Regulatory Amendment 29

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

(Required Gear Modifications)

Decision 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 federal waters off South Carolina but allowed in federal waters off North Carolina, Georgia, and Florida. To allow for more consistent regulations for the dive component of the snapper grouper

[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/.

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 the use of single hook rigs when targeting deep-water species and requiring descending devices. The circle hook alternatives were developed based on management in other areas and include an option to remove the circle hook requirement.

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.

Objectives for this meeting

- Review draft document,
- Review preferred alternative(s),
- Review Council conclusions,
- Discuss outreach plan,
- Consider approval for formal review.

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 and advisory panel comments, approve all actions and alternatives.	June 2019
	Final action to approve for Secretarial review	September 2019

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.

Committee Action

- REVIEW PURPOSE AND NEED STATEMENT
- MODIFY AS NECESSARY
- OTHERS?

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 fishing for or possessing species in the snapper grouper fishery management unit.

Preferred Alternative 2. Require a *descending device** be on board 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. Require a *venting device*** be on board 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, sufficiently weighted, that will release fish at a depth sufficient for the fish to be able to recover from the effects of barotrauma, a minimum of 33 feet (twice the atmospheric pressure at the surface) or greater and ideally released at the same depth that is was caught. 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

- Not requiring descending or venting devices be on board vessels while fishing for or possessing snapper grouper species under **Alternative 1 (No Action)** is not expected to provide reduced mortality of discards.

- If the devices are properly used and maintained, **Preferred Alternative 2** and **Alternative 3** could provide increased survivorship and reduced mortality of discarded snapper grouper species, this resulting in both short and long-term positive biological effects to snapper grouper species.
    - 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.
    - A recent literature review (76 publications) and comparative analysis found both venting and descending had positive effects on survival, but overall found no significant difference in survival rates.
        - Though faster to use, venting devices have the potential to damage vital organs and cause additional stress if not used correctly.
    - The use of descending and venting devices may also reduce predation on snapper grouper species by allowing rapid return to depth making them less vulnerable to predators.

- **Preferred Alternative 2** and **Alternative 3** are likely to reduce the risk of adverse effects to Nassau grouper, which is an ESA-listed species, from interactions with the fishery.

Economic Effects

- Under **Alternative 1 (No Action),** no direct costs incurred from requiring the purchase or construction of these devices. This alternative would forgo any improvements to fish stocks and resultant indirect economic benefits.

- Under **Preferred Alternative 2** or **Alternative 3** owners or operators that already own a qualifying device would not incur direct costs under either alternative while some vessel owners and operators would need to purchase or construct qualifying devices and would incur direct costs in doing so.
    - Descending devices range from approximately $6.30 to $78.00 and venting devices range from $6.30 to $29.00 (2017 dollars). Alternatively, vessel owners or operators may construct a device out of existing materials, which could be a lower cost option.
    - **Preferred Alternative 2** and **Alternative 3** may result in indirect costs through increasing the time spent using either a descending device or venting tool, thus reducing catch efficiency of a fishing trip.

- **Preferred Alternative 2**, and **Alternative 3** may increase survivorship of fish that are discarded. This may lead to improvements in affected fish stocks, which in turn, could result in less stringent regulations and would improve anglers' experiences on recreational trips and reduce costs and/or increase revenue on commercial trips.

Social Effects

- **Alternative 1 (No Action)** is not anticipated to result in positive or negative direct social effects to fishing communities engaged in the snapper grouper fishery.

- If requiring descending devices (**Preferred Alternative 2**) and/or venting devices (**Alternative 3**) results in lower discard mortality, as anticipated, fishing communities would experience long-term indirect social benefits.
    - **Preferred Alternative 2** and **Alternative 3** incorporate recommendations from by fishermen. Responding to fishermen's concerns could have the social benefit of improving perceptions of the management process.
    - If **Preferred Alternative 2** and **Alternative 3** result in healthier stocks, recreational and commercial fishing communities would experience positive social effects in the form of less stringent regulations and increased access as well as long-term sustainability of snapper grouper fish stocks.

- Requiring possession of a descending device and/or venting tool on board without requiring usage may be perceived by fishermen as unnecessary government regulation.

- This action should not alter how often or where recreational and commercial fishermen fish and would not have any effect on the businesses which are dependent on the fishery. There may be short-term negative impacts if fishermen must purchase new gear.

