

111TH CONGRESS  
1ST SESSION

# S. 2913

To establish a national mercury monitoring program, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

DECEMBER 18, 2009

Ms. COLLINS (for herself and Mr. CARPER) introduced the following bill;  
which was read twice and referred to the Committee on Environment and  
Public Works

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## A BILL

To establish a national mercury monitoring program, 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,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Comprehensive Na-  
5 tional Mercury Monitoring Act”.

6 **SEC. 2. FINDINGS.**

7 Congress finds that

8 (1)(A) mercury is a potent neurotoxin of signifi-  
9 cant ecological and public health concern;

1 (B) exposure to mercury occurs largely by con-  
2 sumption of contaminated fish;

3 (C) children and women of childbearing age  
4 who consume large quantities of fish are at high risk  
5 of adverse effects;

6 (D) it is estimated that more than 630,000  
7 children born each year in the United States are ex-  
8 posed to levels of mercury in the womb that are high  
9 enough to impair neurological development; and

10 (E) the Centers for Disease Control and Pre-  
11 vention have found that 8 percent of women in the  
12 United States of childbearing age have blood mer-  
13 cury levels in excess of values determined to be safe  
14 by the Environmental Protection Agency;

15 (2)(A) as of 2006, 3,080 fish consumption  
16 advisories due to mercury contamination have been  
17 issued for 48 States, including 23 statewide  
18 advisories for freshwater and 12 statewide advisories  
19 for coastal waters;

20 (B) that is a 26 percent increase over the num-  
21 ber of advisories issued in 2004;

22 (C) those advisories represent more than  
23 22,000 square miles of lakes and 882,000 miles of  
24 rivers;

1 (D) however, fish and shellfish are an impor-  
2 tant source of dietary protein, and a healthy fishing  
3 resource is important to the economy of the United  
4 States; and

5 (E) the extent of fish consumption advisories  
6 underscores the extensive human and ecological  
7 health risk posed by mercury pollution;

8 (3)(A) in many locations, the primary route for  
9 mercury input to aquatic ecosystems is atmospheric  
10 emissions, transport, and deposition;

11 (B) the cycling of mercury in the environment  
12 and resulting accumulation in biota are not fully un-  
13 derstood; and

14 (C) computer models and other assessment  
15 tools provide varying effectiveness in predicting mer-  
16 cury concentrations in fish, and no broad-scale data  
17 sets exist to test model predictions;

18 (4)(A) on September 14 through 17, 2003, the  
19 Environmental Protection Agency cosponsored a So-  
20 ciety of Environmental Toxicology and Chemistry  
21 workshop involving more than 30 international ex-  
22 perts to formulate a system to quantify and docu-  
23 ment mercury changes in the various environment  
24 fields resulting from anticipated reductions in mer-  
25 cury emissions in the United States; and

1 (B) the resulting plan proposes a holistic,  
2 multimedia, long-term mercury monitoring program  
3 that is documented in 2 sources—

4 (i) on January 1, 2005, the article entitled  
5 “Monitoring the Response to Changing Mercury  
6 Deposition” was published in the journal Envi-  
7 ronmental Science and Technology; and

8 (ii) in 2008, the book entitled “Ecosystem  
9 Responses to Mercury Contamination: Indica-  
10 tors of Change” was published by CRC Press;

11 (5) as of the date of enactment of this Act,  
12 many regulations limiting mercury emissions from  
13 different sources have gone into effect or will be im-  
14 plemented, but ongoing monitoring programs are not  
15 adequately measuring the environmental benefits  
16 and effectiveness of mercury emission controls;

17 (6) on May 15, 2006, the Office of Inspector  
18 General of the Environmental Protection Agency  
19 issued a report entitled, “Monitoring Needed to As-  
20 sess Impact of EPA’s Clean Air Mercury Rule  
21 (CAMR) on Potential Hotspots”, Report No. 2006-  
22 P-0025, which states, in part—

23 (A) “Without field data from an improved  
24 monitoring network, EPA’s ability to advance  
25 mercury science will be limited and ‘utility-at-

1           tributable hotspots’ that pose health risks may  
2           occur and go undetected”; and

3           (B) “We recommend that the EPA develop  
4           and implement a mercury monitoring plan to  
5           assess the impact of CAMR, if adopted, on mer-  
6           cury deposition and fish tissue and evaluate and  
7           refine mercury estimation tools and models”;

