

Calendar No. 249

108TH CONGRESS }
1st Session

SENATE

{ REPORT
108-125

**HARMFUL ALGAL BLOOM AND HYPOXIA
AMENDMENTS ACT OF 2003**

R E P O R T

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND
TRANSPORTATION

ON

S. 247



AUGUST 26, 2003.—Ordered to be printed

Filed, under authority of the order of the Senate of July 29 (legislative
day, July 21), 2003

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED EIGHTH CONGRESS

FIRST SESSION

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HARMFUL ALGAL BLOOM AND HYPOXIA AMENDMENTS ACT OF 2003

AUGUST 26, 2003.—Ordered to be printed

Filed, under authority of the order of the Senate of July 29 (legislative day, July 21), 2003

Mr. MCCAIN, from the Committee on Commerce, Science, and
Transportation, submitted the following

R E P O R T

[To accompany S. 247]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 247) “A Bill To reauthorize the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998, and for other purposes”, having considered the same, reports favorably thereon with an amendment (in the nature of a substitute) and recommends that the bill (as amended) do pass.

PURPOSE OF THE BILL

The purpose of S. 247, the Harmful Algal Bloom and Hypoxia Amendments Act of 2003, is to reauthorize and amend the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998. This bill would authorize the continuing work of the Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia. It also would require the Administration to develop a prediction and response plan, provide for local and regional assessments at the request of State, tribal, or local governments, develop an assessment of Great Lakes harmful algal blooms, and submit a scientific assessment of hypoxia in United States waters at least every five years.

BACKGROUND AND NEEDS

An algal bloom occurs when a single algal species multiplies until it dominates the microscopic plant (phytoplankton) commu-

nity, reaching such high concentrations that the water becomes discolored. These blooms are often called “red tides,” but also can appear green, yellow, or brown, depending on the type of algae. Most algal blooms are considered harmful because the algae can produce potent natural poisons known as biotoxins. In addition, algal blooms may produce nuisance conditions that are harmful because of their impacts on coastal resources and the local economy. In the past, only a few regions of the United States were affected by harmful algal blooms (HABs), but now virtually every coastal State has reported major blooms, including those that border Lake Erie where HABs have occurred in recent summers. These blooms can kill fish and other marine organisms, poison people who eat contaminated seafood, and cause respiratory distress in susceptible people due to inhalation of aerosolized toxin. Nontoxic HABs can cause harm by irritating or damaging fish gills, shading out other marine plants, or causing low oxygen conditions. These impacts can affect fishing, tourism, and coastal recreation.

Scientists offer a range of opinions on what may be causing the occurrence of HABs to increase. Marine transportation may have contributed to the global HAB expansion by transporting toxic species in ballast water. Global climate change, increased nonpoint source nutrient runoff from urban and agricultural activities, and the dramatic increase in aquaculture activities also may be contributing to HAB expansion. Other new bloom events may reflect indigenous algae populations that were discovered because of better detection methods. The potential causal linkage between pollution and HAB outbreaks, however, cannot be ignored. Increased nutrient loads to coastal waters may stimulate the growth of algae populations, which initiates a HAB event. Some scientists argue that the nutrients channeled to coastal waters by human activities are delivered in proportions that differ from naturally occurring ratios, creating conditions that favor the rapid growth and high concentration of harmful algal populations. More research is necessary to determine what causes HABs.

Hypoxia refers to a depressed concentration of dissolved oxygen in water. Most forms of aquatic life require an adequate level of dissolved oxygen and when there are deficiencies, hypoxia, or “dead zones,” can occur in the water column. Hypoxia events are natural phenomena, but they can be intensified and made more frequent and expansive by certain human activities. For example, eutrophic conditions caused by increased nutrient loading may result in increased growth of phytoplankton and macrophytes, which exert greater consumption of oxygen when respiring, such as during overnight hours when photosynthesis is absent, and thus contribute to hypoxic conditions. Hypoxic areas are more widespread during the summer, when they may drive out or kill marine animal life, and usually dissipate by winter. The largest hypoxic area affecting the United States is in the northern Gulf of Mexico near the mouth of the Mississippi River, but there also are others of varying degrees, and they can significantly impair fisheries production and ecosystem function in these regions.

