

Review of: "Estimates of Western Atlantic Goliath Grouper (*Epinephelus Itajara*) Bycatch Mortality in Commercial Fisheries of the Southeastern United States From 2002 to 2022"

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Potential competing interests: No potential competing interests to declare.

Reviewer comments

Title of the article: " Estimates of Atlantic Goliath Grouper (*Epinephelus itajara*) Bycatch Mortality in Commercial Fisheries of the Southeastern US From 2002 to 2022".

Hereby, I have provided specific comments about my concerns regarding the novelty and importance of this study as they arise in the manuscript. If the authors revise the manuscript as per the reviewer's comments and suggestions, then the research paper may be accepted after significant modification and correction for publication.

My submissions to the authors are as follows:

Clear and focused topic: The manuscript clearly addresses the issue of Goliath Grouper bycatch in the SEUS.

Data analysis: The authors utilize available data (NOAA logbooks) and relevant literature to estimate capture-related mortality.

Significance: The study highlights the potential threat bycatch poses to the already vulnerable Goliath Grouper population.

Management recommendations: The authors call for improved data collection methods (electronic monitoring) and fisher education on handling practices.

Transparency: The limitations of the study (underreported data) are acknowledged.

Areas for Improvement:

Literature review: While the use of McGovern et al. (2005) for mortality estimation is justified, exploring additional studies on grouper capture-release mortality and barotrauma (e.g., beyond Gag) could strengthen the analysis.

Depth of capture: The increasing trend in capture depth suggests worsening barotrauma issues. Elaborating on potential reasons for this trend (e.g., targeting behavior) could be beneficial.

Venting practices: The manuscript mentions the lack of data on venting practices. Discussing the limitations this poses for

mortality estimates and potential solutions (e.g., observer data) could be valuable.

Other fisheries: Recreational fisheries are briefly mentioned as a concern. Expanding on the potential impact and suggesting mitigation strategies would provide a more comprehensive picture.

Overall:

This manuscript presents a valuable analysis of the negative impact of commercial fisheries bycatch on the Goliath Grouper population. By addressing the areas for improvement, the authors can strengthen the manuscript and its potential influence on management strategies for this protected species.