

United States is one example of potentially harmful algal blooms composed of naturally occurring species that reproduce explosively and that are increasing in frequency and intensity in the Nation's coastal waters;

“(2) other recent occurrences of harmful algal blooms include red tides in the Gulf of Mexico and the Southeast; brown tides in New York and Texas; ciguatera fish poisoning in Hawaii, Florida, Puerto Rico, and the United States Virgin Islands; and shellfish poisonings in the Gulf of Maine, the Pacific Northwest, and the Gulf of Alaska;

“(3) in certain cases, harmful algal blooms have resulted in fish kills, the deaths of numerous endangered West Indian manatees, beach and shellfish bed closures, threats to public health and safety, and concern among the public about the safety of seafood;

“(4) according to some scientists, the factors causing or contributing to harmful algal blooms may include excessive nutrients in coastal waters, other forms of pollution, the transfer of harmful species through ship ballast water, and ocean currents;

“(5) harmful algal blooms may have been responsible for an estimated \$1,000,000,000 in economic losses during the past decade;

“(6) harmful algal blooms and blooms of non-toxic algal species may lead to other damaging marine conditions such as hypoxia (reduced oxygen concentrations), which are harmful or fatal to fish, shellfish, and benthic organisms;

“(7) according to the National Oceanic and Atmospheric Administration in the Department of Commerce, 53 percent of United States estuaries experience hypoxia for at least part of the year and a 7,000 square mile area in the Gulf of Mexico off Louisiana and Texas suffers from hypoxia;

“(8) according to some scientists, a factor believed to cause hypoxia is excessive nutrient loading into coastal waters;

“(9) there is a need to identify more workable and effective actions to reduce nutrient loadings to coastal waters;

“(10) the National Oceanic and Atmospheric Administration, through its ongoing research, education, grant, and coastal resource management programs, possesses a full range of capabilities necessary to support a near and long-term comprehensive effort to prevent, reduce, and control harmful algal blooms and hypoxia;

“(11) funding for the research and related programs of the National Oceanic and Atmospheric Administration will aid in improving the Nation's understanding and capabilities for addressing the human and environmental costs associated with harmful algal blooms and hypoxia; and

“(12) other Federal agencies such as the Environmental Protection Agency, the Department of Agriculture, and the National Science Foundation, along with the States, Indian tribes, and local governments, conduct important work related to the prevention, reduction, and control of harmful algal blooms and hypoxia.”

#### § 4001a. Consultation required

In developing the assessments, reports, and plans under the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998, the Task Force shall consult with the coastal States, Indian tribes, local governments, appropriate industries (including fisheries, agriculture, and fertilizer), academic institutions, and non-governmental organizations with expertise in coastal zone science and management.

(Pub. L. 108-456, title I, §102 (part), Dec. 10, 2004, 118 Stat. 3630; Pub. L. 115-423, §9(f), Jan. 7, 2019, 132 Stat. 5463.)

#### REFERENCES IN TEXT

The Harmful Algal Bloom and Hypoxia Research and Control Act of 1998, referred to in text, is title VI of Pub. L. 105-383, Nov. 13, 1998, 112 Stat. 3447, which is classified generally to this chapter. For complete classification of this Act to the Code, see Short Title note under section 4001 of this title and Tables.

#### CODIFICATION

Section is comprised of part of section 102 of Pub. L. 108-456. Remainder of section 102 amended section 4001 of this title.

Section was enacted as part of the Harmful Algal Bloom and Hypoxia Amendments Act of 2004, and not as part of the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 which comprises this chapter.

Section was formerly set out as a note under section 1451 of Title 16, Conservation.

#### AMENDMENTS

2019—Pub. L. 115-423 substituted “the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998” for “the amendments made by this title”.

#### § 4002. National harmful algal bloom and hypoxia program

##### (a) Establishment

Not later than 1 year after June 30, 2014, the Under Secretary, acting through the Task Force, shall maintain and enhance a national harmful algal bloom and hypoxia program, including—

(1) a statement of objectives, including understanding, detecting, predicting, controlling, mitigating, and responding to marine and freshwater harmful algal bloom and hypoxia events; and

(2) the comprehensive research plan and action strategy under section 4003 of this title.

##### (b) Periodic revision

The Task Force shall periodically review and revise the Program, as necessary.

##### (c) Task Force functions

The Task Force shall—

(1) coordinate interagency review of the objectives and activities of the Program;

(2) expedite the interagency review process by ensuring timely review and dispersal of required reports and assessments under this chapter;

(3) support the implementation of the Action Strategy, including the coordination and integration of the research of all Federal programs, including ocean and Great Lakes science and management programs and centers, that address the chemical, biological, and physical components of marine and freshwater harmful algal blooms and hypoxia;

(4) support the development of institutional mechanisms and financial instruments to further the objectives and activities of the Program;

(5) review the Program's distribution of Federal funding to address the objectives and activities of the Program;

(6) promote the development of new technologies for predicting, monitoring, and mitigating harmful algal bloom and hypoxia conditions; and

(7) establish such interagency working groups as it considers necessary.

