FishSmart South Atlantic Reef Fish and Red Drum Conservation Project 2018 – 2020

Prepared for the
South Atlantic Fishery Management Council
Information & Education Advisory Panel
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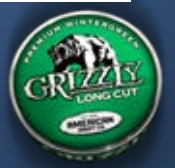
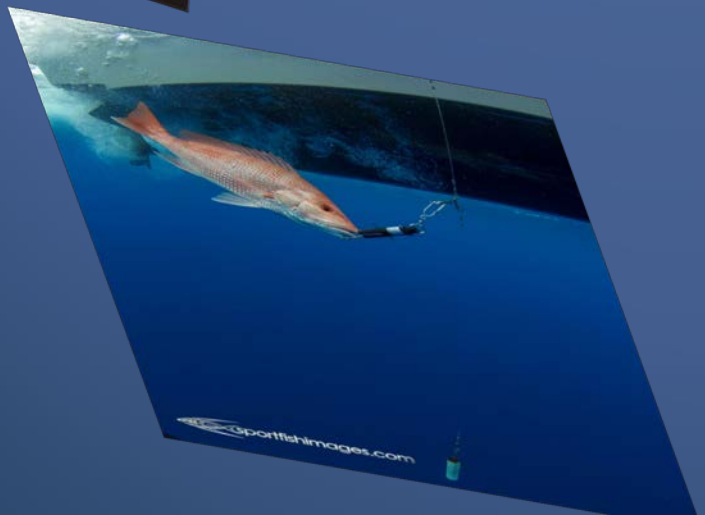
South Atlantic Reef Fish and Red Drum Conservation Project Partners



What is FishSmart.....



Is a science-based program *driven by the sport fishing community* to increase the survival of angler caught and released fish

Not a program to promote catch & release

Basic Tenets

- Science-based guidance to drive actions to reduce release mortality.
- Release mortality in recreational fisheries is the culmination of millions of ***individual*** **encounters**.
- The solution therefore is empowering ***individuals*** with information and tools to improve the survival of *each* fish released.

*Setting the Foundation FishSmart 2010-2014**

www.FishSmart.org

- One national and three regional workshops
  - anglers, scientists, managers, and businesses addressed core issues on released fish survival.
- Identified regional research and management priorities.
- Developed scientifically-based consensus on ***Best Practices for Improving Survival of Released Fish.***
- General Guidelines; For all fisheries.
  - Specific guidelines for deepwater fisheries impacted by barotrauma.
- Basic outreach materials and video.

*** Core funding 2010-2014 from NOAA Fisheries**

Best Practices for Releasing Fish

FishSmart

Best Practices for the Safe Release of your Fish

It's ok to keep fish that you are allowed under fishing regulations. However, at some point all anglers will be faced with returning fish to the water that they are not allowed to keep – due to size, season, or creel limits – or if they are voluntarily practicing catch-and-release.

Nearly ½ billion saltwater fish are caught each year with 59% being returned to the water. Improving survival of these fish by even 1% will save 3 million fish annually! In freshwater 84% of anglers *voluntarily* release fish that they could have kept.

Implementing "Best Practices" for releasing fish in *is the right thing to do* and will help ensure sound fisheries in the future. Live release in many fisheries (bass and trout for example) has contributed to healthy and sustainable fishery resources.

Best Practices for Releasing Fish

Plan Ahead - Expect to release fish on any given trip and prepare the equipment necessary to do so.

Avoidance - Develop skills to target the size and species you desire.

Appropriate Gear - Use gear suited to the size of fish that you are trying to catch. Use circle hooks where recommended and be aware that fishing techniques are different from "J" style hooks.

Landing Fish -Don't play fish to exhaustion.

Handling Fish-Use knotless rubberized landing nets and rubberized gloves, to avoid removing the slime layer from their body.

- Keep the fish horizontal; support the body when lifting large fish.
- DON'T DROP THE FISH onto hard surfaces or long distances!

Releasing Fish- If needed, use a release tool (dehookers, recompression tools) to minimize handling.

Time is of the essence!

Release fish as soon as practical and do not keep them out of the water longer than necessary.

Deep Water Release

Saltwater fish caught in deep water may be suffering from "barotrauma," a buildup of swim bladder gases that makes it difficult for them to go back down. Generally, fish caught deeper than 30 feet will suffer some effects. Follow these basic tips:

Assess condition while reeling in fish -Signs of barotrauma include:

- Sluggish swimming.
- Eyes bulging ("pop eye").
- Stomach protruding from mouth.
- Bloated mid section.

If the fish appears normal release it without removing it from the water.

Recompression - Rapidly returning fish to depth is the method of choice for returning barotrauma affected fish. A variety of tools are on the market, including descender devices, release weights & baskets, etc.

Return to Depth -Return fish to the depth of capture. If catching fish at very deep depths, returning them as deep as possible will dramatically improve survival.

Venting- If rapid descent is not possible, venting is another option. Use established guidelines for venting such as found at http://catchandrelease.org.

Note that the fish's stomach may protrude from its mouth. Do NOT puncture the stomach.