Hypoxic areas frequently occur in coastal waters where rivers enter the ocean (e.g. estuaries). Fresh water is less dense than saltwater and typically flows across the top of the sea water. The fresh surface water effectively “caps” the more dense, saline bottom wa-

ters. This retards mixing, which creates a two-layer system and promotes hypoxia development in the lower, more saline waters. Hypoxic conditions can be exacerbated by high concentrations of nutrients delivered to the ocean in river water. These nutrients promote primary productivity that, in addition to causing HAB outbreaks, contributes to hypoxia by consuming oxygen in the surface water. Hypoxia is more likely to occur in estuaries with high nutrient loading and low flushing (i.e. low freshwater turnover).

In the northern Gulf of Mexico, the greatest algal growth in surface waters occurs about a month after maximum river discharge in the late spring, with hypoxic bottom water developing a month later, usually by mid-summer. Human activities that increase nutrient loading can increase the intensity, spatial extent, and duration of hypoxic events. Storms and tides may mix the hypoxic bottom water and the aerated surface water, usually dissipating the hypoxia by autumn. Although the extent of the effects of hypoxic events on United States coastal ecosystems is still uncertain, the phenomenon is of increasing concern to coastal States.

The Harmful Algal Bloom and Hypoxia Research and Control Act was signed into law on November 13, 1998. This Act recognized that many of our nation's coastal areas suffer from harmful algal blooms and hypoxia each year, threatening coastal ecosystems and fisheries and endangering human health. To respond to these concerns, the Act established an Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia and mandated the formulation of the following three national assessments: a National Assessment on Harmful Algal Blooms; a National Assessment on Hypoxia; and an Assessment and a Plan for Hypoxia in the Gulf of Mexico. These assessments—and the continuing occurrence of HAB and hypoxia events—demonstrate the need for ongoing work in predicting, monitoring, and mitigating these potentially dangerous events.

This bill, S. 247, would reauthorize and amend the original Act, providing funding authorization levels for Fiscal Year (FY) 2004 through 2008. It also would make the Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia (created in the 1998 Act) permanent, require that a Prediction and Response Plan be submitted to Congress within 12 months of enactment, and authorize the Secretary of Commerce to assist with local and regional assessments of hypoxia, toxic algae, and harmful algal blooms. It also would require the Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia to conduct a scientific assessment of Great Lakes harmful algal blooms within 24 months of enactment and a scientific assessment of hypoxia in United States coastal waters, including the Great Lakes, not less than once every five years, with the first assessment within 24 months of enactment.

LEGISLATIVE HISTORY

S. 247 was introduced by Senators Snowe and Breaux on January 29, 2003, and it was referred to the Senate Committee on Commerce, Science, and Transportation. On June 26, 2003, the bill was considered by the Committee in an open executive session. The Committee, without objection, ordered S. 247 be reported with an amendment in the nature substitute. Senators Levin, DeWine, and Voinovich were added as co-sponsors on July 7, 2003.

ESTIMATED COSTS

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

S. 247—Harmful Algal Bloom and Hypoxia Amendments Act of 2003

Summary: S. 247 would reauthorize the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 for the next five years. This legislation also would extend the life of a federal inter-agency task force established to assess the problems of algal blooms and hypoxia. Algal blooms are unusual concentrations of algae that produce toxins that are implicated in fish kills and are considered a possible threat to public health. They also can lead to other damaging marine conditions such as hypoxia, which occurs when an algal bloom dies and decomposes, reducing oxygen in the waters to levels that are harmful to aquatic life.

This legislation would authorize the appropriation of \$26 million in 2004 and \$135 million over the 2004–2008 period for various efforts by an interagency task force to control aquatic problems related to algal blooms and hypoxia. Such efforts would include research, education, and management activities related to preventing, reducing, and controlling algal blooms, local and regional assessments of harmful algal blooms and hypoxia, and the development of a prediction and response plan to protect the environment and public health from harmful algal blooms.

