

NSF-Funded Horseshoe Crab Habitat Research in Coastal Georgia

BRUNSWICK, GA, U.S.A., March 14, 2019 /EINPresswire.com/ -- Every year, hundreds of thousands of wild Atlantic horseshoe crabs (HSCs) are captured and ultimately returned to the water by the biomedical industry. Their blood is required to conduct drug and device sterility testing to protect the safety of millions of patients every year, worldwide. Recently, demand has increased for Atlantic HSCs due to the imminent extinction of the Asian species as a result of overharvesting. In addition to being captured for bleeding purposes, HSCs are often used as whelk and eel bait.

Not only do these activities negatively impact HSC populations, they also threaten important shorebird species that depend on HSC eggs for essential nutrition while migrating to northern nesting grounds.

In an effort to seek alternatives to wild capture, a pilot HSC field study is being established on [Jekyll Island](#) in Coastal Georgia, in cooperation with the Jekyll Island Authority and Georgia 4-H Tidelands Center. The study will evaluate novel approaches to collection of this vital HSC blood component used to prepare *Limulus* amebocyte lysate.

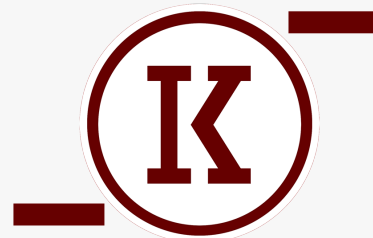
The project was proposed by the [Kepley BioSystems](#) (KBI) team, which is affiliated with the Joint School of Nanoscience and Nanoengineering, in partnership with [University of Georgia Marine Extension and Georgia Sea Grant](#).

With funding from a National Science Foundation (NSF) Phase I Small Business Innovation Research (SBIR) grant, the site will allow proof-of-concept for low-impact management to enhance the yield and HSC rebound after “bleeding” – while eliminating the need for wild capture for biomedical use.

“As with any field research, partnership and inter-agency coordination were key to making this



Dr. Kristen Dellinger, principal investigator at KBI, Mr. Bryan Fluech, Co-PI and Associate Director of Marine Extension, Dr. Rachel Tinker-Kulberg, Senior Research Scientist at KBI, and Ms. Lisa Gentit, research technician at Marine Extension in front of



KEPLEY BIOSYSTEMS INC

Kepley BioSystems, Inc. Greensboro, N.C.

possible on Jekyll Island,” said Ben Carswell, Director of Conservation for the Jekyll Island Authority. “Conservation considerations were vetted through our process for approving external research, which called upon expertise from wildlife NGOs and the Georgia Department of Natural Resources.”

Kristen Dellinger, the principal investigator, observed, “We are extremely grateful for the overwhelming support from the regulatory agencies, Jekyll Island and the local and surrounding communities, which makes it all the more inspiring to be engaging in this work.”

Bryan Fluech, co-principal investigator and associate director of marine extension at Marine Extension and Georgia Sea Grant, said, “It was especially valuable to be able to hire Cole Wilder, a nearby Coastal College of Georgia student, who will be feeding, monitoring the HSCs’ wellbeing and habitat quality throughout the project, as well as working with the Georgia 4-H Tidelands Center on outreach activities and visitor education.”

Lance Toland, KBI corporate advisor, who lives in Coastal Georgia, remarked, “If successful, we believe we can also help make the case to prohibit capture for bait and work to replenish dwindling HSC populations.”

The KBI and Marine Extension and Georgia Sea Grant teams will be working through the summer to reach their research objectives and technical milestones for this NSF-funded work “A Novel Horseshoe Crab Device and Approach for a Sustainable Endotoxin Testing Resource.”

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About the National Science Foundation

The National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense..." NSF is vital because it supports basic research and people to create knowledge that transforms the future. This support is a primary driver of the U.S. economy, enhances the nation's security, and advances knowledge to sustain global leadership.

About UGA Marine Extension and Georgia Sea Grant

Marine Extension and Georgia Sea Grant is committed to improving the environmental and economic health of coastal Georgia through research, education and outreach. The program’s mission is to improve public resource policy, encourage far-sighted economic and fisheries decisions, anticipate vulnerabilities to change and educate citizens to be wise stewards of the coastal environment. For more information about the program, go to gacoast.uga.edu.

About Jekyll Island

Jekyll Island, a small barrier island on Georgia’s coast, is dedicated to maintaining the delicate balance between nature and humankind through conservation, education, and preservation. Surrounded by salt marshes, expansive oceanfront, and one of the last in-tact ancient maritime forests, it is a peaceful coastal habitat situated within the Golden Isles, recently named by Money Magazine as the “Best Place to Go in 2019.” From 20 miles of bike paths to historic cottages, the island is a place of discovery and exploration for the people of Georgia and beyond.

About Kepley BioSystems

Kepley BioSystems (KBI) is a North Carolina-based life sciences start-up operating out of Gateway University Research Park (GURP) in collaboration with the Joint School of Nanoscience and Nanoengineering (JSNN), comprised of a partnership between the North Carolina Agriculture and Technical State University (NCA&T) and the University of North Carolina at Greensboro (UNCG). KBI was founded in 2013 with a mission to emerge disruptive innovations to achieve global solutions. For more information, visit: <http://www.kepleybiosystems.com/>

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