A Brief Pause: Descending Devices

Descending devices

- Many devices ranging from home-made to higher end manufactured devices will work if used properly.
- SeaQualizer has been the predominant device used in FishSmart although Shelton's and Capt'n Roy's Fish Descenders have been included.
- SeaQualizer was chosen initially for its effectiveness while being a "premium" product to offer volunteers.
- Crouch et al. (2017) found that "the highest level of satisfaction was with the "SeaQualizer" among seven devices used by Florida anglers.

A Brief Pause : Venting

Venting

- Venting is included in *Best Practices* as a "last resort" option for treating fish exhibiting barotrauma.
- Currently, there is no effective option for descending large numbers of fish in a short period of time, such as may be encountered on head boats, *that is legally accepted*.
- If venting is used, *Best Practices* encourages anglers to learn how to do it correctly such as tutorials from Florida Sea Grant (catchandrelease.org).

Scyphers, S.B., F.J. Fodrie, F.J. Hernandez Jr, S.P. Powers and R.L. Shipp. 2013. Venting and Reef Fish Survival: Perceptions and Participation Rates among Recreational Anglers in the Northern Gulf of Mexico. North American Journal of Fisheries Management 33:1071–1078.

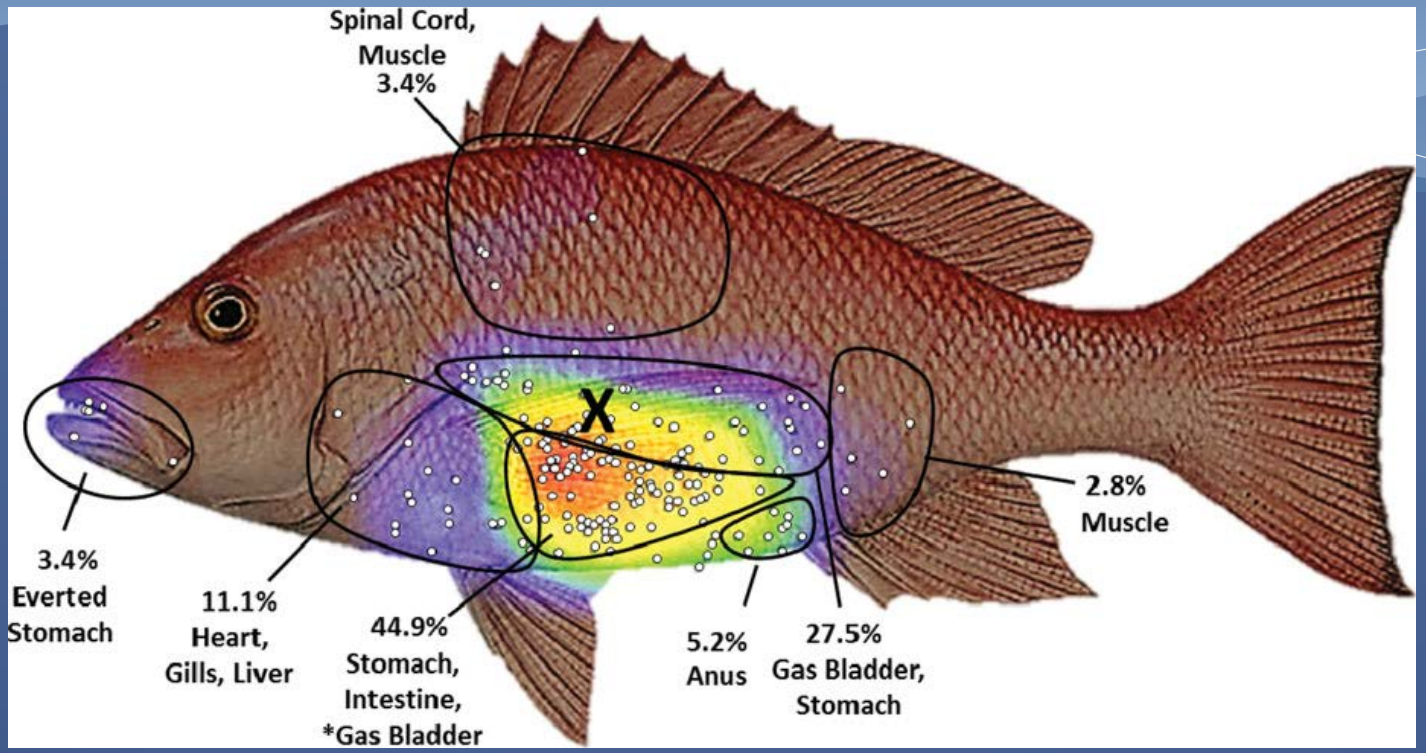


FIGURE 5. Ideal needle insertion locations selected by recreational survey participants during the online survey (n = 191). Extrapolated colors were generated by the Heat Map function of Quatrics, and outlines with percentages manually overlaid. *The anatomical extent of the gas bladder is dependent upon the extent of barotrauma. The bold “X” indicates the ideal insertion location used for analysis.

Venting

Scyphers et al. concluded:

- Fishing experience was unrelated to knowledge of proper venting technique.

