

# Perceptions of the Recreational Fishing Community: *Integrating Descending Devices into the Red Snapper Fishery*

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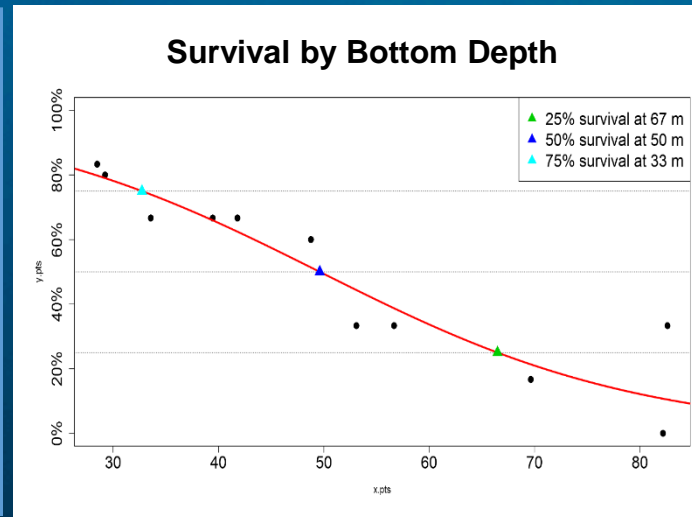
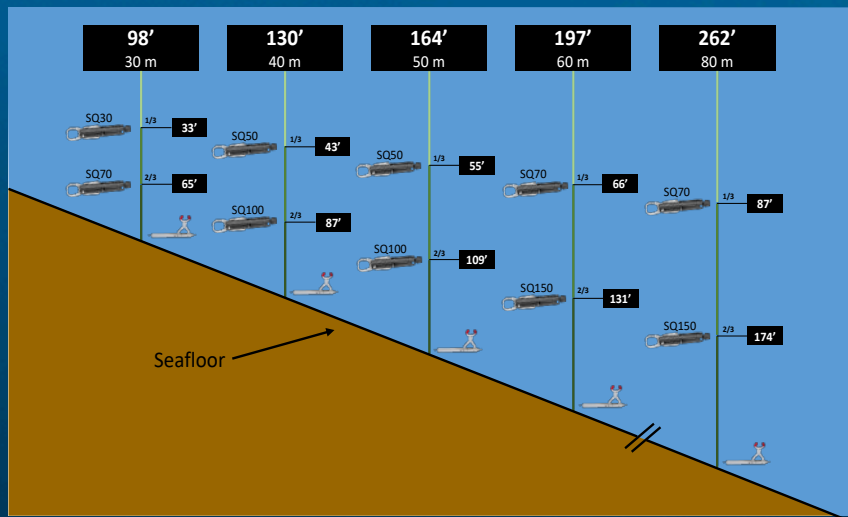
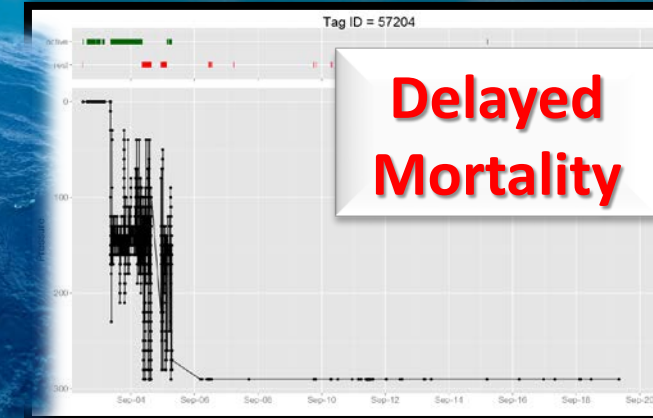
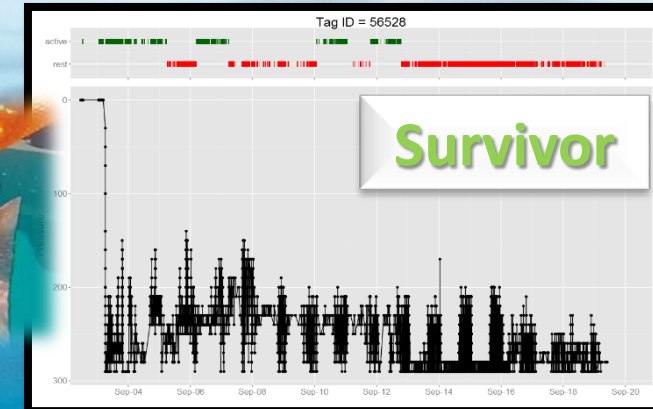
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# Scientific Tagging Recap

- Acoustic tagging useful tool for determining delayed mortality in discarded fish
- Rapid recompression strategies using descender devices increase survival compared to venting/non
- Submergence to seafloor not necessary for recompression effects to be beneficial





# Research Objective

*Partner with the recreational fishing community to gather survey data on the perception and feasibility of using fish descender devices in promoting survival of discards.*





# Recruiting Participants

- Collaboration between:
  - FishSmart, Harte Research Institute, Texas Parks and Wildlife, and others
- Device distribution
  - Website: [www.takemefishing.org/fishsmart](http://www.takemefishing.org/fishsmart)
  - Fishing tournaments, club gatherings, dockside creel stations
- Distributed 1,074 SeaQualizer descender devices
  - Instructions on device use
  - Pamphlet on best practices for fish release
  - Link to survey

### DESCEND IT!

Some questions to keep in mind while testing your SeaQualizer™:

- How feasible is it to use this device to release every fish suffering from barotrauma?
- Does the use of this device distract you from other important activities such as fishing or tending to clients?
- Does the device take too long to use? Could it be improved?
- At what depth do you believe descender devices are no longer beneficial to the fish's survival?