- It is possible that, under **Alternative 3**, fishermen who are not educated on how to properly vent a fish would be encouraged to attempt the procedure, potentially injuring the fish further.

Note: A draft research and monitoring plan for the use of descending devices is included in Appendix E of the amendment document.

Law Enforcement Advisory Panel Comments and Recommendations:

- LE AP members agreed that the proposed requirement to have descending devices on board and that such devices be "rigged and ready" is not enforceable. The NOAA General Counsel representative on the LE AP indicated that the current language would present problems to making a case.
- If the required devices were to be specified as being "commercially available", this would aid enforcement.
- As proposed, law enforcement officers would be put in a position to have to "approve" a device.
- Required devices should not only be "rigged and ready" but also "serviceable".
- Recommend a strong educational campaign.
- When a regulation that is not enforceable is implemented, it creates expectations among the public and results in attempts to hold law enforcement officials accountable.

Snapper Grouper Advisory Panel Comments and Recommendations:

April 2019:

- The amendment document should include examples (with photos or diagrams) of descending devices that have proven to be effective.
- The AP discussed developing an agency approval process of different descending devices with a practical common-sense design. Staff noted Council concerns regarding who would be responsible for approving devices as well as concerns about time and agency effort associated with such a process, which would have to be updated regularly as new devices become available.
- AP members questioned the 33-foot depth threshold for releasing a fish, as currently stated in the definition of descending device. This depth threshold seems insufficient for deep-water species such as snowy grouper. Consider instead stating that "a fish should ideally be released at the same depth that it was caught."
- To address the "rigged and ready" requirement, the AP suggested including language such as "in close proximity to where fishing is occurring" or "easily accessible and available in the vessel's deck area."
- One AP member shared a practice he maintains on his boat when he encounters snowy grouper while targeting tilefish: he attaches the descending device to the snap swivel on the baited rig being used to fish for tilefish. That way, the grouper is released, and he can immediately go back to catching tilefish.
- Telemetry studies conducted on rockfish on the West Coast have documented high survival over extended periods of fish being reeled up from over 800 feet. In the South Atlantic, research being conducted off North Carolina on deep-water snapper grouper species has shown that survivorship with the use of descending devices is indeed high.

October 2018:

- Need to consider issue of liability with the use of venting devices on for for-hire vessels. Descending devices have less liability and are not likely to cause additional damage to the fish. It is more feasible to require the use of descending devices than venting devices. Venting devices are often not used correctly.
- Description of descending and venting devices currently in the amendment are well thought out but consider that fishermen sometimes construct descending devices that are tailored to a specific species.
- Definition of descending device includes "rigged and ready for use while fishing is occurring." It is important that this aspect of the definition is enforceable.
- Venting works better for smaller fish and descending works better in deeper water so venting and descending should both be options.
- AP members stated that stakeholders are very likely to support best fishing practices.

MOTION: RECOMMEND THAT THE COUNCIL REQUEST THAT NMFS ADDRESS DESCENDING DEVICE USAGE AND RELEASE TREATMENT THROUGH EXISTING PROGRAMS (COMMERCIAL, FOR-HIRE LOGBOOKS AND MRIP). INCLUDE INFORMATION ON COMPLIANCE RATES AND TYPE OF DEVICE USED. APPROVED BY AP (UNANIMOUS)

Information and Education Advisory Panel (IE AP) Recommendations:

- Law enforcement officers on the IE AP stated that the enforceability of any descending device or venting device requirement was important. The definition needs to be written such that an officer can clearly identify whether a vessel is in compliance. This can be challenging with homemade devices.
- When asked whether the Council should implement formal regulations or engage in an extensive outreach campaign, similar to the Gulf Council, in order to encourage the use of descending and/or venting devices, the IE AP was unable to reach a consensus.
    - Some IE AP members felt behavior modification requires formal regulations and accountability. Alternatively, some IE AP members felt descending and/or venting device required a sense of personal motivation to care for the resource and suggested "phase in" where outreach was conducted prior to any formal regulations.

