

1 Title: To authorize and facilitate the improvement of water management by the Bureau of
2 Reclamation, to require the Secretary of the Interior and the Secretary of Energy to
3 increase the acquisition and analysis of water-related data to assess the long-term
4 availability of water resources for irrigation, hydroelectric power, municipal, and
5 environmental uses, and for other purposes.
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8 Be it enacted by the Senate and House of Representatives of the United States of
9 America in Congress assembled,

10 SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

11 (a) Short Title.—This Act may be cited as the “Science and Engineering to
12 Comprehensively Understand and Responsibly Enhance Water Act” or the “SECURE
13 Water Act”.

14 (b) Table of Contents.—The table of contents of this Act is as follows:

15 Sec.1.Short title; table of contents.

16 Sec.2.Findings.

17 Sec.3.Definitions.

18 Sec.4.Climate change adaptation program.

19 Sec.5.Water management improvement.

20 Sec.6.Hydroelectric power assessment.

21 Sec.7.Climate change and water intragovernmental panel.

22 Sec.8.Water data enhancement by United States Geological Survey.

23 Sec.9.Water use and availability assessment program.

24 Sec.10.Effect.

25 SEC. 2. FINDINGS.

26 Congress finds that—

27 (1) adequate and safe supplies of water are fundamental to the health, economy,
28 security, and ecology of the United States;

29 (2) systematic data-gathering with respect to, and research and development of,
30 the water resources of the United States will help ensure the continued existence of
31 sufficient quantities of water to support—

32 (A) increasing populations;

33 (B) economic growth;

34 (C) irrigated agriculture;

35 (D) energy production; and

- 1 (E) the protection of aquatic ecosystems;
- 2 (3) global climate change poses a significant challenge to the protection and use
3 of the water resources of the United States due to an increased uncertainty with
4 respect to the distribution and quantity of annual precipitation, which may have a
5 substantial effect on the supplies of water for agricultural, hydroelectric power,
6 industrial, domestic supply, and environmental needs;
- 7 (4) although States bear the primary responsibility and authority for managing the
8 water resources of the United States, the Federal Government should support the
9 States, as well as regional, local, and tribal governments, by carrying out—
- 10 (A) nationwide data collection and monitoring activities;
- 11 (B) relevant research; and
- 12 (C) activities to increase the efficiency of the use of water in the United
13 States;
- 14 (5) Federal agencies that conduct water management and related activities have a
15 responsibility—
- 16 (A) to take a lead role in assessing risks to the water resources of the United
17 States (including risks posed by global climate change); and
- 18 (B) to develop strategies—
- 19 (i) to mitigate the potential impacts of each risk described in
20 subparagraph (A); and
- 21 (ii) to help ensure that the long-term water resources management of the
22 United States is sustainable and will ensure sustainable quantities of water;
- 23 (6) it is critical to continue and expand research and monitoring efforts—
- 24 (A) to improve the understanding of the variability of the water cycle; and
- 25 (B) to provide basic information necessary—
- 26 (i) to manage and efficiently use the water resources of the United
27 States; and
- 28 (ii) to identify new supplies of water that are capable of being
29 reclaimed; and
- 30 (7) the study of water use is vital—
- 31 (A) to the understanding of the impacts of human activity on water and
32 ecological resources; and
- 33 (B) to the assessment of whether available surface and groundwater supplies
34 will be available to meet the future needs of the United States.

35 SEC. 3. DEFINITIONS.

36 In this Act:

- 37 (1) ADMINISTRATOR.—The term “Administrator” means the Administrator of the

1 National Oceanic and Atmospheric Administration.

2 (2) ADVISORY COMMITTEE.—The term “Advisory Committee” means the National
3 Advisory Committee on Water Information established—

4 (A) under the Office of Management and Budget Circular 92–01; and

5 (B) to coordinate water data collection activities.

6 (3) ASSESSMENT PROGRAM.—The term “assessment program” means the water
7 availability and use assessment program established by the Secretary under section
8 9(a).

9 (4) CLIMATE DIVISION.—The term “climate division” means 1 of the 359 divisions
10 in the United States that represents 2 or more regions located within a State that are
11 as climatically homogeneous as possible, as determined by the Administrator.

12 (5) COMMISSIONER.—The term “Commissioner” means the Commissioner of
13 Reclamation.

14 (6) DIRECTOR.—The term “Director” means the Director of the United States
15 Geological Survey.

16 (7) ELIGIBLE APPLICANT.—The term “eligible applicant” means any State, Indian
17 tribe, irrigation district, water district, or other organization with water delivery
18 authority.

19 (8) FEDERAL POWER MARKETING ADMINISTRATION.—The term “Federal Power
20 Marketing Administration” means—

21 (A) the Bonneville Power Administration;

22 (B) the Southeastern Power Administration;

23 (C) the Southwestern Power Administration; and

24 (D) the Western Area Power Administration.

25 (9) HYDROLOGIC ACCOUNTING UNIT.—The term “hydrologic accounting unit”
26 means 1 of the 352 river basin hydrologic accounting units used by the United States
27 Geological Survey.