8           (7)(A) on January 1, 2007, the articles entitled  
9           “Biological Mercury Hotspots in the Northeastern  
10          U.S. and Southeastern Canada” and “Contamina-  
11          tion in Remote Forest and Aquatic Ecosystems in  
12          the Northeastern U.S.: Sources, Transformations  
13          and Management Options” were published in the  
14          journal *BioScience*; and

15          (B) the authors of the articles—

16           (i) identified 5 biological mercury hotspots  
17           and 9 areas of concern in the northeastern  
18           United States and southeastern Canada associ-  
19           ated primarily with atmospheric mercury emis-  
20           sions and deposition;

21           (ii) located an area of particularly high  
22           mercury deposition adjacent to a coal-fired util-  
23           ity in southern New Hampshire; and

24           (iii) concluded that local impacts from  
25           mercury emissions should be closely monitored

1           in order to assess the impact of Federal and  
2           State policies; and

3           (8)(A) building on previous efforts in 2003, on  
4           May 5 through 7, 2008, the Environmental Protec-  
5           tion Agency coconvened a workshop with experts  
6           from the United States Geological Survey, the Na-  
7           tional Oceanic and Atmospheric Administration, the  
8           United States Fish and Wildlife Service, the Na-  
9           tional Park Service, State and tribal agencies, the  
10          BioDiversity Research Institute, the National At-  
11          mospheric Deposition Program, industry, and other  
12          institutions;

13          (B) more than 50 workshop scientists partici-  
14          pated and agreed on a goal and major design ele-  
15          ments for a national mercury monitoring program,  
16          including a national distribution of approximately 20  
17          intensive sites to understand the sources, con-  
18          sequences, and trends in United States mercury pol-  
19          lution;

20          (C) the consortium found that “policy makers,  
21          scientists and the public need a comprehensive and  
22          integrated mercury monitoring network to accurately  
23          quantify regional and national changes in atmos-  
24          pheric deposition, ecosystem contamination, and bio-

1 accumulation of mercury in fish and wildlife in re-  
2 sponse to changes in mercury emissions.”; and

3 (D) the workshop findings are published in a  
4 report of the Environmental Protection Agency  
5 (430–K–09–001).

6 **SEC. 3. DEFINITIONS.**

7 In this Act:

8 (1) ADMINISTRATOR.—The term “Adminis-  
9 trator” means the Administrator of the Environ-  
10 mental Protection Agency.

11 (2) ADVISORY COMMITTEE.—The term “Advi-  
12 sory Committee” means the Mercury Monitoring Ad-  
13 visory Committee established under section 5.

14 (3) ANCILLARY MEASURE.—The term “ancillary  
15 measure” means a measure that is used to under-  
16 stand the impact and interpret results of measure-  
17 ments under the program.

18 (4) ECOREGION.—The term “ecoregion” means  
19 a large area of land and water that contains a geo-  
20 graphically distinct assemblage of natural commu-  
21 nities, including similar land forms, climate, ecologi-  
22 cal processes, and vegetation.

23 (5) MERCURY EXPORT.—The term “mercury  
24 export” means mercury flux from a watershed to the  
25 corresponding water body, or from 1 water body to

1 another water body (such as a lake to a river), gen-  
2 erally expressed as mass per unit of time.

3 (6) MERCURY FLUX.—The term “mercury flux”  
4 means the rate of transfer of mercury between eco-  
5 system components (such as between water and air),  
6 or between portions of ecosystem components, ex-  
7 pressed in terms of mass per unit of time or mass  
8 per unit of area per time.

9 (7) PROGRAM.—The term “program” means  
10 the national mercury monitoring program estab-  
11 lished under section 4.

12 (8) SURFACE SEDIMENT.—The term “surface  
13 sediment” means sediment in the uppermost 2 centi-  
14 meters of a lakebed or riverbed.

15 **SEC. 4. MONITORING PROGRAM.**

16 (a) ESTABLISHMENT.—

17 (1) IN GENERAL.—The Administrator, in con-  
18 sultation with the Director of the United States Fish  
19 and Wildlife Service, the Director of the United  
20 States Geological Survey, the Director of the Na-  
21 tional Park Service, the Administrator of the Na-  
22 tional Oceanic and Atmospheric Administration, and  
23 the heads of other appropriate Federal agencies,  
24 shall establish a national mercury monitoring pro-  
25 gram.



