Saltzman Abstract

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Due to the logistical and financial challenges of studying migratory marine species, there is relatively limited knowledge of the reproductive biology, behavior, and habitat use of these ecologically important megafauna. One understudied species with great economic and ecological importance is the Atlantic tarpon *Megalops atlanticus.* In this study, we present a novel observation utilizing emerging technology (i.e. drones) to observe, quantify, and classify individuals and behaviors of tarpon aggregation (N=182) over the course of a three day long fish aggregation event. Following the event, we analyzed and compared the observed behaviors with other fish species who have well-documented reproductive behaviors, revealing behaviors consistent with courtship. To our knowledge this is the first recorded Fish Spawning Aggregation of Atlantic tarpon. Significantly, this occurred in a highly altered and urbanized habitat, off the coast of South Florida, outside of documented spawning season. As a result, the population is vulnerable to overexploitation by recreational fishers, highly susceptible to depredation by sharks, and subject to the wide array anthropogenic environmental impacts.

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