28 (10) INDIAN TRIBE.—The term “Indian tribe” has the meaning given the term in
29 section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C.
30 450b).

31 (11) MAJOR AQUIFER SYSTEM.—The term “major aquifer system” means a
32 groundwater system that is—

33 (A) identified as a significant groundwater system by the Director; and

34 (B) included in the Groundwater Atlas of the United States, published by the
35 United States Geological Survey.

36 (12) MAJOR RECLAMATION RIVER BASIN.—

37 (A) IN GENERAL.—The term “major reclamation river basin” means each
38 major river system—

- 1 (i) that is located in a service area of the Bureau of Reclamation; and
2 (ii) at which is located a federally authorized project of the Bureau of
3 Reclamation.

4 (B) INCLUSIONS.—The term “major reclamation river basin” includes—

- 5 (i) the Colorado River;
6 (ii) the Columbia River;
7 (iii) the Klamath River;
8 (iv) the Missouri River;
9 (v) the Rio Grande;
10 (vi) the Sacramento River;
11 (vii) the San Joaquin River; and
12 (viii) the Truckee River.

13 (13) NON-FEDERAL PARTICIPANT.—The term “non-Federal participant” means—

- 14 (A) a State, regional, or local authority;
15 (B) an Indian tribe or tribal organization; or
16 (C) any other qualifying entity, such as a water conservation district, water
17 conservancy district, or rural water district or association, or a
18 nongovernmental organization.

19 (14) PANEL.—The term “panel” means the climate change and water
20 intragovernmental panel established by the Secretary under section 7(a).

21 (15) PROGRAM.—The term “program” means the regional integrated sciences and
22 assessments program—

- 23 (A) established by the Administrator; and
24 (B) that is comprised of 8 regional programs that use advances in integrated
25 climate sciences to assist decisionmaking processes.

26 (16) SECRETARY.—

27 (A) IN GENERAL.—Except as provided in subparagraph (B), the term
28 “Secretary” means the Secretary of the Interior.

29 (B) EXCEPTIONS.—The term “Secretary” means—

- 30 (i) in the case of section 4, the Secretary of the Interior (acting through
31 the Commissioner); and
32 (ii) in the case of sections 8 and 9, the Secretary of the Interior (acting
33 through the Director).

34 (17) SERVICE AREA.—The term “service area” means any area that encompasses a
35 watershed that contains a federally authorized reclamation project that is located in
36 any State or area described in the first section of the Act of June 17, 1902 (43 U.S.C.

1 391).

2 **SEC. 4. CLIMATE CHANGE ADAPTATION**
3 **PROGRAM.**

4 (a) In General.—The Secretary shall establish a climate change adaptation program—

5 (1) to assess each effect of, and risk resulting from, global climate change with
6 respect to the quantity of water resources located in a service area; and

7 (2) to ensure, to the maximum extent possible, that strategies are developed to
8 address potential water shortages, conflicts, and other impacts to water users located
9 at, and the environment of, each service area.

10 (b) Required Elements.—In carrying out the program described in subsection (a), the
11 Secretary shall—

12 (1) consult with the United States Geological Survey, the National Oceanic and
13 Atmospheric Administration, the program, and each appropriate State water
14 resource agency, to ensure that the Secretary has access to the best available
15 scientific information with respect to presently observed and projected future
16 impacts of global climate change on water resources;

17 (2) assess specific risks to the water supply of each major reclamation river basin,
18 including any risk relating to—

19 (A) a change in snowpack;

20 (B) the timing of runoff; and

21 (C) any increase in—

22 (i) the demand for water as a result of increasing temperatures; and

23 (ii) the rate of reservoir evaporation;

24 (3) with respect to each major reclamation river basin, analyze the extent to which
25 changes in the water supply of the United States will impact—

26 (A) the ability of the Secretary to deliver water to the contractors of the
27 Secretary;

28 (B) hydroelectric power generation facilities;

29 (C) recreation at reclamation facilities;

30 (D) fish and wildlife habitat;

31 (E) applicable species listed as an endangered, threatened, or candidate
32 species under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.);
33 and

34 (F) water quality issues (including salinity levels of each major reclamation
35 river basin);

36 (4) consider and develop appropriate strategies to mitigate each impact of water
37 supply changes analyzed by the Secretary under paragraph (3), including strategies

1 relating to—

2 (A) the modification of any reservoir storage or operating guideline in
3 existence as of the date of enactment of this Act;

4 (B) water conservation;

5 (C) improved hydrologic models and other decision support systems; and

6 (D) conjunctive groundwater and surface water storage needs; and

7 (5) in consultation with the Director, the Administrator, the Secretary of
8 Agriculture (acting through the Chief of the Natural Resources Conservation
9 Service), and applicable State water resource agencies, develop a monitoring plan to
10 acquire and maintain water resources data—

11 (A) to strengthen the understanding of water supply trends; and

12 (B) to assist in each assessment and analysis conducted by the Secretary
13 under paragraphs (2) and (3).