1           (2) PURPOSE.—The purpose of the program is  
2 to track—

3           (A) long-term trends in atmospheric mer-  
4 cury concentrations and deposition; and

5           (B) mercury levels in watersheds, surface  
6 waters, and fish and wildlife in terrestrial,  
7 freshwater, and coastal ecosystems in response  
8 to changing mercury emissions over time.

9           (3) MONITORING SITES.—

10           (A) IN GENERAL.—In carrying out para-  
11 graph (1), not later than 1 year after the date  
12 of enactment of this Act and in coordination  
13 with the Advisory Committee, the Adminis-  
14 trator, after consultation with the heads of Fed-  
15 eral agencies described in paragraph (1) and  
16 considering the requirement for reports under  
17 section 6, shall select multiple monitoring sites  
18 representing multiple ecoregions of the United  
19 States.

20           (B) LOCATIONS.—Locations of monitoring  
21 sites shall include national parks, wildlife ref-  
22 uges, National Estuarine Research Reserve  
23 units, and other sensitive ecological areas that  
24 include long-term protection and in which sub-

1           stantive changes are expected from reductions  
2           in domestic mercury emissions.

3           (C) COLOCATION.—If practicable, moni-  
4           toring sites shall be colocated with sites from  
5           other long-term environmental monitoring pro-  
6           grams.

7           (4) MONITORING PROTOCOLS.—Not later than  
8           1 year after the date of enactment of this Act, the  
9           Administrator, in coordination with the Advisory  
10          Committee, shall establish and publish standardized  
11          measurement protocols for the program under this  
12          Act.

13          (5) DATA COLLECTION AND DISTRIBUTION.—  
14          Not later than 1 year after the date of enactment  
15          of this Act, the Administrator, in coordination with  
16          the Advisory Committee, shall establish a centralized  
17          database for existing and newly collected environ-  
18          mental mercury data that can be freely accessed  
19          once data assurance and quality standards estab-  
20          lished by the Administrator are met.

21          (b) AIR AND WATERSHEDS.—

22                (1) IN GENERAL.—The program shall monitor  
23                long-term changes in mercury levels and important  
24                ancillary measures in the air at locations selected  
25                under subsection (a)(3).

1           (2) MEASUREMENTS.—The Administrator, in  
2           consultation with the Director of the United States  
3           Fish and Wildlife Service, the Director of the United  
4           States Geological Survey, the Director of the Na-  
5           tional Park Service, the Administrator of the Na-  
6           tional Oceanic and Atmospheric Administration, and  
7           the heads of other appropriate Federal agencies,  
8           shall determine appropriate measurements, includ-  
9           ing—

10                   (A) the measurement and recording of wet  
11                   and estimation of dry mercury deposition, mer-  
12                   cury flux, and mercury export;

13                   (B) the measurement and recording of the  
14                   level of mercury reemitted from aquatic and  
15                   terrestrial environments into the atmosphere;  
16                   and

17                   (C) the measurement of sulfur species and  
18                   ancillary measurements at a portion of locations  
19                   selected under subsection (a)(3) to fully under-  
20                   stand the cycling of mercury through the eco-  
21                   system.

22           (c) WATER AND SOIL CHEMISTRY.—The program  
23           shall monitor long-term changes in mercury and methyl  
24           mercury levels and important ancillary measures in the  
25           water and soil or sediments at locations selected under

1 subsection (a)(3) that the Administrator, in primary con-  
2 sultation with the Director of the United States Geological  
3 Survey, determines to be appropriate, including—

4 (1) extraction and analysis of soil and sediment  
5 cores;

6 (2) measurement and recording of total mer-  
7 cury and methyl mercury concentration, and percent  
8 methyl mercury in surface sediments;

9 (3) measurement and recording of total mer-  
10 cury and methyl mercury concentration in surface  
11 water; and

12 (4) measurement and recording of total mer-  
13 cury and methyl mercury concentrations throughout  
14 the water column and sediments.

