

116TH CONGRESS
1ST SESSION

S. 181

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

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

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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