MEASURING THE IMPACT OF FLORIDA RED TIDE EVENTS ON RECREATIONAL FISHING EFFORT AND EXPENDITURES

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The Northern Gulf of Mexico and communities that it supports are vulnerable to harmful algal blooms (HABs) that can adversely affect the biophysical environment and in turn, the commercial and recreational activities that depend on the resources and amenities that it provides. Although the impacts of HABs, including those caused by *Karenia brevis* – commonly known as Red Tide, on the marine environment are well studied, it remains difficult to quantify the ensuing socioeconomic impacts of these events. The identification and quantification of any change or impact in activity that can be attributed to a Red Tide event requires the support of a long-term data set collected using similar spatial and temporal densities over time. In situ observations of *K. brevis* abundance published within the HAB monitoring database from the Florida Fish and Wildlife Conservation Commission's Fish and Wildlife Research Institute (FWRI) and data on recreational fishing effort and expenditures available within the Marine Recreational Information Program (MRIP) datasets from the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) are used to estimate the impacts of Red Tide events on recreational fishing effort along Florida's western coast. Results indicate a causal relation between Red Tide events and changes in recreational fishing activity and suggest that Red Tide events are associated with a decrease in fishing trips. The estimated change in number of trips is combined with data from the Marine Recreational Fishing Expenditure Survey, published by NOAA fisheries, to estimate the change in direct expenditures as well as the broader regional economic impacts associated with this decline in recreational fishing activity. These results can be used to inform local, state, and federal level decisions related to the prevention and mitigation of recurring Red Tide events in the Gulf of Mexico region.

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