For more information on best release practices, visit [www.fishsmart.org](http://www.fishsmart.org)

For more information on discard mortality, visit [www.sportfishresearch.org](http://www.sportfishresearch.org)

### RECREATIONAL FISHERMEN: WE NEED YOUR HELP!



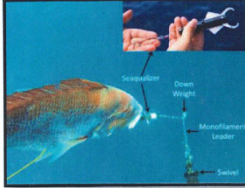
The Center for Sportfish Science & Conservation is partnering with FishSmart to reduce discard mortality in federally managed reef fish through the use of descender devices.

FishSmart is providing willing recreational fishermen with a **FREE** SeaQualizer™ to test on their vessel! All we ask is that you provide your honest feedback on your opinions of the device.

**FishSmart**  
Center for Sportfish Science & Conservation

TEXAS A&M UNIVERSITY CORPUS CHRISTI HARTER RESEARCH INSTITUTE FOR GULF OF MEXICO STUDIES

### YOUR FEEDBACK MATTERS!



### REDUCE DISCARD MORTALITY and DESCEND IT!





Studies have shown descender devices vastly improve the survival of fish suffering from barotrauma!

If you haven't already received a free SeaQualizer™, visit [takemefishing.org/seaqualizer-promo/](http://takemefishing.org/seaqualizer-promo/)

New release tools, such as descending devices, are available to release fish suffering from pressure related injuries (i.e., barotrauma). Descending a fish back to depth rapidly recompresses the expanded gas in the swim bladder, allowing the fish to remain at depth and escape predation. This method also prevents injuries sustained from the venting process.

We want **YOU** to test these devices right here in the Gulf of Mexico. Your constructive feedback in the form of a survey will be *extremely* vital for managers to better understand the utility of descender devices in the Gulf of Mexico reef fish fishery.

Reducing discard mortality will translate into **larger quotas, more fishing days, and a healthier reef fish fishery!**

## CHARTER BOAT CAPTAINS and AVID REEF ANGLERS: WE NEED YOUR FEEDBACK!

**Who:** Charter boat Captains fishing for snapper and grouper and Avid Snapper and Grouper Anglers in the Gulf of Mexico.

**What:** Evaluation of FishSmart "Best Practices" for releasing fish and the use of descending devices.

**Why?** Every year, nearly ½ billion saltwater fish are caught by recreational anglers throughout the U.S. with 60% being returned to the water. Improving survival of these fish by even 1% could save 3 million fish annually! Although all fish are important, improving the survival of large spawners in particular can make a big difference to fishing over time.

FishSmart – a program of the sportfishing industry, anglers, and fisheries managers – would like you to evaluate the application of "Best Practices" for releasing fish and the use of descending devices for releasing deep caught fish such as snapper and grouper. Information will be used to refine FishSmart Best Practices based on your actual on-the-water experiences and learn more about the actual use of descending devices.

**Participants will receive a FREE Descending Device (SeaQualizer)**








We would like you to use this device and provide information about your experience with the device. As an added benefit, when registering charter captains will have the option of *receiving free advertising for your charter business* through [www.takemefishing.org](http://www.takemefishing.org), which is visited by nearly 9 million people each year.

We hope that you will participate in this project. It's through anglers such as you, companies such as SeaQualizer and the FishSmart program that we can improve the future of sport fishing.

**How?** To see if you qualify and register for your free device, visit <http://takemefishing.org/seaqualizer-promo/>.

**Questions?** Email [info@fishsmart.org](mailto:info@fishsmart.org)

*Funding or project support is provided by the following organizations. Use of any logo on this page does not constitute endorsement of any product.*



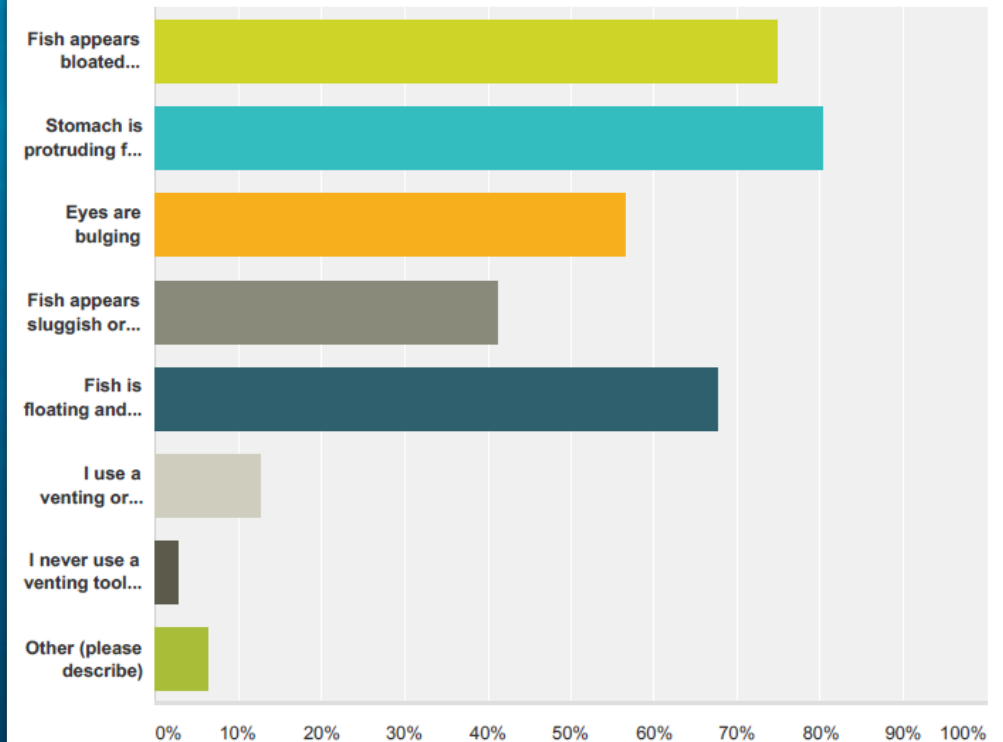


# Survey Design

- 30-question survey 8-10 months after registration and receipt of device:
  - Experience using release devices
  - Perceived effectiveness
  - Observations and Opinions
- Participants Classified:
  - Private recreational angler
  - Charterboat captain/owner/operator
  - Headboat captain/owner/operator

