

**COMMITTEE ON SCIENCE AND TECHNOLOGY
SUBCOMMITTEE ON ENERGY AND ENVIRONMENT
U.S. HOUSE OF REPRESENTATIVES**

**A National Water Initiative: Coordinating and Improving Federal Research on
Water**

Wednesday, June 23, 2008
10:00 a.m. – 12:00 p.m.
2318 Rayburn House Office Building

PURPOSE

On Wednesday, July 23rd the Subcommittee on Energy and Environment will hold a hearing to receive testimony on the opportunities for the federal government to support and better coordinate research and technological innovation to enhance water supplies and water quality and to support improved water management. The Committee will also receive testimony on a discussion draft of legislation to be introduced by Chairman Bart Gordon entitled, *The National Water Research and Development Initiative Act*.

WITNESSES

- **Dr. Mark A. Shannon:** Director of the United States Strategic Water Initiative, a public-private effort to enhance American competitiveness in water purification science and technology by advancing the basic science of water purification and accelerating the implementation of innovative U.S. technologies to deliver, increase, and protect fresh water supplies around the world.
- **Mr. Tod Christenson:** Director of the Beverage Industry Environmental Roundtable (BIER), an organization created by Coca Cola and representing eleven beverage companies including Anheuser Busch, Beam, Pepsi, etc.
- **Dr. Timothy T. Loftus:** Water Resource Planner for the Chicago Metropolitan Agency for Planning (CMAP) and coordinator of the Illinois 2050 Water Demand Scenario report commission by the Governor Rod Blagojevich.
- **Mr. Jerry Johnson:** General Manager at the DC Water and Sewer Authority, a multi-jurisdictional regional utility that provides drinking water, wastewater collection and treatment to more than 500,000 residential, commercial and governmental customers in the District of Columbia.
- **Mr. Bradley H. Spooner:** Principal Engineer for Environmental Services at Municipal Electric Authority of Georgia, a public corporation providing power to 49 Georgia communities that in turn bring energy to approximately 600,000 citizens.

- **Dr. Upton Hatch:** Associate Director at the Water Resources Research Institute of the University of North Carolina, one of the fifty-four state and territorial Water Research Institutes and Centers which perform research related to regional and interstate water resources problems.

BACKGROUND

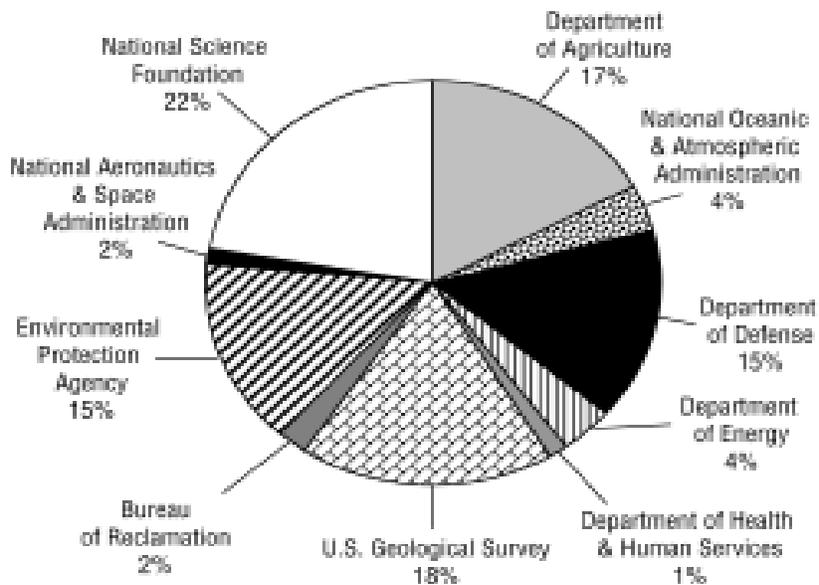
Water resource problems are growing in both number and intensity, in regions across the country. As demand for water continues to rise and as supplies dwindle, it has become increasingly apparent that there is an important role for the federal government to establish a comprehensive strategy for research and development of new technologies to ensure a sustainable water supply.

In 2004, the National Academies of Science published a study entitled, *Confronting the Nation's Water Problems: The Role of Federal Research*, which declared, "The United States needs to make a new commitment to water resources research in order to confront the increasingly severe water problems faced by all parts of the country."

Over twenty federal agencies carry out research and development on some aspect of water supply, water quality or water management. The National Academies of Science surveyed these agencies for their 2004 study and based upon the responses, estimated federal expenditures on water research to be approximately \$700 million.¹ Five of these agencies account for 87 percent of this funding: the National Science Foundation (22 percent), the U.S. Geological Survey (18 percent), the Department of Agriculture (17 percent), the Environmental Protection Agency (15 percent), and the Department of Defense (15 percent).

¹ National Academies of Science. 2004. *Confronting the Nation's Water Problems: The Role of Research*. Executive Summary. Water Science and Technology Board. Committee on Assessment of Water Resources Research. National Research Council. Washington, DC. p.7

Figure 1: Agency contributions as a percentage of the total federal funding for water resources research in 2000.²



Despite a research budget of approximately \$700 million, the increased number of water shortages and emerging conflicts over water supplies suggest we are inadequately prepared to address the nation’s water management issues. This same report advocates for a clear national water strategy to coordinate the 20 plus federal agencies responsible for conducting and funding research in order to avoid duplication and to tackle the looming challenges of maintaining adequate water supplies. At the May 14 hearing before the Committee on Science and Technology on challenges related to water supply and water quality several of the witnesses also recommended better coordination of federal efforts on water.

