

## Peer Review

# Review of: "A Review of Grouper Fisheries Management in the Southeastern and Caribbean U.S.: Challenges, Successes, and Future Directions"

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Overall, the author has given a thorough overview of the management of grouper fisheries in the Southeastern and Caribbean US. I provided a few minor suggested edits (see below).

## Parthenogenesis

Although parthenogenesis has been described for fishes, particularly for elasmobranchs, it seems to be extremely rare and has not been documented for groupers. It would be better to say “Marine reef fishes display diversity in reproductive systems represented by gonochorism, hermaphroditism, and more rarely parthenogenesis {m/35/}. While some species of groupers are gonochoristic, hermaphroditism is most prevalent in species distributed in the SEUS (Table 1).”

## Reference 35

The hyperlink does not work. Also, this reference appears to be a book review, rather than the book itself, which seems more appropriate.

## Gag sexual transition

“Gag sexual transition does not require male presence, thus female groups traveling to shelf break spawning sites can include newly recruited males{m/46/}.” In isolation, without giving the reader more information about gag’s behavioral ecology and the spatial separation of sexes, the two parts of this sentence do not seem to have a logical connection.

## Nassau grouper juvenile habitat

“Juvenile Nassau Grouper habitat use has been described across the CAB {m/99/}{m/100/}{m/101/}, which can assist in the designation of critical habitats to maximize juvenile recruitment and survival.” – It would be a more accurate conclusion to say that “Juvenile Nassau Grouper habitat use has NOT been well described across the CAB{m/99/}{m/100/}{m/101/},

compared to other parts of the species' range (Eggleston 1995, Dahlgren & Eggleston 2001, Claydon & Kroetz 2008, Camp et al. 2013), and a better understanding could assist in the designation of critical habitats to maximize juvenile recruitment and survival." This is because ref 99 describes only 21 juveniles; ref 100 does not state the number seen, only that 10 were tagged, and provides the following limited description on habitat use - "Grouper under 35 cm were found only within shallow (< 4 m) rocky reef areas with sparse coral cover (2%/m<sup>2</sup>)"; ref 101 found 7 juveniles, all found within 200m of one another. It is not convincing to argue that the very small amount of information from a very small area gleaned from these studies could be used in the designation of critical habitats across the CAB.

References cited above:

Camp, E.F., Lohr, K.E., Barry, S.C., Bush, P.G., Jacoby, C.A. and Manfrino, C., 2013. Microhabitat associations of late juvenile Nassau grouper (*Epinephelus striatus*) off Little Cayman, BWI. *Bulletin of Marine Science*, 89(2), pp.571-581.

Claydon, J.A.B. and Kroetz, A.M., 2008. The distribution of early juvenile groupers around South Caicos, Turks and Caicos Islands.

Dahlgren, C.P. and Eggleston, D.B., 2001. Spatio-temporal variability in abundance, size and microhabitat associations of early juvenile Nassau grouper *Epinephelus striatus* in an off-reef nursery system. *Marine Ecology Progress Series*, 217, pp.145-156.

Eggleston, D.B., 1995. Recruitment in Nassau grouper *Epinephelus striatus*: post-settlement abundance, microhabitat features, and ontogenetic habitat shifts. *Marine Ecology Progress Series*, 124, pp.9-22.

### **Goliath grouper**

"panhandle regions of Florida" – this is quite a USA-centric, colloquial expression that many outside the USA may not understand.

### **Gender-neutral terms**

Please use the gender-neutral expression "fisher" or "fishers" rather than "fisherman" or "fishermen", except where it appears as the name of something: e.g. "Fisherman Feedback Tool".

### **Declarations**

**Potential competing interests:** No potential competing interests to declare.