STATEMENT OF

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U.S. GEOLOGICAL SURVEY

U.S. DEPARTMENT OF THE INTERIOR

BEFORE THE

COMMITTEE ON RESOURCES

SUBCOMMITTEE ON WATER AND POWER

U.S. HOUSE OF REPRESENTATIVES

ON

H.R. 4588, "WATER RESOURCES RESEARCH ACT AMENDMENTS OF 2005"

May 10, 2006

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to discuss the Administration's views on H. R. 4588, "Water Resources Research Act Amendments of 2005," a bill to reauthorize grants for applied water supply research regarding the water resources research and technology institutes established under the Water Resources Research Act of 1984.

The Administration agrees in principle with the goals of the Water Resources Research Act of 1984, specifically to support academic research to aid in the resolution of State and regional water problems, to promote technology transfer, and to provide for training of scientists and engineers. However, the Administration does not support reauthorization of the Act, and has some concerns with H.R. 4588 as discussed more fully below.

Background

The Water Resources Research Act (42 U.S.C. 10301 et seq.) was originally enacted in 1964. The Act, as reauthorized, establishes university-based water resources research institutes, which are to conduct a program of water-related research and training of scientists and engineers to enter fields of water research and management. Each Institute's program priorities are to be set in consultation with state advisory committees. There are 54 Institutes, one at the "1862" land grant university in each of the 50 States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. The Institute in Guam also serves the Commonwealth of the Northern Mariana Islands and the Federated States of Micronesia. The Institutes each receive a Federal grant, under which they must match each Federal dollar received with two dollars from non-Federal sources. The Act also authorizes a competitive grant program for research on water problems of a regional or interstate nature and for which the research priorities are set jointly by the Institutes and the Secretary of the Interior. Fiscal year 2006 priorities for the competitive grant program relate to research on water availability. The Institutes are required to match each Federal dollar received under this program with one dollar from non-Federal sources. The Institute program is administered by the U.S. Geological Survey (USGS).

Analysis of H.R. 4588

H.R. 4588 would amend the Water Resources Research Act of 1984 to require each water resources research and technology Institute to plan, conduct, or otherwise arrange for competent applied and peer reviewed research that fosters specified goals, including creating new water supplies and resolving water supply problems. As written, there is concern that H.R. 4588 would narrow the focus of research to water supply at the expense of research on other problems, including water quality and water use.

Evaluations are done every 5 years, and the Administration believes this is sufficient for reasons of both cost and effectiveness. H.R. 4588 would also direct the Secretary of the Interior to evaluate each Institute once every 3 years to determine, among other things, the effectiveness of its water resources research.

H.R. 4588 would require the Secretary, as part of the annual budget submission to Congress, to provide a crosscut budget detailing expenditures on Institute activities and a report on the annual increase in water supplies, annual water yields, advances in water infrastructure improvements, and the level of applied research. It should be noted that the Institutes have no regulatory or management roles and thus are not in a position to ensure increases in water supplies or improvements in infrastructure as a result of their research, nor are they in a position to enforce collection of such information from the many different agencies involved with developing water supplies or water infrastructure improvements.

Conclusion

Although the Administration is in general agreement with the goals of H.R. 4588, it does not support reauthorization of the Act. Because the Institutes have developed a constituency and a program that far exceeds that supported by their direct Federal appropriation, there is no longer a need for an annual Federal appropriation for this program.

This concludes my formal statement, Mr. Chairman. I will be pleased to respond to your questions.

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S.214/H.R. 469, "UNITED STATES-MEXICO TRANSBOUNDARY AQUIFER ASSESSMENT ACT"

May 10, 2006

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to participate in this hearing to discuss the important role of water in the U.S.-Mexico Border Region and to provide the Administration's views on S.214 and H.R. 469, the "United States-Mexico Transboundary Aquifer Assessment Act." The Administration supports the provisions of S.214/ H.R. 469, however, we note that we currently are undertaking some work in the areas covered by the bills and that no new authorities are needed. The program authorized in these bills would need to compete among the Administration's other priorities for funding.

Background

The international border region of the United States and Mexico (border region) has, during the past decade, experienced significant economic expansion accompanied by rapid population growth and urban development. The removal of international trade barriers quickly transformed the region's several small to mid-size cities into some of the fastest growing population centers in both countries. As a result, the people residing on both sides of the border now face numerous complex social, political, economic, infrastructure, public health, natural resource, and environmental-quality challenges. Along the entire length of the mostly arid international border region, perhaps the greatest challenge is how to effectively address the need for safe, sustainable supplies of good quality water for public, industrial, and agricultural uses, while maintaining a delicate balance with the needs of a very fragile natural-resource system.

The limited surface-water supplies along the border have been allocated for several decades under international treaties and domestic laws. However, allocation of ground water in the border region is poorly regulated because little is known about its availability, sustainability, and quality; about how ground water interacts with surface-water bodies; and about the susceptibility of ground water to contamination. Ground water also is an important source of life-sustaining base flow to many streams and essential for maintaining critical aquatic habitats.

Ground-water pumping has lowered the water table, depleted aquifers, and reduced the base flow of many streams, thus decreasing the quantity of water available to people and critical riparian habitats. Excessive ground-water pumping in some major urban centers, such as in the El Paso/Juarez metropolitan region, has caused land subsidence that has damaged homes and essential urban infrastructure. In addition to the effects of ground- and surface-water depletion, degradation of water quality has reduced habitat suitability for the region's diverse biota. The problems associated with limited water quantity and competing uses of water also have resulted in impaired and degraded water quality and serious issues related to human health on both sides of the border. Water quantity and quality will most likely be the determining and limiting factors that ultimately control future economic development, population growth, and human health along the United States-Mexico border.