**(d) Lead Federal agency**

Except as provided in subsection (h), the National Oceanic and Atmospheric Administration shall have primary responsibility for administering the Program.

**(e) Program duties**

In administering the Program, the Under Secretary shall—

(1) promote the Program, including to local and regional stakeholders through the establishment and maintenance of a publicly accessible Internet website that provides information as to Program activities completed under this section;

(2) prepare work and spending plans for implementing the research and activities identified under the Action Strategy;

(3) administer peer-reviewed, merit-based, competitive grant funding—

(A) to maintain and enhance baseline monitoring programs established by the Program;

(B) to support the projects maintained and established by the Program;

(C) to address the research and management needs and priorities identified in the Action Strategy; and

(D) to accelerate the utilization of effective methods of intervention and mitigation to reduce the frequency, severity, and impacts of harmful algal bloom and hypoxia events;

(4) coordinate with, and work cooperatively to provide technical assistance to, regional, State, tribal, and local government agencies and programs that address marine and freshwater harmful algal blooms and hypoxia;

(5) coordinate with the Secretary of State to support international efforts on marine and freshwater harmful algal bloom and hypoxia information sharing, research, prediction, mitigation, control, and response activities;

(6) identify additional research, development, and demonstration needs and priorities relating to monitoring, prevention, control, mitigation, and response to marine and freshwater harmful algal blooms and hypoxia, including methods and technologies to protect the ecosystems affected by marine and freshwater harmful algal blooms and hypoxia;

(7) integrate, coordinate, and augment existing education and extension programs to improve public understanding and awareness of the causes, impacts, intervention, and mitigation efforts for marine and freshwater harmful algal blooms and hypoxia;

(8) facilitate and provide resources to train State and local coastal and water resource managers in the methods and technologies for monitoring, preventing, controlling, and mitigating marine and freshwater harmful algal blooms and hypoxia;

(9) support regional efforts to control and mitigate outbreaks through—

(A) communication of the contents of the Action Strategy and maintenance of online data portals for other information about harmful algal blooms and hypoxia to State, tribal, and local stakeholders; and

(B) overseeing the development, review, and periodic updating of the Action Strategy;

(10) convene at least 1 meeting of the Task Force each year; and

(11) perform such other tasks as may be delegated by the Task Force.

**(f) National Oceanic and Atmospheric Administration activities**

The Under Secretary shall—

(1) maintain and enhance the existing competitive programs at the National Oceanic and Atmospheric Administration relating to harmful algal blooms and hypoxia;

(2) carry out marine and Great Lakes harmful algal bloom and hypoxia events response activities;

(3) develop and enhance, including with respect to infrastructure, which shall include unmanned systems, as necessary, critical observations, monitoring, modeling, data management, information dissemination, and operational forecasts relevant to harmful algal blooms and hypoxia events;

(4) enhance communication and coordination among Federal agencies carrying out marine and freshwater harmful algal bloom and hypoxia activities and research;

(5) to the greatest extent practicable, leverage existing resources and expertise available from local research universities and institutions;

(6) increase the availability to appropriate public and private entities of—

(A) analytical facilities and technologies;

(B) operational forecasts; and

(C) reference and research materials;

(7) use cost effective methods in carrying out this Act; and

(8) develop contingency plans for the long-term monitoring of hypoxia.

**(g) Cooperative efforts**

The Under Secretary shall work cooperatively and avoid duplication of effort with other offices, centers, and programs within the National Oceanic and Atmospheric Administration, other agencies on the Task Force, and States, tribes, and nongovernmental organizations concerned with marine and freshwater issues to coordinate harmful algal bloom and hypoxia (and related) activities and research.

**(h) Freshwater**

With respect to the freshwater aspects of the Program, the Administrator, through the Task Force, shall carry out the duties otherwise assigned to the Under Secretary under this section, except the activities described in subsection (f).

**(1) Participation**

The Administrator's participation under this section shall include—

(A) research on the ecology and impacts of freshwater harmful algal blooms; and

(B) forecasting and monitoring of and event response to freshwater harmful algal blooms in lakes, rivers, estuaries (including their tributaries), and reservoirs.

**(2) Nonduplication**

The Administrator shall ensure that activities carried out under this chapter focus on new approaches to addressing freshwater harmful algal blooms and are not duplicative of existing research and development programs authorized by this chapter or any other law.

