



MARTIN COUNTY

BOARD OF COUNTY COMMISSIONERS

2401 S.E. MONTEREY ROAD • STUART, FL 34996

March 1, 2017

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County Administrator

SARAH W. WOODS
County Attorney

Dear Mr. Sullivan,

Martin County has experienced cyanobacterial outbreaks of increasing magnitude and duration for several years. The first documented outbreak in the St. Lucie Estuary occurred in 2005 then again in 2010 and 2013; each was associated with extreme precipitation events. Extended flows from the basin draining to the St. Lucie Estuary combined with excessive, long-duration releases from Lake Okeechobee reduced salinity and increased suspended solids and nutrients in the estuary. The most recent bloom, summer of 2016 was first observed in Lake Okeechobee on May 9, 2016 covering 33 square miles. In only 2 months, it had grown to over 200 square miles and was tracked as it moved through the C-44 canal and into the St. Lucie Estuary. This again followed major rain events within the St. Lucie River basin and the Kissimmee Basin that feeds into Lake Okeechobee. Pronounced economic impacts commensurate with the increased magnitude of the blooms were incurred by Martin County's water dependent community. Anecdotal reports of health impacts were also received. Federal assistance through the US Small Business Administration Business Recovery Center was made available to local businesses.

In response to the most recent outbreak in 2016, Martin County issued a formal declaration of emergency based on impacts to the economy, public health and ecosystem. Our community continues to face frequent excessive freshwater discharges from Lake Okeechobee, which are associated with cyanobacteria harmful algal blooms (HABs), without the benefit of technical tools to assist with the prediction and tracking of the blooms. Such technical efforts are essential to plan and respond to anticipated future blooms. Your proposal to establish a Center for Oceans and Human Health (Funding Opportunity Announcement Number: RFA-ES-16-009; <https://grants.nih.gov/grants/guide/rfa-files/RFA-ES-16-009.html>) would be of enormous benefit to our community. The ever increasing issues with HABs and toxins require an investment in this type of research to understand the scope of the problem, especially when it is coordinated with important stakeholders like Martin County, so that we can better anticipate manage and recover from this threat.

At the present time, the County has no predictive data or understanding of the cyanobacteria HAB life cycles or population dynamics, no understanding of the environmental tolerance or toxin responses of the primary HAB species *Microcystis*, or fate of its toxins in the St. Lucie/Indian River Lagoon ecosystem. Insights into the response of the *Microcystis* to increasing salinity may dictate revised health and safety recommendations, and will most certainly help the County make targeted requests for limited funding, staff and equipment for response activities. The potential for viable *Microcystis* cysts to represent a persistent benthic source of toxin will be an important consideration as muck removal (dredging) projects designed to improve estuarine water quality are considered in the future. Certainly the question of presence, origins, and fate of Beta methylamino-alanine (BMAA) or other unknown neurotoxins is a serious concern for our community. This work may also provide new insights into the potential for altered water management practices, focused prevention, and restoration actions.

TELEPHONE
772-288-5400

WEB ADDRESS
<http://www.martin.fl.us>

We are pleased to provide this letter of support for your proposed project, and are hopeful that it is favorably received by the National Institute of Health and the National Science Foundation.

If you have any additional questions, please feel free to contact me by phone at (772) 288-5429 or by email at kfitzpat@martin.fl.us.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Kathy FitzPatrick', with a long horizontal flourish extending to the right.

Kathy FitzPatrick, P.E.
Coastal Engineer

Cc: Deb Drum, Ecosystems and Restoration Manager
Kathy FitzPatrick, Coastal Engineer