

116TH CONGRESS  
1ST SESSION

# S. 181

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

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IN THE SENATE OF THE UNITED STATES

JANUARY 17, 2019

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

1           (2) it is estimated that approximately 200,000  
2 children born each year in the United States are ex-  
3 posed to levels of mercury in the womb that are high  
4 enough to impair neurological development;

5           (3) based on estimates from the Centers for  
6 Disease Control and Prevention, between 2000 and  
7 2010, between 2 and 6 percent of women in the  
8 United States of childbearing age have exceeded  
9 blood mercury levels determined to be safe by the  
10 Environmental Protection Agency;

11          (4) exposure to mercury occurs largely by the  
12 consumption of contaminated fish, but fish and  
13 shellfish are important sources of dietary protein  
14 and micronutrients, and a healthy fishing resource is  
15 important to the economy of the United States;

16          (5) in many locations, the primary route for  
17 mercury input to aquatic ecosystems is atmospheric  
18 emissions, transport, and deposition;

19          (6) existing broad-scale data sets are important  
20 but insufficient to track changes in mercury levels in  
21 the environment over time, test model predictions,  
22 and assess the impact of changing mercury emis-  
23 sions and deposition; and

24          (7) a comprehensive national mercury moni-  
25 toring network to accurately quantify regional and

1 national changes in atmospheric mercury deposition,  
2 ecosystem contamination, and bioaccumulation of  
3 mercury in fish and wildlife in response to changes  
4 in mercury emissions would help policy makers, sci-  
5 entists, and the public to better understand the  
6 sources, consequences, and trends of mercury pollu-  
7 tion in the United States.

8 **SEC. 3. DEFINITIONS.**

9 In this Act:

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

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

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

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

1           (5) MERCURY EXPORT.—The term “mercury  
2 export” means mercury transport from a watershed  
3 to the corresponding body of water, or from 1 body  
4 of water to another body of water (such as from a  
5 lake to a river), generally expressed as—

6                   (A) mass per unit of time; or

7                   (B) mass per unit of watershed or body of  
8 water area per unit of time.

9           (6) MERCURY FLUX.—The term “mercury flux”  
10 means the rate of transfer of mercury between eco-  
11 system components (such as between water and air  
12 or land and air) or between portions of ecosystem  
13 components, expressed in terms of—

14                   (A) mass per unit of time; or

15                   (B) mass per unit of area of land or water  
16 per unit of time.

17           (7) PROGRAM.—The term “program” means  
18 the national mercury monitoring program estab-  
19 lished under section 4(a).

20           (8) SURFACE SEDIMENT.—The term “surface  
21 sediment” means sediment in the uppermost 2 centi-  
22 meters of a lakebed, riverbed, estuary, or coastal  
23 area.

24 **SEC. 4. MONITORING PROGRAM.**

25           (a) ESTABLISHMENT.—

1           (1) IN GENERAL.—The Administrator, in con-  
2           sultation with the Director of the United States Fish  
3           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 establish a national mercury monitoring pro-  
9           gram.

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

12                   (A) long-term trends in atmospheric mer-  
13                   cury concentrations and deposition; and

14                   (B) mercury levels in watersheds, surface  
15                   water, and fish and wildlife in terrestrial, fresh-  
16                   water, coastal, and marine ecosystems in re-  
17                   sponse to changing mercury emissions over  
18                   time.

19           (3) MONITORING SITES.—

20                   (A) IN GENERAL.—In carrying out para-  
21                   graph (1), not later than 1 year after the date  
22                   of enactment of this Act and in coordination  
23                   with the Advisory Committee, the Adminis-  
24                   trator shall select multiple monitoring sites rep-

1           resenting multiple ecoregions and associated  
2           coastal waters of the United States.

3           (B) LOCATIONS.—Locations of monitoring  
4           sites shall include—

5                     (i) units of the National Park System;

6                     (ii) units of the National Wildlife Ref-  
7           uge System;

8                     (iii) units of the National Estuarine  
9           Research Reserve System; and

10                    (iv) sensitive ecological areas in which  
11           substantive changes are expected from re-  
12           ductions in domestic mercury emissions.

13           (C) COLOCATION.—Monitoring sites shall  
14           be colocated with sites from other long-term en-  
15           vironmental monitoring programs, where prac-  
16           ticable, including sites associated with the Na-  
17           tional Ecological Observatory Network, the  
18           Long Term Ecological Research Network, and  
19           the National Atmospheric Deposition Program.

20           (D) MONITORING PROTOCOLS.—Not later  
21           than 1 year after the date of enactment of this  
22           Act, the Administrator, in coordination with the  
23           Advisory Committee, shall establish and publish  
24           standardized measurement protocols for the  
25           program.