Public Comments:[2]

Public Hearings – April 2019:

- Majority of commenters support the Council's effort to require descending devices on board vessels fishing for snapper grouper species in order to reduce mortality of released fish. There were no comments made against Action 1.
    - Commenters in support of requiring descending devices felt it was essential to the long-term health of the snapper grouper fishery, particularly red snapper.
- 14 commenters expressed support for a research and monitoring plan that would look at the effectiveness of descending devices and help inform science-based discard mortality rates for use in stock assessments.
- Two commenters discussed the importance of education the public on use of descending devices.
- Three commenters supported the use of descending devices over venting devices because venting may cause more damage to the fish if not done correctly.
- One commenter suggested mandating the use of descending devices at a certain depth (80 feet).
- Three commenters said they had success with and would recommend using the SeaQualizer. One commenter had success with the FishSaver device.
- Florida Wildlife Federation supports Alternatives 2a, 2b, and 2c and recommends clearly defining what constitutes "rigged and ready" and developing a research and monitoring plan.
- Council for Sustainable Fishing supports Alternatives 2a, 2b, and 2c and expressed concerns about Alternative 3 (venting devices) unless training is made available to fishermen who may not know how to properly use venting devices.
- Pew Charitable Trusts supports Alternatives 2a, 2b, and 2c and recommends the formation of a working group to quantify effectiveness and changes in discard mortality rates. Pew also recommends including language to define "rigged and ready" descending devices. They request that the Council approve the amendment and implement

[2] Public comments, including letters from non-governmental organizations, can be found in detail on the Council's website: https://safmc.wufoo.com/reports/snapper-grouper-regulatory-amendment-29-report/

regulations as soon as possible and continue to pursue otherwise to reduce discard mortality and obtain better discard data.

- The American Sportfishing Association supports Alternatives 2a, 2b, and 2c and suggests that Council make Alternative 3 a preferred as well given the prevalence of venting. ASA notes that, when done correctly, venting and descending have comparable success rates. ASA believes the current definition for descending devices allows for flexibility and innovation and recommends the Council include language that would "require the use" of devices when fish exhibit signs of barotrauma in addition to being rigged and ready.
- Coastal Conservation Association supports the mandatory use of descending devices or venting devices so long as there are quantifiable estimates of discard mortality for use in stock assessments. CCA also recommends the Council allow the use of venting tools only on for-hire vessels because venting devices need to be used by trained and experienced anglers.
- The Natural Conservancy supports Alternatives 2a, 2b, and 2c and agrees that "performance standards" are better than specify makes and models to allow for individual choice and innovation. The Natural Conservancy also supports the development of a research and monitoring plan because it is critical for tracking discard and fishing community buy-in.

Scoping Comments – August 2018:

- Twenty-six commenters believe the Council should put together an extensive outreach plan to educate anglers on best fishing practices, especially the use of venting and descending devices.
- Eighteen commenters believe the Council should discuss how the required use of best fishing practices can be monitored and how a change in regulation would be considered in future stock assessments to improve discard mortality rates.
- Four commenters felt that, while best fishing practices were important, they should not be required. Rewarding those who use best fishing practices would be better than punishing those who are not using them. Alternatively, two commenters felt that enforcement and penalties would be important for regulations that require best fishing practices.
- Majority of commenters support the use of venting devices and descending devices. Six commenters specifically expressed a preference for descending device due to concerns that venting devices, especially when used incorrectly, cause more harm to the fish.

Council Conclusions:

- Research illustrates that the use of descending devices is an effective way to improve the survivorship of released fish and decreases release mortality.
- Venting devices, when used incorrectly, can further injure fish. However, the Preferred Alternative 2 does not prohibit the use of venting tools for those individuals that know how to use them properly (for example, trained crew on charter vessels or headboats).
- The definition of descending device provided in Action 1 allows fishermen to purchase or construct their own descending devices (examples available in Chapter 2) while ensuring such devices are effective at descending fish and reducing release mortality.

Committee Action:

- REVIEW ACTION AND ALTERNATIVES
- REVIEW DRAFT COUNCIL CONCLUSIONS
- MODIFY AS NECESSARY
- OTHERS?

Outreach Plan for Best Fishing Practices

Currently Available Outreach Material:

The South Atlantic Council's website provides information on best fishing practices and the MyFishCount voluntary recreational reporting pilot project: https://safmc.net/electronic-reporting-projects/myfishcount/ (see "Best Practices" tab).

