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HARMFUL ALGAL BLOOM AND HYPOXIA RESEARCH AND CONTROL AMENDMENTS ACT OF 2011

DECEMBER 16, 2011.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. HALL, from the Committee on Science, Space, and Technology, submitted the following

R E P O R T

together with

MINORITY VIEWS

[To accompany H.R. 2484]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, Space, and Technology, to whom was referred the bill (H.R. 2484) to reauthorize the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 to include a comprehensive and integrated strategy to address harmful algal blooms and hypoxia, to provide for the development and implementation of a comprehensive research plan and action strategy to reduce harmful algal blooms and hypoxia, and for other purposes, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

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I. AMENDMENT

The amendment is as follows:

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the "Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011".

SEC. 2. AMENDMENT OF HARMFUL ALGAL BLOOM AND HYPOXIA RESEARCH AND CONTROL ACT OF 1998.

Except as otherwise expressly provided, whenever in this Act an amendment or repeal is expressed in terms of an amendment to, or repeal of, a section or other provision, the reference shall be considered to be made to a section or other provision of the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 (16 U.S.C. 1451 note).

SEC. 3. DEFINITIONS.

Section 602 is amended to read as follows:

"SEC. 602. DEFINITIONS.

"In this title:

"(1) ADMINISTRATOR.—The term 'Administrator' means the Administrator of the Environmental Protection Agency.

"(2) NOAA.—The term 'NOAA' means the National Oceanic and Atmospheric Administration.

"(3) PLAN.—The term 'Plan' means the comprehensive research plan and action strategy under section 605.

"(4) PROGRAM.—The term 'Program' means the National Harmful Algal Bloom and Hypoxia Program under section 604(a).

"(5) STATE.—The term 'State' means each of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the United States Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, any other territory or possession of the United States, and any Indian tribe.

"(6) TASK FORCE.—The term 'Task Force' means the Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia under section 603(a)(1).

"(7) UNDER SECRETARY.—The term 'Under Secretary' means the Under Secretary of Commerce for Oceans and Atmosphere.".

SEC. 4. INTER-AGENCY TASK FORCE.

Section 603(a) is amended to read as follows:

"(a) INTER-AGENCY TASK FORCE.—

"(1) ESTABLISHMENT.—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.

"(2) REPRESENTATION.—The Task Force shall consist of representatives from the following:

"(A) The Department of Commerce.
"(B) The Environmental Protection Agency.
"(C) The Department of Agriculture.
"(D) The Department of the Interior.
"(E) The Department of the Navy.
"(F) The Department of Health and Human Services.
"(G) The National Science Foundation.
"(H) The National Aeronautics and Space Administration.
"(I) The Food and Drug Administration.
"(J) The Office of Science and Technology Policy.
"(K) The Council on Environmental Quality.

"(L) Such other Federal agencies as the President considers appropriate.

"(3) CHAIRPERSON.—The Under Secretary from the Department of Commerce shall serve as the Chairperson of the Task Force.

"(4) REQUIRED MEETINGS.—

"(A) IN GENERAL.—The Task Force shall meet, or otherwise communicate, to coordinate activities within each agency represented on the Task Force in order to fulfill the program requirements in section 604(b).

"(B) FREQUENCY.—The Task Force shall meet at least once per year.

"(5) BUDGET COORDINATION.—The Task Force shall—

"(A) coordinate in the development of individual agency budgets for the activities described in section 604 that will ensure an appropriate balance among the research and action priorities; and

"(B) submit such budgets to the Director of the Office of Management and Budget at the time designated by the Director for agencies to submit annual budgets.".

SEC. 5. NATIONAL HARMFUL ALGAL BLOOM AND HYPOXIA PROGRAM.

The Act is amended—

(1) by redesignating sections 605 and 606 as sections 608 and 609, respectively;

(2) by redesignating section 604 as section 606; and

(3) by inserting after section 603 the following:

"SEC. 604. NATIONAL HARMFUL ALGAL BLOOM AND HYPOXIA PROGRAM.

"(a) IN GENERAL.—Except as provided in subsection (d), the Under Secretary, through the Task Force, shall maintain a National Harmful Algal Bloom and Hypoxia Program in accordance with authorities under section 603 pursuant to this section.

"(b) DUTIES.—The Under Secretary, through the Program, shall coordinate the efforts of the Task Force to—

"(1) develop and promote a national strategy to understand, detect, monitor, predict, control, mitigate, and respond to marine and freshwater harmful algal bloom and hypoxia events;

"(2) integrate 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;

"(3) assist and coordinate, where appropriate, with State, tribal, and local government agencies, programs, and regional efforts that address marine and freshwater harmful algal blooms and hypoxia, including the development and implementation of appropriate response plans, strategies, and tools;

"(4) identify additional research, development, and demonstration needs and priorities relating to understanding, detection, monitoring, prediction, prevention, control, mitigation, and response to marine and freshwater harmful algal blooms and hypoxia;

"(5) ensure the development and use of methods and technologies to protect the ecosystems affected by marine and freshwater harmful algal blooms and hypoxia;

"(6) encourage the appropriate exchange of research information with other countries in order to better mitigate, control, and respond to marine and freshwater harmful algal blooms;

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

"(8) provide resources to assist in the training of State, tribal, and local water and coastal resource managers in the methods and technologies for detecting, monitoring, controlling, mitigating, and responding to the effects of marine and freshwater harmful algal bloom and hypoxia events;

"(9) oversee the development, review, and periodic updating of the Plan;

"(10) administer peer-reviewed, merit-based, competitive grant funding to support—

"(A) the projects maintained and established by the Program; and

"(B) the research and management needs and priorities identified in the Plan; and

"(11) encourage the development of innovative concepts for the beneficial utilization of—

"(A) biomass from harmful algal blooms that have been removed from the natural system; and

"(B) the growth of certain biofuel crops that reduce runoff that causes harmful algal blooms.

"(c) COOPERATIVE EFFORTS.—The Under Secretary shall work cooperatively and avoid duplication of efforts with other offices, centers, and programs within NOAA and other agencies represented on the Task Force, States, tribes, and nongovernmental organizations concerned with marine and freshwater aquatic issues related to harmful algal blooms and hypoxia.

"(d) FRESHWATER PROGRAM.—

"(1) IN GENERAL.—With respect to the freshwater aspects of the Program, the Administrator and the Under Secretary, through the Task Force, shall carry out the duties otherwise assigned to the Under Secretary under this section, excluding the activities described in subsection (e).

"(2) PARTICIPATION.—The Administrator's participation under this subsection shall include—

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

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

"(C) mitigation and control of freshwater harmful algal blooms.

"(3) NONDUPLICATION.—The Administrator shall ensure that activities carried out under this Act shall focus on new approaches to addressing freshwater harmful algal blooms and are not duplicative of existing research and development programs authorized by this or any other Act.

"(4) REPORT.—Not later than 1 year after the date of enactment of the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011, the Administrator shall prepare and transmit to the Committee on Science, Space, and Technology of the House of Representatives a report containing—

"(A) a detailed budget explanation for all of the activities conducted by the Administrator under this Act; and

"(B) a description of how such activities reduce the effects of freshwater harmful algal blooms and improve water quality.

"(e) NOAA ACTIVITIES.—As part of the program under this section, the Under Secretary shall—

"(1) maintain existing peer-reviewed competitive grant programs at NOAA relating to marine and freshwater harmful algal blooms and hypoxia;

"(2) conduct marine and freshwater harmful algal bloom and hypoxia event response activities; and

"(3) ensure communication and coordination among Federal agencies carrying out marine and freshwater harmful algal bloom and hypoxia activities and increase the availability to appropriate public and private entities of—

"(A) analytical facilities and technologies;

"(B) operational forecasts; and

"(C) reference and research materials.

"(f) INTEGRATED COASTAL AND OCEAN OBSERVATION SYSTEM.—All monitoring and observation data collected under this Act shall be collected in compliance with all data standards and protocols developed pursuant to the National Integrated Coastal and Ocean Observation System Act of 2009 (33 U.S.C. 3601 et seq.), and such data shall be made available through the system established under that Act.

"(g) TECHNOLOGY RESEARCH, DEVELOPMENT, AND DEMONSTRATION.—

"(1) IN GENERAL.—As part of the duties described in subsection (b), the Under Secretary and the Administrator, through the Task Force, shall maintain a focus on technology research and development for each of the categories of marine harmful algal blooms, freshwater harmful algal blooms, and hypoxia in the following areas:

"(A) Monitoring.

"(B) Prediction.

"(C) Prevention.

"(D) Control.

"(E) Mitigation.

"(F) Response to events, including remediation.

"(2) ENUMERATION.—As part of the report required under subsection (i), the Under Secretary, in coordination with the Administrator, shall enumerate the technology research and development conducted for each of the areas identified in paragraph (1).

"(3) PROTOCOL.—The Under Secretary, in coordination with the Administrator, shall develop a protocol for—

"(A) assessing the stage of technology development that is ready to move from lab testing to field testing;

"(B) coordinating local, State, and Federal authorities to facilitate measures necessary to conduct field tests in a timely manner; and

"(C) working with local and State entities, programs, and interested stakeholders to conduct outreach and education on technology field testing projects.

"(h) INFORMATION CLEARINGHOUSE.—

"(1) ELECTRONIC INFORMATION.—Using the authority under section 603(i)(2)(B), the Under Secretary, in coordination with the Administrator, shall expand the existing electronic clearinghouse to provide information about marine and freshwater harmful algal blooms and hypoxia, including—

"(A) the Federal agencies involved in research and development on understanding, detection, monitoring, prediction, prevention, control, mitigation, and response activities;

"(B) tools available to predict and model events; and

"(C) current or developing technologies for detection, monitoring, prediction, prevention, control, mitigation, and response, including remediation.

"(2) TOXIN STANDARDS.—The Under Secretary, in consultation with the Administrator, shall—

"(A) develop a mechanism to provide a reliable and cost-effective supply of toxin standards for comparative research; and

"(B) notify the Congress of such mechanism as part of the report required under subsection (i).

"(i) REPORT.—Not later than 1 year after the submission of the Plan, the Under Secretary, through the Task Force, shall prepare and transmit to the Congress a report that describes—

"(1) the activities carried out under the Program and the Plan and the budget related to such activities; and

"(2) the need to revise or terminate activities or projects under the Program.".

SEC. 6. COMPREHENSIVE RESEARCH PLAN AND ACTION STRATEGY.

The Act is amended by inserting after section 604, as added by section 5(3) of this Act, the following:

"SEC. 605. COMPREHENSIVE RESEARCH PLAN AND ACTION STRATEGY.

"(a) IN GENERAL.—Not later than 2 years after the date of enactment of the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011, the Under Secretary, through the Task Force, shall transmit to the Congress a comprehensive research plan and action strategy to address marine and freshwater harmful algal blooms and hypoxia that identifies—

"(1) the specific activities to be carried out by the Program and the timeline for carrying out such activities;

"(2) the roles and responsibilities of each Federal agency in the Task Force in carrying out Program activities; and

"(3) appropriate regions and subregions requiring specific research and activities to address local, State, and regional harmful algal blooms and hypoxia.

"(b) REGIONAL FOCUS.—The regional and subregional parts of the Plan 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 State, tribal, and local governments and relevant 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) the roles that Federal agencies may have to assist in the implementation of the Plan.

"(c) UTILIZING AVAILABLE STUDIES AND INFORMATION.—In developing the Plan, the Under Secretary shall utilize existing research, assessments, reports, and program activities, including—

"(1) those carried out pursuant to existing law; and

"(2) other relevant peer-reviewed and published sources.

"(d) DEVELOPMENT OF THE PLAN.—In developing the Plan, 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 noncoastal 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

"(G) other stakeholders.

"(e) FEDERAL REGISTER.—The Under Secretary shall publish the Plan in the Federal Register.

"(f) PERIODIC REVISION.—The Under Secretary, in coordination and consultation with the individuals and entities identified in subsection (d), shall periodically review and revise the Plan prepared under this section, as necessary.".

SEC. 7. NORTHERN GULF OF MEXICO HYPOXIA.

Section 606, as redesignated by section 5(2) of this Act, is amended by adding at the end the following:

"(c) REQUIRED UPDATE.—

"(1) IN GENERAL.—Within 2 years after the date of enactment of the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011, the Administrator, through the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, shall complete and submit to the Congress and the President an updated assessment and a revised action plan based on the updated assessment.

"(2) REQUIREMENTS.—The updated assessment shall take into account the following:

"(A) The role of nutrient influx in the context of water column stratification, seasonal flows and conditions, and wind and current dynamics in the Gulf of Mexico.

"(B) The contribution of the topography of the Gulf of Mexico in the effects of the characteristics described in subparagraph (A) on the hypoxic zone.

"(C) The frequency and availability of monitoring to measure the size of the hypoxic zone.

"(D) The potential of hypoxia hot-spot formation within the Gulf of Mexico and possible causes of such hot-spots.

"(E) The contribution of wetland loss to hypoxia events in the Gulf of Mexico.

"(F) The actual effect of hypoxia on the ecosystem of the Gulf of Mexico and the benefits resulting from a reduced hypoxic zone size.

"(G) A scientifically generated, peer-reviewed goal for the size of the hypoxic zone in the Gulf of Mexico.

"(3) RESEARCH STRATEGY.—The updated plan shall include a research strategy—

"(A) to enhance understanding of the contribution of topography, water column stratification, seasonal flows and conditions, and wind and current dynamics on the size of the hypoxic zone;

"(B) to develop models able to—

"(i) simulate different shelf regions and the fundamental processes that act in each shelf region;

"(ii) differentiate between the separate effects of stratification and nutrient loading in the formation of hypoxia; and

"(iii) be informed by realistic three-dimensional hydrodynamic and biogeochemical models;

"(C) that determines the appropriate amount of monitoring and measuring necessary to get a scientifically robust accounting on the size of the Gulf of Mexico hypoxic zone; and

"(D) that examines several potential solutions based on information provided by the updated assessment in paragraph (1).".

SEC. 8. CHESAPEAKE BAY DEAD ZONE.

(a) IN GENERAL.—The Act is amended by inserting after section 606, as redesignated by section 5(2) of this Act, the following:

"SEC. 607. CHESAPEAKE BAY DEAD ZONE.

"(a) ASSESSMENT PLAN.—Not later than 12 months after the date of enactment of the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011, the Task Force, in accordance with the authority under section 603, shall complete and submit to the Congress and the President an integrated assessment of hypoxia in the Chesapeake Bay that examines the status of and gaps within current research, monitoring, prevention, response, and control activities by—

"(1) Federal agencies;

"(2) State agencies;

"(3) regional research consortia;

"(4) academia;

"(5) private industry; and

"(6) nongovernmental organizations.

"(b) RESEARCH PLAN.—

"(1) IN GENERAL.—Not later than 2 years after the date of enactment of the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011, the Task Force shall develop and submit to the Congress a plan, based on the integrated assessment submitted under subsection (a), for reducing, mitigating, and controlling hypoxia in the Chesapeake Bay.

"(2) REQUIREMENTS.—In developing such plan, the Task Force shall—

"(A) consult with State and local governments and representatives from academic, agricultural, industry, and other stakeholder groups;

"(B) ensure that the plan does not duplicate activities conducted by other Federal or State agencies;

"(C) include incentive-based partnership approaches;

"(D) include an economic cost-benefit analysis of the measures for reducing, mitigating, and controlling hypoxia events;

"(E) utilize existing research, assessments, reports, and program activities;

"(F) publish a summary of the proposed plan in the Federal Register 90 days prior to the submission to the Congress of the completed plan; and

"(G) provide progress reports every 2 years after the submission to the Congress of the completed plan on the activities leading toward attainment of the goals set forth in the plan.

"(3) CONTENTS.—The plan shall—

"(A) address the monitoring needs identified in the integrated assessment submitted under subsection (a) and develop a timeline and budgetary requirements for deployment of future assets;

"(B) detail procedures for the development and verification of Chesapeake Bay hypoxia models, including making available to the public—

"(i) all assumptions built into the models; and

"(ii) data quality methods used to ensure the best available data is utilized; and

"(C) describe efforts to improve the assessment of the impacts of hypoxia by—

"(i) characterizing current and past biological conditions in ecosystems affected by hypoxia; and

"(ii) quantifying effects, including economic effects, at the population and community level.".

SEC. 9. AUTHORIZATION OF APPROPRIATIONS.

(a) AUTHORIZATION.—Section 608, as redesignated by section 5(1) of this Act, is amended to read as follows:

"SEC. 608. AUTHORIZATION OF APPROPRIATIONS.

"(a) UNDER SECRETARY.—There are authorized to be appropriated to the Under Secretary to carry out this Act $18,000,000 for each of fiscal years 2012 through 2015, of which, for each fiscal year—

"(1) $1,000,000 may be used for the development of the comprehensive research plan and action strategy under section 605 and the assessment and reports required by sections 606 and 607;

"(2) $4,000,000 may be used for the research and assessment activities related to marine and freshwater harmful algal blooms at research laboratories of NOAA;

"(3) $4,000,000 may be used to carry out the Ecology of Harmful Algal Blooms Program (ECOHAB);

"(4) $1,500,000 may be used to carry out the Monitoring and Event Response for Harmful Algal Blooms Program (MERHAB);

"(5) $2,000,000 may be used to carry out research and assessment for the Northern Gulf of Mexico ecosystem and hypoxia activities;

"(6) $1,500,000 may be used to carry out coastal hypoxia research activities;

"(7) $1,500,000 may be used to carry out prevention, control, and mitigation activities;

"(8) $500,000 may be used to carry out event response activities; and

"(9) $500,000 may be used to carry out infrastructure activities.

"(b) ADMINISTRATOR.—

"(1) IN GENERAL.—There are authorized to be appropriated to the Administrator $2,700,000 for each of the fiscal years 2012 through 2015 to carry out the activities authorized under this Act.

"(2) NONDUPLICATION.—The Administrator shall ensure that activities carried out using the amounts authorized under paragraph (1) do not duplicate research and development activities related to harmful algal blooms and hypoxia conducted by Federal agencies represented on the Task Force, States, tribes, and nongovernmental organizations concerned with marine and freshwater aquatic issues.".

(b) EXTRAMURAL RESEARCH ACTIVITIES.—The Under Secretary of Commerce for Oceans and Atmosphere shall ensure that a substantial portion of funds appropriated pursuant to section 608 of the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 that are used for research purposes are allocated to extramural research activities.

SEC. 10. CLERICAL AMENDMENTS.

(a) TABLE OF CONTENTS AMENDMENT.—The table of contents in section 2 of the Coast Guard Authorization Act of 1998 is amended by striking the items relating to sections 602 through 606 and inserting the following:

"Sec. 602. Definitions.
"Sec. 603. Assessments.
"Sec. 604. National harmful algal bloom and hypoxia program.
"Sec. 605. Comprehensive research plan and action strategy.
"Sec. 606. Northern Gulf of Mexico hypoxia.
"Sec. 607. Chesapeake Bay dead zone.
"Sec. 608. Authorization of appropriations.
"Sec. 609. Protection of States' rights.".

(b) REFERENCES.—Section 609, as redesignated by section 5(1) of this Act, is amended by striking "Clean Water Act or" each place it appears and inserting "Federal Water Pollution Control Act or the".

II. PURPOSE AND SUMMARY

The purpose of H.R. 2484 is to reauthorize the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 to include a comprehensive and integrated strategy to address harmful algal blooms and hypoxia; to provide for the development and implementation of a comprehensive research plan and action strategy to reduce harmful algal blooms and hypoxia; and for other purposes.

III. BACKGROUND AND NEED FOR THE LEGISLATION

A harmful algal bloom (HAB) is a bloom, or rapid overproduction of algal cells, that produces toxins, which are detrimental to plants and animals. These outbreaks are commonly referred to as "red" or "brown" tides. Blooms can kill fish and other aquatic life by decreasing sunlight available to the water and by depleting the available oxygen in the water, causing hypoxia. The produced toxins accumulate in shellfish, fish, or through the accumulation of biomass that affect other organisms and alter food webs. In recent years, many of the nation's coastlines, near shore marine waters, and

freshwaters have experienced an increase in the number, frequency, duration, and type of HABs.

Harmful algal blooms are one of the most scientifically complex and economically significant coastal management issues facing the nation. In the past, only a few regions of the United States were affected by HABs, but now almost all states have reported blooms. In severe cases, these phenomena can have serious environmental, economic, and human health impacts.

CURRENT LAW

In 1998, Congress passed the Harmful Algal Bloom and Hypoxia Research and Control Act (HABHRCA, Public Law 105–83), which established an Interagency Task Force to develop a national HABs assessment and authorized funding for existing and new research programs on HABs. Funding supported the development of a national scientific research, development, demonstration, and technology transfer program at the National Oceanic and Atmospheric Administration (NOAA) that focused on HABs and included the Ecology and Oceanography of Harmful Algal Blooms (ECOHAB) program and the Monitoring and Event Response for Harmful Algal Blooms (MERHAB) program. The program at NOAA involves federal, state, and academic partners and supports interdisciplinary extramural research studies to address the issues of HABs in an ecosystem context.

In 2004, HABHRCA was reauthorized in Public Law 108–456. The reauthorized Act required assessments of HABs in different coastal regions and in the Great Lakes and included plans to expand research to address the impacts of HABs. The law also authorized research, education, and monitoring activities related to the prevention, reduction, and control of harmful algal blooms and hypoxia and reconstituted the Interagency Task Force on HABs and Hypoxia.

The 2004 reauthorization also directed NOAA to produce several reports and assessments, which have since been completed, including:

• The Prediction and Response Report (September 2007) addressed both the state of research and methods for HAB prediction and response, especially at the federal level.

• The 2008 National Scientific Research, Development, Demonstration, and Technology Transfer Plan for Reducing Impacts from Harmful Algal Blooms (RDDTT Plan) established research priorities to develop and demonstrate prevention, control and mitigation methods to advance current prediction and response capabilities.

• The Scientific Assessment of Marine Harmful Algal Blooms (December 2008) described the state of the science with respect to: understanding HABs causes and controls and developing predictive models; developing detection methods for cells and toxins; characterizing toxins and impacts; HAB impacts on food webs and fisheries; and assessing public health, economic and socio-cultural impacts.

• The 2008 Scientific Assessment of Freshwater Harmful Algal Blooms released in 2008 described the state of the knowledge of HABs in U.S inland and freshwaters and presented a plan to ad-

vance research and reduce the impacts on humans and the environment.

• The Scientific Assessment of Hypoxia in U.S. Coastal Waters (September 2010) assessed the prevalence of low-oxygen "dead-zones", or hypoxic zones, in U.S. coastal waters and outlined a series of research steps needed to address these occurrences.

Additionally, the 2004 reauthorization directed NOAA, in coordination with the Task Force, to conduct local and regional scientific assessments if requested by state, tribal, or local governments or for affected areas identified by NOAA. Funding was also authorized for ongoing and new programs and activities such as: competitive, peer-reviewed research through the ECOHAB program; freshwater harmful algal bloom research added to the research priorities of ECOHAB; a competitive, peer-reviewed research program on management measures to prevent, reduce, control, and mitigate harmful algal blooms supported by the MERHAB program, and; activities related to research and monitoring of hypoxia supported by the Northern Gulf of Mexico program and Coastal Hypoxia Research Program.

The 2004 HABHRCA authorized funds to conduct research and reduce HABs and hypoxia in U.S. marine waters, estuaries and the Great Lakes. In its role as a task force participant, the Environmental Protection Agency (EPA) has signed Memorandums of Understanding to fund competitive research into the occurrence of HABs in these areas. However, since the completion of the freshwater report in 2008, EPA has ceased participation in HABHRCA for freshwater HAB research and mitigation activities. As a result, although EPA oversees a wide array of programs specifically designed to protect and preserve freshwater sources and the coastal and marine waters of the United States, including watershed protection programs and an array of regulatory programs, the agency currently has no research and development effort that directly addresses freshwater harmful algal blooms.

OTHER INTERAGENCY EFFORTS

EPA and NOAA work together to lead a Federal Workgroup of thirteen federal agencies committed to supporting the Gulf of Mexico Alliance, a partnership formed by the five Gulf State Governors. In addition, EPA is also the lead agency of the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force.

The 2004 HABHRCA reauthorization expired in 2008, however, the Consolidated Appropriations Act of 2008 (P.L. 110–161) provided an authorization of appropriations through FY2010. H.R. 2484 would reauthorize the Act with the primary goal of H.R. 2484 being advancing the body of knowledge of HABs and hypoxia to begin to enable development of solutions for communities affected by these events. By requiring greater Interagency Task Force involvement and a Comprehensive Research Plan and Action Strategy, H.R. 2484 seeks to coordinate efforts across the Federal government. Although there have been long-term strategies in place attempting to mitigate the occurrence of HABs, such strategies take years, even decades, to bear fruit. In the meantime, States and communities are dealing with increasing occurrences of HABs and hypoxia, indicating a greater need for near-term solutions.

Accordingly, H.R. 2484 shifts the focus of the current program to technological research, development, and demonstration, encouraging a move toward finding such near-term solutions through technological innovation.

IV. Hearing Summary

The Energy and Environment Subcommittee of the Committee on Science, Space, and Technology held a hearing on June 1, 2011, entitled "Harmful Algal Blooms: Action Plans for Scientific Solutions." The purpose of the hearing was examine harmful algal blooms and hypoxia research and response needs to develop and implement action plans to monitor, prevent, mitigate and control both marine and freshwater bloom and hypoxia events.

The Subcommittee received testimony from: Dr. Robert Magnien, Director of the Center for Sponsored Coastal Ocean Research at the National Oceanic and Atmospheric Administration; Dr. Richard Greene, Chief of the Ecosystems Dynamics and Effects Branch of the Gulf Ecology Division at the Office of Research and Development within the U.S. Environmental Protection Agency; Dr. Donald Anderson, Senior Scientist and Director of the Coastal Ocean Institute at the Woods Hole Oceanographic Institute; Dr. Kevin Sellner, Executive Director of the Chesapeake Research Consortium; Dr. Stephanie Smith, Chief Scientist at Algaventure Systems; and Dr. Beth McGee, Senior Water Quality Scientist at the Chesapeake Bay Foundation.

Witnesses discussed their work and the state of the science of harmful algal blooms and hypoxia and what additional steps were needed. Witnesses also provided testimony on draft legislation entitled, "The Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011".

V. Committee Consideration

On July 11, 2011, H.R. 2484, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011 was introduced by Rep. Andy Harris (R–MD-1), and co-sponsored by Rep. Roscoe Bartlett (R–MD-6), Rep. Kathy Castor (D–FL-11), Rep. Donna Christensen (D–VI), Rep. Raul Grijalva (D–AZ-7), Rep. Connie Mack (R–FL-14), Rep. Michael Michaud (D–ME-2), and Rep. Chellie Pingree (D–ME-1). The bill was referred to the Committee on Science, Space, and Technology and the Committee on Natural Resources.

On July 14, 2011 the Subcommittee on Energy and Environment met to consider H.R. 2484 and ordered it favorably reported to the Full Committee, as amended, by voice vote.

On July 28, 2011 the Committee on Science, Space, and Technology met in open markup session and adopted H.R. 2484, as amended, by a record vote of 20 yeas and 15 nays. Further, the Committee ordered H.R. 2484, favorably reported to the House, as amended, by voice vote.

VI. Committee Votes

Clause 3(b) of rule XIII of the Rules of the House of Representatives requires the Committee to list the record votes on the motion to report legislation and amendments thereto. The Committee

adopted H.R. 2484, as amended by a record vote of 20 yeas and 15 nays. A motion to order H.R. 2484, favorably reported to the House, as amended, was agreed to by a voice vote.

During Subcommittee on Energy and Environment consideration of H.R. 2484 the following amendments were considered:

Subcommittee on Energy and the Environment
Subcommittee Markup

H.R. 2484, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011

July 14, 2011

Chairman Andy Harris
Statement in Support of McNerney Amendment

I want to thank the gentleman from California for offering this amendment. The United States is not alone in fighting against the effects of harmful algal blooms and hypoxia. This is a global problem, and as such, it makes sense that our scientists should collaborate with scientists from other countries. I am happy to accept Mr. McNerney's amendment.

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
Subcommittee on Energy and Environment Markup

July 14, 2011

AMENDMENT ROSTER

H. R. 2484, the "Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011"

No.	Amendment	Summary	Results
1	Mr. McNerney (367)	Adds an additional activity to the duties of the Undersecretary, through the Task Force, requiring the encouragement of "the appropriate exchange of research information with other countries in order to better mitigate, control, and respond to marine and freshwater harmful algal blooms"	Amendment Agreed to by Unanimous Consent

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
Full Committee Markup
July 28, 2011

AMENDMENT ROSTER

H. R. 2484, the "Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011"

No.	Amendment	Summary	Results
1	Mr. Harris Amendment in the Nature of a Substitute (371)	Amendment in the Nature of a Substitute making minor technical changes to the bill; removing the word "established" from definitions of the Task Force and the Program; requiring the EPA to use novel approaches to address freshwater harmful algal blooms; requiring a report of EPA on such approaches; and authorizing $2.7 million for EPA to carry out the activities in the Act.	Agreed to by a vote of 20 Ayes and 15 Noes
2	Amendment Offered by Mr. Hall (373) To Harris Amendment (371)	Technical amendment that clarifies that the "Undersecretary" referenced in section 9 (b) is the "Undersecretary of Commerce for Oceans and Atmosphere".	Agreed to by Voice Vote
3	Amendment Offered by Mr. Sarbanes (015) To Harris Amendment (371)	Adds to the duties of the Task Force to "encourage the development of innovative concepts for the beneficial utilization of biomass from harmful algal blooms and the growth of certain biofuel crops that reduce runoff that causes harmful algal blooms".	Agreed to by Voice Vote
4	Amendment Offered by Ms. Edwards (015) To Harris Amendment (371)	Inserts "(including their tributaries)" to ensure the freshwater activities will include harmful algal blooms in tributaries of freshwater "lakes, rivers, and estuaries".	Agreed to by Voice Vote
5	Amendment Offered by Ms. Wilson (021) To Harris Amendment (371)	In the section that requires an updated assessment and plan on the Northern Gulf of Mexico hypoxia, this amendment would strike the requirement that the updated assessment and plan be completed prior to implementation of the 2008 plan, and insert that the updated assessment and plan shall be completed within 2 years of enactment of this Act.	Agreed to by Voice Vote

6	Amendment Offered by Ms. Edwards (016) To Harris Amendment (371)	Amends the section's research plan for the Chesapeake Bay by requiring that the plan also "analyze the harmful environmental effects of nutrient loading from agricultural sources, including livestock operations, on Chesapeake Bay dead zones as compared with all other sources."	Not agreed to by a vote of 14 Ayes and 18 Noes
7	Amendment Offered by Mr. Miller (372) To Harris Amendment (371)	Strikes the current authorizations in the Amendment in the Nature of a Substitute of $18 million for NOAA activities and $2.7 million for EPA activities and replaces the authorization with $27 million for NOAA and $3 million for EPA.	Not agreed to by a vote of 14 Ayes and 18 Noes
8	Amendment Offered by Mr. Miller (374) To Harris Amendment (371)	The Undersecretary is not mandated to carry out the activities authorized for NOAA in this Act unless the amount appropriated for NOAA is equal or greater than the amount appropriated for FY2011; the Administrator is not mandated to carry out the activities authorized for EPA in this Act unless the amount appropriated for EPA is equal or greater than the amount appropriated for FY2011.	Not agreed to by a vote of 13 Ayes and 19 Noes
	Final Vote		Agreed to by a vote of 20 Nays and 15 Noes

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 112th

DATE: July 28, 2011 AMENDMENT NO. 016 ROLL CALL NO. 1

Bill: H. R. 2484
SPONSOR of AMEND: Ms. Edwards

PASSED VOICE VOTE
DEFEATED WITHDRAWN

Quorum –14 to vote –21 to report

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. HALL, *Chair* - *TX*		X		
2 Mr. SENSENBRENNER – *WI* **				
3 Mr. SMITH - *TX*		X		
4 Mr. ROHRABACHER - *CA*		X		
5 Mr. BARTLETT - *MD*		X		
6 Mr. LUCAS - *OK*		X		
7 Mrs. BIGGERT - *IL*		X		
8 Mr. AKIN - *MO*		X		
9 Mr. NEUGEBAUER - *TX*		X		
10 Mr. McCAUL - *TX*				
11 Mr. BROUN - *GA*		X		
12 Mrs. ADAMS - *FL*		X		
13 Mr. QUAYLE - *AZ*				
14 Mr. FLEISCHMANN - *TN*		X		
15 Mr. RIGELL - *VA*		X		
16 Mr. PALAZZO - *MS*		X		
17 Mr. BROOKS - *AL*				
18 Mr. HARRIS - *MD*		X		
19 Mr. HULTGREN - *IL*		X		
20 Mr. CRAVAACK - *MN*		X		
21 Mr. BUCSHON - *IN*		X		
22 Mr. BENISHEK - *MI*		X		
23 Vacancy				
1 Ms. JOHNSON, *Ranking* - *TX*	X			
2 Mr. COSTELLO - *IL*	X			
3 Ms. WOOLSEY - *CA*	X			
4 Ms. LOFGREN - *CA*				
5 Mr. WU - *OR*	X			
6 Mr. MILLER - *NC*	X			
7 Mr. LIPINSKI - *IL*	X			
8 Ms. GIFFORDS - *AZ*				
9 Ms. EDWARDS - *MD*	X			
10 Ms. FUDGE - *OH*				
11 Mr. LUJÁN - *NM*	X			
12 Mr. TONKO - *NY*	X			
13 Mr. McNERNEY - *CA*	X			
14 Mr. SARBANES - *MD*	X			
15 Ms. SEWELL - *AL*	X			
16 Ms. WILSON - *FL*	X			
17 Mr. CLARKE - *MI*	X			
TOTALS	14	18		

** Vice Chair

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 112th

DATE: July 28, 2011 AMENDMENT NO. 372 ROLL CALL NO. 2

Bill: H. R. 2484
SPONSOR of AMEND: Mr. Miller

PASSED VOICE VOTE
DEFEATED WITHDRAWN

Quorum –14 to vote –21 to report

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. HALL, *Chair* - *TX*		X		
2 Mr. SENSENBRENNER – *WI* **				
3 Mr. SMITH - *TX*		X		
4 Mr. ROHRABACHER - *CA*		X		
5 Mr. BARTLETT - *MD*		X		
6 Mr. LUCAS - *OK*		X		
7 Mrs. BIGGERT - *IL*		X		
8 Mr. AKIN - *MO*		X		
9 Mr. NEUGEBAUER - *TX*		X		
10 Mr. McCAUL - *TX*				
11 Mr. BROUN - *GA*		X		
12 Mrs. ADAMS - *FL*		X		
13 Mr. QUAYLE - *AZ*				
14 Mr. FLEISCHMANN - *TN*		X		
15 Mr. RIGELL - *VA*		X		
16 Mr. PALAZZO - *MS*		X		
17 Mr. BROOKS - *AL*				
18 Mr. HARRIS - *MD*		X		
19 Mr. HULTGREN - *IL*		X		
20 Mr. CRAVAACK - *MN*		X		
21 Mr. BUCSHON - *IN*		X		
22 Mr. BENISHEK - *MI*		X		
23 Vacancy				
1 Ms. JOHNSON, *Ranking* - *TX*	X			
2 Mr. COSTELLO - *IL*	X			
3 Ms. WOOLSEY - *CA*	X			
4 Ms. LOFGREN - *CA*				
5 Mr. WU - *OR*	X			
6 Mr. MILLER - *NC*	X			
7 Mr. LIPINSKI - *IL*	X			
8 Ms. GIFFORDS - *AZ*				
9 Ms. EDWARDS - *MD*	X			
10 Ms. FUDGE - *OH*				
11 Mr. LUJÁN - *NM*	X			
12 Mr. TONKO - *NY*	X			
13 Mr. McNERNEY - *CA*	X			
14 Mr. SARBANES - *MD*	X			
15 Ms. SEWELL - *AL*	X			
16 Ms. WILSON - *FL*	X			
17 Mr. CLARKE - *MI*	X			
TOTALS	14	18		