14 (c) Reporting.—Not later than 1 year after the date of enactment of this Act, and every
15 5 years thereafter, the Secretary shall submit to the appropriate committees of Congress a
16 report that describes—

17 (1) each effect of, and risk resulting from, global climate change with respect to
18 the quantity of water resources located in each major reclamation river basin;

19 (2) the impact of global climate change with respect to the operations of the
20 Secretary in each major reclamation river basin;

21 (3) each mitigation and adaptation strategy considered and implemented by the
22 Secretary to address each effect of global climate change described in paragraph (1);

23 (4) each coordination activity conducted by the Secretary with—

24 (A) the Director;

25 (B) the Administrator;

26 (C) the Secretary of Agriculture (acting through the Chief of the Natural
27 Resources Conservation Service); or

28 (D) any appropriate State water resource agency; and

29 (5) the implementation by the Secretary of the monitoring plan developed under
30 subsection (b)(5).

31 (d) Feasibility Studies.—

32 (1) AUTHORITY OF SECRETARY.—The Secretary, in cooperation with any non-
33 Federal participant, may conduct 1 or more studies to determine the feasibility of
34 implementing each mitigation and adaptation strategy described in subsection (c)(3),
35 including the construction of any water supply, water management, environmental,
36 or habitat enhancement water infrastructure that the Secretary determines to be
37 necessary to address the effects of global climate change on water resources located
38 in each major reclamation river basin.

1 (2) COST SHARING.—

2 (A) FEDERAL SHARE.—

3 (i) IN GENERAL.—Except as provided in clause (ii), the Federal share of
4 the cost of a study described in paragraph (1) shall not exceed 50 percent
5 of the cost of the study.

6 (ii) EXCEPTION RELATING TO FINANCIAL HARDSHIP.—The Secretary may
7 increase the Federal share of the cost of a study described in paragraph (1)
8 to exceed 50 percent of the cost of the study if the Secretary determines
9 that, due to a financial hardship, the non-Federal participant of the study is
10 unable to contribute an amount equal to 50 percent of the cost of the study.

11 (B) NON-FEDERAL SHARE.—The non-Federal share of the cost of a study
12 described in paragraph (1) may be provided in the form of any in-kind services
13 that substantially contribute toward the completion of the study, as determined
14 by the Secretary.

15 (e) Authorization of Appropriations.—There are authorized to be appropriated such
16 sums as are necessary to carry out this section for each of fiscal years 2008 through 2022,
17 to remain available until expended.

18 SEC. 5. WATER MANAGEMENT IMPROVEMENT.

19 (a) Authorization of Grants and Cooperative Agreements.—

20 (1) AUTHORITY OF SECRETARY.—The Secretary may provide any grant to, or enter
21 into any cooperative agreement with, any eligible applicant to assist the eligible
22 applicant in planning, designing, or constructing any improvement—

23 (A) to conserve water;

24 (B) to increase water use efficiency;

25 (C) to facilitate water markets;

26 (D) to enhance water management; or

27 (E) to carry out any other activity—

28 (i) to address any climate-related impact to the water supply of the
29 United States; or

30 (ii) to prevent any water-related crisis or conflict at any watershed that
31 has a nexus to a Federal reclamation project located in a service area.

32 (2) APPLICATION.—To be eligible to receive a grant, or enter into a cooperative
33 agreement with the Secretary under paragraph (1), an eligible applicant shall submit
34 to the Secretary an application that includes a proposal of the improvement to be
35 planned, designed, constructed, or implemented by the eligible applicant.

36 (3) REQUIREMENTS OF GRANTS AND COOPERATIVE AGREEMENTS.—

37 (A) COMPLIANCE WITH REQUIREMENTS.—Each grant and cooperative
38 agreement entered into by the Secretary with any eligible applicant under

1 paragraph (1) shall be in compliance with each requirement described in
2 subparagraphs (B) through (F).

3 (B) PROHIBITION OF CERTAIN IMPROVEMENTS OR ACTIVITIES.—In carrying
4 out paragraph (1), the Secretary shall not provide a grant to, or enter into a
5 cooperative agreement with, an eligible applicant that, through an application
6 submitted by the applicant under paragraph (2), proposes—

7 (i) to use associated water savings relating to an improvement that is the
8 subject of the application of the eligible applicant to extend irrigation to
9 new land; or

10 (ii) to increase the consumptive use of water on the land of the eligible
11 applicant.

12 (C) NONREIMBURSABLE FUNDS.—Any funds provided by the Secretary to an
13 eligible applicant through a grant or cooperative agreement under paragraph (1)
14 shall be nonreimbursable.

15 (D) TITLE TO IMPROVEMENTS.—If an infrastructure improvement to a facility
16 under the jurisdiction of a Federal agency is the subject of a grant or a
17 cooperative agreement entered into between the Secretary and an eligible
18 applicant under paragraph (1), the Federal Government shall hold title to the
19 improvement of the facility.

20 (E) COST SHARING.—

21 (i) FEDERAL SHARE.—The Federal share of the cost of any infrastructure
22 improvement or activity that is the subject of a grant or a cooperative
23 agreement entered into between the Secretary and an eligible applicant
24 under paragraph (1) shall not exceed 50 percent of the cost of the
25 infrastructure improvement or activity.