S.214/H.R. 469

S.214 and H.R. 469 direct the Secretary of the Interior to establish a United States-Mexico Transboundary Aquifer Assessment Program to systematically assess priority transboundary aquifers and provide the scientific foundation necessary for State and local officials to address pressing water resource challenges in the border region. The bills further direct the Secretary of the Interior to implement this program in cooperation with the Border States as well as with other appropriate entities, including affected Indian tribes.

The proposed, collaborative scientific investigations and research efforts would address critical water supply, environmental, and natural-resource issues in the border region, and contribute to an improved understanding of the relations between the border region's many water, natural-resource, biological, and human-health related issues. Additionally, these studies would develop and document the tools, scientific methodologies, and procedures for collecting and integrating hydrologic, geologic, biologic, and other spatial data into a binational geographic information system for analysis and modeling applications. We agree that a multi-discipline, binational, scientific approach is needed to address these complex, interrelated transboundary issues. Accordingly, the USGS Border Environmental Health Initiative, now in its third year, has developed a framework for a borderwide integrated binational database for water quality and quantity information.

The objectives of S.214 and H.R. 469 include expanding existing agreements between the USGS, Border States, State Water Resources Research Institutes, and appropriate authorities in the United States and Mexico to conduct joint investigations; document, manage, and share data; and carry out the necessary binational work efforts. Such collaboration would produce timely, widely accepted scientific products and understanding of each priority binational aquifer that is needed by water and natural-resource managers to effectively accomplish their missions.

The role identified for the Department of the Interior in these bills is consistent with the USGS leadership role in monitoring, interpretation, research, and assessment of the health and status of the water and biological resources of the Nation. As the Nation's largest water, earth, and biological science, and civilian mapping agency, the USGS provides the largest single non-regulatory hydrologic investigative and research capability in the Nation.

This proposed scientific collaboration by Federal, State, Tribal, and academic institutions touches on many of the interdisciplinary core competencies of the USGS. For example, current efforts, such as working with Mexico and Canada on the North America Atlas to develop standardized fundamental geospatial data layers, and with Mexican federal agencies (INEGI - Instituto Nacional de Estadística, Geografía e Informática; IMTA - Instituto Mexicano de Tecnología del Agua; and CNA - Comisión Nacional del Agua) to develop standardized approaches for delineating watersheds and defining hydrologic characteristics, are currently being implemented in this region and others. At its heart, such collaboration effectively capitalizes on the collective scientific capability and resources of the partnering institutions. The integration of this relevant science addresses pressing and complex natural resource and environmental problems in these very fragile landscapes and complex ecosystems.

The USGS has been active in a number of relevant programs and investigations in the arid southwest and, hence, has a working knowledge of proven methods and innovative technologies for effectively characterizing, monitoring, and mapping the border region's ground-water resources. We believe we have the authority to implement the activities called for in these identical bills and would continue to provide resources to address the goals of S.214 and H.R. 469, provided these activities successfully compete against other USGS priorities.

USGS scientists working from offices in each of the four Border States actively participate in ongoing programs and investigations, and are called upon by the States and border communities to provide essential technical insight and understanding for solving critical water-supply and natural-resource problems. Our scientists serve on a large number of relevant committees, task forces, and advisory groups in the border region. Regional coordination and communication of USGS programs and activities along the international border is further enhanced internally through our Borderlands Workgroup, as well as within the Department of the Interior as a result of our active participation on the U.S.-Mexico Field Coordination Committee.

Talking with our partners in the Border States and communities, in the other Interior Bureaus, and other Federal agencies, as well with scientists and government officials in Mexico, it is widely acknowledged that the lack of a standardized, binational database on the availability, use, and quality of transboundary ground-water resources is perhaps the most significant impediment in addressing the Border region's numerous complex water-supply and natural-resource challenges. The lack of basic inventory and monitoring information pertaining to border water resources and water-dependent environments prevents a comprehensive understanding of watershed and regional processes and issues, and hinders the ability of science to provide the essential predictive capability to characterize or describe potential cause and effect relations associated with alternative land and water use and management actions.

The program and investigations called for in these bills would support the development and maintenance of such a standardized, binational hydrologic database and associated data analysis tools. Early into the program, it would be essential

that binational consensus be reached on common investigative approaches, common field data collection protocols, laboratory methodologies, and data management, documentation, and reporting systems. Once these technical issues are resolved, it would be much easier to streamline the binational requirements related to the review and public release of impartial, transboundary scientific data. Such consensus has been reached in the past for transboundary investigations having limited scope. Obtaining this consensus for the entire Border region would greatly enhance transboundary scientific collaboration in the future.

Summary

The proposed investigations and pertinent research efforts authorized by S. 214 and H.R. 469 would address critical water, environmental, and health issues in the Border region and contribute to a more comprehensive understanding of the relations between the region's many water, natural-resource, biological, and health-related issues. It is important that a bi-national, multi-discipline scientific approach be taken to address these interrelated issues. Additionally, these binational studies would develop and document the tools, methodologies, and procedures to collect and integrate hydrologic, biologic, and other spatial data into the USGS Border Environmental Health Initiative geographic information system for analysis and modeling applications.

Thank you, Mr. Chairman, for the opportunity to present this testimony. I will be pleased to answer questions you and other Members of the Subcommittee might have.