Calendar No. 28

109TH CONGRESS, *1st Session* | SENATE | REPORT 109–17

UNITED STATES-MEXICO TRANSBOUNDARY AQUIFER ASSESSMENT ACT

MARCH 7, 2005.—Ordered to be printed

Mr. DOMENICI, from the Committee on Energy and Natural Resources, submitted the following

R E P O R T

[To accompany S. 214]

The Committee on Energy and Natural Resources, to which was referred the bill (S. 214) to authorize the Secretary of the Interior to cooperate with the States on the border with Mexico and other appropriate entities in conducting a hydrogeologic characterization, mapping, and modeling program for priority transboundary aquifers, and for other purposes, having considered the same, reports favorably thereon without amendment and recommends that the bill do pass.

PURPOSE OF THE MEASURE

The purpose of S. 214 is to authorize the Secretary of the Interior to cooperate with the States on the border with Mexico and other appropriate entities in conducting a hydrogeologic characterization, mapping, and modeling program for priority transboundary aquifers, and for other purposes.

BACKGROUND AND NEED

The United States and Mexico share a 2,000 mile-long border that crosses multiple groundwater basins. Piecemeal assessments of aquifers have been performed by the U.S. Geological Survey and other entities over the last 50 years. However, assessments to date have included relatively little information on the Mexican side of the border, have not been integrated across multiple basins around large municipal areas, and have not included the surface water-groundwater interactions. Additionally, data collection and numerical analysis techniques and technology have greatly improved in

recent years, resulting in a good opportunity to develop scientific tools of significant value to State and local water resource managers. Accordingly, S. 214 is intended to address the lack of binational consensus regarding the source and availability of future water supplies along the border by establishing a scientific program to assess priority transboundary aquifers comprehensively. This assessment should help State and local water planning efforts and avoid transboundary conflicts, particularly in rapidly expanding municipal areas along the border where demands on groundwater are increasing. The program will also increase the understanding of groundwater quality, a matter of increasing importance given that a lack of adequate wastewater treatment infrastructure is responsible for ongoing groundwater contamination.

LEGISLATIVE HISTORY

S. 214 was introduced on January 31, 2005, by Senator Bingaman for himself and Senators Domenici and Kyl and referred to the Committee on Energy and Natural Resources. No hearings were held on the measure. At the business meeting on February 9, 2005, the Committee on Energy and Natural Resources ordered S. 214 favorably reported.

During the 108th Congress, a similar measure, S. 1957, was introduced by Senator Bingaman on November 25, 2003 and referred to the Committee on Energy and Natural Resources. Senators Domenici and Kyl were co-sponsors. The Subcommittee on Water and Power held a hearing on S. 1957 on May 19, 2004. S. Hrg. 108–618. The Committee on Energy and Natural Resources ordered S. 1957, as amended, favorably reported on June 16, 2004. S. Rept. 108–297. S. 1957 passed the Senate by unanimous consent on September 15, 2004.

COMMITTEE RECOMMENDATION

The Senate Committee on Energy and Natural Resources, in an open business meeting on February 9, 2005, by unanimous voice vote of a quorum present, recommends that the Senate pass S. 214.

SECTION-BY-SECTION ANALYSIS

Section 1 provides the short title, the "United States-Mexico Transboundary Aquifer Assessment Act."

Section 2 sets forth the purposes of the Act.

Section 3 defines the terms used in the Act.

Section 4 subsection (a) directs the Secretary to carry out the United States-Mexico transboundary aquifer assessment program to characterize, map, and model transboundary groundwater resources along the United States-Mexico border.

Subsection (b) provides that the objectives of the program are to develop and implement an integrated scientific approach to assess transboundary groundwater resources.

Subsection (c) designates the Hueco Bolson and Mesilla aquifers, the Santa Cruz River Valley aquifers as priority transboundary aquifers and directs the Secretary to designate additional priority transboundary aquifers using the criteria under subsection (b)(1)(A)(ii).

Subsection (d) directs the Secretary to work with appropriate Federal agencies and other organizations to develop partnerships with, and receive input from, relevant organizations in Mexico to carry out the program.

Subsection (e) provides that the Secretary may provide grants or enter into cooperative agreements and other agreements with the water resources research institutes and other Border State entities to carry out the program.

Section 5 subsection (a) directs the Secretary to coordinate the activities carried out under the program with the appropriate water resource agencies in the Border States, any affected Indian tribe, any other appropriate entities that are conducting monitoring and metering activity of a priority transboundary aquifer.

Subsection (b) prohibits the Secretary from initiating new field studies or analyses until consulting with and coordinating the activity with any water resource agencies that have jurisdiction over the aquifer.

Subsection (c) directs the Secretary to work with appropriate entities to develop a study plan, timeline, and cost estimate for each priority transboundary aquifer to be studied under the program. Study plans shall take into consideration existing data and be consistent with State guidelines and goals.

Section 6 states that this Act has no effect on the jurisdiction of a Border State with respect to managing surface or groundwater resources in the Border State, nor does the Act affect the water rights of any person or entity.

