

Investigating the Potential Sublethal Physiological Impacts of the ‘Spinning Fish Condition’ for Coastal Sharks in the Lower Florida Keys

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The Lower Florida Keys has been identified as an important area for multiple species of teleosts and elasmobranchs. In recent years, the area has been experiencing unprecedented marine environmental challenges. In late 2023 and early 2024, fishers and researchers began reporting an ‘anomalous spinning fish’ condition throughout the Lower Florida Keys. This condition has been documented to affect a number of teleost and elasmobranch species, and initial findings suggest that neurotoxins produced by the algae *Gambierdiscus* could be linked to spinning fish behavior. The physiological impact for elasmobranchs is still uncertain. Our study aims to investigate the potential sublethal physiological impacts of this condition for coastal sharks in the area. Blood panels of *Negaprion brevirostris*, *Carcharhinus limbatus*, and *Ginglymostoma cirratum* were analyzed for a variety of metabolites and biomarkers to assess physiological condition. Samples were collected prior to, during, and following the peak of the reported ‘spinning event’ allowing us to conduct a preliminary comparison of these markers across time. This study provides insight into how this anomalous environmental condition may impact local shark stocks, if the impacts perpetuate, and determines if adjustments to local conservation management efforts may be warranted in the future.