

117TH CONGRESS  
1ST SESSION

# S. 1345

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

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IN THE SENATE OF THE UNITED STATES

APRIL 22, 2021

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 100,000  
2 to 200,000 children born each year in the United  
3 States are exposed to levels of mercury in the womb  
4 that are high enough to impair neurological develop-  
5 ment;

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

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

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

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

1           (7) a comprehensive national mercury moni-  
2           toring network to accurately quantify regional and  
3           national changes in atmospheric mercury deposition,  
4           ecosystem contamination, and bioaccumulation of  
5           mercury in fish and wildlife in response to changes  
6           in mercury emissions would help policy makers, sci-  
7           entists, and the public to better understand the  
8           sources, consequences, and trends of mercury pollu-  
9           tion in the United States.

10 **SEC. 3. DEFINITIONS.**

11       In this Act:

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

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

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

22           (4) ECOREGION.—The term “ecoregion” means  
23           a large area of land and water that contains a geo-  
24           graphically distinct assemblage of natural commu-

1 nities, including similar land forms, climate, ecologi-  
2 cal processes, and vegetation.

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

8 (A) mass per unit of time;

9 (B) mass per unit of watershed; or

10 (C) area of the water body per unit of  
11 time.

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

17 (A) mass per unit of time; or

18 (B) mass per unit of area of land or water  
19 per unit of time.

20 (7) PROGRAM.—The term “program” means  
21 the national mercury monitoring program estab-  
22 lished under section 4(a).

23 (8) SURFACE SEDIMENT.—The term “surface  
24 sediment” means sediment in the uppermost 2 centi-

1 meters of a lakebed, riverbed, estuary, or coastal  
2 area.

3 **SEC. 4. MONITORING PROGRAM.**

4 (a) ESTABLISHMENT.—

5 (1) IN GENERAL.—The Administrator, in con-  
6 sultation with the Director of the United States Fish  
7 and Wildlife Service, the Director of the United  
8 States Geological Survey, the Director of the Na-  
9 tional Park Service, the Administrator of the Na-  
10 tional Oceanic and Atmospheric Administration, and  
11 the heads of other appropriate Federal agencies,  
12 shall establish a national mercury monitoring pro-  
13 gram.

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

16 (A) long-term trends in atmospheric mer-  
17 cury concentrations and deposition; and

18 (B) mercury levels in watersheds, surface  
19 water, and fish and wildlife in terrestrial, fresh-  
20 water, coastal, and marine ecosystems in re-  
21 sponse to changing mercury emissions over  
22 time.

23 (3) MONITORING SITES.—

24 (A) IN GENERAL.—In carrying out para-  
25 graph (1), not later than 1 year after the date

1 of enactment of this Act and in coordination  
2 with the Advisory Committee, the Adminis-  
3 trator shall select multiple monitoring sites rep-  
4 resenting multiple ecoregions and associated  
5 coastal waters of the United States.

6 (B) LOCATIONS.—Locations of monitoring  
7 sites shall include—

8 (i) units of the National Park System;

9 (ii) units of the National Wildlife Ref-  
10 uge System;

11 (iii) units of the National Estuarine  
12 Research Reserve System;

13 (iv) human communities with highly  
14 exposed and vulnerable populations; and

15 (v) sensitive ecological areas in which  
16 substantive changes are expected to result  
17 from changes in domestic or international  
18 mercury emissions.

19 (C) COLOCATION.—Monitoring sites shall  
20 be co-located with sites from other long-term  
21 environmental monitoring programs, where  
22 practicable, including sites associated with the  
23 National Ecological Observatory Network, the  
24 Long Term Ecological Research Network, and  
25 the National Atmospheric Deposition Program.

1 (D) MONITORING PROTOCOLS.—Not later  
2 than 1 year after the date of enactment of this  
3 Act, the Administrator, in coordination with the  
4 Advisory Committee, shall establish and publish  
5 standardized measurement protocols for the  
6 program.

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

16 (5) DATA COLLECTION AND DISTRIBUTION.—  
17 Not later than 1 year after the date of enactment  
18 of this Act, the Administrator, in coordination with  
19 the Advisory Committee, shall establish—

20 (A) a centralized database for existing and  
21 newly collected environmental mercury data  
22 that can be freely accessed on the Internet; and

23 (B) assurance and quality standards for  
24 the database under subparagraph (A).