** Vice Chair

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 112th

DATE: July 28, 2011 AMENDMENT NO. 374 ROLL CALL NO. 3

Bill: **H. R. 2484**
SPONSOR of AMEND: Mr. Miller

PASSED VOICE VOTE
DEFEATED WITHDRAWN

Quorum –14 to vote –21 to report

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. HALL, *Chair* - *TX*		X		
2 Mr. SENSENBRENNER – *WI* **				
3 Mr. SMITH - *TX*		X		
4 Mr. ROHRABACHER - *CA*		X		
5 Mr. BARTLETT - *MD*		X		
6 Mr. LUCAS - *OK*		X		
7 Mrs. BIGGERT - *IL*		X		
8 Mr. AKIN - *MO*		X		
9 Mr. NEUGEBAUER - *TX*		X		
10 Mr. McCAUL - *TX*				
11 Mr. BROUN - *GA*		X		
12 Mrs. ADAMS - *FL*		X		
13 Mr. QUAYLE - *AZ*				
14 Mr. FLEISCHMANN - *TN*		X		
15 Mr. RIGELL - *VA*		X		
16 Mr. PALAZZO - *MS*		X		
17 Mr. BROOKS - *AL*				
18 Mr. HARRIS - *MD*		X		
19 Mr. HULTGREN - *IL*		X		
20 Mr. CRAVAACK - *MN*		X		
21 Mr. BUCSHON - *IN*		X		
22 Mr. BENISHEK - *MI*		X		
23 Vacancy				
1 Ms. JOHNSON, *Ranking* - *TX*	X			
2 Mr. COSTELLO - *IL*	X			
3 Ms. WOOLSEY - *CA*	X			
4 Ms. LOFGREN - *CA*				
5 Mr. WU - *OR*	X			
6 Mr. MILLER - *NC*	X			
7 Mr. LIPINSKI - *IL*	X			
8 Ms. GIFFORDS - *AZ*				
9 Ms. EDWARDS - *MD*	X			
10 Ms. FUDGE - *OH*				
11 Mr. LUJÁN - *NM*	X			
12 Mr. TONKO - *NY*	X			
13 Mr. McNERNEY - *CA*	X			
14 Mr. SARBANES - *MD*		X		
15 Ms. SEWELL - *AL*	X			
16 Ms. WILSON - *FL*	X			
17 Mr. CLARKE - *MI*	X			
TOTALS	13	19		

** Vice Chair

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 112th

DATE: July 28, 2011 AMENDMENT NO. 371 ROLL CALL NO. 4

Bill: H. R. 2484
SPONSOR of AMEND: Mr. Harris

PASSED VOICE VOTE
DEFEATED WITHDRAWN

Quorum –14 to vote –21 to report

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. HALL, *Chair* - *TX*	X			
2 Mr. SENSENBRENNER – *WI* **				
3 Mr. SMITH - *TX*	X			
4 Mr. ROHRABACHER - *CA*	X			
5 Mr. BARTLETT - *MD*	X			
6 Mr. LUCAS - *OK*	X			
7 Mrs. BIGGERT - *IL*	X			
8 Mr. AKIN - *MO*	X			
9 Mr. NEUGEBAUER - *TX*	X			
10 Mr. McCAUL - *TX*				
11 Mr. BROUN - *GA*	X			
12 Mrs. ADAMS - *FL*	X			
13 Mr. QUAYLE - *AZ*	X			
14 Mr. FLEISCHMANN - *TN*	X			
15 Mr. RIGELL - *VA*	X			
16 Mr. PALAZZO - *MS*	X			
17 Mr. BROOKS - *AL*	X			
18 Mr. HARRIS - *MD*	X			
19 Mr. HULTGREN - *IL*	X			
20 Mr. CRAVAACK - *MN*	X			
21 Mr. BUCSHON - *IN*	X			
22 Mr. BENISHEK - *MI*	X			
23 Vacancy				
1 Ms. JOHNSON, *Ranking* - *TX*		X		
2 Mr. COSTELLO - *IL*		X		
3 Ms. WOOLSEY - *CA*		X		
4 Ms. LOFGREN - *CA*		X		
5 Mr. WU - *OR*		X		
6 Mr. MILLER - *NC*		X		
7 Mr. LIPINSKI - *IL*		X		
8 Ms. GIFFORDS - *AZ*				
9 Ms. EDWARDS - *MD*		X		
10 Ms. FUDGE - *OH*				
11 Mr. LUJÁN - *NM*		X		
12 Mr. TONKO - *NY*		X		
13 Mr. McNERNEY - *CA*		X		
14 Mr. SARBANES - *MD*		X		
15 Ms. SEWELL - *AL*		X		
16 Ms. WILSON - *FL*		X		
17 Mr. CLARKE - *MI*		X		
TOTALS	20	15		

** Vice Chair

VII. Summary of Major Provisions of the Bill

Coordinated budget

The Task Force is to develop a coordinated budget to be submitted by each agency to the Director of OMB at the time designated for agencies to submit annual budgets. (Sec. 4)

Overarching program direction

The bill directs the Under Secretary of Commerce for Oceans and Atmosphere to utilize the resources of the Task Force to maintain the National Harmful Algal Bloom and Hypoxia Program. The bill directs the Under Secretary, through the Program, to develop a national strategy, coordinate all Federal programs, work with State, tribal, and local government agencies and identify additional research needs and priorities. In addition, the bill directs the Under Secretary to work cooperatively and avoid duplication of efforts with other offices, centers, and programs within NOAA, as well as with States, tribes, nongovernmental organizations, and other agencies represented on the Task Force. The bill directs the Administrator of the Environmental Protection Agency to establish a freshwater harmful algal bloom research program. (Sec. 5)

Technology research and development focus

The bill requires that the existing research programs maintain a focus on research, development, and demonstration of technology to monitor, predict, prevent, control, mitigate and respond to marine and freshwater harmful algal blooms and hypoxia. It also requires the Under Secretary and the Administrator to develop a protocol to assess technology development timelines, coordinate local State and Federal authorities to facilitate field testing, and work with State and local entities to conduct outreach and education on technology field testing projects. (Sec. 5)

Information clearinghouse

The bill directs the Under Secretary, in coordination with the Administrator, to expand the existing electronic information clearinghouse to provide information about marine and freshwater harmful algal blooms and hypoxia. Furthermore, the bill directs the Under Secretary, in coordination with the Administrator, to develop a mechanism to provide a reliable and cost-effective supply of toxin standards for comparative research and notify Congress of such in the report required under this section. (Sec. 5)

Comprehensive research plan and action strategy

The bill requires that the Under Secretary, through the Task Force, oversee the development of a Comprehensive Research and Action Strategy by generating a national plan that identifies regional issues and includes a strategy to address them. (Sec. 6)

Northern Gulf of Mexico hypoxia

The bill amends the underlying statute to require the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force to update its scientific assessment and revise the Action plan issued in 2008. (Sec. 7)

Chesapeake Bay dead zone

The bill directs the Task Force to complete an integrated assessment of hypoxia in the Chesapeake Bay that examines the current status of and gaps in current research efforts, and develop a corresponding research plan. (Sec. 8)

Authorization of appropriations

Section 9 provides an authorization for the activities of the Under Secretary of Commerce of $18,000,000 for each of the fiscal years 2012 through 2015 and an authorization for the activities of the Administrator of the EPA of $2,700,000 for each of the fiscal years 2012 through 2015.

VIII. Committee Views

H.R. 2484, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011, will support efforts to better understand, detect, predict, control, mitigate, and respond to both marine and freshwater harmful algal blooms (HABs) and hypoxia events. It is the intent of the Committee that the research and activities required under the Act seek ways to reduce the duration and intensity of blooms that many U.S. waterways currently experience. This is particularly important to minimize beach and tourism activity closures, cancellations, and evacuations as well as the issuance of health and food warnings.

The Committee regards this legislation as the next necessary step in formulating the national and regional action strategies, building upon the findings and results of various reports and assessments required under the previous Harmful Algal Blooms and Hypoxia Research and Control Acts (1998 and 2004). Addressing the many dimensions of HABs requires a coordinated multi-agency approach, and there are presently a number of programs and agencies that address the various aspects of HABs.

It is in the opinion of the Committee that the federal agencies participating in the Interagency Task Force, established by the 1998 HABHRCA Act, should strengthen collaboration and coordination to address both marine and freshwater harmful algal blooms and hypoxia. H.R. 2484 aims to enhance this effort by requiring participating agencies to develop and submit program budgets annually to the Office of Management and Budget (OMB).

While the National Oceanic and Atmospheric Administration (NOAA) has been a lead agency in the country's HABs and hypoxia research activities, it is the intent of the Committee that in this role, NOAA does not bear the burden of the entire Program. H.R. 2484 intends for NOAA to lead the National Harmful Algal Bloom and Hypoxia Program in its role as the chair of the Interagency Task Force. The Committee believes that NOAA had been given such authority with the Harmful Algal Blooms and Hypoxia Research and Control Act of 2004, and strongly urges NOAA to utilize such authority to maintain an interagency program. Accordingly, the Under Secretary of Commerce for Oceans and Atmosphere (Administrator of NOAA) should work with the Task Force to outline the roles and responsibilities of each participating Federal agency to ensure all contribute to the Program activities, including the development of the comprehensive research plan and action strategy.

It is also the intent of the Committee that the Under Secretary ensures the coordination of the Task Force and works cooperatively with all Federal, State, and local programs, including NOAA internal programs and activities that address marine and freshwater HABs and hypoxia.

Despite the fact that HABs and hypoxia are not limited to marine waters, in recent years, research and related activities have focused on marine waters at the expense of freshwater issues. The Committee does not intend to establish a separate freshwater HABs and hypoxia program, but rather expects NOAA and the Environmental Protection Agency (EPA) to work together to expand the national HABs program to address freshwater HABs and hypoxia issues, while maintaining NOAA's current role in the Great Lakes as well as in the Gulf of Mexico.

As the lead agency with oversight over freshwater quality, EPA is in the best position to ensure the management of aquatic ecosystems to protect human health, and promote freshwater economic and recreational activities through both internal and extramural research to understand, detect, predict, control and mitigate freshwater HABs and hypoxia. The Committee expects EPA to not only continue its extensive hypoxia work in the Gulf of Mexico, but also to participate in the Program with respect to the inland and freshwater needs around the country. The Committee also intends for EPA to work with NOAA in individual extramural research programs including the Ecology and Oceanography of Harmful Algal Blooms Program (ECOHAB); the Monitoring and Event Response for Harmful Algal Blooms Program (MERHAB); the Northern Gulf of Mexico Ecosystems and Hypoxia Assessment Program (NGOMEX); the Coastal Hypoxia Research Program (CHRP); and, the Prevention, Control, and Mitigation of Harmful Algal Blooms Program (PCM).

As directed in H.R. 2484, the Committee expects EPA to conduct monitoring and event response activities as well as mitigation and control activities for outbreaks in lakes, rivers, estuaries (including their tributaries and the watersheds), and reservoirs. The Committee is not supportive of EPA utilizing resources provided by H.R. 2484 to increase funding of research activities within existing programs.

EPA already devotes substantial resources towards nutrient management research; the resources provided by this bill are not intended to supplement that research. Instead, the Committee directs EPA in H.R. 2484 to focus on monitoring of, and event response to, freshwater outbreaks and mitigation and control of such outbreaks. The Committee intends for EPA to focus its effort on mitigation and control technologies and techniques that could offer immediate relief to communities stricken with freshwater harmful algal bloom outbreaks.

Advances in the basic knowledge of the causes of marine and freshwater harmful algal blooms have provided sufficient information to develop technologies to respond to HABs and hypoxia. Although improvements have been made in the past couple of years, the Committee has found there is less focus on technological research to respond to HABs and hypoxia than on the ecological or basic research into the causes of these phenomena. The Committee intends that resources provided by H.R. 2484 to the Under Sec-

retary and the Administrator of EPA increase efforts to develop HABs and hypoxia mitigation solutions through an increased focus on technology research, development, and demonstration. Furthermore, the Committee directs NOAA and EPA to develop a protocol for assessing the progression of technology development to determine appropriate readiness to move from lab testing to field testing. In order to promote field testing in an expedient manner, the Committee intends for this protocol to include a process for coordinating with local, State, and Federal authorities to facilitate field testing. In addition, it is the Committee's intent that this protocol includes a process for working with local and State entities and stakeholders to conduct outreach and education about technology field testing.

H.R. 2484 instructs NOAA and EPA to expand its existing electronic information database to develop a comprehensive information clearinghouse. The Committee intends that this clearinghouse will provide detailed information on the following: HABs and Hypoxia activities of each of the agencies on the Interagency Task Force; tools currently available to predict and model events; and t current or developing technologies that exist to detect, monitor, predict, prevent, control, mitigate, and respond to HABs and Hypoxia events.

In the development of the comprehensive research plan and action strategy mandated by H.R. 2484, it is the Committee's intention for the Undersecretary to coordinate and collaborate with the State, local, and tribal governments that are directly affected by HABs and hypoxia, and to formulate a plan that will not cause financial burdens on these governments. It is also the intent of the Committee for all participating agencies of the Interagency Task Force to participate in the development of the Plan. The regional and subregional focus outlined in H.R. 2484 is intended to increase public awareness of those that live in and around the communities affected by HABs and Hypoxia.

To date, EPA efforts to address the hypoxic zone in the Gulf of Mexico have centered on the Gulf Hypoxia Action Plan 2008, which focuses on upstream water quality in an attempt to affect the size and severity of the hypoxic zone in the Gulf. Although the legislation does not prevent the continuation of EPA's efforts, it instructs EPA to update this plan to provide a more comprehensive analysis of the hypoxic zone in the Gulf of Mexico. Accordingly, the Committee expects EPA to conduct an assessment to determine different physical, chemical, biological and topographical impacts on, and effects of, the hypoxic zone. The Committee intends that the updated research plan will be based on the information acquired by the assessment included in H.R. 2484.

In recognition of the Chesapeake Bay's status as a national treasure, the Committee included in H.R. 2484 a section specifically to address hypoxia in the Bay. Given its importance to the identity of the States and region that comprise the Chesapeake Bay watershed, there are many entities involved in conducting research to improve the ecological health of the Bay. The Committee intends for the Interagency Task Force to conduct an assessment of the current research efforts of Federal and State agencies, regional research consortia, academia, private industry, and nongovernmental organizations. The assessment is intended to help avoid duplicative

efforts and to assist in the strategic deployment of resources. As such, the Task Force is to develop a research plan based on the integrated assessment. It is the Committee's intent that this research plan will be developed based on information acquired by the assessment to fill any research gaps, address the identified monitoring needs, and describe efforts to improve the assessment of impacts of hypoxia in the Bay. It is the Committee's intent that any modeling of hypoxia in the Chesapeake Bay be transparent. As such, H.R. 2484 requires that the Chesapeake Bay research plan include detailed procedures for the development and verification of Chesapeake Bay hypoxia models, establish a method to make public all model assumptions, and detail data quality protocols used to ensure best available science.

IX. Committee Oversight Findings

Pursuant to clause 3(c)(1) of rule XIII of the Rules of the House of Representatives, the Committee held an oversight hearing and made findings that are reflected in the descriptive portions of this report.

X. Statement of General Performance Goals and Objectives

In accordance with clause 3(c)(4) of rule XIII of the Rules of the House of Representatives, the performance goals and objectives of the Committee are reflected in the descriptive portions of this report, including the goal to reauthorize the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 to provide direction and specificity to the nation's harmful algal bloom and hypoxia research program efforts.

XI. New Budget Authority, Entitlement Authority, and Tax Expenditures

In compliance with clause 3(c)(2) of rule XIII of the Rules of the House of Representatives, the Committee adopts as its own the estimate of new budget authority, entitlement authority, or tax expenditures or revenues contained in the cost estimate prepared by the Director of the Congressional Budget Office pursuant to section 402 of the Congressional Budget Act of 1974.

XII. Advisory on Earmarks

In compliance with clause 9(e), 9(f), and 9(g) of rule XXI, the Committee finds that H.R. 2484, the "Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011" contains no earmarks.

XIII. Committee Cost Estimate

The Committee adopts as its own the cost estimate prepared by the Director of the Congressional Budget Office pursuant to section 402 of the Congressional Budget Act of 1974.

XIV. Congressional Budget Office Estimate

Pursuant to clause 3(c)(3) of rule XIII of the Rules of the House of Representatives, the following is the cost estimate provided by

the Congressional Budget Office pursuant to section 402 of the Congressional Budget Act of 1974.

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, August 19, 2011.

Hon. RALPH M. HALL,
Chairman, Committee on Science, Space, and Technology,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 2484, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Jeff LaFave.

Sincerely,

DOUGLAS W. ELMENDORF.

Enclosure.

H.R. 2484—Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011

Summary: H.R. 2484 would reauthorize and modify the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998. The bill would authorize the appropriation of $20.7 million annually over the 2012–2015 period for the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA) to mitigate the effects of harmful algal blooms and hypoxia (reduced oxygen level) in certain bodies of water.

Assuming appropriation of the authorized amounts, CBO estimates that implementing the legislation would cost $79 million over the 2012–2016 period and $4 million after 2016. Enacting H.R. 2484 would not affect direct spending or revenues; therefore, pay-as-you-go procedures do not apply.

H.R. 2484 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA).

Estimated cost to the Federal Government: The estimated budgetary impact of H.R. 2484 is shown in the following table. The costs of this legislation fall within budget function 300 (natural resources and environment).

	By fiscal year, in millions of dollars—					
	2012	2013	2014	2015	2016	2012–2016
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
Authorization Level	21	21	21	21	0	83
Estimated Outlays	13	18	20	20	7	79

Note: Amounts do not sum to totals because of rounding.

Basis of estimate: For this estimate, CBO assumes that the legislation will be enacted near the end of 2011 and that the authorized amounts will be appropriated for each fiscal year. Estimated outlays are based on historical spending patterns for similar NOAA and EPA activities.

H.R. 2484 would authorize the appropriation of $18 million a year over the 2012–2015 period for certain NOAA activities related to mitigating the effects of harmful algal blooms and hypoxia in

coastal waters and the Great Lakes. Those activities include providing grants, conducting research, preparing reports, and overseeing an interagency task force.

The bill also would authorize the appropriation of $2.7 million a year over the 2012–2015 period for EPA to assist NOAA in conducting related activities, including expanding an existing electronic clearinghouse and developing protocols for coordinating intergovernmental efforts related to harmful algal blooms and hypoxia.

Assuming appropriation of the authorized amounts, CBO estimates that implementing the legislation would cost $79 million over the 2012–2016 period and $4 million after 2016.

Pay-As-You-Go considerations: None.

Intergovernmental and private-sector impact: H.R. 2484 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: Jeff LaFave; Impact on state, local, and tribal governments: Ryan Miller; Impact on the private sector: Amy Petz,

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

XV. Federal Mandates Statement

The Committee adopts as its own the estimate of Federal mandates prepared by the Director of the Congressional Budget Office pursuant to section 423 of the Unfunded Mandates Reform Act.

XVI. Advisory Committee Statement

No advisory committees within the meaning of section 5(b) of the Federal Advisory Committee Act were created by this legislation.

XVII. Applicability to Legislative Branch

The Committee finds that the legislation does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act.

XVIII. Section-by-Section Analysis

Sec. 1. Short title

The Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011.

Sec. 2. Amendment of Harmful Algal Bloom and Hypoxia Research and Control Act of 1998

This section explains that the text the bill modifies is the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998, unless otherwise expressly stated.

Sec. 3. Definitions

Section 4 provides definitions, including: Administrator, the Program under Section 604(a), the Task Force under section 603(a)(1) and Under Secretary.

Sec. 4. Interagency task force

This section restates the President's establishment of an interagency Task Force on Harmful Algal Blooms and Hypoxia. The bill reiterates representation and designation of the representative from the Department of Commerce to serve as the Chairperson of the Task Force. The bill directs the Task Force to meet at least once per year and to develop a coordinated budget to be submitted to the Director of the Office of Management and Budget at the time designated for agencies to submit annual budgets.

Sec. 5. National Harmful Algal Bloom and Hypoxia Program

This section directs the Under Secretary of Commerce for Oceans and Atmosphere to utilize the resources of the Task Force to maintain a National Harmful Algal Bloom and Hypoxia Program. The bill requires the Under Secretary to: 1) develop a national strategy to address both marine and freshwater harmful algal bloom and hypoxia events; 2) coordinate all Federal programs related to HABs and hypoxia; 3) work with State, tribal, and local government agencies; 4) identify additional research needs and priorities; 5) ensure the development and implementation of methods and technologies to protect ecosystems damaged by HABs; 6) encourage the appropriate exchange of research information with other countries; 7) coordinate existing education programs to improve public understanding; 8) provide resources for training of State, tribal and local water and coastal resource managers for detecting, monitoring, controlling, mitigating, and responding to the effects of harmful algal bloom and hypoxia events; 9) oversee the development of the Plan; 10) administer peer-reviewed, merit-based competitive grant funding; and 11) encourage the development of innovative concepts for the beneficial use of biomass from harmful algal blooms and the growth of certain biofuel crops. In addition, the legislation directs the Under Secretary to work cooperatively and avoid duplication of efforts with other offices, centers, and programs within NOAA, as well as with States, tribes, nongovernmental organizations, and other agencies represented on the Task Force.

Section 5 directs the Administrator of the Environmental Protection Agency to work with the Under Secretary to utilize the resources of the task force to carry out freshwater activities. It also instructs the Administrator to ensure that such activities do not duplicate existing research and development programs authorized under this or any other Act.

Furthermore, the bill requires the Administrator to submit a report to Congress detailing the budget explanation for all the activities conducted by the Administrator under the authority of this Act.

This section also specifies duties for the Under Secretary to maintain existing competitive grant programs, conduct marine and freshwater harmful algal bloom and hypoxia event response activities, ensure communication among Federal agencies, and increase availability of resources. The bill stipulates that all monitoring and observation data collected shall conform to standards and protocols developed pursuant to the National Integrated Coastal and Ocean Observation System Act of 2009.

Section 5 requires that the existing research programs maintain a focus on research, development, and demonstration of technology

to monitor, predict, prevent, control, mitigate and respond to marine and freshwater harmful algal blooms and hypoxias. It also requires the Under Secretary and the Administrator of the Environmental Protection Agency to develop a protocol to assess technology development timelines, coordinate local State and Federal authorities to facilitate field testing, and work with State and local entities to conduct outreach and education on technology field testing projects.

This section also directs the Under Secretary, in consultation with the Administrator, to expand on the existing electronic information clearinghouse to provide information about marine and freshwater harmful algal blooms and hypoxia. Furthermore, the bill directs the Under Secretary, in consultation with the Administrator, to develop a mechanism to provide a reliable and cost-effective supply of toxin standards for comparative research and notify Congress of such in the report required under this section. The bill also directs the Under Secretary, through the Task Force, to report to Congress describing the activities carried out under the Program and the Plan.

Sec. 6. Comprehensive Research Plan and Action Strategy

This section directs the Under Secretary, through the Task Force, to oversee the development of a Comprehensive Research Plan and Action Strategy by identifying the appropriate regions and sub-regions to be addressed by the Plan and requires that the Plan include the following: 1) regional priorities for ecological, economic, and social research related to the impacts of HABs and hypoxia; 2) research, development, and demonstration activities to advance technologies and techniques for minimizing the occurrence and addressing the impacts of HABs and hypoxia; 3) ways to reduce the duration and intensity of HABs events; 4) research and methods to address the impacts of HABs on human health; 5) mechanisms and the potential costs of these mechanisms to protect vulnerable ecosystems that could be or have been affected by harmful algal bloom and hypoxia events; 6) mechanisms for data transfer between the Program and State, tribal, and local governments and relevant research entities; 7) communication, outreach, and dissemination methods used to educate and inform the public; and 8) the roles of Federal agencies in implementation of the Plan.

Section 6 also explicitly directs the utilization of existing peer-reviewed research, assessments, and reports in the development of the Plan. This section provides a list of individuals and entities that the Under Secretary shall coordinate with in developing the Plan. Section 6 directs that the Plan be completed and approved within 2 years after the date of enactment, and be periodically reviewed and updated as necessary.

Sec. 7. Northern Gulf of Mexico hypoxia

This section amends the underlying statute to require the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force to update its scientific assessment to include the following information: (1) the role of nutrient influx in the context of water column stratification, seasonal flows and conditions, and wind and current dynamics in the Gulf of Mexico; (2) the contribution of the topography of the Gulf of Mexico to water column stratification, seasonal flows

and conditions, and wind and current dynamics; (3) the frequency and availability of monitoring to measure the size of the hypoxic zone; (4) the potential for hypoxia hot-spot formation with the Gulf of Mexico and possible causes; (5) the contribution of wetland loss to the nutrient level in the Gulf of Mexico; (6) the actual effects of hypoxia on the ecosystem of the Gulf of Mexico and the benefits resulting from a reduced hypoxic zone; and (7) a scientifically generated, peer-reviewed goal for an appropriate size of the hypoxic zone in the Gulf of Mexico that will protect ecosystem functions.

Section 7 also requires the Task Force to update its Gulf Hypoxia Action Plan 2008 within 2 years of the enactment of the bill to include the following: (1) a strategy to enhance the understanding of the contribution of topography, water column stratification, seasonal flows and conditions, and wind and current dynamics on the size of the hypoxic zone; (2) the development of models to simulate the different shelf regions and the fundamental processes that act in each shelf region, differentiate between the separate effects of stratification and nutrient loading in the formation of hypoxia, and informed by realistic three-dimensional hydrodynamic and biogeochemical models; (3) a strategy to determine the appropriate amount of monitoring needed to develop a scientifically robust accounting on the size of the hypoxic zone; and (4) an examination of several potential solutions based on the information provided by the updated assessment.

Sec. 8. Chesapeake Bay dead zone

Section 8 directs the Task Force to complete and submit to Congress an integrated assessment of hypoxia in the Chesapeake Bay that examines the current status of and gaps in research. The bill requires the Task Force to develop a research plan based on the integrated assessment for reducing, mitigating, and controlling hypoxia in the Chesapeake Bay, and directs the Task Force to consult with State and local governments and representatives from academic, agricultural, industry, and other stakeholder groups. The bill also directs the Task Force to ensure that the plan does not duplicate activities conducted by other Federal or State agencies. It further directs the Plan to include incentive-based partnership approaches and an economic cost-benefit analysis of the measure for reducing, mitigating, or controlling hypoxia events. This section requires publication of the plan in the Federal Register and progress reports every 2 years on the activities leading toward attainment of the goals set forth in the plan. The bill states that the plan contents shall address the monitoring needs identified in the assessment; detail procedures for the development and verification of Chesapeake Bay hypoxia, including making all assumptions built into the model publicly available; and describe the efforts to improve the assessment of the impacts of hypoxia.

Sec. 9. Authorization of appropriations

Section 9 provides an authorization of $18,000,000 for each of the fiscal years 2012 through 2015 to the Under Secretary of Commerce to carry out the Program. In addition, this section provides $2,700,000 for each of the fiscal years 2012 through 2015 to the Administrator to carry out activities authorized in the bill. Furthermore, section 9 provides that the Administrator ensure that activi-

ties carried out using authorized appropriations do not duplicate research and development activities related to harmful algal blooms and hypoxia conducted by Federal agency represented on the Task Force, States, tribes, and nongovernmental organizations concerned with marine and freshwater aquatic issues.

Sec. 10. Clerical amendments

Amends section 2 of the Coast Guard Authorization Act of 1998 to include an updated table of contents, and replaces any instance of "Clean Water Act or" with "Federal Water Pollution Control Act or the" in section 609 of the Act.

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3(e) of rule XIII of the Rules of the House of Representatives, 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 matter is printed in italic, existing law in which no change is proposed is shown in roman):

COAST GUARD AUTHORIZATION ACT OF 1998

* * * * * * *

SEC. 2. TABLE OF CONTENTS.

The table of contents for this Act is as follows:

* * * * * * *

TITLE VI—HARMFUL ALGAL BLOOMS AND HYPOXIA

* * * * * * *

[Sec. 602. Findings.
[Sec. 603. Assessments.
[Sec. 604. Northern Gulf of Mexico hypoxia.
[Sec. 605. Authorization of appropriations.
[Sec. 606. Protection of States' rights.]
Sec. 602. Definitions.
Sec. 603. Assessments.
Sec. 604. National harmful algal bloom and hypoxia program.
Sec. 605. Comprehensive research plan and action strategy.
Sec. 606. Northern Gulf of Mexico hypoxia.
Sec. 607. Chesapeake Bay dead zone.
Sec. 608. Authorization of appropriations.
Sec. 609. Protection of States' rights.

* * * * * * *

TITLE VI—HARMFUL ALGAL BLOOMS AND HYPOXIA

SEC. 601. SHORT TITLE.

This title may be cited as the "Harmful Algal Bloom and Hypoxia Research and Control Act of 1998".

[SEC. 602. FINDINGS.

[The Congress finds that—

[(1) the recent outbreak of the harmful microbe Pfiesteria piscicida in the coastal waters of the United States is one ex-

ample 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.]

SEC. 602. DEFINITIONS.

In this title:

(1) ADMINISTRATOR.—The term "Administrator" means the Administrator of the Environmental Protection Agency.

(2) NOAA.—The term "NOAA" means the National Oceanic and Atmospheric Administration.

(3) PLAN.—The term "Plan" means the comprehensive research plan and action strategy under section 605.

(4) PROGRAM.—The term "Program" means the National Harmful Algal Bloom and Hypoxia Program under section 604(a).

(5) STATE.—The term "State" means each of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the United States Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, any other territory or possession of the United States, and any Indian tribe.

(6) TASK FORCE.—The term "Task Force" means the Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia under section 603(a)(1).

(7) UNDER SECRETARY.—The term "Under Secretary" means the Under Secretary of Commerce for Oceans and Atmosphere.

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.]

(a) INTER-AGENCY TASK FORCE.—

(1) ESTABLISHMENT.—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.

(2) REPRESENTATION.—The Task Force shall consist of representatives from the following:

(A) The Department of Commerce.

(B) The Environmental Protection Agency.

(C) The Department of Agriculture.

(D) The Department of the Interior.

(E) The Department of the Navy.

(F) The Department of Health and Human Services.

(G) The National Science Foundation.

(H) The National Aeronautics and Space Administration.

(I) The Food and Drug Administration.

(J) The Office of Science and Technology Policy.

(K) The Council on Environmental Quality.

(L) Such other Federal agencies as the President considers appropriate.

(3) CHAIRPERSON.—The Under Secretary from the Department of Commerce shall serve as the Chairperson of the Task Force.

(4) REQUIRED MEETINGS.—

(A) IN GENERAL.—The Task Force shall meet, or otherwise communicate, to coordinate activities within each agency represented on the Task Force in order to fulfill the program requirements in section 604(b).

(B) FREQUENCY.—The Task Force shall meet at least once per year.

(5) BUDGET COORDINATION.—The Task Force shall—

(A) coordinate in the development of individual agency budgets for the activities described in section 604 that will ensure an appropriate balance among the research and action priorities; and

(B) submit such budgets to the Director of the Office of Management and Budget at the time designated by the Director for agencies to submit annual budgets.

* * * * * * *

SEC. 604. NATIONAL HARMFUL ALGAL BLOOM AND HYPOXIA PROGRAM.

(a) IN GENERAL.—Except as provided in subsection (d), the Under Secretary, through the Task Force, shall maintain a National Harmful Algal Bloom and Hypoxia Program in accordance with authorities under section 603 pursuant to this section.

(b) DUTIES.—The Under Secretary, through the Program, shall coordinate the efforts of the Task Force to—

(1) develop and promote a national strategy to understand, detect, monitor, predict, control, mitigate, and respond to marine and freshwater harmful algal bloom and hypoxia events;

(2) integrate 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;

(3) assist and coordinate, where appropriate, with State, tribal, and local government agencies, programs, and regional efforts that address marine and freshwater harmful algal blooms and hypoxia, including the development and implementation of appropriate response plans, strategies, and tools;

(4) identify additional research, development, and demonstration needs and priorities relating to understanding, detection, monitoring, prediction, prevention, control, mitigation, and response to marine and freshwater harmful algal blooms and hypoxia;

(5) ensure the development and use of methods and technologies to protect the ecosystems affected by marine and freshwater harmful algal blooms and hypoxia;

(6) encourage the appropriate exchange of research information with other countries in order to better mitigate, control, and respond to marine and freshwater harmful algal blooms;

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

(8) provide resources to assist in the training of State, tribal, and local water and coastal resource managers in the methods and technologies for detecting, monitoring, controlling, mitigating, and responding to the effects of marine and freshwater harmful algal bloom and hypoxia events;

(9) oversee the development, review, and periodic updating of the Plan;

(10) administer peer-reviewed, merit-based, competitive grant funding to support—

(A) the projects maintained and established by the Program; and

(B) the research and management needs and priorities identified in the Plan; and

(11) encourage the development of innovative concepts for the beneficial utilization of—

(A) biomass from harmful algal blooms that have been removed from the natural system; and

(B) the growth of certain biofuel crops that reduce runoff that causes harmful algal blooms.

(c) COOPERATIVE EFFORTS.—The Under Secretary shall work cooperatively and avoid duplication of efforts with other offices, centers, and programs within NOAA and other agencies represented on the Task Force, States, tribes, and nongovernmental organizations concerned with marine and freshwater aquatic issues related to harmful algal blooms and hypoxia.

(d) FRESHWATER PROGRAM.—

(1) IN GENERAL.—With respect to the freshwater aspects of the Program, the Administrator and the Under Secretary, through the Task Force, shall carry out the duties otherwise assigned to the Under Secretary under this section, excluding the activities described in subsection (e).

(2) PARTICIPATION.—The Administrator's participation under this subsection shall include—

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

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

(C) mitigation and control of freshwater harmful algal blooms.

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

(4) REPORT.—Not later than 1 year after the date of enactment of the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011, the Administrator shall prepare and transmit to the Committee on Science, Space, and Technology of the House of Representatives a report containing—

(A) a detailed budget explanation for all of the activities conducted by the Administrator under this Act; and

(B) a description of how such activities reduce the effects of freshwater harmful algal blooms and improve water quality.

(e) NOAA ACTIVITIES.—As part of the program under this section, the Under Secretary shall—

(1) maintain existing peer-reviewed competitive grant programs at NOAA relating to marine and freshwater harmful algal blooms and hypoxia;

(2) conduct marine and freshwater harmful algal bloom and hypoxia event response activities; and

(3) ensure communication and coordination among Federal agencies carrying out marine and freshwater harmful algal bloom and hypoxia activities and increase the availability to appropriate public and private entities of—

(A) analytical facilities and technologies;

(B) operational forecasts; and

(C) reference and research materials.

(f) INTEGRATED COASTAL AND OCEAN OBSERVATION SYSTEM.—All monitoring and observation data collected under this Act shall be collected in compliance with all data standards and protocols developed pursuant to the National Integrated Coastal and Ocean Observation System Act of 2009 (33 U.S.C. 3601 et seq.), and such data shall be made available through the system established under that Act.

(g) TECHNOLOGY RESEARCH, DEVELOPMENT, AND DEMONSTRATION.—

(1) IN GENERAL.—As part of the duties described in subsection (b), the Under Secretary and the Administrator, through the Task Force, shall maintain a focus on technology research and development for each of the categories of marine harmful algal blooms, freshwater harmful algal blooms, and hypoxia in the following areas:

(A) Monitoring.

(B) Prediction.

(C) Prevention.

(D) Control.

(E) Mitigation.

(F) Response to events, including remediation.

(2) ENUMERATION.—As part of the report required under subsection (i), the Under Secretary, in coordination with the Administrator, shall enumerate the technology research and development conducted for each of the areas identified in paragraph (1).

(3) PROTOCOL.—The Under Secretary, in coordination with the Administrator, shall develop a protocol for—

(A) assessing the stage of technology development that is ready to move from lab testing to field testing;

(B) coordinating local, State, and Federal authorities to facilitate measures necessary to conduct field tests in a timely manner; and

(C) working with local and State entities, programs, and interested stakeholders to conduct outreach and education on technology field testing projects.

(h) INFORMATION CLEARINGHOUSE.—

(1) ELECTRONIC INFORMATION.—Using the authority under section 603(i)(2)(B), the Under Secretary, in coordination with the Administrator, shall expand the existing electronic clearinghouse to provide information about marine and freshwater harmful algal blooms and hypoxia, including—

(A) the Federal agencies involved in research and development on understanding, detection, monitoring, prediction, prevention, control, mitigation, and response activities;

(B) tools available to predict and model events; and

(C) current or developing technologies for detection, monitoring, prediction, prevention, control, mitigation, and response, including remediation.

(2) TOXIN STANDARDS.—The Under Secretary, in consultation with the Administrator, shall—

(A) develop a mechanism to provide a reliable and cost-effective supply of toxin standards for comparative research; and

(B) notify the Congress of such mechanism as part of the report required under subsection (i).

(i) REPORT.—Not later than 1 year after the submission of the Plan, the Under Secretary, through the Task Force, shall prepare and transmit to the Congress a report that describes—

(1) the activities carried out under the Program and the Plan and the budget related to such activities; and

(2) the need to revise or terminate activities or projects under the Program.