26 (ii) CALCULATION OF NON-FEDERAL SHARE.—In calculating the non-
27 Federal share of the cost of an infrastructure improvement or activity
28 proposed by an eligible applicant through an application submitted by the
29 eligible applicant under paragraph (2), the Secretary shall—

30 (I) consider the value of any in-kind services that substantially
31 contributes toward the completion of the improvement or activity, as
32 determined by the Secretary; and

33 (II) not consider any other amount that the eligible applicant
34 receives from a Federal agency.

35 (iii) MAXIMUM AMOUNT.—The amount provided to an eligible applicant
36 through a grant or cooperative agreement under paragraph (1) shall be not
37 more than \$5,000,000.

38 (iv) OPERATION AND MAINTENANCE COSTS.—The non-Federal share of
39 the cost of operating and maintaining any infrastructure improvement that
40 is the subject of a grant or a cooperative agreement entered into between
41 the Secretary and an eligible applicant under paragraph (1) shall be 100

1 percent.

2 (F) LIABILITY.—

3 (i) IN GENERAL.—Except as provided in clause (ii), the United States
4 shall not be liable for monetary damages of any kind for any injury arising
5 out of an act, omission, or occurrence that arises in relation to any facility
6 created or improved under this section, the title of which is not held by the
7 United States.

8 (ii) EXCEPTION.—Clause (i) shall not apply to liability for monetary
9 damages resulting from an injury caused by any act of negligence
10 committed by the United States (or by any officer, employee, or agent of
11 the United States) that arises in relation to any facility created or improved
12 under this section, the title of which is not held by the United States.

13 (iii) TORT CLAIMS ACT.—Nothing in this section increases the liability
14 of the United States beyond that provided in chapter 171 of title 28, United
15 States Code.

16 (b) Research Agreements.—

17 (1) AUTHORITY OF SECRETARY.—The Secretary may enter into 1 or more
18 cooperative agreements with any university, nonprofit research institution, or
19 organization with water or power delivery authority to fund any research activity
20 that is designed—

21 (A) to conserve water resources;

22 (B) to increase the efficiency of the use of water resources; or

23 (C) to enhance the management of water resources.

24 (2) TERMS AND CONDITIONS OF SECRETARY.—A cooperative agreement entered
25 into between the Secretary and any university, institution, or organization described
26 in paragraph (1) shall be subject to such terms and conditions as the Secretary
27 determines to be appropriate.

28 (c) Mutual Benefit.—Grants or cooperative agreements made under this section may
29 be for the mutual benefit of the United States and the entity that is provided the grant or
30 enters into the cooperative agreement.

31 (d) Relationship to Project-Specific Authority.—This section shall not supersede any
32 existing project-specific funding authority.

33 (e) Authorization of Appropriations.—There is authorized to be appropriated to carry
34 out this section \$100,000,000, to remain available until expended.

35 SEC. 6. HYDROELECTRIC POWER ASSESSMENT.

36 (a) Duty of Secretary of Energy.—The Secretary of Energy, in consultation with the
37 Administrator of each Federal Power Marketing Administration, shall assess each effect
38 of, and risk resulting from, global climate change with respect to water supplies that are
39 required for the generation of hydroelectric power at each Federal water project that is

1 applicable to a Federal Power Marketing Administration.

2 (b) Access to Appropriate Data.—

3 (1) IN GENERAL.—In carrying out each assessment under subsection (a), the
4 Secretary of Energy shall consult with the United States Geological Survey, the
5 National Oceanic and Atmospheric Administration, the program, and each
6 appropriate State water resource agency, to ensure that the Secretary of Energy has
7 access to the best available scientific information with respect to presently observed
8 impacts and projected future impacts of global climate change on water supplies that
9 are used to produce hydroelectric power.

10 (2) ACCESS TO DATA FOR CERTAIN ASSESSMENTS.—In carrying out each
11 assessment under subsection (a), with respect to the Bonneville Power
12 Administration and the Western Area Power Administration, the Secretary of
13 Energy shall consult with the Commissioner to access data and other information
14 that—

15 (A) is collected by the Commissioner; and

16 (B) the Secretary of Energy determines to be necessary for the conduct of the
17 assessment.

18 (c) Report.—Not later than 2 years after the date of enactment of this Act, and every 5
19 years thereafter, the Secretary of Energy shall submit to the appropriate committees of
20 Congress a report that describes—

21 (1) each effect of, and risk resulting from, global climate change with respect to—

22 (A) water supplies used for hydroelectric power generation; and

23 (B) power supplies marketed by each Federal Power Marketing
24 Administration, pursuant to—

25 (i) long-term power contracts;

26 (ii) contingent capacity contracts; and

27 (iii) short-term sales; and

28 (2) each recommendation of the Administrator of each Federal Power Marketing
29 Administration relating to any change in any operation or contracting practice of
30 each Federal Power Marketing Administration to address each effect and risk
31 described in paragraph (1), including the use of purchased power to meet long-term
32 commitments of each Federal Power Marketing Administration.

