

The Dance of Death Returns: Keys Spinning Fish Event, Historical Context, and Overview from FWC

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Abnormal swimming behavior of marine fish described as spinning has long been observed in South Florida, often in association with exposure to brevetoxin, the neurotoxin produced by the Florida red tide organism, *Karenia brevis*. However, red tide was not associated with an event that gained public attention in the early 1970's when large numbers of fish in areas of Biscayne Bay were reported to twirl and die, a behavior sensationally dubbed the "Dance of Death" by the contemporaneous national media. Researchers of the day arrived at conflicting conclusions, blaming either algal toxins or bacterial brain infections, and ultimately no cause was definitively identified. Later in that decade, the Dance of Death returned to Biscayne Bay on a smaller scale, and isolated cases of spinning have been documented periodically over the ensuing years, but 2023 saw the beginning of an even larger-scale, longer-lasting, spinning fish event in the Florida Keys. In 2024, the event became further noteworthy because it involved mortalities of critically endangered smalltooth sawfish that, for a period of months, died at rates well above any previously documented for this species. The FWC Fish Kill Hotline and Sawfish Hotline reporting apparatus played a critical role in promoting collaborative scientific response to the event by compiling and harnessing public report data to track temporal and spatial distribution of cases in a statewide context and disseminate timely information to partnering agencies, researchers, and lawmakers. Further, FWC scientists specializing in aquatic animal health, toxicology, harmful algal blooms, and sawfish biology were instrumental in narrowing the focus of inquiry by helping to essentially rule out acute water quality problems, red tide, and communicable pathogens as suspected causes. A growing body of evidence supports the hypothesis that the recent abnormal swimming behavior was the result of exposure to neurotoxins produced by microscopic algae other than *K. brevis*, but this has not been fully resolved, and collaborative investigation continues.