Balistes capriscus* (Gray Triggerfish )*Epinephelus nigritus* (Warsaw Grouper)*Mycteroperca phenax* (Scamp Grouper) |
|  | **2c** | *Epinephelus nigritus* (Warsaw Grouper)*Mycteroperca phenax* (Scamp) |
|  | **2d** | *Balistes capriscus* (Gray Triggerfish )*Epinephelus niveatus* (Snowy Grouper)*Epinephelus flavolimbatus* (Yellowedge Grouper)*Caulolatilus microps* (Blueline Tilefish)*Epinephelus nigritus* (Warsaw Grouper)*Mycteroperca phenax* (Scamp) |
| **SC South (Alternative to Devils Hole)** | **2e** | *Hyporthodus niveatus* (Snowy Grouper) *Hyporthodus flavolimbatus* (Yellowedge Grouper) |

Source: Southeast Reef Fish Survey (SERFS – MARMAP/SEAMAP/SEFIS) and LGL Ecological Research Associates, Inc., 2014

Discussion

Reductions in expected catch are very difficult to measure given the large statistical grids used for reporting catch data. A quantitative approach, as described in **Section 4.3.2**, was developed by the SERO and estimated landings reductions from areas proposed as Spawning SMZs are shown in **Table 4.4.1.3**. Off South Carolina, the largest projected impacts were a 0.6% reduction in commercial tomtate landings under Devils Hole **Sub-Alternative 2a** and a 0.3% reduction in headboat scamp landings under Devils Hole **Sub-Alternative 2d** (**Table 4.4.1.3**). The estimated reduction in commercial landings in lbs (gw) for each snapper grouper species was multiplied by the average annual price per lb (gw) (2012 through 2014)[[4]](#footnote-4) for each species to obtain estimates of displaced ex-vessel revenue for each Spawning SMZ alternative. Aggregated across all snapper grouper species, Devils Hole **Sub-Alternative 2a** is estimated to reduce total revenue by the most in comparison to the other alternatives (2014 dollars) (**Table 4.4.2.1**). Assuming this $5,468 reduction in revenue (2014 dollars) is borne entirely by the vessels described in **Section 3.3.1**, and that they are unable to substitute landings in other areas, on average (2010 through 2014), these vessels would experience a 0.03% reduction in ex-vessel revenue. **Sub-Alternatives 2b**, **2c**, **2d**,and **2e** are all estimated to have a smaller effect on total ex-vessel revenue than **Sub-Alternative 2a**; however, given the high uncertainty in the model[[5]](#footnote-5), these estimates should not serve as the sole criteria for comparing different locations.. **Alternative 3** and **Alternative 4** pertain to artificial reef sites Area 51 and Area 53. Because these locations are undisclosed to the public, it is assumed there is no fishing activity occurring there currently. As such, **Alternative 3** and **Alternative 4** are not expected to affect ex-vessel revenue. A reasonable assumption based on the results of the model is that the reduction in total ex-vessel revenue would be minimal for all of the Spawning SMZ alternatives and for each proposed site, the larger the area is, the greater the economic effects will be. If in fact fishermen are harvesting species within the proposed Spawning SMZ areas at a much higher rate than elsewhere in the South Atlantic, the true effects of these closures on ex-vessel revenue could be more substantial than predicted.

Table 4.4.2.1. Estimated reduction in ex-vessel revenue and headboat angler CS from each proposed Spawning SMZ alternative for South Carolina (2014 dollars).

|  |  |  |
| --- | --- | --- |
| **SMZ alternative** | **Reduction in ex-vessel revenue** | **Reduction in headboat angler CS** |
| Devil’s Hole/Georgetown Hole Sub-Alternative 2a | $5,468 | $6,539 |
| Devil’s Hole/Georgetown Hole Sub-Alternative 2b | $2,264 | $2,402 |
| Devil’s Hole/Georgetown Hole Sub-Alternative 2c | $68 | $908 |
| Devil’s Hole/Georgetown Hole Sub-Alternative 2d | $2,264 | $7,915 |
| SC South Sub-Alternative 2e | $9 | $531 |
| Devil’s Hole/Georgetown Hole **Preferred Sub-Alternative 2f** | TBD | TBD |

Source: SERO Social Science Branch (August 2015).

