

110TH CONGRESS
2D SESSION

S. 3191

To develop and promote a comprehensive plan for a national strategy to address harmful algal blooms and hypoxia through baseline research, forecasting and monitoring, and mitigation and control while helping communities detect, control, and mitigate coastal and Great Lakes harmful algal blooms and hypoxia events.

IN THE SENATE OF THE UNITED STATES

JUNE 25, 2008

Ms. SNOWE (for herself, Mr. NELSON of Florida, Ms. CANTWELL, Mr. KERRY, Mr. VITTER, Mr. LEVIN, Mr. VOINOVICH, Mrs. BOXER, Mr. CARDIN, and Ms. MIKULSKI) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation.

A BILL

To develop and promote a comprehensive plan for a national strategy to address harmful algal blooms and hypoxia through baseline research, forecasting and monitoring, and mitigation and control while helping communities detect, control, and mitigate coastal and Great Lakes harmful algal blooms and hypoxia events.

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

1 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

2 (a) **SHORT TITLE.**—This Act may be cited as the
 3 “Harmful Algal Blooms and Hypoxia Amendments Act of
 4 2008”.

5 (b) **TABLE OF CONTENTS.**—The table of contents for
 6 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Amendment of Harmful Algal Bloom and Hypoxia Research and Control Act of 1998.
- Sec. 3. Findings.
- Sec. 4. Purpose.
- Sec. 5. Interagency task force on harmful algal blooms and hypoxia.
- Sec. 6. National harmful algal bloom and hypoxia program.
- Sec. 7. Regional research and action plans.
- Sec. 8. Reporting.
- Sec. 9. Pilot program for freshwater harmful algal blooms and hypoxia.
- Sec. 10. Interagency financing.
- Sec. 11. Application with other laws.
- Sec. 12. Definitions.
- Sec. 13. Authorization of appropriations.

7 **SEC. 2. AMENDMENT OF HARMFUL ALGAL BLOOM AND HY-**
 8 **POXIA RESEARCH AND CONTROL ACT OF**
 9 **1998.**

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

17 **SEC. 3. FINDINGS.**

18 Section 602 is amended—

1 (1) by striking paragraph (8) and inserting the
2 following:

3 “(8) harmful algal blooms and hypoxia can be
4 triggered and exacerbated by increases in nutrient
5 loading from point and non-point sources, much of
6 which originates in upland areas and is delivered to
7 marine and freshwater bodies via river discharge,
8 thereby requiring integrated and landscape-level re-
9 search and control strategies;”;

10 (2) by striking “and” after the semicolon in
11 paragraph (11);

12 (3) by striking “hypoxia.” in paragraph (12)
13 and inserting “hypoxia;”; and

14 (4) by adding at the end thereof the following:

15 “(13) harmful algal blooms and hypoxia affect
16 many sectors of the coastal economy, including tour-
17 ism, public health, and recreational and commercial
18 fisheries; and according to a recent report produced
19 by NOAA, the United States seafood and tourism
20 industries suffer annual losses of \$82 million due to
21 economic impacts of harmful algal blooms;

22 “(14) global climate change and its effect on
23 oceans and the Great Lakes may ultimately play a
24 role in the increase or decrease of harmful algal
25 bloom and hypoxic events;

1 “(15) proliferations of harmful and nuisance
2 algae can occur in all United States waters, includ-
3 ing coastal areas and estuaries, the Great Lakes,
4 and inland waterways, crossing political boundaries
5 and necessitating regional coordination for research,
6 monitoring, mitigation, response, and prevention ef-
7 forts; and

8 “(16) following passage of the Harmful Algal
9 Bloom and Hypoxia Research and Control Act of
10 1998, Federally-funded and other research has led
11 to several technological advances, including remote
12 sensing, molecular and optical tools, satellite im-
13 agery, and coastal and ocean observing systems, that
14 provide data for forecast models, improve the moni-
15 toring and prediction of these events, and provide es-
16 sential decision making tools for managers and
17 stakeholders.”.

