

Gear Requirements to Improve Survival of Released Reef Fish



Proposed Rule
September 29, 2022



Florida Fish and Wildlife Conservation Commission

This presentation summarizes a proposed rule to modify reef fish gear requirements in state waters to require possession and use of barotrauma mitigation tools when a fish is exhibiting signs of barotrauma to improve survival of released reef fish. This presentation will also highlight FWC's outreach and education efforts aimed at generating fisher buy-in, proper use of barotrauma mitigation tools, and increased regulatory compliance.

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Unless otherwise noted, images throughout the presentation are by FWC.

Outline

- Background
- Barotrauma and improving survival of released fish
- Current gear requirements
- FWC outreach efforts and partnerships
- Proposed rule and considerations

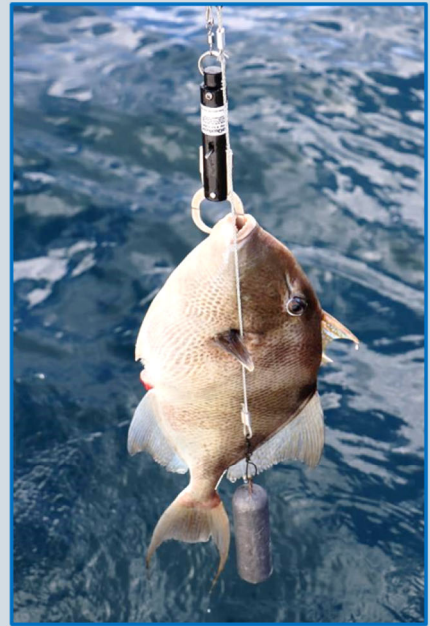


Photo courtesy of Return 'Em Right



Staff will provide an overview of the release mortality issue facing reef fish throughout the southeastern U.S. and the signs and symptoms of the pressure related injury known as barotrauma. Staff will review various tools that can be used by fishers to help increase the survival of released fish and outline current gear requirements for those fishing for reef fish in Florida's state and federal waters. Next, the presentation will highlight FWC's outreach and education efforts as well as partnerships to promote best fishing practices across the southeastern U.S. Lastly, staff will present a proposed rule to require the possession and use of barotrauma mitigation tools when a fish is exhibiting signs of barotrauma, like descending devices and venting tools, in state waters to help increase the survival of released reef fish.

Background

- Release mortality is a top management challenge for reef fish
 - SAFMC considering closures for entire snapper grouper fishery
- FWC promotes tools to increase released fish survival
 - Includes descending devices and venting tools
- Barotrauma mitigation tools required in federal waters
 - Voluntary use encouraged in state waters



Today: Proposed rule for reef fish release gear requirements

High release mortality is a top management challenge for reef fish stocks throughout the southeastern U.S. Inevitably, fishers have to release a fish because it does not meet size, season, or bag limits, or because they are voluntarily practicing catch-and-release. Unfortunately, not all fish will survive release, and their survival may be diminished by several factors including foul-hooking, damage from poor handling, stress, or injuries caused by barotrauma.

The status of the red snapper fishery in the South Atlantic is just one illustration of the magnitude of the release mortality issue. Results of the most recent Atlantic red snapper stock assessment indicate that dead discards far exceed the current quota of red snapper. This has led the South Atlantic Council to begin considering controversial management options, such as large area and/or time closures, for the entire snapper grouper fishery to reduce red snapper release mortality.

For years FWC has actively promoted the use of various tools to increase released fish survival through both gear requirements and extensive outreach and education initiatives, including voluntary use of descending devices and venting tools when necessary.

In recent years, barotrauma mitigation tools have become required for those fishing for reef fish from a vessel in Gulf and South Atlantic federal waters. However, many fishers remain unaware of federal gear requirements and lack confidence in properly using descending devices and venting tools. To help improve the survival of released reef fish, promote best fishing practices, and increase compliance in federal waters, staff will present a proposed rule to require possession and appropriate use of descending devices or venting tools in state waters.

Barotrauma and Improving Survival after Release

- Barotrauma is an injury that can occur when fish are reeled up from depth
 - Generally, occurs in depths of 50 feet or greater
 - Severity can vary by species, water temperature, and fishing technique
- Proper use of descending devices or venting tools can improve survival



Photos courtesy of Florida Sea Grant

Barotrauma is a pressure-related injury and is one of the top factors that can contribute to the release mortality of reef fish. This injury can occur when fish are rapidly pulled up from depth (typically greater than 50 ft). The quick change in pressure can cause gas in the swim bladder to expand and cause internal organ damage. Symptoms of barotrauma include protruding stomach, bloated belly, distended intestines, bubbling scales, and bulging eyes, as shown in the images on the slide. The frequency and severity of barotrauma can vary by species, fishing technique, and water temperature.