With respect to headboats, the estimated reduction in landings for each species in numbers of fish, as originally reported, was multiplied by consumer surplus (CS) values from **Section 3.3.2** to estimate the reduction in CS from each alternative[[6]](#footnote-6). The aggregate reduction in CS across all snapper grouper species for Devils Hole **Sub-Alternative 2d** is estimated to be approximately $8,000 (2014 dollars) (**Table 4.4.2.1**). This would be a 0.03% reduction in total estimated CS for all snapper grouper species harvested on headboats in the South Atlantic. **Sub-Alternatives 2a, 2b**, **2c** and **2e** are all estimated to have a smaller effect on headboat angler CS than **Alternative 5**; however, given the high uncertainty in the model, these estimates should not serve as the sole criteria for comparing different locations.. **Alternative 3** and **Alternative 4** pertain to artificial reef sites Area 51 and Area 53. Because these locations are undisclosed to the public, it is assumed there is no fishing activity occurring there currently. As such, **Alternative 3** and **Alternative 4** are not expected to affect headboat angler CS. A reasonable assumption based on the results of the model is that the reduction in headboat angler CS would be minimal for all of the SMZ alternatives and for each proposed site, the larger the area is, the greater the economic effects will be. If in fact anglers are harvesting species within the proposed areas at a much higher rate than elsewhere in the South Atlantic, the true impacts to CS could be more substantial than predicted. CS impacts for other recreational modes, private/rental vessels and charter vessels, are unavailable because there is insufficient spatial resolution in corresponding landings data. It is expected that these other recreational modes would experience comparable reductions in landings and CS to the headboat mode.

**Action 5. Establish a Spawning Special Management Zone (Spawning SMZ) off Georgia**

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

**Alternative 2.** Establish a Spawning SMZ 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 2a.** St. Simons Area (14.1 square miles)

**Sub-alternative 2b.** St. Simons Area (9.4 square miles)

**Sub-alternative 2c.** St. Simons Area (4 square miles)

SG AP Preferred Alternative – 2a, 2b, 2c, and smaller area.

**SNAPPER GROUPER ADVISORY PANEL APRIL 2015:**

MOTION: COUNCIL CONSIDER AREA BETWEEN 25 AND 35 MILES EAST OF ST. SIMONS (LAT/LONG TO BE PROVIDED)

APROVED BY AP (6/0)

MOTION: COUNCIL CONSIDER 2C OFF GA AND REMOVE 18 SQUARE MILES FROM THE EXISTING GEORGIA MPA

APPROVED BY AP (6/0)

MOTION: COUNCIL CONSIDER ALL ALTERNATIVES 3A-3C AS WELL AS 3D (SMALLER)

APPROVED BY AP (5/0)

**SPAWNING SMZ WORKSHOP APRIL 13, 2015:**

* Concern about high use in the area 25-35 miles east of St. Simons

**PUBLIC HEARING & WRITTEN COMMENTS APRIL 2015:**

Table 2.5.1.3. Fish species in proposed Alternative 2 spawning SMZs off Georgia with evidence of spawning.

|  |  |  |
| --- | --- | --- |
| **Proposed Spawning SMZ off Georgia** | **Sub-Alts** | **Species** |
|  |  |  |
| **St. Simons 2** | **2a** | *Rhomboplites aurorubens* (Vermilion Snapper)*Haemulon aurolineatum* ( Tomtate )*Lutjanus campechanus* (Red Snapper)*Balistes capriscus* (Gray Triggerfish)*Mycteroperca phenax* (Scamp)*Pagrus pagrus* (Red Porgy) |
|  | **2b** | *Rhomboplites aurorubens* (Vermilion Snapper)*Haemulon aurolineatum* ( Tomtate )*Lutjanus campechanus* (Red Snapper)*Balistes capriscus* (Gray Triggerfish)*Mycteroperca phenax* (Scamp)*Pagrus pagrus* (Red Porgy) |
|  | **2c** | *Rhomboplites aurorubens* (Vermilion Snapper)*Haemulon aurolineatum* ( Tomtate)*Lutjanus campechanus* (Red Snapper)*Balistes capriscus* (Gray Triggerfish)*Mycteroperca phenax* (Scamp)*Pagrus pagrus* (Red Porgy) |

Source: Southeast Reef Fish Survey (SERFS – MARMAP/SEAMAP/SEFIS)

Discussion

Reductions in expected catch are very difficult to measure given the large statistical grids used for reporting catch data. A quantitative approach, as described in **Section 4.3.2**, was developed by the SERO and estimated landings reductions from areas proposed as Spawning SMZs are shown in **Table 4.5.1.3**. Off Georgia, the projected impacts were indistinguishable across the St. Simons Alternatives, with the largest projected impact being a 0.1% reduction in commercial black snapper landings; all reductions in headboat landings were estimated at less than 0.0% (**Table 4.5.1.3**). The estimated reduction in commercial landings in lbs (gw) for each snapper grouper species was multiplied by the average annual price per lb (gw) (2012 through 2014)[[7]](#footnote-7) for each species to obtain estimates of displaced ex-vessel revenue for each Spawning SMZ alternative. Aggregated across all snapper grouper species, **Sub-Alternatives 2a**, **2b**, and **2c** are each estimated to reduce total revenue by approximately $2,500 (2014 dollars) (**Table 4.5.2.1**). Assuming this reduction in revenue is borne entirely by the vessels described in **Section 3.3.1** and that they are unable to substitute landings in other areas, on average (2010 through 2014), these vessels would experience a 0.01% reduction in ex-vessel revenue. These estimates are highly uncertain because they assume uniformly distributed effort within spatial grids. If in fact fishermen are harvesting species within the proposed Spawning SMZ areas at a much higher rate than elsewhere in the South Atlantic, the true effects of these closures on ex-vessel revenue could be more substantial than predicted.