The information for best practices was provided by FishSmart and includes information on avoiding fish that you cannot or do not want to keep, appropriate gear types (hook type and size), and proper techniques for landing, handling, and releasing fish. Additionally, the webpage provides details on assessing the condition of fish while reeling, identifying signs of barotrauma, and determining whether recompression is needed. Links are provided to videos that illustrate how to use various recompression tools including descending and venting devices. Finally, the website includes information on how hook type influences the survivorship of released fish and the current regulations for circle hook use in the South Atlantic federal waters.

Additionally, Council staff worked with the South Carolina Wildlife Federation (SCWF) to develop an online tutorial on best fishing practices when bottom fishing for snapper grouper species. The best practices are based on recommendations sourced from FishSmart. The first 500 individuals to complete the tutorial were given a free SeaQualizer descending device as part of the grant project. SCWF tutorial: https://safmc.net/bestpracticestutorial/story_html5.html

Information and Education Advisory Panel Recommendations:

- Any communication plan organized by the Council should take advantage of educational material already available to avoid muddying the waters. It is important to ensure that messaging is consistent across organizations.

- The I&E AP suggested the Council host a webpage that would house available best fishing practices information and/or create a one-page brochure containing the most important information for fishermen. The brochure could then be distributed by port samplers and tackle shops.

- Work with partners. Communication should come from key stakeholders and focus on success stories, such as those on the west coast, and the benefit to anglers as well as to fish populations. Descending device and venting device use should be framed as an important part of being a conservation-oriented angler.

Council Staff Recommendations:

The following recommendations are for discussion purposes only:

- *Best Fishing Practices Website* - expand the current best fishing practices information on the Council's website and house it in a location separate from MyFishCount.
    - Include additional information drawing from outreach documents/videos available through state and federal partners.

- *Best Fishing Practices Brochure/Rack Card* - distribute at Council events and provide to key industry stakeholders (tackle shops, marinas, fish houses, industry groups, community leaders etc.)

- *Best Fishing Practices Testimonials* - work with industry leaders to create descending device/best fishing practices video testimonials that could be added to currently available outreach materials. Utilize existing videos of descending devices effectively working with a focus on species managed by the Council. Reach out to agencies (state, NMFS, SEFSC, etc.), academia (SSC members and others), and key stakeholders (advisory panel members) to identify sources.

- *Outreach Events and Trade Show Promotions* - Council staff plans to continue featuring best fishing practices at upcoming state agency open houses (SCDNR and GADNR) and future trade shows, like ICAST.

- *Incentivizing Fishermen* - consider ways to incentivize anglers, for example, awarding swag to fishermen who use descending devices and/or venting tools. This is challenging topic and will need to be discussed further but has been successful in other programs and projects.

- *Social Media* - Work with partners to develop a hashtag campaign.

- Other Media – develop press releases in conjunction with fishery openings (shallow water grouper season, red snapper season, etc.) utilizing the testimonials and other outreach tools. Possibly partner with state and federal agencies to coordinate efforts. Work with outdoor writers for feature stories.

- Other?

Whenever possible, outreach materials and information should be consistent in messaging and relevant to the South Atlantic region. Additionally, target audience should be taken into account when determining which outreach methods will be most effective.

Note: As part of their upcoming release mortality workshop, the Gulf Council will be discussing an outreach plan for best fishing practices. Ideas and information gleaned during that conversation may be useful in future South Atlantic Council efforts. However, the Gulf Council has dedicated funds for best fishing practices outreach through the RESTORE Science Program.

Committee Action:

PROVIDE GUIDANCE TO STAFF ON OUTREACH RELEATED TO BEST FISHING PRACTICES, INCLUDING TOP PRIORITIES.

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). Non-stainless-steel circle hooks are required to be used when fishing for 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 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), except that other non-stainless-steel hook types may be used when fishing for yellowtail snapper with natural baits.

Alternative 3. Require *non-offset*, non-stainless-steel circle hooks be *on board* a vessel possessing species in the snapper grouper fishery management unit when fishing with hook-and-line gear and natural baits 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), except that other non-stainless-steel hook types may be used when fishing for yellowtail snapper with natural baits.

Preferred Alternative 4. Require the use of non-stainless-steel hooks when fishing for species in the snapper grouper fishery management unit with hook-and-line gear and natural baits in the exclusive economic zone.