CBO estimates that implementing S. 247 would cost \$118 million over the 2004–2008 period, assuming appropriation of the authorized amounts. Enacting S. 247 would not affect direct spending or revenues. The legislation contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

Estimated cost to the Federal Government: The estimated budgetary impact of S. 247 is shown in the following table. The costs of this legislation fall within budget function 300 (natural resources and environment). CBO assumes that S. 247 will be enacted by September 30, 2003, and that the amounts authorized by the bill will be appropriated near the start of each fiscal year. Estimated outlays are based on historical spending patterns for similar programs.

	By fiscal year, in millions of dollars—					
	2003	2004	2005	2006	2007	2008
SPENDING SUBJECT TO APPROPRIATION						
Spending under current law:						
Budget authority ¹	16	0	0	0	0	0
Estimated outlays	16	6	2	1	0	0
Proposed changes:						
Authorization level	0	26	27	27	28	28
Estimated outlays	0	16	23	25	26	28

	By fiscal year, in millions of dollars—					
	2003	2004	2005	2006	2007	2008
Spending under S. 247:						
Authorization level ¹	16	26	27	27	28	28
Estimated outlays	16	22	25	26	26	28

¹ The 2003 level is the amount appropriated for that year for activities currently being performed under the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998.

Intergovernmental and private-sector impact: The legislation contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, or tribal governments.

Estimate prepared by: Federal Costs: Susanne S. Mehlman. Impact on State, Local, and Tribal Governments: Marjorie Miller. Impact on the Private Sector: Cecil McPherson.

Estimate approved by: Peter H. Fontaine, Deputy Assistant Director for Budget Analysis.

REGULATORY IMPACT STATEMENT

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation, as reported:

NUMBER OF PERSONS COVERED

The bill would require the development of Federal inter-agency assessments on harmful algal blooms and hypoxia, as well as prediction and response plans at the request of State, tribal, and local governments. It does not authorize any new regulations and therefore will not subject any individuals or businesses to new regulations.

ECONOMIC IMPACT

The bill would authorize \$26 million in FY 2004, \$26.5 million in FY 2005, \$27 million in FY 2006, \$27.5 million for FY 2007, and \$28 million for FY 2008 in appropriations to the Secretary of Commerce. These funding levels are relatively modest and are not expected to have an inflationary impact on the nation's economy.

PRIVACY

The bill will not have any adverse impact on the personal privacy of individuals.

PAPERWORK

The bill will not increase paperwork requirements for the private sector. It requires the development of two one-time Federal inter-agency assessments: local and regional assessments to be conducted at the request of State, tribal, or local governments; and a Federal inter-agency scientific assessment to be conducted every five years.

SECTION-BY-SECTION ANALYSIS

Section 1. Short Title

This section states the Act would be entitled the “Harmful Algal Bloom and Hypoxia Amendments Act of 2003.”

Section 2. Retention of Task Force

This section would amend section 603 of the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 by striking subsection (e), thereby making the Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia permanent.

Section 3. Prediction and Response Plan

This section would require the development of a Prediction and Response Plan to be submitted to Congress not later than 12 months after the date of enactment. This plan would be designed to protect environmental and public health from the impacts of harmful algal blooms. It would require a review and evaluation of techniques for predicting HAB outbreaks, identify innovative response measures, and include partnership approaches.

Section 4. Local and Regional Assessments

This section would authorize the Secretary of Commerce, in coordination with the Task Force and to the extent that funds are available, to provide for local and regional assessments of hypoxia and harmful algal blooms, as requested by coastal States, Indian tribes, and local governments. It also would require the Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia to conduct a scientific assessment of Great Lakes harmful algal blooms within 24 months of enactment and a scientific assessment of hypoxia in United States coastal waters, including the Great Lakes, not less than once every five years with the first assessment within 24 months of enactment.

