

Dr. Leanne Flewelling, Chair, Florida HAB Task Force
Florida Fish and Wildlife Conservation Commission
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Dear Dr. Flewelling

Please consider the following comments regarding the Harmful Algal Bloom Task Force Consensus Document #1: Initial Recommendations Regarding Red Tide (*Karenia brevis*) Blooms, January 2020.

Public Health

The recommendations regarding public health research priorities and information gaps are certainly valid especially with respect to the need to know more about acute exposure to toxins but clearly the level and commitment to this kind of research may take decades to develop thresholds typical for development of a statewide policy. The level of knowledge regarding health risk is that some significant risk is evident, and should be used to implement an improved level of warning. Knowing how much exposure and to what concentrations that would create enough risk to establish relevant policies for warnings may take a very long time or in some respects may never be known if political will is an issue unless theoretical assumptions are made about exposure. The U.S. EPA model for developing risk guidelines as was done for cyanotoxins would seem an appropriate model for the state.

Starting in 1999, almost identical goals as compared to this Consensus Document were established by Florida's first HAB Task Force as evidenced by several publications addressing the priorities and related research (Abbott et al. 2009). In 2003, the Florida HAB Public Health Technical Panel was established to develop a public health response plan. To a large degree it appears the same process is now repeating again in 2020 with little acknowledgement of why the goals and recommendations of the initial efforts have not been adequately implemented. We recommend an assessment of past actions to hopefully avoid the same problem with renewed plan implementation.

To date, peer reviewed research has documented that red tide events in the Gulf of Mexico are occurring more frequently, have a longer duration and greater severity, and acknowledged in this report that human sources of nutrients are exacerbating the problem (Brand and Compton 2007).

Considering the magnitude of public health, ecosystem, and economic impacts of red tide events over the past decade, much more urgency and direction is needed in the current response process. The urgency should be reflected in a planning recommendation to the Florida legislature with aggressive timelines and estimates of funding commitment needed to address the information gaps and research recommended in this report and with respect to what can be done in the coming year.

Recommendations should be made for initial implementation by late 2020 incorporating statewide measures to consistently warn the public of health risk to red tide toxins over multiple modes of exposure, especially inhalation toxicity. The public should not have to wait decades for research to be funded and eventual implementation to provide common sense public health risk warnings based on reasonably probable outcomes from existing data. Certainly, there is enough current information stemming from at least 15 years of study by the Florida HAB Public Health Technical Panel and resulting public health response plan to warrant taking timely action and move forward with the best available information enabling reasonable assumptions about health risk, also involving prevention and treatment from and of brevetoxin exposure. We recommend that such action be proposed ahead of the 2021 legislative session for codification and implementation by late 2021.

An example of an immediate need that does not need extended study, is for a consistently implemented policy by the Florida Department of Health (FDOH) with respect to public health warning of red tide toxins. During the 2017-2018 Gulf of Mexico red tide event, it was apparent that FDOH county health units had varying policies and actions for warning of

red tide exposure. FDOH public health units closed beaches on the east coast of Florida during the height of the red tide event but on the west coast where the worst impact was occurring, apparently no beaches were closed and even signage warning of health risks were not consistently evident. This is inexcusable considering what is currently known about red tide toxins and related public health risk.

Another example of immediate need, supported by existing data, is related to health risks from consuming contaminated seafood and represents one of three HAB priorities by Krinsky et al. 2019. Public consumption advisories for shellfish and pufferfish are, at times, available but consumption advisories for popular sportfish in the context of brevetoxin occurrence and bioaccumulation in flesh is badly needed and is supported by peer reviewed research (Landsburg et al. 2009, Naar et al. 2007).

Communications

The priority of developing a statewide communication strategy to inform all relevant stakeholders is essential and addresses the concern mentioned above about inconsistent implementation of public health warnings of red tide risks by FDOH County Health Units in 2018. The previous HAB Task Force and HAB Public Health Technical Panel emphasized communication tools such as development of an effective press release and communication strategy emphasizing stakeholder cooperation.

Hopefully, the current HAB Task Force can build on these earlier recommendations while developing a broader statewide communication strategy.

Management and Response

Monitoring and a tiered response plan are important recommendations of the current HAB Task force, but we would suggest that “identifying triggers for action” may be the key recommendation that enables clear direction for all cooperating entities and as guidelines for policy development.

Chapter 2, Agency Responsibility Matrices in Abbott et al. 2009 creates a blueprint for how “triggers” for action could be implemented. The current HAB Task Force should build on this information.

We would suggest that more emphasis is needed on reducing or managing nutrient enrichment of back bays and nearshore waters as a more systemic and proactive approach rather than the emphasis on reactive strategies outlined here. Additional emphasis is needed on the exacerbating effects of climate change on nutrient dynamics and ultimately on *Karenia* populations. This document acknowledges the nutrient enrichment problem and influence of climate change,

“This threat is likely to grow with increased nutrient enrichment of coastal waters from inadequate and aging wastewater and stormwater infrastructure, an increased human population and more intensive use of land, and the need for increased production of food (agriculture and aquaculture). In addition, climate change and sea level rise will complicate our understanding of coastal risks, resilience, and responses to HABs.”

but recommendations regarding nutrient management or related research are lacking.

Research

We acknowledge that many factors that affect red tide population dynamics are evolving as a result of climate change and anthropogenic nutrient enrichment, and as such additional research and model development is necessary that should add to a very large existing database of information on red tide. However, the research priorities recommended are fundamentally similar to what was proposed by the first Florida HAB Task Force (Abbott et al. 2009). The lack of meaningful progress toward policy response development is likely from lack of statewide coordination and funding support. Perhaps the most effective recommendation under the research category should have been in the context of sustained funding for preventive measures that address the underlying causes of why red tide is occurring more frequently and lasting longer rather than research that emphasizes bloom prediction.

We appreciate the opportunity to comment on this first HAB Task Force Consensus Document on red tide and emphasize the following:

- Public health risk assessment and development of a statewide network for coordination is an immediate need and should be implemented based on best available science. Waiting years on additional research findings without funding certainty is not advised due to the severity of public health and economic impacts from red tide. The goal should be to get policy support during the 2021 legislative session and implement a coordinated health risk warning protocol later in 2021.
- More ongoing emphasis is needed on causes that are responsible for increasing trends in frequency, duration, and severity of red tide such as anthropogenic nutrient enrichment of nearshore waters of the Gulf of Mexico. Management and mitigation opportunities can be pursued concurrently but root causality should be the primary goal for mitigation.
- Emphasizing consistent legislative funding support and program coordination is integral to keep progress in motion especially during years between red tide events.
- We would expect that the recommendations of the first HAB Task Force and HAB Public Health Technical Panel will be utilized to a greater degree rather than to avoid duplication where relevant.

Citations

Abbott, G. M., et al. 2009. Resource guide for public health response to harmful algal blooms in Florida. Fish and Wildlife Research Institute Technical Report TR-14. viii + 132 p.

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