1           (4) INTERNATIONAL COOPERATION.—To the  
2 maximum extent practicable, the program shall be  
3 compatible with similar international efforts, includ-  
4 ing the Arctic Monitoring and Assessment Pro-  
5 gramme, the Global Earth Observation System of  
6 Systems, and the monitoring associated with the ef-  
7 fectiveness evaluation of the Minamata Convention  
8 on Mercury, adopted October 10, 2013 (TIAS 17–  
9 816), which entered into force on August 16, 2017.

10           (5) DATA COLLECTION AND DISTRIBUTION.—  
11 Not later than 1 year after the date of enactment  
12 of this Act, the Administrator, in coordination with  
13 the Advisory Committee, shall establish—

14                   (A) a centralized database for existing and  
15 newly collected environmental mercury data  
16 that can be freely accessed on the Internet; and

17                   (B) assurance and quality standards for  
18 the database under subparagraph (A).

19           (b) FUNCTIONS.—

20           (1) IN GENERAL.—Under the program, the Ad-  
21 ministrator, in consultation with the appropriate  
22 Federal agencies and the Advisory Committee, shall  
23 at a minimum carry out monitoring described in  
24 paragraphs (2) through (4) at the locations selected  
25 under subsection (a)(3).

1           (2) AIR AND WATERSHEDS.—The program, in  
2           association with the National Atmospheric Deposi-  
3           tion Program, shall monitor long-term changes in  
4           mercury levels and important ancillary measures in  
5           the air, including—

6                   (A) the measurement and recording of wet  
7                   mercury deposition;

8                   (B) an estimation of—

9                           (i) dry mercury deposition (such as  
10                           litter mercury deposition);

11                           (ii) mercury flux; and

12                           (iii) mercury export; and

13                   (C) the measurement of mercury isotopes  
14                   and ancillary measurements to fully understand  
15                   the transport, cycling, and transformations of  
16                   mercury through ecosystems.

17           (3) WATER AND SOIL CHEMISTRY.—The pro-  
18           gram, in association with the WaterWatch Program  
19           established by the United States Geological Survey,  
20           shall monitor long-term changes in mercury and  
21           methyl mercury levels and important ancillary meas-  
22           ures in the water and soil or sediments, including—

23                   (A) extraction and analysis of soil and  
24                   sediment cores;



1           (B) measurement and recording of total  
2 mercury and methyl mercury concentration in  
3 surface sediments; and

4           (C) measurement and recording of total  
5 mercury and methyl mercury concentration in  
6 surface waters.

7           (4) AQUATIC AND TERRESTRIAL ORGANISMS.—

8           The program, in association with the United States  
9 Fish and Wildlife Service and the Inventory and  
10 Monitoring Division of the National Park Service,  
11 shall monitor long-term changes in mercury and  
12 methyl mercury levels and important ancillary meas-  
13 ures in marine, freshwater, and terrestrial orga-  
14 nisms, including—

15           (A) measurement and recording of total  
16 mercury and methyl mercury concentrations  
17 in—

18                   (i) invertebrates;

19                   (ii) yearling or lower trophic level fish;

20                   and

21                   (iii) commercially, recreationally, or  
22 conservation relevant fish; and

23           (B) measurement and recording of total  
24 mercury concentrations in—

- 1 (i) selected insect- and fish-eating  
2 birds; and  
3 (ii) selected insect- and fish-eating  
4 mammals.

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

6 (a) ESTABLISHMENT.—The Administrator, in con-  
7 sultation with the Director of the United States Fish and  
8 Wildlife Service, the Director of the United States Geo-  
9 logical Survey, the Director of the National Park Service,  
10 the Administrator of the National Oceanic and Atmos-  
11 pheric Administration, and the heads of other appropriate  
12 Federal agencies, shall establish a scientific advisory com-  
13 mittee, to be known as the “Mercury Monitoring Advisory  
14 Committee”, to advise the Administrator and those Fed-  
15 eral agencies on the establishment, site selection, measure-  
16 ment, recording protocols, and operation of the program.

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

- 20 (1) 3 scientists appointed by the Administrator;  
21 (2) 2 scientists appointed by the Director of the  
22 United States Fish and Wildlife Service;  
23 (3) 2 scientists appointed by the Director of the  
24 United States Geological Survey;

1           (4) 2 scientists appointed by the Director of the  
2       National Park Service; and

3           (5) 2 scientists appointed by the Administrator  
4       of the National Oceanic and Atmospheric Adminis-  
5       tration.

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

7       (a) REPORTS.—Not later than 2 years after the date  
8       of enactment of this Act and every 2 years thereafter, the  
9       Administrator shall submit to Congress a report on the  
10      program, including data on relevant temporal trends and  
11      spatial gradients in mercury contamination in the environ-  
12      ment.

13      (b) ASSESSMENT.—Not less frequently than once  
14      every 4 years, the report required under subsection (a)  
15      shall include an assessment of mercury deposition rates  
16      that need 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) \$37,000,000 for fiscal year 2020;

- 1 (2) \$29,000,000 for fiscal year 2021; and
- 2 (3) \$29,000,000 for fiscal year 2022.

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