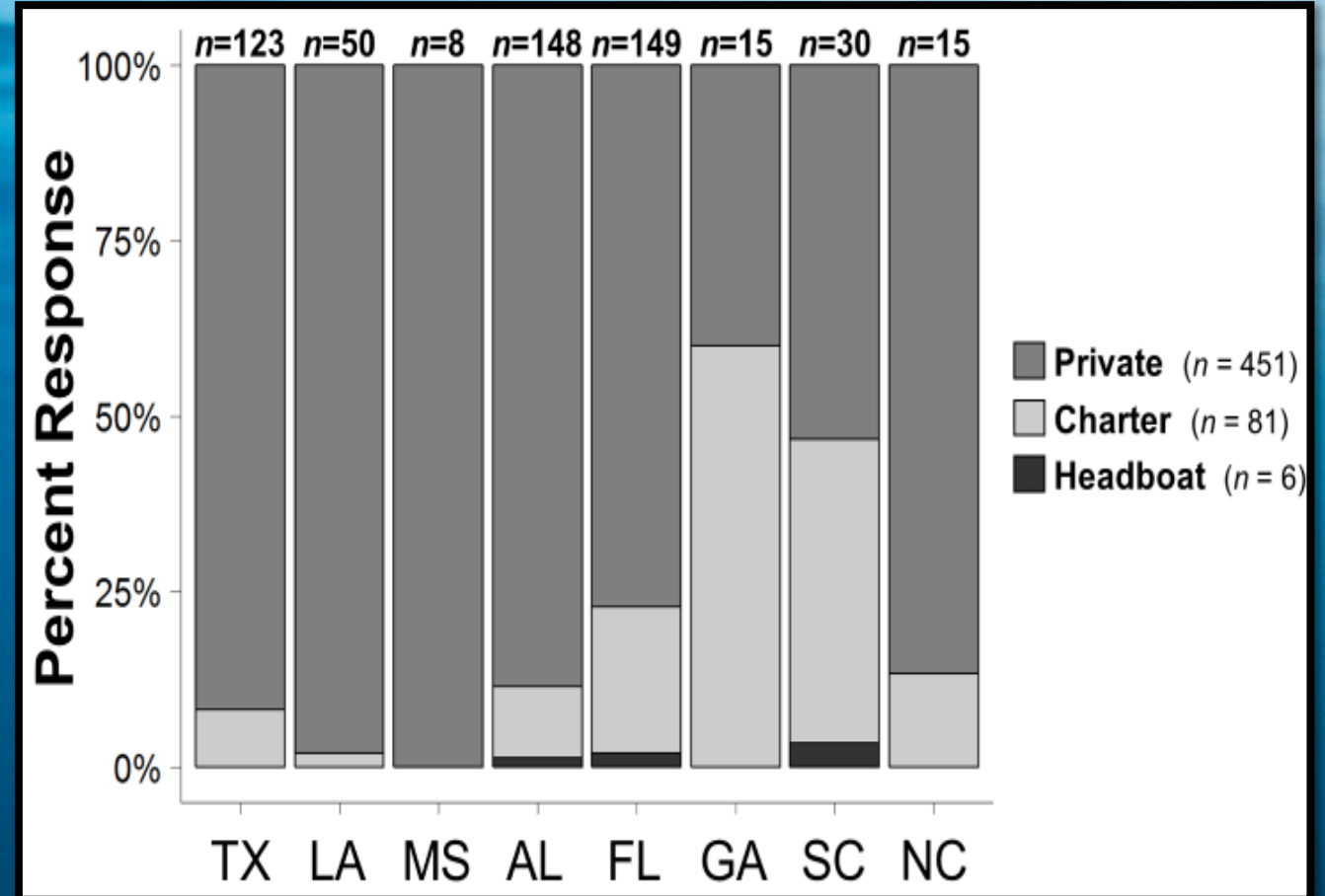
**Q6 Which of the following cues do you use on the water to decide when to use a descending tool or venting tool to release a fish (check all that apply):**

Answered: 514 Skipped: 23



# Survey Results

- 538 surveys completed
  - Out of 1,074 SeaQualizers distributed (50.0% response rate)
- Three states had majority of responses:
  - Texas (23%)
  - Alabama (27%)
  - Florida (28%)