Table 4.5.2.1. Estimated reduction in ex-vessel revenue and headboat angler CS from each proposed Spawning SMZ alternative for Georgia (2014 dollars).

|  |  |  |
| --- | --- | --- |
| **SMZ alternative** | **Reduction in ex-vessel revenue** | **Reduction in headboat angler CS** |
| St. Simons 2 Sub-Alternative 2a | $2,505 | $0 |
| St. Simons 2 Sub-Alternative 2b | $2,504 | $0 |
| St. Simons 2 Sub-Alternative 2c | $2,504 | $0 |

Source: SERO Social Science Branch (August 2015).

With respect to headboats, there is no estimated reduction in landings from St. Simons **Sub-Alternatives 2a**, **2b**, and **2c** and therefore no estimated impact to consumer surplus (CS). CS impacts for other recreational modes, private/rental vessels and charter vessels, are unavailable because there is insufficient spatial resolution in corresponding landings data. It is expected that these other recreational modes would experience comparable reductions in landings and CS to the headboat mode. These estimates are highly uncertain because they assume uniformly distributed effort within spatial grids; however, it seems reasonable to assume that the proposed Spawning SMZ areas would have only a small effect if any on recreational CS.

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

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

**Preferred Alternative 2.** Establish a Spawning SMZ 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)

 **Preferred** **Sub-alternative 2b.** Warsaw Hole (1 square mile) SG AP Preferred

Alternative

 **Sub-alternative 2c.** Warsaw Hole (4 square mile)

**MOTION: CHANGE THE PREFERRED ALTERNATIVE FOR ACTION 6, ALTERNATIVE 2 TO SUB-ALTERNATIVE 2C. WARSAW HOLE (4 SQUARE MILES)**

**APPROVED BY COMMITTEE**

**SUBSTITUTE MOTION: CHANGE THE PREFERRED ALTERNATIVE FOR ACTION 6, ALTERNATIVE 2 TO SUB-ALTERANTIVE 2A**

**SUBSTITUTE MOTION DISAPPROVED**

**Alternative 3.** Establish a Spawning SMZ 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 (6 square miles) area of apparent high relief in the 27 square mile footprint.

 **Sub-alternative 3b.** Daytona Steeples (12 square miles)

**Sub-alternative 3c.** Daytona Steeples (6 square miles)

**SNAPPER GROUPER ADVISORY PANEL APRIL 2015:**

MOTION: COUNCIL CONSIDER 2A FOR WARSAW HOLE AS A SPAWNING SMZ AS PREFERRED.

APPROVED BY AP (5/4)

MOTION: COUNCIL CONSIDER 3C OFF DAYTONA STEEPLES AS PREFERRED. APPROVED BY AP (13/0)

**SPAWNING SMZ WORKSHOP APRIL 13, 2015:**

* Support for the approach to protect areas important for spawning but should collect the data first and document the area before proposing for Spawning SMZ

**PUBLIC HEARING & WRITTEN COMMENTS APRIL 2015:**

* Urge the Council to fully analyze the Push Button Hill Site

The following information is taken directly from the MPA Expert Workgroup Report (SAFMC 2013):

*“Warsaw Hole (Figure 11) consists of a 50-fm. hump, southwest of Cosgrove Shoal Light (about 10 miles west-southwest of Key West and south of the Marquesas Keys). The east side of the feature is a backbone ridge where depth drops steeply from 240 to 400 ft. Warsaw grouper have been seen aggregating there in March, and one female has been caught with obvious roe. The area southeast and southwest of Cosgrove Shoal is thought to be a spawning area for red snapper (Lindeman et al. 2000).*

*Warsaw Hole is an area of critical concern. Not only does it have warsaw grouper (occasionally caught), but also almaco jack, greater amberjack (all winter long), groupers (including black and scamp), snappers [silk (yelloweye), blackfin, red, vermilion], and other reef fishes. Warsaw grouper definitely aggregate there, as accounts from the old-time conch fishermen clearly indicate there must have been an aggregation based on the numbers they caught. Warsaw Hole may also be a spawning aggregation site for greater amberjack.”*