Discussion:

Biological Effects

- **Alternative 1 (No Action)** would not provide additional benefits to South Atlantic snapper grouper stocks south of 28º north latitude.
- In general, studies on the effects of circle hooks on discard mortality rates of snapper grouper species remain sparse and is limited to a handful of snapper grouper species. However, several, studies show that use of circle hooks can reduce traumatic hooking rates of certain species of snapper grouper, when compared to J hooks.
    - 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. As a result, hooking mortality on these species could be reduced.

- Circle hook requirements could reduce the risk of interactions with protected species. Circle hooks are known to reduce the severity of impacts to sea turtles from incidental capture by reducing the likelihood of hook ingestion. Depending on the size of the animal, circle hooks may also reduce the frequency of incidental capture of sea turtles and smalltooth sawfish.

- **Preferred Alternative 2** could reduce discard mortality for snapper grouper species and result in benefits to the biological environment. Studies show that offset circle hooks are harder to remove and caused slightly more bleeding than non-offset circle hooks, but overall, little difference was found between the two types relative to injury that could lead to mortality.
    - **Preferred Alternative 2** is likely to reduce the severity of injuries associated with the incidental hooking of ESA-listed species. The use of large circle hooks has been shown to significantly reduce the rate of hook ingestion in loggerhead sea turtles, potentially reducing post-hooking mortality.
        - **Sub-Alternative 2b** could further reduce discard mortality for species in the snapper grouper complex. Exempting yellowtail snapper from this requirement would reduce potential negative effects to the yellowtail snapper stock.
        - **Sub-Alternative 2b** could further reduce discard mortality for protected species, particularly Nassau grouper found south of 28º north latitude.

- **Alternative 3** would change circle hooks from required usage to voluntary usage. If fishermen decide to utilize circle hooks, this alternative and its sub-alternatives could provide biological benefits to species in the snapper grouper complex. Conversely, it could have negative effects since non-offset circle hooks would only need to be on board and use could decrease.

- Hooks made of non-stainless steel (**Preferred Alternative 4**) should degrade faster in the marine environment than stainless-steel. Fish that are gut hooked could theoretically have a greater chance of survival if the hook is made of non-stainless steel.
    - **Preferred Alternative 4** could reduce hooking mortality, however, studies have shown hook type has a larger positive impact on survival of incidentally hooked ESA-listed species, particularly sea turtles.

Economic Effects

- Under **Alternative 1 (No Action)** there would be no direct costs incurred from purchasing different hook types to comply with new hook specifications. This alternative would lead to forgone indirect economic benefits that may be achieved through a reduction in release mortality.

- **Preferred Alternative 2** would result in direct costs for some commercial and recreational participants who would need to purchase non-offset, non-stainless-steel circle hooks of proper size for the species that they target if they do not already own such hooks.

- The cost of purchasing circle hooks is highly variable. In general, the cost per hook may vary from approximately $0.30 per hook to $1.00 per hook.
    - The described effects would likely be particularly pronounced under **Sub-alternative 2b**, as there currently is not a circle hook requirement in place when fishing for snapper grouper species south of 28° north latitude, and stakeholders have indicated that a circle hook requirement would negatively affect their ability to catch snapper grouper species when "drift fishing" with J hooks, which is a common practice in South Florida and the Florida Keys.

- **Preferred Alternative 2** may increase survivorship of fish that are discarded. This may lead to improvements in affected fish stocks, which in turn, could yield greater numbers of exploitable fish in the future, higher catch rates, and less stringent harvest limits. Such changes would improve anglers' experiences on recreational trips and reduce costs and/or increase revenue on commercial trips.
    - Given the larger affected area under **Preferred Sub-alternative 2b**, this sub-alternative would likely lead to greater in-direct economic benefits in comparison to **Sub-alternative 2a**.

- **Alternative 3** would result in direct costs for commercial and recreational participants that do not already own non-offset, non-stainless-steel circle hooks.
    - For participants involved in the snapper grouper fishery north of the 28° north latitude, **Alternative 3** may result in direct cost reductions, as circle hooks would only be needed to be on board the vessel and not put in use. Additionally, J hooks or treble hooks could be used to harvest snapper grouper species, which may increase the catchability of some species.