# Fishing Depth

- Fishing Depth

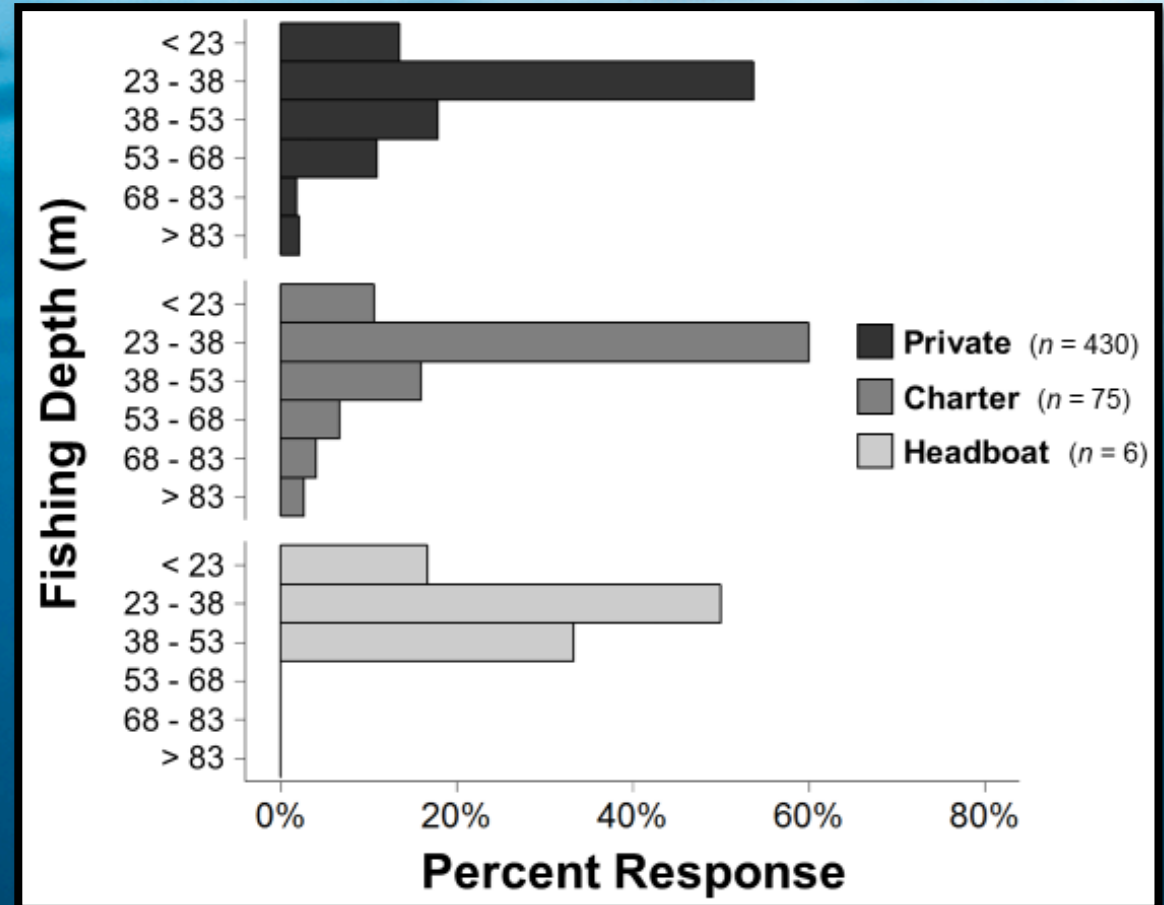
- < 38 m / 125 ft (68%)

- 38-53 m / 125-175 ft (18%)

- > 53 m / 175 ft (14%)