Discussion

Reductions in expected catch are very difficult to measure given the large statistical grids used for reporting catch data. A quantitative approach, as described in **Section 4.3.2**, was developed by the SERO and estimated landings reductions from areas proposed as Spawning SMZs are shown in **Table 4.6.1.1**. Off Florida, the largest projected impacts were a 1.2% reduction in commercial blackfin snapper landings under **Sub-Alternative 2a, Preferred Sub-Alternative 2b, and Sub-Alternative 2c** (**Table 4.6.1.1**). Daytona Steeples **Sub-Alternative 3a**, however, is estimated to have the largest economic impact in terms of displaced ex-vessel revenue, as discussed below. The estimated reduction in commercial landings in lbs (gw) for each snapper grouper species was multiplied by the average annual price per lb (gw) (2012 through 2014)[[8]](#footnote-8) for each species to obtain estimates of displaced ex-vessel revenue for each Spawning SMZ alternative. Aggregated across all snapper grouper species, Daytona Steeples **Sub-Alternative 3a** is estimated to reduce total revenue by approximately $3,700 (2014 dollars) (**Table 4.6.2.1**). Assuming this reduction in revenue is borne entirely by the vessels described in **Section 3.3.1** and that they are unable to substitute landings in other areas, on average (2010 through 2014), these vessels would experience a 0.02% reduction in ex-vessel revenue. **Sub-Alternative 2a**, **Preferred Sub-Alternative** **2b**,and **Sub-Alternative 2c**,as well as **Sub-Alternatives 3b** and **3c**, are all estimated to have a smaller effect on total ex-vessel revenue than **Sub-Alternative 3a**; however, given the high uncertainty in the model[[9]](#footnote-9), these estimates should not serve as the sole criteria for comparing different locations.. A reasonable assumption, based on the results of the model, is that the reduction in total ex-vessel revenue would be minimal for all of the Spawning SMZ alternatives and for each proposed site, the larger the area is, the greater the economic effects will be. If in fact fishermen are harvesting species within the proposed Spawning SMZ areas at a much higher rate than elsewhere in the South Atlantic, the true effects of these closures on ex-vessel revenue could be more substantial than predicted.

Table 4.6.2.1. Estimated reduction in ex-vessel revenue and headboat angler CS from each proposed Spawning SMZ alternative for Florida (2014 dollars).

|  |  |  |
| --- | --- | --- |
| **SMZ alternative** | **Reduction in ex-vessel revenue** | **Reduction in headboat angler CS** |
| Warsaw Hole Sub-Alternative 2a | $931 | $912 |
| Warsaw Hole **Preferred Sub-Alternative 2b** | $931 | $34 |
| Warsaw Hole Sub-Alternative 2c | $931 | $1,831 |
| Daytona Steeples Sub-Alternative 3a | $3,717 | $1,647 |
| Daytona Steeples Sub-Alternative 3b | $2,735 | $0 |
| Daytona Steeples Sub-Alternative 3c | $2,735 | $423 |

Source: SERO Social Science Branch (August 2015).

The estimated reduction in headboat landings for each species in numbers of fish, as originally reported, was multiplied by consumer surplus (CS) values from **Section 3.3.2** to estimate the reduction in CS from each alternative[[10]](#footnote-10). Warsaw Hole **Sub-Alternative 2c** is estimated to have the largest economic impact to recreational fishermen, with approximately a $1,800 (2014 dollars) loss in CS (**Table 4.6.2.1**). This would be a 0.01% reduction in total estimated CS for all snapper grouper species harvested on headboats in the South Atlantic. **Sub-Alternative 2a, Preferred Sub-Alternative 2b**, and **Sub-Alternatives 3a**, **3b**, and **3c** are all estimated to have a smaller effect on headboat angler CS than **Alternative 2c**; however, given the high uncertainty in the model, these estimates should not serve as the sole criteria for comparing different locations.. A reasonable assumption based on the results of the model is that the reduction in headboat angler CS would be minimal for all of the Spawning SMZ alternatives and for each proposed site, the larger the area is, the greater the economic effects will be. If in fact anglers are harvesting species within the proposed areas at a much higher rate than elsewhere in the South Atlantic, the true impacts to CS could be more substantial than predicted. CS impacts for other recreational modes, private/rental vessels and charter vessels, are unavailable because there is insufficient spatial resolution in corresponding landings data. It is expected that these other recreational modes would experience comparable reductions in landings and CS to the headboat mode.

