



Atlantic States Marine Fisheries Commission

NEWS RELEASE

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

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Horseshoe Crab Board Accepts ARM Framework Revision and Peer Review for Management Use and Initiates Draft Addendum to Consider Changes to Delaware Bay Management

Arlington, VA – The Commission’s Horseshoe Crab Management Board reviewed and accepted for management use the 2021 Revision of the Adaptive Resource Management (ARM) Framework and the independent peer review of the Revision. The ARM Revision addresses previous peer review critiques, includes new sources of data, and adopts new modeling software to set harvest levels for Delaware Bay-origin horseshoe crabs that account for the forage needs of migratory shorebirds. The independent peer review panel endorsed the ARM Revision as the best and most current scientific information for the management of horseshoe crabs in the Delaware Bay Region.

“On behalf of the Board, I want to applaud the members of the ARM Subcommittee for their exceptional work on the 2021 ARM Revision,” stated Board Chair Joe Cimino from New Jersey. “This revision made a notable advancement in considering more sources of data and providing a thorough picture of the population dynamics in the Delaware Bay Region. The Board recognizes that there is considerable public concern about the potential impact of the ARM Revision on the status of the endangered red knot and is committed to fully vetting its possible use in setting harvest levels for horseshoe crabs of Delaware Bay-origin through our public comment process.”

Since 2013, horseshoe crabs in the Delaware Bay Region (New Jersey, Delaware, Maryland, and Virginia) have been managed under the ARM Framework to set harvest levels with consideration of the needs of migratory shorebirds. The ARM was developed jointly by the Commission, U.S. Fish and Wildlife Service, and U.S. Geological Survey in recognition of the importance of horseshoe crab eggs to migratory shorebirds stopping over in the Delaware Bay region. In particular, horseshoe crab eggs are a critical food source for the rufa red knot, which is listed as threatened under the Endangered Species Act. In the past decade, more data has been collected on red knots and horseshoe crabs and modeling software has advanced. Thus, the ARM Subcommittee was tasked with revising the ARM Framework to address critiques from the previous peer review panel, include newly available data, and transition to new modeling software since the old software is obsolete.

Several improvements to the ARM Framework were made during this revision. In the original ARM Framework, the population models for horseshoe crabs and red knots were largely based on life history information taken from the literature that was not always specific to Delaware Bay. The ARM Revision improves the models for both species by incorporating region-specific data collected over the past few decades. Additionally, the ARM Revision

The Atlantic States Marine Fisheries Commission was formed by the 15 Atlantic coastal states in 1942 for the promotion and protection of coastal fishery resources. The Commission serves as a deliberative body of the Atlantic coastal states, coordinating the conservation and management of nearshore fishery resources, including marine, shell and diadromous species.

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incorporates more sources of horseshoe crab removals than the previous version, including mortality due to the biomedical industry and commercial discards from other fisheries.

In the original ARM Framework, the Virginia Tech Trawl Survey was used annually to estimate the Delaware Bay horseshoe crab population. The revised ARM Framework still relies heavily on the Virginia Tech Trawl Survey, but also includes additional abundance indices from the region. The population model in the ARM Revision indicated that adult abundance in the Delaware Bay was stable from 2003-2013 and then began increasing in the past few years for both sexes. This finding is consistent with stock rebuilding due to a period of significantly reduced commercial landings and tight management controls on the fishery beginning in the 2000s in this Region. In 2019, the ARM Revision estimates there were 21.9 million male and 9.4 million female horseshoe crabs in the Delaware Bay Region. Mark-resight and count data from New Jersey and Delaware were used to estimate the population of red knots passing through the Delaware Bay. The passage population estimates were fairly stable between 2011 and 2020 at approximately 45,000 birds and their annual survival estimates were consistently high. A more detailed overview of the 2021 ARM Revision can be found [here](#).

Using estimated numbers of horseshoe crabs and red knots, the ARM Framework recommends the level of horseshoe crab harvest for the next fishing season. The maximum number of male and female horseshoe crabs the ARM Revision can recommend remains the same at 210,000 females and 500,000 males. While additional data and model improvements are used in the ARM Revision, the conceptual model of horseshoe crab abundance influencing red knot survival and reproduction remains intact with the intent of ensuring the abundance of horseshoe crabs does not become a limiting factor in the population growth of red knots.

After accepting the ARM Revision and Peer Review for management use, the Board initiated a Draft Addendum to consider allowing its use in setting annual specifications for horseshoe crabs of Delaware Bay-origin. The Horseshoe Crab Plan Development Team, composed of representatives from the states and federal agencies, will draft management options for Board review prior to the Board considering approving the document for public comment. If approved, the draft addendum will be released for public comment with opportunities to submit comment through public hearings and written comments. Following the public comment period, the Board will meet to review submitted comment and consider final action on the addendum.

A more detailed overview of the 2021 ARM Revision can be found at http://www.asmfc.org/uploads/file/61f2f18aHSC_ARM_RevisionOverview_Jan2022.pdf. The final ARM Revision and Peer Review Report will be available on the Commission website, www.asmfc.org, on the Horseshoe Crab webpage under stock assessment reports in early February. For more information, please contact Caitlin Starks, Fishery Management Coordinator, at cstarks@asmfc.org or 703.842.0740.

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