18 **SEC. 4. PURPOSE.**

19 The Act is amended by inserting after section 602
20 the following:

21 **“SEC. 602A. PURPOSES.**

22 “The purposes of this Act are—

23 “(1) to provide for the development and coordi-
24 nation of a comprehensive and integrated national
25 program to address harmful algal blooms, hypoxia,

1 and nuisance algae through baseline research, moni-
2 toring, prevention, mitigation, and control;

3 “(2) to provide for the assessment and consid-
4 eration of regional and national ecosystem, socio-eco-
5 nomic, and human health impacts of harmful and
6 nuisance algal blooms and hypoxia, and integration
7 of that assessment into marine and freshwater re-
8 source decisions; and

9 “(3) to facilitate regional, State, and local ef-
10 forts to develop and implement appropriate harmful
11 algal bloom and hypoxia event response plans, strat-
12 egies, and tools including outreach programs and in-
13 formation dissemination mechanisms.”.

14 **SEC. 5. INTERAGENCY TASK FORCE ON HARMFUL ALGAL**
15 **BLOOMS AND HYPOXIA.**

16 (a) FEDERAL REPRESENTATIVES.—Section 603(a) is
17 amended—

18 (1) by striking “The Task Force shall consist
19 of the following representatives from—” and insert-
20 ing “The Task Force shall consist of representatives
21 of the Office of the Secretary from each of the fol-
22 lowing departments and of the office of the head of
23 each of the following Federal agencies:”;

24 (2) by striking “the” in paragraphs (1) through
25 (11) and inserting “The”;

1 (3) by striking the semicolon in paragraphs (1)
2 through (10) and inserting a period.

3 (4) by striking “Quality; and” in paragraph
4 (11) and inserting “Quality.”; and

5 (5) by striking “such other” in paragraph (12)
6 and inserting “Other”.

7 (b) STATE REPRESENTATIVES.—Section 603 is
8 amended—

9 (1) by redesignating subsections (b) through (i)
10 as subsections (c) through (j), respectively;

11 (2) by inserting after subsection (a) the fol-
12 lowing:

13 “(b) STATE REPRESENTATIVES.—The Secretary
14 shall establish criteria for determining appropriate States
15 to serve on the Task Force and establish and implement
16 a nominations process to select representatives from 2 ap-
17 propriate States in different regions, on a rotating basis,
18 to serve 2-year terms on the Task Force.”;

19 (3) in subsection (h), as redesignated—

20 (A) by striking “Not less than once every
21 5 years the” in paragraph (1) and inserting
22 “The”;

23 (B) by striking “The first such” in para-
24 graph (1) and inserting “The”;

1 (C) by striking “assessments” in para-
2 graph (2) and inserting “assessment”; and
3 (4) in subsection (i), as redesignated—

4 (A) by striking “Not less than once every
5 5 years the” in paragraph (1) and inserting
6 “The”;

7 (B) by striking “The first such” in para-
8 graph (1) and inserting “The”;

9 (C) by striking “All subsequent assess-
10 ments” in paragraph (1) and inserting “The as-
11 sessment”; and

12 (D) by striking “assessments” in para-
13 graph (2) and inserting “assessment”.

14 **SEC. 6. NATIONAL HARMFUL ALGAL BLOOM AND HYPOXIA**
15 **PROGRAM.**

16 The Act is amended by inserting after section 603
17 the following:

18 **“SEC. 603A. NATIONAL HARMFUL ALGAL BLOOM AND HY-**
19 **POXIA PROGRAM.**

20 “(a) ESTABLISHMENT.—The President, acting
21 through the Task Force, shall establish and maintain a
22 national program for integrating efforts to address harm-
23 ful algal bloom and hypoxia research, monitoring, pre-
24 diction, control, mitigation, prevention, and outreach.