**Action 7. Align the boundaries of the Charleston Deep Artificial Reef MPA with the U.S. Army Corps of Engineers’ Permitted Artificial Reef Area**

**Alternative 1. No Action.** The existing Charleston Deep Artificial Reef MPA boundaries are: 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 Charleston Deep Artificial Reef MPA 1.4 miles to the northwest to match the boundary of the U.S. Army Corps of Engineers’ permitted artificial reef area. SG AP Preferred Alternative

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 aligning the Charleston Deep Artificial Reef MPA with the U.S. Army Corps of Engineers’ permitted artificial reef area to protect artificial reef habitat important for spawning and is not considering any other modifications at this. Therefore, the South Atlantic Council and NMFS have determined it is not reasonable to include additional alternatives for Action 7.

**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

**SNAPPER GROUPER ADVISORY PANEL APRIL 2015:**

MOTION: CHOOSE ALTERNATIVE 2, MOVING THE EXISTING CHARLESTON DEEP ARTIFICIAL REEF MPA 1.4 MILES TO THE NORTHWEST, AS PREFERRED

APPROVED BY AP (13/0)

Discussion

The area is mostly sand bottom and the site was chosen by the Council in Amendment 14 to the Snapper Grouper FMP (SAFMC 2007) to place artificial reef material in a sandy environment and prohibit all snapper grouper fishing while having no negative impacts on recreational and/or commercial fishermen. The Council’s intent was to test how well artificial reefs can work to increase the abundance of fish and provide them the opportunity to grow and reproduce in an un-fished area.

The Council originally designated the area as the Charleston Deep Artificial Reef MPA (**Alternative 1 (No Action)**) in Snapper Grouper Amendment 14 (SAFMC 2007). The State of South Carolina worked with the Corps of Engineers to modify the boundary of this site to include some material that was recently sunk in the area. The State of South Carolina requested the Council shift the boundary of the existing Charleston Deep Artificial Reef MPA to match the new boundary of the artificial reef site. This requires that the boundary be shifted 1.4 miles to the northwest (**Preferred Alternative 2**). The following section describes the Spawning SMZ attributes for each alternative and includes relevant comparisons on environmental and other grounds.



**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 7** reflects a modification of an artificial reef MPA that was created in an area where fishermen were not currently fishing. The current area encompassed by the Charleston Deep Artificial Reef MPA **Alternative 1 (No Action)**, does not encompass the location of the vessels sunk to create the artificial reef. The proposed shifting of the MPA boundaries in **Preferred Alternative 2** does not increase the size of the MPA, it only makes modifications to fit the currently permitted site. **Alternative 1 (No Action)** would allow fishermen to fish on the sunken vessel site as if it was an artificial reef created to enhance direct fishing opportunities and it would not be used for its original purpose. While the vessels were recently deployed, there currently is not much fishing known to occur on the vessel that is outside the current MPA boundaries. Therefore, expected direct negative economic effects, if they occur at all, are likely to be minimal. However, **Preferred Alternative 2** has the potential to increase future, long-term direct positive economic effects by increasing spawning sites free from human predation.

**Action 8. Establish Transit and Anchoring Provisions**

**Alternative 1. No Action.** Do not establish transit and anchoring provisions in the proposed Spawning Special Management Zones (SMZs). There are no Spawning SMZs in place and, if established, anchoring within the Spawning SMZ and transiting with snapper grouper species onboard would be allowed.

**Preferred Alternative 2.** In the proposed Spawning SMZs, allow transit with snapper grouper species aboard a vessel when fishing gear is appropriately stowed as defined below. SG AP Preferred Alternative

**Preferred Alternative 3.** Prohibit anchoring by fishing vessels in the proposed spawning SMZs. SG AP Preferred Alternative

**Sub-alternative 3a.** Prohibit anchoring by fishing vessels in all Spawning SMZs.

**Sub-alternative 3b.** Prohibit anchoring by fishing vessels in all Spawning SMZs except Area 51 and Area 53.

**MOTION: SELECT PREFERRED ALTERNATIVE 3, SUB-ALTERNATIVE 3B AS PREFERRED FOR ACTION 8**

**APPROVED BY COMMITTEE**

Definitions for Alternatives in Action 8 are included in a box on the next page. The Council will determine whether the sub-alternatives under Preferred Alternative 3 are necessary at the December 2015 meeting. The definitions for “fishing” and “fishing vessel” appear to allow research vessels and non-consumptive diving vessels to anchor in the Spawning SMZ sites because they would not be considered “fishing vessels”. The Council can only address the activity of fishing vessels.