SEC. 605. COMPREHENSIVE RESEARCH PLAN AND ACTION STRATEGY.

(a) IN GENERAL.—Not later than 2 years after the date of enactment of the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011, the Under Secretary, through the Task Force, shall transmit to the Congress a comprehensive research plan and action strategy to address marine and freshwater harmful algal blooms and hypoxia that identifies—

(1) the specific activities to be carried out by the Program and the timeline for carrying out such activities;

(2) the roles and responsibilities of each Federal agency in the Task Force in carrying out Program activities; and

(3) appropriate regions and subregions requiring specific research and activities to address local, State, and regional harmful algal blooms and hypoxia.

(b) REGIONAL FOCUS.—The regional and subregional parts of the Plan 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 State, tribal, and local governments and relevant 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) the roles that Federal agencies may have to assist in the implementation of the Plan.

(c) UTILIZING AVAILABLE STUDIES AND INFORMATION.—In developing the Plan, the Under Secretary shall utilize existing research, assessments, reports, and program activities, including—

(1) those carried out pursuant to existing law; and

(2) other relevant peer-reviewed and published sources.

(d) DEVELOPMENT OF THE PLAN.—In developing the Plan, 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 noncoastal 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

(G) other stakeholders.

(e) FEDERAL REGISTER.—The Under Secretary shall publish the Plan in the Federal Register.

(f) PERIODIC REVISION.—The Under Secretary, in coordination and consultation with the individuals and entities identified in subsection (d), shall periodically review and revise the Plan prepared under this section, as necessary.

SEC. [604.] *606.* NORTHERN GULF OF MEXICO HYPOXIA.

(a) * * *

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(c) REQUIRED UPDATE.—

(1) IN GENERAL.—Within 2 years after the date of enactment of the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011, the Administrator, through the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, shall complete and submit to the Congress and the President an updated assessment and a revised action plan based on the updated assessment.

(2) REQUIREMENTS.—The updated assessment shall take into account the following:

(A) The role of nutrient influx in the context of water column stratification, seasonal flows and conditions, and wind and current dynamics in the Gulf of Mexico.

(B) The contribution of the topography of the Gulf of Mexico in the effects of the characteristics described in subparagraph (A) on the hypoxic zone.

(C) The frequency and availability of monitoring to measure the size of the hypoxic zone.

(D) The potential of hypoxia hot-spot formation within the Gulf of Mexico and possible causes of such hot-spots.

(E) The contribution of wetland loss to hypoxia events in the Gulf of Mexico.

(F) The actual effect of hypoxia on the ecosystem of the Gulf of Mexico and the benefits resulting from a reduced hypoxic zone size.

(G) A scientifically generated, peer-reviewed goal for the size of the hypoxic zone in the Gulf of Mexico.

(3) RESEARCH STRATEGY.—The updated plan shall include a research strategy—

(A) to enhance understanding of the contribution of topography, water column stratification, seasonal flows and conditions, and wind and current dynamics on the size of the hypoxic zone;

(B) to develop models able to—

(i) simulate different shelf regions and the fundamental processes that act in each shelf region;

(ii) differentiate between the separate effects of stratification and nutrient loading in the formation of hypoxia; and

(iii) be informed by realistic three-dimensional hydrodynamic and biogeochemical models;

(C) that determines the appropriate amount of monitoring and measuring necessary to get a scientifically robust accounting on the size of the Gulf of Mexico hypoxic zone; and

(D) that examines several potential solutions based on information provided by the updated assessment in paragraph (1).

SEC. 607. CHESAPEAKE BAY DEAD ZONE.

(a) ASSESSMENT PLAN.—Not later than 12 months after the date of enactment of the Harmful Algal Bloom and Hypoxia Re-

search and Control Amendments Act of 2011, the Task Force, in accordance with the authority under section 603, shall complete and submit to the Congress and the President an integrated assessment of hypoxia in the Chesapeake Bay that examines the status of and gaps within current research, monitoring, prevention, response, and control activities by—

(1) Federal agencies;

(2) State agencies;

(3) regional research consortia;

(4) academia;

(5) private industry; and

(6) nongovernmental organizations.

(b) RESEARCH PLAN.—

(1) IN GENERAL.—Not later than 2 years after the date of enactment of the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011, the Task Force shall develop and submit to the Congress a plan, based on the integrated assessment submitted under subsection (a), for reducing, mitigating, and controlling hypoxia in the Chesapeake Bay.

(2) REQUIREMENTS.—In developing such plan, the Task Force shall—

(A) consult with State and local governments and representatives from academic, agricultural, industry, and other stakeholder groups;

(B) ensure that the plan does not duplicate activities conducted by other Federal or State agencies;

(C) include incentive-based partnership approaches;

(D) include an economic cost-benefit analysis of the measures for reducing, mitigating, and controlling hypoxia events;

(E) utilize existing research, assessments, reports, and program activities;

(F) publish a summary of the proposed plan in the Federal Register 90 days prior to the submission to the Congress of the completed plan; and

(G) provide progress reports every 2 years after the submission to the Congress of the completed plan on the activities leading toward attainment of the goals set forth in the plan.

(3) CONTENTS.—The plan shall—

(A) address the monitoring needs identified in the integrated assessment submitted under subsection (a) and develop a timeline and budgetary requirements for deployment of future assets;

(B) detail procedures for the development and verification of Chesapeake Bay hypoxia models, including making available to the public—

(i) all assumptions built into the models; and

(ii) data quality methods used to ensure the best available data is utilized; and

(C) describe efforts to improve the assessment of the impacts of hypoxia by—

(i) characterizing current and past biological conditions in ecosystems affected by hypoxia; and

(ii) quantifying effects, including economic effects, at the population and community level.

[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, $19,000,000 for fiscal year 2001, $23,500,000 for fiscal year 2005, $24,500,000 for fiscal year 2006, $25,000,000 for fiscal year 2007, and $30,000,000 for each of fiscal years 2008 through 2010, 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, $2,000,000 for fiscal year 2001, and $2,500,000 for each of fiscal years 2005 through 2010 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, $5,500,000 for fiscal year 2001, and $6,500,000, of which $1,000,000 shall be used for the research program described in section 603(f)(2)(B), for each of fiscal years 2005 through 2010 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, $2,000,000 for fiscal year 2001, and $3,000,000 for each of fiscal years 2005 through 2010 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 and to carry out section 603(d);

[(4) $5,500,000 for each of the fiscal years 1999, 2000, 2001, and $6,000,000 for each of fiscal years 2005 through 2010 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;

[(5) $3,000,000 for fiscal year 1999, $3,750,000 for fiscal year 2000, $4,000,000 for fiscal year 2001, $4,000,000 for fiscal year 2005, $5,000,000 for fiscal year 2006, $5,500,000 for fiscal year 2007, and $6,000,000 for each of fiscal years 2008 through 2010 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; and

[(6) $1,500,000 for each of fiscal years 2005 through 2010 to carry out section 603(e).]

SEC. 608. AUTHORIZATION OF APPROPRIATIONS.

(a) UNDER SECRETARY.—There are authorized to be appropriated to the Under Secretary to carry out this Act $18,000,000 for each of fiscal years 2012 through 2015, of which, for each fiscal year—

(1) $1,000,000 may be used for the development of the comprehensive research plan and action strategy under section 605 and the assessment and reports required by sections 606 and 607;

(2) $4,000,000 may be used for the research and assessment activities related to marine and freshwater harmful algal blooms at research laboratories of NOAA;

(3) $4,000,000 may be used to carry out the Ecology of Harmful Algal Blooms Program (ECOHAB);

(4) $1,500,000 may be used to carry out the Monitoring and Event Response for Harmful Algal Blooms Program (MERHAB);

(5) $2,000,000 may be used to carry out research and assessment for the Northern Gulf of Mexico ecosystem and hypoxia activities;

(6) $1,500,000 may be used to carry out coastal hypoxia research activities;

(7) $1,500,000 may be used to carry out prevention, control, and mitigation activities;

(8) $500,000 may be used to carry out event response activities; and

(9) $500,000 may be used to carry out infrastructure activities.

(b) ADMINISTRATOR.—

(1) IN GENERAL.—There are authorized to be appropriated to the Administrator $2,700,000 for each of the fiscal years 2012 through 2015 to carry out the activities authorized under this Act.

(2) NONDUPLICATION.—The Administrator shall ensure that activities carried out using the amounts authorized under paragraph (1) do not duplicate research and development activities related to harmful algal blooms and hypoxia conducted by Federal agencies represented on the Task Force, States, tribes, and nongovernmental organizations concerned with marine and freshwater aquatic issues.

SEC. [606.] *609.* PROTECTION OF STATES' RIGHTS.

(a) Nothing in this title shall be interpreted to adversely affect existing State regulatory or enforcement power which has been granted to any State through the [Clean Water Act or] *Federal Water Pollution Control Act or the* Coastal Zone Management Act of 1972.

(b) Nothing in this title shall be interpreted to expand the regulatory or enforcement power of the Federal Government which has been delegated to any State through the [Clean Water Act or] *Federal Water Pollution Control Act or the* Coastal Zone Management Act of 1972.

XX. MINORITY VIEWS

H.R. 2484, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011, as amended by the Committee on Science, Space, and Technology, is intended to reauthorize research needed to address both marine and freshwater harmful algal blooms (HABs) and hypoxia events. The Committee Democrats recognize that the increasing frequency and severity of these events warrant a renewed focus on the relevant programs and activities at the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA), and a reauthorization of the original Act is crucial. However. H.R. 2484 reduces the authorizations for HABs research at NOAA to below the FY 2008 spending levels, while, at the same time, the bill mandates a focus on additional duties for the agencies, imposing unfunded mandates on these agencies. It is the view of the Committee Democratic Members that the activities being authorized should be supported with commensurate levels of funding, or, at minimum, current funding levels should be sustained. It is the view of Committee Democrats that, contrary to the stated intent of supporting these activities, H.R. 2484 actually hinders the agencies' ability to protect our nation's waterways, marine life, and public health from the effects of HABs. For this reason, Committee Democrats unanimously opposed the final passage of the bill in Committee.

Committee Democrats regard the following additional provisions required for the Under Secretary of NOAA and the Administrator of EPA as new unfunded mandates: (1) maintaining a focus on research, development, and demonstration of technology to monitor, predict, prevent, control, mitigate and respond to marine and freshwater harmful algal blooms and hypoxia; (2) develop a protocol to assess technology development timelines, coordinate local State and Federal authorities to facilitate field testing, and work with State and local entities to conduct outreach and education on technology field testing projects; (3) expand on the existing electronic information clearinghouse to provide information about marine and freshwater harmful algal blooms and hypoxia; (4) develop a mechanism to provide a reliable and cost-effective supply of toxin standards for comparative research; and (5) all of the EPA's Freshwater HABs research activities. The Democratic amendments accepted for H.R. 2484 will allow some of the research, specifically in the Northern Gulf of Mexico hypoxic zone, to progress without the hindrance of additional requirements set by the Act.

Committee Democratic Members do not object to the substance of these additional provisions, and, in fact, agree with the Majority and stakeholders that they can be valuable additions to the existing activities. However, we believe that the current research activities are already underfunded, without the imposition of new requirements. The table below shows the current spending levels of HABs activities at NOAA to be roughly $21 million, assuming that the projected FY 2011 spending levels will fall within the same range as the 2009 and 2010 levels. H.R. 2484 is set to reauthorize the NOAA HABs activities at $18 million, which is just below the FY 2008 spending levels and below the $25.5 million authorized in the 2004 Reauthorization Act. It is the opinion of the Committee Minority that this reduced level of funding will make it extremely difficult for the agencies to carry out the currently-mandated activities, let alone focus on the additional activities required by H.R. 2484.

Similarly, the Committee Democrats believe in order for EPA to fully participate in the research activities proposed in H.R. 2484, the EPA will require additional authority and funding above current operating levels. However, we strongly oppose robbing NOAA to pay for these activities, which is what the Majority has done in their bill.

NOAAHAB AND HYPOXIA EXPENDITURES,[1] FY 2007–FY 2010—JULY 7, 2011

	Expenditures			
	FY 2007	FY 2008	FY 2009	FY 2010
NCCOS:.				
Regional Research and Action Plans [2]	$0.02M	$0.02M	$0.1M	$0.0M
Intramural Research and Assessment Activities [3]	$3.8M	$4.4M	$3.8M	$3.3M
ECOHAB	$2.8M	$3.0M	$5.1M	$4.7M
MERHAB	$1.9M	$1.6M	$1.5M	$0.6M
NGOMEX	$1.7M	$2.4M	$2.7M	$2.4M
CHRP	$0.7M	$0.9M	$1.9M	$1.3M
PCM HAB	$0.0M	$0.0M	$0.0M	$1.0M
Event Response	$0.01M	$0.06M	$0.04M	$0.02M
Infrastructure	$0.0M	$0.0M	$0.0M	$0.0M
Coordination and Management of HABHRCA Competitive Programs	$2.0M	$2.1M	$1.7M	$1.7M
Operational HAB Forecasting [4]	$0.0M	$0.0M	$0.0M	$1.0M
HABHRCA Reports [5]	$0.2M	$0.0M	$0.01M	$0.0M
Ship Costs (presently allocated to OMAO and executed through NCCOS)	$1.8M	$1.0M	$1.8M	$1.3M
NOAA (external to NCCOS)	$1.3M	$2.6M	$2.1M	$3.4M
NCCOS Total	$14.9M	$15.5M	$18.7M	$17.3M
NOAA TOTAL	$16.2M	$18.1M	$20.8M	$20.7M

[1] Within the NOAA Budget there is not a specific NOAA line item for HABHRCA appropriations. HABHRCA is primarily implemented through appropriations to the NCCOS Base and the Competitive Research lines. Both NCCOS budget lines and the above estimates support a suite of prog rams codified in HABHRCA, as well as, in some cases, HABHRCA's goals more generally.

[2] This includes research prioritization workshops and contractor support used for preparation of Regional Plans.

[3] Estimated expenditures include research related to HABs and hypoxia within this time frame. These numbers have been refined slightly since the May 2011 submission based on additional analyses regarding activities carried out within NCCOS.

[4] In FY07, FY08. and FY09, operational costs were incurred by NOAA external to NCCOS.

[5] Yearly HABHRCA reporting costs vary significantly based upon HABHRCA's schedule. Costs for the initial series of HAKIRCA-required reports were largely incurred prior to 2007 (approx. $200,000–$300,000/report).

EDDIE BERNICE JOHNSON.
BRAD MILLER.
MARCIA L. FUDGE.
DAVID WU.
ZOE LOFGREN.
DONNA F. EDWARDS.
PAUL TONKO.
JOHN P. SARBANES.
JERRY COSTELLO.
LYNN WOOLSEY.
JERRY MCNERNEY.
HANSEN CLARKE.
FREDERICA S. WILSON.
BEN R. LUJÁN.
TERRI SEWELL.
DANIEL LIPINSKI.

XXI: PROCEEDINGS OF THE SUBCOMMITTEE ON ENERGY AND ENVIRONMENT MARKUP ON H.R. 2484, HARMFUL ALGAL BLOOMS AND HYPOXIA RESEARCH AND CONTROL AMENDMENTS ACT OF 2011

WEDNESDAY, JULY 14, 2011

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY AND ENVIRONMENT,
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
Washington, DC.

The Subcommittee met, pursuant to call, at 2:02 p.m., in Room 2318 of the Rayburn House Office Building, Hon. Andy Harris [Chairman of the Subcommittee] presiding.

Chairman HARRIS. The Subcommittee on Energy and Environment will come to order. Pursuant to notice, the Subcommittee on Energy and Environment meets today to consider the following measure: H.R. 2484, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011.

We will now proceed with the markup, beginning with opening statements, and I will begin.

Harmful algal blooms affect nearly every State in the U.S., and the complexity in understanding and responding to these events has eclipsed our current research and response structure. As part of an effort to address this need, we are marking up H.R. 2484, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011. This legislation is based on the discussion draft that was the subject of a Subcommittee hearing at the beginning of June. The changes from the discussion draft this afternoon's bill reflect comments received during the hearing and through discussions with the agencies and other relevant stakeholders in the intervening weeks.

H.R. 2484 reauthorized the Harmful Algal Blooms and Hypoxia Research and Control Act of 1998. There are a number of research programs related to harmful algal blooms and hypoxia already in existence authorized by several existing laws. However, in order to administer these programs, an umbrella structure has evolved to manage the disparate activities. H.R. 2484 is supportive of this umbrella program and directs the task force to maintain it, and instructs the Under Secretary of Commerce for Oceans and Atmosphere, who is also the Administrator of NOAA, to carry out a series of activities through the program.

Now, one thing we learned from our hearing is that people who are seeking assistance when they have an HAB problem have had serious difficulties finding useful and relevant information. H.R. 2484 instructs the under secretary and the administrator to maintain an electronic information clearinghouse to aid with the dissemination of information about freshwater and marine harmful algal blooms and hypoxia. Also, it requires the under secretary and the administrator to develop a mechanism to ensure quality and cost effective toxin standards for comparative research.

Now, the Committee Print we discussed in June contained an additional 10 reports from what you see in the bill before you. I believe that this single comprehensive approach is simpler and more efficient. Furthermore, with each report estimating the cost approximately $300,000, we will be eliminating about $3 million worth of reporting requirements, which frees up significant resources for additional research and response activities.

Finally, H.R. 2484 provides NOAA with an authorization of $18 million for each fiscal year from 2012 to 2015, a level slightly below fiscal year 2010 levels. But it also directs the administrator of EPA to utilize up to $3 million of existing funding for each fiscal year from 2012 to 2015 to carry out the authorized provisions in the Act.

H.R. 2484 started out from a version of a House bill passed in the 111th Congress. I understand that there have been positive collaborations on this effort between Majority and Minority staff, and I thank them all for that. I hope that such collaboration will continue and increase as we move through the legislative process. I will urge the support of all the members of the Subcommittee for this bill, and I will leave my statement at that and insert the rest in the record, as we would like to get going before votes are called.

[The prepared statement of Mr. Harris follows:]

PREPARED STATEMENT OF CHAIRMAN HARRIS

Harmful algal blooms affect nearly every State in the U.S., and the complexity in understanding and responding to these events has eclipsed our current research and response structure. In my District, algal blooms and dead zones are an ongoing challenge in the Chesapeake Bay, negatively impacting the commercial fishing industry, tourism, and numerous Bay-related recreational activities. There is a growing need for collaboration between Federal agencies and between the Federal government and States and localities to address this important environmental issue.

As part of an effort to address this need, we are marking up H.R. 2484, the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011. This legislation is based on the discussion draft that was the subject of a Subcommittee hearing at the beginning of June. The changes from the discussion draft to this morning's bill reflect comments received during the hearing and through discussions with the Agencies and other relevant stakeholders in the intervening weeks.

H.R. 2484 reauthorizes the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998. The bill reconstitutes the inter-agency Task Force already in statute and requires budget development and coordination for the activities enumerated in the bill. This will raise the visibility of the research programs within the agency members of the Task Force.

There are a number of research programs related to harmful algal blooms and hypoxia already in existence, authorized by several existing laws. However, in order to administer these programs, an umbrella structure has evolved to manage the disparate activities. H.R. 2484 is supportive of this umbrella Program and directs the Task Force to maintain it, and instructs the Under Secretary of Commerce for Oceans and Atmosphere - who is also the Administrator of NOAA - to carry out a series of activities, through the Program. The Under Secretary is also required to work cooperatively with other offices, centers, and programs within NOAA, as well as with States, tribes, nongovernmental organizations and other members of the Task Force to avoid duplication of efforts.

As we heard at the hearing, there is a need for technologies to deal with harmful algal bloom or HAB outbreaks in addition to looking for solutions to prevent or minimize them in the first place. Accordingly, H.R. 2484 directs the Under Secretary and the Administrator of the EPA to maintain a focus on technology research and development for freshwater and marine harmful algal blooms and hypoxia. It also requires the development of protocols to determine when technologies are ready to move from lab testing to field testing, to coordinate local, State and Federal authorities to facilitate field testing, and work with local and State entities to conduct outreach and education about the field testing.

Another thing we learned from our hearing is that people who are seeking assistance when they have a HABs problem have had serious difficulties in finding useful and relevant information. H.R. 2484 instructs the Under Secretary and the Administrator to maintain an electronic information clearinghouse to aid with the dissemination of information about freshwater and marine harmful algal blooms and hypoxia. Also, it requires the Under Secretary and the Administrator to develop a mechanism to ensure quality and cost-effective toxin standards for comparative research.

The bill directs the Under Secretary to oversee the development of a comprehensive research plan and action strategy and identify the appropriate regions to be highlighted by such a Plan. The action strategy outlines the specific activities to be carried out by the Program, a timeline for such activities, and the programmatic roles of each Federal agency on the Task Force. The research plan must also identify research, activities and technologies needed to detect, predict, monitor, prevent, control and mitigate harmful algal blooms and hypoxia. The Committee print discussed in June contained an additional 10 reports. I believe that this single, comprehensive approach is simpler and more efficient. Furthermore, with each report estimated to cost approximately $300,000, eliminating $3 million worth of reporting requirements frees up significant resources for additional research and response activities.

Chairman HARRIS. I now recognize Mr. Miller for five minutes to present his opening remarks.

Mr. MILLER. Thank you, Mr. Chairman. In June, this Subcommittee did hear expert witnesses on the rapid overproduction of algae, and how that can have devastating effects on aquatic plant and animal life, as well as human health. Unfortunately, despite years of research on harmful algal blooms, HABs, and hypoxia is on the rise; and are affecting more of our coastlines and in the waterways than ever. Just last month, the senior senator from Oklahoma, Senator Inhofe, a member of the other body, and a frequent participant in debates about environmental policy, was made deathly sick, he said, by swimming in a toxic algal outbreak in a lake in Oklahoma.

Recognizing the growing threat, we begin work on the reauthorization of the Harmful Algal Bloom and Hypoxia Research and Control Act in the last Congress—I recall, though, there was a helpful acronym for that—with bill ultimately passed in the House but stalling in the Senate. The Senate being where all ideas go to die.

In some regards, today is a continuation of that effort and as with that bill, this bill before us directs NOAA to implement research strategies and action plans so we can understand better and respond better to the harmful blooms and hypoxia events.

NOAA and the research community have made notable strides in advancing our understanding of harmful algae, and under intense budget constraints they have managed to devise a range of innovative solutions. The question for us is when we will stop paying lip service to the problem, take it seriously, and put our money where our mouth is? Scientific research and practicable response strate-

gies don't come free, and oyster farmers, swimming senators, and all the rest of us expect more than that.

But given the importance of the research to the Chesapeake Bay in particular, I am surprised that this bill does not even at a minimum sustain the funding at its current level. Despite properly acknowledging the risk of HABs, the bill makes even further cuts to an already struggling program, actually rewinding the program funding to less than the 2008 levels.

I look forward to the debate today—the discussion today about this bill, but I hope that it will not be that we give lip service only to the importance of research and fail to provide the funds necessary—or authorize the funds necessary to do it. The research community and the populations they serve have made it clear that they do need this bill, and it is important that we pass this legislation. That will be helpful to them in response to the problem. Right now, I fear with the funding issue this bill does not do that.

[The prepared statement of Mr. Miller follows:]

PREPARED STATEMENT OF SUBCOMMITTEE RANKING MEMBER MILLER

Thank you. Mr. Harris.

In June this Subcommittee heard expert witnesses testify on how the rapid overproduction of algae can have devastating impacts on aquatic plant and animal life, as well as human health. Unfortunately, despite years of research and growing public awareness, the frequency and duration of harmful algal blooms and hypoxia is on the rise, and affecting more of our coastlines and inland waters than ever before. In fact, just last month, the esteemed senior senator from Oklahoma and frequent contributor to the debate on environmental policy, Senator Inhofe, was made ″deathly sick″ by swimming in a toxic algae outbreak in a lake in his home state.

Recognizing the growing threat, we began work on the reauthorization of the Harmful Algal Bloom and Hypoxia Research and Control Act in the last Congress, with the bill ultimately passing the House but stalling in the Senate. In some regards, today is a continuation of that effort. As with that bill, the bill before us today directs NOAA to implement research strategies and action plans to better understand and respond to these harmful blooms and hypoxic events.

NOAA and the research community have made notable strides in advancing our understanding of harmful algae, and, under intense budget constraints, they have managed to devise a range of innovative solutions. The question for us is when will we stop paying lip service to this problem, take it seriously, and put our money where our mouth is? Scientific research and practicable response strategies don't come for free. From oyster farmers to swimming senators, the public expects more from us.

That said, given the importance of this research to the Chesapeake Bay watershed - your district, Mr. Chairman - I am surprised that your bill does not even, at minimum, sustain funding at its current level. Despite acknowledging the risk of HABs, you choose to make even further cuts to already struggling programs, actually rewinding funding to lower than 2008 spending levels. By what logic does that solve the problem?

I look forward to discussing the bill more when we bring it up here for consideration. But if we are going to say we care about this research, and that we care enough about the impacts of HABs of coasts and inland waters to take action, then we actually have to invest in a way that will move this research forward and advance our understanding of these blooms and the hypoxic events they cause. Otherwise, it might actually be better if we didn't care so much.

The research community and the populations they serve have made it clear that they need this bill, and that it is important that we pass a piece of legislation that is both helpful to them and responsive to the problem. Right now, I cannot claim that this bill does either of those.

Thank you Mr. Harris and I look forward to a productive markup and hope that we can find a way to make these programs even more, and certainly not less, effective.

Mr. MILLER. Mr. Harris, before we bring this bill for consideration, I do have a parliamentary inquiry.

Chairman HARRIS. Go ahead.

Mr. MILLER. I understand that the protocols of the House, the rules of the House and of this committee does not allow any new authorization without having those authorizations offset. I understand that this bill offsets the appropriations or the authorization of—with reference to Section 9(b) and Section 9(d), that under Section 282 of the Environmental Research Development and Demonstration Authority Act of 1981, the administrator may utilize up to $3 million to carry out the authorized activities under this Act. The 1981 Act was an authorization for 1981 only, so that authorization has now expired for more than 30 years.

I assume that when the rules require that there be an authorizing—an offsetting authorization, that it be an existing authorization, not one that has existed at some point in the past, 30 years ago or 50 years ago. Is that the rule, that there just must be some offset, regardless of whether it is in existence now? What is the current rule that must be offset before we can consider a bill?

Chairman HARRIS. Well, I thank the gentleman for raising the issue. We have used the current spending in the program, current appropriation in the program as the baseline from which to operate. But the issue you bring up is the authorization with regards to the Act in 1981. The language as drafted clarifies that funding for these activities comes from the amounts that are being made available for the Clean Water Act, science and technology activities at EPA currently.

Despite the fact that this account has not been authorized since 1981, clean water research activities continue to receive funds through the appropriations process. For the science and technology research activities at EPA, which did receive $815 million for fiscal year 2011 and $848 million in fiscal year 2010. Clean Water research activities received—specifically, clean water research activities received $62 million in fiscal year 2010. This bill would allow EPA to use up to $3 million of those funds as well towards activities in this bill.

This bill is a good faith effort to direct existing dollars which are being appropriated for this office to activities that this committee views as vital to the environment and clean water. Now, we have worked with the Congressional Budget Office and we will continue to work with the Congressional Budget Office to examine appropriate spending for these activities, based on actual agency estimates, and we will continue to work on this legislation as we move forward through the process to ensure that the funds are being allocated from the appropriate sources.

Mr. MILLER. Further question, Mr. Chairman. Are you then saying that there have been appropriations based upon an authorization that has not been in effect for more than 30 years?

Chairman HARRIS. That appears to be what is going on with the authorizations, that is right, with the appropriations.

Mr. MILLER. Okay. The rules do say match up an authorization to an authorization, but you were saying that—you understand, even though there is not an effective authorization now and has not been for 30 years, there continue to be appropriations based upon a 30-year-old out of date ineffective authorization.

Chairman HARRIS. Well, that does appear to be the way it works, because there are general authorities under which monies can be appropriated.

Mr. MILLER. That may be true, but it certainly is not——

Chairman HARRIS. I hope it——

Mr. MILLER. Perhaps we can consider this point further when this bill comes before the full committee.

Chairman HARRIS. Absolutely, and that was our intention, to continue working through that process and make sure we clarify that before it——

Mr. MILLER. All the politicals do say that a bill cannot be considered until there is an offsetting authorization.

Chairman HARRIS. Thank you very much.

Without objection, all member opening statements will be placed in the record at this point.

We will now consider H.R. 2484, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011. Without objection, I ask unanimous consent that the bill is considered as read and open to amendment at any point, and that members proceed with amendments in the order listed on the roster. So ordered.

[H.R. 2484 appears in the Appendix:]

Chairman HARRIS. Are there any amendments to the bill?

Mr. MCNERNEY. Mr. Chairman, I have an amendment at the desk.

Chairman HARRIS. The first amendment on the roster is the amendment offered by Mr. McNerney, and the clerk shall report the amendment.

The CLERK. Amendment number 367, amendment to H.R. 2484 authored by Mr. McNerney of California.

[The amendment appears in the Appendix:]

Chairman HARRIS. I ask unanimous consent to dispense with the reading. Without objection, so ordered.

Before recognizing the gentleman to explain his amendment, I want to let the gentleman know, we are going to accept his amendment and that we would be happy to include your statement in the record at this point. Is that acceptable to the gentleman?

Mr. MCNERNEY. Mr. Chairman, I have a fairly short statement, and I certainly appreciate the hard work that the committee has done, the Majority staff. It is a bipartisan issue, so with that, I guess I will forego my statement.

[The prepared statement of Mr. McNerney follows:]

PREPARED STATEMENT OF REPRESENTATIVE MCNERNEY

Thank you Mr. Chairman. The amendment I am offering today is similar to a provision that was included in the harmful Algal Blooms reauthorization bill passed last Congress in this Subcommittee, this Committee, and in the House.

The simple amendment adds back one of the duties to be undertaken by the Under Secretary of NOAA and Task Force. Specifically, the amendment directs them to encourage the appropriate exchange of information with the international research community. The U.S. research community has noted the importance of international collaboration and the successes they have had in the past because of the opportunity to learn from experts in other countries.

As someone who spent a career as a mathematician and engineer, I have a deep appreciation for the importance of international scientific collaboration. This amendment will encourage U.S. researchers to tap into all resources of information available to them. Encouraging international collaboration has significant potential to

help us better control, mitigate, and respond to bloom outbreaks and hypoxic zones in our own U.S. waters.

In no way does this amendment mandate the sharing of information sensitive to our interests and security, but simply encourages the sharing of relevant research information, when appropriate.

I urge the adoption of his amendment. Thank you, and I yield back the balance of my time.

Chairman HARRIS. Thank you very much. I want to thank the gentleman for his amendment, and we do accept the amendment.

Are there any other amendments? Hearing none, the question is on the bill, H.R. 2484, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011, as amended. All those in favor, say aye. All those opposed, say no. In the opinion of the Chairman, the ayes have it.

I will now recognize myself to offer a motion. I move that the Subcommittee favorably report the bill H.R. 2484 as amended to the full committee. Furthermore, I move that staff be instructed to prepare the Subcommittee legislative report and make necessary technical and conforming changes, and that the Chairman take all necessary steps to bring the bill, H.R. 2484 as amended, before the full committee for consideration.

The question is on the motion to report the bill as amended. Those in favor, say aye. Those opposed, say no. The ayes have it and the bill is favorably reported. Without objection, the motion to reconsider is laid upon the table. I move that members may have 2 subsequent calendar days in which to submit supplemental Minority or additional views on the measure. Without objection, so ordered.

This concludes our Subcommittee markup. The Chairman declares the Subcommittee adjourned. Thank you.

[Whereupon, at 2:15 p.m., the Subcommittee was adjourned.]

Appendix:

H.R. 2484, SECTION-BY-SECTION ANALYSIS, AMENDMENT, AMENDMENT ROSTER

112TH CONGRESS
1ST SESSION

H. R. 2484

To reauthorize the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 to include a comprehensive and integrated strategy to address harmful algal blooms and hypoxia, to provide for the development and implementation of a comprehensive research plan and action strategy to reduce harmful algal blooms and hypoxia, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JULY 11, 2011

Mr. HARRIS (for himself, Mrs. CHRISTENSEN, Mr. MICHAUD, Mr. GRIJALVA, Ms. PINGREE of Maine, and Mr. MACK) introduced the following bill; which was referred to the Committee on Science, Space, and Technology, and in addition to the Committee on Natural Resources, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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A BILL

To reauthorize the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 to include a comprehensive and integrated strategy to address harmful algal blooms and hypoxia, to provide for the development and implementation of a comprehensive research plan and action strategy to reduce harmful algal blooms and hypoxia, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE.

This Act may be cited as the "Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011".

SEC. 2. AMENDMENT OF HARMFUL ALGAL BLOOM AND HYPOXIA RESEARCH AND CONTROL ACT OF 1998.

Except as otherwise expressly provided, whenever in this Act an amendment or repeal is expressed in terms of an amendment to, or repeal of, a section or other provision, the reference shall be considered to be made to a section or other provision of the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 (16 U.S.C. 1451 note).

SEC. 3. DEFINITIONS.

Section 602 is amended to read as follows:

"SEC. 602. DEFINITIONS.

"In this title:

"(1) ADMINISTRATOR.—The term 'Administrator' means the Administrator of the Environmental Protection Agency.

"(2) NOAA.—The term 'NOAA' means the National Oceanic and Atmospheric Administration.

"(3) PLAN.—The term 'Plan' means the comprehensive research plan and action strategy under section 605.

"(4) PROGRAM.—The term 'Program' means the National Harmful Algal Bloom and Hypoxia Program established under section 604(a).

"(5) STATE.—The term 'State' means each of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, any other territory or possession of the United States, and any Indian tribe.

"(6) TASK FORCE.—The term 'Task Force' means the Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia established under section 603(a)(1).

"(7) UNDER SECRETARY.—The term 'Under Secretary' means the Under Secretary of Commerce for Oceans and Atmosphere.".

SEC. 4. INTER-AGENCY TASK FORCE.

Section 603(a) is amended to read as follows:

"(a) INTER-AGENCY TASK FORCE.—

"(1) ESTABLISHMENT.—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.

1 "(2) REPRESENTATION.—The Task Force shall
2 consist of representatives from the following:
3 "(A) The Department of Commerce.
4 "(B) The Environmental Protection Agen-
5 cy.
6 "(C) The Department of Agriculture.
7 "(D) The Department of the Interior.
8 "(E) The Department of the Navy.
9 "(F) The Department of Health and
10 Human Services.
11 "(G) The National Science Foundation.
12 "(H) The National Aeronautics and Space
13 Administration.
14 "(I) The Food and Drug Administration.
15 "(J) The Office of Science and Technology
16 Policy.
17 "(K) The Council on Environmental Qual-
18 ity.
19 "(L) Such other Federal agencies as the
20 President considers appropriate.
21 "(3) CHAIRPERSON.—The Under Secretary
22 from the Department of Commerce shall serve as the
23 Chairperson of the Task Force.
24 "(4) REQUIRED MEETINGS.—

"(A) IN GENERAL.—The Task Force shall meet, or otherwise communicate, to coordinate activities within each agency represented on the Task Force in order to fulfill the program requirements in section 604(b).

"(B) FREQUENCY.—The Task Force shall meet at least once per year.

"(5) BUDGET COORDINATION.—The Task Force shall—

"(A) coordinate in the development of individual agency budgets for the activities described in section 604 that will ensure an appropriate balance among the research and action priorities; and

"(B) submit such budgets to the Director of the Office of Management and Budget at the time designated by the Director for agencies to submit annual budgets.".

SEC. 5. NATIONAL HARMFUL ALGAL BLOOM AND HYPOXIA PROGRAM.

The Act is amended—

(1) by redesignating sections 605 and 606 as sections 608 and 609, respectively;

(2) by redesignating section 604 as section 606; and

(3) by inserting after section 603 the following:

"SEC. 604. NATIONAL HARMFUL ALGAL BLOOM AND HYPOXIA PROGRAM.

"(a) IN GENERAL.—Except as provided in subsection (d), the Under Secretary, through the Task Force, shall maintain a National Harmful Algal Bloom and Hypoxia Program in accordance with authorities under section 603 pursuant to this section.

