

**INTERSTATE FISHERIES MANAGEMENT PROGRAM OVERVIEW**

**Horseshoe Crab**

**Species Range and Stock Unit**
Coastwide (New Hampshire through Florida)

**Stock Status**
Unknown. However, the 2013 stock assessment update concluded that there are increasing trends in abundance in the southeast and Delaware Bay regions, and decreasing trends in the New York and New England regions.

In October 2017, the Board approved terms of reference, including tasks specific to the ongoing benchmark stock assessment, such as assessments of regional populations of horseshoe crabs, incorporation and evaluation of estimated mortality attributed to the biomedical use of horseshoe crabs for LAL production, and comparisons of assessment results with results from the ARM Framework. The assessment report and peer review are expected to be presented to the Board in May 2019.

**Involved States and Jurisdictions**
MA, RI, CT, NY, NJ, DE, MD, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS

**Active Boards/Committees**

**Chairs**
Board, Chair – Dr. Malcolm Rhodes (10/2017); Vice-Chair – Joe Cimino
Horseshoe Crab Technical Committee, Chair – Vacant
Delaware Bay Ecosystem Technical Committee, Chair – Greg Breese (10/12); Vice-Chair – Audrey DeRose-Wilson
Horseshoe Crab Advisory Panel, Chair – Allen Burgenson (5/2004); Vice-Chair – Brett Hoffmeister
Shorebird Advisory Panel, Chair – Dr. Sarah Karpanty (5/2011)
Stock Assessment Subcommittee – John Sweka (1/2010)
Staff Lead
Michael Schmidtke, mschmidtke@asmfc.org

Management Plan History

Interstate Fishery Management Plan for Horseshoe Crab (December 1998)
The goal of this Plan is to conserve and protect the horseshoe crab resource to maintain sustainable levels of spawning stock biomass to ensure its continued role in the ecology of the coastal ecosystem, while providing for continued use over time. Specifically, the goal includes management of horseshoe crab populations for continued use by current and future generations of the fishing and non-fishing public, migrating shorebirds, and other dependent fish and wildlife.

Addendum I (April 2000)
Addendum 1 sets forth changes to the harvest level threshold for horseshoe crab bait fisheries pursuant to Section 4.2 of the Fishery Management Plan, and establishes de minimis criteria for those states with a limited horseshoe crab bait fishery.

Addendum II (May 2001)
There are no provisions under Addendum I to allow for quota transfers. Therefore, the Horseshoe Crab Management Board approved the development of Addendum II to the HSC FMP to establish a mechanism for the responsible and voluntary transfer of quota between states.

Addendum III (May 2004)
Several new findings surfaced since the Board first took management action in 1998 and again in 2000 and 2001. The U.S. Fish and Wildlife Service’s (USFWS) Shorebird Technical Committee completed its report to the Management Board in June 2003, which included conclusions and recommendations for management and research. At its May 2003 meeting, the Horseshoe Crab Technical Committee recognized the need for change to the reporting requirements for biomedical companies and states. It also identified outdated state monitoring requirements and research needs in the FMP. Addendum III places further restriction on the harvest of horseshoe crabs in the Delaware Bay region and revises state monitoring requirements.

Addendum IV (June 2006)
The Addendum is designed to maximize egg availability to migratory shorebirds in the Delaware Bay by prohibiting harvest of horseshoe crab prior to and during the peak spawning season for the crabs as well as the peak feeding period for shorebirds. Specific measures include a delayed, male-only harvest in New Jersey and Delaware, prohibiting the harvest and landing of male and female horseshoe crabs from January 1 through June 7 in the Delaware Bay, and restricting the annual harvest to 100,000 males per state from June 8 through December 31. As with all Commission plans, states can implement more conservative management measures. In the case of New Jersey, it currently maintains a moratorium on the harvest and landing of horseshoe crab. The Addendum also requires a delayed harvest in Maryland, prohibiting horseshoe crab harvest and landings from January 1 through June 7, and prohibits landing of horseshoe crabs in Virginia from waters outside the Bay from January 1 through June 7. No
more than forty percent of Virginia’s quota may be landed from ocean waters and those landings must be comprised of a minimum male to female ratio of 2:1. Like New Jersey, Maryland also implemented more conservative measures in 2009 to include a minimum male to female ratio of 2:1.

The provisions of this Addendum are limited to New Jersey, Delaware, Maryland, and Virginia. All other jurisdictions remain status quo as defined by the FMP and Addenda.

**Addendum V (September 2008)**
Addendum V extends the management measures contained in Addendum IV through October 31, 2009. Under Addendum V’s adaptive management provision, the Board voted to extend the measures through October 31, 2010.

**Addendum VI (August 2010)**
Addendum VI extends the provisions of Addendum V through April 30, 2013, while the Adaptive Resource Management (ARM) Framework is further developed and long-term funding is secured to support the horseshoe crab monitoring program that the ARM Framework is dependent upon. The ARM Framework provides the Board with a tool to manage horseshoe crab harvest and explicitly take into account multi-species interactions with shorebirds (mainly the red knot that eats crab eggs).

**Addendum VII (February 2012)**
Addendum VII implements the ARM Framework for management of horseshoe crabs in the four Delaware Bay states of New Jersey, Delaware, Maryland, and Virginia. The Framework considers the status of both red knots and horseshoe crabs in determining the optimal harvest output of Delaware Bay crabs. Addendum VII includes the formula for allocating those crabs among the four states.

**Annual Events**
The Plan Review Team holds a conference call after the March 1 compliance report deadline. Board reviews state compliance. The ARM Subcommittee meets annually to run the ARM Model and determine harvest output for the next fishing year. The Technical Committees meet at least annually to address ongoing management questions and to review the ARM Framework harvest output. The Delaware Bay Ecosystem Technical Committee specifically focuses on the horseshoe crab populations and ecological interactions with shorebirds in the Delaware Bay area. The Advisory Panels meet or talk via conference call at least once per year to discuss policy or management implementation.

Spring (late April through mid-June) is usually the field season for horseshoe crabs and shorebirds in the Delaware Bay region. The Virginia Tech Horseshoe Crab Trawl Survey occurs in the fall. Funding for the trawl survey was secured for 2017 and the survey was completed. The Horseshoe Crab coordinator is encouraged to participate in these monitoring and research activities at least once.
Other Items of Interest

- The ARM Framework depends heavily on adult abundance indices derived from the Virginia Tech Horseshoe Crab Trawl Survey, which was not conducted from 2013-2015 due to a lack of funding. Loss of the survey and its data present challenges for use of the ARM Framework. The survey was conducted in 2016, 2017, and 2018, but the Commission continues to seek long-term funding for this important survey.
- There are 5 bleeding facilities along the Atlantic coast (MA, MD, VA, and SC) that collect horseshoe crabs to extract and process their blood.