The NAS report discussed three options for better coordinating research and development programs on water: Using an existing National Science and Technology Council Subcommittee; authorization of a neutral, third party or Water Research Board; or creating an Office of Management and Budget (OMB) led interagency committee of senior agency officials formally tied to the budget process.³

The Subcommittee on Water Availability and Quality (SWAQ)

The Bush Administration had created the Subcommittee on Water Availability and Quality (SWAQ) of the National Science and Technology Council’s Committee on Environment and Natural Resources in 2003 to: identify science and technology needs to address the growing issues related to freshwater supplies, develop a coordinated a multiyear plan to improve research

² *Confronting the Nation’s Water Problems: The Role of Research (Report in Brief)*. Water Science and Technology Board. Committee on Assessment of Water Resources Research. National Research Council. Washington, DC. p.2

³ Chapter 6: Coordination of Water Resources Research. Pp. 199-214.

on water supply and water quality, and to enhance the collection and availability of data needed to ensure an adequate water supply for the nation.⁴

The Academy report indicated that SWAQ is an effective forum for agencies to share information about their programs. SWAQ is already in place and the participating agencies' roles are well-defined. However, the Academy report identified several issues that needed to be addressed if SWAQ is to become an effective coordinating body. The budget function for SWAQ should be strengthened through participation of OMB on the Committee and SWAQ should engage in outreach activities to develop connections to state and local governments, to wider community of stakeholders, and to the public.

In their 2007 report, SWAQ made recommendations laying out the federal research priorities and recommendations for a federal science strategy to address water supply. Those recommendations included:

- Implementation of a National Water Census;
- Development of a new generation of water monitoring techniques;
- Development and expansion of technologies for enhancing reliable water supply;
- Development of innovative water-use technologies and tools to enhance public acceptance of them;
- Development of collaborative tools and processes for U.S. water solutions;
- Improvement in the understanding of water-related ecosystem services and ecosystem needs for water; and
- Improvement in hydrologic prediction models and their applications.

Unfortunately, these strategic goals are not reflected in the President's FY 2009 Budget request to Congress. While some of these priorities were given small allocations of funding (i.e. \$9 million requested for the United States Geologic Survey to complete a new National Water Census), agencies were not allocated funding to support work on most of the priorities identified in the report.

DRAFT LEGISLATION

There is a need for a national initiative to coordinate federal research water efforts is necessary to ensure we have the best tools and information to maintain adequate supplies of water for Americans in the coming decades. For this reason, Chairman Bart Gordon plans to introduce legislation to create a National Water Initiative. This Act seeks to improve the Federal

⁴ National Science and Technology Council, Committee on Environment and Natural Resources, Subcommittee on Water Availability and Quality. 2007. *A Strategy for Federal Science and Technology to Support Water Availability and Quality in the United States*. Washington, DC. 35 pp.

Government's efforts in water research, development, demonstration, education, and technology transfer activities to address changes in water use, supply, and demand in the United States. The bill codifies the existing Interagency Committee, SWAQ, and strengthens the Committee by incorporating the suggestions in the National Academies' 2004 report. By strengthening the SWAQ and providing it explicit Congressional authorization, the recommendations of the 2007 SWAQ report will receive due consideration and form the start of a national strategy to ensure we have a sustainable water supply.

SECTION BY SECTION

Title: *National Water Research and Development Initiative Act*

Purpose: To improve the Federal Government's role in water research, development, demonstration, education, and technology transfer activities to address changes in water use, supply, and demand in the United States.

Section 1: Short Title

The National Water Research and Development Initiative Act of 2008

Section 2: National Water Research and Development Initiative

Section 2 directs the President to implement a National Water Research and Development Initiative to improve Federal activities on water, including: research, development, demonstration, education, and technology transfer. As part of the Initiative, the President shall establish or designate an Interagency Committee with representation from all federal agencies dealing with water and the Office of Management and Budget. The Office of Science and Technology Policy will chair the Committee.

The Committee is charged with developing a National Water Availability Research and Assessment Plan, coordinating all federal activities on water, and promoting cooperation among agencies with respect to water research.

The Plan establishes priorities for Federal water research and assessment and shall utilize the recommendation from a 2007 Report issued by SWAQ (Subcommittee on Water Availability and Quality of the National Science and Technology Council). This section also identifies required elements of the Plan. The Plan is also lists a number of outcomes and directs the Committee to direct agencies to achieve the outcomes in the Plan.

The Plan will be subject to a 90 day public comment period and must be submitted to Congress within 1 year of enactment.

The President is also directed to create an Outreach Office to provide technical and administrative support to the Committee. The Office will disseminate information to the public and serve as a point of contact for the Initiative.

Section 3: Budget Coordination

Section 3 directs the President to provide guidance to each Federal agency in the Initiative with respect to the President's annual request. The President is required to describe and list the items in the request that are elements of the Plan of help to achieve the outcomes of the plan.

Section 4: Annual Report

Section 4 directs the President submit an annual report to Congress describing the activities and results of the initiative.