1 “(b) TASK FORCE FUNCTIONS.—The Task Force
2 shall be the oversight body for the development and imple-
3 mentation of the national harmful algal bloom and hypoxia
4 program and shall—

5 “(1) coordinate interagency review of plans and
6 policies of the Program;

7 “(2) promote and review interagency work and
8 spending plans for implementing the activities of the
9 Program;

10 “(3) review the Program’s distribution of Fed-
11 eral grants and funding to address research prior-
12 ities;

13 “(4) support implementation of the actions and
14 strategies identified in the regional research and ac-
15 tion plans under subsection (d);

16 “(5) support the development of institutional
17 mechanisms and financial instruments to further the
18 goals of the program;

19 “(6) expedite the interagency review process
20 and ensure timely review and dispersal of required
21 reports and assessments under this Act; and

22 “(7) promote the development of new tech-
23 nologies for predicting, monitoring, and mitigating
24 harmful algal blooms and hypoxia conditions.

1 “(c) LEAD FEDERAL AGENCY.—NOAA shall be the
2 lead Federal agency for implementing and administering
3 the National Harmful Algal Bloom and Hypoxia Program.

4 “(d) RESPONSIBILITIES.—The Program shall—

5 “(1) promote a national strategy to help com-
6 munities understand, detect, predict, control, and
7 mitigate freshwater and marine harmful algal bloom
8 and hypoxia events;

9 “(2) plan, coordinate, and implement the Na-
10 tional Harmful Algal Bloom and Hypoxia Program;
11 and

12 “(3) report to the Task Force via the Adminis-
13 trator.

14 “(e) DUTIES.—

15 “(1) ADMINISTRATIVE DUTIES.—The Program
16 shall—

17 “(A) prepare interagency work and spend-
18 ing plans for implementing the activities of the
19 Program and developing and implementing the
20 Regional Research and Action Plans;

21 “(B) administer merit-based, competitive
22 grant funding to support the projects main-
23 tained and established by the Program, and to
24 address the research and management needs

1 and priorities identified in the Regional Re-
2 search and Action Plans;

3 “(C) coordinate NOAA programs that ad-
4 dress harmful algal blooms and hypoxia and
5 other ocean and Great Lakes science and man-
6 agement programs and centers that address the
7 chemical, biological, and physical components of
8 harmful algal blooms and hypoxia;

9 “(D) coordinate and work cooperatively
10 with other Federal, State, and local government
11 agencies and programs that address harmful
12 algal blooms and hypoxia;

13 “(E) coordinate with the State Department
14 to support international efforts on harmful
15 algal bloom and hypoxia information sharing,
16 research, mitigation, and control.”.

17 “(F) coordinate an outreach, education,
18 and training program that integrates and aug-
19 ments existing programs to improve public edu-
20 cation about and awareness of the causes, im-
21 pacts, and mitigation efforts for harmful algal
22 blooms and hypoxia;

23 “(G) facilitate and provide resources for
24 training of State and local coastal and water re-
25 source managers in the methods and tech-

1 nologies for monitoring, controlling, and miti-
2 gating harmful algal blooms and hypoxia;

3 “(H) support regional efforts to control
4 and mitigate outbreaks through—

5 “(i) communication of the contents of
6 the Regional Research and Action Plans
7 and maintenance of online data portals for
8 other information about harmful algal
9 blooms and hypoxia to State and local
10 stakeholders within the region for which
11 each plan is developed; and

12 “(ii) overseeing the development, re-
13 view, and periodic updating of Regional
14 Research and Action Plans established
15 under section 602C(b);

16 “(I) convene an annual meeting of the
17 Task Force; and

18 “(J) perform such other tasks as may be
19 delegated by the Task Force.