33 (d) Authorization of Appropriations.—There are authorized to be appropriated such
34 sums as are necessary to carry out this section for each of fiscal years 2008 through 2022,
35 to remain available until expended.

36 SEC. 7. CLIMATE CHANGE AND WATER 37 INTRAGOVERNMENTAL PANEL.

38 (a) Establishment.—The Secretary shall establish and lead a climate change and water
39 intragovernmental panel—

1 (1) to review the current scientific understanding of each impact of global climate
2 change on the water resources of the United States; and

3 (2) to develop any strategy that the panel determines to be necessary to improve
4 observational capabilities and expand data acquisition to increase the reliability and
5 accuracy of modeling and prediction systems to benefit water managers at the
6 Federal, State, and local levels.

7 (b) Membership.—The panel shall be comprised of—

8 (1) the Secretary;

9 (2) the Director;

10 (3) the Administrator;

11 (4) the Secretary of Agriculture (acting through the Chief of the Natural
12 Resources Conservation Service);

13 (5) the Commissioner; and

14 (6) the Chief of Engineers.

15 (c) Review Elements.—In conducting the review and developing the strategy under
16 subsection (a), the panel shall—

17 (1) assess the extent to which the conduct of measures of streamflow,
18 groundwater levels, soil moisture, evapotranspiration rates, evaporation rates,
19 snowpack levels, precipitation amounts, and glacier mass is necessary to improve
20 the understanding of the Federal Government and the States with respect to each
21 impact of global climate change on water resources;

22 (2) identify data gaps in current water monitoring networks that must be
23 addressed to improve the capability of the Federal Government and the States to
24 measure, analyze, and predict changes to water resources that are directly or
25 indirectly affected by global climate change;

26 (3) establish data management and communication protocols and standards to
27 increase the quality and efficiency by which each Federal agency acquires and
28 reports relevant data;

29 (4) consider options for the establishment of a data portal to enhance access to
30 water resource data—

31 (A) relating to each nationally significant watershed and aquifer located in
32 the United States; and

33 (B) that is collected by each Federal agency and any other public or private
34 entity for each nationally significant watershed and aquifer located in the
35 United States;

36 (5) expand, and integrate each initiative of the panel with, to the maximum extent
37 possible, any interagency initiative in existence as of the date of enactment of this
38 Act, including—

39 (A) the national integrated drought information system of the National

1 Oceanic and Atmospheric Administration; and

2 (B) the advanced hydrologic prediction service of the National Weather
3 Service;

4 (6) facilitate the development of hydrologic models to integrate data that reflects
5 groundwater and surface water interactions;

6 (7) apply each hydrologic model developed under paragraph (6) to each water
7 resource management problem identified by the panel; and

8 (8) consider the need for, and the development of, mechanisms to effectively
9 combine global climate models, regional climate models, and hydrologic models to
10 produce water resource information to assist water managers at the Federal, State,
11 and local levels in the development of adaptation strategies that can be incorporated
12 into long-term water management decisions.

13 (d) Report.—Not later than 1 year after the date of enactment of this Act, the Secretary
14 shall submit to the appropriate committees of Congress a report that describes the review
15 conducted, and the strategy developed, by the panel under subsection (a).

16 (e) Demonstration, Research, and Methodology Development Projects.—

17 (1) AUTHORITY OF SECRETARY.—The Secretary, in consultation with the panel
18 and the Advisory Committee, may provide grants to, or enter into any contract,
19 cooperative agreement, interagency agreement, or other transaction with, an
20 appropriate entity to carry out any demonstration, research, or methodology
21 development project that the Secretary determines to be necessary to assist in the
22 implementation of the strategy developed by the panel under subsection (a)(2).

23 (2) REQUIREMENTS.—

24 (A) MAXIMUM AMOUNT OF FEDERAL SHARE.—The Federal share of the cost
25 of any demonstration, research, or methodology development project that is the
26 subject of any grant, contract, cooperative agreement, interagency agreement,
27 or other transaction entered into between the Secretary and an appropriate
28 entity under paragraph (1) shall not exceed \$1,000,000.

29 (B) REPORT.—An appropriate entity that receives funds from a grant,
30 contract, cooperative agreement, interagency agreement, or other transaction
31 entered into between the Secretary and the appropriate entity under paragraph
32 (1) shall submit to the Secretary a report describing the results of the
33 demonstration, research, or methodology development project conducted by the
34 appropriate entity.

35 (f) Authorization of Appropriations.—

36 (1) IN GENERAL.—There is authorized to be appropriated to carry out subsections
37 (a) through (d) \$2,000,000 for each of fiscal years 2008 and 2009, to remain
38 available until expended.

39 (2) DEMONSTRATION, RESEARCH, AND METHODOLOGY DEVELOPMENT PROJECTS.—
40 There is authorized to be appropriated to carry out subsection (e) \$10,000,000 for
41 the period of fiscal years 2008 through 2012, to remain available until expended.