**COMMITTEE ACTION: Clarify the preferred alternatives for Alternative 3:**

**OPTION 1. MOVE SUB-ALTERNATIVES 3A & 3B IN ACTION 8 TO THE CONSIDERED BUT REJECTED APPENDIX**

**OPTION 2. SELECT SUB-ALTERNATIVE 3A IN ACTION 8 AS THE PREFERRED ALTERNATIVE.**

**OPTION 3. SELECT SUB-ALTERNATIVE 3B IN ACTION 8 AS THE PREFERRED ALTERNATIVE.**

**OPTION 4. OTHERS???**

**SNAPPER GROUPER ADVISORY PANEL APRIL 2015:**

MOTION: AP SUPPORT TRANSIT PROVISION AND ANCHORING PROHIBITION IN THE SPAWNING SMZs AS PREFERRED (ALTERNATIVES 2 AND 3).

APPROVED BY AP (14/0)

***Definitions for Alternatives in Action 8***

*“Transit”* means direct, non-stop progression through the Spawning SMZs.

“*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) Trawl doors and nets must be out of the water but the doors are not required to be on deck or secured on deck or below deck.

(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.

(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.

(F) Sinkers must be disconnected from the down rigger and stowed separately.

The term "fishing vessel" means any vessel, boat, ship, or other craft which is used for,

equipped to be used for, or of a type which is normally used for—

(A) fishing; or

(B) aiding or assisting one or more vessels at sea in the performance of any activity

relating to fishing, including, but not limited to, preparation, supply, storage, refrigeration, transportation, or processing.

The term "fishing" means—

(A) the catching, taking, or harvesting of fish;

(B) the attempted catching, taking, or harvesting of fish;

(C) any other activity which can reasonably be

expected to result in the catching, taking,

or harvesting of fish; or

(D) any operations at sea in support of, or in

preparation for, any activity described in

subparagraphs (A) through (C).

Discussion

Under **Alternative 1 (No Action)**, fishermen may transit the current eight deepwater MPAs with snapper grouper species aboard a vessel when fishing gear is appropriately stowed. Transit with snapper grouper species aboard a vessel is not allowed in the *Oculina* Experimental Closed Area. Anchoring is allowed in the eight deepwater MPAs but not in the *Oculina* Experimental Closed Area, *Oculina* Habitat Area of Particular Concern (HAPC), or in any of the coral HAPCs.

**Preferred Alternative 2** addresses allowing transit through the Spawning SMZs and **Alternative 3** would prohibit anchoring. These two alternatives would track what is currently in place for the *Oculina* Experimental Closed Area and HAPCs.

The intent of **Action 8** is to lessen potential negative economic effects on snapper grouper fishermen by allowing transit through the closed Spawning SMZ areas created or modified by **Actions 3** - **7.** This would provide fishermen more direct access to and from their fishing grounds. **Alternative 1 (No Action)** would prohibit vessels with snapper grouper species on board from transiting through or anchoring in the Spawning SMZs. Under **Alternative 1 (No Action)**, fishermen may incur travel and opportunity costs associated with avoiding closed areas. **Preferred Alternative 2** would allow transit through Spawning SMZs to occur, provided fishing gear is properly stowed. It is expected that fishermen would only transit through the Spawning SMZs if the opportunity cost of gear stowage is less than the combined travel and opportunity costs of avoidance (i.e., there is a positive net benefit). As such, **Preferred Alternative 2** would result in either positive or neutral economic effects relative to **Alternative 1 (No Action)**. **Preferred Alternative 3** would prohibit anchoring by fishing vessels in Spawning SMZs. Because vessels would not be allowed to fish in the Spawning SMZ, this alternative would not be expected to have any economic effects.

**Action 9. Establish a Sunset Provision for the Spawning SMZs**

**Alternative 1. No Action.** The Spawning SMZs would not automatically expire through a sunset provision.

**Alternative 2.** The Spawning SMZs will sunset 10 years after implementation if not reauthorized.

**Sub-alternative 2a.** Apply the sunset provision to all Spawning SMZs.

**Sub-alternative 2b.** Apply the sunset provision to all Spawning SMZs except Area 51 and Area 53. SG AP Preferred Alternative

**MOTION: ACCEPT THE PROCEDURE OUTLINED AND SELECT ALTERNATIVE 2, SUB-ALTERNATIVE 2B AS PREFERRED FOR ACTION 9.**

**APPROVED BY COMMITTEE**

**SUBMOTION: ACCEPT THE PROCEDURE OUTLINED AND SELECT ALTERNATIVE 4, SUB-ALTERANTIVE 4B AS PREFERRED FOR ACTION 9.**

**SUBMOTION DISAPPROVED**

**Alternative 3.** The Spawning SMZs will sunset 7 years after implementation if not reauthorized.

**Sub-alternative 3a.** Apply the sunset provision to all Spawning SMZs.

**Sub-alternative 3b.** Apply the sunset provision to all Spawning SMZs except Area 51 and Area 53.

**Alternative 4.** The Spawning SMZs will sunset 5 years after implementation if not reauthorized.

**Sub-alternative 4a.** Apply the sunset provision to all Spawning SMZs.

**Sub-alternative 4b.** Apply the sunset provision to all Spawning SMZs except Area 51 and Area 53.

Direction to staff: Add discussion about what needs to be done; refer to Appendix N. Add wording to alternatives (I suggest putting in the discussion – Gregg) that discusses what specifically allows a site to sunset. Also, use the following list of species to document spawning activity within Spawning SMZs.