20 “(2) PROGRAM DUTIES.—The Program shall—

21 “(A) maintain and enhance—

22 “(i) the Ecology and Oceanography of
23 Harmful Algal Blooms Program;

- 1 “(ii) the Monitoring and Event Re-
2 sponse for Harmful Algal Blooms Pro-
3 gram;
- 4 “(iii) the Northern Gulf of Mexico
5 Ecosystems and Hypoxia Assessment Pro-
6 gram;
- 7 “(iv) the Coastal Hypoxia Research
8 Program; and
- 9 “(v) other relevant NOAA programs;
- 10 “(B) establish—
- 11 “(i) a Mitigation and Control of
12 Harmful Algal Blooms Program—
- 13 “(I) to develop and promote
14 strategies for the prevention, mitiga-
15 tion, and control of harmful algal
16 blooms;
- 17 “(II) to fund research that may
18 facilitate the prevention, mitigation,
19 and control of harmful algal blooms;
20 and
- 21 “(III) to develop and dem-
22 onstrate technology that may mitigate
23 and control harmful algal blooms; and
- 24 “(ii) other programs as necessary; and

1 “(C) work cooperatively with other offices,
2 centers, and programs within NOAA and other
3 agencies represented on the Task Force, States,
4 and nongovernmental organizations concerned
5 with marine and aquatic issues to manage data,
6 products, and infrastructure, including—

7 “(i) compiling, managing, and
8 archiving data from relevant programs in
9 Task Force member agencies;

10 “(ii) creating data portals for general
11 education and data dissemination on cen-
12 tralized, publicly available databases; and

13 “(iii) establishing communication
14 routes for data, predictions, and manage-
15 ment tools both to and from the regions,
16 states, and local communities.”.

17 **SEC. 7. REGIONAL RESEARCH AND ACTION PLANS.**

18 The Act, as amended by section 6, is amended by in-
19 serting after section 602A the following:

20 **“SEC. 602B. REGIONAL RESEARCH AND ACTION PLANS.**

21 “(a) IN GENERAL.—The Program shall—

22 “(1) oversee the development and implementa-
23 tion of Regional Research and Action Plans; and

1 “(2) identify appropriate regions and sub-re-
2 gions to be addressed by each Regional Research
3 and Action Plan.

4 “(b) REGIONAL PANELS OF EXPERTS.—As soon as
5 practicable after the date of enactment of the Harmful
6 Algal Blooms and Hypoxia Amendments Act of 2008, and
7 every 5 years thereafter, the Program shall convene a
8 panel of experts for each region identified under sub-
9 section (a)(2) from among—

10 “(1) State coastal management and planning
11 officials;

12 “(2) water management and watershed officials
13 from both coastal states and noncoastal states with
14 water sources that drain into water bodies affected
15 by harmful algal blooms and hypoxia;

16 “(3) public health officials;

17 “(4) emergency management officials;

18 “(5) nongovernmental organizations concerned
19 with marine and aquatic issues;

20 “(6) science and technology development insti-
21 tutions;

22 “(7) economists;

23 “(8) industries and businesses affected by
24 coastal and freshwater harmful algal blooms and hy-
25 poxia;

1 “(9) scientists, with expertise concerning harm-
2 ful algal blooms or hypoxia, from academic or re-
3 search institutions; and

4 “(10) other stakeholders as appropriate.

5 “(c) PLAN DEVELOPMENT.—Each regional panel of
6 experts shall develop a Regional Research and Action Plan
7 for its respective region and submit it to the Program for
8 approval and to the Task Force. The Plan shall identify
9 appropriate elements for the region, including—

10 “(1) baseline ecological, social, and economic re-
11 search needed to understand the biological, physical,
12 and chemical conditions that cause, exacerbate, and
13 result from harmful algal blooms and hypoxia;

14 “(2) regional priorities for ecological and socio-
15 economic research on issues related to, and impacts
16 of, harmful algal blooms and hypoxia;

17 “(3) research needed to develop and advance
18 technologies for improving capabilities to predict,
19 monitor, prevent, control, and mitigate harmful algal
20 blooms and hypoxia;

21 “(4) State and local government actions that
22 may be implemented—

23 “(A) to support long-term monitoring ef-
24 forts and emergency monitoring as needed;

1 “(B) to minimize the occurrence of harm-
2 ful algal blooms and hypoxia;

3 “(C) to reduce the duration and intensity
4 of harmful algal blooms and hypoxia in times of
5 emergency;

6 “(D) to address human health dimensions
7 of harmful algal blooms and hypoxia; and