1 SEC. 8. WATER DATA ENHANCEMENT BY UNITED
2 STATES GEOLOGICAL SURVEY.

3 (a) National Streamflow Information Program.—

4 (1) IN GENERAL.—The Secretary shall conduct a review of the national
5 streamflow information program, including a review of—

6 (A) each Federal objective with respect to the establishment of a national
7 streamgaging network; and

8 (B) each geographic information-based method that the Secretary used to
9 select sites to achieve each objective reviewed under subparagraph (A).

10 (2) REQUIREMENTS.—In conducting the national streamflow information program,
11 the Secretary shall—

12 (A) measure streamflow and related environmental variables in nationally
13 significant watersheds—

14 (i) in a reliable and continuous manner; and

15 (ii) to develop a comprehensive source of information on which public
16 and private decisions relating to the management of water resources may
17 be based;

18 (B) provide for a better understanding of hydrologic extremes (including
19 floods and droughts) through the conduct of intensive data collection activities
20 during and following hydrologic extremes;

21 (C) establish a base network that provides resources that are necessary for—

22 (i) the monitoring of long-term changes in streamflow; and

23 (ii) the conduct of assessments to determine the extent to which each
24 long-term change monitored under clause (i) is related to global climate
25 change;

26 (D) integrate the national streamflow information program with data
27 collection activities of Federal agencies and appropriate State water resource
28 agencies (including the national drought information system)—

29 (i) to enhance the comprehensive understanding of water availability;

30 (ii) to identify any data gap with respect to water resources; and

31 (iii) to improve hydrologic forecasting; and

32 (E) incorporate principles of adaptive management in the conduct of periodic
33 reviews of information collected under the national streamflow information
34 program to assess whether the objectives of the national streamflow
35 information program are being adequately addressed.

36 (3) IMPROVED METHODOLOGIES.—The Secretary shall—

37 (A) improve methodologies relating to the analysis and delivery of data; and

1 (B) investigate, develop, and implement new methodologies and
2 technologies to estimate or measure streamflow in a more cost-efficient
3 manner.

4 (4) MEASUREMENT GOAL.—

5 (A) IN GENERAL.—Not later than 10 years after the date of enactment of this
6 Act, in accordance with subparagraph (B), the Secretary shall increase the
7 number of sites measured under the national streamflow information program
8 to a quantity of not less than 4,700 sites.

9 (B) REQUIREMENTS OF SITES.—Each site described in subparagraph (A) shall
10 be—

11 (i) located in a nationally significant watershed, as determined by the
12 Secretary; and

13 (ii) measured by a streamgauge or any other effective means
14 implemented by the Secretary.

15 (5) FEDERAL SHARE.—The Federal share of the national streamgaging network
16 established pursuant to this subsection shall be 100 percent of the cost of carrying
17 out the national streamgaging network.

18 (6) AUTHORIZATION OF APPROPRIATIONS.—

19 (A) IN GENERAL.—Except as provided in subparagraph (B), there are
20 authorized to be appropriated such sums as are necessary to carry out this
21 subsection for the period of fiscal years 2008 through 2022, to remain available
22 until expended.

23 (B) ACHIEVEMENT OF MEASUREMENT GOAL.—There is authorized to be
24 appropriated to carry out paragraph (4) \$7,500,000 for each of fiscal years 2008
25 through 2018, to remain available until expended.

26 (b) National Groundwater Resources Monitoring.—

27 (1) IN GENERAL.—The Secretary shall develop a systematic groundwater
28 monitoring program for each major aquifer system located in the United States.

29 (2) PROGRAM ELEMENTS.—In developing the monitoring program described in
30 paragraph (1), the Secretary shall—

31 (A) establish appropriate criteria for monitoring wells to ensure the
32 acquisition of long-term, high-quality data sets, including, to the maximum
33 extent possible, the inclusion of real-time instrumentation and reporting;

34 (B) in coordination with the Advisory Committee and State and local water
35 resource agencies—

36 (i) assess the current scope of groundwater monitoring based on the
37 access availability and capability of each monitoring well in existence as
38 of the date of enactment of this Act; and

39 (ii) develop and carry out a monitoring plan that maximizes coverage
40 for each major aquifer system that is located in the United States; and

1 (C) prior to initiating any specific monitoring activities within a State after
2 the date of enactment of this Act, consult and coordinate with the applicable
3 State water resource agency with jurisdiction over the aquifer that is the subject
4 of the monitoring activities, and comply with all applicable laws (including
5 regulations) of the State.

6 (3) PROGRAM OBJECTIVES.—In carrying out the monitoring program described in
7 paragraph (1), the Secretary shall—

8 (A) provide data that is necessary for the improvement of understanding with
9 respect to surface water and groundwater interactions;

10 (B) by expanding the network of monitoring wells to reach each climate
11 division, support the groundwater climate response network to improve the
12 understanding of the effects of global climate change on groundwater recharge
13 and availability; and

14 (C) support the objectives of the assessment program.