Quick and proper use of barotrauma mitigation tools like descending devices and venting tools can help reef fish recover from the effects of barotrauma and return to depth. It is important to note that these tools should only be used if a fish that's being released is obviously exhibiting the signs of barotrauma, as described above.

Barotrauma Mitigation Tools

- **Descending devices:** weighted devices designed to return a fish to depth
- **Venting tools:** sharpened, hollow instruments designed to release expanded gases in swim bladder



Left and right photos courtesy of Return 'Em Right

There are two standard types of barotrauma mitigation tools: descending devices and venting tools.

Descending devices are weighted devices capable of releasing fish at a depth sufficient for the fish to be able to recover from the effects of barotrauma. Types of devices include mouth clamps (far left photo), weighted containers known otherwise known as fish elevators (second photo from left), and inverted hooks (second photo from right).

Venting tools (far right photo) are sharpened, hollow instruments designed to penetrate the swim bladder of a fish to release the expanded gas that has accumulated in the body cavity when a fish is retrieved from depth. A knife or an ice pick is not a venting tool and may not be used as one, because it causes damage to vital organs and increases the likelihood of release mortality.

Regulatory Measures Improve Reef Fish Survival

- Specific gear requirements in state and federal waters include circle hooks and dehooking tools
- Barotrauma mitigation tools required in federal waters
 - Requirements differ between Gulf and Atlantic
 - Voluntary use encouraged in state waters

Federal Waters	When fishing for reef fish on board a vessel:
Gulf	Descending device or venting tool <i>“rigged and ready”</i>
Atlantic	Descending device <i>“readily available for use”</i>



*Requiring gear in state waters
can increase compliance and reduce release mortality in federal waters*

Specific gear requirements exist in Florida's state and federal waters to help improve reef fish survival. Those fishing for reef fish aboard a vessel are required to possess and use dehooking tools as well as use non-stainless steel hooks when fishing with natural bait. In most areas, the use of circle hooks are also required when fishing for reef fish from a vessel.

In recent years, barotrauma mitigation tools have become required for reef fish in federal waters to help address high levels of dead discards. However, these requirements, shown in the table on the slide, differ between the Gulf and South Atlantic. In the Gulf, fishers have the choice of possessing either a descending device or venting tool that is rigged and ready for use. Whereas in the Atlantic, fishers are required to have a descending device that is readily available for use. As previously mentioned, these tools are not currently required in state waters, though FWC encourages their use if a reef fish exhibits signs of barotrauma.

While descending devices or venting tools may not always be necessary when fishing in state waters, requiring these tools statewide can set fishers up for success in federal waters both through increased regulatory compliance and increasing reef fish survival where waters are deeper and barotrauma is likely to be more frequent.

Beyond Regulatory Measures

- Many fishers unaware of federal gear requirements
- Even with awareness, many lack confidence using tools and proper techniques
- Outreach and education is critical for generating fisher buy-in, proper use, and increased regulatory compliance
- Widespread, proper use of release gear can increase survival and overall stock health



Despite requirements to possess these devices in federal waters, many fishers remain unaware of federal gear regulations. For example, a survey conducted by the Gulf States Marine Fisheries Commission in 2021 indicated that in Florida, 60% of Gulf private recreational anglers were aware of venting tools, while only 35% were aware of descending devices.

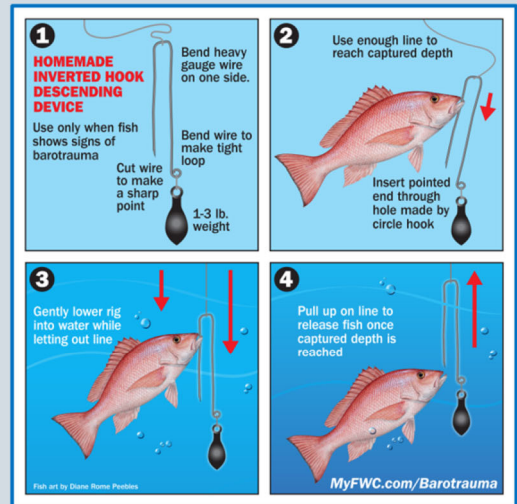
Even with awareness of barotrauma mitigation tools, many lack confidence in recognizing one or more signs of barotrauma, using these tools, and applying proper techniques. Studies suggest that user awareness and comfort level with using descending devices and venting tools, while improving, still requires continued outreach and education.

Widespread, proper use of these barotrauma mitigation tools can increase a fish's survival after release and will help fish populations remain sustainable for future generations. Therefore, outreach and education is **critical** for generating fisher buy-in, proper use of these tools, and increased regulatory compliance.

