

Regulatory Amendment 29 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region

(Gear Requirement Modifications)

Snapper Grouper Advisory Panel
Discussion Document

Background

Commercial and recreational fishermen have expressed concern about regulations that result in released fish that do not survive. This has been particularly true for red snapper since 2010. Observations from recent fishery-independent studies show the population of red snapper has increased (SEDAR 41 2017)¹. As a result, fishermen are reporting an increase in the number of released red snapper. A portion of released fish will die due to foul hooking (hooking the fish in the stomach or throat), injuries caused by barotrauma (injury due to expansion of gas when reeled up from depth), and predation. To reduce the number of released fish and improve the survivorship of released fish, the Council may consider best fishing practices as either mandatory or voluntary options.

Best fishing practices aim to reduce bycatch and discard mortality by avoiding non-target species or sizes through fishing techniques and/or gear that minimizes the impact of capture. Common examples of best fishing practices include recompressing fish, reducing the number of hooks fished, using hooks that reduce or minimize gut hooking or foul-hooking, using knotless landing nets, etc.

Additionally, fishermen have expressed concern regarding inequitable access for the dive component of the snapper grouper fishery. Powerheads, also known as bang sticks (spears with a charge that is fired when in contact with target), may not be used to harvest snapper-grouper in

¹ SEDAR 41. 2017. Stock assessment of red snapper off the Southeastern United States. Southeast Data, Assessment and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

federal waters off South Carolina but are allowed in federal waters off North Carolina, Georgia, and Florida. To allow for more consistent regulations for the dive component of the snapper grouper fishery, the Council may consider removing the powerhead prohibition in federal waters off South Carolina or prohibiting powerheads to harvest snapper grouper species throughout the South Atlantic exclusive economic zone (EEZ).

2016-2020 Vision Blueprint for the Snapper Grouper Fishery: Strategies and Objectives

The 2016-2020 Vision Blueprint for the Snapper Grouper Fishery (Vision Blueprint) was approved in December 2015 and is intended to inform management of the snapper grouper fishery through 2020. The Vision Blueprint serves as a “living document” to help guide future management, build on stakeholder input, and illustrate actions that could be developed through the amendment process to address the goals identified during the visioning process. Specifically, the Vision Blueprint is organized into four goal areas: (1) Science, (2) Management, (3) Communication, and (4) Governance. Each goal area has a set of objectives and a set of strategies aimed at meeting each objective. The actions in Regulatory Amendment 29 correspond to different objectives and strategies in the Vision Blueprint. The full Vision Blueprint for the Snapper Grouper Fishery in the South Atlantic can be found here: <https://safmc.net/useful-info/council-visioning-project/>

Actions 1 and 2 address best fishing practices intended to reduce the number of released fish and improve the survivorship of released fish for snapper grouper species. Some of the alternatives the Council many consider were suggested during Visioning Meetings, including requiring descending devices. The circle hook alternatives were developed based on management in other areas.

Action 3 includes alternatives that would provide consistent regulations for the dive component of the snapper grouper fishery. Currently, South Carolina is the only state where powerheads are prohibited. The alternatives include options to remove the powerhead restriction off South Carolina or prohibit powerheads when fishing in the South Atlantic exclusive economic zone (EEZ).

Actions in this amendment

- **Action 1.** Specify requirements for the use of descending devices and/or venting devices when possessing species in the snapper grouper fishery management unit.
- **Action 2.** Modify the requirement for the use of non-stainless-steel circle hooks when fishing for and/or possessing snapper grouper species with hook-and-line gear.
- **Action 3.** Adjust powerhead prohibitions in the South Atlantic Region.

Expected amendment timing

Process Steps		Dates
✓	Review draft options paper	March 2018
✓	Approve for scoping	June 2018
✓	Scoping hearings	August 2018
✓	Review scoping comments, approve actions/alternatives to be analyzed.	September 2018
✓	Review draft amendment, modify as necessary, select preferred alternatives, and approve for public hearings.	March 2019
	Public hearings	Spring 2019*
	Review public hearing comments, approve all actions and alternatives.	June 2019
	Final action to approve for Secretarial review	September 2019

*Public hearings will be held on April 30th and May 1st at 6p via webinar, click [HERE](#) for more information.

Purpose and Need Statement

Purpose for Actions

The *purpose* is to modify gear requirements for the snapper grouper fishery to promote best fishing practices and to ensure consistent regulations for the dive component of the snapper grouper fishery.

Need for Actions

The *need* is to reduce discards and discard mortality of snapper grouper species and to decrease the burden of compliance with differing regulations for the dive component of the snapper grouper fishery while minimizing, to the extent practicable, adverse social and economic effects.