15 (4) IMPROVED METHODOLOGIES.—The Secretary shall—

16 (A) improve methodologies relating to the analysis and delivery of data; and

17 (B) investigate, develop, and implement new methodologies and
18 technologies to estimate or measure groundwater recharge, discharge, and
19 storage in a more cost-efficient manner.

20 (5) FEDERAL SHARE.—The Federal share of the monitoring program described in
21 paragraph (1) may be 100 percent of the cost of carrying out the monitoring
22 program.

23 (6) PRIORITY.—In selecting monitoring activities consistent with the monitoring
24 program described in paragraph (1), the Secretary shall give priority to those
25 activities for which a State or local governmental entity agrees to provide for a
26 substantial share of the cost of establishing or operating a monitoring well or other
27 measuring device to carry out a monitoring activity.

28 (7) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be
29 appropriated such sums as are necessary to carry out this subsection for the period of
30 fiscal years 2008 through 2022, to remain available until expended.

31 (c) Brackish Groundwater Assessment.—

32 (1) STUDY.—The Secretary, in consultation with State and local water resource
33 agencies, shall conduct a study of available data and other relevant information—

34 (A) to identify significant brackish groundwater resources located in the
35 United States; and

36 (B) to consolidate any available data relating to each groundwater resource
37 identified under subparagraph (A).

38 (2) REPORT.—Not later than 2 years after the date of enactment of this Act, the
39 Secretary shall submit to the appropriate committees of Congress a report that
40 includes—

- 1 (A) a description of each—
- 2 (i) significant brackish aquifer that is located in the United States
- 3 (including 1 or more maps of each significant brackish aquifer that is
- 4 located in the United States);
- 5 (ii) data gap that is required to be addressed to fully characterize each
- 6 brackish aquifer described in clause (i); and
- 7 (iii) current use of brackish groundwater that is supplied by each
- 8 brackish aquifer described in clause (i); and
- 9 (B) a summary of the information available as of the date of enactment of
- 10 this Act with respect to each brackish aquifer described in subparagraph (A)(i)
- 11 (including the known level of total dissolved solids in each brackish aquifer).
- 12 (3) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated
- 13 to carry out this subsection \$3,000,000 for the period of fiscal years 2008 through
- 14 2009, to remain available until expended.
- 15 (d) Improved Water Estimation, Measurement, and Monitoring Technologies.—
- 16 (1) AUTHORITY OF SECRETARY.—The Secretary may provide grants to appropriate
- 17 entities with expertise in water resource data acquisition and reporting—
- 18 (A) to investigate, develop, and implement new methodologies and
- 19 technologies to estimate or measure water resources data in a cost-efficient
- 20 manner; and
- 21 (B) to improve methodologies relating to the analysis and delivery of data.
- 22 (2) PRIORITY.—In providing grants to appropriate entities under paragraph (1), the
- 23 Secretary shall give priority to appropriate entities that propose the development of
- 24 new methods and technologies for—
- 25 (A) predicting and measuring streamflows;
- 26 (B) estimating changes in the storage of groundwater;
- 27 (C) improving data standards and methods of analysis (including the
- 28 validation of data entered into geographic information system databases);
- 29 (D) measuring precipitation and potential evapotranspiration;
- 30 (E) developing descriptive and predictive models that take into account
- 31 groundwater and surface water; and
- 32 (F) water withdrawals, return flows, and consumptive use.
- 33 (3) COST SHARING.—
- 34 (A) FEDERAL SHARE.—The Federal share of the cost of the development of
- 35 any new method or technology that is the subject of a grant under this
- 36 subsection shall not exceed the lesser of—
- 37 (i) 50 percent of the cost of the development of the new method or
- 38 technology; or

1 (ii) \$500,000.

2 (B) NON-FEDERAL SHARE.—The non-Federal share of the cost of the
3 development of any new method or technology that is the subject of a grant
4 under this subsection may be provided in the form of any in-kind services that
5 substantially contribute toward the development of any new method or
6 technology, as determined by the Secretary.

7 (C) OTHER FEDERAL ASSISTANCE.—Assistance under this subsection may be
8 in addition to assistance provided by the Federal Government pursuant to other
9 provisions of law.

10 (4) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated
11 to carry out this subsection \$5,000,000 for each of fiscal years 2008 through 2018.

12 SEC. 9. WATER USE AND AVAILABILITY 13 ASSESSMENT PROGRAM.

14 (a) Establishment.—The Secretary, in coordination with the Advisory Committee and
15 State and local water resource agencies, shall establish an assessment program to be
16 known as the “water availability and use assessment program”—

17 (1) to provide a more accurate assessment of the status of the water resources of
18 the United States;

19 (2) to assist in the determination of the quantity of water that is available for
20 beneficial uses;

21 (3) to identify long-term trends in water availability;

22 (4) to use each long-term trend described in paragraph (3) to provide a more
23 accurate assessment of the change in the availability of water in the United States;
24 and

25 (5) to develop the basis for an improved ability to forecast the availability of
26 water for future economic, energy production, and environmental uses.

