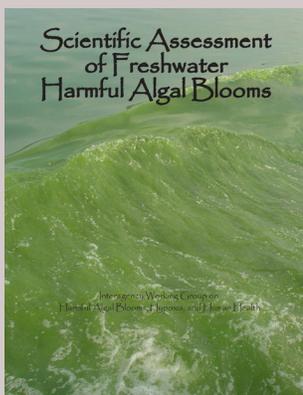


# Scientific Assessment of Freshwater Harmful Algal Blooms

## Report Description



The *Scientific Assessment of Freshwater Harmful Algal Blooms* is one of five reports mandated by the 2004 reauthorization of the Harmful Algal Bloom and Hypoxia Research and Control Act (HABHRCA) and the only one focused solely on freshwater harmful algal blooms (HABs). This report was developed by the Joint Subcommittee on Ocean Science and Technology's Interagency Working Group on Harmful Algal Blooms, Hypoxia, and Human Health (IWG-4H).

The report describes the state of the knowledge on HABs in U.S. inland and freshwaters and it presents a plan to advance research and reduce the impacts of freshwater HABs on humans and the environment.

To download the *Scientific Assessment of Freshwater Harmful Algal Blooms*: <http://ocean.ceq.gov/about/jsost.html>

The report is based on the monograph, *Cyanobacterial Harmful Algal Blooms: State of the Science and Research Needs*, which was a product of the interagency, International Symposium on Cyanobacterial Harmful Algal Blooms ([http://www.epa.gov/cyano\\_habs\\_symposium/](http://www.epa.gov/cyano_habs_symposium/)).

## Report Findings

- Freshwater HABs now occur in all U.S. states.
- Most freshwater HAB problems are caused by harmful cyanobacteria.
- Toxic cyanobacterial blooms in drinking water reservoirs and recreational waters may pose a risk to human health.
- Freshwater HABs also threaten domestic animals, wildlife, and ecosystem sustainability.
- Progress on freshwater HAB research and response in the United States has been made mostly at the individual project level with larger Federal research and response efforts focused on the Great Lakes.
- Future progress in freshwater HAB research and response will be enhanced by programs with research focused in specific priority areas.



Fish kill associated with a bloom of the golden alga, *Prymnesium parvum*, in Texas (Photo: Joan Glass, TPWD)



Dead fish in Lake Erie. (Photo: Steve Wilhelm, University of Tennessee)



Filtering for microcystin analysis in Lake Erie. (Photo: Steve Wilhelm, University of Tennessee)



Anglers fishing on Lost Creek in Oregon during a bloom of cyanobacteria. (Photo: USACE)

## Priority Areas for Advancing Research and Response

- Detection methods for HAB cells and toxins
- Better environmental monitoring of cells and toxins to improve early warnings
- Determining causes, through long-term studies, in order to predict blooms
- Understanding uptake, metabolism, and health effects of HAB toxins in humans and animals
- Assessments of human health and ecological risks
- Methods of HAB prevention and control
- HAB research and response infrastructure, response programs similar to those for marine HABs, and coordination of existing programs