"(b) DUTIES.—The Under Secretary, through the Program, shall coordinate the efforts of the Task Force to—

"(1) develop and promote a national strategy to understand, detect, monitor, predict, control, mitigate, and respond to marine and freshwater harmful algal bloom and hypoxia events;

"(2) integrate 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;

"(3) assist and coordinate, where appropriate, with State, tribal, and local government agencies, programs, and regional efforts that address marine and freshwater harmful algal blooms and hypoxia,

1 including the development and implementation of ap-
2 propriate response plans, strategies, and tools;
3 "(4) identify additional research, development,
4 and demonstration needs and priorities relating to
5 understanding, detection, monitoring, prediction,
6 prevention, control, mitigation, and response to ma-
7 rine and freshwater harmful algal blooms and hy-
8 poxia;
9 "(5) ensure the development and use of meth-
10 ods and technologies to protect the ecosystems af-
11 fected by marine and freshwater harmful algal
12 blooms and hypoxia;
13 "(6) coordinate existing education programs to
14 improve public understanding and awareness of the
15 causes, impacts, and mitigation efforts for marine
16 and freshwater harmful algal blooms and hypoxia;
17 "(7) provide resources to assist in the training
18 of State, tribal, and local water and coastal resource
19 managers in the methods and technologies for de-
20 tecting, monitoring, controlling, mitigating, and re-
21 sponding to the effects of marine and freshwater
22 harmful algal blooms and hypoxia events;
23 "(8) oversee the development, review, and peri-
24 odic updating of the Plan; and

"(9) administer peer-reviewed, merit-based competitive grant funding to support—

"(A) the projects maintained and established by the Program; and

"(B) the research and management needs and priorities identified in the Plan.

"(c) COOPERATIVE EFFORTS.—The Under Secretary shall work cooperatively and avoid duplication of efforts with other offices, centers, and programs within NOAA and other agencies represented on the Task Force, States, tribes, and nongovernmental organizations concerned with marine and freshwater aquatic issues related to harmful algal blooms and hypoxia.

"(d) FRESHWATER PROGRAM.—With respect to the freshwater aspects of the Program, the Administrator and the Under Secretary, through the Task Force, shall carry out the duties otherwise assigned to the Under Secretary under this section, excluding the activities described in subsection (c). The Administrator's participation under this subsection shall include—

"(1) research on the ecology of freshwater harmful algal blooms;

"(2) monitoring of and event response to freshwater harmful algal blooms in lakes, rivers, estuaries, and reservoirs; and

1 "(3) mitigation and control of freshwater harm-
2 ful algal blooms.
3 "(e) NOAA ACTIVITIES.—As part of the program
4 under this section, the Under Secretary shall—
5 "(1) maintain existing peer-reviewed competi-
6 tive grant programs at NOAA relating to marine
7 and freshwater harmful algal blooms and hypoxia;
8 "(2) conduct marine and freshwater harmful
9 algal bloom and hypoxia event response activities;
10 and
11 "(3) ensure communication and coordination
12 among Federal agencies carrying out marine and
13 freshwater harmful algal bloom and hypoxia activi-
14 ties and increase the availability to appropriate pub-
15 lic and private entities of—
16 "(A) analytical facilities and technologies;
17 "(B) operational forecasts; and
18 "(C) reference and research materials.
19 "(f) INTEGRATED COASTAL AND OCEAN OBSERVA-
20 TION SYSTEM.—All monitoring and observation data col-
21 lected under this Act shall be collected in compliance with
22 all data standards and protocols developed pursuant to the
23 National Integrated Coastal and Ocean Observation Sys-
24 tem Act of 2009 (33 U.S.C. 3601 et seq.), and such data

1 shall be made available through the system established
2 under that Act.
3 "(g) TECHNOLOGY RESEARCH, DEVELOPMENT, AND
4 DEMONSTRATION.—
5 "(1) IN GENERAL.—As part of the duties de-
6 scribed in subsection (b), the Under Secretary and
7 the Administrator, through the Task Force, shall
8 maintain a focus on technology research and devel-
9 opment for each of the categories of marine harmful
10 algal blooms, freshwater harmful algal blooms, and
11 hypoxia in the following areas:
12 "(A) Monitoring.
13 "(B) Prediction.
14 "(C) Prevention.
15 "(D) Control.
16 "(E) Mitigation.
17 "(F) Response to events, including remedi-
18 ation.
19 "(2) ENUMERATION.—As part of the report re-
20 quired under subsection (i), the Under Secretary, in
21 coordination with the Administrator, shall enu-
22 merate the technology research and development
23 conducted for each of the areas identified in para-
24 graph (1).

"(3) PROTOCOL.—The Under Secretary, in coordination with the Administrator, shall develop a protocol for—

"(A) assessing the stage of technology development that is ready to move from lab testing to field testing;

"(B) coordinating local, State, and Federal authorities to facilitate measures necessary to conduct field tests in a timely manner; and

"(C) working with local and State entities, programs, and interested stakeholders to conduct outreach and education on technology field testing projects.

"(h) INFORMATION CLEARINGHOUSE.—

"(1) ELECTRONIC INFORMATION.—Using the authority under section 603(i)(2)(B), the Under Secretary, in coordination with the Administrator, shall expand the existing electronic clearinghouse to provide information about marine and freshwater harmful algal blooms and hypoxia, including—

"(A) the Federal agencies involved in research and development on understanding, detection, monitoring, prediction, prevention, control, mitigation, and response activities;

1 "(B) tools available to predict and model
2 events; and
3 "(C) current or developing technologies for
4 detection, monitoring, prediction, prevention,
5 control, mitigation, and response, including re-
6 mediation.
7 "(2) TOXIN STANDARDS.—The Under Sec-
8 retary, in coordination with the Administrator,
9 shall—
10 "(A) develop a mechanism to provide a re-
11 liable and cost-effective supply of toxin stand-
12 ards for comparative research; and
13 "(B) notify the Congress of such mecha-
14 nism as part of the report required under sub-
15 section (i).
16 "(i) REPORT.—Not later than 1 year after the sub-
17 mission of the Plan, the Under Secretary, in coordination
18 with the Administrator, shall prepare and transmit to the
19 Congress a report that describes—
20 "(1) the activities carried out under the Pro-
21 gram and the Plan and the budget related to such
22 activities;
23 "(2) the progress made on implementing the ac-
24 tion strategy; and

"(3) the need to revise or terminate activities or projects under the Program.".

SEC. 6. COMPREHENSIVE RESEARCH PLAN AND ACTION STRATEGY.

The Act is amended by inserting after section 604, as added by section 5(3) of this Act, the following:

"SEC. 605. COMPREHENSIVE RESEARCH PLAN AND ACTION STRATEGY.

"(a) IN GENERAL.—Not later than 2 years after the date of enactment of the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011, the Under Secretary, through the Task Force, shall transmit to the Congress a comprehensive research plan and action strategy to address marine and freshwater harmful algal blooms and hypoxia that identifies—

"(1) the specific activities to be carried out by the Program and the timeline for carrying out such activities;

"(2) the roles and responsibilities of each Federal agency in the Task Force in carrying out Program activities; and

"(3) appropriate regions and subregions requiring specific research and activities to address local, State, and regional harmful algal blooms and hypoxia.

1 "(b) REGIONAL FOCUS.—The regional and sub-
2 regional parts of the Plan shall identify—
3 "(1) regional priorities for ecological, economic,
4 and social research on issues related to the impacts
5 of harmful algal blooms and hypoxia;
6 "(2) research, development, and demonstration
7 activities needed to develop and advance technologies
8 and techniques for minimizing the occurrence of
9 harmful algal blooms and hypoxia and improving ca-
10 pabilities to detect, predict, monitor, control, miti-
11 gate, respond to, and remediate harmful algal
12 blooms and hypoxia;
13 "(3) ways to reduce the duration and intensity
14 of harmful algal blooms and hypoxia, including de-
15 ployment of response technologies in a timely man-
16 ner;
17 "(4) research and methods to address human
18 health dimensions of harmful algal blooms and hy-
19 poxia;
20 "(5) mechanisms, including the potential costs
21 and benefits of those mechanisms, to protect eco-
22 systems that may be or have been affected by harm-
23 ful algal blooms and hypoxia events;
24 "(6) mechanisms by which data, information,
25 and products may be transferred between the Pro-

gram and State, tribal, and local governments and relevant 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) the roles that Federal agencies may have to assist in the implementation of the Plan.

"(c) UTILIZING AVAILABLE STUDIES AND INFORMATION.—In developing the Plan, the Under Secretary shall utilize existing research, assessments, reports, and program activities, including—

"(1) those carried out pursuant to existing law; and

"(2) other relevant peer-reviewed and published sources.

"(d) DEVELOPMENT OF THE PLAN.—In developing the Plan, 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 noncoastal 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

"(G) other stakeholders.

"(e) FEDERAL REGISTER.—The Under Secretary shall publish the Plan in the Federal Register.

"(f) PERIODIC REVISION.—The Under Secretary, in coordination and consultation with the individuals and entities identified in subsection (d), shall periodically review and revise the Plan prepared under this section, as necessary.".

SEC. 7. NORTHERN GULF OF MEXICO HYPOXIA.

Section 606, as redesignated by section 5(2) of this Act, is amended by adding at the end the following:

"(e) REQUIRED UPDATE.—

"(1) IN GENERAL.—Prior to the implementation of any plan developed under this section, including the Gulf Hypoxia Action Plan 2008, the Administrator, through the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, shall complete and submit to the Congress and the President an updated assessment and a revised action plan based on the updated assessment.

"(2) REQUIREMENTS.—The updated assessment shall take into account the following:

"(A) The role of nutrient influx in the context of water column stratification, seasonal flows and conditions, and wind and current dynamics in the Gulf of Mexico.

"(B) The contribution of the topography of the Gulf of Mexico in the effects of the characteristics described in subparagraph (A) on the hypoxic zone.

"(C) The frequency and availability of monitoring to measure the size of the hypoxic zone.

"(D) The potential of hypoxia hot-spot formation within the Gulf of Mexico and possible causes of such hot-spots.

"(E) The contribution of wetland loss to hypoxia events in the Gulf of Mexico.

"(F) The actual effect of hypoxia on the ecosystem of the Gulf of Mexico and the benefits resulting from a reduced hypoxic zone size.

"(G) A scientifically generated, peer-reviewed goal for the size of the hypoxic zone in the Gulf of Mexico.

"(3) RESEARCH STRATEGY.—The updated plan shall include a research strategy—

"(A) to enhance understanding of the contribution of topography, water column stratification, seasonal flows and conditions, and wind and current dynamics on the size of the hypoxic zone;

"(B) to develop models able to—

"(i) simulate different shelf regions and the fundamental processes that act in each shelf region;

"(ii) differentiate between the separate effects of stratification and nutrient loading in the formation of hypoxia; and

"(iii) be informed by realistic three-dimensional hydrodynamic and biogeochemical models;

"(C) that determines the appropriate amount of monitoring and measuring necessary to get a scientifically robust accounting on the size of the Gulf of Mexico hypoxic zone; and

"(D) that examines several potential solutions based on information provided by the updated assessment in paragraph (1).".

SEC. 8. CHESAPEAKE BAY DEAD ZONE.

(a) IN GENERAL.—The Act is amended by inserting after section 606, as redesignated by section 5(2) of this Act, the following:

"SEC. 607. CHESAPEAKE BAY DEAD ZONE.

"(a) ASSESSMENT PLAN.—Not later than 12 months after the date of enactment of the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011, the Task Force, in accordance with the authority under section 603, shall complete and submit to the Congress and the President an integrated assessment of hypoxia in the Chesapeake Bay that examines the status of and gaps within current research, monitoring, prevention, response, and control activities by—

"(1) Federal agencies;

"(2) state agencies;

"(3) regional research consortia;

"(4) academia;

"(5) private industry; and

"(6) nongovernmental organizations.

"(b) RESEARCH PLAN.—

"(1) IN GENERAL.—Not later than 2 years after the date of enactment of the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011, the Task Force shall develop and submit to the Congress a plan, based on the integrated assessment submitted under subsection (a), for reducing, mitigating, and controlling hypoxia in the Chesapeake Bay.

"(2) REQUIREMENTS.—In developing such plan, the Task Force shall—

"(A) consult with State and local governments and representatives from academic, agricultural, industry, and other stakeholder groups;

"(B) include incentive-based partnership approaches;

"(C) include an economic cost-benefit analysis of the measures for reducing, mitigating, and controlling hypoxia events;

"(D) utilize existing research, assessments, reports, and program activities;

"(E) publish a summary of the proposed plan in the Federal Register 90 days prior to the submission to the Congress of the completed plan; and

"(F) provide progress reports every 2 years after the submission to the Congress of the completed plan on the activities leading toward attainment of the goals set forth in the plan.

"(3) CONTENTS.—The plan shall—

"(A) address the monitoring needs identified in the integrated assessment submitted under subsection (a) and develop a timeline and budgetary requirements for deployment of future assets;

"(B) detail procedures for the development and verification of Chesapeake Bay hypoxia models, including making available to the public—

"(i) all assumptions built into the models; and

"(ii) data quality methods used to ensure the best available data is utilized; and

"(C) describe efforts to improve the assessment of the impacts of hypoxia by—

"(i) characterizing current and past biological conditions in ecosystems affected by hypoxia; and

"(ii) quantifying effects, including economic effects, at the population and community level.".

SEC. 9. AUTHORIZATION OF APPROPRIATIONS.

(a) AUTHORIZATION.—Section 608, as redesignated by section 5(1) of this Act, is amended to read as follows:

"SEC. 608. AUTHORIZATION OF APPROPRIATIONS.

"(a) IN GENERAL.—There are authorized to be appropriated to the Under Secretary to carry out this Act $18,000,000 for each of fiscal years 2012 through 2015, of which, for each fiscal year—

"(1) $1,000,000 may be used for the development of the comprehensive research plan and action strategy under section 605 and the assessment and reports required by sections 606 and 607;

"(2) $4,000,000 may be used for the research and assessment activities related to marine and freshwater harmful algal blooms at research laboratories of NOAA;

"(3) $4,000,000 may be used to carry out the Ecology of Harmful Algal Blooms Program (ECOHAB);

"(4) $1,500,000 may be used to carry out the Monitoring and Event Response for Harmful Algal Blooms Program (MERHAB);

"(5) $2,000,000 may be used to carry out research and assessment for the Northern Gulf of Mexico ecosystem and hypoxia activities;

"(6) $1,500,000 may be used to carry out coastal hypoxia research activities;

"(7) $1,500,000 may be used to carry out prevention, control, and mitigation activities;

"(8) $500,000 may be used to carry out event response activities; and

"(9) $500,000 may be used to carry out infrastructure activities.

"(b) USE OF FUNDS.—From funds made available under section 2(a)(2) of the Environmental Research, Development, and Demonstration Authorization Act of 1981 (Public Law 96–569; 94 Stat. 3335), the Administrator may utilize up to $3,000,000 for each of the fiscal years 2012 through 2015 to carry out the authorized activities under this Act.".

1 (b) EXTRAMURAL RESEARCH ACTIVITIES.—The
2 Under Secretary shall ensure that a substantial portion
3 of funds appropriated pursuant to section 608 of the
4 Harmful Algal Bloom and Hypoxia Research and Control
5 Act of 1998 that are used for research purposes are allo-
6 cated to extramural research activities.

7 **SEC. 10. CLERICAL AMENDMENTS.**

8 (a) TABLE OF CONTENTS AMENDMENT.—The table
9 of contents in section 2 of the Coast Guard Authorization
10 Act of 1998 is amended by striking the items relating to
11 sections 602 through 606 and inserting the following:

"602. Definitions.
"603. Assessments.
"604. National harmful algal bloom and hypoxia program.
"605. Comprehensive research plan and action strategy.
"606. Northern Gulf of Mexico hypoxia.
"607. Chesapeake Bay dead zone.
"608. Authorization of appropriations.
"609. Protection of States' rights.".

12 (b) REFERENCES.—Section 609, as redesignated by
13 section 5(1) of this Act, is amended by striking "Clean
14 Water Act or" each place it appears and inserting "Fed-
15 eral Water Pollution Control Act or the".

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SECTION-BY-SECTION ANALYSIS OF THE HARMFUL ALGAL BLOOM AND HYPOXIA RESEARCH AND CONTROL AMENDMENTS ACT OF 2011

Purpose: To reauthorize the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 to include a comprehensive and integrated strategy to address harmful algal blooms and hypoxia, to provide for the development and implementation of comprehensive regional action plans to reduce harmful algal blooms and hypoxia, and for other purposes.

Section 1: **Short Title**

The Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011

Section 2: **Amendment of Harmful Algal Bloom and Hypoxia Research and Control Act of 1998** - Explains that the text the bill modifies is the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998, unless otherwise expressly stated.

Section 3: **Definitions** - Provides definitions, including: Administrator of the Environmental Protection Agency; the National Harmful Algal Bloom and Hypoxia Program; and the Under Secretary of Commerce for Oceans and Atmosphere.

Section 4: **Inter-Agency Task Force** - Restates the President's establishment of an interagency Task Force on Harmful Algal Blooms and Hypoxia through the Committee on Environmental and Natural Resources of the National Science and Technology Council. The bill reiterates representation and designation of the representative from the Department of Commerce to serve as the Chairperson of the Task Force. The bill directs the Task Force to meet at least once per year and to develop a coordinated budget to be submitted to the Director of the Office of Management and Budget at the time designated for agencies to submit annual budgets.

Section 5: **National Harmful Algal Bloom and Hypoxia Program** - Directs the Under Secretary of Commerce for Oceans and Atmosphere to utilize the resources of the Task Force to maintain a National Harmful Algal Bloom and Hypoxia Program. The bill outlines tasks for the Under Secretary to ensure the Program, 1) develops a national strategy to address both marine and freshwater HABs and hypoxia; 2) coordinates all Federal programs related to HABs and hypoxia; 3) works with State, tribal, and local government agencies; 4) identifies additional research needs and priorities; 5) ensures the development and implementation of methods and technologies to protect ecosystems damaged by HABs; 6) coordinates existing education programs to improve public understanding; 7) provides resources for training of State, tribal and local water and coastal resource managers; 8) oversees the development of the Regional Research and Action Plans; and 9) administers peer-reviewed, merit-based competitive grant funding. In addition, the legislation directs the Under Secretary to work cooperatively and avoid duplication of efforts with other offices, centers, and programs within NOAA, as well as with States, tribes, nongovernmental organizations, and other agencies represented on the Task Force. The bill directs the Administrator of the Environmental Protection Agency to work with the Under Secretary to utilize the resources of the task force to carry out freshwater activities.

The bill also specifies duties for the Under Secretary to maintain existing competitive grant programs, conduct marine and freshwater harmful algal bloom and hypoxia event response activities, and ensure communication among Federal agencies and increase availability of resources. The bill stipulates that all monitoring and observation data collected shall conform to standards and protocols developed pursuant to the National Integrated Coastal and Ocean Observation System Act of 2009.

The bill requires that research, development, and demonstration of technology to monitor, predict, prevent, control, mitigate and respond to marine and freshwater harmful algal blooms and hypoxia are maintained as a focus of the existing research programs. It also requires the Under Secretary and the Administrator of the Environmental Protection Agency to develop a protocol to assess technology development timelines, coordinate local, State and Federal authorities to facilitate field testing, and work with State and local entities to conduct outreach and education on technology field testing projects.

The bill directs the Under Secretary, in coordination with the Administrator, to expand on the existing electronic information clearinghouse to provide information about marine and freshwater harmful algal blooms and hypoxia. Furthermore, the bill directs the Under Secretary, in coordination with the Administrator, to develop a mechanism to provide a reliable and cost-effective supply of toxin standards for

comparative research and notify Congress of such in the report required under this section.

Section 6: **Comprehensive Research Plan and Action Strategy** - Directs the Under Secretary, through the Task Force, to oversee the development of a Comprehensive Research Plan and Action Strategy by identifying the appropriate regions and sub-regions to be addressed by the Plan and requires that the Plan include the following: 1) regional priorities for ecological, economic, and social research related to the impacts of HABs and hypoxia; 2) research, development, and demonstration activities to advance technologies and techniques for minimizing the occurrence and address the impacts of HABs and hypoxia; 3) ways to reduce the duration and intensity of HABs events; 4) research and methods to address the impacts of HABs on human health; 5) mechanisms and the potential costs of these mechanisms to protect vulnerable ecosystems that could be or have been affected by HABs; 6) mechanisms by which data is transferred between the Program and State, tribal, and local governments and relevant research entities; 7) communication, outreach, and dissemination methods used to educate and inform the public; and 8) the roles that Federal agencies can play to assist implementation of the Plan.

Section 6 explicitly directs the utilization of existing peer-reviewed research, assessments, and reports in the development of the Plan. The bill provides a list of individuals and entities that the Under Secretary shall coordinate with in developing the Plan. The bill directs that the Plan be completed and approved within 24 months after the date of enactment, and be periodically reviewed and updated as necessary.

Section 7: **Northern Gulf of Mexico Hypoxia** - Amends the underlying statute to require the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force to update its scientific assessment to include the following information: 1) the role of nutrient influx in the context of water column stratification, seasonal flows and conditions, and wind and current dynamics in the Gulf of Mexico; 2) the contribution of the topography of the Gulf of Mexico to water column stratification, seasonal flows and conditions, and wind and current dynamics; 3) the amount of monitoring available to measure the size of the hypoxic zone; 4) the potential for hypoxia hotspot formation with the Gulf of Mexico and possible causes; 5) The contribution of wetland loss to the nutrient level in the Gulf of Mexico; 6) the actual effects of hypoxia on the ecosystem of the Gulf of Mexico and the benefits resulting from a reduced hypoxic zone; and 7) a scientifically generated, peer-reviewed goal for an appropriate size of the hypoxic zone in the Gulf of Mexico that will protect ecosystem functions.

Section 7 also requires the Task Force to update its Gulf Hypoxia Action Plan 2008 to include the following: (1) a strategy to enhance the understanding of the contribution of topography, water column stratification, seasonal flows and conditions, and wind and current dynamics on the size of the hypoxic zone; 2) the development of models to simulate the different shelf regions and the fundamental processes that act in each shelf region, differentiate between the separate effects of stratification and nutrient loading in the formation of hypoxia, and informed by realistic three-dimensional hydrodynamic and biogeochemical models; 3) a strategy to determine the appropriate amount of monitoring needed to get a scientifically robust accounting on the size of the hypoxic zone; and 4) an examination of several potential solutions based on the information provided by the updated assessment.

Section 8: **Chesapeake Bay Dead Zone** - Directs the Task Force to complete and submit to Congress an integrated assessment of hypoxia in the Chesapeake Bay that examines the current status of and gaps in research. The bill requires the Task Force to develop a research plan based on the integrated assessment for reducing, mitigating, and controlling hypoxia in the Chesapeake Bay, and directs the Task Force to consult with State and local governments and representatives from academic, agricultural, industry, and other stakeholder groups. It further directs the Plan to include incentive-based partnership approaches; and an economic cost-benefit analysis of the measure for reducing, mitigating, or controlling hypoxia events. Publication of the plan in the Federal Register and provide progress reports every two years on the activities leading toward attainment of the goals set forth in the plan. The bill states that the plan contents shall address the monitoring needs identified in the assessment; detail procedures for the development and verification of Chesapeake Bay hypoxia, including making all assumptions built into the model publicly available; and describe the efforts to improve the assessment of the impacts of hypoxia.

Section 9: **Authorization of Appropriations** - Provides an authorization of $18,000,000 for each of the fiscal years 2012 through 2015 to the Under Secretary

to carry out the Program. In addition, provides up to $3,000,000 for each of the fiscal years 2012 through 2015 to the Administrator to carry out activities authorized in the bill.

Section 10: **Clerical Amendments** - Amends section 2 of the Coast Guard Authorization Act of 1998 to include an updated table of contents, and replaces any instance of "Clean Water Act or" with "Federal Water Pollution Control Act or the" in section 609 of the Act.

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AMENDMENT TO H.R. 2484

OFFERED BY MR. MCNERNEY OF CALIFORNIA

Page 7, after line 12, insert the following (and redesignate subsequent paragraphs accordingly):

1 (6) encourage the appropriate exchange of re-
2 search information with other countries in order to
3 better mitigate, control, and respond to marine and
4 freshwater harmful algal blooms;

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AMENDMENT ROSTER

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
Subcommittee on Energy and Environment Markup

July 14, 2011

AMENDMENT ROSTER

H. R. 2484, the "Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011"

No.	Amendment	Summary	Results
1	Mr. McNerney (367)	Adds an additional activity to the duties of the Undersecretary, through the Task Force, requiring the encouragement of "the appropriate exchange of research information with other countries in order to better mitigate, control, and respond to marine and freshwater harmful algal blooms"	Amendment Agreed to by Unanimous Consent

XXII: PROCEEDINGS OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY MARKUP OF H.R. 2484, HARMFUL ALGAL BLOOMS AND HYPOXIA RESEARCH AND CONTROL AMENDMENTS ACT OF 2011Q18

The Committee met, pursuant to call, at 10:38 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Ralph Hall [Chairman of the Committee] presiding.

THURSDAY, JULY 28, 2011

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
WASHINGTON, D.C.

Chairman HALL. Good morning. The Committee on Science, Space, and Technology will come to order.

Pursuant to notice, the Committee on Science, Space, and Technology meets today to consider the following measures: H.R. 2484, the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011.

Pursuant to Committee rules and House Rule XI 2(h)(4), the Chair announces that he may postpone further proceedings today on any question of approving any measure or matter or adopting an amendment on which a recorded vote of the yeas or nays are ordered. We will make sure that everyone has enough time to get here as we do not want Mr. Neugebauer involved in another police chase. It is the Chair's intention to provide at least 10 minutes' notice prior to the commencement of roll votes.

Let us proceed with the markup beginning with opening statements. I will begin.

I want to welcome everyone here today for the markup of H.R. 2484, the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011. Harmful algal blooms, or HABs, are a significant summertime problem that affects rivers, lakes, and tidal areas in almost every state. In addition to damaging ecosystems, harmful algal negatively impacts local economies that depend on healthy water for fishing, recreation, and tourism.

The bill before us today attacks this problem at its core by strengthening the science necessary to understand HABs and advancing technological solutions to better prevent and respond to outbreaks of when they occur. I want to commend the Energy and Environment Subcommittee Chairman Harris on his effort to craft focused bipartisan legislation to reauthorize this small but important program. The product before us is a good bill that incorporates

input from Members on both sides of the aisle, as well as the administration. I urge Members to support it.

I yield back the balance of my time.

[The prepared statement of Mr. Hall follows:]

PREPARED STATEMENT OF CHAIRMAN RALPH M. HALL

I want to welcome everyone here today for the markup of H.R. 2484, the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011.

Harmful algal blooms, or HABs, are a significant summertime problem that affects rivers, lakes, and tidal areas in almost every state. In addition to damaging ecosystems, harmful algae negatively impacts local economies that depend on healthy water for fishing, recreation and tourism.

The bill before us today attacks this problem at its core: by strengthening the science necessary to understand HABs and advancing technological solutions to better prevent and respond to outbreaks when they occur.

I want to commend Energy and Environment Subcommittee Chairman Harris on his effort to craft focused bipartisan legislation to reauthorize this small but important program. The product before us is a good bill that incorporates input from Members on both sides of the aisle as well as the Administration. I urge Members to support it.

I yield back any remaining time.

Chairman HALL. I now recognize Mrs. Johnson for five minutes to present her opening remarks, and as much as she is the leader of the Democratic faction here, we won't hold her to exactly five minutes, but she has been pretty good at keeping up with five minutes. We hope she will continue to do that. But we are going to try to hold all those and I will hold myself to five minutes.

Ms. JOHNSON. Thank you very much, Mr. Chairman. I think I can do that.

Today, we are marking up Mr. Harris' Amendment in the Nature of a Substitute to H.R. 2484, the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011. And I want to commend both you, Chairman Hall, and Subcommittee Chairman, Mr. Harris, for taking on this important issue in what could have been a good bipartisan bill. In fact, with the exception of a few new activities and an approach to funding that I will discuss a little bit later, it is nearly the same as a former E and E Subcommittee Chairman Brian Baird's bill that passed the House last Congress.

However, in this Congress, the Committee is supposed to be working within a new set of Republican protocols. Protocols, as based on the markups we have had to date, appear to be increasingly difficult for the majority to actually follow those protocols themselves. The outcome is more than just some procedural wrangling in Committee. It is also resulting in bad policy that in reality harms research activities that the sponsors profess to support.

We have seen the same pattern play out all too often in this Congress. A bill is brought up that highlights the importance of a particular area of research and then fails to authorize the resources the agencies need to continue the work that they are already doing. And then on top of that it further burdens them with new unfunded mandates.

I am afraid that today's markup is continuing that trend. The issue before us is an important one–the need for a continued research and public awareness of the increasing frequency and duration of harmful algal blooms and hypoxia, which are affecting more of our coastlines and inland waters than ever before. NOAA and

the HAB's research community have made great strides in advancing our understanding of harmful algal and hypoxia even under already severe budgetary constraints. They have managed to achieve scientific discoveries that improve many of our coastal and inland water management practices and have advanced our forecasting and early warning capabilities to minimize economic impacts and protect human health.

Given that, it is beyond me why we would not at a minimum sustain authorizations for these research activities at their current levels. Despite acknowledging the risk of HABs and the progress this research has made, this bill makes even further cuts to already underfunded research activities, actually cutting back authorizations lower than 2008 spending levels. And I must ask how does this help? I cannot support such an approach to dealing with the problem that affects much of our country, including the Gulf Coast and the Florida coast and Great Lakes, the Chesapeake Bay, and indeed the continued safety of our drinking water nationwide.

There will be constructive amendments offered today to correct the shortcomings of the bill before us today by giving Members a clear choice–either increase the funding to pay the new mandates in the bill or cut back on the mandates if we are unwilling to pay for them. That is just common sense and good fiscal policy. And as much as I would regret it, unless we can adopt some of these amendments of Mr. Miller's and others, I don't see how I can support it. If we are going to say that we care about this research and that we care enough about the impacts of the HABs to take action, then we actually have to invest in a way that will move this research forward and not further damage the capabilities of the agencies.

I thank you, Mr. Chairman, and I yield back the balance of time.

[The prepared statement of Ms. Johnson follows:]

PREPARED STATEMENT OF RANKING MEMBER EDDIE BERNICE JOHNSON

Thank you, Chairman Hall. Today we are marking up Mr. Harris's Amendment in the Nature of a Substitute for H.R. 2484, T3the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011K. I want to commend both Chairman Hall and Subcommittee Chairman Harris for taking on this important issue with what could have been a good bipartisan bill. In fact, with the exception of a few new activities and an approach to funding that I will discuss in a minute, it is nearly the same as former E&E Subcommittee Chairman Brian Baird's bill that passed the House last Congress.

However, in this Congress the Committee is supposed to be working within a new set of Republican protocols–protocols that, based on the markups we have had to date, appear to be increasingly difficult for the Majority to actually follow themselves. The outcome is more than just some procedural wrangling in Committee: it's also resulting in bad policy that, in reality, harms research activities that the sponsors profess to support.

We have seen the same pattern play out all too often this Congress–a bill is brought up that highlights the importance of a particular area of research, but then fails to authorize the resources the agencies need to continue the good work they are already doing. And then, on top of that, it further burdens them with new unfunded mandates.

I'm afraid that today's markup is continuing that trend. The issue before us is an important one–the need for continued research and public awareness of the increasing frequency and duration of harmful algal blooms and hypoxia, which are affecting more of our coastlines and inland waters than ever before. NOAA and the HABs research community have made great strides in advancing our understanding of harmful algae and hypoxia, even under already severe budgetary constraints. They have managed to achieve scientific discoveries that improve many of our coast-

al and inland water management practices, and have advanced our forecasting and early warning capabilities to minimize economic impacts and, protect human health.

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I cannot support such an approach to dealing with a problem that affects much of our country, including the Gulf Coast and the Florida Coast, the Great Lakes, the Chesapeake Bay, and indeed the continued safety of our drinking water nationwide. There will be constructive amendments offered today to correct the shortcomings of the bill before us today by giving Members a clear choice–either increase the funding to pay for the new mandates in the bill, or cut back on the mandates if we are unwilling to pay for them. That is just common sense and good fiscal policy, and I may have to oppose the passage of this bill unless one of the amendments offered by Mr. Miller today is adopted.

If we are going to say we care about this research, and that we care enough about the impacts of HABs to take action, then we actually have to invest in a way that will move this research forward and not further damage the capabilities of the agencies.

Thank you Mr. Hall and I yield back the balance of my time.

Chairman HALL. The gentlelady yields back. Without objection, all Members' opening statements will be placed in the record at this point.

Chairman HALL. We will now consider H.R. 2484, the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011.

I recognize the gentleman from Maryland, Dr. Harris, to describe his bill.

Mr. HARRIS. Thank you very much, Mr. Chairman, and thank you for holding this markup today on a very important piece of legislation.

Mr. Chairman, as you know, this is the season for algal blooms in most parts of the country. In fact, an article in the Washington Post just this past week outlines the difficulties we face with algal blooms and dead zones and the announcement this week that in the Chesapeake Bay the dead zone is likely to be larger this year than it has in past years.

H.R. 2484, the bill we are considering today, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011 is the product of an effort involving the administration, majority and Minority Members, and stakeholder and affected communities. The objective of this reauthorization bill is to provide greater coordination to the Federal Government's harmful algal and hypoxia-related research monitoring, prevention, and response efforts. Generally, the bill does this through updated program guidance that adds budget and reporting requirements and an enhanced focus on accelerating technological solutions to reduce the harmful impacts of these outbreaks.

I will now briefly summarize the specific provisions of the bill. The version passed out of Subcommittee is almost the same as what was introduced in the House. One amendment was offered by Mr. McNerney to include international cooperation and information sharing and it was agreed to by unanimous consent by the Subcommittee on Energy and Environment.

H.R. 2484 reauthorizes the Harmful Algal Blooms and Hypoxia Research and Control Act of 1998, better known as HABHRCA. The bill restates language in the underlying statute that created

the interagency taskforce. However, it now requires budget coordination for the activities in the bill. This coordination will assist with budgetary planning and raise the visibility of the research programs within the agencies that participate in the taskforce.

H.R. 2484 also directs the taskforce to maintain the program established by the 2004 reauthorization of HABHRCA and provides the Undersecretary of Commerce for Oceans and Atmosphere, who is also the Administrator of NOAA, with direction and specificity to carry out the program's activities. As we heard at the hearing on June 1, there is a need for technologies to deal with HAB outbreaks in addition to looking for solutions to prevent or minimize them in the first place.

H.R. 2484 directs NOAA and the EPA to maintain a focus on technology, research, and development for fresh water and marine harmful algal blooms and hypoxia. It also requires NOAA and the EPA to develop protocols to determine when technologies are ready to move from lab testing to field testing, to maintain an electronic information clearing house to aid with the dissemination of information, and to develop a mechanism to ensure quality and cost-effective toxin standards for comparative research.

H.R. 2484 directs NOAA to oversee the development of a comprehensive research plan and action strategy and identify the appropriate regions to be highlighted by such a plan. The action strategy outlines the specific activities to be carried out by the taskforce, a timeline for such activities, and the programmatic roles of each federal agency on the taskforce. The research plan must also identify research, activities, and technologies needed to detect, predict, monitor, prevent, control, and mitigate harmful algal blooms and hypoxia.

H.R. 2484 further directs the Mississippi River/Gulf of Mexico Watershed Nutrient Taskforce headed by EPA to update the assessment plan and update the assessment required under the current statute and subsequently update the Gulf Hypoxia Action Plan 2008. The updated action plan must take into account available information and examine several potential solutions to reduce the hypoxic zone based on the information garnered in the updated assessment.

H.R. 2484 also requires NOAA to assess and report on the dead zone in the Chesapeake Bay and develop a plan for reducing, mitigating, and controlling it.

H.R. 2484 provides NOAA with an authorization of $18 million for each fiscal year from 2012 to 2015, a level just slightly below 2010 spending levels. It also authorizes funding for the Administrator of EPA for each fiscal year from 2012 to 2015 to carry out the activities in the bill.

Lastly, I would like to note that the authorization for the underlying statute expired in 2010. In the current fiscal environment, authorizations that have lapsed will be more likely to lose funding. This makes it even more imperative that we re-pass this reauthorization as soon as possible.

I yield back the balance of my time.

Chairman HALL. The author of the bill yields back his time.

Does anyone else care to comment or be recognized on the bill?

All right. Without objection, I ask unanimous consent that the bill is considered as read and open to amendment at any point and that Members proceed with amendments in the order listed on the rosters. And it is so ordered.

[H.R. 2484 appears in the Appendix:]

Chairman HALL. The bill is open for amendments. First amendment on the roster is an Amendment in the Nature of a Substitute offered by Dr. Harris. The clerk shall report the amendment.

The CLERK. Amendment 371, Amendment in the Nature of a Substitute to H.R. 2484, offered by Mr. Harris of Maryland.