8 “(E) to identify and protect vulnerable eco-
9 systems that could be, or have been, affected by
10 harmful algal blooms and hypoxia;

11 “(5) mechanisms by which data and products
12 are transferred between the Program and State and
13 local governments and research entities;

14 “(6) communication, outreach and information
15 dissemination efforts that State and local govern-
16 ments and nongovernmental organizations can un-
17 dertake to educate and inform the public concerning
18 harmful algal blooms and hypoxia and alternative
19 coastal resource-utilization opportunities that are
20 available; and

21 “(7) pilot projects, if appropriate, that may be
22 implemented on local, State, and regional scales to
23 address the research priorities and response actions
24 identified in the Plan.

1 “(d) PLAN TIMELINES; UPDATES.—The Program
2 shall ensure that—

3 “(1) not less than 50 percent of the Regional
4 Research and Action Plans developed under this sec-
5 tion are completed and approved by the Program
6 within 12 months after the date of enactment of the
7 Harmful Algal Blooms and Hypoxia Amendments
8 Act of 2008;

9 “(2) the remaining Regional Research and Ac-
10 tion Plans are completed and approved by the Pro-
11 gram within 24 months after such date of enact-
12 ment; and

13 “(3) each Regional Research and Action Plan is
14 updated no less frequently than once every 5 years.

15 “(e) FUNDING.—

16 “(1) IN GENERAL.—Subject to available appro-
17 priations, the Program shall make funding available
18 to eligible organizations to implement the research,
19 monitoring, forecasting, modeling, and response ac-
20 tions included under each approved Regional Re-
21 search and Action Plan. The Program shall select
22 recipients through a merit-based, competitive process
23 and seek to fund research proposals that most effec-
24 tively align with the research priorities identified in
25 the relevant Regional Research and Action Plan.

1 “(2) APPLICATION; ASSURANCES.—Any organi-
2 zation seeking funding under this subsection shall
3 submit an application to the Program at such time,
4 in such form and manner, and containing such in-
5 formation and assurances as the Program may re-
6 quire. The Program shall require any organization
7 receiving funds under this subsection to utilize the
8 mechanisms described in subsection (e)(5) to ensure
9 the transfer of data and products developed under
10 the Plan.

11 “(3) ELIGIBLE ORGANIZATION.—In this sub-
12 section, the term ‘eligible organization’ means—

13 “(A) a nongovernmental researcher or or-
14 ganization; or

15 “(B) any other entity that applies for
16 funding to implement the State, local, and non-
17 governmental control, mitigation, and preven-
18 tion strategies identified in the relevant Re-
19 gional Research and Action Plan.

20 “(f) EMERGENCY REVIEWS.—If the Program deter-
21 mines that an intermediate review is necessary to address
22 emergent needs in harmful algal blooms and hypoxia
23 under a Regional Research and Action Plan, it shall notify
24 the Task Force and reconvene the relevant regional panel
25 of experts for the purpose of revising the Regional Re-

1 search and Action Plan so as to address the emergent
2 threat or need.”.

3 **SEC. 8. REPORTING.**

4 Section 603, as amended by section 5, is amended
5 by adding at the end thereof the following:

6 “(k) BIENNIAL REPORTS.—The Program shall pre-
7 pare biannual reports for the Senate Committee on Com-
8 merce, Science, and Transportation and the House of Rep-
9 resentatives Committees on Science and Technology and
10 on Natural Resources that describe—

11 “(1) activities, budgets, and progress on imple-
12 menting the national harmful algal bloom and hy-
13 poxia program;

14 “(2) the proceedings of the annual Task Force
15 meeting; and

16 “(3) the status, activities, and funding for im-
17 plementation of the Regional Research and Action
18 Plans, including a description of research funded
19 under the program and actions and outcomes of
20 Plan response strategies carried out by States.