Section 5. Authorization of Appropriations

This section would authorize \$26 million in FY 2004, \$26.5 million in FY 2005, \$27 million in FY 2006, \$27.5 million in FY 2007, and \$28 million in FY 2008 to the Secretary of Commerce for research, education, and monitoring activities related to the prevention, reduction, and control of harmful algal blooms and hypoxia. This funding authorization is further allocated for the following programs:

- National Oceanic and Atmospheric Administration's (NOAA) research and assessment activities at the research laboratories of the National Ocean Service and the National Marine Fisheries Service: \$2.5 million annually for FY 2004 through 2008;

- Ecology and Oceanography of Harmful Algal Blooms (ECOHAB) project under the Coastal Ocean Program: \$8.2 million annually for FY 2004 through FY 2008, of which \$2 million would be used to conduct the scientific assessment of Great Lakes harmful algal blooms required under Section 4 of this bill;

- NOAA's National Ocean Service to conduct peer-reviewed research on management measures that can be taken to prevent, reduce, control, and mitigate harmful algal blooms: \$2 million for FY 2004, and \$3 million annually for FY 2005 through FY 2008.

- Federal and State annual monitoring and analysis activities for harmful algal blooms administered by the National

Ocean Service: \$6 million annually for FY 2004 through FY 2008;

—Activities related to research and monitoring on hypoxia by the National Ocean Service and NOAA's Office of Oceanic and Atmospheric Research: \$5 million for FY 2004, \$5.5 million for FY 2005, \$6.6 million for FY 2006, \$7.1 million for FY 2007, and \$7.6 for FY 2008; and

—The Secretary of Commerce, in coordination with the Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia, to conduct the Local and Regional Assessments which would be created under Section 4: \$3 million annually for FY 2004 through FY 2008.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new material is printed in italic, existing law in which no change is proposed is shown in roman):

HARMFUL ALGAL BLOOM AND HYPOXIA RESEARCH AND CONTROL ACT OF 1998

[16 U.S.C. 1451 NT]

* * * * *

SEC. 603. ASSESSMENTS.

(a) ESTABLISHMENT OF INTER-AGENCY TASK FORCE.—The President, through the Committee on Environment and Natural Resources of the National Science and Technology Council, shall establish an Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia (hereinafter referred to as the “Task Force”). The Task Force shall consist of the following representatives from—

- (1) the Department of Commerce (who shall serve as Chairman of the Task Force);
- (2) the Environmental Protection Agency;
- (3) the Department of Agriculture;
- (4) the Department of the Interior;
- (5) the Department of the Navy;
- (6) the Department of Health and Human Services;
- (7) the National Science Foundation;
- (8) the National Aeronautics and Space Administration;
- (9) the Food and Drug Administration;
- (10) the Office of Science and Technology Policy;
- (11) the Council on Environmental Quality; and
- (12) such other Federal agencies as the President considers appropriate.

(b) ASSESSMENT OF HARMFUL ALGAL BLOOMS.—

- (1) Not later than 12 months after the date of the enactment of this title, the Task Force, in cooperation with the coastal States, Indian tribes, and local governments, industry (including agricultural organizations), academic institutions, and non-governmental organizations with expertise in coastal zone management, shall complete and submit to the Congress an as-

assessment which examines the ecological and economic consequences of harmful algal blooms, alternatives for reducing, mitigating, and controlling harmful algal blooms, and the social and economic costs and benefits of such alternatives.

(2) The assessment shall—

(A) identify alternatives for preventing unnecessary duplication of effort among Federal agencies and departments with respect to harmful algal blooms; and

(B) provide for Federal cooperation and coordination with and assistance to the coastal States, Indian tribes, and local governments in the prevention, reduction, management, mitigation, and control of harmful algal blooms and their environmental and public health impacts.

(c) ASSESSMENT OF HYPOXIA.—

(1) Not later than 12 months after the date of the enactment of this title, the Task Force, in cooperation with the States, Indian tribes, local governments, industry, agricultural, academic institutions, and non-governmental organizations with expertise in watershed and coastal zone management, shall complete and submit to the Congress an assessment which examines the ecological and economic consequences of hypoxia in United States coastal waters, alternatives for reducing, mitigating, and controlling hypoxia, and the social and economic costs and benefits of such alternatives.