[The amendment appears in the Appendix]

Chairman HALL. I ask unanimous consent to dispense with the reading. Without objection, it is so ordered.

I recognize the gentleman for five minutes to explain his amendment.

Mr. HARRIS. Thank you very much, Mr. Chairman. And of course, the amendment is at the desk.

The Amendment in the Nature of a Substitute includes a few changes to H.R. 2484. The amendment removes the word "established" from the definitions of the program and the taskforce as both of these had already been established in the underlying statute. It changes the Fresh Water program to require that the Administrator of the EPA does not duplicate activities already ongoing and instead focuses on new approaches to addressing fresh water harmful algal blooms.

Furthermore, the amendment includes a check on EPA by requiring the Administrator to submit a report on all the activities undertaken. The amendment changes the report that H.R. 2484 requires for the Undersecretary or the Administrator of NOAA to prepare and transmit to Congress in Section 5 of the bill. It now directs the Undersecretary through the taskforce to prepare such a report. It also removes the requirement that the report describe the implementation of the action strategy. NOAA has indicated that it feels that such an implementation, which would require checking on the actions of other federal agencies would be beyond its mission authority.

The Amendment in the Nature of a Substitute also includes an additional requirement in the development of the research plan for the Chesapeake Bay dead zone to ensures that the plan does not duplicate activities conducted by other federal or state agencies.

Finally, the authorization of appropriations language in that the amendment changes H.R. 2484 to provide the Administrator with 2.7 million for each of the fiscal years 2012 through 2015. This is possible due to the savings gain through the NOAA authorization of 18 million.

Last but not least, the amendment includes a non-duplication requirement that the Administrator ensure that activities carried out under the bill do not duplicate research and development activities related to harmful algal blooms or hypoxia conducted by other federal agencies, states, tribes, and nongovernmental organizations.

I yield back the balance.

Chairman HALL. The gentleman yields back.

I support the amendment. Is there further discussion on the amendment? If not, are there any amendments to the amendment offered by the gentleman from Maryland?

Second amendment on the roster is an amendment I am offering. It is Amendment 373 at the desk.

Clerk, report the amendment.

The CLERK. Amendment 373, Amendment to the Amendment in the Nature of a Substitute to H.R. 2484 offered by Mr. Hall of Texas.

[The amendment appears in the Appendix]

Chairman HALL. I ask unanimous consent to dispense with the reading. Without objection, so ordered.

This amendment will simply provide clarity in the bill. When it says "Undersecretary," it is simply referring to the Undersecretary of Commerce for Oceans and Atmosphere. As there should be no need for further discussion, we can have further discussion, but on this amendment the vote occurs on the Amendment 373 to the amendment. All those in favor, say aye. Those opposed say no.

The ayes have it. The amendment is agreed to.

Now, for the second degree amendment offered to the Harris, are there any other amendments to—anyone——

Mr. SARBANES. Mr. Chairman?

Chairman HALL. Yes? Who seeks recognition? Mr. Sarbanes seeks recognition. The Chair recognizes you for five minutes.

Mr. SARBANES. I appreciate it. I have an amendment to Congressman Harris' Amendment in the Nature of a Substitute. It is at the desk.

Chairman HALL. Clerk, report the amendment.

The CLERK. Amendment 015, Amendment to the Amendment in the Nature of a Substitute to H.R. 2484 offered by Mr. Sarbanes of Maryland.

[The amendment appears in the Appendix]

Chairman HALL. I ask unanimous consent to dispense with the reading. Without objection, it is so ordered.

Before I recognize the gentleman, I want to let the gentleman know that we are going to accept the amendment so if he would agree to submit his statement for the record, we will move directly to voting on his amendment.

Mr. SARBANES. Well, I appreciate that, Mr. Chairman.

Could I have just 30 seconds?

Chairman HALL. Yes, sir. You can have 30 seconds to five minutes.

Mr. SARBANES. I appreciate that.

Well, it is an important bill, the underlying bill, and as Mr. Harris indicated a moment ago, there has just recently been new attention to the dead zone in the Chesapeake Bay. What my amendment would do is ask the taskforce to consider potential beneficial uses—well, two things to address these algal blooms. On the one hand trying to deal with the issue on the front end by looking at what sorts of grasses like switchgrass and other kind of biofuel that you could plant that would capture some of these nutrients before they get into the bay so you can reduce the amount of algal bloom that results—as a result of the nutrients coming in. So it would ask to do research on that question.

And it would also have them look at the potential to harvest some of these algal blooms once they occur and whether those can be turned into biofuel. Obviously, we don't want it to happen in the first place, but if it does and if those algal blooms exist, then we ought to be looking at potential technologies and other opportunities to harvest that in a way that can be used in a beneficial way. And I think while there are some issues with that, it deserves some consideration.

So I appreciate, Mr. Chairman, the Committee's willingness to accept this amendment. I think it is a positive addition to the bill.

And I yield back my time.

Chairman HALL. The gentleman yields back. Hearing no further discussion, a vote occurs on the second degree amendment offered by the gentleman from Maryland, Mr. Sarbanes.

All those in favor say aye. Those opposed, no.

The ayes have it and the amendment is agreed to.

Are there any other amendments to the amendment?

Ms. JOHNSON. Mr. Chairman?

Chairman HALL. For what purpose does the gentlelady seek recognition?

Ms. JOHNSON. I would like to speak on the amendment for Ms. Edwards, who has not arrived yet.

Chairman HALL. Without objection.

Chairman HALL. Let the clerk call the amendment first.

The CLERK. Amendment 015, Amendment to the Amendment in the Nature of a Substitute to H.R. 2484 offered by Ms. Edwards of Maryland.

[The amendment appears in the Appendix]

Chairman HALL. All right. I ask unanimous consent to dispense with the reading. Without objection, it is so ordered.

Before I recognize the gentlelady, I want to let her know we are going to accept her amendment, so if she would agree to submit her statement for the record, we will move directly to voting on her amendment. Is the gentlelady agreeable?

Ms. JOHNSON. I am agreeable. I accept that, and I will dispense with——

Chairman HALL. The gentlelady accepts it. I want to thank the Member for the amendment. Hearing no further discussion, a vote occurs on amendment. All in favor say aye. Those opposed say no.

The ayes have it and the amendment is agreed to.

All right. Are there any other amendments to the amendment?

Ms. JOHNSON. Well, Ms. Wilson came in, but she left I guess. But I would like to offer her amendment up for the Committee.

Chairman HALL. All right. You are offering an amendment for Ms. Wilson and in her stead?

Ms. JOHNSON. Yes.

Chairman HALL. Is there objection? Chair hears none and the Chair recognizes you for five minutes. Call up your amendment from the desk.

Ms. JOHNSON. The amendment is at the desk.

Chairman HALL. All right. The clerk will report the amendment.

The CLERK. Amendment 021, Amendment to the Amendment in the Nature of a Substitute to H.R. 2484 offered by Ms. Wilson of Florida.

[The amendment appears in the Appendix]

Chairman HALL. I ask unanimous consent to dispense with the reading. Without objection, so ordered.

Before I recognize the gentlelady, I want to let her know we are going to accept her amendment, so if she would agree to submit her statement or Mrs.—the Ranking Member in her stead if she has agreed to submit her statement for the record, we will move directly to voting on her amendment. Is the gentlelady ready?

Ms. JOHNSON. I agree to just submit the language to the record and allow Mr. Hall to accept it. Plead with you as a matter of fact.

Chairman HALL. Okay. You don't have to do that. It helps but you don't have to.

Hearing no further discussion, a vote occurs on the amendment. All in favor say aye. Those who oppose it say no.

There are no noes; the ayes have it and the amendment is agreed to.

Okay. Are there any other amendments to the amendment? And for what purpose does the gentlelady seek recognition?

Ms. JOHNSON. The amendment is offered by Ms. Edwards.

Chairman HALL. And you stand in her stead. Is there objection? The Chair hears none.

Ms. JOHNSON. The amendment should be at the desk.

Chairman HALL. All right. The next amendment is offered by the gentlelady from Maryland. Are you ready to proceed? If so, the clerk will report the amendment.

The CLERK. Amendment 016, Amendment to the Amendment in the Nature of a Substitute to H.R. 2484 offered by Ms. Edwards of Maryland.

[The amendment appears in the Appendix]

Chairman HALL. I ask unanimous consent to dispense with the reading. Without objection, it is so ordered.

The gentlelady is recognized for five minutes to explain the amendment.

Ms. JOHNSON. Thank you very much, Mr. Chairman. I am going to yield to Mr. Sarbanes a minute to make his statement on it.

Chairman HALL. Thank you, Mr. Sarbanes. You are recognized.

Mr. SARBANES. Thank you, Mr. Chairman.

The dead zone's in the Chesapeake Bay, which we have been referring to and in the tributaries, of course, that flow into the Chesapeake Bay. It exists there and that is where the dissolved oxygen levels drop to levels that are too low to sustain marine life. These are growing at an alarming rate. The one that Mr. Harris referred to before is projected to be perhaps the biggest dead zone we have ever had. The effects of this can be seen in some of the statistics from the 1950s to the 1970s. Average annual oyster catch was about 25 million pounds per year and the blue crab harvest contributed nearly a third of the Nation's catch. Now, that has dropped significantly so the oyster population is two percent of the historic level. And the reduced amounts of underwater grass habitat, in addition to low summer levels of dissolved oxygen continue to keep the crab population below where it should be.

Don Boesch, who is President of the Center for Environmental Science at the University of Maryland and an expert on these zones said "this year's water flow will rank at least among the five larg-

est," a result of heavier-than-normal rains and snow melt mixed with high amounts of nitrogen phosphorus and sediment. And that—the dead zone is going to cover a third of the bay. That is about 83 miles when last measured.

So this report underscores the effect nutrient-loading has on the Nation's water systems. And there have been efforts to address the source in terms of the agricultural sources for this. So while we must support, obviously, the agricultural sector, we want to be looking at the effect of nutrient-loading from these kinds of sources. The amendment that the gentlelady has put forward, Amendment 16, would ensure that that happens.

And I would just add that my hope would be going forward, perhaps we could even further amend this perhaps on the Floor working with the Committee to look at all of the different sources that generate these algal blooms. In addition to agricultural sources, I am very interested in stormwater runoff from other sources as well. And to have a sense of the comparative source of these different harmful effects on the Chesapeake Bay I think would be a good result from the kind of study that the taskforce can do.

And with that, I yield back to the gentlelady.

Ms. JOHNSON. Thank you. And I would like to yield the remainder of the time to the author who has arrived, Ms. Edwards.

Ms. EDWARDS. I thank you very much. And I want to thank my colleague, Mr. Sarbanes. We share a deep interest in protecting the Chesapeake Bay, waterways like this, particularly in the impact of algal blooms on the plant and sea life in the bay and tributaries. And I know that there is much more actually that we can do, and this is—I think Mr. Sarbanes has articulated—a very limited way in which to tackle a problem that threatens the very life and health of the Nation's largest bay in this respect. And so I thank Mr. Sarbanes for standing in my stead. I had a conflict.

And I know that there are challenges even on our Eastern Shore with our farmers and others who we want to enjoy their livelihoods, but we also have the duty to protect waterways like the Chesapeake Bay to ensure that fertilizers and other sources of harmful pollutants don't impact and threaten other kinds of industries that are very dependent on these waterways. And so I think that we are trying to strike a good balance here between what we need in terms of our—the economic health of areas like our eastern short but also ensuring that waterways like the bay in Maryland and other waterways across the country and those tributaries are protected from the harmful effect of algal blooms.

And with that, I yield.

Chairman HALL. Does the gentlelady yield back or does she request five minutes of her own time as the author?

Ms. EDWARDS. Out of respect for the Committee, it was my fault I was late, so I really do appreciate the time, though.

Chairman HALL. All right. The gentlelady refuses the offer of five minutes.

Ms. EDWARDS. She kindly thanks the gentleman.

Chairman HALL. I was really enjoying listening to her. All right. We have discussed and admitted the amendment. And as you know, we are proceeding under the five-minute rule. I want to thank the Member for the amendment.

Is there further discussion on the amendment?

Mr. HARRIS. Mr. Chairman?

Chairman HALL. For what purpose does the gentleman request recognition?

Mr. HARRIS. To discuss the amendment.

Chairman HALL. Yields five minutes for you, Doctor.

Mr. HARRIS. Thank you very much, Mr. Chairman.

You know, I clearly understand that nutrient flows are an important issue and to contribute to the growth of harmful algal blooms. That is fairly well accepted. However, you know, numerous other programs already study the impact of nutrient flows and utilize other sources of funding from multiple agencies, including the Department of Agriculture and the EPA. This amendment would conflict with the non-duplication provision included in the bill under the Amendment in the Nature of a Substitute.

Duplication of federal programs is a drain on scarce resources that do come at the expense of the research and technology development needed to directly suppress or eliminate harmful algal blooms. We all know about the GAO report that looked through the government and found numerous areas where multiple federal agencies do what appear to be the same thing, and I think this amendment would just do that.

In addition, the amendment exclusively targets one source of nutrients to the apparent exclusion of all the others. And I am pleased that the gentleman from Maryland in his comments suggested that perhaps at some point we could introduce an amendment, perhaps before this bill comes to the Floor, that might expand that to look at all sources. But I will say that we offered that during discussions of the bill and that was refused by the author of the amendment.

Now, agriculture manure, which is the one item specifically named actually is not the largest source of nitrogen in the bay. It happens to be in municipal wastewater plants. In fact, Blue Plains, the municipal wastewater plant that drains this building is in fact the largest single-point source accounting for 6 million pounds of nitrogen. And in fact they had to be taken to court two years ago in order to reduce that pollution level. So I would urge that if the Committee at some point or the body considers an amendment in this nature where we begin to duplicate what other agencies have done, if we are going to go ahead and duplicate what other agencies have done, I would urge the action by the body to be that we include all sources, particularly the largest single-point source of nitrogen, which are municipal wastewater plants.

So, you know, we could have had a more inclusive amendment. I would offer that I would be willing to support that kind of amendment when this comes to the Floor, but as the amendment is currently written, I am unable to support the amendment.

And I yield back the balance of my time.

Mr. MILLER. Mr. Chairman?

Chairman HALL. The gentleman yields back. Who seeks recognition?

Mr. MILLER. Mr. Chairman? Mr. Miller of North Carolina.

Chairman HALL. Mr. Miller of North Carolina, I recognize you for five minutes.

Mr. MILLER. Thank you.

I think Ms. Edwards has reconsidered her earlier decision to decline time on this. I yield to Ms. Edwards.

Ms. EDWARDS. I thank you, Mr. Miller.

Look, I just want to—you know, to make sure that all the Members of the Committee are aware that I live in the metropolitan Washington area. We are nowhere near the Chesapeake Bay. Indeed, the area closest to the Chesapeake Bay is in the district of my colleague Mr. Harris, and what we recognize in this heavily industrialized and commercialized metropolitan Washington area is that some—that the things that we do here impact on tributaries—impact on estuaries like the Chesapeake Bay. That is true across the country.

And one of the things that we have attempted to do on numerous occasions and as well as the Environmental Protection Agency is to look at those nitrogen loads that the gentleman speaks of. And we have received tremendous opposition, frankly, from the other side when the Environmental Protection Agency, when through our Transportation and Infrastructure Committee, we try to look at these issues. And so I think that what we are trying to accomplish here is to simply acknowledge that in this one respect—and there may be other things, as my other colleague from Maryland suggests, that we can do to look at other nutrients. I think it is really helpful for us to be very focused on something that is having a really tremendous impact on this major estuary, the largest estuary in this great Nation. And we have an obligation to do something about that.

I would point out that in 2010, environmental activists filed a suit against Purdue Farms on the Eastern Shore claiming that the manure-laden runoff into the Chesapeake Bay led to further pollution of the waters. The Maryland Department of the Environment found high bacteria levels in ditches draining from the farm property into the Chesapeake tributary.

And this isn't just about the Chesapeake Bay. We are talking about other waterways across the country. And so while I share and appreciate the gentleman's concern that we haven't done everything, I would urge all of our colleagues on both sides of the aisle to acknowledge that where there is an opportunity to do something, then we have an obligation to act.

Mr. ROHRABACHER. Would the gentlelady yield for a question?

Ms. EDWARDS. Sure.

Mr. ROHRABACHER. Was our colleague right in saying that some of the research we are talking about is duplicative of research that is already going on?

Ms. EDWARDS. I don't agree with that at all. I mean I think that we are not trying at all to duplicate what is going on in the Department of Agriculture. They sit on the taskforce and they can bring their expertise to the table. I think that that would actually be helpful to us.

Thank you. And I will yield.

Chairman HALL. The gentlelady yields back the gentleman from North Carolina's time.

Is there further discussion?

Mr. RIGELL. Mr. Chairman?

Chairman HALL. Who seeks recognition?

Mr. RIGELL. Rigell from Virginia.

Chairman HALL. The gentleman from Virginia recognized for five minutes.

Mr. RIGELL. Thank you, Mr. Chairman.

And I certainly appreciate the gentlelady offering the amendment and I share her—I can see the passion and I share the deep concern over the Chesapeake Bay. It is truly a national treasure. I have the great privilege of representing Virginia's 2nd Congressional District, which includes all the Eastern Shore, Virginia Beach, and a good part of Norfolk and Hampton as well. So this is shoreline that well fits within and defines really the boundary of the Chesapeake Bay in the southeast portion.

I want to associate myself with the remarks of Dr. Harris, and rather than go through all the rationale that he presented, as I carefully evaluated the bill—the amendment and the logic both for and against, I have come to the conclusion that it would indeed be a duplicative effort. And so for that reason I will not be supporting the amendment. But I want us to continue to work together as a Committee to ensure that that great national treasure is taken care of. And I will fully support, you know, efforts as they go forth to make that happen.

And I yield back.

Chairman HALL. The gentleman yields back. Is there further discussion on the amendment?

The Chair hears none. Hearing no further discussion, a vote occurs on the amendment. All in favor say aye. Those opposed say no.

The noes have it and the amendment is not agreed to.

Ms. EDWARDS. Mr. Chairman?

Chairman HALL. I recognize the gentlelady for what purpose?

Ms. EDWARDS. I would ask for a recorded vote.

Chairman HALL. A recorded vote has been requested. Under the Chair's prior announcements, proceedings on this motion will be postponed.

Are there any other amendments to the amendment?

Mr. MILLER. Mr. Chairman?

Chairman HALL. For what purpose does the gentleman seek recognition?

Mr. MILLER. I have an amendment at the desk.

Chairman HALL. All right. The next amendment is offered from the gentleman from North Carolina, Mr. Miller.

Are you ready to proceed with your amendment, sir?

Mr. MILLER. I am.

Chairman HALL. Clerk, report the amendment.

The CLERK. Amendment 372, Amendment to the Amendment in the Nature of a Substitute to H.R. 2484 offered by Mr. Miller of North Carolina.

[The amendment appears in the Appendix]

Chairman HALL. I ask unanimous consent to dispense with the reading. Without objection, it is so ordered.

The gentleman is recognized for five minutes to explain his amendment.

Mr. MILLER. Thank you, Mr. Chairman.

I agree with everything that has been said today. Members of this Committee have said all the right things. Harmful algal blooms and hypoxia are very serious problems affecting our coast, our lakes, our waterways; they are harming our economy; they hurt the tourist economy of Florida when there are beach closures; they hurt the fishing and shellfish industries in the Gulf of Mexico; they are obviously devastating the harvest of the Chesapeake Bay; and in every district, every corner of America they pose a deadly threat to safe drinking water supplies. So harmful algal blooms and hypoxia are serious issues that really deserve a serious response.

But while I have agreed with what people have said, I have not agreed with—I do not agree with what this bill does. This bill actually cuts the funding to do all the things that this bill requires below the existing levels of funding for 2008. Now, that—this is not an appropriating committee; this is an authorizing committee, but here is how it works. If the appropriating committee is not going to give more than is authorized and if we cut back what is authorized, usually what is authorized by the authorizing committee, which is what we are for purposes of this bill, the authorizing committee will decide what is the amount that the agency really needs to do the job properly. And it is not at all unusual at all for the Appropriations Committee to appropriate less than that amount but they never give more than that amount. In fact, that is the ceiling on what will be available. So while saying we are going to require NOAA and EPA to do all these things that I think we all agree need to be done, we are actually cutting back their ability to do it.

And so this bill—this amendment is very simple. It takes the authorization up to what it was in 2008 to 2010 and extends that authorization, that level, through 2015.

I ask the support for this amendment.

Chairman HALL. All right. Is there further discussion?

Mr. ROHRABACHER. Mr. Chairman?

Chairman HALL. Who seeks recognition? The gentleman from California is recognized.

Mr. ROHRABACHER. Let's just note that in California we have problems with red tide and I know all about red tide. I know I have gotten it all over my legs and gotten rashes and things from it when I am out surfing and such, so I know the implication on fish because I have seen dead fish due to this very problem that we are talking about. So no one is denying that there is a big problem when we discuss the amendments that have been suggested. If something is duplicative, we can no longer afford duplicative research.

And perhaps your amendment, Mr. Miller, exemplifies what this fight about balancing the budget or trying to bring the level of deficit spending down is all about. We cannot afford to do everything that we used to do. The fact is, as we are doing it, it is a $1.5 trillion deficit. So if—yes, this does decrease the level and we are—down a bit, that is—if we can't even do that, our currency will eventually collapse because this exemplifies the spirit of what we got to do. They call it taking a haircut. We got to have a haircut across the board of everything the Federal Government is doing, asking our federal employees to do their job more efficiently and

more effectively, eliminating it when there are duplications that happen, and in fact cutting down the level of spending in every one of the programs that we are talking about if it can be done without causing the program itself not to be able to accomplish its mission.

Now, there is no reason for us to think that this type of efficiency effort can't be made in science programs as well as anything else. So I would suggest, Mr. Chairman, that this is a very good—I mean this is a very good proposal that we have before us, but the amendment that we have to this would take away the benefits that we are trying to receive to the overall budget. And so I would oppose the amendment.

Mr. MILLER. Mr. Chairman?

Chairman HALL. Does the gentleman yield back his time?

Ms. EDWARDS. Mr. Chairman?

Chairman HALL. The gentleman yields back.

Ms. EDWARDS. Mr. Chairman?

Chairman HALL. Who seeks further discussion? The gentlelady from Maryland, recognize you for five minutes.

Ms. EDWARDS. Thank you, Mr. Chairman.

And I would like to yield as much of my time as he would consume to the gentleman from North Carolina.

Chairman HALL. I think that is a fair thing to do. The gentleman from North Carolina——

Mr. MILLER. We have an arrangement this end of the dais.

Let's be honest with the American people. If we really aren't going to do these things, the things that the bill says we are going to do, let us tell them that honestly. But this bill as it now stands—and as Mr. Rohrabacher just explained it—is fundamentally dishonest. We are telling the American people we are going to do all the things in this bill but we are not going to provide the agency the funds that it takes to do it.

Now, I understand your argument about trying to make them do with less, but there has not been the first suggestion from the majority on how they will do that. It is just cutting the funding, requiring them to do more, telling the American people—promising the American people we are going to do all these things to address harmful algal blooms and hypoxia, we are going to do it, but we are not going to provide the funds necessary to do it. That is fundamentally dishonest. If we are not going to do it—and that will be my next amendment—let us tell the American people the truth. But as it is now, this amendment misleads the American people. This Amendment does not tell the truth to the American people.

Mr. HARRIS. Will the gentleman yield?

Mr. ROHRABACHER. Will the gentleman yield? Mr. Chairman?

Mr. HARRIS. Would the gentleman yield for a question?

Mr. MILLER. I do yield.

Chairman HALL. To which one of them.

Mr. MILLER. Mr. Rohrabacher?

Mr. ROHRABACHER. I will take the first shot.

So you are suggesting there is not any efficiencies that we could be making in the federal budget whenever we try to reduce it by a small amount?

Mr. MILLER. You know, Mr. Rohrabacher, I am sure there are. Actually, my experience on this Committee is I spotted several

things where the Federal Government is spending too much. A lot of it had to do with well-connected private contractors, many of whom had great friends on the Republican side of the aisle who protected all those appropriations.

Now, if the gentleman from California——

Mr. ROHRABACHER. That is a fairly partisan thing to say.

Mr. MILLER. —or the gentleman from Georgia knows of a cheaper way for them to do all these things, all that they have been doing and more for less money, then you should step forward and say how that is, but just saying we are going to make you—we are going to promise the American people that all this is going to happen but we are going to provide a funding level that is less than what we have provided before.

Mr. ROHRABACHER. Would the gentleman agree that when departments and agencies come to us, they quite often add a little bit to their request so that they will get more money? Isn't this sort of a standard operating procedure with many departments and agencies?

Mr. MILLER. And Mr. Rohrabacher, perhaps you should seek to be on the Appropriations Committee. That may be but we have not heard anybody from the other side of the aisle—from the majority say how these savings can be achieved. It is just giving more money—less money than agencies that have had to do the same work—actually less work and tell them now you have got to do—we are promising the American people you are going to do all this other work. We are promising the American people we really are serious about harmful algal blooms and hypoxia. And the people of Florida, we understand the disruption to your economy, you know, beach closures; to the people at Chesapeake Bay, we understand the harm to your economy from what hypoxia and what dead zones are doing to your harvest; we are telling people who have got drinking water that is being compromised by hypoxia and by harmful algal blooms saying we are serious about this. We understand it. We are going to do this stuff. But the truth is the agencies are getting less funding to do more, and not a word, not a suggestion from the majority on how that is going to happen. I think my——

Mr. SARBANES. Will the gentleman yield?

Chairman HALL. Will the gentleman——

Mr. MILLER. I yield time to Mr. Sarbanes.

Chairman HALL. All right.

Mr. SARBANES. I thank the gentleman for yielding.

I just want to support the amendment. I think you have to properly resource the function that we are giving to NOAA here. And on the economic argument that was raised, the fact of the matter is that the research that NOAA does is critical to policymakers at the federal level and at the state level and at the local level in terms of making decisions about how to protect and preserve these natural resources that we have. So if you are talking about the Chesapeake Bay where the economy of a region is heavily dependent on the health of that bay, then making sure that the resources are there so the research can be done so the policymakers can put in place the kinds of things to protect those natural resources is absolutely fundamental. And if you shortchange that, you are going

to have tremendous negative economic consequences for the region at a time when the country is looking for economic recovery.

And I yield back to the gentleman.

Mr. MILLER. Reclaiming my time. It is still my time.

There was not a—there has been a hearing on this topic. There was not one word of witness testimony that these programs—the existing programs were being handled inefficiently and this amendment does not increase funding; it provides flat funding.

Mr. HARRIS. Mr. Chairman?

Chairman HALL. The gentleman's time is up.

Mr. HARRIS. Mr. Chairman?

Chairman HALL. Who seeks recognition?

Mr. HARRIS. Mr. Harris.

Chairman HALL. The gentleman from Maryland, Dr. Harris.

Mr. HARRIS. Thank you very much, Mr. Chairman.

Let us be honest. Let us look at the actual amount spent—because we have heard that we are reducing this funding below 2008 levels. Now, this is just simple math. Let us add up the authorizations in this bill. It is 20.7 million. The total amount spent on harmful algal blooms in fiscal year 2008 was 18.1. Now, I know I went to school a while ago, and I know that is old math, but 20.7 is more than 18.1. This actually authorizes at a higher level than the actual expenditures in fiscal year 2008 and matches the actual expenditures in fiscal year 2010. Matches. Not a dollar less.

Now, let me address specifically the comment from the gentleman from North Carolina because I am not sure he was here for my statement on this amendment in the nature of substitute. The fact is that we cut ten reports out. I am just going to repeat it because the gentleman from North Carolina is not paying attention. We cut 10 reports out. That is how we create the efficiencies. Our estimate is that that saves $3 million freeing it up from writing a report to actually doing research.

So to the Ranking Member rather of the Subcommittee that I chair, I would suggest we will spend more on actual research and not writing reports than we do now. But that is not all. The point from the gentleman in—and I am sorry—to the gentleman in California, I am sorry to disappoint you and he has left, but we actually spend more. We are actually increasing the amount we spent over fiscal year 2008. You are there.

Chairman HALL. Don't let Dr. Broun hear you.

Mr. HARRIS. We don't cut the total amount spent. Yeah, I am afraid the gentleman from Georgia will offer an amendment later to cut even that amount.

But we don't spend less. We spend it better. We cut out reports, we eliminate duplication, and we do exactly what the American people have sent us here to do, recognize a program that is important, maintain the funding, and do it more efficiently, truly doing more with less. That is what our challenge is.

Now, I have five kids. They come to me all the time wanting more. Believe me. Anybody who has a child knows that. And sometimes you have to say, you know, we can't afford it. This is what we can afford. Let us make do with what we have and let us do it more efficiently, more thoughtfully.

Now, furthermore, there has been a suggestion that if these amendments don't pass, this bill shouldn't be passed. I would suggest that is a dangerous strategy in an environment where we are looking to cut trillions of dollars in spending. And remember, the authorization has expired on this program. I suspect that when push comes to shove, folks will look at what hasn't had a reauthorization and simply cut the funding. This reauthorization level funds—not only level funds totally. It is 3.6 million more—sorry, 2.6 million more than fiscal year 2008 and cuts $3 million worth of reports, and furthermore, in the statute ends duplicative work in the Federal Government. That is what the majority thinks is the way you have to handle budgets and authorizations in this current environment we are in.

This is an incredibly important program. My colleagues from Maryland have outlined the importance of this program. Harmful algal blooms are something that we need to continue studying. We need to know why dead zones occur and how to deal with them and how to minimize their effect. I would urge rejection of this amendment and passage of the reauthorization bill.

And Mr. Chairman, I would yield back the balance of my time.

Chairman HALL. The gentleman yields back.

Is there further discussion on the amendment?

Ms. WOOLSEY. Mr. Chairman?

Chairman HALL. Who seeks recognition?

Ms. WOOLSEY. Down here, Mr. Chairman, Congresswoman Woolsey.

Chairman HALL. Ms. Woolsey?

Ms. WOOLSEY. Your girlfriend.

Chairman HALL. I can't turn you down. The Chair recognizes you for five minutes and I recognize you for 10 minutes and five minutes is already gone.

Ms. WOOLSEY. There you go.

So, Mr. Chairman, I just would like to remind everybody that in order to vote for this bill, many of us want a few absolutes, and Mr. Miller's amendment provides this for us. So think about that. I mean not that it is going to make a difference if it is—the vote is on a—you know, right down on a bipartisan—down the line, but—I mean partisan. We would like it to be bipartisan.

And with that I would like to yield the rest of my time to Mr. Miller.

Mr. MILLER. Thank you, Ms. Woolsey, for yielding.

Again, my information is simply different from what Mr. Harris has just said. My information is that expenditures in this fiscal year for NOAA for this program was 20.7. To get around, to play games with cut-go rules that the majority adopted, they have cut that—the authorization for that to move part of the funding to EPA, but the result is that the amount authorized is less than what has been spent in the recent past. Again, we had a hearing on this. There was a word about reports and by eliminating a report we could save $3 million in funding. Not a word to support that argument. And not a word to suggest that—what those reports were that are duplicative or unnecessary or whatever else or that not doing those would save $3 million. This simply appears to be requiring the same agencies to do more work with less money and

telling the American people that we are going to do things that we are not really going to allow federal agencies the resources to get done. It is not honest with the American people.

I yield back.

Chairman HALL. The gentleman yields back. Hearing no further discussions, request the vote occurs on the amendment.

Ms. JOHNSON. Mr. Chairman?

Chairman HALL. For what purpose does the gentlelady request recognition?

Ms. JOHNSON. Strike the last word.

Chairman HALL. The Chair recognizes you for five minutes.

Ms. JOHNSON. Thank you, Mr. Chairman.

We all recognize that we are an authorization committee and not an appropriations committee, but we also know that it has a lot of influence in what we authorize. My concern is that when we authorize more activity than what we are willing to authorize the expense to do it, we make the agencies feel that they have failed and then we really get on the agencies because they have failed if it is not done.

My concern is that we are expecting so much more than what we are willing to authorize. Now, we know whatever we authorize, the appropriators are probably going to cut it some. Now, I am not suggesting that we over-authorize, but what I am suggesting perhaps is we look at the activities that we are requiring—which I believe are very important activities—and recognize that these are human beings that we are authorizing to do this work. And there is just so much you can do if you don't have the people to do it. And if you don't have the funds, you don't have the people to do the work. And so I would just make an appeal to the Committee that if we cannot support this amendment, take a look at the next one so that when it is impossible to do the work that they simply will report that they cannot do it with that amount of money and we all will be even. We will know that from the beginning. But I don't think it is fair to the agencies, nor is it fair to the public, for us to do all this authorization and know that it is very likely the work cannot be done.

Thank you and I yield back.

Chairman HALL. The gentlelady yields back.

If there is no further discussion—hearing no further discussion, the vote occurs on the amendment. All in favor say aye. Those opposed say no.

The noes have it and the amendment is not agreed to.

Mr. MILLER. Mr. Chairman? Mr. Chairman?

Chairman HALL. For what purpose does the gentleman seek recognition?

Mr. MILLER. Request a recorded vote.

Chairman HALL. All right. Roll call vote has been requested. Under the Chair's prior announcement, proceedings on this motion will be postponed.

Are there any other amendments to the amendment?

Mr. MILLER. Mr. Chairman?

Chairman HALL. For what purpose does the gentleman seek recognition?

Mr. MILLER. I have an amendment at the desk.

Chairman HALL. The next amendment is offered from the gentleman from North Carolina, Mr. Miller.

Are you ready to proceed with your amendment?

Mr. MILLER. I am.

Chairman HALL. Clerk will report the amendment.

The CLERK. Amendment 374, Amendment to the Amendment in the Nature of a Substitute to H.R. 2484 offered by Mr. Miller of North Carolina.

[The amendment appears in Appendix]

Chairman HALL. Ask unanimous consent to dispense with the reading. Without objection, it is so ordered.

The gentleman is recognized for five minutes to explain his amendment.

Mr. MILLER. Thank you, Mr. Chairman.

I hope that this amendment does not really become necessary. I will withdraw this amendment if the previous amendment passes when the time comes for a recorded vote. This amendment is just about being truthful to the American people that we are not going to tell them that we are going to do all these important things to address harmful algal blooms and hypoxia when we know perfectly well we aren't giving the agency the resources to do it. This—I think the Ranking Member earlier said that this bill authorizes the agency to do more things. No, it requires the agency to do more things. And it doesn't authorize—even authorize the funds to do it.

This amendment says that if they don't get the funding to do their work, they are going to be relieved of these mandates that they can't possibly get done. Let us be honest with the American people. Let us not tell them we are going to do all kinds of important work and it is all going to be free or next to it. If we really are not willing to provide the resources to get things done, let us tell the American people that and not tell the American people that oh, yes, we are really serious about harmful algal blooms and hypoxia. We really want to protect the Chesapeake Bay and the Gulf Coast and drinking water everywhere. Let us not tell people—the American people something that is not true. And if we have real ideas on how we can save money, let us—you know, fine to hear it. Let us give that to the Appropriations Committee with those suggestions but not tell the American people that we can do it, no problem. It is just a matter of the Federal Government agencies doing their work better and then when they can't get it done say, you know, those government employees, they just can't get it done.

I hope this amendment does not become necessary, but I think in order to be truthful to the American people, we need to pass this amendment at the very least.

I yield back.

Chairman HALL. The gentleman yields back. Is there further discussion on the amendment?

Mr. HARRIS. Mr. Chairman?

Chairman HALL. Who seeks recognition?

Mr. HARRIS. The sponsor of the bill.

Chairman HALL. The Chair recognizes you for five minutes, Mr. Harris.

Mr. HARRIS. Thank you very much. I won't take five minutes. I won't prolong this.

But let us look mechanistically at what this amendment does. This amendment removes our Committee's ability to make a statement on how important algal blooms are and hypoxia by saying that if NOAA appropriations are $1 less, $1 less, then this entire program doesn't have to be done by NOAA. $1.

Now, let us look at NOAA's appropriations. A big chunk of NOAA's appropriations for satellite program, in future years—by this kind of amendment—let us say the decision was made the satellite program shouldn't be done so appropriations are lowered because we don't want to fund a satellite program. We want to change the funding of a large segment of a budget. Then this says they don't have to worry about algal blooms. In fact, the Committee tells them quite specifically don't worry about it. You don't have to do any of this. It completely eliminates everything—all the emphasis that we put on harmful algal blooms and hypoxia.

So although I appreciate how important the sponsor of the amendment feels this program is, I actually feel this amendment—if you think this program is important, this is a harmful amendment. This tells the agency we don't really want to be prioritized in your budget because if your funding goes down $1, you don't have to study harmful algal blooms. You can do whatever else you want.

