

FROM: The Biscayne Bay Regional Restoration Coordination Team
(BBRRCT)
TO: The South Florida Ecosystem Restoration Task Force Working Group
SUBJECT: Algal Bloom in Northeast Florida Bay and Southern Biscayne Bay

As accepted by the Working Group on January 20, 2006, the Biscayne Bay Regional Restoration Coordination Team (the Team) Action Plan calls for the BBRRCT to review and provide comments on Biscayne Bay related issues and concerns. The Team received information in the form of presentations and a panel discussion regarding the algal bloom in Northeast Florida Bay and Southern Biscayne Bay on February 9, 2007. The panel was composed of experts and scientists from the following entities and agencies: South Florida Water Management District, University of Miami's Rosenstiel School of Marine Science, Miami-Dade County's Department of Environmental Resource Management, Florida Department of Transportation, and Florida International University (see the attached agenda).

The Team concluded the following from the panel presentations:

- The combined effects of hurricane disturbances, canal discharges and road construction contributed to increased Total Phosphorus levels, which caused the bloom. Any one of these potential causes alone does not fully explain the spatial or temporal pattern of the bloom.
- Even if no additional phosphorus enters the affected waters, the bloom could persist for a long period of time, potentially more than a year, due to limited flushing and long residence times of the basins, coupled with a positive feedback loop involving release of nutrients from decomposing matter, including the bloom organisms themselves.
- A need exists for continued long-term water quality monitoring for tracking trends throughout the coastal ecosystem in order to provide essential and valuable background data for interpreting temporal and spatial trends. An unmet need exists for higher resolution, localized monitoring to respond to shorter term events, such as storms or construction projects.
- Florida Bay and Biscayne Bay are extremely sensitive to unnatural increased nutrient inputs due to the Phosphorus limited nature of these waters; even a slight increase in nutrient levels can have deleterious effects to the ecosystem.
- The Phosphorus discharges from the C-111 canal may have contributed to the onset of the bloom, but most likely was not a significant factor in the persistence of the bloom as Phosphorus levels in the canals stabilized rapidly, and elevated Phosphorus persists in the bays. Historic elevated Phosphorus discharges similar to those seen in 2005 have not resulted in persistent or sustained algae blooms.

Elevated Phosphorus has been recorded in proximity to on-going road construction activities.

- It is highly desirable for coordinated and organized collaboration amongst involved agencies and parties on this issue with the aim to share data, exchange ideas, leverage resources, and communicate with stakeholders.

The BBRCT wanted to advise the Working Group of the Team's most important findings and observations as well as inform the Working Group of our desire to provide a forum for periodic discussion, public input and information exchange about the bloom.

The panel presentations can be found on the sfrestore.org website. An agenda of the BBRCT meeting with the names of the presenters is attached.

**For purposes of this letter the term "algal bloom" is used throughout this letter for ease of reading, and should not be confused with a Harmful Algal Bloom (HAB). The bloom organism is a cyanobacterium, not a true algal species, belonging to the genus *Synechococcus*. This particular species of organism is adapted to low nutrient conditions and low light conditions. It is considered to be an oceanic species, but has also been documented in estuarine conditions.*