

Summary of recent research on Dolphin in the western North Atlantic

South Atlantic Fishery Management Council

September 2025

At their Spring 2025 meeting, the Dolphin Wahoo Advisory Panel (AP) noted several recent research papers that suggested a decline in the Dolphin stock and availability along the U.S. Atlantic coast. These papers included those from [Damiano et al \(2024\)](#), [Rudershausen et al \(2024\)](#), and [Runde et al \(2025\)](#). When receiving the AP report at their June 2025 meeting, the Council requested that a summary of this research be provided at the next meeting. The following information is being provided to address this request.

Title: [Spatiotemporal dynamics of dolphinfish \(*Coryphaena hippurus*\) in the western Atlantic Ocean](#) (published in 2024)

Authors: M. D. Damiano, M. Karnauskas, W. Merten, J. Cao

Summary (includes excerpts taken from the paper): The authors applied a seasonal vector autoregressive spatiotemporal (VAST) model to quantify the spatial and temporal dynamics of western Atlantic Dolphin to estimate standardized relative regional indices of abundance from 1986–2022. The paper also provided estimates of changes in spatial distribution over time. The main fishery data for the study was U.S. pelagic longline logbook data.

Key findings include overall abundance of Dolphin appearing to be stable during 1986–2018 and then declining during 2019–2022. This trend occurred in all regions, except for in Atlantic waters from Cape Hatteras, North Carolina, to the southern border of Georgia, where abundance remained stable. No shift in the distribution of the population was detected, but regional patterns of abundance provide insight into changes in the timing of availability. The authors stated that high fishing pressure in concert with changing ocean conditions may be responsible for the recent decline in and changes to abundance at finer spatial scales.

Title: [Temporal changes in lengths of Dolphinfish revealed by sampling at sportfishing tournaments in the southeastern United States](#) (published in 2024)

Authors: P. J. Rudershausen, J. A. Buckel, R. Gregory, G. R. Stilson, A. W. Dukes, E. L. Gooding, B. J. Runde

Link to SAFMC Seminar Series recording: <https://safmc.net/events/seminar-series-trends-in-dolphinfish-lengths-caught-in-the-southeastern-recreational-fishery/>

Summary (includes excerpts taken from the paper): The authors' objective was to use sportfishing tournament data to determine whether sizes of Dolphin have been changing in the western North Atlantic (WNA) over recent decades. To do so, the authors examined North Carolina, South Carolina, and Florida marine sportfishing tournament landings for Dolphin lengths.

Meaningful temporal declines in the length of males and females were found for four of the five tournaments (no changes in length were observed for the fifth tournament). Declines in the largest observed sizes of Dolphin were found for most tournament- and sex-specific combinations of data and could suggest excess fishing mortality on the population. The authors noted that declines in Dolphin size in the WNA region could have ramifications for conservation of the population given that these size changes translate into reduced individual fecundity of

female Dolphin. Causes of the size decline could be fishing effects, environmental effects, or a combination.

Title: [Evidence for declining numbers of large Dolphinfish in the western North Atlantic](#)
(published in 2025)

Authors: B. J. Runde, P. J. Rudershausen, and G. R. Stilson

Link to SAFMC Seminar Series recording: <https://safmc.net/events/seminar-series-trends-in-dolphinfish-lengths-caught-in-the-southeastern-recreational-fishery/>

Summary (includes excerpts taken from the paper): The authors' objective was to use annual data on recreational fishing effort and the number of large Dolphin caught in North Carolina to determine if their abundance has changed over recent decades. The paper utilized data on citation-sized Dolphin (≥ 15.9 kg) and Wahoo (≥ 18.1 kg) from the North Carolina Division of Marine Fisheries and fishing effort data from the Marine Recreational Information Program to generate species-specific annual values for trips per citation caught.

The data set from 2000 to 2023 revealed a roughly fourfold increase in the effort required to catch a citation-sized Dolphin. The authors noted that a substantial increase in effort required to catch a citation-sized Dolphin suggests that the abundance of large individuals of this species has declined. For context the authors also noted that no such trend was observed for Wahoo, thus possible confounding causes (e.g., changing social norms) are unlikely to explain the finding, and causes of the decline for Dolphin are likely related to increased exploitation of the stock.