(2) The assessment shall—

(A) establish needs, priorities, and guidelines for a peer-reviewed, interagency research program on the causes, characteristics, and impacts of hypoxia;

(B) identify alternatives for preventing unnecessary duplication of effort among Federal agencies and departments with respect to hypoxia; and

(C) provide for Federal cooperation and coordination with and assistance to the States, Indian tribes, and local governments in the prevention, reduction, management, mitigation, and control of hypoxia and its environmental impacts.

[(e) DISESTABLISHMENT OF TASK FORCE.—The President may disestablish the Task Force after submission of the plan in section 604(d).]

(e) PREDICTION AND RESPONSE PLAN.—

(1) DEVELOPMENT OF PLAN.—*Not later than 12 months after the date of enactment of the Harmful Algal Bloom and Hypoxia Amendments Act of 2003, the President, in consultation with the chief executive officers of the States, shall develop and submit to the Congress a plan to protect environmental and public health from impacts of harmful algal blooms. In developing the plan, the President shall consult with the Task Force, the coastal States, Indian tribes, local governments, industry, academic institutions, and non-governmental organizations with expertise in coastal zone science and management.*

(2) PLAN REQUIREMENTS.—*The plan shall—*

(A) review techniques for prediction of the onset, course, and impacts of harmful algal blooms including evaluation of their accuracy and utility in protecting environmental and public health and provisions for implementation;

- (B) identify innovative response measures for the prevention, control, and mitigation of harmful algal blooms and provisions for their development and implementation; and
- (C) include incentive-based partnership approaches where practicable.

(3) *PUBLICATION AND OPPORTUNITY FOR COMMENT.*—At least 90 days before submitting the plan to the Congress, the President shall cause a summary of the proposed plan to be published in the Federal Register for a public comment period of not less than 60 days.

(4) *FEDERAL ASSISTANCE.*—The Secretary of Commerce, in coordination with the Task Force and to the extent of funds available, shall provide for Federal cooperation with and assistance to the coastal States, Indian tribes, and local governments in implementing measures in paragraph (2), as requested.

(f) *LOCAL AND REGIONAL ASSESSMENTS.*—

(1) *IN GENERAL.*—The Secretary of Commerce, in coordination with the Task Force and to the extent of funds available, shall provide for local and regional assessments of hypoxia and harmful algal blooms, as requested by coastal States, Indian tribes, and local governments.

(2) *PURPOSE.*—Local and regional assessments may examine—

- (A) the causes of hypoxia or harmful algal blooms in that area;
- (B) the ecological and economic impacts of hypoxia or harmful algal blooms;
- (C) alternatives to reduce, mitigate, and control hypoxia and harmful algal blooms; and
- (D) the social and economic costs and benefits of such alternatives.

(g) *SCIENTIFIC ASSESSMENT OF GREAT LAKES HARMFUL ALGAL BLOOMS.*—

(1) Not later than 24 months after the date of enactment of the Harmful Algal Bloom and Hypoxia Research Amendments Act of 2003 the Task Force shall complete and submit to Congress a scientific assessment of current knowledge about harmful algal blooms in the Great Lakes, including a research plan for coordinating Federal efforts to better understand Great Lakes harmful algal blooms.

(2) The Great Lakes harmful algal bloom scientific assessment shall—

- (A) examine the causes and ecological consequences, and the economic costs, of harmful algal blooms with significant effects on Great Lakes locations, including estimations of the frequency and occurrence of significant events;
- (B) establish priorities and guidelines for a competitive, peer-reviewed, merit-based interagency research program, as part of the Ecology and Oceanography of Harmful Algal Blooms (ECOHAB) project, to better understand the causes, characteristics, and impacts of harmful algal blooms in Great Lakes locations; and
- (C) identify ways to improve coordination and to prevent unnecessary duplication of effort among Federal agencies

and departments with respect to research on harmful algal blooms in Great Lakes locations.