- Distance from shore

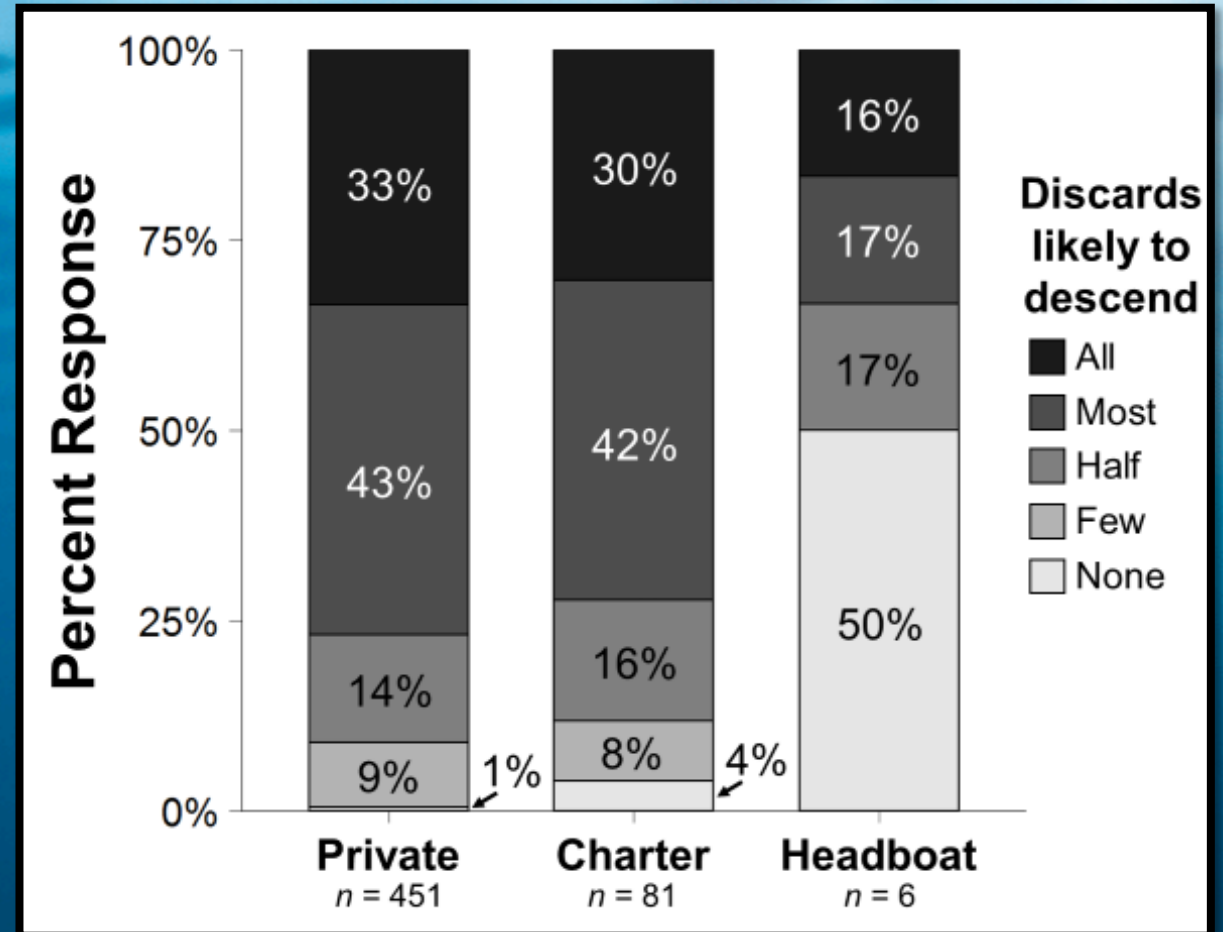
- 67% fishing within 30 miles of shore





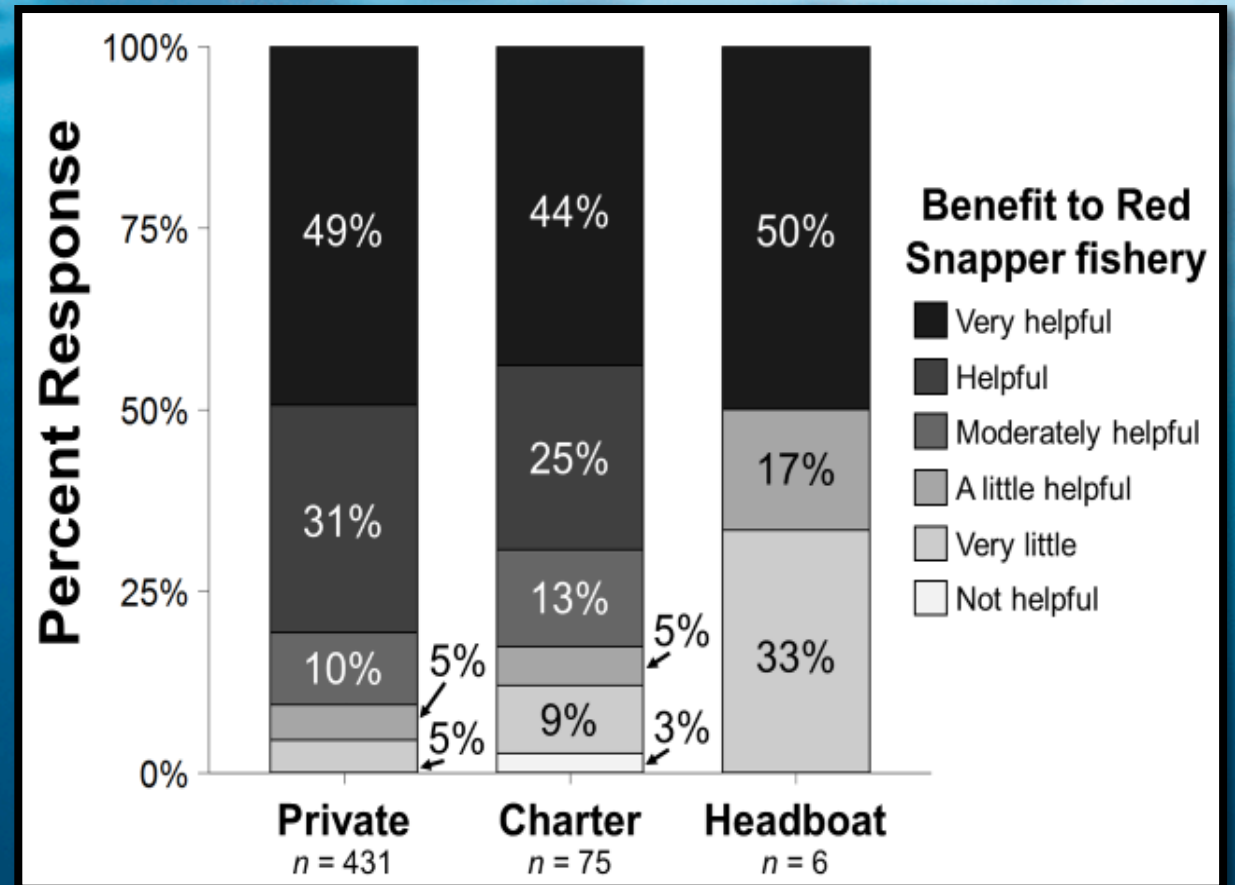
# Likelihood of Descending Fish

- How likely are you to use a descender device to release fish exhibiting barotrauma?
- Venting experience:
  - 89% anglers had used venting tool in past
  - 78% vented all or most fish before release
- Descender experience:
  - Only 9% of participants had high amount of knowledge of descender devices



# Benefit of Descending Fish

- How helpful do you believe descender devices would be in reducing discard mortality in the Red Snapper fishery?

