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**Re: Proposal submitted by the Southeastern Massachusetts Pine Barrens Alliance to list the American Horseshoe Crab as a Species of Special Concern**

Drs. Schlüter, Nelson and Carmignani,

As an international animal advocacy organization founded in 1957 writing on behalf of our thousands of Massachusetts' members, Friends of Animals fully supports the petition submitted by the Southeastern Massachusetts Pine Barrens Alliance to list the horseshoe crab (*Limulus polyphemus*) as a Species of Special Concern on the Massachusetts endangered species list.

MassWildlife must act now to protect and rebuild the severely diminished American horseshoe crab population, which continues to face threats such as habitat loss and killing by the biomedical and fishing industries.

Friends of Animals helped lead the successful efforts to stop the killing of horseshoe crabs in Connecticut, and we are adamant that states along the Atlantic coast must also step up and provide legal protections for these ancient mariners.

FoA was alarmed by what the late Dr. Jennifer Mattei—founder of Project Limulus at Sacred Heart University and member of the International Union for the Conservation of Nature's Horseshoe Crab Specialist Group—called "the functional extinction" of this dominant species in Long Island Sound.

That means they no longer play an effective role in their ecosystem. Migratory birds, especially the threatened red knot, need to eat horseshoe crab eggs. In 2021, fewer than 7,000 red knots were found in Delaware Bay, a key spring stopover habitat. That's less than a third found in 2020. And red knot numbers remained at historically low levels in 2022.

Without sufficient horseshoe crab eggs to feed on, migratory birds run out of energy and die before reaching their breeding grounds. Horseshoe crabs are also an important source of food for other wildlife such as sea turtles, and species such as anemones, barnacles, oysters and seaweed use horseshoe crab shells as homes.

In addition, the Atlantic Marine Fisheries Commission downgraded the stocks of horseshoe crabs in the NY region, which includes Connecticut and the Long Island Sound, from Neutral to Poor in 2019.

To ensure Connecticut stopped the reckless, unnecessary killing of horseshoe crabs for bait so people could eat smoked eel and conch fritters, in 2022 Friends of Animals helped draft legislation to prohibit all killing of horseshoe crabs for bait in Connecticut. We also made sure there was no exemption for the biomedical industry.

The bill passed in 2023, was signed into law in June and goes into effect Oct. 1.

At a bill signing event over the summer, CT Governor Ned Lamont said: "The number of horseshoe crabs in Long Island Sound and throughout the Atlantic Coast has been severely depleted in recent years, raising concerns that this ancient species that has been around longer than the dinosaurs could be driven into extinction from overharvesting. This law says that we need to take a break and let this species regenerate and get back to a state of good health. I strongly urge our neighboring states to join this growing coalition and enact similar laws to protect the population in their waters."

The AMFC labeled the stocks of horseshoe crabs in the Northeast Region, which includes Massachusetts, as neutral in 2019. However, the threats to Massachusetts' imperiled population of horseshoe crabs are growing.

New regulations passed this year increased the exploitation of horseshoe crabs by the biomedical industry to its highest level ever. This year, MA passed a new bait quota for horseshoe crabs: 140,000. The biomedical fishery's new quota is 200,000—*higher than the biomedical take in MA last year.*

Each year the industry rounds up hundreds of thousands of horseshoe crabs and drains their blood to develop safe vaccines, and returns them to the ocean. Disturbingly, at least 30 percent of crabs whose blood is drawn die.

Females are preferred by the biomedical industry because they are substantially larger, and therefore have more blood than males. Horseshoe crab populations in Massachusetts have an "extremely male-biased sex ratio," with surveys showing a 9:1 ratio in some areas.

The truth is, we no longer need to use horseshoe blood since scientists have created a method to synthesize the compound found in horseshoe blood without involving crabs.

Overall, numerous scientific studies and historical records show a long-term pattern of decline in Massachusetts' population of horseshoe crabs. According to a 2016 regional assessment published in the

*Reviews in Fish Biology and Fisheries* journal, if New England's horseshoe crab population continues the trajectory it has been on since 1959, it will be reduced by 92% from current levels in the next 40 years.

However, by safeguarding horseshoe crabs, we strengthen our marine food web for generations to come. Maine, New Hampshire, Rhode Island, Connecticut, Delaware, Maryland, and South Carolina have all classified the horseshoe crab as a Species of Greatest Conservation Need under their state wildlife plans.

What's happening with horseshoe crabs in New England is part of a larger global biodiversity crisis—the planet is experiencing the largest loss of life since the age of the dinosaurs. Wildlife populations have plunged by an average of 69% between 1970 and 2018. That means populations have dramatically fallen and extinction risk is growing, although it is not distributed equally.

According to the IUCN Red List, about 2.13 million at-risk species have been identified by scientists; around half are insects. Four are horseshoe crabs (Atlantic horseshoe crab populations are currently listed as vulnerable), 6,577 are mammals and 369,000 are flowering plants.

A historic deal was struck to halt biodiversity loss by 2030 at COP15, the United Nations World meeting that took place last December to address biodiversity loss.

Atlantic horseshoe crabs are running out of time. That's why Mass Wildlife must list the horseshoe crab as endangered, threatened or a species of special concern under the Massachusetts Endangered Species Act.

Respectfully,



Priscilla Feral

President

Friends of Animals