duct a study of available data and other relevant information—

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

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

(2) Report

Not later than 2 years after March 30, 2009, the Secretary shall submit to the appropriate committees of Congress a report that includes—

(A) a description of each—

(i) significant brackish aquifer that is located in the United States (including 1 or more maps of each significant brackish aquifer that is located in the United States);

(ii) data gap that is required to be addressed to fully characterize each brackish aquifer described in clause (i); and

(iii) current use of brackish groundwater that is supplied by each brackish aquifer described in clause (i); and

(B) a summary of the information available as of March 30, 2009, with respect to each brackish aquifer described in subparagraph (A)(i) (including the known level of total dissolved solids in each brackish aquifer).

(3) Authorization of appropriations

There is authorized to be appropriated to carry out this subsection $3,000,000 for the period of fiscal years 2009 through 2011, to remain available until expended.

(d) Improved water estimation, measurement, and monitoring technologies

(1) Authority of Secretary

The Secretary may provide grants on a nonreimbursable basis to appropriate entities with expertise in water resource data acquisition and reporting, including Federal agencies, the Water Resources Research Institutes and other academic institutions, and private entities, to—

(A) investigate, develop, and implement new methodologies and technologies to estimate or measure water resources data in a cost-efficient manner; and

(B) improve methodologies relating to the analysis and delivery of data.

(2) Priority

In providing grants to appropriate entities under paragraph (1), the Secretary shall give priority to appropriate entities that propose the development of new methods and technologies for—

(A) predicting and measuring streamflows;

(B) estimating changes in the storage of groundwater;

(C) improving data standards and methods of analysis (including the validation of data entered into geographic information system databases);

(D) measuring precipitation and potential evapotranspiration; and

(E) water withdrawals, return flows, and consumptive use.

(3) Partnerships

In recognition of the value of collaboration to foster innovation and enhance research and development efforts, the Secretary shall encourage partnerships, including public-private partnerships, between and among Federal agencies, academic institutions, and private entities to promote the objectives described in paragraph (1).

(4) Authorization of appropriations

There is authorized to be appropriated to carry out this subsection $5,000,000 for each of fiscal years 2009 through 2019.

(Pub. L. 111–11, title IX, § 9507, Mar. 30, 2009, 123 Stat. 1339.)

§ 10368. National water availability and use assessment program

(a) Establishment

The Secretary, in coordination with the Advisory Committee and State and local water resource agencies, shall establish a national assessment program to be known as the ''national water availability and use assessment program''—

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

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

(3) to assist in the determination of the quality of the water resources of the United States;

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

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

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

(b) Program elements

(1) Water use

In carrying out the assessment program, the Secretary shall conduct any appropriate activity to carry out an ongoing assessment of water use in hydrologic accounting units and major aquifer systems located in the United States, including—

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

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

(C) the integration of any dataset maintained by any other Federal or State agency into the dataset maintained by the Secretary; and

(D) a focus on the scientific integration of any data relating to water use, water flow,

or water quality to generate relevant information relating to the impact of human activity on water and ecological resources.

(2) Water availability

In carrying out the assessment program, the Secretary shall conduct an ongoing assessment of water availability by—

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

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

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

(I) natural recharge;
(II) withdrawals;
(III) saltwater intrusion;
(IV) mine dewatering;
(V) land drainage;
(VI) artificial recharge; and
(VII) other relevant factors, as determined by the Secretary; and

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

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

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

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

(iii) provides for real-time data collection; and

(C) developing and applying predictive modeling tools that integrate groundwater, surface water, and ecological systems.

(c) Grant program

(1) Authority of Secretary

The Secretary may provide grants to State water resource agencies to assist State water resource agencies in—

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

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

(2) Criteria

To be eligible to receive a grant under paragraph (1), a State water resource agency shall demonstrate to the Secretary that the water use and availability dataset proposed to be established or integrated by the State water resource agency—

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

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

(3) Maximum amount

The amount of a grant provided to a State water resource agency under paragraph (1) shall be an amount not more than $250,000.

(d) Report

Not later than December 31, 2012, and every 5 years thereafter, the Secretary shall submit to the appropriate committees of Congress a report that provides a detailed assessment of—

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

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

(B) surface water storage;

(C) groundwater reserves; and

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

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

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

(A) the agricultural sector;
(B) municipalities;
(C) the industrial sector;
(D) thermoelectric power generators; and
(E) hydroelectric power generators;

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

(5) significant water use conflicts or shortages that have occurred or are occurring; and

(6) each factor that has caused, or is causing, a conflict or shortage described in paragraph (5).

(e) Authorization of appropriations

(1) In general

There is authorized to be appropriated to carry out subsections (a), (b), and (d) $20,000,000 for each of fiscal years 2009 through 2023, to remain available until expended.

(2) Grant program

There is authorized to be appropriated to carry out subsection (c) $12,500,000 for the period of fiscal years 2009 through 2013, to remain available until expended.

(Pub. L. 111–11, title IX, §9508, Mar. 30, 2009, 123 Stat. 1343.)

§ 10369. Research agreement authority

The Secretary may enter into contracts, grants, or cooperative agreements, for periods not to exceed 5 years, to carry out research within the Bureau of Reclamation.

(Pub. L. 111–11, title IX, §9509, Mar. 30, 2009, 123 Stat. 1346.)