**(i) Integrated Coastal and Ocean Observation System**

The collection of monitoring and observation data under this chapter shall comply with all data standards and protocols developed pursuant to the Integrated Coastal and Ocean Observation System Act of 2009 (33 U.S.C. 3601 et seq.). Such data shall be made available through the system established under that Act.

(Pub. L. 105-383, title VI, §603A, as added Pub. L. 113-124, §4, June 30, 2014, 128 Stat. 1379; amended Pub. L. 115-423, §9(e), Jan. 7, 2019, 132 Stat. 5462.)

## REFERENCES IN TEXT

The Integrated Coastal and Ocean Observation System Act of 2009, referred to in subsec. (i), is subtitle C (§12301 et seq.) of title XII of Pub. L. 111-11, Mar. 30, 2009, 123 Stat. 1427, which is classified generally to chapter 49 (§3601 et seq.) of this title. For complete classification of this Act to the Code, see Short Title note set out under section 3601 of this title and Tables.

## AMENDMENTS

2019—Subsec. (e)(1). Pub. L. 115-423, §9(e)(1)(A), inserted “, including to local and regional stakeholders through the establishment and maintenance of a publicly accessible Internet website that provides information as to Program activities completed under this section” after “Program”.

Subsec. (e)(3)(D). Pub. L. 115-423, §9(e)(1)(B), added subpar. (D).

Subsec. (e)(4). Pub. L. 115-423, §9(e)(1)(C), substituted “, and work cooperatively to provide technical assistance to,” for “and work cooperatively with”.

Subsec. (e)(7). Pub. L. 115-423, §9(e)(1)(D), inserted “and extension” after “existing education” and “intervention,” after “awareness of the causes, impacts,”.

Subsec. (f)(3). Pub. L. 115-423, §9(e)(2)(A), inserted “, which shall include unmanned systems,” after “infrastructure”.

Subsec. (f)(7), (8). Pub. L. 115-423, §9(e)(2)(B)-(D), added pars. (7) and (8).

**§ 4003. Comprehensive research plan and action strategy****(a) In general**

Not later than 1 year after June 30, 2014, the Under Secretary, through the Task Force, shall develop and submit to Congress a comprehensive research plan and action strategy to address marine and freshwater harmful algal blooms and hypoxia. The Action Strategy shall identify—

- (1) the specific activities to be carried out by the Program and the timeline for carrying out those activities;
- (2) the roles and responsibilities of each Federal agency in the Task Force in carrying out the activities under paragraph (1); and
- (3) the appropriate regions and subregions requiring specific research and activities to address harmful algal blooms and hypoxia.

**(b) Regional focus**

The regional and subregional parts of the Action Strategy shall identify—

(1) regional priorities for ecological, economic, and social research on issues related to the impacts of harmful algal blooms and hypoxia;

(2) research, development, and demonstration activities needed to develop and advance technologies and techniques for minimizing the occurrence of harmful algal blooms and hypoxia and improving capabilities to detect, predict, monitor, control, mitigate, respond to, and remediate harmful algal blooms and hypoxia;

(3) ways to reduce the duration and intensity of harmful algal blooms and hypoxia, including deployment of response technologies in a timely manner;

(4) research and methods to address human health dimensions of harmful algal blooms and hypoxia;

(5) mechanisms, including the potential costs and benefits of those mechanisms, to protect ecosystems that may be or have been affected by harmful algal bloom and hypoxia events;

(6) mechanisms by which data, information, and products may be transferred between the Program and the State, tribal, and local governments and research entities;

(7) communication and information dissemination methods that State, tribal, and local governments may undertake to educate and inform the public concerning harmful algal blooms and hypoxia; and

(8) roles that Federal agencies may have to assist in the implementation of the Action Strategy, including efforts to support local and regional scientific assessments under section 4001(e) of this title.

**(c) Utilizing available studies and information**

In developing the Action Strategy, the Under Secretary shall utilize existing research, assessments, reports, and program activities, including—

- (1) those carried out under existing law; and
- (2) other relevant peer-reviewed and published sources.

**(d) Development of the Action Strategy**

In developing the Action Strategy, the Under Secretary shall, as appropriate—

- (1) coordinate with—
  - (A) State coastal management and planning officials;
  - (B) tribal resource management officials; and
  - (C) water management and watershed officials from both coastal States and non-coastal States with water sources that drain into water bodies affected by harmful algal blooms and hypoxia; and
- (2) consult with—
  - (A) public health officials;
  - (B) emergency management officials;
  - (C) science and technology development institutions;
  - (D) economists;
  - (E) industries and businesses affected by marine and freshwater harmful algal blooms and hypoxia;
  - (F) scientists with expertise concerning harmful algal blooms or hypoxia from academic or research institutions; and