(h) SCIENTIFIC ASSESSMENTS OF HYPOXIA.—

(1) Not less than once every 5 years the Task Force shall complete and submit to the Congress a scientific assessment of hypoxia in United States coastal waters including the Great Lakes. The first such assessment shall be completed not less than 24 months after the date of enactment of the Harmful Algal Bloom and Hypoxia Research Amendments Act of 2003.

(2) The assessments under this subsection shall—

(A) examine the causes and ecological consequences, and the economic costs, of hypoxia;

(B) describe the potential ecological and economic costs and benefits of possible policy and management actions for preventing, controlling, and mitigating hypoxia;

(C) evaluate progress made by, and the needs of, Federal research programs on the causes, characteristics, and impacts of hypoxia, including recommendations of how to eliminate significant gaps in hypoxia modeling and monitoring data; and

(D) identify ways to improve coordination and to prevent unnecessary duplication of effort among Federal agencies and departments with respect to research on hypoxia.

* * * * *

SEC. 605. AUTHORIZATION OF APPROPRIATIONS.

There are authorized 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, \$15,000,000 for fiscal year 1999, \$18,250,000 for fiscal year 2000, **[and]** \$19,000,000 for fiscal year 2001, \$26,000,000 for fiscal year 2004, \$26,500,000 for fiscal year 2005, \$27,000,000 for fiscal year 2006, \$27,500,000 for fiscal year 2007, and \$28,000,000 for fiscal year 2008 to remain available until expended. The Secretary shall consult with the States on a regular basis regarding the development and implementation of the activities authorized under this section. Of such amounts for each fiscal year—

*(1) \$1,500,000 for fiscal year 1999, \$1,500,000 for fiscal year 2000, **[and]** \$2,000,000 for fiscal year **[2001]** 2001 and \$2,500,000 for each of fiscal years 2004 through 2008 may be used to enable the National Oceanic and Atmospheric Administration to carry out research and assessment activities, including procurement of necessary research equipment, at research laboratories of the National Ocean Service and the National Marine Fisheries Service;*

*(2) \$4,000,000 for fiscal year 1999, \$5,500,000 for fiscal year 2000, **[and]** \$5,500,000 for fiscal year **[2001]** 2001, and \$8,200,000, of which \$2,000,000 shall be used for the research program described in section 603(g)(2)(B), for each of fiscal years 2004 through 2008 may be used to carry out the Ecology and Oceanography of Harmful Algal Blooms (ECOHAB) project under the Coastal Ocean Program established under section 201(c) of Public Law 102–567;*

(3) \$1,000,000 for fiscal year 1999, \$2,000,000 for fiscal year 2000, **[and]** \$2,000,000 for fiscal year **[2001]** *2001*, \$2,000,000 for fiscal year 2004, \$3,000,000 for fiscal year 2005, \$3,000,000 for fiscal year 2006, \$3,000,000 for fiscal year 2007, and \$3,000,000 for fiscal year 2008, may be used by the National Ocean Service of the National Oceanic and Atmospheric Administration to carry out a peer-reviewed research project on management measures that can be taken to prevent, reduce, control, and mitigate harmful algal **[blooms;]** *blooms and to implement section 603(e)*;

(4) \$5,500,000 for each of the fiscal years 1999, 2000, and **[2001]** *2001*, and \$6,000,000 for each of fiscal years 2004 through 2008, may be used to carry out Federal and State annual monitoring and analysis activities for harmful algal blooms administered by the National Ocean Service of the National Oceanic and Atmospheric Administration; **[and]**

(5) \$3,000,000 for fiscal year 1999, \$3,750,000 for fiscal year 2000, **[and]** \$4,000,000 for fiscal year **[2001]** *2001*, \$5,000,000 for fiscal year 2004, \$5,500,000 for fiscal year 2005, \$6,600,000 for fiscal year 2006, \$7,100,000 for fiscal year 2007, and \$7,600,000 for fiscal year 2008, may be used for activities related to research and monitoring on hypoxia by the National Ocean Service and the Office of Oceanic and Atmospheric Research of the National Oceanic and Atmospheric **[Administration.]** *Administration; and*

(6) \$3,000,000 for each of fiscal years 2004 through 2008 to carry out section 603(f).