It is the prerogative of this Committee to spell out in this kind of reauthorizations what we think those agencies should do, and that is why this amendment, although it sounds good on the surface—says, sure, you know, if fundings go down, we should stop mandating things. In fact, in practicality, a $1 decrease in—and I would be willing to—you know, I will yield to the author of the amendment if he can attest today a $1 decrease in appropriations completely negates the requirements of the bill.

So I would urge that we do not adopt this amendment. We need this reauthorization. We are in a very hazardous time for programs here in Washington. You just have to look at the current discussion. Again, we are looking to cut trillions of dollars. We should have to give the clearest signal possible that this is in fact a very important program and not give the ability to an agency—who, in all likelihood, as other agencies, may have their appropriations cut below current levels—the ability to prioritize. That is our job to prioritize. That is not the job of the departments and agencies. So I would urge a no vote on this amendment.

Ms. EDWARDS. Mr. Chairman?

Chairman HALL. The gentleman yields back. Who seeks recognition?

Ms. EDWARDS. Mr. Chairman?

Chairman HALL. The gentlelady from Maryland recognized for five minutes.

Ms. EDWARDS. Thank you, Mr. Chairman. I will just be really quick and I would yield a minute to my colleague from North Carolina.

I represent the headquarters of NOAA, and I think one of the things that happens is that we are telling the people in the State of Maryland and across this country that we are doing something that we are really not going to be able to do because the agency has no money. And I—you know, I thank the gentleman from

Maryland, but I think that he ought to be honest with the people on the Eastern Shore of Maryland that he is not doing a thing here that is going to protect the Chesapeake Bay that is in his home district from harmful algal blooms because we haven't provided the resources to do it.

And I think this is a bit of truth in advertising. We will go and, you know, and just flat-fund and slice off the top of an agency and then say to all the good workers at NOAA and the scientists at NOAA but we still want you to do it anyway. We still want it to be part of your agenda. Well, how about a little truth in advertising? And truth in advertising for the people who live in all of our Congressional districts who, on the one hand, because of an agency's mission, expect one thing out of them but know that they are going to be delivered something far less because this Congress refuses to provide the resources that are necessary for them to do the job.

And I want NOAA—I want our agencies to have the resources that they need to protect the Chesapeake Bay. And I would hope that the gentleman from Maryland whose district is the Chesapeake Bay would want the agency to have those resources as well.

And with that, I would yield to my colleague from North Carolina.

Mr. MILLER. Thank you, Ms. Edwards.

If we are truly going to cut trillions of dollars, let us tell the American people what that is going to mean. Let us not mislead the American people. Let us not claim that we are going to do all the same things that we have been doing before. There has not been any suggestion from this Committee at all about how the work of these agencies in addressing hypoxia, dead zones, harmful algal blooms, how that is going to be done more efficiently. We are just saying here is less money. Good luck. If you get the job done, we will take credit because we have said you had to do it. If you can't get the job done, we are going to blame you.

That is pretty much how the majority appears to be working. I think it is pretty cynical. I hope and believe the American people will see through it, but that is where we are right now. Let us be honest with the American people. Let us say that if we are not going to provide the funds to the Federal Government agencies to get their work done, we are not going to tell you—tell the American people that we have required all that to happen when it cannot possibly happen.

And again, this amendment is flat-funding, not increase in funding to do more work. And it does not say they can't do it if they can do it with that amount of money. It just says they won't be required to do it. So we aren't telling the American people the untruth that we are going to make sure that they get all this stuff done, this important work done while we are not providing them the resources to do it.

I yield back to Ms. Edwards, who I think probably yields back to the Chair.

Chairman HALL. The gentleman yields back. For what purpose does the gentleman from Illinois seek recognition? To strike the last word?

Mr. HULTGREN. To strike the last word.

Chairman HALL. The gentleman is recognized for five minutes.

Mr. HULTGREN. Thank you. I do want to yield my five minutes to Dr. Harris.

Mr. HARRIS. Thank you very much to my colleague for yielding the time.

This is pretty amazing. We have heard the phrase let us be honest, suggesting that there is dishonesty here. And then let us—I am not being truthful in some way with people in my district. Here is the truth. We borrow 41 cents out of every dollar we spend. 41 cents out of every dollar we spend. Our AAA rating will likely become a AA rating. We are having a nation-dividing discussion about how bad our debt and our deficit issue is and we are having an argument over the amendment about whether level funding is adequate. Level funding is adequate. Wow. I hope the American people are watching. I hope they are watching Members asking the body to just go ahead and write the wish list and fund the wish list and don't worry, your next generation, your children and grandchildren are going to pay for it.

And to my colleagues from Maryland, I suggest that before you offer amendments about the Chesapeake Bay, let us start offering amendments about Blue Plains. Let us start offering amendments about wastewater treatment where you could spend millions and millions of dollars, as we actually have improving the bay by some of those mechanisms.

But I would suggest that the person representing the Chesapeake Bay might have a better idea about how to represent it and what programs are needed fitting within the context of our budgetary problems. Now, I haven't been down here to vote for those budgets. Some of you may have been down here to vote for those budgets that went way overboard. We were sent here last year—I believe the elections of 2010 were about coming down here, looking at what is an important thing to do in government and funding it. That is exactly what this bill does. And what this amendment says is that if there is a—now, imagine how unrealistic this amendment is. This amendment suggests that we perhaps should fund all the federal agencies at exactly the same level we had this year. Well, that is great, but let us call up China and see if they are still willing to float our bonds if that is what we are going to do. If that is what this body and this chamber and this government is going to do, let us just call up China and see how big our credit card limit is with them.

That budget is full of programs that are important, chock full of programs that are important. We can't possibly increase the funding in all of them. This is what is called discretionary spending, ladies and gentleman. This isn't a mandatory program. And I would welcome the Members from across the aisle to suggest where we go into entitlement programs, the nondiscretionary spending in order to free up money for this. I haven't heard suggestions.

So we are left with looking at discretionary spending. I would offer to the Committee that level funding a discretionary program, even that is a reach. But we need to make that reach because this is an important program. And that has been pointed out by every single Member offering an amendment to this is how important this program is. It is important enough that in the midst of a huge

fiscal crisis, this Committee has decided to take up its time to reauthorize a program at existing levels. Now, I know that is not trendy in Washington to just level fund because actually we all know that in Washington-speak, a cut in funding is a decrease in the increase.

America knows we can't play that game anymore. The game being played is the game of let us shame someone into agreeing to spend a whole lot of money and make a whole lot of promises we know we can't keep. The promises we know we can't keep have been made. They total up to $14.2 trillion. Those are the promises we can't keep. If we accept in the final vote the prior amendment of the author of this amendment, we would be making a promise to the American people we know we can't keep. We can't possibly increase the funding for necessary programs by over 50 percent because we are already borrowing 40 cents out of every dollar.

But what I really don't like and really find objectionable is language like let us be honest or suggesting that a Member is not truthful. I am sorry. Maybe I was just raised differently, but I find that very intriguing.

I yield back the balance of my time.

Chairman HALL. The gentleman yields back.

If there is no further discussion on the amendment—the Chair recognizes the gentlelady from Texas——

Ms. JOHNSON. Strike the last word.

Chairman HALL. —to strike the last word. You are recognized for five minutes.

Ms. JOHNSON. Thank you. I would like to yield my time to Ms. Edwards.

Ms. EDWARDS. Thank you. And I want to be very brief because I want to point out another truth and that is that there is an average of $82 million in damage each year due to the harmful impacts of harmful algal blooms. And we spend on the order of $20 to $25 million a year. I don't think that sounds like savings. And I would point out to all of us on the Committee that we are even in the process in this Congress debating an Interior Appropriations bill that doesn't allow us to deal with things like stormwater runoff and protecting our ground water because we have slashed and burned those budgets, too. And so I would point out to the gentleman and my colleague from Maryland and to all of us that what we are trying to do here is to make sure that if we are giving an agency a mission that we are reasonable in terms of what we indicate they require to fulfill that mission. Otherwise, let us not give them the mission and let us be truthful about the resources that it takes to do the job. And that is what this amendment seeks.

And with that, I would yield.

Chairman HALL. All right. Does the gentlelady yield back?

Ms. JOHNSON. I yield back the balance of the time. Thank you.

Chairman HALL. The gentlelady yields back.

Hearing no further discussion, a vote occurs on the amendment. All in favor say aye. Those opposed say no.

The noes have it.

Mr. MILLER. Mr. Chairman?

Chairman HALL. The Chair—who seeks recognition?

Mr. MILLER. Mr. Miller of North Carolina.

Chairman HALL. Mr.—North Carolina?

Mr. MILLER. Request a recorded vote.

Chairman HALL. Go ahead and state your question.

Mr. MILLER. Request a recorded vote.

Chairman HALL. All right. Requested vote has been called for. Under the Chair's prior announcement, proceedings on this motion will be postponed.

Pursuant to the Chair's earlier announcement and ensure Members have notice of the time, further proceedings on the postponed questions will resume within five minutes. The Committee stands in recess.

[Recess.]

Chairman HALL. The Committee will come to order. And pursuant to the Chair's earlier announcement and ensure Members have notice of the time, further proceedings on the postponed questions will resume at 1:00 p.m. We are in recess until 1:00 p.m.

[Recess.]

Chairman HALL. The Committee will come to order.

Are there any other amendments to the amendment? Hearing none, the unfinished business of the Committee is postponed. Roll call on the amendment offered by Mrs. Edwards, Edwards Amendment 016 to the Harris Amendment in the Nature of a Substitute. The clerk will call the roll.

The CLERK. Chairman Hall?

Chairman HALL. No.

The CLERK. Chairman Hall votes no.

Mr. Sensenbrenner?

[No response.]

The CLERK. Mr. Smith?

Mr. SMITH. No.

The CLERK. Thank you. Mr. Rohrabacher?

Mr. ROHRABACHER. No.

The CLERK. Mr. Rohrabacher votes no.

Mr. Bartlett?

Mr. BARTLETT. No.

The CLERK. Mr. Bartlett votes no.

Mr. Lucas?

[No response.]

The CLERK. Mrs. Biggert?

Mrs. BIGGERT. No.

The CLERK. Mrs. Biggert votes no.

Mr. Akin?

Mr. AKIN. No.

The CLERK. Mr. Akin votes no.

Mr. Neugebauer?

Mr. NEUGEBAUER. No.

The CLERK. Mr. Neugebauer votes no.

Mr. McCaul?

[No response.]

The CLERK. Mr. Broun?

Dr. BROUN. No.

The CLERK. Mr. Broun votes no.

Mrs. Adams?

Mrs. ADAMS. No.

The CLERK. Mrs. Adams votes no.

Mr. Quayle?
[No response.]
The CLERK. Mr. Fleischmann?
Mr. FLEISCHMANN. No.
The CLERK. Mr. Fleischmann votes no.
Mr. Rigell?
Mr. RIGELL. No.
The CLERK. Mr. Rigell votes no.
Mr. Palazzo?
Mr. PALAZZO. No.
The CLERK. Mr. Palazzo votes no.
Mr. Brooks?
[No response.]
The CLERK. Mr. Harris?
Mr. HARRIS. No.
The CLERK. Mr. Harris votes no.
Mr. Hultgren?
[No response].
The CLERK. Mr. Cravaack?
Mr. CRAVAACK. No.
The CLERK. Mr. Cravaack votes no.
Mr. Bucshon?
Mr. BUCSHON. No.
The CLERK. Mr. Bucshon votes no.
Mr. Benishek?
Mr. BENISHEK. No.
The CLERK. Mr. Benishek votes no.
Ms. Johnson?
Ms. JOHNSON. Aye.
The CLERK. Ms. Johnson votes aye.
Mr. Costello?
[No response.]
The CLERK. Ms. Woolsey?
Ms. WOOLSEY. Aye.
The CLERK. Ms. Woolsey votes aye.
Ms. Lofgren?
[No response.]
The CLERK. Mr. Wu?
Mr. WU. Aye.
The CLERK. Mr. Wu votes aye.
Mr. Miller?
Mr. MILLER. Aye.
The CLERK. Mr. Miller votes aye.
Mr. Lipinski?
Mr. LIPINSKI. Aye.
The CLERK. Mr. Lipinski votes aye.
Ms. Giffords?
[No response.]
The CLERK. Ms. Edwards?
Ms. EDWARDS. Aye.
The CLERK. Ms. Edwards votes aye.
Ms. Fudge?
[No response.]
The CLERK. Mr. Lujan?

Mr. LUJAN. Aye.
The CLERK. Mr. Lujan votes aye.
Mr. Tonko?
Mr. TONKO. Aye.
The CLERK. Mr. Tonko votes aye.
Mr. McNerney?
Mr. MCNERNEY. Aye.
The CLERK. Mr. McNerney votes aye.
Mr. Sarbanes?
Mr. SARBANES. Aye.
The CLERK. Mr. Sarbanes votes aye.
Ms. Sewell?
Ms. SEWELL. Aye.
The CLERK. Ms. Sewell votes aye.
Ms. Wilson?
Ms. WILSON. Aye.
The CLERK. Ms. Wilson votes aye.
Mr. Clarke?
Mr. CLARKE. Aye.
The CLERK. Mr. Clarke votes aye.
Mr. LUCAS. Mr. Chairman?
Chairman HALL. Are there other Members who wish to vote?
Mr. LUCAS. Yes, sir, Mr. Chairman, Lucas, Oklahoma.
Chairman HALL. The gentleman from Oklahoma.
Mr. LUCAS. I will be recorded as a no.
The CLERK. Mr. Lucas votes no.
Mr. HULTGREN. Mr. Chairman? Hultgren from Illinois.
Chairman HALL. Mr. Hultgren.
Mr. HULTGREN. Yes. Hultgren votes no.
The CLERK. Mr. Hultgren votes no.
Chairman HALL. Are there others?
Mr. COSTELLO. Costello votes aye.
The CLERK. Mr. Costello votes aye.

Chairman HALL. Are there others? Okay. All right. The clerk will call the roll. Excuse me. Hold up on that request of calling the roll. We will ask if all Members voted. Do any Members wish to change their vote? All right. Ask the clerk to call the roll.

The CLERK. Mr. Chairman, 14 Members vote aye and 18 Members vote no.

Chairman HALL. On this vote there were 18 noes, 14 ayes. The amendment is not agreed to.

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 112th

DATE: July 28, 2011 AMENDMENT NO. 016 ROLL CALL NO. 1

Bill: H. R. 2484

SPONSOR of AMEND: Ms. Edwards

Quorum –14 to vote –21 to report

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. HALL, *Chair* - *TX*		X		
2 Mr. SENSENBRENNER – *WI* **				
3 Mr. SMITH - *TX*		X		
4 Mr. ROHRABACHER - *CA*		X		
5 Mr. BARTLETT - *MD*		X		
6 Mr. LUCAS - *OK*		X		
7 Mrs. BIGGERT - *IL*		X		
8 Mr. AKIN - *MO*		X		
9 Mr. NEUGEBAUER - *TX*		X		
10 Mr. McCAUL - *TX*				
11 Mr. BROUN - *GA*		X		
12 Mrs. ADAMS - *FL*		X		
13 Mr. QUAYLE - *AZ*				
14 Mr. FLEISCHMANN - *TN*		X		
15 Mr. RIGELL - *VA*		X		
16 Mr. PALAZZO - *MS*		X		
17 Mr. BROOKS - *AL*				
18 Mr. HARRIS - *MD*		X		
19 Mr. HULTGREN - *IL*		X		
20 Mr. CRAVAACK - *MN*		X		
21 Mr. BUCSHON - *IN*		X		
22 Mr. BENISHEK - *MI*		X		
23 Vacancy				
1 Ms. JOHNSON, *Ranking* - *TX*	X			
2 Mr. COSTELLO - *IL*	X			
3 Ms. WOOLSEY - *CA*	X			
4 Ms. LOFGREN - *CA*				
5 Mr. WU - *OR*	X			
6 Mr. MILLER - *NC*	X			
7 Mr. LIPINSKI - *IL*	X			
8 Ms. GIFFORDS - *AZ*				
9 Ms. EDWARDS - *MD*	X			
10 Ms. FUDGE - *OH*				
11 Mr. LUJÁN - *NM*	X			
12 Mr. TONKO - *NY*	X			
13 Mr. McNERNEY - *CA*	X			
14 Mr. SARBANES - *MD*	X			
15 Ms. SEWELL - *AL*	X			
16 Ms. WILSON - *FL*	X			
17 Mr. CLARKE - *MI*	X			
TOTALS	14	18		

** Vice Chair

All right. The unfinished business of the Committee is to postpone roll call on the amendment offered by Mr. Miller. Mr. Miller is Amendment 372 to the Harris Amendment in the Nature of a Substitute.

The clerk will call the roll.

The CLERK. Chairman Hall?

Chairman HALL. No.

The CLERK. Chairman Hall votes no.

Mr. Sensenbrenner?

[No response.]

The CLERK. Mr. Smith?

Mr. SMITH. No.

The CLERK. Mr. Smith votes no.

Mr. Rohrabacher?

Mr. ROHRABACHER. No.

The CLERK. Mr. Rohrabacher votes no.

Mr. Bartlett?

Mr. BARTLETT. No.

The CLERK. Mr. Bartlett votes no.

Mr. Lucas?

Mr. LUCAS. No.

The CLERK. Mr. Lucas votes no.

Mrs. Biggert?

Mrs. BIGGERT. No.

The CLERK. Mrs. Biggert votes no.

Mr. Akin?

Mr. AKIN. No.

The CLERK. Mr. Akin votes no.

Mr. Neugebauer?

Mr. NEUGEBAUER. No.

The CLERK. Mr. Neugebauer votes no.

Mr. McCaul?

[No response.]

The CLERK. Mr. Broun?

Dr. BROUN. No.

The CLERK. Mr. Broun votes no.

Mrs. Adams?

Mrs. ADAMS. No.

The CLERK. Mrs. Adams votes no.

Mr. Quayle?

[No response.]

The CLERK. Mr. Fleischmann?

Mr. FLEISCHMANN. No.

The CLERK. Mr. Fleischmann votes no.

Mr. Rigell?

Mr. RIGELL. No.

The CLERK. Mr. Rigell votes no.

Mr. Palazzo?

Mr. PALAZZO. No.

The CLERK. Mr. Palazzo votes no.

Mr. Brooks?

[No response.]

The CLERK. Mr. Harris?

Mr. HARRIS. No.

The CLERK. Mr. Harris votes no.
Mr. Hultgren?
Mr. HULTGREN. No.
The CLERK. Mr. Hultgren votes no.
Mr. Cravaack?
Mr. CRAVAACK. No.
The CLERK. Mr. Cravaack votes no.
Mr. Bucshon?
Mr. BUCSHON. No.
The CLERK. Mr. Bucshon votes no.
Mr. Benishek?
Mr. BENISHEK. No.
The CLERK. Mr. Benishek votes no.
Ms. Johnson?
Ms. JOHNSON. Aye.
The CLERK. Ms. Johnson votes aye.
Mr. Costello?
Mr. COSTELLO. Aye.
The CLERK. Mr. Costello votes aye.
Ms. Woolsey?
Ms. WOOLSEY. Aye.
The CLERK. Ms. Woolsey votes aye.
Ms. Lofgren?
[No response.]
The CLERK. Mr. Wu?
Mr. WU. Aye.
The CLERK. Mr. Wu votes aye.
Mr. Miller?
Mr. MILLER. Aye.
The CLERK. Mr. Miller votes aye.
Mr. Lipinski?
Mr. LIPINSKI. Aye.
The CLERK. Mr. Lipinski votes aye.
Ms. Giffords?
[No response.]
The CLERK. Ms. Edwards?
Ms. EDWARDS. Aye.
The CLERK. Ms. Edwards votes aye.
Ms. Fudge?
[No response.]
The CLERK. Mr. Lujan?
Mr. LUJAN. Aye.
The CLERK. Mr. Lujan votes aye.
Mr. Tonko?
Mr. TONKO. Aye.
The CLERK. Mr. Tonko votes aye.
Mr. McNerney?
Mr. MCNERNEY. Aye.
The CLERK. Mr. McNerney votes aye.
Mr. Sarbanes?
Mr. SARBANES. Aye.
The CLERK. Mr. Sarbanes votes aye.
Ms. Sewell?
Ms. SEWELL. Aye.

The CLERK. Ms. Sewell votes aye.

Ms. Wilson?

Ms. WILSON. Aye.

The CLERK. Ms. Wilson votes aye.

Mr. Clarke?

Mr. CLARKE. Aye.

The CLERK. Mr. Clarke votes aye.

Chairman HALL. Are there other Members who wish to vote? Have all Members voted? Do any Members want to change their vote?

All right. The clerk will report the vote.

The CLERK. Mr. Chairman, 14 Members vote aye and 18 Members vote no.

Chairman HALL. All right. The amendment is not agreed to.

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 112th

DATE: July 28, 2011 AMENDMENT NO. 372 ROLL CALL NO. 2

Bill: H. R. 2484

SPONSOR of AMEND: Mr. Miller

Quorum –14 to vote –21 to report

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. HALL, *Chair* - *TX*		X		
2 Mr. SENSENBRENNER – *WI* **				
3 Mr. SMITH - *TX*		X		
4 Mr. ROHRABACHER - *CA*		X		
5 Mr. BARTLETT - *MD*		X		
6 Mr. LUCAS - *OK*		X		
7 Mrs. BIGGERT - *IL*		X		
8 Mr. AKIN - *MO*		X		
9 Mr. NEUGEBAUER - *TX*		X		
10 Mr. McCAUL - *TX*				
11 Mr. BROUN - *GA*		X		
12 Mrs. ADAMS - *FL*		X		
13 Mr. QUAYLE - *AZ*				
14 Mr. FLEISCHMANN - *TN*		X		
15 Mr. RIGELL - *VA*		X		
16 Mr. PALAZZO - *MS*		X		
17 Mr. BROOKS - *AL*				
18 Mr. HARRIS - *MD*		X		
19 Mr. HULTGREN - *IL*		X		
20 Mr. CRAVAACK - *MN*		X		
21 Mr. BUCSHON - *IN*		X		
22 Mr. BENISHEK - *MI*		X		
23 Vacancy				
1 Ms. JOHNSON, *Ranking* - *TX*	X			
2 Mr. COSTELLO - *IL*	X			
3 Ms. WOOLSEY - *CA*	X			
4 Ms. LOFGREN - *CA*				
5 Mr. WU - *OR*	X			
6 Mr. MILLER - *NC*	X			
7 Mr. LIPINSKI - *IL*	X			
8 Ms. GIFFORDS - *AZ*				
9 Ms. EDWARDS - *MD*	X			
10 Ms. FUDGE - *OH*				
11 Mr. LUJÁN - *NM*	X			
12 Mr. TONKO - *NY*	X			
13 Mr. McNERNEY - *CA*	X			
14 Mr. SARBANES - *MD*	X			
15 Ms. SEWELL - *AL*	X			
16 Ms. WILSON - *FL*	X			
17 Mr. CLARKE - *MI*	X			
TOTALS	14	18		

** Vice Chair

All right. The unfinished business of the Committee is to postpone roll call on the amendments offered by Mr. Miller. Miller Amendment 374 to the Harris Amendment in the Nature of a Substitute.

The clerk will call the roll.

The CLERK. Chairman Hall?

Chairman HALL. No.

The CLERK. Chairman Hall votes no.

Mr. Sensenbrenner?

[No response.]

The CLERK. Mr. Smith?

Mr. SMITH. No.

The CLERK. Mr. Smith votes no.

Mr. Rohrabacher?

Mr. ROHRABACHER. No.

The CLERK. Mr. Rohrabacher votes no.

Mr. Bartlett?

Mr. BARTLETT. No.

The CLERK. Mr. Bartlett votes no.

Mr. Lucas?

Mr. LUCAS. No.

The CLERK. Mr. Lucas votes no.

Mrs. Biggert?

Mrs. BIGGERT. No.

The CLERK. Mrs. Biggert votes no.

Mr. Akin?

Mr. AKIN. No.

The CLERK. Mr. Akin votes no.

Mr. Neugebauer?

Mr. NEUGEBAUER. No.

The CLERK. Mr. Neugebauer votes no.

Mr. McCaul?

[No response.]

The CLERK. Mr. Broun?

Dr. BROUN. No.

The CLERK. Mr. Broun votes no.

Mrs. Adams?

Mrs. ADAMS. No.

The CLERK. Mrs. Adams votes no.

Mr. Quayle?

[No response.]

The CLERK. Mr. Fleischmann?

Mr. FLEISCHMANN. No.

The CLERK. Mr. Fleischmann votes no.

Mr. Rigell?

Mr. RIGELL. No.

The CLERK. Mr. Rigell votes no.

Mr. Palazzo?

Mr. PALAZZO. No.

The CLERK. Mr. Palazzo votes no.

Mr. Brooks?

[No response.]

The CLERK. Mr. Harris?

Mr. HARRIS. No.

The CLERK. Mr. Harris votes no.
Mr. Hultgren?
Mr. HULTGREN. No.
The CLERK. Mr. Hultgren votes no.
Mr. Cravaack?
Mr. CRAVAACK. No.
The CLERK. Mr. Cravaack votes no.
Mr. Bucshon?
Mr. BUCSHON. No.
The CLERK. Mr. Bucshon votes no.
Mr. Benishek?
Mr. BENISHEK. No.
The CLERK. Mr. Benishek votes no.
Ms. Johnson?
Ms. JOHNSON. Aye.
The CLERK. Ms. Johnson votes aye.
Mr. Costello?
Mr. COSTELLO. Aye.
The CLERK. Mr. Costello votes aye.
Ms. Woolsey?
Ms. WOOLSEY. Aye.
The CLERK. Ms. Woolsey votes aye.
Ms. Lofgren?
[No response.]
The CLERK. Mr. Wu?
Mr. WU. Aye.
The CLERK. Mr. Wu votes aye.
Mr. Miller?
Mr. MILLER. Aye.
The CLERK. Mr. Miller votes aye.
Mr. Lipinski?
Mr. LIPINSKI. Aye.
The CLERK. Mr. Lipinski votes aye.
Ms. Giffords?
[No response.]
The CLERK. Ms. Edwards?
Ms. EDWARDS. Aye.
The CLERK. Ms. Edwards votes aye.
Ms. Fudge?
[No response.]
The CLERK. Mr. Lujan?
Mr. LUJAN. Aye.
The CLERK. Mr. Lujan votes aye.
Mr. Tonko?
Mr. TONKO. Aye.
The CLERK. Mr. Tonko votes aye.
Mr. McNerney?
Mr. MCNERNEY. Aye.
The CLERK. Mr. McNerney votes aye.
Mr. Sarbanes?
Mr. SARBANES. No.
The CLERK. Mr. Sarbanes votes no.
Ms. Sewell?
Ms. SEWELL. Aye.

The CLERK. Ms. Sewell votes aye.

Ms. Wilson?

Ms. WILSON. Aye.

The CLERK. Ms. Wilson votes aye.

Mr. Clarke?

Mr. CLARKE. Aye.

The CLERK. Mr. Clarke votes aye.

Chairman HALL. The clerk will report the vote.

The CLERK. Mr. Chairman, 13 Members vote aye and 19 Members vote no.

Chairman HALL. All right. The amendment is not agreed to.

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 112th

DATE: July 28, 2011 AMENDMENT NO. 374 ROLL CALL NO. 3

Bill: H. R. 2484

SPONSOR of AMEND: Mr. Miller

Quorum –14 to vote –21 to report

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. HALL, *Chair* - *TX*		X		
2 Mr. SENSENBRENNER – *WI* **				
3 Mr. SMITH - *TX*		X		
4 Mr. ROHRABACHER - *CA*		X		
5 Mr. BARTLETT - *MD*		X		
6 Mr. LUCAS - *OK*		X		
7 Mrs. BIGGERT - *IL*		X		
8 Mr. AKIN - *MO*		X		
9 Mr. NEUGEBAUER - *TX*		X		
10 Mr. McCAUL - *TX*				
11 Mr. BROUN - *GA*		X		
12 Mrs. ADAMS - *FL*		X		
13 Mr. QUAYLE - *AZ*				
14 Mr. FLEISCHMANN - *TN*		X		
15 Mr. RIGELL - *VA*		X		
16 Mr. PALAZZO - *MS*		X		
17 Mr. BROOKS - *AL*				
18 Mr. HARRIS - *MD*		X		
19 Mr. HULTGREN - *IL*		X		
20 Mr. CRAVAACK - *MN*		X		
21 Mr. BUCSHON - *IN*		X		
22 Mr. BENISHEK - *MI*		X		
23 Vacancy				
1 Ms. JOHNSON, *Ranking* - *TX*	X			
2 Mr. COSTELLO - *IL*	X			
3 Ms. WOOLSEY - *CA*	X			
4 Ms. LOFGREN - *CA*				
5 Mr. WU - *OR*	X			
6 Mr. MILLER - *NC*	X			
7 Mr. LIPINSKI - *IL*	X			
8 Ms. GIFFORDS - *AZ*				
9 Ms. EDWARDS - *MD*	X			
10 Ms. FUDGE - *OH*				
11 Mr. LUJÁN - *NM*	X			
12 Mr. TONKO - *NY*	X			
13 Mr. McNERNEY - *CA*	X			
14 Mr. SARBANES - *MD*		X		
15 Ms. SEWELL - *AL*	X			
16 Ms. WILSON - *FL*	X			
17 Mr. CLARKE - *MI*	X			
TOTALS	13	19		

** Vice Chair

All right. The questions on agreeing to the Amendment to the Nature of a Substitute offered by Dr. Harris as amended, all in favor say aye. Those opposed say no. The ayes have it and the Amendment in the Nature of a Substitute, as amended, is agreed to.

Who seeks recognition? Mr. Miller?

Mr. MILLER. Mr. Chairman, I request a recorded vote.

Chairman HALL. All right. Roll call vote has been requested. The clerk will call the roll.

The CLERK. Chairman Hall?

Chairman HALL. Aye.

The CLERK. Chairman Hall votes aye.

Mr. Sensenbrenner?

[No response.]

The CLERK. Mr. Smith?

Mr. SMITH. Aye.

The CLERK. Mr. Smith votes aye.

Mr. Rohrabacher?

Mr. ROHRABACHER. Aye.

The CLERK. Mr. Rohrabacher votes aye.

Mr. Bartlett?

Mr. BARTLETT. Aye.

The CLERK. Mr. Bartlett votes aye.

Mr. Lucas?

Mr. LUCAS. Aye.

The CLERK. Mr. Lucas votes aye.

Mrs. Biggert?

Mrs. BIGGERT. Aye.

The CLERK. Mrs. Biggert votes aye.

Mr. Akin?

Mr. AKIN. Aye.

The CLERK. Mr. Akin votes aye.

Mr. Neugebauer?

Mr. NEUGEBAUER. Aye.

The CLERK. Mr. Neugebauer votes aye.

Mr. McCaul?

[No response.]

The CLERK. Mr. Broun?

Dr. BROUN. Aye.

The CLERK. Mr. Broun votes aye.

Mrs. Adams?

Mrs. ADAMS. Aye.

The CLERK. Mrs. Adams votes aye.

Mr. Quayle?

Mr. QUAYLE. Aye.

The CLERK. Mr. Quayle votes aye.

Mr. Fleischmann?

Mr. FLEISCHMANN. Aye.

The CLERK. Mr. Fleischmann votes aye.

Mr. Rigell?

Mr. RIGELL. Aye.

The CLERK. Mr. Rigell votes aye.

Mr. Palazzo?

Mr. PALAZZO. Aye.

The CLERK. Mr. Palazzo votes aye.
Mr. Brooks?
Mr. BROOKS. Aye.
The CLERK. Mr. Brooks votes aye.
Mr. Harris?
Mr. HARRIS. Aye.
The CLERK. Mr. Harris votes aye.
Mr. Hultgren?
Mr. HULTGREN. Aye.
The CLERK. Mr. Hultgren votes aye.
Mr. Cravaack?
Mr. CRAVAACK. Aye.
The CLERK. Mr. Cravaack votes aye.
Mr. Bucshon?
Mr. BUCSHON. Aye.
The CLERK. Mr. Bucshon votes aye.
Mr. Benishek?
Mr. BENISHEK. Aye.
The CLERK. Mr. Benishek votes aye.
Ms. Johnson?
Ms. JOHNSON. No.
The CLERK. Ms. Johnson votes no.
Mr. Costello?
Mr. COSTELLO. No.
The CLERK. Mr. Costello votes no.
Ms. Woolsey?
Ms. WOOLSEY. No.
The CLERK. Ms. Woolsey votes no.
Ms. Lofgren?
Ms. LOFGREN. No.
The CLERK. Ms. Lofgren votes no.
Mr. Wu?
Mr. WU. No.
The CLERK. Mr. Wu votes no.
Mr. Miller?
Mr. MILLER. No.
The CLERK. Mr. Miller votes no.
Mr. Lipinski?
Mr. LIPINSKI. No.
The CLERK. Mr. Lipinski votes no.
Ms. Giffords?
[No response.]
The CLERK. Ms. Edwards?
Ms. EDWARDS. No.
The CLERK. Ms. Edwards votes no.
Ms. Fudge?
[No response.]
The CLERK. Mr. Lujan?
Mr. LUJAN. No.
The CLERK. Mr. Lujan votes no.
Mr. Tonko?
Mr. TONKO. No.
The CLERK. Mr. Tonko votes no.
Mr. McNerney?

Mr. MCNERNEY. No.
The CLERK. Mr. McNerney votes no.
Mr. Sarbanes?
Mr. SARBANES. No.
The CLERK. Mr. Sarbanes votes no.
Ms. Sewell?
Ms. SEWELL. No.
The CLERK. Ms. Sewell votes no.
Ms. Wilson?
Ms. WILSON. No.
The CLERK. Ms. Wilson votes no.
Mr. Clarke?
Mr. CLARKE. No.
The CLERK. Mr. Clarke votes no.
Chairman HALL. Are there other Members who wish to vote? Are there other Members who wish to change their vote? All right.
The clerk will report the vote.
The CLERK. Mr. Chairman, 20 Members vote aye and 15 Members vote no.
Chairman HALL. All right. The amendment is agreed to.

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 112th

DATE: July 28, 2011 AMENDMENT NO. 371 ROLL CALL NO. 4

Bill: H. R. 2484

SPONSOR of AMEND: Mr. Harris

Quorum –14 to vote –21 to report

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. HALL, *Chair* - *TX*	X			
2 Mr. SENSENBRENNER – *WI* **				
3 Mr. SMITH - *TX*	X			
4 Mr. ROHRABACHER - *CA*	X			
5 Mr. BARTLETT - *MD*	X			
6 Mr. LUCAS - *OK*	X			
7 Mrs. BIGGERT - *IL*	X			
8 Mr. AKIN - *MO*	X			
9 Mr. NEUGEBAUER - *TX*	X			
10 Mr. McCAUL - *TX*				
11 Mr. BROUN - *GA*	X			
12 Mrs. ADAMS - *FL*	X			
13 Mr. QUAYLE - *AZ*	X			
14 Mr. FLEISCHMANN - *TN*	X			
15 Mr. RIGELL - *VA*	X			
16 Mr. PALAZZO - *MS*	X			
17 Mr. BROOKS - *AL*	X			
18 Mr. HARRIS - *MD*	X			
19 Mr. HULTGREN - *IL*	X			
20 Mr. CRAVAACK - *MN*	X			
21 Mr. BUCSHON - *IN*	X			
22 Mr. BENISHEK - *MI*	X			
23 Vacancy				
1 Ms. JOHNSON, *Ranking* - *TX*		X		
2 Mr. COSTELLO - *IL*		X		
3 Ms. WOOLSEY - *CA*		X		
4 Ms. LOFGREN - *CA*		X		
5 Mr. WU - *OR*		X		
6 Mr. MILLER - *NC*		X		
7 Mr. LIPINSKI - *IL*		X		
8 Ms. GIFFORDS - *AZ*				
9 Ms. EDWARDS - *MD*		X		
10 Ms. FUDGE - *OH*				
11 Mr. LUJÁN - *NM*		X		
12 Mr. TONKO - *NY*		X		
13 Mr. McNERNEY - *CA*		X		
14 Mr. SARBANES - *MD*		X		
15 Ms. SEWELL - *AL*		X		
16 Ms. WILSON - *FL*		X		
17 Mr. CLARKE - *MI*		X		
TOTALS	20	15		

** Vice Chair

The question now occurs on adopting the bill, H.R. 2484 as amended. All those in favor say aye. All those opposed say no.

In the opinion of the Chair, the ayes have it and the bill as amended is agreed to.

Who seeks recognition?