FWC's Best Fishing Practices Messaging

Goal: Support conservation of fish populations by encouraging best fishing practices

- Proper fish handling techniques
- Minimizing handling time
- Using tools that increase survival rates



FWC is recognized as a leader in the development of outreach and educational programming on best fishing practices. The core messaging focuses on improving the survival of released fish by promoting the use of correct gear and proper handling techniques in order to release fish as quickly as possible, with minimal harm. The ultimate goal is to empower stakeholders with the knowledge and resources to act as stewards of Florida's marine resources and ensure fishing opportunities for the future.

Staff work to achieve this goal through various outreach and education strategies on proper handling techniques, minimizing handling time, and appropriate use of tools to increase fish release survival rates. Specifically, these core messages are applicable to barotrauma mitigation tools, as improper use of these tools by fishers may increase handling time, causing additional stress or damage to the fish, and reduce overall success of post-release survival.

FWC Outreach Efforts

Research

- Citizen science study, angler surveys, and focus groups

Public outreach events

- In-person demonstrations and presentations

Digital and print resources

- Video library, webpages, publications, and interactive educational modules

Marketing initiatives

- Social media, influencers, and applications



Staff continually develop and evaluate innovative outreach strategies

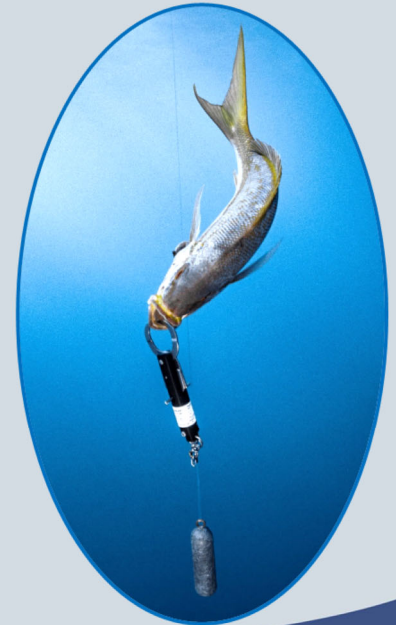
The outreach strategies FWC uses to implement its core messaging are guided by research and stakeholder feedback. Our agency has conducted several studies in recent years to identify fishers' preferences and potential barriers to descending device and venting tool use. In FWC's 2017 Descending Device Citizen Science Study, results indicated that anglers may find descending devices complicated and time-consuming to use. However, it was shown that education can build user confidence in proper tool use and that descending devices are a viable tool to improve released fish survival. In 2020, FWC coordinated a series of saltwater angler surveys and focus groups which revealed that FWC's direct contact with the public during in-person outreach events is vital, and that there is continued need for education of new anglers and non-resident anglers.

To gain additional insight, FWC frequently engages with the public through a variety of interactive strategies. This includes in-person demonstrations at community events and formal presentations, which allow staff to provide a hands-on opportunity for anglers to learn about proper tools and techniques to use while fishing.

Interactions with anglers inspire development of electronic and print resources as well. FWC's Saltwater Fishing YouTube Channel provides fishing "how-to" and other informational videos such as identifying when a fish has barotrauma, proper use of barotrauma mitigation tools, and even how to make your own descending device using materials from home. Anglers can also access FWC's webpages and numerous publications that include messaging on best fishing practices including the highly-informative *Fishing Lines* field guide. FWC has also partnered with Florida Sea Grant to create the free, online Florida Friendly Angler course that covers best fishing practices, fishery conservation, and barotrauma mitigation. Lastly, staff continues work to be diverse and adaptive in use of outreach strategies and are focusing on enhancing social media presence, working with influencers, and utilizing smartphone apps.

Descending Device and Venting Tool Outreach

- Understand and address barriers to use
- Fine-tune existing outreach and education efforts
 - Focus on awareness and user confidence
 - Create instructional videos, publications, and social media content



Right photo courtesy of Return 'Em Right

FWC staff are continuously working to better understand and address various barriers to using barotrauma mitigation tools, while remaining focused on outreach efforts to promote proper use of descending devices and venting tools.

Staff are fine-tuning current outreach and education efforts to focus on awareness and user confidence of barotrauma mitigation tools.

Currently, staff are in the process of updating instructional videos for descending devices, developing publications for proper rigging and use of barotrauma mitigation tools, creating additional resources that can be shared through social media, and fostering collaboration with partners across the region.

Fostering Collaboration Across the Southeast U.S.