15 (d) AQUATIC AND TERRESTRIAL ORGANISMS.—The  
16 program shall monitor long-term changes in mercury and  
17 methyl mercury levels and important ancillary measures  
18 in the aquatic and terrestrial organisms at locations se-  
19 lected under subsection (a)(3) that the Administrator, in  
20 primary consultation with the Director of the United  
21 States Fish and Wildlife Service and the Administrator  
22 of the National Oceanic and Atmospheric Administration,  
23 determines to be appropriate, including—

24 (1) measurement and recording of total mer-  
25 cury and methyl mercury concentrations in—

- 1 (A) zooplankton and other invertebrates;  
2 (B) yearling fish; and  
3 (C) commercially, recreationally, or con-  
4 servation relevant fish; and  
5 (2) measurement and recording of total mer-  
6 cury concentrations in—  
7 (A) selected insect- and fish-eating birds;  
8 and  
9 (B) measurement and recording of total  
10 mercury concentrations in selected insect- and  
11 fish-eating mammals.

12 **SEC. 5. ADVISORY COMMITTEE.**

13 (a) ESTABLISHMENT.—There shall be established a  
14 scientific advisory committee, to be known as the “Mer-  
15 cury Monitoring Advisory Committee”, to advise the Ad-  
16 ministrator and Federal agencies described in section  
17 4(a)(1), on the establishment, site selection, measurement  
18 and recording protocols, and operation of the program.

19 (b) MEMBERSHIP.—The Advisory Committee shall  
20 consist of scientists who are not employees of the Federal  
21 Government, including—

- 22 (1) 3 scientists appointed by the Administrator;  
23 (2) 2 scientists appointed by the Director of the  
24 United States Fish and Wildlife Service;

1           (3) 2 scientists appointed by the Director of the  
2           United States Geological Survey;

3           (4) 2 scientists appointed by the Director of the  
4           National Park Service; and

5           (5) 2 scientists appointed by the Administrator  
6           of the National Oceanic and Atmospheric Adminis-  
7           tration.

8   **SEC. 6. REPORTS AND PUBLIC DISCLOSURE.**

9           (a) REPORTS.—Not later than 2 years after the date  
10          of enactment of this Act and every 2 years thereafter, the  
11          Administrator shall submit to Congress a report on the  
12          program, including trend data.

13          (b) ASSESSMENT.—At least once every 4 years, the  
14          report required under subsection (a) shall include an as-  
15          sessment of the reduction in mercury deposition rates that  
16          are required to be achieved in order to prevent adverse  
17          human and ecological effects.

18          (c) AVAILABILITY OF DATA.—The Administrator  
19          shall make all data obtained under this Act available to  
20          the public through a dedicated website and on written re-  
21          quest.

22   **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

23          There are authorized to be appropriated to carry out  
24          this Act—

25                 (1) for fiscal year 2011 to—

1 (A) the Environmental Protection Agency  
2 \$15,000,000;

3 (B) the United States Fish and Wildlife  
4 Service \$9,000,000;

5 (C) the United States Geological Survey  
6 \$5,000,000;

7 (D) the National Oceanic and Atmospheric  
8 Administration \$4,000,000; and

9 (E) the National Park Service \$4,000,000;

10 (2) for fiscal year 2012 to—

11 (A) the Environmental Protection Agency  
12 \$12,000,000;

13 (B) the United States Fish and Wildlife  
14 Service \$7,000,000;

15 (C) the United States Geological Survey  
16 \$4,000,000;

17 (D) the National Oceanic and Atmospheric  
18 Administration \$3,000,000; and

19 (E) the National Park Service \$3,000,000;

20 (3) for fiscal year 2013 to—

21 (A) the Environmental Protection Agency  
22 \$12,000,000;

23 (B) the United States Fish and Wildlife  
24 Service \$7,000,000;

1 (C) the United States Geological Survey  
2 \$4,000,000;

3 (D) the National Oceanic and Atmospheric  
4 Administration \$3,000,000; and

5 (E) the National Park Service \$3,000,000;  
6 and

7 (4) such sums as are necessary for each of fis-  
8 cal years 2014 through 2016 to—

9 (A) the Environmental Protection Agency;

10 (B) the United States Fish and Wildlife  
11 Service;

12 (C) the United States Geological Survey;

13 (D) the National Oceanic and Atmospheric  
14 Administration; and

15 (E) the National Park Service.

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