

Peer Review

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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Koenig, Coleman, and Locascio present a policy-relevant and data-driven assessment of bycatch mortality in the protected Atlantic Goliath Grouper (*Epinephelus itajara*) across two decades of commercial fisheries in the southeastern United States. The study's major strength lies in its integration of NOAA logbook discard data with a biologically grounded logistic mortality model derived from long-term gag grouper tagging studies, allowing the authors to estimate depth-related barotrauma mortality at scale. The finding that mortality could range from ~40% (barotrauma-only model) to as high as 75% under a no-venting assumption is alarming and directly relevant to management decisions, particularly given the documented increase in capture depth over time. The manuscript also appropriately highlights systemic underreporting biases inherent in self-reported logbooks and makes a clear, evidence-based case for expanded observer coverage and electronic monitoring. However, several assumptions—most notably extrapolating 10% logbook coverage to the full fishery, applying a gag grouper mortality model to goliath grouper, and assuming universal non-venting at ≥ 30 m—introduce uncertainty that should be more explicitly quantified through sensitivity analyses. Despite these limitations, the paper makes a compelling conservation argument and provides an important contribution to fisheries management discourse, emphasizing that unmonitored bycatch mortality may significantly undermine the recovery of this protected species.

Declarations

Potential competing interests: No potential competing interests to declare.