



Harmful Algal Bloom and Hypoxia Research and Control Act (HABHRCA)



Both Congress and the Administration have recognized harmful algal blooms (HABs) and hypoxic events (severe oxygen depletion) as some of the most scientifically complex and economically damaging coastal issues challenging our ability to safeguard the health of our Nation's coastal ecosystems. Virtually every coastal state has reported recurring major blooms, and a recent national assessment revealed that over half of our Nation's estuaries experience hypoxic conditions. Impacts have included the loss of economically and culturally vital shellfish resources, illness and death in populations of cherished protected marine mammals, and serious threats to human health posed by algal toxins. Just one HAB event can cost tens of millions of dollars to local coastal economies, and over the past few decades the total costs associated with HABs have been conservatively estimated at over \$1 billion.

In December 2004, Congress enacted and the President signed into law the Harmful Algal Bloom and Hypoxia Amendments Act of 2004 (Public Law 108-456) otherwise known as HABHRCA.

This Act, originally passed in 1998 to combat the growing threat of HABs and hypoxia, reaffirms and expands the mandate for NOAA to advance the scientific understanding and ability to detect, monitor, assess, and predict events. HABHRCA also calls for development of programs to research methods of prevention, control, and mitigation of HABs. The Administration further recognizes the importance of HABs and hypoxia as high priority national issues by specifically calling for the implementation of HABHRCA in the President's U.S. Ocean Action Plan.



HABHRCA calls for the reestablishment of the federal Interagency Task Force on HABs and Hypoxia which will oversee the production of the following assessments, reports, and programs:

- **Report to Congress on Efforts to Predict and Respond to Harmful Algal Blooms**
- **National Scientific Research, Development, Demonstration, and Technology Transfer Plan on Reducing Impacts from Harmful Algal Blooms**
- **Scientific Assessment of Freshwater Harmful Algal Blooms**
- **Scientific Assessment of Harmful Algal Blooms**
- **Scientific Assessment of Hypoxia**

HABHRCA authorizes funding to be appropriated to the Secretary of Commerce for research, education, and monitoring activities related to the prevention, reduction, and control of harmful algal blooms and hypoxia. Specifically, funding is authorized for the following ongoing and new programs and activities:

- **Research and assessment activities, including procurement of necessary research equipment, at research laboratories of the National Ocean Service (NOS) and the National Marine Fisheries Service (NMFS) to be carried out by the National Oceanic and Atmospheric Administration (NOAA).**
- **The competitive, peer-reviewed Ecology and Oceanography of Harmful Algal Blooms (ECOHAB) program carried out under the Coastal Ocean Program established under section 201c of Public Law 102-567.**
- **Freshwater harmful algal blooms added to the research priorities of ECOHAB.**
- **A competitive, peer-reviewed research program on management measures that can be taken to prevent, reduce, control, and mitigate harmful algal blooms, to be carried out by NOAA.**
- **Federal and State annual monitoring and analysis activities for harmful algal blooms administered by NOAA NOS. These activities are supported by the competitive, peer-reviewed Monitoring and Event Response for Harmful Algal Bloom (MERHAB) program administered by NOAA NOS.**
- **Activities related to research and monitoring of hypoxia carried out by NOAA NOS and the Office of Oceanic and Atmospheric Research. A plan for a peer-reviewed program for hypoxia was called for in the original legislation (HABHRCA 1998), and these activities are supported by the competitive, peer-reviewed Northern Gulf of Mexico (NGOMEX) program and Coastal Hypoxia Research Program (CHRP) administered by NOAA NOS.**
- **Efforts to provide for local and regional scientific assessments of hypoxia and harmful algal blooms.**

NOAA and our federal, state, and academic partners have made considerable progress in the scientific understanding, detection, monitoring, assessment, and prediction of HABs and hypoxia in coastal ecosystems. These advances are helping coastal managers lessen or prevent the detrimental effects of these phenomena on human health and on valuable coastal resources. The recent reauthorization of HABHRCA will ensure continued development and delivery, through a suite of research programs, of 1) regionally-specific detection and analysis methods, 2) coupled biological and physical models to forecast HABs and hypoxia and provide quantitative information on causes, 3) enhanced state and local HAB monitoring capabilities in both marine and freshwater environments, and 4) new methods for prevention, control and mitigation.

The interdisciplinary studies supported through the programs above are advancing the state of the science and leading to results that directly address the needs of state coastal resource and public health managers. They demonstrate the type of coordinated, holistic, ecosystem-based studies required to implement NOAA's strategic plan goal of ecosystem approaches to management.

Tools and technologies being developed under HABHRCA are also critical for NOAA to meet its ocean and human health responsibilities under the Oceans and Human Health Act and Marine Mammal Protection Act. For example, HABHRCA research activities are closely tied to the NOAA plan for successful expansion of operational HAB forecasting systems around the US coast to include the Pacific Northwest, California Coast, Gulf of Mexico, Chesapeake Bay, and Gulf of Maine. HABHRCA research is also developing and delivering the biological components that are key to making regional ocean observing systems relevant to coastal resource and public health managers.

Resources: Contact Dr. Quay Dortch, ECOHAB Program Coordinator, 301-713-3338 x157, quay.dortch@noaa.gov; or contact NOAA at HABS@noaa.gov; website: <http://www.cop.noaa.gov/>