- **Alternative 3** may decrease survivorship of fish that are discarded. This may lead to some deterioration in affected fish stocks, which in turn, could yield smaller numbers of exploitable fish in the future, lower catch rates, and more stringent harvest limits. Such changes would worsen anglers' experiences on recreational trips and increase costs and/or decrease revenue on commercial trips.
    - These indirect economic effects would be the higher under **Sub-alternative 3a** than **3b**, as J hooks and treble hooks may currently be used within the South Atlantic Council's jurisdiction south of 28° north latitude.

- **Preferred Alternative 4** would result in direct costs for commercial and recreational participants that fish south of the 28° north latitude and do not already own non-stainless-steel hooks
    - **Preferred Alternative 4** may increase survivorship of fish that are discarded and would be expected to have similar indirect economic benefits as those described for **Preferred Alternative 2**.

Social Effects

- **Alternative 1 (No Action)** is not anticipated to result in positive or negative social effects to communities engaged in the snapper grouper fishery.

- Under **Preferred Alternative 2**, some fishermen may 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 would experience a reduction in catch rates.
    - However, if the required use of non-offset circle hooks improves the survivorship of discarded species, as envisioned, it is expected to contribute to the sustainability of harvest and the health of snapper grouper stocks and provide for increased long-term social benefits in the form of increased access.

- **Alternative 3**, would allow fishermen the ability to choose the hook-type appropriate for the snapper grouper species they are targeting and 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.
    - Alternatively, requiring possession of non-offset circle hooks on board without requiring usage may be perceived by fishermen as ineffective or as unnecessary government regulation.

- Under **Preferred Sub-alternative 2a** and **Sub-Alternative 3a**, the potential harvest problems and associated loss of social benefits associated with yellowtail snapper could be substantially reduced if not eliminated, while some problems with gray triggerfish and other species that might experience reductions in catch rates, would continue. However, increased social benefits associated with reduced hook-related mortality of fish not retained would be expected.

- **Sub-alternative 2b** and **Sub-alternative 3b** would avoid the problems and associated loss of social benefits associated with yellowtail snapper by exempting the species from the circle hook requirement while maintaining the increased social benefits associated with reduce hook-related mortality of other snapper grouper species not retained throughout the South Atlantic exclusive economic zone (EEZ).

- **Preferred Alternative 4** may result in minor negative social effects if fishermen south of 28º north latitude are not already using non-stainless-steel hooks and must replace their gear. However, requiring non-stainless-steel hooks may reduce hooking mortality due to hooks being able to corrode at a faster rate.

Law Enforcement Advisory Panel Comments and Recommendations:

- Regarding the circle hook requirement, LE AP members generally agreed that specifying a spatial boundary for the regulation is problematic for enforcement.

Snapper Grouper Advisory Panel Comments and Recommendations:

October 2018:

- The AP reiterated that yellowtail snapper should continue to be excluded from the requirement for circle hooks.
- It is particularly difficult to dehook a gray triggerfish that was caught on a circle hook. Hence, circle hooks do not necessarily translate into less discard mortality for all species. In the case of gray triggerfish, circle hooks may contribute to higher discard mortality.

- Consider adding information in the amendment on how the use of circle hooks is likely to benefit a stock over the long-term, particularly how the information is used in a stock assessment.
- Alternative 4 under Action 2 is not useful. Consider removing.
- If Alternative 2 will continue to be included in the amendment, consider making an exception on the use of circle hooks for yellowtail snapper.
- Might want to consider circle hook regulations based on species and/or the size of hook.

MOTION #1: AP RECOMMENDS ALTERNATIVE 1 (NO ACTION) UNDER ACTION 2
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.

APPROVED BY AP

Public Comments:

Public Hearings – April 2019:

- One commenter supported the requirement for non-stainless-steel hooks throughout the South Atlantic. Commenter was unsure how non-offset circle hooks will help release mortality but supports the requirement.
- One commenter requested that the Council continue to allow offset circle hooks because they catch more fish and both hooks (offset and non-offset) usually end up catching in the corner of the fish's mouth.
- The Council for Sustainable Fishing supports Alternative 1 (No Action).
- The American Sportfishing Association supports the current preferred alternatives (Alternative 2a and Alternative 4).

Scoping Comments – August 2018:

- Two commenters expressed support for requiring circle hooks. Two other commenters did not support the use of circle hooks because they do not work for all species.
- One commenter discussed the need to focus on management measures that would decrease the likelihood of regulatory discards in addition to best fishing practices.