21 “(l) QUINQUENNIAL REPORTS.—

22 “(1) HARMFUL ALGAL BLOOM AND HYPOXIA
23 ASSESSMENTS.—Not less than once every 5 years
24 after the date of enactment of the Harmful Algal
25 Blooms and Hypoxia Amendments Act of 2008, the

1 Task Force shall prepare a report to the Senate
2 Committee on Commerce, Science, and Transpor-
3 tation and the House of Representatives Committees
4 on Science and Technology and on Natural Re-
5 sources that—

6 “(A) describes the state of knowledge on
7 harmful algal blooms and hypoxia in marine
8 and freshwater systems, including the causes
9 and ecological consequences;

10 “(B) describes the social and economic im-
11 pacts of harmful algal blooms and hypoxia and
12 strategies for their minimization and mitiga-
13 tion;

14 “(C) describes the human health impacts
15 of harmful algal blooms and hypoxia, including
16 any gaps in existing research;

17 “(D) describes progress on developing
18 technologies and advancing capabilities for
19 monitoring, forecasting, modeling, control, miti-
20 gation, and prevention of harmful algal blooms
21 and hypoxia and implementation of strategies
22 for achieving these goals;

23 “(E) describes progress on, and techniques
24 for, integrating landscape- and watershed-level
25 water quality information into marine and

1 freshwater harmful algal bloom and hypoxia
2 prevention and mitigation strategies, including
3 projects at the Federal and regional levels;

4 “(F) describes communication, outreach,
5 and education efforts to raise public awareness
6 of harmful algal blooms and hypoxia, their im-
7 pacts, and the methods for mitigation and pre-
8 vention;

9 “(G) includes recommendations for inte-
10 grating and improving future national, regional,
11 State, and local policies and strategies for pre-
12 venting and mitigating the occurrence and im-
13 pacts of harmful algal blooms and hypoxia; and

14 “(H) describes impacts of harmful algal
15 blooms and hypoxia on coastal communities and
16 a review of those communities’ efforts and asso-
17 ciated economic costs related to event fore-
18 casting, planning, mitigation, response, and
19 public outreach and education.

20 “(2) PUBLIC COMMENT.—At least 90 days be-
21 fore submitting the report to Congress, the Sec-
22 retary shall publish the draft report in the Federal
23 Register for a comment period of not less than 60
24 days.”.

1 **SEC. 9. PILOT PROGRAM FOR FRESHWATER HARMFUL**
2 **ALGAL BLOOMS AND HYPOXIA.**

3 The Act, as amended by section 7, is amended by in-
4 serting after section 603B the following:

5 **“SEC. 603C. PILOT PROGRAM FOR FRESHWATER HARMFUL**
6 **ALGAL BLOOMS AND HYPOXIA.**

7 “(a) PILOT PROGRAM.—The Secretary shall establish
8 a collaborative pilot program with the Environmental Pro-
9 tection Agency and other appropriate Federal agencies to
10 examine harmful algal blooms and hypoxia occurring in
11 freshwater systems. The pilot program shall—

12 “(1) be established in the Mississippi River
13 Basin watershed;

14 “(2) assess the issues associated with, and im-
15 pacts of, harmful algal blooms and hypoxia in fresh-
16 water ecosystems;

17 “(3) research the efficacy of mitigation meas-
18 ures, including measures to reduce nutrient loading;
19 and

20 “(4) recommend potential management solu-
21 tions.

22 “(b) REPORT.—The Secretary of Commerce, in con-
23 sultation with other participating Federal agencies, shall
24 conduct an assessment of the effectiveness of the pilot pro-
25 gram in improving freshwater habitat quality and publish

1 a report, available to the public, of the results of the as-
2 sessment.”.

3 **SEC. 10. INTERAGENCY FINANCING.**

4 The Act is amended by inserting after section 604
5 the following:

6 **“SEC. 604A. INTERAGENCY FINANCING.**

7 “The departments and agencies represented on the
8 Task Force are authorized to participate in interagency
9 financing and share, transfer, receive, obligate, and ex-
10 pend funds appropriated to any member of the Task Force
11 for the purposes of carrying out any administrative or pro-
12 grammatic project or activity under this Act, including
13 support for the Program, a common infrastructure, infor-
14 mation sharing, and system integration for harmful algal
15 bloom and hypoxia research, monitoring, forecasting, pre-
16 vention, and control. Funds may be transferred among
17 such departments and agencies through an appropriate in-
18 strument that specifies the goods, services, or space being
19 acquired from another Task Force member and the costs
20 of the same.”.