Table S-19. Spawning SMZs target species.

**Groupers**

Goliath grouper (*Epinephelus itajara*), Nassau grouper (*E. striatus*), red grouper (*E. morio*), red hind (*E. guttatus*) (due to documented aggregations in other areas), speckled hind (*E. drummondhayi*), snowy grouper (*Hyporthodus niveatus* formerly *E. niveatus*), Warsaw grouper (*H. nigritus* formerly *E. nigritus*), black grouper (*Mycteroperca bonaci*), gag (*M. microlepis*), scamp (*M. phenax*)

**Snappers**

Yellowtail snapper (*Ocyurus chrysurus*), cubera snapper (*Lutjanus cyanopterus*), ~~dog snapper (~~*~~L. jocu~~*~~),~~ ~~gray snapper (~~*~~L. griseus~~*~~), lane snapper (~~*~~L. synagris~~*~~),~~ mutton snapper (*L. analis*), red snapper (*L. campechanus*), silk snapper (*L. vivanus*)

**Tilefish**

Golden tilefish (*Lopholatilus chamaeleonticeps*), blueline tilefish (*Caulolatilus microps*)

*IPT RECOMMENDS CONSIDERING: ROCK HIND, GRASBY, CONEY & BLACKFIN SNAPPER*

*ADD GREATER AMBERJACK*

*AGREED BY CONSENSUS*

Discussion

**Alternative 1 (No Action)** would not establish a sunset provision and the Spawning SMZs would remain in place until altered by the Council through an amendment. Under **Alternatives 2-4**, the sunset provision would automatically remove the Spawning SMZs after 10, 7, and 5 years respectively.

The System Management Plan (**Appendix N**) outlines the enforcement, research/monitoring, outreach/education, and evaluation aspects of the Council’s approach for the Spawning Special Management Zones. Action Items with cost and timing are included. The Council is working with state/university/NOAA/NMFS personnel to ensure the necessary work is conducted. In addition, the Council is developing a Citizen Science Program that will directly involve commercial and recreational fishermen in the research and monitoring. Involving fishermen at this level will also promote voluntary compliance.

SUGGESTED MODIFICATIONS TO #3, #4 & #5:

The following steps will be used to evaluate each Spawning SMZ with regards to the sunset provision:

1. Council specifies 10, 7, or 5 year sunset period calculated from the effective date of the final rule for Amendment 36.
2. Council receives annual status reports outlining accomplishments to date for items in the System Management Plan.
3. If 5 years is chosen, ~~one~~ TWO yearS prior to the sunset date, the Council will receive a detailed evaluation report for all of the sites.
4. If 7 years is chosen, the Council will receive a detailed evaluation report for all of the sites at the end of year 3 4 and TWO ~~one~~ yearS prior to the sunset date.
5. If 10 years is chosen, the Council will receive a detailed evaluation report for all of the sites at the end of year 3 4, at the end of year 5 ~~7~~, and ~~one~~ TWO yearS prior to the sunset date.
6. After each annual status report and detailed evaluation report, the Council will make an informed decision whether a sufficient level of spawning has been documented in a site to warrant removing the sunset provision for that site.
7. To remove the sunset provision for a site(s), the Council will develop a Regulatory Amendment to extend the site(s) the Council concludes have a sufficient level of documented spawning. The public will have an opportunity to comment during development of the regulatory amendment and at Council meetings.

**Alternative 2** compared to **Alternative 1 (No Action)** could have positive economic effects if any of the alternatives selected as preferred alternatives in **Actions 3 – 6** are determined not to be effective. **Alternative 2** requires that Spawning SMZs be reviewed. Regardless of the outcome of the review, Spawning SMZs would go away if they are not specifically reauthorized. If a Spawning SMZ is not reauthorized, it would benefit all fishermen by increasing the size of the allowable fishing area. However, if a particular Spawning SMZ has documented proof of sufficient spawning, reopening it could forego long-term economic benefits by reducing the future biomass that would have been expected to occur as a result of spawning protection. The size of the economic effects for **Action 9** cannot be estimated without data on fish populations at the time a Spawning SMZ would be considered for reopening. However, in the long term, **Alternative 2** is expected to have neutral or increased economic benefits relative to **Alternative 1 (No Action)**.