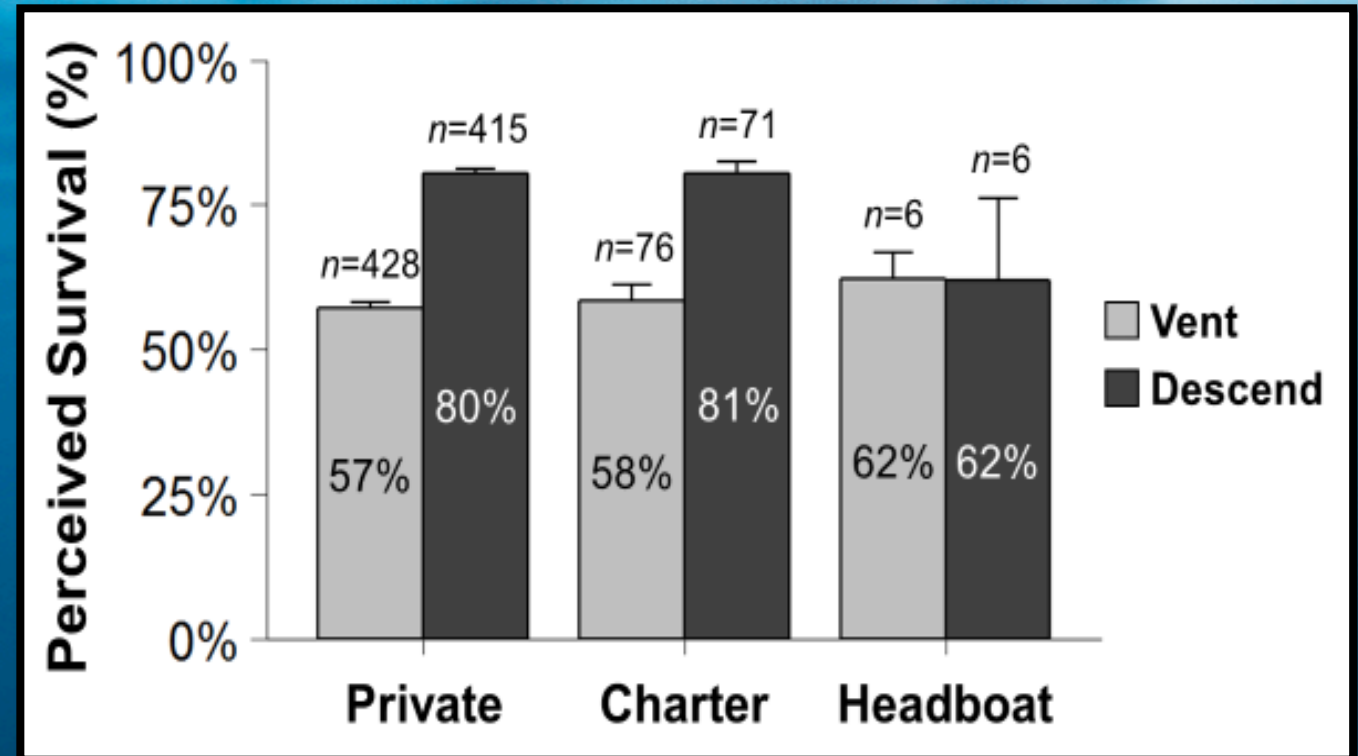




# Survival of Discarded Fish

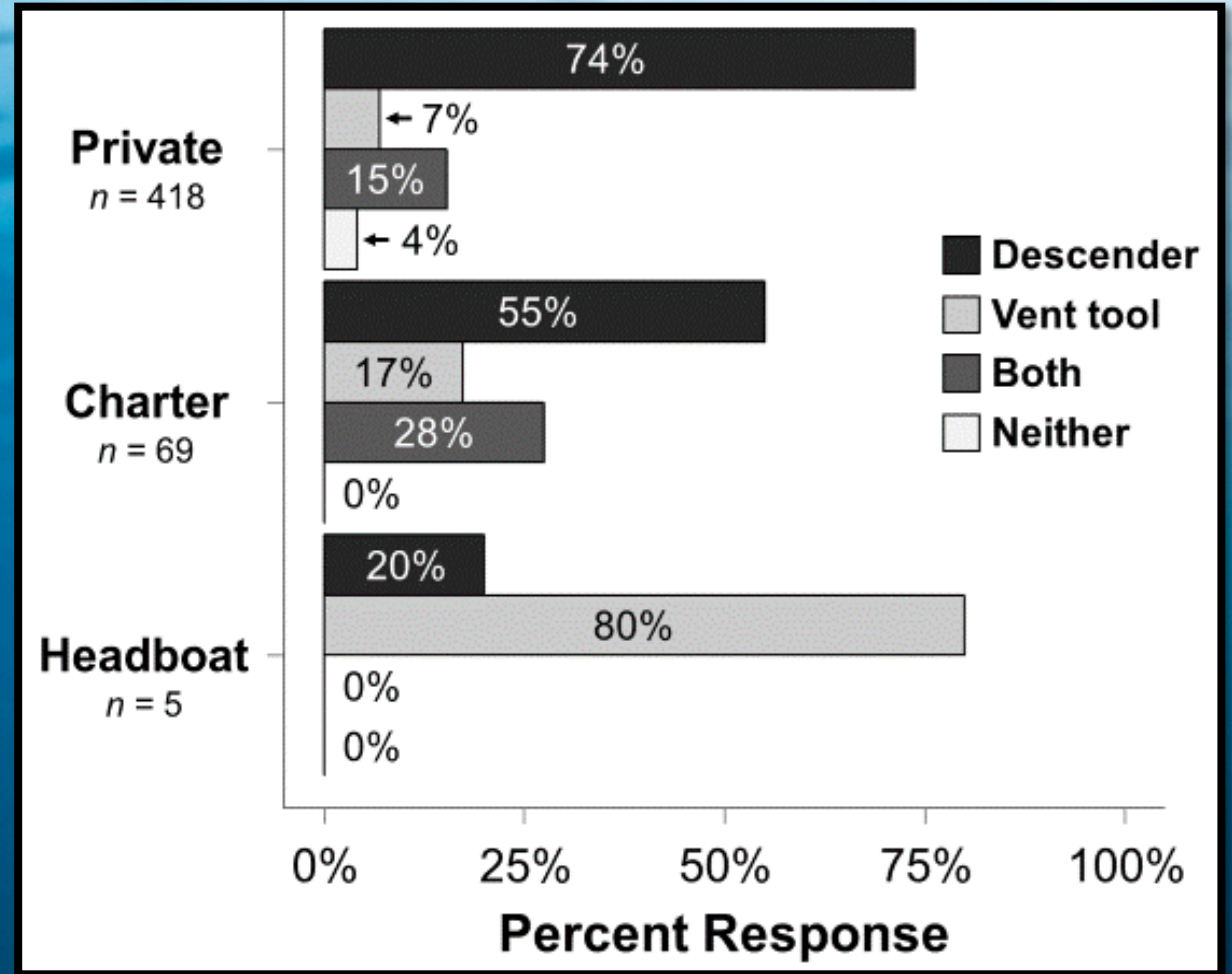
## Mean perceived survival:

- **Private and Charter:**
  - Descend > Vent  
(ANOVA,  $p < 0.001$ )
- **Headboat:**
  - No perceived difference
- **Acoustic Tagging Survival**  
Descend > Vent  
Descend = ~80% at 30m