21 **SEC. 11. APPLICATION WITH OTHER LAWS.**

22 The Act is amended by inserting after section 606
23 the following:

1 **“SEC. 607. EFFECT ON OTHER FEDERAL AUTHORITY.**

2 “Nothing in this title supersedes or limits the author-
3 ity of any agency to carry out its responsibilities and mis-
4 sions under other laws.”.

5 **SEC. 12. DEFINITIONS.**

6 (a) IN GENERAL.—The Act is amended by inserting
7 after section 605 the following:

8 **“SEC. 605A. DEFINITIONS.**

9 “In this Act:

10 “(1) ADMINISTRATOR.—The term ‘Adminis-
11 trator’ means the Administrator of the NOAA.

12 “(2) HARMFUL ALGAL BLOOM.—The term
13 ‘harmful algal bloom’ means marine and freshwater
14 phytoplankton that proliferate to high concentra-
15 tions, resulting in nuisance conditions or harmful
16 impacts on marine and aquatic ecosystems, coastal
17 communities, and human health through the produc-
18 tion of toxic compounds or other biological, chemical,
19 and physical impacts of the algae outbreak.

20 “(3) HYPOXIA.—The term ‘hypoxia’ means a
21 condition where low dissolved oxygen in aquatic sys-
22 tems causes stress or death to resident organisms.

23 “(4) NOAA.—The term ‘NOAA’ means the Na-
24 tional Oceanic and Atmospheric Administration.

1 “(5) PROGRAM.—The term ‘Program’ means
2 the Integrated Harmful Algal Bloom and Hypoxia
3 Program established under section 602B.

4 “(6) REGIONAL RESEARCH AND ACTION
5 PLAN.—The term ‘Regional Research and Action
6 Plan’ means a plan established under section 602B.

7 “(7) SECRETARY.—The term ‘Secretary’ means
8 the Secretary of Commerce, acting through
9 NOAA.”.

10 “(8) TASK FORCE.—The term ‘Task Force’
11 means the Interagency Task Force established by
12 section 603(a).

13 “(9) UNITED STATES COASTAL WATERS.—The
14 term ‘United States coastal waters’ includes the
15 Great Lakes.”.

16 (b) CONFORMING AMENDMENT.—Section 603(a) is
17 amended by striking “Hypoxia (hereinafter referred to as
18 the ‘Task force’).” and inserting “Hypoxia.”.

19 **SEC. 13. AUTHORIZATION OF APPROPRIATIONS.**

20 Section 605 is amended to read as follows:—

21 **“SEC. 605. AUTHORIZATION OF APPROPRIATIONS.**

22 “(a) IN GENERAL.—There are authorized to be ap-
23 propriated to NOAA to implement the Program under this
24 title—

1 “(1) \$30,000,000 for each of fiscal years 2009
2 and 2010; and

3 “(2) \$70,000,000 for each of fiscal years 2011,
4 2012, and 2013. The Secretary shall ensure that a
5 substantial portion of funds appropriated pursuant
6 to this subsection that are used for research pur-
7 poses are allocated to extramural research activities.

8 “(b) REGIONAL RESEARCH AND ACTION PLANS.—In
9 addition to any amounts appropriated pursuant to sub-
10 section (a), there are authorized to be appropriated to
11 NOAA to develop and revise the Regional Research and
12 Action Plans, \$40,000,000 for each of fiscal years 2009
13 and 2010, such sums to remain available until expended.

14 “(c) PILOT PROGRAM.—In addition to any amounts
15 appropriated pursuant to subsection (a), there are author-
16 ized to be appropriated to NOAA such sums as may be
17 necessary to carry out the pilot program established under
18 section 603C.”.

○