Ms. JOHNSON. I do.

Chairman HALL. Mrs. Johnson seeks recognition. For what purpose, Ms. Johnson?

Ms. JOHNSON. Request a record vote.

Chairman HALL. All right. A record vote has been requested. Clerk will call the roll.

The CLERK. Chairman Hall?

Chairman HALL. Aye.

The CLERK. Chairman Hall votes aye.

Mr. Sensenbrenner?

[No response.]

The CLERK. Mr. Smith?

Mr. SMITH. Aye.

The CLERK. Mr. Smith votes aye.

Mr. Rohrabacher?

Mr. ROHRABACHER. Aye.

The CLERK. Mr. Rohrabacher votes aye.

Mr. Bartlett?

Mr. BARTLETT. Aye.

The CLERK. Mr. Bartlett votes aye.

Mr. Lucas?

Mr. LUCAS. Aye.

The CLERK. Mr. Lucas votes aye.

Mrs. Biggert?

Mrs. BIGGERT. Aye.

The CLERK. Mrs. Biggert votes aye.

Mr. Akin?

Mr. AKIN. Aye.

The CLERK. Mr. Akin votes aye.

Mr. Neugebauer?

Mr. NEUGEBAUER. Aye.

The CLERK. Mr. Neugebauer votes aye.

Mr. McCaul?

[No response.]

The CLERK. Mr. Broun?

Dr. BROUN. Aye.

The CLERK. Mr. Broun votes aye.

Mrs. Adams?

Mrs. ADAMS. Aye.

The CLERK. Mrs. Adams votes aye.

Mr. Quayle?

Mr. QUAYLE. Aye.

The CLERK. Mr. Quayle votes aye.

Mr. Fleischmann?

Mr. FLEISCHMANN. Aye.

The CLERK. Mr. Fleischmann votes aye.

Mr. Rigell?

Mr. RIGELL. Aye.

The CLERK. Mr. Rigell votes aye.

Mr. Palazzo?
Mr. PALAZZO. Aye.
The CLERK. Mr. Palazzo votes aye.
Mr. Brooks?
Mr. BROOKS. Aye.
The CLERK. Mr. Brooks votes aye.
Mr. Harris?
Mr. HARRIS. Aye.
The CLERK. Mr. Harris votes aye.
Mr. Hultgren?
Mr. HULTGREN. Aye.
The CLERK. Mr. Hultgren votes aye.
Mr. Cravaack?
Mr. CRAVAACK. Aye.
The CLERK. Mr. Cravaack votes aye.
Mr. Bucshon?
Mr. BUCSHON. Aye.
The CLERK. Mr. Bucshon votes aye.
Mr. Benishek?
Mr. BENISHEK. Aye.
The CLERK. Mr. Benishek votes aye.
Ms. Johnson?
Ms. JOHNSON. No.
The CLERK. Ms. Johnson votes no.
Mr. Costello?
Mr. COSTELLO. No.
The CLERK. Mr. Costello votes no.
Ms. Woolsey?
Ms. WOOLSEY. No.
The CLERK. Ms. Woolsey votes no.
Ms. Lofgren?
Ms. LOFGREN. No.
The CLERK. Ms. Lofgren votes no.
Mr. Wu?
Mr. WU. No.
The CLERK. Mr. Wu votes no.
Mr. Miller?
Mr. MILLER. No.
The CLERK. Mr. Miller votes no.
Mr. Lipinski?
Mr. LIPINSKI. No.
The CLERK. Mr. Lipinski votes no.
Ms. Giffords?
[No response.]
The CLERK. Ms. Edwards?
Ms. EDWARDS. No.
The CLERK. Ms. Edwards votes no.
Ms. Fudge?
[No response.]
The CLERK. Mr. Lujan?
Mr. LUJAN. No.
The CLERK. Mr. Lujan votes no.
Mr. Tonko?
Mr. TONKO. No.

The CLERK. Mr. Tonko votes no.
Mr. McNerney?
Mr. MCNERNEY. No.
The CLERK. Mr. McNerney votes no.
Mr. Sarbanes?
Mr. SARBANES. No.
The CLERK. Mr. Sarbanes votes no.
Ms. Sewell?
Ms. SEWELL. No.
The CLERK. Ms. Sewell votes no.
Ms. Wilson?
Ms. WILSON. No.
The CLERK. Ms. Wilson votes no.
Mr. Clarke?
Mr. CLARKE. No.
The CLERK. Mr. Clarke votes no.

Chairman HALL. Are there other Members who wish to vote? Are there any Members who want to change their vote? All right.

The clerk will call—report the vote.

The CLERK. Mr. Chairman, 20 Members vote aye and 15 Members vote no.

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY - 112th

DATE: July 28, 2011 AMENDMENT NO. ROLL CALL NO. 5

Bill: **H. R. 2484**

SPONSOR of AMEND: FINAL VOTE

Quorum –14 to vote –21 to report

MEMBER	AYE	NO	PRESENT	NOT VOTING
1 Mr. HALL, *Chair* - *TX*	X			
2 Mr. SENSENBRENNER – *WI* **				
3 Mr. SMITH - *TX*	X			
4 Mr. ROHRABACHER - *CA*	X			
5 Mr. BARTLETT - *MD*	X			
6 Mr. LUCAS - *OK*	X			
7 Mrs. BIGGERT - *IL*	X			
8 Mr. AKIN - *MO*	X			
9 Mr. NEUGEBAUER - *TX*	X			
10 Mr. McCAUL - *TX*				
11 Mr. BROUN - *GA*	X			
12 Mrs. ADAMS - *FL*	X			
13 Mr. QUAYLE - *AZ*	X			
14 Mr. FLEISCHMANN - *TN*	X			
15 Mr. RIGELL - *VA*	X			
16 Mr. PALAZZO - *MS*	X			
17 Mr. BROOKS - *AL*	X			
18 Mr. HARRIS - *MD*	X			
19 Mr. HULTGREN - *IL*	X			
20 Mr. CRAVAACK - *MN*	X			
21 Mr. BUCSHON - *IN*	X			
22 Mr. BENISHEK - *MI*	X			
23 Vacancy				
1 Ms. JOHNSON, *Ranking* - *TX*		X		
2 Mr. COSTELLO - *IL*		X		
3 Ms. WOOLSEY - *CA*		X		
4 Ms. LOFGREN - *CA*		X		
5 Mr. WU - *OR*		X		
6 Mr. MILLER - *NC*		X		
7 Mr. LIPINSKI - *IL*		X		
8 Ms. GIFFORDS - *AZ*				
9 Ms. EDWARDS - *MD*		X		
10 Ms. FUDGE - *OH*				
11 Mr. LUJÁN - *NM*		X		
12 Mr. TONKO - *NY*		X		
13 Mr. McNERNEY - *CA*		X		
14 Mr. SARBANES - *MD*		X		
15 Ms. SEWELL - *AL*		X		
16 Ms. WILSON - *FL*		X		
17 Mr. CLARKE - *MI*		X		
TOTALS	20	15		

** Vice Chair

Ms. LOFGREN. Mr. Chairman?

Chairman HALL. On that vote there were 20 ayes and 15 noes. The bill is agreed to.

Who seeks recognition?

Ms. LOFGREN. Mr. Chairman?

Chairman HALL. Yes?

Ms. LOFGREN. I would—I was detained and had I been present I would have voted aye on Ms. Edwards' and both of Mr. Miller's amendments, and I would ask that the record be noted to reflect that. And I thank the gentleman for his courtesy.

Chairman HALL. It will be noted. Is there objection? Chair hears none.

I now recognize the gentleman from Maryland, Dr. Harris, to offer a motion.

Mr. HARRIS. Mr. Chairman, I move that the Committee favorably report H.R. 2484 as amended to the House with the recommendation that the bill do pass. Furthermore, I move that the staff be instructed to repair the legislative report and make necessary technical and conforming changes and that the Chairman take all necessary steps to bring the bill before the House for consideration.

Chairman HALL. Questions on the motion to report the bill favorably, those in favor will say aye. Those opposed say no.

Ayes have it. The bill is favorably reported. Without objection, the Motion to Reconsider is laid on the table.

All right. Members may have 2 subsequent calendar days in which to submit supplemental minority or additional views on the major. This concludes our full Committee markup. Chairman now declares the full Committee adjourned.

[Whereupon, at 1:27 p.m., the Committee was adjourned.]

Appendix I:

H.R. 2484, Section-by-Section Analysis, Amendments, Amendment Roster

H.R. 2484, AS AMENDED BY THE SUBCOMMITTEE ON ENERGY AND ENVIRONMENT ON JULY 14, 2011

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the "Harmful Algal Blooms
3 and Hypoxia Research and Control Amendments Act of
4 2011".

5 **SEC. 2. AMENDMENT OF HARMFUL ALGAL BLOOM AND HY-**
6 **POXIA RESEARCH AND CONTROL ACT OF**
7 **1998.**

8 Except as otherwise expressly provided, whenever in
9 this Act an amendment or repeal is expressed in terms
10 of an amendment to, or repeal of, a section or other provi-
11 sion, the reference shall be considered to be made to a
12 section or other provision of the Harmful Algal Bloom and
13 Hypoxia Research and Control Act of 1998 (16 U.S.C.
14 1451 note).

15 **SEC. 3. DEFINITIONS.**

16 Section 602 is amended to read as follows:

17 **"SEC. 602. DEFINITIONS.**

18 "In this title:

"(1) ADMINISTRATOR.—The term 'Administrator' means the Administrator of the Environmental Protection Agency.

"(2) NOAA.—The term 'NOAA' means the National Oceanic and Atmospheric Administration.

"(3) PLAN.—The term 'Plan' means the comprehensive research plan and action strategy under section 605.

"(4) PROGRAM.—The term 'Program' means the National Harmful Algal Bloom and Hypoxia Program established under section 604(a).

"(5) STATE.—The term 'State' means each of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the United States Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, any other territory or possession of the United States, and any Indian tribe.

"(6) TASK FORCE.—The term 'Task Force' means the Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia established under section 603(a)(1).

"(7) UNDER SECRETARY.—The term 'Under Secretary' means the Under Secretary of Commerce for Oceans and Atmosphere.".

1 **SEC. 4. INTER-AGENCY TASK FORCE.**

2 Section 603(a) is amended to read as follows:

3 "(a) INTER-AGENCY TASK FORCE.—

4 "(1) ESTABLISHMENT.—The President,
5 through the Committee on Environment and Natural
6 Resources of the National Science and Technology
7 Council, shall establish an Inter-Agency Task Force
8 on Harmful Algal Blooms and Hypoxia.

9 "(2) REPRESENTATION.—The Task Force shall
10 consist of representatives from the following:

11 "(A) The Department of Commerce.

12 "(B) The Environmental Protection Agen-
13 cy.

14 "(C) The Department of Agriculture.

15 "(D) The Department of the Interior.

16 "(E) The Department of the Navy.

17 "(F) The Department of Health and
18 Human Services.

19 "(G) The National Science Foundation.

20 "(H) The National Aeronautics and Space
21 Administration.

22 "(I) The Food and Drug Administration.

23 "(J) The Office of Science and Technology
24 Policy.

25 "(K) The Council on Environmental Qual-
26 ity.

"(L) Such other Federal agencies as the President considers appropriate.

"(3) CHAIRPERSON.—The Under Secretary from the Department of Commerce shall serve as the Chairperson of the Task Force.

"(4) REQUIRED MEETINGS.—

"(A) IN GENERAL.—The Task Force shall meet, or otherwise communicate, to coordinate activities within each agency represented on the Task Force in order to fulfill the program requirements in section 604(b).

"(B) FREQUENCY.—The Task Force shall meet at least once per year.

"(5) BUDGET COORDINATION.—The Task Force shall—

"(A) coordinate in the development of individual agency budgets for the activities described in section 604 that will ensure an appropriate balance among the research and action priorities; and

"(B) submit such budgets to the Director of the Office of Management and Budget at the time designated by the Director for agencies to submit annual budgets.".

SEC. 5. NATIONAL HARMFUL ALGAL BLOOM AND HYPOXIA PROGRAM.

The Act is amended—

(1) by redesignating sections 605 and 606 as sections 608 and 609, respectively;

(2) by redesignating section 604 as section 606; and

(3) by inserting after section 603 the following:

"SEC. 604. NATIONAL HARMFUL ALGAL BLOOM AND HYPOXIA PROGRAM.

"(a) IN GENERAL.—Except as provided in subsection (d), the Under Secretary, through the Task Force, shall maintain a National Harmful Algal Bloom and Hypoxia Program in accordance with authorities under section 603 pursuant to this section.

"(b) DUTIES.—The Under Secretary, through the Program, shall coordinate the efforts of the Task Force to—

"(1) develop and promote a national strategy to understand, detect, monitor, predict, control, mitigate, and respond to marine and freshwater harmful algal blooms and hypoxia events;

"(2) integrate 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 ma-

1 rine and freshwater harmful algal blooms and hy-
2 poxia;
3 "(3) assist and coordinate, where appropriate,
4 with State, tribal, and local government agencies,
5 programs, and regional efforts that address marine
6 and freshwater harmful algal blooms and hypoxia,
7 including the development and implementation of ap-
8 propriate response plans, strategies, and tools;
9 "(4) identify additional research, development,
10 and demonstration needs and priorities relating to
11 understanding, detection, monitoring, prediction,
12 prevention, control, mitigation, and response to ma-
13 rine and freshwater harmful algal blooms and hy-
14 poxia;
15 "(5) ensure the development and use of meth-
16 ods and technologies to protect the ecosystems af-
17 fected by marine and freshwater harmful algal
18 blooms and hypoxia;
19 "(6) encourage the appropriate exchange of re-
20 search information with other countries in order to
21 better mitigate, control, and respond to marine and
22 freshwater harmful algal blooms;
23 "(7) coordinate existing education programs to
24 improve public understanding and awareness of the

1 causes, impacts, and mitigation efforts for marine
2 and freshwater harmful algal blooms and hypoxia;
3 "(8) provide resources to assist in the training
4 of State, tribal, and local water and coastal resource
5 managers in the methods and technologies for de-
6 tecting, monitoring, controlling, mitigating, and re-
7 sponding to the effects of marine and freshwater
8 harmful algal blooms and hypoxia events;
9 "(9) oversee the development, review, and peri-
10 odic updating of the Plan; and
11 "(10) administer peer-reviewed, merit-based,
12 competitive grant funding to support—
13 "(A) the projects maintained and estab-
14 lished by the Program; and
15 "(B) the research and management needs
16 and priorities identified in the Plan.
17 "(c) COOPERATIVE EFFORTS.—The Under Secretary
18 shall work cooperatively and avoid duplication of efforts
19 with other offices, centers, and programs within NOAA
20 and other agencies represented on the Task Force, States,
21 tribes, and nongovernmental organizations concerned with
22 marine and freshwater aquatic issues related to harmful
23 algal blooms and hypoxia.
24 "(d) FRESHWATER PROGRAM.—With respect to the
25 freshwater aspects of the Program, the Administrator and

1 the Under Secretary, through the Task Force, shall carry
2 out the duties otherwise assigned to the Under Secretary
3 under this section, excluding the activities described in
4 subsection (e). The Administrator's participation under
5 this subsection shall include—
6 "(1) research on the ecology of freshwater
7 harmful algal blooms;
8 "(2) monitoring of and event response to fresh-
9 water harmful algal blooms in lakes, rivers, estu-
10 aries, and reservoirs; and
11 "(3) mitigation and control of freshwater harm-
12 ful algal blooms.
13 "(c) NOAA ACTIVITIES.—As part of the program
14 under this section, the Under Secretary shall—
15 "(1) maintain existing peer-reviewed competi-
16 tive grant programs at NOAA relating to marine
17 and freshwater harmful algal blooms and hypoxia;
18 "(2) conduct marine and freshwater harmful
19 algal bloom and hypoxia event response activities;
20 and
21 "(3) ensure communication and coordination
22 among Federal agencies carrying out marine and
23 freshwater harmful algal bloom and hypoxia activi-
24 ties and increase the availability to appropriate pub-
25 lic and private entities of—

1 "(A) analytical facilities and technologies;
2 "(B) operational forecasts; and
3 "(C) reference and research materials.
4 "(f) INTEGRATED COASTAL AND OCEAN OBSERVA-
5 TION SYSTEM.—All monitoring and observation data col-
6 lected under this Act shall be collected in compliance with
7 all data standards and protocols developed pursuant to the
8 National Integrated Coastal and Ocean Observation Sys-
9 tem Act of 2009 (33 U.S.C. 3601 et seq.), and such data
10 shall be made available through the system established
11 under that Act.
12 "(g) TECHNOLOGY RESEARCH, DEVELOPMENT, AND
13 DEMONSTRATION.—
14 "(1) IN GENERAL.—As part of the duties de-
15 scribed in subsection (b), the Under Secretary and
16 the Administrator, through the Task Force, shall
17 maintain a focus on technology research and devel-
18 opment for each of the categories of marine harmful
19 algal blooms, freshwater harmful algal blooms, and
20 hypoxia in the following areas:
21 "(A) Monitoring.
22 "(B) Prediction.
23 "(C) Prevention.
24 "(D) Control.
25 "(E) Mitigation.

1 "(F) Response to events, including remedi-
2 ation.
3 "(2) ENUMERATION.—As part of the report re-
4 quired under subsection (i), the Under Secretary, in
5 coordination with the Administrator, shall enu-
6 merate the technology research and development
7 conducted for each of the areas identified in para-
8 graph (1).
9 "(3) PROTOCOL.—The Under Secretary, in co-
10 ordination with the Administrator, shall develop a
11 protocol for—
12 "(A) assessing the stage of technology de-
13 velopment that is ready to move from lab test-
14 ing to field testing;
15 "(B) coordinating local, State, and Federal
16 authorities to facilitate measures necessary to
17 conduct field tests in a timely manner; and
18 "(C) working with local and State entities,
19 programs, and interested stakeholders to con-
20 duct outreach and education on technology field
21 testing projects.
22 "(h) INFORMATION CLEARINGHOUSE.—
23 "(1) ELECTRONIC INFORMATION.—Using the
24 authority under section 603(i)(2)(B), the Under Sec-
25 retary, in coordination with the Administrator, shall

1 expand the existing electronic clearinghouse to pro-
2 vide information about marine and freshwater harm-
3 ful algal blooms and hypoxia, including—
4 "(A) the Federal agencies involved in re-
5 search and development on understanding, de-
6 tection, monitoring, prediction, prevention, con-
7 trol, mitigation, and response activities;
8 "(B) tools available to predict and model
9 events; and
10 "(C) current or developing technologies for
11 detection, monitoring, prediction, prevention,
12 control, mitigation, and response, including re-
13 mediation.
14 "(2) TOXIN STANDARDS.—The Under Sec-
15 retary, in coordination with the Administrator,
16 shall—
17 "(A) develop a mechanism to provide a re-
18 liable and cost-effective supply of toxin stand-
19 ards for comparative research; and
20 "(B) notify the Congress of such mecha-
21 nism as part of the report required under sub-
22 section (i).
23 "(i) REPORT.—Not later than 1 year after the sub-
24 mission of the Plan, the Under Secretary, in coordination

1 with the Administrator, shall prepare and transmit to the
2 Congress a report that describes—
3 "(1) the activities carried out under the Pro-
4 gram and the Plan and the budget related to such
5 activities;
6 "(2) the progress made on implementing the ac-
7 tion strategy; and
8 "(3) the need to revise or terminate activities or
9 projects under the Program.".

10 **SEC. 6. COMPREHENSIVE RESEARCH PLAN AND ACTION**
11 **STRATEGY.**

12 The Act is amended by inserting after section 604,
13 as added by section 5(3) of this Act, the following:

14 **"SEC. 605. COMPREHENSIVE RESEARCH PLAN AND ACTION**
15 **STRATEGY.**

16 "(a) IN GENERAL.—Not later than 2 years after the
17 date of enactment of the Harmful Algal Blooms and Hy-
18 poxia Research and Control Amendments Act of 2011, the
19 Under Secretary, through the Task Force, shall transmit
20 to the Congress a comprehensive research plan and action
21 strategy to address marine and freshwater harmful algal
22 blooms and hypoxia that identifies—
23 "(1) the specific activities to be carried out by
24 the Program and the timeline for carrying out such
25 activities;

1 "(2) the roles and responsibilities of each Fed-
2 eral agency in the Task Force in carrying out Pro-
3 gram activities; and
4 "(3) appropriate regions and subregions requir-
5 ing specific research and activities to address local,
6 State, and regional harmful algal blooms and hy-
7 poxia.
8 "(b) REGIONAL FOCUS.—The regional and sub-
9 regional parts of the Plan shall identify—
10 "(1) regional priorities for ecological, economic,
11 and social research on issues related to the impacts
12 of harmful algal blooms and hypoxia;
13 "(2) research, development, and demonstration
14 activities needed to develop and advance technologies
15 and techniques for minimizing the occurrence of
16 harmful algal blooms and hypoxia and improving ca-
17 pabilities to detect, predict, monitor, control, miti-
18 gate, respond to, and remediate harmful algal
19 blooms and hypoxia;
20 "(3) ways to reduce the duration and intensity
21 of harmful algal blooms and hypoxia, including de-
22 ployment of response technologies in a timely man-
23 ner;

1 "(4) research and methods to address human
2 health dimensions of harmful algal blooms and hy-
3 poxia;
4 "(5) mechanisms, including the potential costs
5 and benefits of those mechanisms, to protect eco-
6 systems that may be or have been affected by harm-
7 ful algal blooms and hypoxia events;
8 "(6) mechanisms by which data, information,
9 and products may be transferred between the Pro-
10 gram and State, tribal, and local governments and
11 relevant research entities;
12 "(7) communication and information dissemina-
13 tion methods that State, tribal, and local govern-
14 ments may undertake to educate and inform the
15 public concerning harmful algal blooms and hypoxia;
16 and
17 "(8) the roles that Federal agencies may have
18 to assist in the implementation of the Plan.
19 "(c) UTILIZING AVAILABLE STUDIES AND INFORMA-
20 TION.—In developing the Plan, the Under Secretary shall
21 utilize existing research, assessments, reports, and pro-
22 gram activities, including—
23 "(1) those carried out pursuant to existing law;
24 and

1 "(2) other relevant peer-reviewed and published
2 sources.
3 "(d) DEVELOPMENT OF THE PLAN.—In developing
4 the Plan, the Under Secretary shall, as appropriate—
5 "(1) coordinate with—
6 "(A) State coastal management and plan-
7 ning officials;
8 "(B) tribal resource management officials;
9 and
10 "(C) water management and watershed of-
11 ficials from both coastal States and noncoastal
12 States with water sources that drain into water
13 bodies affected by harmful algal blooms and hy-
14 poxia; and
15 "(2) consult with—
16 "(A) public health officials;
17 "(B) emergency management officials;
18 "(C) science and technology development
19 institutions;
20 "(D) economists;
21 "(E) industries and businesses affected by
22 marine and freshwater harmful algal blooms
23 and hypoxia;

"(F) scientists with expertise concerning harmful algal blooms or hypoxia from academic or research institutions; and

"(G) other stakeholders.

"(e) FEDERAL REGISTER.—The Under Secretary shall publish the Plan in the Federal Register.

"(f) PERIODIC REVISION.—The Under Secretary, in coordination and consultation with the individuals and entities identified in subsection (d), shall periodically review and revise the Plan prepared under this section, as necessary.".

SEC. 7. NORTHERN GULF OF MEXICO HYPOXIA.

Section 606, as redesignated by section 5(2) of this Act, is amended by adding at the end the following:

"(c) REQUIRED UPDATE.—

"(1) IN GENERAL.—Prior to the implementation of any plan developed under this section, including the Gulf Hypoxia Action Plan 2008, the Administrator, through the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, shall complete and submit to the Congress and the President an updated assessment and a revised action plan based on the updated assessment.

"(2) REQUIREMENTS.—The updated assessment shall take into account the following:

1 "(A) The role of nutrient influx in the con-
2 text of water column stratification, seasonal
3 flows and conditions, and wind and current dy-
4 namics in the Gulf of Mexico.
5 "(B) The contribution of the topography of
6 the Gulf of Mexico in the effects of the charac-
7 teristics described in subparagraph (A) on the
8 hypoxic zone.
9 "(C) The frequency and availability of
10 monitoring to measure the size of the hypoxic
11 zone.
12 "(D) The potential of hypoxia hot-spot for-
13 mation within the Gulf of Mexico and possible
14 causes of such hot-spots.
15 "(E) The contribution of wetland loss to
16 hypoxia events in the Gulf of Mexico.
17 "(F) The actual effect of hypoxia on the
18 ecosystem of the Gulf of Mexico and the bene-
19 fits resulting from a reduced hypoxic zone size.
20 "(G) A scientifically generated, peer-re-
21 viewed goal for the size of the hypoxic zone in
22 the Gulf of Mexico.
23 "(3) RESEARCH STRATEGY.—The updated plan
24 shall include a research strategy—

1 "(A) to enhance understanding of the con-
2 tribution of topography, water column strati-
3 fication, seasonal flows and conditions, and
4 wind and current dynamics on the size of the
5 hypoxic zone;
6 "(B) to develop models able to—
7 "(i) simulate different shelf regions
8 and the fundamental processes that act in
9 each shelf region;
10 "(ii) differentiate between the sepa-
11 rate effects of stratification and nutrient
12 loading in the formation of hypoxia; and
13 "(iii) be informed by realistic three-di-
14 mensional hydrodynamic and biogeo-
15 chemical models;
16 "(C) that determines the appropriate
17 amount of monitoring and measuring necessary
18 to get a scientifically robust accounting on the
19 size of the Gulf of Mexico hypoxic zone; and
20 "(D) that examines several potential solu-
21 tions based on information provided by the up-
22 dated assessment in paragraph (1).".

1 **SEC. 8. CHESAPEAKE BAY DEAD ZONE.**

2 (a) IN GENERAL.—The Act is amended by inserting
3 after section 606, as redesignated by section 5(2) of this
4 Act, the following:

5 **"SEC. 607. CHESAPEAKE BAY DEAD ZONE.**

6 "(a) ASSESSMENT PLAN.—Not later than 12 months
7 after the date of enactment of the Harmful Algal Blooms
8 and Hypoxia Research and Control Amendments Act of
9 2011, the Task Force, in accordance with the authority
10 under section 603, shall complete and submit to the Con-
11 gress and the President an integrated assessment of hy-
12 poxia in the Chesapeake Bay that examines the status of
13 and gaps within current research, monitoring, prevention,
14 response, and control activities by—

15 "(1) Federal agencies;

16 "(2) State agencies;

17 "(3) regional research consortia;

18 "(4) academia;

19 "(5) private industry; and

20 "(6) nongovernmental organizations.

21 "(b) RESEARCH PLAN.—

22 "(1) IN GENERAL.—Not later than 2 years
23 after the date of enactment of the Harmful Algal
24 Blooms and Hypoxia Research and Control Amend-
25 ments Act of 2011, the Task Force shall develop
26 and submit to the Congress a plan, based on the in-

1 tegrated assessment submitted under subsection (a),
2 for reducing, mitigating, and controlling hypoxia in
3 the Chesapeake Bay.
4 "(2) REQUIREMENTS.—In developing such
5 plan, the Task Force shall—
6 "(A) consult with State and local govern-
7 ments and representatives from academic, agri-
8 cultural, industry, and other stakeholder
9 groups;
10 "(B) include incentive-based partnership
11 approaches;
12 "(C) include an economic cost-benefit anal-
13 ysis of the measures for reducing, mitigating,
14 and controlling hypoxia events;
15 "(D) utilize existing research, assessments,
16 reports, and program activities;
17 "(E) publish a summary of the proposed
18 plan in the Federal Register 90 days prior to
19 the submission to the Congress of the com-
20 pleted plan; and
21 "(F) provide progress reports every 2
22 years after the submission to the Congress of
23 the completed plan on the activities leading to-
24 ward attainment of the goals set forth in the
25 plan.

"(3) CONTENTS.—The plan shall—

"(A) address the monitoring needs identified in the integrated assessment submitted under subsection (a) and develop a timeline and budgetary requirements for deployment of future assets;

"(B) detail procedures for the development and verification of Chesapeake Bay hypoxia models, including making available to the public—

"(i) all assumptions built into the models; and

"(ii) data quality methods used to ensure the best available data is utilized; and

"(C) describe efforts to improve the assessment of the impacts of hypoxia by—

"(i) characterizing current and past biological conditions in ecosystems affected by hypoxia; and

"(ii) quantifying effects, including economic effects, at the population and community level.".

SEC. 9. AUTHORIZATION OF APPROPRIATIONS.

(a) AUTHORIZATION.—Section 608, as redesignated by section 5(1) of this Act, is amended to read as follows:

1 **"SEC. 608. AUTHORIZATION OF APPROPRIATIONS.**

2 "(a) IN GENERAL.—There are authorized to be ap-
3 propriated to the Under Secretary to carry out this Act
4 $18,000,000 for each of fiscal years 2012 through 2015,
5 of which, for each fiscal year—

6 "(1) $1,000,000 may be used for the develop-
7 ment of the comprehensive research plan and action
8 strategy under section 605 and the assessment and
9 reports required by sections 606 and 607;

10 "(2) $4,000,000 may be used for the research
11 and assessment activities related to marine and
12 freshwater harmful algal blooms at research labora-
13 tories of NOAA;

14 "(3) $4,000,000 may be used to carry out the
15 Ecology of Harmful Algal Blooms Program
16 (ECOHAB);

17 "(4) $1,500,000 may be used to carry out the
18 Monitoring and Event Response for Harmful Algal
19 Blooms Program (MERHAB);

20 "(5) $2,000,000 may be used to carry out re-
21 search and assessment for the Northern Gulf of
22 Mexico ecosystem and hypoxia activities;

23 "(6) $1,500,000 may be used to carry out
24 coastal hypoxia research activities;

25 "(7) $1,500,000 may be used to carry out pre-
26 vention, control, and mitigation activities;

"(8) $500,000 may be used to carry out event response activities; and

"(9) $500,000 may be used to carry out infrastructure activities.

"(b) USE OF FUNDS.—From funds made available under section 2(a)(2) of the Environmental Research, Development, and Demonstration Authorization Act of 1981 (Public Law 96–569; 94 Stat. 3335), the Administrator may utilize up to $3,000,000 for each of the fiscal years 2012 through 2015 to carry out the authorized activities under this Act.".

(b) EXTRAMURAL RESEARCH ACTIVITIES.—The Under Secretary shall ensure that a substantial portion of funds appropriated pursuant to section 608 of the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 that are used for research purposes are allocated to extramural research activities.

SEC. 10. CLERICAL AMENDMENTS.

(a) TABLE OF CONTENTS AMENDMENT.—The table of contents in section 2 of the Coast Guard Authorization Act of 1998 is amended by striking the items relating to sections 602 through 606 and inserting the following:

"602. Definitions.
"603. Assessments.
"604. National harmful algal bloom and hypoxia program.
"605. Comprehensive research plan and action strategy.
"606. Northern Gulf of Mexico hypoxia.
"607. Chesapeake Bay dead zone.

"608. Authorization of appropriations.
"609. Protection of States' rights.".

1 (b) REFERENCES.—Section 609, as redesignated by
2 section 5(1) of this Act, is amended by striking "Clean
3 Water Act or" each place it appears and inserting "Fed-
4 eral Water Pollution Control Act or the".

SECTION-BY-SECTION ANALYSIS OF THE
AMENDMENT IN THE NATURE OF A SUBSTITUTE TO H.R. 2484,
THE HARMFUL ALGAL BLOOM & HYPOXIA RESEARCH
& CONTROL AMENDMENTS ACT OF 2011
(AS REPORTED BY THE SUBCOMMITTEE ON ENERGY & ENVIRONMENT)

Changes from the Subcommittee Reported version are in bold and underlined.

Purpose: To reauthorize the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 to include a comprehensive and integrated strategy to address harmful algal blooms and hypoxia, to provide for the development and implementation of comprehensive regional action plans to reduce harmful algal blooms and hypoxia, and for other purposes.

Section 1: Short Title *The Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011*

Section 2: Amendment of Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 Explains that the text the bill modifies is the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998, unless otherwise expressly stated.

Section 3: Definitions Provides definitions, including: Administrator, Program, Task Force, and Under Secretary. In the definitions for Program and Task Force strikes the word "established" as both the Program and Task Force already exist in current law.

Section 4: Inter-Agency Task Force Restates the President's establishment of an interagency Task Force on Harmful Algal Blooms and Hypoxia through the Committee on Environmental and Natural Resources of the National Science and Technology Council. The bill reiterates representation and designation of the representative from the Department of Commerce to serve as the Chairperson of the Task Force. The bill directs the Task Force to meet at least once per year and to develop a coordinated budget to be submitted to the Director of the Office of Management and Budget at the time designated for agencies to submit annual budgets.

Section 5: National Harmful Algal Bloom and Hypoxia Program Directs the Under Secretary of Commerce for Oceans and Atmosphere to utilize the resources of the Task Force to maintain a National Harmful Algal Bloom and Hypoxia Program. The bill requires the Under Secretary to: 1) develop a national strategy to address both marine and freshwater HABs and hypoxia; 2) coordinate all Federal programs related to HABs and hypoxia; 3) work with State, tribal, and local government agencies; 4) identify additional research needs and priorities; 5) ensure the development and implementation of methods and technologies to protect ecosystems damaged by HABs; 6) encourage the appropriate exchange of research information with other countries; 7) coordinate existing education programs to improve public understanding; 8) provide resources for training of State, tribal and local water and coastal resource managers; 9) oversee the development of the Plan; and 10) administer peer-reviewed, merit-based competitive grant funding. In addition, the legislation directs the Under Secretary to work cooperatively and avoid duplication of efforts with other offices, centers, and programs within NOAA, as well as with States, tribes, nongovernmental organizations, and other agencies represented on the Task Force.

The bill directs the Administrator of the Environmental Protection Agency to work with the Under Secretary to utilize the resources of the task force to carry out freshwater activities. It also instructs the Administrator to ensure that such activities do not duplicate existing research and development programs authorized under this or any other Act. Furthermore, the bill requires the Administrator to submit a report to Congress detailing the budget explanation for all the activities conducted by the Administrator under the authority of this Act.

The bill also specifies duties for the Under Secretary to maintain existing competitive grant programs, conduct marine and freshwater harmful algal bloom and hypoxia event response activities, and ensure communication among Federal agencies and increase availability of resources. The bill stipulates that all monitoring and observation data collected shall conform to standards and protocols developed pursuant to the National Integrated Coastal and Ocean Observation System Act of 2009.

The bill requires that the existing research programs maintain a focus on research, development, and demonstration of technology to monitor, predict, prevent,

control, mitigate and respond to marine and freshwater harmful algal blooms and hypoxias. It also requires the Under Secretary and the Administrator of the Environmental Protection Agency to develop a protocol to assess technology development timelines, coordinate local State and Federal authorities to facilitate field testing, and work with State and local entities to conduct outreach and education on technology field testing projects.

The bill directs the Under Secretary, in consultation with the Administrator, to expand on the existing electronic information clearinghouse to provide information about marine and freshwater harmful algal blooms and hypoxia. Furthermore, the bill directs the Under Secretary, in consultation with the Administrator, to develop a mechanism to provide a reliable and cost-effective supply of toxin standards for comparative research and notify Congress of such in the report required under this section. The bill also directs the Under Secretary, through the Task Force, to report to Congress describing the activities carried out under the Program and the Plan.

Section 6: Comprehensive Research Plan and Action Strategy Directs the Under Secretary, through the Task Force, to oversee the development of a Comprehensive Research Plan and Action Strategy by identifying the appropriate regions and subregions to be addressed by the Plan and requires that the Plan include the following: 1) regional priorities for ecological, economic, and social research related to the impacts of HABs and hypoxia; 2) research, development, and demonstration activities to advance technologies and techniques for minimizing the occurrence and address the impacts of HABs and hypoxia; 3) ways to reduce the duration and intensity of HABs events; 4) research and methods to address the impacts of HABs on human health; 5) mechanisms and the potential costs of these mechanisms to protect vulnerable ecosystems that could be or have been affected by HABs; 6) mechanisms by which data is transferred between the Program and State, tribal, and local governments and relevant research entities; 7) communication, outreach, and dissemination methods used to educate and inform the public; and 8) the roles that Federal agencies can play to assist implementation of the Plan.

Section 6 explicitly directs the utilization of existing peer-reviewed research, assessments, and reports in the development of the Plan. The bill provides a list of individuals and entities that the Under Secretary shall coordinate with in developing the Plan. The bill directs that the Plan be completed and approved within 2 years after the date of enactment, and be periodically reviewed and updated as necessary.