- FWC facilitates newly-created Descending Device Outreach Coordination Team
 - Coordinates messaging and streamlines efforts across Southeast
 - Donuts & Descending Devices event at ICAST



As highlighted, increased release mortality in reef fish is not just a Florida issue, but a broader issue for reef fish populations throughout the southeastern U.S. FWC fosters collaboration across this region to help maximize efforts for improving survival of released reef fish throughout the Gulf and South Atlantic.

FWC facilitates the Descending Device Outreach Coordination Team, created in spring 2022, that is comprised of partners across the southeastern U.S., including staff from the Gulf and South Atlantic councils, Return 'Em Right, The Nature Conservancy, Gulf States Marine Fisheries Commission, South Carolina Department of Natural Resources, and Louisiana Department of Wildlife and Fisheries.

The purpose of the team is to share outreach strategies, coordinate messaging, and streamline efforts across the region to promote best fishing practices to help increase survival of released reef fish through use of barotrauma mitigation tools. This newly-created team recently hosted a "Donuts & Descending Devices" event at ICAST, the world's largest sportfishing trade show, in Orlando. This event was well attended and provided a high-visibility platform to discuss the importance of increasing survival of released reef fish through use of barotrauma mitigation tools.

Proposed Rule

When fishing for reef fish on board a vessel in state waters, require possession and use of:

- A venting tool or descending device that is rigged and ready to use to quickly return a fish that is exhibiting signs of barotrauma to depth

Staff also recommends continuing to encourage use of barotrauma mitigation tools through innovative outreach



In addition to FWC's current outreach and education programs that encourage fishers to use best fishing practices, implementing requirements to possess and use descending devices or venting tools when a fish is exhibiting signs of barotrauma can further improve conservation of important reef fish stocks.

The proposed rule would require anyone fishing for reef fish from a vessel in all state waters to have a venting tool or descending device that is rigged and ready to use to quickly return a fish that is exhibiting signs of barotrauma back to depth.

Staff also recommends continuing to encourage use of barotrauma mitigation tools, like descending devices or venting tools, through innovative outreach.

Considerations

- Release mortality is a top management issue in Gulf and South Atlantic
- Proposed gear requirements would improve survival of released reef fish and overall stock health
- Requiring in state waters can help increase compliance and reduce release mortality in federal waters
- Allows fishers flexibility to choose release tools appropriate for their situation
- Outreach and education is critical for generating buy-in and proper use



There are several points to consider when deciding whether to require the possession and use of barotrauma mitigation tools in Florida state waters.

As highlighted in this and many Council presentations, release mortality is a top management challenge for reef fish stocks throughout the southeastern U.S. Requiring the possession and appropriate use of descending devices or venting tools in state waters can help increase the survival of released reef fish and contribute to improved health and fishing opportunities for reef fish stocks. Widespread, proper use of descending devices and venting tools will help fish populations remain sustainable for future generations.

Many fishers remain unaware of federal gear requirements and lack confidence in how to properly use these devices. Requiring these tools statewide can set fishers up for success in federal waters both through increased regulatory compliance and increasing reef fish survival where waters are deeper and barotrauma is likely to be more frequent.

Allowing fishers the option to choose their barotrauma mitigation tool will provide them with continued flexibility to treat fish suffering from barotrauma with the mitigation tool/techniques that best fit their comfort level and circumstances when fishing in state waters.

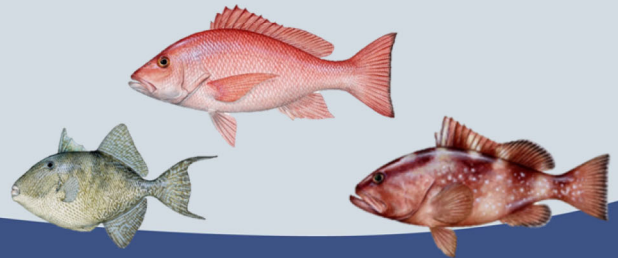
Moving forward, outreach and education will continue to be vital for generating buy-in and proper use of these devices. Staff will continue to fine-tune existing outreach and education efforts to focus on awareness and user confidence of barotrauma mitigation tools.

Staff Recommendation

Adopt regulations to require anyone fishing for reef fish on board a vessel in state waters to possess and use as specified:

- A venting tool or descending device that is rigged and ready to use to quickly return a fish that is exhibiting signs of barotrauma back to depth

If approved, staff will gather feedback and return for a final hearing at the next Commission meeting



Staff recommends the Commission approve the proposed rule to adopt requirements for barotrauma mitigation tools for state waters. The proposed rule would require anyone fishing for reef fish on board a vessel in state waters to possess and use as specified: a venting tool or descending device that is rigged and ready to use to quickly return a fish that is exhibiting signs of barotrauma back to depth.

If approved, staff will gather feedback and return for a final hearing at the next Commission meeting.