The Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2013

What are Harmful Algal Blooms and Hypoxia?

Harmful algal blooms (HABs) are episodes of excessive growth of poisonous or toxic algae that can cause illness or death in humans, pets, wildlife, or food sources such as fish and shellfish. HABs are thought to be caused by a combination of the right temperature, light, and nutrient conditions; the latter factor is exacerbated by addition of nutrients such as phosphorus and nitrogen from agricultural, residential, and industrial sources. Other environmental factors such as the presence of non-native or invasive species may also contribute to HABs. HABs occur in fresh and marine waters and result in the depletion of oxygen (hypoxia) in the water. Total costs over the past few decades from fish kills, human illness, and loss of tourism and fisheries revenue in the U.S. has been estimated at over $1 billion. The frequency and distribution of HABs have increased considerably across the U.S. in recent years, negatively affecting all coastal and Great Lakes states and numerous other inland states. Hypoxia refers to a condition in which the concentration of dissolved oxygen is reduced to less than 2-3 parts per million. Hypoxic areas, also called "dead zones," frequently occur in coastal and estuarine areas where rivers introduce nutrient-rich and less dense freshwater to the ocean. The 2013 hypoxic zone in the Gulf of Mexico has been forecast to be larger than average; recent research funded by the National Oceanic and Atmospheric Administration (NOAA) found that it could cover approximately 8,561 square miles (an area about the size of New Jersey) of the continental shelf offshore Louisiana and Texas.

Legislative History and Background:

The Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2013 would reauthorize the Harmful Algal Bloom and Hypoxia Research and Control Act, which was first enacted in 1998 and reauthorized in 2004 and 2008 (16 U.S.C. 1451 note). For over a decade this program has served as the federal government's research and response framework for harmful algal blooms. According to a recent NOAA report, U.S. seafood and tourism industries suffer annual losses of $82 million due to economic impacts of HABs.

Major Provisions:

The Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2013 would:

- **Streamline and coordinate existing HAB/Hypoxia activities** at NOAA and at other Federal agencies, prioritizing:
  - An action strategy to help communities understand, predict, control and mitigate freshwater and marine HAB and hypoxia events
  - Event response and infrastructure programs
- Provides for development of **Comprehensive Research and Action Plans** to **identify regional, state, and local needs** in prioritizing research and developing products and tools to aid decision making;
- **Promote the transition of research products into implementable actions** for regional, State, and local governments to predict, prevent, monitor, and mitigate HAB and hypoxia events and to minimize any resulting economic, ecologic, and human health impacts in their communities; and
- Provide for research and monitoring of freshwater HABs, including the Great Lakes.

Appropriations: The bill authorizes $20.5 million to NOAA from 2014 to 2018. Recent expenditures for NOAA's HAB and Hypoxia programs have been $15.9 million (FY 2007), $17.7 million (FY 2008), $20.3 million (FY 2009), $20.3 million (FY 2010), $18.7 million (FY 2011), and $12.1 million (FY 2012).