# Barotrauma Mitigation

- What barotrauma mitigation method do you prefer after using the SeaQualizer?
- Total Released Fish
  - Red Snapper:  
> 7,000
  - Other Reef Fish:  
> 4,000





# Ride-Along Trips

## GOAL

- Observe differences in descender device use among recreational sectors in practice
  - Private Angler (3 trips)
  - Charter operator (1 trip)
  - Headboat (1 trip)

## DURING TRIP

- Data recorded:
  - Bottom depth
  - No. of anglers
  - Env. Conditions
  - Fight times
  - Deck times
  - Barotrauma symptoms
  - Fish lengths
  - Release depths
  - Willingness to use devices
  - General observations

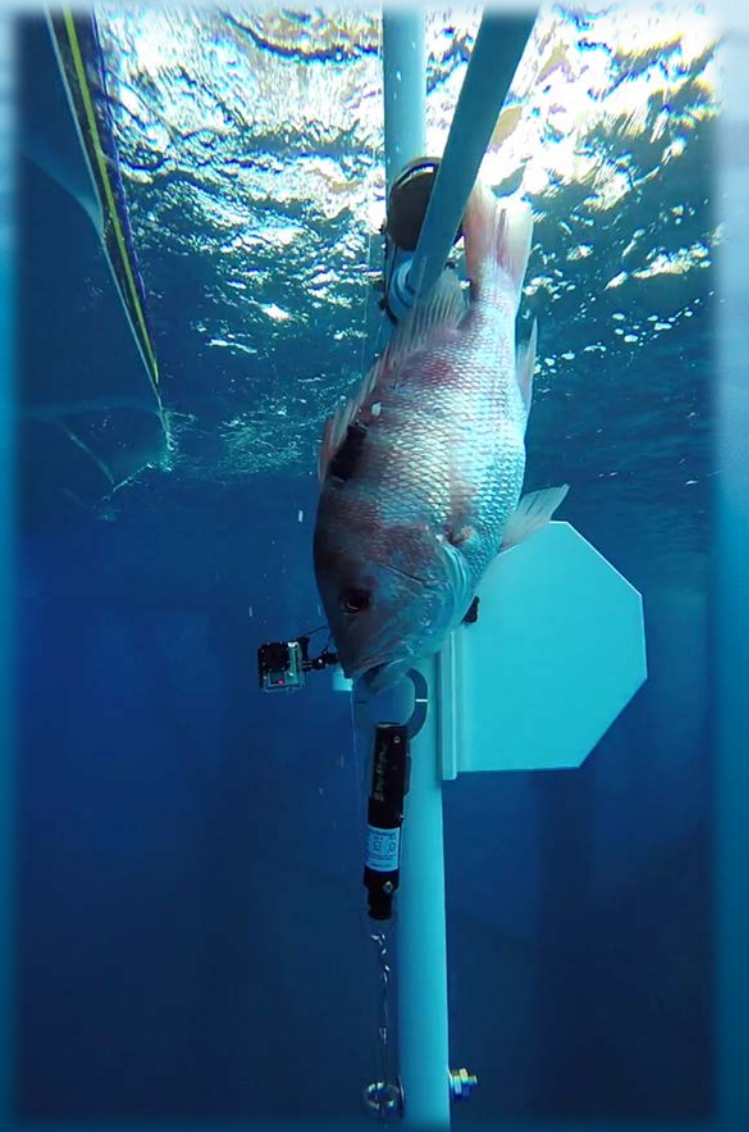
## AFTER TRIP

- Obtain live feedback from captains, deckhands, and anglers on use and opinions of descender devices
- Direct trip participants to survey to provide feedback



# Conclusions

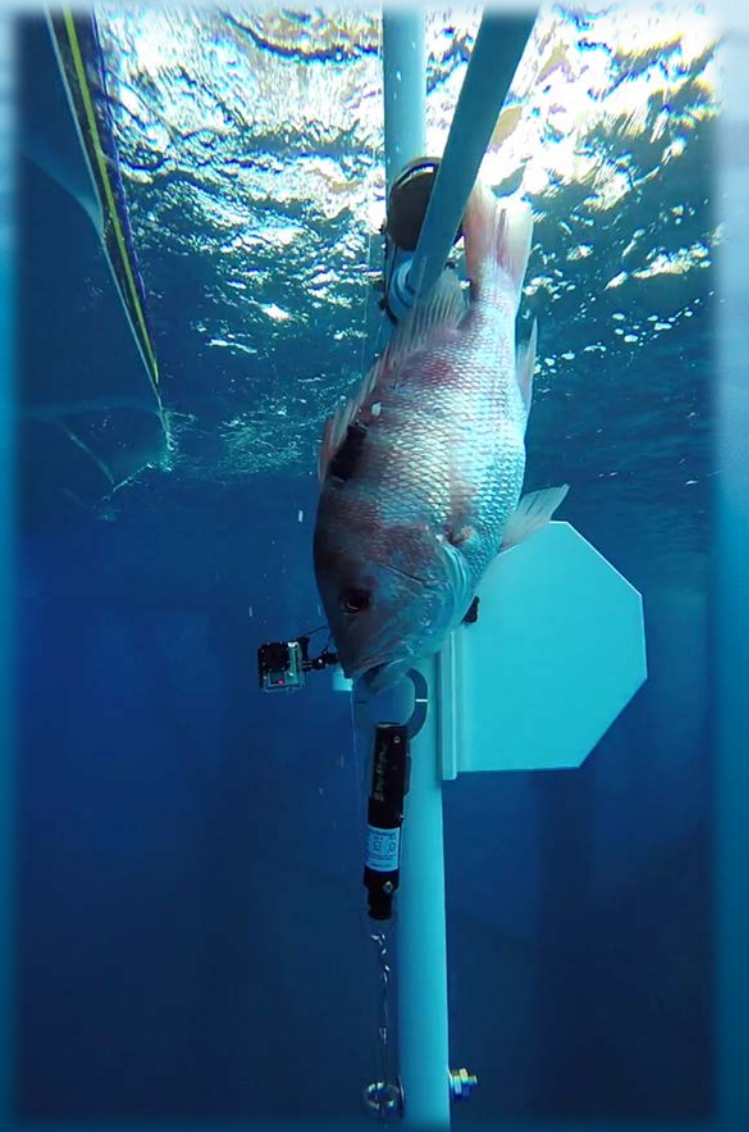
- While 72% of respondents had little to no knowledge of descender devices prior to the study, 70% indicated that they preferred this release method over venting after the study.
- 89% of respondents believed descending Red Snapper would significantly reduce discard mortality in the recreational fishery.
- Differing opinions in utility of descender devices across recreational sectors exist due to variations in fishing practices, but perceived benefit exists across all sectors.