Section 7 directs the Secretary to submit a report to the appropriate water resource agency in the Border States that describes activities carried out under the program, conclusions of the Secretary on the status of transboundary aquifers, and the level of participation of the Mexican partners.

Section 8 subsection (a) authorizes $50 million to be appropriated for the Act for fiscal years 2006 through 2015.

Subsection (b) requires that 50 percent of the funds made available for the Act shall be distributed to the appropriate local entities in the Border States and Mexico.

COST AND BUDGETARY CONSIDERATIONS

The following estimate of costs of this measure has been provided by the Congressional Budget Office:

FEBRUARY 14, 2005.

Hon. PETE V. DOMENICI,
Chairman, Committee on Energy and Natural Resources,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 214, the United States-Mexico Transboundary Aquifer Assessment Act.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Deborah Reis.

Sincerely,

DOUGLAS HOLTZ-EAKIN,
Director.

Enclosure.

S. 214—United States-Mexico Transboundary Aquifer Assessment Act

Summary: S. 214 would establish a program within the Department of the Interior to study and assess acquifiers (i.e., groundwater reserves) that are located under the boundaries of Mexico and the bordering States of Arizona, California, New Mexico, and Texas. The U.S. Geological Survey (USGS) would coordinate the program and would provide grants and technical assistance to government agencies and other organizations in Mexico and the four States for projects that address groundwater issues. The bill would authorize the appropriation of $50 million over the 2006–2015 period for Federal projects, technical assistance, and grants.

Assuming appropriation of authorized amounts, CBO estimates that implementing S. 214 would cost $2 million in fiscal year 2006 and $21 million over the 2006–2010 period. We estimate that an additional $29 million would be spent after 2010, including $25 million appropriated between 2011 and 2015. Enacting the bill would not affect direct spending or revenues.

S. 214 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on State, local, or tribal governments. Agencies in the four border States could receive grant funds if they choose to participate in this program.

Estimated cost to the Federal Government: The estimated budgetary impact of S. 214 is shown in the following table. The costs of this legislation fall within budget function 300 (natural resources and environment).

	By fiscal year, in millions of dollars—				
	2006	2007	2008	2009	2010
CHANGES IN SPENDING SUBJECT TO APPROPRIATION					
Authorization Level	5	5	5	5	5
Estimated Outlays	2	4	5	5	5

Basis of estimate: For this estimate, CBO assumes that S. 214 will be enacted near the end of fiscal year 2005 and that the $50 million authorized to be appropriated for the proposed aquifer program will be appropriated evenly over the next 10 years. As provided in the legislation, one-half of each year's appropriation would be awarded to laboratories, governmental agencies, universities, and other entities in Mexico or the four border states. The remaining half would be used by the USGS to carry out the federal component of the program that would include program coordination, data integration, and technical assistance.

Intergovernmental and private-sector impact: S. 214 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, or tribal governments. Agencies in the four border states could receive grant funds if they choose to participate in this program.

Estimate prepared by: Federal Costs: Deborah Reis; Impact on State, Local, and Tribal Governments: Marjorie Miller; and Impact on the Private Sector: Selena Caldera.

Estimate approved by: Peter H. Fontaine, Deputy Assistant Director for Budget Analysis.

REGULATORY IMPACT EVALUATION

In compliance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact which would be incurred in carrying out S. 214. The bill is not a regulatory measure in the sense of imposing Government-established standards or significant responsibilities on private individuals and businesses.

No personal information would be collected in administering the program. Therefore, there would be no impact on personal privacy.

Little, if any, additional paperwork would result from the enactment of S. 214.

EXECUTIVE COMMUNICATIONS

The testimony provided by the United States Geological Survey during the Subcommittee hearing on S. 1957 in the 108th Congress follows:

STATEMENT OF CHARLES G. GROAT, DIRECTOR, U.S. GEOLOGICAL SURVEY, U.S. DEPARTMENT OF THE INTERIOR

Madam 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. 1957, the "United States-Mexico Transboundary Aquifer Assessment Act." The Administration supports the provisions of S. 1957, "The United States-Mexico Transboundary Aquifer Assessment Act," however, we note that we currently are undertaking some work in the areas covered by the bill and that no new authorities are needed. The program authorized in this bill would need to compete among the Survey'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 support 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. 1957

S. 1957 directs 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 bill further directs 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. We agree that a multi-discipline, binational, scientific approach is needed to address these complex, interrelated transboundary 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.

S. 1957 objectives 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 investiga-

tions; 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 this bill 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. At its heart, the proposed collaboration would effectively capitalize on the collective scientific capability and resources of the partnering institutions. The integration of this relevant science would address the most pressing and complex natural resource and environmental problems in these very fragile landscapes and complex ecosystems.

The USGS has been active in a number or 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 the bill and would continue to provide resources to address the goals of the S. 1957, provided these activities successfully compete against other USGS priorities. In FY 2004, roughly $500,000 will be spent on such on-the-ground activities by USGS. The President's FY 2005 Budget sustains this funding level. USGS scientists working from offices in each of the four Border states actively participate in these 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 Border Strategy Team 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 this bill 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 treaty 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. 1957 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 a 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.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the Committee notes that no changes in existing law are made by the bill S. 214, as ordered reported.

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