Council Conclusions:

- Research indicates that non-offset circle hooks reduce the occurrence of hooking related mortality (when compared to offset circle hooks) and can improve survivorship of released fish.
- Requiring their use (Preferred Alternative 2) as opposed to requiring them on board (Alternative 3) ensures that full potential benefits are realized.
- Requiring non-offset circle hooks south of 28º north latitude would result in substantial negative economic and social effects, specifically to the for-hire industry.
- Non-stainless-steel hooks (Preferred Alternative 4) degrade faster, thus fish that are gut hooked theoretically have a greater chance of survival.

Committee Action:

- REVIEW ACTION AND ALTERNATIVES
- REVIEW DRAFT COUNCIL CONCLUSIONS
- MODIFY AS NECESSARY
- OTHERS?

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 1 (No Action)** would continue the powerhead prohibition off South Carolina and would reduce the potential for localized depletion of snapper grouper species susceptible to powerhead harvest (e.g., amberjack, groupers).
- **Preferred Alternative 2** would increase the potential for localized depletion of snapper grouper on reefs off South Carolina.
    - Localized depletion can delay repopulation of reefs, as long as a year or more, particularly for species that are long-lived and can result in negative biological effects from disruption of social structure and sex ratios in protogynous species, such as hogfish and gag grouper
    - **Preferred Alternative 2** could reduce bycatch and discards of snapper grouper species off South Carolina during trips utilizing dive and spear gear. However, the commercial and recreational dive components of the snapper grouper fishery only make up approximately 5% and 2% of landings and targeted trips, respectively, so overall impacts on bycatch would be low.

- **Alternative 3** would remove a highly effective gear type and a source of fishing mortality.
    - 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 1 (No Action)** would result in forgone direct economic benefits to some participants and would forgo potential gains in compliance and enforcement efficiency. This alternative may provide some indirect economic benefits as well by helping to prevent localized depletion of snapper grouper stocks. Such depletion could negatively affect catches on commercial and recreational fishing trips.

- **Preferred Alternative 2** may result in indirect economic benefits by enhancing compliance with and enforcement of regulations. **Preferred Alternative 2** may also provide additional opportunities to harvest snapper grouper species in the EEZ off of South Carolina.
    - **Preferred Alternative 2** may lead to increased harvest of snapper grouper species in general, or additional harvest of larger specimens of exceptional biological benefit to a fish stock. Such harvest changes would be a direct benefit to users of powerhead gear but could also diminish the size or reproductive capacity of some stocks. In turn, this could lead to fewer exploitable fish in the future, lower catch rates, and more stringent harvest limits. In addition, if larger specimens are removed by powerhead gear, they would no longer be available for harvest by other individuals using non-powerhead gear.

- **Alternative 3** would remove some opportunities to harvest snapper grouper species in the EEZ of the South Atlantic, which may lead to direct negative economic effects.
    - Based on landings reported through the Southeast Coastal Fisheries Trip Report Form, from 2013 through 2017 an annual average of 82,583 pounds gutted weight of snapper grouper species were commercially landed in the South Atlantic with the use of powerheads[14]. These annual landings accounted for $255,313[3] in trip gross revenue, $107,232 in trip net cash flow, and $61,020 in trip net revenue[4] (2017 dollars).

- **Alternative 3** may result in indirect economic benefits by enhancing compliance with and enforcement of regulations.
    - **Alternative 3** may also lead to decreased harvest of snapper grouper species in general, or reduced harvest of larger specimens of exceptional biological benefit to a fish stock. Such harvest changes would be a direct cost to current users of powerhead gear, as described in the previous paragraph, but could also increase the size or reproductive capacity of some stocks.

[3] SEFSC Socioeconomic Panel (Version 7) accessed by the SEFSC Economic Query System (May 2019).

[4] According to Overstreet, Perruso, and Liese (2018), from 2014 through 2016, "trip net cash flow" from snapper grouper trips was 42% of the gross trip revenue, while "trip net revenue" was 23.9% of the gross trip revenue. "Trip net cash flow" represents the additional flow of money to the business from taking a trip, while "trip net revenue" represents economic profit at the trip level and thus is the best measure of net economic benefits. "Trip net cash flow" is gross revenue minus the costs for fuel, bait, ice, groceries, miscellaneous, and hired crew. "Trip net revenue" is gross revenue minus the costs for fuel, bait, ice, groceries, miscellaneous, hired crew, as well as the opportunity cost of the owner's time as captain.