# Next Steps...

- **Additional data needed:**
  - Sectors: Charter-for-hire and Head-boat
  - More comprehensive regional coverage
  - Ride-along trips/Observers
- **Investigate barriers to use**
  - Time
  - Money
  - Preference
- **Education and Outreach Programs**
  - Training proper use
  - Obtaining buy-in





# Acknowledgements

- NFWF - Fisheries Innovation Fund
- NOAA - Bycatch Reduction Engineering Program
- FishSmart and American Sportfishing Association
- Acoustic telemetry vendors: Vemco, Lotek Wireless
- Fisheries & Ocean Health Lab
- Harte Research Institute for Gulf of Mexico Studies
- Center for Sportfish Science and Conservation
- Texas A&M University-Corpus Christi
- Texas Parks & Wildlife Department Marine Development Center

<http://www.harteresearchinstitute.org>

<http://www.sportfishresearch.org>



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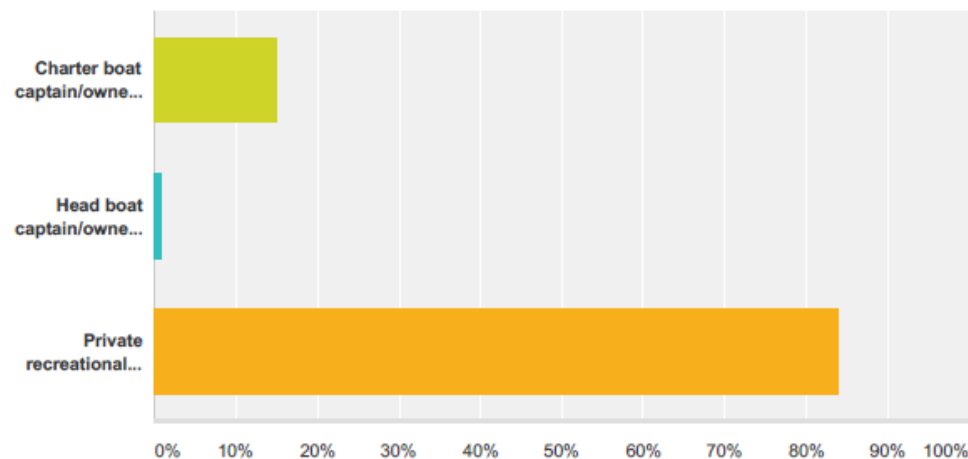


Questions?

- Q1 Are you (check only one):
- Q2 Did you receive your SeaQualizer:
- Q3 From which state do you most often fish saltwater (choose only one):
- Q4 What material do you remember receiving or viewing when you registered for or received your device? (select all that apply)
- Q5 Did these materials help you to improve the way that you release fish or recognize the signs of barotrauma?
- Q6 Which of the following cues do you use on the water to decide when to use a descending tool or venting tool to release a fish (check all that apply):
- Q7 Have you ever used a venting tool in the past?
- Q8 How often did you vent fish that exhibited barotrauma
- Q9 Do you still use a venting tool, even occasionally?
- Q10 Why don't you use a venting tool (check all that apply)?
- Q11 What percentage of fish do you believe survive the venting process? (Use slider bar to adjust percentage)
- Q12 How much knowledge did you have about descender devices in general before acquiring your SeaQualizer?
- Q13 Considering your normal fishing activity, how likely are you to use a descender device to release fish when needed?
- Q14 How helpful do you believe descender devices would be in reducing discard mortality in the Red Snapper fishery?
- Q15 What percent of fish do you estimate survive long-term after being released with a descender device (use slider bar to adjust percentages)?
- Q16 When fishing for reef fish, what is your most common targeted fishing depth?
- Q17 How many months have you had the SeaQualizer supplied as part of this program? (Use slider bar to indicate months)
- Q18 On approximately how many trips did you use your SeaQualizer?
- Q19 Approximately how many fish have you released using the SeaQualizer?
- Q20 After trying out the device, which release tool do you prefer to use for fish exhibiting barotrauma?
- Q21 How many other people have you talked with about descender devices or have you involved in the use of your SeaQualizer?
- Q22 Part 1 is complete and you can choose to enter a drawing to win a Shimano Talica 16II two-speed lever drag reel, or a Shimano Terez extra heavy fast action 6'6" rod. Would you be willing to answer a few more questions for a chance to win a Shimano Talica 25II two-speed lever drag reel, or a Shimano Tallus roller stripper tip medium heavy fast action 5'9" rod?
- Q23 How many years have you been fishing for reef fish?
- Q24 How many days did you fish for reef fish in the last year?
- Q25 What distance from shore do you most often fish when fishing for reef fish?
- Q26 What is your 5-digit zip code?
- Q27 What is your gender?
- Q28 What is your highest level of education?
- Q29 What is your age?
- Q30 What is your current household income (include total income from all working members in the household)?
- Q31 Do you have any comments or thoughts regarding your participation in this program or use of descending devices?

## Q1 Are you (check only one):

Answered: 537 Skipped: 0



## Q2 Did you receive your SeaQualizer:

Answered: 537 Skipped: 0

