Editor comment on: Effects of predator presence and habitat complexity on reef fish communities in the Bahamas by Hensel, E, Allgeier, JE, Layman, CA (2019)

Denis Goulet¹

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Coral reefs are very complex ecosystems that support a tremendous amount of biodiversity and are often considered the rainforests of the sea. Regrettably, coral reefs have been subjected to numerous stressors leading to a global degradation of these large ecosystems. Specifically, over-exploitation of large predatory species and habitat destruction contribute to coral reef attrition (Dulvy et al. 2004; Lee 2006). Although the effects of these two stressors are often investigated separately, removal of large piscivores and habitat destruction are intertwined. The study by Hensel et al. (2019) stands out since the authors conducted an in situ manipulative experiment to simultaneously examine the interaction and effect of predators and habitat quality on coral reef fish abundance and community structure. In the backreef environment on Great Abaco Island, Bahamas, the authors introduced artificial reef structures, of different complexities, and manipulated the presence of the predatory fish, the Nassau grouper. After 60 days, the highly complex reef structures with predators present had up to a 300% increase in fish abundance compared to all the other treatments. Furthermore, fish species richness was higher in the more complex habitat. Although on the surface, one might expect that predator presence would lower fish abundance, there was in fact an additive effect of predator presence and increased habitat complexity on biodiversity. Furthermore, the positive effect of predator presence and habitat complexity on fish abundance could provide nutrients to promote coral growth and survivorship, which could increase reef complexity and thus further increase fish abundance (Huntington

et al. 2017). From a fisheries management and coral reef conservation perspective, this study shows that removal of top predators and reef degradation alter fish densities and species richness. As stated by Hensel et al. (2019) future management practices should consider both conservation of predatory fish and rehabilitating reef complexity.

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Responsible Editor: U. Sommer.

✉ Denis Goulet
dgoulet@olemiss.edu

¹ Department of Biology, University of Mississippi, University, MS, USA