**COMMITTEE ACTION: Choose a preferred Alternative and Sub-alternative.**

**OPTION 1. ACCEPT THE PROCESS OUTLINED IN THE DISCUSSION AND SELECT ALTERNATIVE X, SUB-ALTERNATIVE Y FOR ACTION 9 AS PREFERRED.**

**OPTION 2. IN ADDITION TO THE PROCESS OUTLINED IN THE DISCUSSION, DEVELOP SPECIFIC LEVELS OF SPAWNING TO BE MET (COUNCIL TO SPECIFY), AND SELECT ALTERNATIVE X, SUB-ALTERNATIVE Y FOR ACTION 9 AS PREFERRED.**

**OPTION 3. OTHERS??**

**Timing:**

**A. March 2015 meeting** – the Council reviewed an expanded Decision Document that contained draft alternatives for each State (large, medium, and small as directed at the December 2014 meeting). The Committee/Council approved sample sites for the public to comment on and approved the amendment for Public Hearings I.

**B. Round I Public Hearings** – April via webinar and listening/comment stations to obtain public input on what areas should be protected. Sample sites are provided to give the public an idea of what the Council is considering. This will give the public the opportunity to provide suggested areas before the Council approves sites for detailed analyses.

**C. Staff/IPT** – prepare a draft amendment and System Management Plan between March and June meetings and incorporate the information from the hearings.

**D. June 2015 meeting** – review public hearing comments and Draft Amendment 36 to select sites for detailed analyses.  Approve for Public Hearings II.

**E. Round II Public Hearings** – July/August via webinar/listening/comment stations and possibly some in-person hearings to obtain public input on Draft Amendment 36 with particular emphasis on how much the suggested sites would impact fishing. This is critical because the data available is by the large statistical grids and the Snapper Grouper Advisory Panel did not agree with the previous analysis done by NMFS on the sites recommended by the Expert Work Group.

**F. September 2015 meeting** – review 2nd round of public hearing comments and revised Amendment 36. Modify as necessary and approve all actions.

**G. December 2015 meeting** – review all modifications, select remaining preferred alternatives, and approve all actions in Amendment 36. DEIS will be filed after the December 2015 Council meeting with the comment period ending prior to the Council’s March 2016 meeting.

**G. March 2016 meeting** – review all DEIS comments and completed Amendment 36.  Modify as necessary and approve for formal review.

1. Average annual prices were derived from Coastal Logbook data augmented with revenue estimates as provided by the SEFSC (July 2015). [↑](#footnote-ref-1)
2. The model employed here assumes uniformly distributed effort within each logbook area and no redistribution of effort after a closure. [↑](#footnote-ref-2)
3. For snapper species, excluding red snapper, the WTP value of $12.37 (2014 dollars) was used. For grouper species, the WTP value of $103 (2014 dollars) was used. For red snapper, the WTP value of $81 (2014 dollars) was used. For all other species, for which there were no specific WTP values available, a WTP value for either snappers or groupers was applied on a case-by-case basis based on anecdotal evidence and comparison of commercial prices. [↑](#footnote-ref-3)
4. Average annual prices were derived from Coastal Logbook data augmented with revenue estimates as provided by the SEFSC (July 2015). [↑](#footnote-ref-4)
5. The model employed here assumes uniformly distributed effort within each logbook area and no redistribution of effort after a closure. [↑](#footnote-ref-5)
6. For snapper species, excluding red snapper, the WTP value of $12.37 (2014 dollars) was used. For grouper species, the WTP value of $103 (2014 dollars) was used. For red snapper, the WTP value of $81 (2014 dollars) was used. For all other species, for which there were no specific WTP values available, a WTP value for either snappers or groupers was applied on a case-by-case basis based on anecdotal evidence and comparison of commercial prices. [↑](#footnote-ref-6)
7. Average annual prices were derived from Coastal Logbook data augmented with revenue estimates as provided by the SEFSC (July 2015). [↑](#footnote-ref-7)
8. Average annual prices were derived from Coastal Logbook data augmented with revenue estimates as provided by the SEFSC (July 2015). [↑](#footnote-ref-8)
9. The model employed here assumes uniformly distributed effort within each logbook area and no redistribution of effort after a closure. [↑](#footnote-ref-9)
10. For snapper species, excluding red snapper, the WTP value of $12.37 (2014 dollars) was used. For grouper species, the WTP value of $103 (2014 dollars) was used. For red snapper, the WTP value of $81 (2014 dollars) was used. For all other species, for which there were no specific WTP values available, a WTP value for either snappers or groupers was applied on a case-by-case basis based on anecdotal evidence and comparison of commercial prices. [↑](#footnote-ref-10)