- Misinformation on how to properly vent was common among anglers of all experience levels.

Initiating Barotrauma and Mortality Reduction Strategies with Gulf of Mexico and South Atlantic Recreational Anglers 2015-2017

Broad Goals

- Gauge the effectiveness of descending devices in the conservation of saltwater fisheries.

- Increase the awareness of *Best Practices* and descending devices.

Brief Methods

- ~1,100 for-hire operators and avid reef anglers in the South Atlantic (222) and Gulf of Mexico (884) recruited to participate.
- Participants provided with material on *Best Practices* (video and/or brochures) and "how to" videos on descending devices.
- Supplied with a descender device (SeaQualizer).
- Asked to participate in a survey.

GOM/SA 2015-2017

Results

n=541 responses (49%)

- ***Increased Awareness:*** 72% had little or no knowledge of descender devices prior to participating in this project.
- **Effective Education:** 67% found *Best Practices* materials helpful to improving the way that they release fish or recognize the signs of barotrauma;
- **Changed Behavior:** 76% are now likely to use a descender device to release most or all fish *when needed.*

GOM/SA 2015-2017

Results (continued)

- ***Improved Perceptions;*** 78% believe descender devices would be helpful or very helpful to reducing discard mortality in the Red Snapper fishery.

- ***Extended Communication:*** 95% talked with, or involved other anglers in, the use of descending devices.

Results Extrapolated to Participant Base

- ***3,100-6,000*** *additional individuals exposed to the materials used in the program (the extension effect).*
- **16,000 – 28,000 Red Snapper** released by project participants.
- **13,000 - 22,000 other fish** reported as released.

GOM/SA 2015-2017

Conservation Effect: Results

- 3,000 - 9,000 red snapper "saved" directly during project period alone.
- unknown number of the 13,000 - 22,000 other fish released benefitted from improved handling and use of descending devices.
- Unknown benefit of *Best Practices* alone.
- Conservation benefits will continue to accrue in the future.

South Atlantic Reef Fish Conservation Project 2018 – 2020

Goals

- Educate anglers on *Best Practices* for releasing fish.
- Expand awareness and use of descending devices **when appropriate/needed.**
- Evaluate the adoption of *Best Practices* and use of descending devices

Distribution Strategy

- Direct through state fisheries agencies (FL, GA, SC, NC).
- Web based education, registration and distribution (www.takemefishing.org/fishsmart).
- The Nature Conservancy Gray's Reef National Marine Sanctuary recreational angler workshops.

South Atlantic Reef Fish Conservation Project: Status

Through November 30, 2019

	State Distribution: SeaQualizer	State Distribution: Sheltons	# State-Registered Participants	# Web-Registered Participants (SeaQualizers)	Total (participants)
NC	39	23	51	11	62
SC*	100	18	103	10	113
GA	156	243	156	53	209
FL	33	32	65	41	106
TNC/Grays Reef	16	N/A	16	N/A	16
Total	344	316	391	115	**506**

*** In addition to numbers reported in this table, South Carolina has an 49 participants signed up during the 2015-17 Gulf/South Atlantic project.**

Results Round I Survey (June 2019): Communication

	Gulf of Mexico 2015-2017	South Atlantic 2018-2019
Exposure:	Used devices on average 8 months, on 15 fishing trips, with nearly ¾ indicating that they released more than 75 fish.	Used devices on average 11 months, on 18 fishing trips.
Increased Awareness	72% had little or no knowledge of descender devices prior to participating in this project.	44% had little or no knowledge of descender devices prior to participating in this project.

Results Round I Survey (June 2019): Behavior Change

	Gulf of Mexico 2015-2017	South Atlantic 2018-2019
Effective Education	67% found Best Practices materials helpful to improving the way that they release fish/ recognize signs of barotrauma	69% found Best Practices materials helpful to improving the way that they release fish/ recognize signs of barotrauma
Changed Behavior	76% are now likely to use a descender device to release most or all fish when needed.	• 73% are likely to use a descender device to release most/ all fish when needed. • 63% changed the way that I handled fish when releasing them into the water. • 56% used a descending for the first time. • 16% changed the gear used to catch fish. • 25% I changed how I brought fish to the boat or landed fish.

Results Round I Survey (June 2019): Perceptions and Communication

	Gulf of Mexico 2015-2017	South Atlantic 2018-2019
Improved Perceptions	78% believe descender devices would be helpful or very to reduce discard mortality of Red Snapper.	73% believe descender devices would be helpful/ very helpful to reduce discard mortality of Red Snapper
Extended Communication	95% talked with, or involved other anglers in, the use of descending devices.	95% talked with, or involved other anglers in, the use of descending devices.

Results Round I Survey (June 2019): Conservation

	Gulf of Mexico 2015-2017	South Atlantic 2018-2019
Red Snapper Conservation	3,000 - 9,000 red snapper "saved" directly during this project period only.	TBD
Additional Conservation	Unknown number of the 13,000 - 22,000 other fish released benefitted from improved handling techniques and use of descending devices.	

Bringing Anglers, Industry, and Agencies Together for the Future of Our Fisheries

www.fishsmart.org