Section 7: Northern Gulf of Mexico Hypoxia Amends the underlying statute to require the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force to update its scientific assessment to include the following information: (1) the role of nutrient influx in the context of water column stratification, seasonal flows and conditions, and wind and current dynamics in the Gulf of Mexico; (2) the contribution of the topography of the Gulf of Mexico to water column stratification, seasonal flows and conditions, and wind and current dynamics; (3) the frequency and availability of monitoring to measure the size of the hypoxic zone; (4) the potential for hypoxia hot-spot formation with the Gulf of Mexico and possible causes; (5) The contribution of wetland loss to the nutrient level in the Gulf of Mexico; (6) the actual effects of hypoxia on the ecosystem of the Gulf of Mexico and the benefits resulting from a reduced hypoxic zone; and (7) a scientifically generated, peer-reviewed goal for an appropriate size of the hypoxic zone in the Gulf of Mexico that will protect ecosystem functions.

Section 7 also requires the Task Force to update its Gulf Hypoxia Action Plan 2008 to include the following: (1) a strategy to enhance the understanding of the contribution of topography, water column stratification, seasonal flows and conditions, and wind and current dynamics on the size of the hypoxic zone; (2) the development of models to simulate the different shelf regions and the fundamental processes that act in each shelf region, differentiate between the separate effects of stratification and nutrient loading in the formation of hypoxia, and informed by realistic three-dimensional hydrodynamic and biogeochemical models; (3) a strategy to determine the appropriate amount of monitoring needed to get a scientifically robust accounting on the size of the hypoxic zone; and (4) an examination of several potential solutions based on the information provided by the updated assessment.

Section 8: Chesapeake Bay Dead Zone Directs the Task Force to complete and submit to Congress an integrated assessment of hypoxia in the Chesapeake Bay that examines the current status of and gaps in research. The bill requires the Task Force to develop a research plan based on the integrated assessment for reducing, mitigating, and controlling hypoxia in the Chesapeake Bay, and directs the Task Force to consult with State and local governments and representatives from aca-

demic, agricultural, industry, and other stakeholder groups. The bill also directs the Task Force to ensure that the plan does not duplicate activities conducted by other Federal or State agencies. It further directs the Plan to include incentive-based partnership approaches; and an economic cost-benefit analysis of the measure for reducing, mitigating, or controlling hypoxia events. Publication of the plan in the Federal Register and provide progress reports every two years on the activities leading toward attainment of the goals set forth in the plan. The bill states that the plan contents shall address the monitoring needs identified in the assessment; detail procedures for the development and verification of Chesapeake Bay hypoxia, including making all assumptions built into the model publicly available; and describe the efforts to improve the assessment of the impacts of hypoxia.

Section 9: Authorization of Appropriations Provides an authorization of $18,000,000 for each of the fiscal years 2012 through 2015 to the Under Secretary to carry out the Program. In addition, provides up to $2,700,000 for each of the fiscal years 2012 through 2015 to the Administrator to carry out activities authorized in the bill. Furthermore, instructs that the Administrator ensure that activities carried out using authorized appropriations do not duplicate research and development activities related to harmful algal blooms and hypoxia conducted by Federal agency represented on the Task Force, States, tribes, and nongovernmental organizations concerned with marine and freshwater aquatic issues.

Section 10: Clerical Amendments Amends Section 2 of the Coast Guard Authorization Act of 1998 to include an updated table of contents, and replaces any instance of "Clean Water Act or" with "Federal Water Pollution Control Act or the" in section 609 of the Act.

**In certain places in the bill, the ANS make technical corrections to the use of the word "bloom" and "blooms". Simply replacing the singular version of "bloom" with the plural version "blooms" and vice versa for accuracy in the use of the term.*

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AMENDMENT IN THE NATURE OF A SUBSTITUTE TO H.R. 2484 OFFERED BY MR. HARRIS

Strike all after the enacting clause and insert the following:

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the "Harmful Algal Bloom
3 and Hypoxia Research and Control Amendments Act of
4 2011".

5 **SEC. 2. AMENDMENT OF HARMFUL ALGAL BLOOM AND HY-**
6 **POXIA RESEARCH AND CONTROL ACT OF**
7 **1998.**

8 Except as otherwise expressly provided, whenever in
9 this Act an amendment or repeal is expressed in terms
10 of an amendment to, or repeal of, a section or other provi-
11 sion, the reference shall be considered to be made to a
12 section or other provision of the Harmful Algal Bloom and
13 Hypoxia Research and Control Act of 1998 (16 U.S.C.
14 1451 note).

15 **SEC. 3. DEFINITIONS.**

16 Section 602 is amended to read as follows:

17 **"SEC. 602. DEFINITIONS.**

18 "In this title:

1 "(1) ADMINISTRATOR.—The term 'Adminis-
2 trator' means the Administrator of the Environ-
3 mental Protection Agency.
4 "(2) NOAA.—The term 'NOAA' means the Na-
5 tional Oceanic and Atmospheric Administration.
6 "(3) PLAN.—The term 'Plan' means the com-
7 prehensive research plan and action strategy under
8 section 605.
9 "(4) PROGRAM.—The term 'Program' means
10 the National Harmful Algal Bloom and Hypoxia
11 Program under section 604(a).
12 "(5) STATE.—The term 'State' means each of
13 the several States of the United States, the District
14 of Columbia, the Commonwealth of Puerto Rico, the
15 United States Virgin Islands, Guam, American
16 Samoa, the Commonwealth of the Northern Mariana
17 Islands, any other territory or possession of the
18 United States, and any Indian tribe.
19 "(6) TASK FORCE.—The term 'Task Force'
20 means the Inter-Agency Task Force on Harmful
21 Algal Blooms and Hypoxia under section 603(a)(1).
22 "(7) UNDER SECRETARY.—The term 'Under
23 Secretary' means the Under Secretary of Commerce
24 for Oceans and Atmosphere.".

1 **SEC. 4. INTER-AGENCY TASK FORCE.**

2 Section 603(a) is amended to read as follows:

3 "(a) INTER-AGENCY TASK FORCE.—

4 "(1) ESTABLISHMENT.—The President,

5 through the Committee on Environment and Natural

6 Resources of the National Science and Technology

7 Council, shall establish an Inter-Agency Task Force

8 on Harmful Algal Blooms and Hypoxia.

9 "(2) REPRESENTATION.—The Task Force shall

10 consist of representatives from the following:

11 "(A) The Department of Commerce.

12 "(B) The Environmental Protection Agen-

13 cy.

14 "(C) The Department of Agriculture.

15 "(D) The Department of the Interior.

16 "(E) The Department of the Navy.

17 "(F) The Department of Health and

18 Human Services.

19 "(G) The National Science Foundation.

20 "(H) The National Aeronautics and Space

21 Administration.

22 "(I) The Food and Drug Administration.

23 "(J) The Office of Science and Technology

24 Policy.

25 "(K) The Council on Environmental Qual-

26 ity.

1 "(L) Such other Federal agencies as the
2 President considers appropriate.
3 "(3) CHAIRPERSON.—The Under Secretary
4 from the Department of Commerce shall serve as the
5 Chairperson of the Task Force.
6 "(4) REQUIRED MEETINGS.—
7 "(A) IN GENERAL.—The Task Force shall
8 meet, or otherwise communicate, to coordinate
9 activities within each agency represented on the
10 Task Force in order to fulfill the program re-
11 quirements in section 604(b).
12 "(B) FREQUENCY.—The Task Force shall
13 meet at least once per year.
14 "(5) BUDGET COORDINATION.—The Task
15 Force shall—
16 "(A) coordinate in the development of indi-
17 vidual agency budgets for the activities de-
18 scribed in section 604 that will ensure an ap-
19 propriate balance among the research and ac-
20 tion priorities; and
21 "(B) submit such budgets to the Director
22 of the Office of Management and Budget at the
23 time designated by the Director for agencies to
24 submit annual budgets.".

1 **SEC. 5. NATIONAL HARMFUL ALGAL BLOOM AND HYPOXIA**
2 **PROGRAM.**
3 The Act is amended—
4 (1) by redesignating sections 605 and 606 as
5 sections 608 and 609, respectively;
6 (2) by redesignating section 604 as section 606;
7 and
8 (3) by inserting after section 603 the following:
9 **"SEC. 604. NATIONAL HARMFUL ALGAL BLOOM AND HY-**
10 **POXIA PROGRAM.**
11 "(a) IN GENERAL.—Except as provided in subsection
12 (d), the Under Secretary, through the Task Force, shall
13 maintain a National Harmful Algal Bloom and Hypoxia
14 Program in accordance with authorities under section 603
15 pursuant to this section.
16 "(b) DUTIES.—The Under Secretary, through the
17 Program, shall coordinate the efforts of the Task Force
18 to—
19 "(1) develop and promote a national strategy to
20 understand, detect, monitor, predict, control, miti-
21 gate, and respond to marine and freshwater harmful
22 algal bloom and hypoxia events;
23 "(2) integrate the research of all Federal pro-
24 grams, including ocean and Great Lakes science and
25 management programs and centers, that address the
26 chemical, biological, and physical components of ma-

1 rine and freshwater harmful algal blooms and hy-
2 poxia;
3 "(3) assist and coordinate, where appropriate,
4 with State, tribal, and local government agencies,
5 programs, and regional efforts that address marine
6 and freshwater harmful algal blooms and hypoxia,
7 including the development and implementation of ap-
8 propriate response plans, strategies, and tools;
9 "(4) identify additional research, development,
10 and demonstration needs and priorities relating to
11 understanding, detection, monitoring, prediction,
12 prevention, control, mitigation, and response to ma-
13 rine and freshwater harmful algal blooms and hy-
14 poxia;
15 "(5) ensure the development and use of meth-
16 ods and technologies to protect the ecosystems af-
17 fected by marine and freshwater harmful algal
18 blooms and hypoxia;
19 "(6) encourage the appropriate exchange of re-
20 search information with other countries in order to
21 better mitigate, control, and respond to marine and
22 freshwater harmful algal blooms;
23 "(7) coordinate existing education programs to
24 improve public understanding and awareness of the

1 causes, impacts, and mitigation efforts for marine
2 and freshwater harmful algal blooms and hypoxia;
3 "(8) provide resources to assist in the training
4 of State, tribal, and local water and coastal resource
5 managers in the methods and technologies for de-
6 tecting, monitoring, controlling, mitigating, and re-
7 sponding to the effects of marine and freshwater
8 harmful algal bloom and hypoxia events;
9 "(9) oversee the development, review, and peri-
10 odic updating of the Plan; and
11 "(10) administer peer-reviewed, merit-based,
12 competitive grant funding to support—
13 "(A) the projects maintained and estab-
14 lished by the Program; and
15 "(B) the research and management needs
16 and priorities identified in the Plan.
17 "(c) COOPERATIVE EFFORTS.—The Under Secretary
18 shall work cooperatively and avoid duplication of efforts
19 with other offices, centers, and programs within NOAA
20 and other agencies represented on the Task Force, States,
21 tribes, and nongovernmental organizations concerned with
22 marine and freshwater aquatic issues related to harmful
23 algal blooms and hypoxia.
24 "(d) FRESHWATER PROGRAM.—

1 "(1) IN GENERAL.—With respect to the fresh-
2 water aspects of the Program, the Administrator
3 and the Under Secretary, through the Task Force,
4 shall carry out the duties otherwise assigned to the
5 Under Secretary under this section, excluding the
6 activities described in subsection (e).
7 "(2) PARTICIPATION.—The Administrator's
8 participation under this subsection shall include—
9 "(A) research on the ecology of freshwater
10 harmful algal blooms;
11 "(B) monitoring of and event response to
12 freshwater harmful algal blooms in lakes, rivers,
13 estuaries, and reservoirs; and
14 "(C) mitigation and control of freshwater
15 harmful algal blooms.
16 "(3) NONDUPLICATION.—The Administrator
17 shall ensure that activities carried out under this Act
18 shall focus on new approaches to addressing fresh-
19 water harmful algal blooms and are not duplicative
20 of existing research and development programs au-
21 thorized by this or any other Act.
22 "(4) REPORT.—Not later than 1 year after the
23 date of enactment of the Harmful Algal Bloom and
24 Hypoxia Research and Control Amendments Act of
25 2011, the Administrator shall prepare and transmit

1 to the Committee on Science, Space, and Technology
2 of the House of Representatives a report con-
3 taining—
4 "(A) a detailed budget explanation for all
5 of the activities conducted by the Administrator
6 under this Act; and
7 "(B) a description of how such activities
8 reduce the effects of freshwater harmful algal
9 blooms and improve water quality.
10 "(e) NOAA ACTIVITIES.—As part of the program
11 under this section, the Under Secretary shall—
12 "(1) maintain existing peer-reviewed competi-
13 tive grant programs at NOAA relating to marine
14 and freshwater harmful algal blooms and hypoxia;
15 "(2) conduct marine and freshwater harmful
16 algal bloom and hypoxia event response activities;
17 and
18 "(3) ensure communication and coordination
19 among Federal agencies carrying out marine and
20 freshwater harmful algal bloom and hypoxia activi-
21 ties and increase the availability to appropriate pub-
22 lic and private entities of—
23 "(A) analytical facilities and technologies;
24 "(B) operational forecasts; and
25 "(C) reference and research materials.

1 "(f) INTEGRATED COASTAL AND OCEAN OBSERVA-
2 TION SYSTEM.—All monitoring and observation data col-
3 lected under this Act shall be collected in compliance with
4 all data standards and protocols developed pursuant to the
5 National Integrated Coastal and Ocean Observation Sys-
6 tem Act of 2009 (33 U.S.C. 3601 et seq.), and such data
7 shall be made available through the system established
8 under that Act.
9 "(g) TECHNOLOGY RESEARCH, DEVELOPMENT, AND
10 DEMONSTRATION.—
11 "(1) IN GENERAL.—As part of the duties de-
12 scribed in subsection (b), the Under Secretary and
13 the Administrator, through the Task Force, shall
14 maintain a focus on technology research and devel-
15 opment for each of the categories of marine harmful
16 algal blooms, freshwater harmful algal blooms, and
17 hypoxia in the following areas:
18 "(A) Monitoring.
19 "(B) Prediction.
20 "(C) Prevention.
21 "(D) Control.
22 "(E) Mitigation.
23 "(F) Response to events, including remedi-
24 ation.

1 "(2) ENUMERATION.—As part of the report re-
2 quired under subsection (i), the Under Secretary, in
3 coordination with the Administrator, shall enu-
4 merate the technology research and development
5 conducted for each of the areas identified in para-
6 graph (1).
7 "(3) PROTOCOL.—The Under Secretary, in co-
8 ordination with the Administrator, shall develop a
9 protocol for—
10 "(A) assessing the stage of technology de-
11 velopment that is ready to move from lab test-
12 ing to field testing;
13 "(B) coordinating local, State, and Federal
14 authorities to facilitate measures necessary to
15 conduct field tests in a timely manner; and
16 "(C) working with local and State entities,
17 programs, and interested stakeholders to con-
18 duct outreach and education on technology field
19 testing projects.
20 "(h) INFORMATION CLEARINGHOUSE.—
21 "(1) ELECTRONIC INFORMATION.—Using the
22 authority under section 603(i)(2)(B), the Under Sec-
23 retary, in coordination with the Administrator, shall
24 expand the existing electronic clearinghouse to pro-

1 vide information about marine and freshwater harm-
2 ful algal blooms and hypoxia, including—
3 "(A) the Federal agencies involved in re-
4 search and development on understanding, de-
5 tection, monitoring, prediction, prevention, con-
6 trol, mitigation, and response activities;
7 "(B) tools available to predict and model
8 events; and
9 "(C) current or developing technologies for
10 detection, monitoring, prediction, prevention,
11 control, mitigation, and response, including re-
12 mediation.
13 "(2) TOXIN STANDARDS.—The Under Sec-
14 retary, in consultation with the Administrator,
15 shall—
16 "(A) develop a mechanism to provide a re-
17 liable and cost-effective supply of toxin stand-
18 ards for comparative research; and
19 "(B) notify the Congress of such mecha-
20 nism as part of the report required under sub-
21 section (i).
22 "(i) REPORT.—Not later than 1 year after the sub-
23 mission of the Plan, the Under Secretary, through the
24 Task Force, shall prepare and transmit to the Congress
25 a report that describes—

1 "(1) the activities carried out under the Pro-
2 gram and the Plan and the budget related to such
3 activities; and
4 "(2) the need to revise or terminate activities or
5 projects under the Program.".

6 **SEC. 6. COMPREHENSIVE RESEARCH PLAN AND ACTION**
7 **STRATEGY.**

8 The Act is amended by inserting after section 604,
9 as added by section 5(3) of this Act, the following:

10 **"SEC. 605. COMPREHENSIVE RESEARCH PLAN AND ACTION**
11 **STRATEGY.**

12 "(a) IN GENERAL.—Not later than 2 years after the
13 date of enactment of the Harmful Algal Bloom and Hy-
14 poxia Research and Control Amendments Act of 2011, the
15 Under Secretary, through the Task Force, shall transmit
16 to the Congress a comprehensive research plan and action
17 strategy to address marine and freshwater harmful algal
18 blooms and hypoxia that identifies—
19 "(1) the specific activities to be carried out by
20 the Program and the timeline for carrying out such
21 activities;
22 "(2) the roles and responsibilities of each Fed-
23 eral agency in the Task Force in carrying out Pro-
24 gram activities; and

1 "(3) appropriate regions and subregions requir-
2 ing specific research and activities to address local,
3 State, and regional harmful algal blooms and hy-
4 poxia.
5 "(b) REGIONAL FOCUS.—The regional and sub-
6 regional parts of the Plan shall identify—
7 "(1) regional priorities for ecological, economic,
8 and social research on issues related to the impacts
9 of harmful algal blooms and hypoxia;
10 "(2) research, development, and demonstration
11 activities needed to develop and advance technologies
12 and techniques for minimizing the occurrence of
13 harmful algal blooms and hypoxia and improving ca-
14 pabilities to detect, predict, monitor, control, miti-
15 gate, respond to, and remediate harmful algal
16 blooms and hypoxia;
17 "(3) ways to reduce the duration and intensity
18 of harmful algal blooms and hypoxia, including de-
19 ployment of response technologies in a timely man-
20 ner;
21 "(4) research and methods to address human
22 health dimensions of harmful algal blooms and hy-
23 poxia;
24 "(5) mechanisms, including the potential costs
25 and benefits of those mechanisms, to protect eco-

1 systems that may be or have been affected by harm-
2 ful algal bloom and hypoxia events;
3 "(6) mechanisms by which data, information,
4 and products may be transferred between the Pro-
5 gram and State, tribal, and local governments and
6 relevant research entities;
7 "(7) communication and information dissemina-
8 tion methods that State, tribal, and local govern-
9 ments may undertake to educate and inform the
10 public concerning harmful algal blooms and hypoxia;
11 and
12 "(8) the roles that Federal agencies may have
13 to assist in the implementation of the Plan.
14 "(c) UTILIZING AVAILABLE STUDIES AND INFORMA-
15 TION.—In developing the Plan, the Under Secretary shall
16 utilize existing research, assessments, reports, and pro-
17 gram activities, including—
18 "(1) those carried out pursuant to existing law;
19 and
20 "(2) other relevant peer-reviewed and published
21 sources.
22 "(d) DEVELOPMENT OF THE PLAN.—In developing
23 the Plan, the Under Secretary shall, as appropriate—
24 "(1) coordinate with—

1 "(A) State coastal management and plan-
2 ning officials;
3 "(B) tribal resource management officials;
4 and
5 "(C) water management and watershed of-
6 ficials from both coastal States and noncoastal
7 States with water sources that drain into water
8 bodies affected by harmful algal blooms and hy-
9 poxia; and
10 "(2) consult with—
11 "(A) public health officials;
12 "(B) emergency management officials;
13 "(C) science and technology development
14 institutions;
15 "(D) economists;
16 "(E) industries and businesses affected by
17 marine and freshwater harmful algal blooms
18 and hypoxia;
19 "(F) scientists with expertise concerning
20 harmful algal blooms or hypoxia from academic
21 or research institutions; and
22 "(G) other stakeholders.
23 "(e) FEDERAL REGISTER.—The Under Secretary
24 shall publish the Plan in the Federal Register.

1 "(f) PERIODIC REVISION.—The Under Secretary, in
2 coordination and consultation with the individuals and en-
3 tities identified in subsection (d), shall periodically review
4 and revise the Plan prepared under this section, as nec-
5 essary.".

6 **SEC. 7. NORTHERN GULF OF MEXICO HYPOXIA.**

7 Section 606, as redesignated by section 5(2) of this
8 Act, is amended by adding at the end the following:

9 "(c) REQUIRED UPDATE.—

10 "(1) IN GENERAL.—Prior to the implementa-
11 tion of any plan developed under this section, includ-
12 ing the Gulf Hypoxia Action Plan 2008, the Admin-
13 istrator, through the Mississippi River/Gulf of Mex-
14 ico Watershed Nutrient Task Force, shall complete
15 and submit to the Congress and the President an
16 updated assessment and a revised action plan based
17 on the updated assessment.

18 "(2) REQUIREMENTS.—The updated assess-
19 ment shall take into account the following:

20 "(A) The role of nutrient influx in the con-
21 text of water column stratification, seasonal
22 flows and conditions, and wind and current dy-
23 namics in the Gulf of Mexico.

24 "(B) The contribution of the topography of
25 the Gulf of Mexico in the effects of the charac-

1 teristics described in subparagraph (A) on the
2 hypoxic zone.
3 "(C) The frequency and availability of
4 monitoring to measure the size of the hypoxic
5 zone.
6 "(D) The potential of hypoxia hot-spot for-
7 mation within the Gulf of Mexico and possible
8 causes of such hot-spots.
9 "(E) The contribution of wetland loss to
10 hypoxia events in the Gulf of Mexico.
11 "(F) The actual effect of hypoxia on the
12 ecosystem of the Gulf of Mexico and the bene-
13 fits resulting from a reduced hypoxic zone size.
14 "(G) A scientifically generated, peer-re-
15 viewed goal for the size of the hypoxic zone in
16 the Gulf of Mexico.
17 "(3) RESEARCH STRATEGY.—The updated plan
18 shall include a research strategy—
19 "(A) to enhance understanding of the con-
20 tribution of topography, water column strati-
21 fication, seasonal flows and conditions, and
22 wind and current dynamics on the size of the
23 hypoxic zone;
24 "(B) to develop models able to—

"(i) simulate different shelf regions and the fundamental processes that act in each shelf region;

"(ii) differentiate between the separate effects of stratification and nutrient loading in the formation of hypoxia; and

"(iii) be informed by realistic three-dimensional hydrodynamic and biogeochemical models;

"(C) that determines the appropriate amount of monitoring and measuring necessary to get a scientifically robust accounting on the size of the Gulf of Mexico hypoxic zone; and

"(D) that examines several potential solutions based on information provided by the updated assessment in paragraph (1).".

SEC. 8. CHESAPEAKE BAY DEAD ZONE.

(a) IN GENERAL.—The Act is amended by inserting after section 606, as redesignated by section 5(2) of this Act, the following:

"SEC. 607. CHESAPEAKE BAY DEAD ZONE.

"(a) ASSESSMENT PLAN.—Not later than 12 months after the date of enactment of the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011, the Task Force, in accordance with the authority

1 under section 603, shall complete and submit to the Con-
2 gress and the President an integrated assessment of hy-
3 poxia in the Chesapeake Bay that examines the status of
4 and gaps within current research, monitoring, prevention,
5 response, and control activities by—
6 "(1) Federal agencies;
7 "(2) State agencies;
8 "(3) regional research consortia;
9 "(4) academia;
10 "(5) private industry; and
11 "(6) nongovernmental organizations.
12 "(b) RESEARCH PLAN.—
13 "(1) IN GENERAL.—Not later than 2 years
14 after the date of enactment of the Harmful Algal
15 Bloom and Hypoxia Research and Control Amend-
16 ments Act of 2011, the Task Force shall develop
17 and submit to the Congress a plan, based on the in-
18 tegrated assessment submitted under subsection (a),
19 for reducing, mitigating, and controlling hypoxia in
20 the Chesapeake Bay.
21 "(2) REQUIREMENTS.—In developing such
22 plan, the Task Force shall—
23 "(A) consult with State and local govern-
24 ments and representatives from academic, agri-

1 cultural, industry, and other stakeholder
2 groups;
3 "(B) ensure that the plan does not dupli-
4 cate activities conducted by other Federal or
5 State agencies;
6 "(C) include incentive-based partnership
7 approaches;
8 "(D) include an economic cost-benefit anal-
9 ysis of the measures for reducing, mitigating,
10 and controlling hypoxia events;
11 "(E) utilize existing research, assessments,
12 reports, and program activities;
13 "(F) publish a summary of the proposed
14 plan in the Federal Register 90 days prior to
15 the submission to the Congress of the com-
16 pleted plan; and
17 "(G) provide progress reports every 2
18 years after the submission to the Congress of
19 the completed plan on the activities leading to-
20 ward attainment of the goals set forth in the
21 plan.
22 "(3) CONTENTS.—The plan shall—
23 "(A) address the monitoring needs identi-
24 fied in the integrated assessment submitted
25 under subsection (a) and develop a timeline and

1 budgetary requirements for deployment of fu-
2 ture assets;
3 "(B) detail procedures for the development
4 and verification of Chesapeake Bay hypoxia
5 models, including making available to the pub-
6 lic—
7 "(i) all assumptions built into the
8 models; and
9 "(ii) data quality methods used to en-
10 sure the best available data is utilized; and
11 "(C) describe efforts to improve the assess-
12 ment of the impacts of hypoxia by—
13 "(i) characterizing current and past
14 biological conditions in ecosystems affected
15 by hypoxia; and
16 "(ii) quantifying effects, including
17 economic effects, at the population and
18 community level.".
19 **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**
20 (a) AUTHORIZATION.—Section 608, as redesignated
21 by section 5(1) of this Act, is amended to read as follows:
22 **"SEC. 608. AUTHORIZATION OF APPROPRIATIONS.**
23 "(a) UNDER SECRETARY.—There are authorized to
24 be appropriated to the Under Secretary to carry out this

1 Act $18,000,000 for each of fiscal years 2012 through
2 2015, of which, for each fiscal year—
3 "(1) $1,000,000 may be used for the develop-
4 ment of the comprehensive research plan and action
5 strategy under section 605 and the assessment and
6 reports required by sections 606 and 607;
7 "(2) $4,000,000 may be used for the research
8 and assessment activities related to marine and
9 freshwater harmful algal blooms at research labora-
10 tories of NOAA;
11 "(3) $4,000,000 may be used to carry out the
12 Ecology of Harmful Algal Blooms Program
13 (ECOHAB);
14 "(4) $1,500,000 may be used to carry out the
15 Monitoring and Event Response for Harmful Algal
16 Blooms Program (MERHAB);
17 "(5) $2,000,000 may be used to carry out re-
18 search and assessment for the Northern Gulf of
19 Mexico ecosystem and hypoxia activities;
20 "(6) $1,500,000 may be used to carry out
21 coastal hypoxia research activities;
22 "(7) $1,500,000 may be used to carry out pre-
23 vention, control, and mitigation activities;
24 "(8) $500,000 may be used to carry out event
25 response activities; and

1 "(9) $500,000 may be used to carry out infra-
2 structure activities.
3 "(b) ADMINISTRATOR.—
4 "(1) IN GENERAL.—There are authorized to be
5 appropriated to the Administrator $2,700,000 for
6 each of the fiscal years 2012 through 2015 to carry
7 out the activities authorized under this Act.
8 "(2) NONDUPLICATION.—The Administrator
9 shall ensure that activities carried out using the
10 amounts authorized under paragraph (1) do not du-
11 plicate research and development activities related to
12 harmful algal blooms and hypoxia conducted by Fed-
13 eral agencies represented on the Task Force, States,
14 tribes, and nongovernmental organizations concerned
15 with marine and freshwater aquatic issues.".
16 (b) EXTRAMURAL RESEARCH ACTIVITIES.—The
17 Under Secretary shall ensure that a substantial portion
18 of funds appropriated pursuant to section 608 of the
19 Harmful Algal Bloom and Hypoxia Research and Control
20 Act of 1998 that are used for research purposes are allo-
21 cated to extramural research activities.
22 **SEC. 10. CLERICAL AMENDMENTS.**
23 (a) TABLE OF CONTENTS AMENDMENT.—The table
24 of contents in section 2 of the Coast Guard Authorization

1 Act of 1998 is amended by striking the items relating to
2 sections 602 through 606 and inserting the following:

"602. Definitions.
"603. Assessments.
"604. National harmful algal bloom and hypoxia program.
"605. Comprehensive research plan and action strategy.
"606. Northern Gulf of Mexico hypoxia.
"607. Chesapeake Bay dead zone.
"608. Authorization of appropriations.
"609. Protection of States' rights.".

3 (b) REFERENCES.—Section 609, as redesignated by
4 section 5(1) of this Act, is amended by striking "Clean
5 Water Act or" each place it appears and inserting "Fed-
6 eral Water Pollution Control Act or the".

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AMENDMENT TO THE AMENDMENT IN THE NATURE OF A SUBSTITUTE TO H.R. 2484

OFFERED BY MR. HALL

Page 24, line 17, after "Under Secretary" insert "of Commerce for Oceans and Atmosphere".

☒

AMENDMENT TO THE AMENDMENT IN THE NATURE OF A SUBSTITUTE TO H.R. 2484 OFFERED BY MR. SARBANES OF MARYLAND

Page 7, line 10, strike "and".

Page 7, line 16, strike the period and insert "; and".

Page 7, after line 16, insert the following:

"(11) encourage the development of innovative concepts for the beneficial utilization of—

"(A) biomass from harmful algal blooms that have been removed from the natural system; and

"(B) the growth of certain biofuel crops that reduce runoff that causes harmful algal blooms."

AMENDMENT TO THE AMENDMENT IN THE NATURE OF A SUBSTITUTE TO H.R. 2484 OFFERED BY MS. EDWARDS OF MARYLAND

Page 8, line 13, insert "(including their tributaries)" after "estuaries".

☒

AMENDMENT TO THE AMENDMENT IN THE NATURE OF A SUBSTITUTE TO H.R. 2484 OFFERED BY MS. WILSON OF FLORIDA

Page 17, beginning on line 10, strike "Prior to the implementation" and all that follows through "2008," on line 12 and insert "Within 2 years after the date of enactment of the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011,".

AMENDMENT TO THE AMENDMENT IN THE NATURE OF A SUBSTITUTE TO H.R. 2484 OFFERED BY MS. EDWARDS OF MARYLAND

Page 22, line 10, strike ''and''.

Page 22, strike line 18 and insert ''community level; and''.

Page 22, after line 18, insert the following:

''(D) analyze the harmful environmental effects of nutrient loading from agricultural sources, including livestock operations, on Chesapeake Bay dead zones as compared with all other sources.''.

AMENDMENT TO THE AMENDMENT IN THE NATURE OF A SUBSTITUTE TO H.R. 2484

OFFERED BY MR. Miller

Page 22, beginning on line 19, strike section 9 and insert the following:

1 **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

2 (a) AUTHORIZATION.—Section 608, as redesignated
3 by section 5(1) of this Act, is amended—

4 (1) in the matter preceding paragraph (1)—

5 (A) by striking "There are" and inserting
6 the following:

7 "(a) IN GENERAL.—There are";

8 (B) by striking "and" after "2007,"; and

9 (C) by inserting after "$30,000,000 for
10 each of fiscal years 2008 through 2010," the
11 following: "and $27,000,000 for each of the fis-
12 cal years 2011 through 2015,";

13 (2) in each of paragraphs (1), (2), (3), (4), (5),
14 and (6), by striking "2010" each place it appears
15 and inserting "2015"; and

16 (3) by adding at the end the following:

17 "(b) ADMINISTRATOR.—There are authorized to be
18 appropriated to the Administrator for research, education,

1 and monitoring activities related to the prevention, reduc-
2 tion, and control of harmful algal blooms and hypoxia
3 $3,000,000 for each of the fiscal years 2011 through
4 2015.".

5 (b) EXTRAMURAL RESEARCH ACTIVITIES.—The
6 Under Secretary of Commerce for Oceans and Atmosphere
7 shall ensure that a substantial portion of funds appro-
8 priated pursuant to section 608 of the Harmful Algal
9 Bloom and Hypoxia Research and Control Act of 1998
10 that are used for research purposes are allocated to extra-
11 mural research activities.

AMENDMENT TO THE AMENDMENT IN THE NATURE OF A SUBSTITUTE TO H.R. 2484

OFFERED BY Mr. Miller

Page 24, after line 21, insert the following:

1 (c) LIMITATION ON AUTHORIZATION.—

2 (1) NOAA.—For any fiscal year that begins
3 after the date of enactment of this Act, the Under
4 Secretary of Commerce for Oceans and Atmosphere
5 shall not be mandated to carry out this Act unless
6 the amount appropriated for the National Oceanic
7 and Atmospheric Administration for such fiscal year
8 is equal to or greater than the amount appropriated
9 for the National Oceanic and Atmospheric Adminis-
10 tration under the Department of Defense and Full-
11 Year Continuing Appropriations Act, 2011 (Public
12 Law 112–10).

13 (2) EPA.—For any fiscal year that begins after
14 the date of enactment of this Act, the Administrator
15 of the Environmental Protection Agency shall not be
16 mandated to carry out this Act unless the amount
17 appropriated for the Environmental Protection
18 Agency for such fiscal year is equal to or greater
19 than the amount appropriated for the Environ-

1 mental Protection Agency under the Department of
2 Defense and Full-Year Continuing Appropriations
3 Act, 2011 (Public Law 112–10).

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COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
Full Committee Markup
July 28, 2011

AMENDMENT ROSTER

H. R. 2484, the "Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2011"

No.	Amendment	Summary	Results
1	Mr. Harris Amendment in the Nature of a Substitute (371)	Amendment in the Nature of a Substitute making minor technical changes to the bill; removing the word "established" from definitions of the Task Force and the Program; requiring the EPA to use novel approaches to address freshwater harmful algal blooms; requiring a report of EPA on such approaches; and authorizing $2.7 million for EPA to carry out the activities in the Act.	Agreed to by a vote of 20 Ayes and 15 Noes
2	Amendment Offered by Mr. Hall (373) To Harris Amendment (371)	Technical amendment that clarifies that the "Undersecretary" referenced in section 9 (b) is the "Undersecretary of Commerce for Oceans and Atmosphere".	Agreed to by Voice Vote
3	Amendment Offered by Mr. Sarbanes (015) To Harris Amendment (371)	Adds to the duties of the Task Force to "encourage the development of innovative concepts for the beneficial utilization of biomass from harmful algal blooms and the growth of certain biofuel crops that reduce runoff that causes harmful algal blooms".	Agreed to by Voice Vote
4	Amendment Offered by Ms. Edwards (015) To Harris Amendment (371)	Inserts "(including their tributaries)" to ensure the freshwater activities will include harmful algal blooms in tributaries of freshwater "lakes, rivers, and estuaries".	Agreed to by Voice Vote
5	Amendment Offered by Ms. Wilson (021) To Harris Amendment (371)	In the section that requires an updated assessment and plan on the Northern Gulf of Mexico hypoxia, this amendment would strike the requirement that the updated assessment and plan be completed prior to implementation of the 2008 plan, and insert that the updated assessment and plan shall be completed within 2 years of enactment of this Act.	Agreed to by Voice Vote

6	Amendment Offered by Ms. Edwards (016) To Harris Amendment (371)	Amends the section's research plan for the Chesapeake Bay by requiring that the plan also "analyze the harmful environmental effects of nutrient loading from agricultural sources, including livestock operations, on Chesapeake Bay dead zones as compared with all other sources."	Not agreed to by a vote of 14 Ayes and 18 Noes
7	Amendment Offered by Mr. Miller (372) To Harris Amendment (371)	Strikes the current authorizations in the Amendment in the Nature of a Substitute of $18 million for NOAA activities and $2.7 million for EPA activities and replaces the authorization with $27 million for NOAA and $3 million for EPA.	Not agreed to by a vote of 14 Ayes and 18 Noes
8	Amendment Offered by Mr. Miller (374) To Harris Amendment (371)	The Undersecretary is not mandated to carry out the activities authorized for NOAA in this Act unless the amount appropriated for NOAA is equal or greater than the amount appropriated for FY2011; the Administrator is not mandated to carry out the activities authorized for EPA in this Act unless the amount appropriated for EPA is equal or greater than the amount appropriated for FY2011.	Not agreed to by a vote of 13 Ayes and 19 Noes
	Final Vote		Agreed to by a vote of 20 Nays and 15 Noes

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