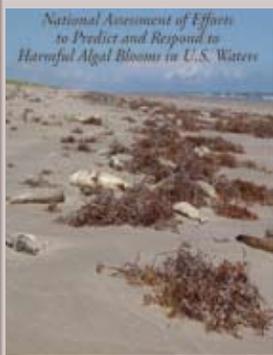


# National Assessment of Efforts to Predict and Respond to Harmful Algal Blooms in U.S. Waters



## Report Description

The *National Assessment of Efforts to Predict and Respond to Harmful Algal Blooms in U.S. Waters* is the first of five reports mandated by the 2004 reauthorization of the Harmful Algal Bloom and Hypoxia Research and Control Act (HABHRCA). This report was developed through an interagency process and describes the nature of harmful algal blooms (HABs) in U.S. waters, federal actions to predict and respond to HAB events, as well as opportunities for advancement in these areas.

To download the report: [http://ocean.ceq.gov/about/docs/iwg4h\\_prprt\\_final.pdf](http://ocean.ceq.gov/about/docs/iwg4h_prprt_final.pdf)

## Report Findings

- The frequency of HAB events is increasing, and their geographic distribution has expanded to now include all coastal states. Freshwater HABs are also an increasing problem for inland states.
- The economic impacts due to marine HABs average \$82 million/year, but individual events can greatly exceed this amount.
- Federal agencies have made significant progress toward improving HAB prediction and response with the majority of advances in HAB **Mitigation**, which minimizes HAB impacts to human health, economies, and the environment. Coastal managers are now better equipped for early warning of HAB events and for predicting bloom movement. There is also better coordination and access to resources.
- **Prevention** is the ultimate management goal for HABs. The complexity of HAB organisms and the ecosystems in which they live pose significant challenges, but research to advance understanding of bloom initiation, development, transport, and decline is moving toward this goal.
- Promising **Control** options are being explored, such as removal by clay flocculation and use of HAB-specific biological controls. Obstacles must still be overcome, however, before control methods can be tested and used in natural environments.



Cyanobacterial HAB on the Potomac River in 2004 (Photo: R. Lacouture, Morgan State University)



Automated Underwater Vehicle for detecting Florida Red Tides provides early warning (Photo: G. Kirkpatrick, Mote Marine Laboratory)



Control by clay flocculation has shown effectiveness for controlling blooms under certain conditions (Photo: J. Culter, Mote Marine Laboratory)



Lessening impacts on recreational and commercial fisheries will be part of the RDDTT Plan to protect human health, economies, and the environment.

## Next Steps

- Develop a strategy for maximizing progress in areas identified as major opportunities for advancement:
  - 1) researching prevention, control, and mitigation of HABs
  - 2) improving and coordinating critical infrastructure
  - 3) improving and coordinating event response
- This strategy will be the focus of the next HABHRCA report, the *National Scientific Research, Development, Demonstration, and Technology Transfer Plan for Reducing HAB Impacts (The RDDTT Plan)*, which is due to the Joint Subcommittee on Ocean Science and Technology in December 2007.

For more about HABHRCA: <http://www.cop.noaa.gov/stressors/extremeevents/hab/habhrca/>  
For questions or to request a hard copy, contact Paul Bradley (Paul.Bradley@noaa.gov)