Social Effects

- **Alternative 1 (No Action)** is not anticipated to result in positive or negative social effects to communities engaged in the snapper grouper fishery.

- **Preferred Alternative 2** would be expected to reduce confusion among commercial and recreational dive fishermen and aid in compliance and enforcement efforts resulting in indirect positive social effects.
    - Allowing powerhead use off South Carolina may result in localized depletion of heavily fished reef areas. Should this localized depletion result in deterioration of snapper grouper fish stocks, fishing communities may experience negative social effects associated with decreased access in the form of more stringent regulations.

- **Alternative 3** would be expected to reduce confusion among commercial and recreational dive fishermen and aid in compliance and enforcement efforts resulting in indirect positive social effects.
    - Prohibiting the use of powerheads 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. However, prohibiting powerheads may prevent localized depletion, improving sustainability and resulting in direct long-term social benefits to fishing communities.

- Creating inconsistent regulations for the commercial and recreational sectors may increase confusion among snapper grouper dive fishermen causing direct negative effects to compliance and enforcement efforts. Additionally, user group conflict may increase if one sector feels the dive component of the other sector is responsible for negative effects.

Snapper Grouper Advisory Panel Comments Recommendations:

October 2018:

- Regarding the use of powerheads, the AP expressed concern over the potential for localized depletion of some species (i.e., black grouper, greater amberjack).
- Powerheads are used for protection from sharks by divers, so any restriction should address the use of the gear specifically for harvest of snapper grouper species.
- Fish that have been harvested with a powerhead are much harder to market.
- The AP would like for any regulation that is considered to be the same for the commercial and recreational sectors.

MOTION #2: AP RECOMMENDS ALTERNATIVE 3, SUB-ALTERNATIVES 3A AND 3B UNDER ACTION 3

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

Alternative 3. Prohibit the use of a powerhead for recreational and commercial harvest of species in the South Atlantic snapper grouper complex species 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.

APPROVED BY AP (1 OPPOSED, 4 ABSTENTIONS)

Public Comments:

Public Hearings – April 2019:

- Five commenters felt that powerheads were important for the safety of divers. Regular spearfishing gear can become entangled, which is dangerous for divers and shark populations have increased. Additionally, powerheads are an efficient method of harvest with zero bycatch.
- One commenter expressed concerns about the impact commercial diving was having on grouper and hogfish population. Undersized fish that are taken using a powerhead cannot be released.
- One commenter felt that powerheads could be carried for self-defense but should not be used to harvest fish because it detracts from the skill needed for the sport.
- The Council for Sustainable Fishing supports Alternative 2.

Scoping Comments – August 2018:

- Ten commenters supported allowing the use of powerheads in federal waters off South Carolina citing the gear's high level of selectivity and low discard rate. One commenter did discuss stricter trip limits for divers, another discussed concerns about user conflict.

Council Conclusions:

- Allowing the use of powerheads to harvest snapper grouper species in federal waters off South Carolina (**Preferred Alternative 2**) creates consistent regulations for powerheads throughout the South Atlantic. This makes regulations clear for law enforcement and for angler compliance and creates an equal opportunity to harvest snapper grouper with powerheads throughout the South Atlantic.

Committee Action:

- REVIEW ACTION AND ALTERNATIVES
- REVIEW DRAFT COUNCIL CONCLUSIONS
- MODIFY AS NECESSARY
- APPROVE AMENDMENT FOR FORMAL REVIEW
- OTHERS?

DRAFT MOTION: APPROVE SNAPPER GROUPER REGULATORY AMENDMENT 29 FOR FORMAL SECRETARIAL REVIEW AND DEEM THE CODIFIED TEXT AS NECESSARY AND APPROPRIATE. GIVE STAFF EDITORIAL LICENSE TO MAKE ANY NECESSARY EDITORIAL CHANGES TO THE DOCUMENT/CODIFIED TEXT AND GIVE THE COUNCIL CHAIR AUTHORITY TO APPROVE THE REVISIONS AND RE-DEEM THE CODIFIED TEXT.