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### Secure Water Act – Senate Bill 2156 Impact on USGS Programs

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Thank you. I am here to represent the USGS and it is a pleasure to be back in NM. I have been here a few times in my life and it is one of my favorite places. In college I used to come to NM to go camping at Chaco Canyon and to visit a cousin in Gallup. I went to graduate school next door at the University of Colorado. I want to thank the NMWRRRI for hosting this event. It is great to see the water resources family here and we heard a great speech at lunch by Dr. Hernandez, talking about all of our extended family and the interlinking of so many of us across agencies and boundaries in the private sector and state and Federal communities. I really do feel like the water resources community is a

family and I am happy to be here with this large gathering of folks from the New Mexico contingent.

Of course I would like to particularly thank senators Domenici and Bingaman for their leadership in the preparation of the SECURE Water Act. Now I know it was Mike Connor who came up with that very clever acronym, which I always have to refer to my notes to remember. We really do owe a lot to Mike Connor and his leadership in helping to put this bill forward. And I am glad to share the podium with our Bureau of Reclamation partners. You may know that about 100 years ago we actually were all one agency and we became

separate agencies in the early 1900s. Quiero decirles que es un placer estar en esta parte del país donde hay una mezcla tan grande y buena de culturas, historia, y lenguas. I said in Spanish that it is a pleasure to be in this part of the country where there is such a great mixture of cultures, history, and languages.

Before I talk about the USGS role I want to talk about this hat I brought. This is my optimist hat for the SECURE Water Act. I'm a native Philadelphian, this is a Philadelphia Phillies hat, and we are going to be in the World Series. If you know anything about sports fans, you know that most of us suffer most of the time because most of our teams never advance to that final prize, sort of like the World Series or the passing of the SECURE Water Act. So in spite of the Wall Street meltdown and all of the new challenges that will face the next Congress and the new administration, I am optimistic. The Phillies have been around for 125 years and we have won one World Series and there is a chance starting tomorrow that we may win another one. But we will see. In any case, I am forever optimistic being a Philadelphian and a sports fan and I am hopeful that the SECURE Water Act will also see success.

I wanted to point out a couple of things. Just north of us is the Rio Grande streamgage at Embudo, the first USGS streamgage in the history of the whole USGS network. It was established way back in the 1800s and it is sort of the Mecca for those of us in the surface-water community. If you haven't gone up there and had your picture taken next to the gage, I encourage you to do so. Maybe you aren't as excited as I am about it, but to me it is a great testament to the longevity of the record and the importance of long-term records and data that advise us on how we manage our water resources. Now, about 120 years later, we have almost 7,500 streamgages all over our country that transmit data via satellite. These data are available on the internet so anyone in the world can see how streams are flowing in their or anyone else's neighborhood.

These gages are operated at a cost of about \$120 million in partnership with 850 different organizations. Mike Connor gave you some sobering statistics a minute ago about the decrease in funding for water-resources data and science over the last decade and that is an increasing challenge for us. Our federal funding for those gages has been relatively constant at best and costs have risen, so our partners have had to cover more and more of the costs of maintaining that network and it is more and more difficult for them to do so. The SECURE Water Act would be a major step

forward in trying to redress the cost sharing and appropriate federal role in supporting basic hydrologic data. The goals of this bill, expanding data acquisition and analysis to improve water management and insuring that decision makers have reliable information about water resources as well as climate change impacts on water availability and energy production are critically important. Those of you here in New Mexico, I would argue, are already facing climate change because of the many demographic and land use changes that have been occurring here for a number of years and in the whole southwestern region of the U.S. where state populations are growing at about three times the rate of other parts of the country. You are already living in the future with respect to the challenges of water resources management and addressing the increased usage and population stresses.

The SECURE Water Act helps us face those challenges in a more comprehensive way. Specifically, for the USGS, there are a number of sections in the bill that fully implement the National Streamflow Information Program, which is only partially implemented now in terms of the support for streamgages around the country. It would develop a systematic groundwater monitoring program to assess major U.S. aquifer systems. This is something we do now, however we do it with a tiny amount of funds and cannot do it adequately. The Act would identify significant U.S. brackish groundwater sources and in the talks this morning we heard about the importance of those resources in the portfolio of water resources in the region and in the Nation. Very importantly, the Act would establish a water availability and use assessment program. This is something the USGS has been doing for a number of years but we never have been well funded to do it. We compile data from a wide variety of sources across the Nation and every five years publish a National Water Use Summary. The SECURE Act would substantially improve the effort and fund it at the level where we could do the job we have wanted to do. The bill establishes funding for the base network of 4,700 streamgage goal of the National Stream Commission. Doing so would free up funds from our Cooperative Water Program, which authorizes us to partner with state and local agencies both for data collection and for hydrologic studies. By funding the National Streamflow Information Program at its full level, we would have a much more of our Cooperative Water Program funds available to partner with state and local agencies on investigative studies and other data efforts.