Draft Actions and Alternatives

Action 1. Specify requirements for the use of descending devices* and/or venting devices when fishing for or possessing species in the snapper grouper fishery management unit.**

Alternative 1 (No Action). Descending devices and/or venting devices are not required to be onboard a vessel possessing species in the snapper grouper fishery management unit.

Preferred Alternative 2. Within six months of implementation for Snapper Grouper Regulatory Amendment 29, require a *descending device** be onboard a vessel fishing for or possessing species in the snapper grouper fishery management unit.

Preferred Sub-alternative 2a. private recreational vessels

Preferred Sub-alternative 2b. for-hire vessels

Preferred Sub-alternative 2c. commercially permitted South Atlantic snapper grouper vessels

Alternative 3. Within six months of implementation for Snapper Grouper Regulatory Amendment 29, require a *venting device*** be onboard a vessel fishing for or possessing species in the snapper grouper fishery management unit.

Sub-alternative 3a. private recreational vessels

Sub-alternative 3b. for-hire vessels

Sub-alternative 3c. commercially permitted South Atlantic snapper grouper vessels.

* For the purpose of this requirement, “descending device” means an instrument that will release fish at a depth sufficient for the fish to be able to recover from the effects of barotrauma, generally 33 feet (twice the atmospheric pressure at the surface) or greater. The device can be, but is not limited to, a weighted hook, lip clamp, or box that will hold the fish while it is lowered to depth. The device should be capable of releasing the fish automatically, releasing the fish by actions of the operator of the device, or by allowing the fish to escape on its own. Since minimizing surface time is critical to increasing survival, descending devices shall be rigged and ready for use while fishing is occurring.

** For the purpose of this requirement, “venting device” means a device capable of penetrating the abdomen of a fish in order to release the excess gas accumulated in the body cavity when a fish is retrieved from depth. A venting device must be a sharpened, hollow instrument, such as a hypodermic syringe with the plunger removed, or a 16-gauge needle fixed to a handle. A larger gauge needle is preferred in order to allow more air to escape rapidly. A device that is not hollow, such as a knife or ice pick, is not a venting device and will cause additional damage.

Discussion

Biological Effects

- Studies have shown that use of descending and venting devices does relieve symptoms of barotrauma and can decrease potential discard mortality, especially when compared to treatments with no barotrauma relief. If the devices are properly used and maintained, **Alternatives 2** through **3** could provide increased survivorship and reduced mortality of discarded snapper grouper species.
 - A recent literature review (76 publications) completed by Eberts and Somers (2017)² found both venting and descending had positive effects on survival, but overall found no significant difference in survival rates when using a descending device versus a venting device.
 - Some recent studies have recommended the use of descending devices over venting devices for treating fish experiencing symptoms of barotrauma. Though faster to use, venting devices have the potential to damage vital organs and cause additional stress if not used correctly.

Economic Effects

- While the ownership or use of descending and/or venting devices onboard recreational and commercial vessels is unknown, under **Alternatives 2** and **3** some vessel owners and operators would need to purchase or construct qualifying devices and would incur direct costs in doing so.
- **Alternatives 2** and **3** may increase survivorship of fish that are discarded. This may lead to improvements in affected fish stocks which may in turn yield indirect economic benefits through the availability of increased exploitable numbers of fish in the future or less stringent harvest limits such as higher trip limits and bag limits as well as longer open harvest seasons.

Social Effects

- If requiring descending devices and/or venting devices results in lower discard mortality, as anticipated, fishing communities would experience long-term indirect social benefits in the form of less stringent regulations and increased access.
- **Alternative 2** and **Alternative 3** incorporate recommendations made by fishermen during development of the 2016-2020 Vision Blueprint for the Snapper Grouper Fishery. Responding to fishermen concerns about regulations that result in released fish that do not survive could have the social benefit of improving perceptions of the management process.

Recent Council Actions:

- The Council modified the language of Alternative 2 and Alternative 3 to add a six-month period between implementation and effectiveness of Action 1 regulations. The delay in

² Eberts, R. L. and C. M. Somers. 2017. Venting and descending provide equivocal benefits for catch-and-release survival: study design influences effectiveness more than barotrauma relief method. *North American Journal of Fisheries Management*. 37(3): 612-623.

implementation is intended to provide additional time for outreach and education and for fishermen to purchase the necessary devices.

- The Council directed staff to develop a research and monitoring plan for addressing descending device usage and release treatment including reporting possibilities through existing programs and consulting with the SSC on how information will be used in future stock assessments.