27 (b) Program Elements.—

28 (1) WATER USE.—In carrying out the assessment program, the Secretary shall
29 conduct any appropriate activity to carry out an ongoing assessment of water use in
30 hydrologic accounting units and major aquifer systems located in the United States,
31 including—

32 (A) the maintenance of a comprehensive national water use inventory to
33 enhance the level of understanding with respect to the effects of spatial and
34 temporal patterns of water use on the availability and sustainable use of water
35 resources;

36 (B) the incorporation of water use science principles, with an emphasis on
37 applied research and statistical estimation techniques in the assessment of water
38 use;

39 (C) the integration of any dataset maintained by any other Federal or State

1 agency into the dataset maintained by the Secretary; and

2 (D) a focus on the scientific integration of any data relating to water use,
3 water flow, or water quality to generate relevant information relating to the
4 impact of human activity on water and ecological resources.

5 (2) WATER AVAILABILITY.—In carrying out the assessment program, the Secretary
6 shall conduct an ongoing assessment of water availability by—

7 (A) developing and evaluating nationally consistent indicators that reflect
8 each status and trend relating to the availability of water resources in the United
9 States, including—

10 (i) surface water indicators, such as streamflow and surface water
11 storage measures (including lakes, reservoirs, perennial snowfields, and
12 glaciers);

13 (ii) groundwater indicators, including groundwater level measurements
14 and changes in groundwater levels due to—

15 (I) natural recharge;

16 (II) withdrawals;

17 (III) saltwater intrusion;

18 (IV) mine dewatering;

19 (V) land drainage;

20 (VI) artificial recharge; and

21 (VII) other relevant factors, as determined by the Secretary; and

22 (iii) impaired surface water and groundwater supplies that are known,
23 accessible, and used to meet ongoing water demands; and

24 (B) maintaining a national database of water availability data that—

25 (i) is comprised of maps, reports, and other forms of interpreted data;

26 (ii) provides electronic access to the archived data of the national
27 database; and

28 (iii) provides for real-time data collection.

29 (c) Grant Program.—

30 (1) AUTHORITY OF SECRETARY.—The Secretary may provide grants to State water
31 resource agencies to assist State water resource agencies in—

32 (A) developing water use and availability datasets that are integrated with
33 each appropriate dataset developed or maintained by the Secretary; or

34 (B) integrating any water use or water availability dataset of the State water
35 resource agency into each appropriate dataset developed or maintained by the
36 Secretary.

37 (2) CRITERIA.—To be eligible to receive a grant under paragraph (1), a State

1 water resource agency shall demonstrate to the Secretary that the water use and
2 availability dataset proposed to be established or integrated by the State water
3 resource agency—

4 (A) is in compliance with each quality and conformity standard established
5 by the Secretary to ensure that the data will be capable of integration with any
6 national dataset; and

7 (B) will enhance the ability of the officials of the State of the State water
8 resource agency to carry out each water management and regulatory
9 responsibility of the officials of the State in accordance with each applicable
10 the law of the State.

11 (3) MAXIMUM AMOUNT.—The amount of a grant provided to a State water
12 resource agency under paragraph (1) shall be an amount not more than \$250,000.

13 (d) Report.—Not later than January 1, 2010, and every 5 years thereafter, the Secretary
14 shall submit to the appropriate committees of Congress a report that provides a detailed
15 assessment of—

16 (1) the current availability of water resources in the United States, including—

17 (A) historic trends and annual updates of river basin inflows and outflows;

18 (B) surface water storage;

19 (C) groundwater reserves; and

20 (D) estimates of undeveloped potential resources (including saline water and
21 wastewater);

22 (2) significant trends affecting water availability, including each documented or
23 projected impact to the availability of water as a result of global climate change;

24 (3) the withdrawal and use of surface water and groundwater by various sectors,
25 including—

26 (A) the agricultural sector;

27 (B) municipalities;

28 (C) the industrial sector;

29 (D) thermoelectric power generators; and

30 (E) hydroelectric power generators;

31 (4) significant trends relating to each water use sector, including significant
32 changes in water use due to the development of new energy supplies;

33 (5) significant water use conflicts or shortages that have occurred, or are likely to
34 occur; and

35 (6) each factor that has caused, or will likely cause, a conflict or shortage
36 described in paragraph (5).

37 (e) Authorization of Appropriations.—

1 (1) IN GENERAL.—There is authorized to be appropriated to carry out subsections
2 (a), (b), and (d) \$20,000,000 for each of fiscal years 2008 through 2022, to remain
3 available until expended.

4 (2) GRANT PROGRAM.—There is authorized to be appropriated to carry out
5 subsection (c) \$12,500,000 for the period of fiscal years 2008 through 2012, to
6 remain available until expended.

7 **SEC. 10. EFFECT.**

8 (a) In General.—Nothing in this Act supersedes or limits any existing authority
9 provided, or responsibility conferred, by any provision of law.

10 (b) Effect on State Water Law.—

11 (1) IN GENERAL.—Nothing in this Act preempts or affects any—

12 (A) State water law; or

13 (B) interstate compact governing water.

14 (2) COMPLIANCE REQUIRED.—The Secretary shall comply with applicable State
15 water laws in carrying out this Act.