Another major component of the bill is the National Groundwater Resources Monitoring Program that

calls for USGS to work with federal, state, and local agencies to implement a systematic groundwater monitoring program. This would significantly expand U.S. groundwater programs and would enable us to provide stable, consistent real time information about the Nation's groundwater resources required by water managers. If you go to USGS pages, you will see real-time data for the streamflow network but you will see very little data for groundwater. Of course aquifer levels don't change too dramatically so you don't need minute to minute reporting but real-time reporting of those levels would be a great asset for the water managers around the country. They would not have to wait for weeks or months for reports to be released. Instead they could find out on a daily to weekly basis. With consistent, comparable information for the whole country, the USGS will be able to develop a broad study of groundwater conditions and how those conditions vary locally, regionally, and nationally, whether conditions are getting better or worse over time, and how natural processes and human activity affect the quantity and quality.

The SECURE Water Act's section on groundwater, which is so important in this part of the country, also calls for assessment of the brackish groundwater resources of the U.S., including a report describing each significant brackish aquifer and fills in data gaps on current uses of brackish groundwater. USGS has done modest amounts of work on brackish groundwater, primarily things like literature searches and local reports and New Mexico is one of the areas we looked at. This assessment would be a major step forward for both the state and the Nation. Brackish aquifers are in demand for two competing reasons: the possibility of treating the water to make it suitable for some uses, and the possibility of using the aquifer for CO<sub>2</sub> sequestration, which is of growing interest around the country. These issues are likely to become more important in the future and the USGS would welcome the opportunity to provide detailed analysis for such an important and overlooked national resource.

It has been said that you can't manage what you don't measure. The last overall assessment of water resources in the Nation was published by the Water Resources Council in 1978. Since that time, dramatic changes in water availability and use have occurred as a result of demographics and environmental impacts, economic issues, technology, changing climate, and of course the rise of biofuels. Section 9 of the SECURE Water Act directs the USGS to implement programs designed to provide a more accurate assessment of the status of water resources in the U.S., to identify long-term

trends in water availability, and develop a basis for an improved ability to forecast future water availability for economic and energy reductions and uses.

During the time the Senate has worked on this bill, the history of which you got from Mike Connor, the Department of Interior has also been working on a budget initiative for 2009, the Water for America initiative, which could provide significant increases for the Bureau of Reclamation and the USGS. The initiative calls for a number of actions, and I will touch on a few key ones before I close. It would support the conducting of a nationwide assessment of water availability by 2019 through a series of regionally scaled and focused studies; a water census. It would improve our understanding of water use information, (a goal of the SECURE Water Act), cooperate with states to map the geologic framework in the Nation to improve characterization of the Nation's aquifers, and finally, modernize the Nation's streamgages by replacing obsolete telemetry to insure real-time continued operations and provide more timely information for better water management. The responsibility for management of course will continue to rest at state and local government levels. The federal government does not own or manage the water but will provide resources for partners at local levels to do so. But knowledge of the system is needed across state lines and that is a key part of the federal role. The initiative will use state assessments and federal studies accomplished through federal and other USGS water programs. There is a close match between these two efforts, the Legislative Branch with the SECURE Water Act and on the other end on Pennsylvania Avenue, the Executive Branch, with the Water for America Act. This is a logical outcome of the increasing concern about the long-term availability and reliability of the Nation's water supply.

In summary, the SECURE Water Act will authorize substantial investments in our Nation's understanding of water resources and their importance to our way of life. The U.S. population is growing quickly in regions of water scarcity and irrigated agriculture is moving into new areas, including the humid eastern states. Our increasing interest in biofuels will lead to significant increases in associated water uses. Additionally, climate change is predicted to change evapotranspiration, precipitation types and amounts, runoff, and groundwater storage, particularly here in the western United States. The SECURE Water Act is a major step forward in providing the tools we need to understand and manage the Nation's most essential natural resource. The USGS looks forward to working with the Bureau of Reclamation, Congress, water resources

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research institutes, and our partners in state agencies  
to achieve these results. Thank you.