Advisory Panel Action:

The Council has requested additional input from the Snapper Grouper Advisory Panel on the definition of a descending device.

Things to consider:

- Does the definition allow fishermen the flexibility to create innovative devices while still ensuring that homemade devices are effective?
- How specific should the definition be? Minimum weight? Minimum amount of line rigged to perform release?
- Is the definition enforceable? Think from the perspective of experiencing a law enforcement boarding and having to defend your descending device choice.

Action 2. Modify the requirement for the use of non-stainless-steel circle hooks when fishing for and/or possessing snapper grouper species with hook-and-line gear.

Alternative 1 (No Action). Use of non-stainless-steel circle hooks is required when fishing for and/or possessing species in the snapper grouper fishery management unit with hook-and-line gear and natural baits north of 28 degrees north latitude.

Preferred Alternative 2. Require the use of *non-offset*, non-stainless-steel circle hooks when fishing for and/or possessing species in the snapper grouper fishery management unit with hook-and-line gear and natural baits in the exclusive economic zone:

Preferred Sub-alternative 2a. north of 28 degrees north latitude (approximately 25 miles south of Cape Canaveral, Florida).

Sub-alternative 2b. throughout the extent of the South Atlantic Council's jurisdiction (North Carolina/Virginia border through Key West, Florida).

Alternative 3. Require *non-offset*, non-stainless-steel circle hooks be *onboard* a vessel possessing species in the snapper grouper fishery management unit when fishing in the exclusive economic zone:

Sub-alternative 3a. north of 28 degrees north latitude (approximately 25 miles south of Cape Canaveral, Florida).

Sub-alternative 3b. throughout the extent of the South Atlantic Council's jurisdiction (North Carolina/Virginia border through Key West, Florida).

Preferred Alternative 4. Require the use of non-stainless-steel hooks when fishing for and/or possessing species in the snapper grouper fishery management unit in the exclusive economic zone.

Discussion:

Biological Effects

- Studies show that use of circle hooks can reduce traumatic hooking rates (incidence of foul hooking and bleeding) of certain species of snapper grouper (e.g. red snapper, red grouper), when compared to J hooks. However, the impact of hook type appears to be species specific and can vary between studies.
 - The top co-occurring species for the snapper grouper hook-and-line component are red snapper, black sea bass, red grouper, gag, scamp, greater amberjack, vermilion snapper, and gray triggerfish. These species, excluding gray triggerfish, have similar mouth morphology. Hooking mortality on these species could be reduced.
 - Not all species in the snapper grouper complex have the same mouth morphology and it is possible that circle hooks could negatively impact survival.
 - Use of circle hooks would substantially reduce harvest of some species, thus would have positive biological benefits.
- Studies suggest that, relative to non-offset circle hooks, offset circle hooks may reduce fishing efficiency and can counteract the conservation benefits commonly associated with

circle hooks (e.g., lower mortality). **Alternative 2** could reduce discard mortality for snapper grouper species and result in benefits to the biological environment.

- If fishermen decide to utilize circle hooks, **Alternative 3** could provide biological benefits to species in the snapper grouper complex. However, use would be voluntary and would ultimately depend on fishermen preference, thus it is difficult to gauge the potential effects to the biological environment.
- Hooks made of non-stainless-steel should degrade faster in the marine environment than stainless-steel. Under **Alternative 4**, Fish that are gut hooked could theoretically have a greater chance of survival if the hook is made of non-stainless-steel.

Economic Effects

- **Alternative 2** and **Alternative 3** would result in direct costs for participants involved in the snapper grouper fishery that do not already own non-offset circle hooks.
 - Non-offset circle hooks also may reduce the catchability of some species in comparison to J hooks, treble hooks, or offset circle hooks, which would negatively affect catch efficiency.
 - **Alternative 3** may result in direct cost reductions, as multiple circle hook types and sizes would not be necessary to satisfy the circle hook requirement.
 - Additionally, J hooks or treble hooks could be used to harvest snapper grouper species, which may increase the catchability of some species in comparison to circle hooks, which would positively affect catch efficiency.
 - **Alternative 3** may decrease survivorship of fish that are discarded and may lead to some deterioration in affected fish stocks which may in turn yield indirect negative economic effects.
- **Alternative 4** would result in direct costs for participants involved in the snapper grouper fishery that fish south of the 28 degrees north latitude and do not already own non-stainless-steel hooks. The potential long-term economic effects would be dependent upon the net biological effect that occurred due to requiring the use of non-stainless-steel hooks.

