

# SUMMARY

## Alliance for Coastal Technologies

Technologies and Methodologies  
for the

Detection of Harmful Algae and their Toxins

Draft Workshop Report, rev. 3  
22–24 October, 2008



# MOTIVATION

A primary motivation was to assess the need and community support for an ACT-led Performance Demonstration of Harmful Algae Detection Technologies and Methodologies.

In addition, the attendees assessed the 'readiness' of various technologies for testing and the need for calibration and methods quantification.

# WORKSHOP GOALS

- 1) Review the current state of technologies / methodologies and their success at addressing user needs
- 2) Develop strategies for the commercialization and transition to operations of new technologies / methodologies (i.e., assessment of potential markets and operational needs).
- 3) Build community consensus on approaches and foci of demonstration activities (from laboratory inter-calibrations to field testing of detection technologies).

# CHALLENGES:

- the geographic uniqueness of primary HA species around the country,
- the variety of HAB impacts, and
- the need for a clear vision of the technology/methodology requirements for the various species and applications.

*In some cases regulatory decisions or early warning are based on cell counts and in other cases on toxin accumulation.*

# CONSENSUS:

ACT should support the development of HA detection technology performance demonstrations tuned for regional species of importance in order to promote the adoption of state of the art technologies into HAB monitoring networks.

\* This is important to HABIOS #2, because the technology is not perceived as “mature” enough.

# CONSENSUS

ACT would best serve the HAB community by taking a more supportive role for projects already in place to study and compare different technologies.

1. The Florida Fish and Wildlife Conservation Commission has received funding to evaluate various optical, molecular, and hybrid detection methods for *Karenia* against the accepted “cell count” method. The goal of this project is to evaluate how these technologies or methodologies can be integrated into existing sensor platforms.

\* This is relevant to the GoMx HABIOS Plan.

\* 2. As part of a community driven development of a HAB monitoring network along coastal California and in support of the development of a west coast regional HAB forecasting system, an inter-comparison of field and laboratory monitoring practices.

\* 3. Great Lakes: development of a HAB alert system using remote and molecular methods. With emerging technologies and methodologies for detection of the cyanobacterial toxin, microcystin.

\* Relevant to HABIOS developments

# DETAILS in ACT Report on

TABLE 1. The arsenal of existing methodological approaches that have been employed for detection (presence/absence) and quantification of HA species and their toxins.

TABLE 2. Field ready derivative systems designed for specific detection of HA species and/or their associated phycotoxins in water or tissue samples. All have undergone extensive field testing.