25 (b) FUNCTIONS.—

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

7           (2) AIR AND WATERSHEDS.—The program, in  
8           association with the National Atmospheric Deposi-  
9           tion Program, shall monitor long-term changes in  
10          mercury levels and important ancillary measures in  
11          the air, including—

12                 (A) the measurement and recording of wet  
13                 mercury deposition;

14                 (B) an estimation of—

15                         (i) dry mercury deposition (such as  
16                         litter mercury deposition or estimates of  
17                         mercury accumulation in vegetation  
18                         through eddy covariance measurements);

19                         (ii) mercury flux; and

20                         (iii) mercury export; and

21                 (C) the measurement of stable isotopes of  
22                 mercury and ancillary measurements to fully  
23                 understand the transport, cycling, and trans-  
24                 formations of mercury through ecosystems.



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

7                   (A) extraction and analysis of soil and  
8                   sediment cores;

9                   (B) measurement and recording of total  
10                  mercury and methyl mercury concentration in  
11                  surface sediments; and

12                  (C) measurement and recording of total  
13                  mercury and methyl mercury concentration in  
14                  surface waters.

15           (4) AQUATIC AND TERRESTRIAL ORGANISMS.—

16           The program, in association with the United States  
17           Fish and Wildlife Service and the Inventory and  
18           Monitoring Division of the National Park Service,  
19           shall monitor long-term changes in mercury and  
20           methyl mercury levels and important ancillary meas-  
21           ures in marine, freshwater, and terrestrial orga-  
22           nisms, including—

23                   (A) measurement and recording of total  
24                  mercury and methyl mercury concentrations  
25                  in—

- 1 (i) invertebrates;
- 2 (ii) yearling or lower trophic level fish;
- 3 and
- 4 (iii) commercially, recreationally, or
- 5 conservation relevant fish; and
- 6 (B) measurement and recording of total
- 7 mercury concentrations in—
- 8 (i) selected insect- and fish-eating
- 9 birds; and
- 10 (ii) selected insect- and fish-eating
- 11 mammals.

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

13 (a) ESTABLISHMENT.—The Administrator, in con-

14 sultation with the Director of the United States Fish and

15 Wildlife Service, the Director of the United States Geo-

16 logical Survey, the Director of the National Park Service,

17 the Administrator of the National Oceanic and Atmos-

18 pheric Administration, and the heads of other appropriate

19 Federal agencies, shall establish a scientific advisory com-

20 mittee, to be known as the “Mercury Monitoring Advisory

21 Committee”, to advise the Administrator and those Fed-

22 eral agencies on the establishment, site selection, measure-

23 ment, recording protocols, and operation of the program.

1 (b) MEMBERSHIP.—The Advisory Committee shall  
2 consist of scientists who are not employees of the Federal  
3 Government, including—

4 (1) 3 scientists appointed by the Administrator;

5 (2) 2 scientists appointed by the Director of the  
6 United States Fish and Wildlife Service;

7 (3) 2 scientists appointed by the Director of the  
8 United States Geological Survey;

9 (4) 2 scientists appointed by the Director of the  
10 National Park Service; and

11 (5) 2 scientists appointed by the Administrator  
12 of the National Oceanic and Atmospheric Adminis-  
13 tration.

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

15 (a) REPORTS.—Not later than 2 years after the date  
16 of enactment of this Act and every 2 years thereafter, the  
17 Administrator shall submit to Congress a report on the  
18 program, including data on relevant temporal trends and  
19 spatial gradients in mercury contamination in the environ-  
20 ment.

21 (b) ASSESSMENT.—Not less frequently than once  
22 every 4 years, the report required under subsection (a)  
23 shall include an assessment of mercury deposition rates  
24 that need to be achieved in order to prevent adverse  
25 human and ecological effects.

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

5 **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

6           There are authorized to be appropriated to carry out  
7 this Act—

- 8                   (1) \$37,000,000 for fiscal year 2022;  
9                   (2) \$29,000,000 for fiscal year 2023; and  
10                   (3) \$29,000,000 for fiscal year 2024.

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