Social Effects

- If the Council chooses to set standards for the type of circle hook that must be used under **Alternatives 2**, some fishermen will agree that it is in the interest of saving the species while others may object to the loss of personal choice in the selection of hook types, especially if they feel they will experience a reduction in catch rates.
- **Alternative 3** would be expected to result in the full increased social benefits associated with decreased hook-related mortality of fish not retained, while avoiding the lost benefits associated with the reduced harvests of species for which circle hooks may not be appropriate. Requiring possession of non-offset circle hooks onboard without requiring usage may be perceived as ineffective or as unnecessary government regulation.
- **Alternative 4** may result in minor negative social effects if fishermen south of 28 degrees north latitude are not already using non-stainless-steel hooks and must replace their gear. Requiring non-stainless-steel hooks may contribute to the sustainable harvest of snapper grouper stocks and provide for long-term social benefits.

Recent Council Actions:

- The Council removed the alternative that would have extended the current circle hook requirements throughout the South Atlantic EEZ and the alternative that would have removed circle hook requirements entirely.
- The Council requested that staff consult with the SSC on how a non-offset circle hook requirement might be considered during future stock assessments.

Action 3. Adjust powerhead prohibitions in the South Atlantic Region.

Alternative 1 (No Action). A powerhead may not be used in the exclusive economic zone off South Carolina to harvest South Atlantic snapper grouper. The possession of a mutilated South Atlantic snapper grouper species in or from the exclusive economic zone off South Carolina, and a powerhead is prima facie evidence that such fish was harvested by a powerhead.

Preferred Alternative 2. Allow the use of a powerhead for harvest of species in the South Atlantic snapper grouper fishery management unit in the exclusive economic zone off South Carolina.

Preferred Sub-alternative 2a. private recreational and for-hire vessels.

Preferred Sub-alternative 2b. commercially permitted South Atlantic snapper grouper vessels.

Alternative 3. Prohibit the use of a powerhead for harvest of species in the South Atlantic snapper grouper fishery management unit in the exclusive economic zone of the South Atlantic Region.

Sub-alternative 3a. private recreational and for-hire vessels.

Sub-alternative 3b. commercially permitted South Atlantic snapper grouper vessels.

Discussion:

Biological Effects

- **Alternative 2** would increase the potential for localized depletion of snapper grouper on reefs off South Carolina by the recreational sector and/or the commercial sector. Powerhead gear is more effective than conventional spear fishing gear because of the immediate death of the targeted fish and rapid reloading of the gear. The greatest impact would be on larger species that aggregate around the artificial and natural reefs at certain times of the year.
- **Alternative 3** would remove a highly effective gear type and a source of fishing mortality for the recreational sector and/or commercial sector. Preventing a cause of localized depletion could provide long-term biological benefits to snapper grouper species targeted by powerheads in the form of higher biomass and increased reproductive potential.

Economic Effects

- **Alternative 2** and **Alternative 3** would align federal regulations for the use of this gear throughout the South Atlantic EEZ. Doing so may result in indirect economic benefits by enhancing compliance with and enforcement of such regulations.
- **Alternative 2** would allow additional opportunities to harvest snapper grouper species in some circumstances, which may lead to increased revenue. **Alternative 2** may lead to increased harvest or additional harvest of larger specimens which would be a direct benefit for users of powerhead gear but could lead to long-term costs overall due to decreased reproductive capacity or increased costs for other user groups and/or sectors.

- **Alternative 3** would remove some opportunities to harvest snapper grouper species in some circumstances, which may lead to decreased revenue. **Alternative 3** may lead to decreased harvest of larger specimens which would be a direct cost to users of powerhead gear but could lead to long-term benefits overall due to increased reproductive capacity or decreased costs for other user groups and/or sectors.

Social Effects

- **Alternative 2** and **Alternative 3** would create consistency in regulations throughout federal waters and would be expected to reduce confusion among commercial and recreational dive fishermen and aid in compliance and enforcement efforts resulting in positive social effects.
- **Alternative 2** may result in localized depletion of heavily fished reef areas. Associated negative social effects would be experienced by private recreational, commercial, and for-hire fishermen participating in the snapper grouper fishery regardless of gear type utilized which would increase conflict between fishermen participating in the dive component of the snapper grouper fishery and other snapper grouper user groups.
- **Alternative 3** would result in negative short-term social effects to fishing communities that participate in the dive component of the snapper grouper fishery and utilize powerheads. Fishermen would need to adjust their businesses and/or fishing practices in order to compensate for the decrease in access. Alternatively, prohibiting powerheads may prevent localized depletion resulting in long-term social benefits to fishing communities.