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H.R. 3334, H.R. 3391 and S. 212

LEGISLATIVE HEARING

BEFORE THE

SUBCOMMITTEE ON WATER AND POWER

OF THE

COMMITTEE ON RESOURCES
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTH CONGRESS

FIRST SESSION

Thursday, October 30, 2003

Serial No. 108-74

Printed for the use of the Committee on Resources

Available via the World Wide Web: http://www.access.gpo.gov/congress/house
or
Committee address: http://resourcescommittee.house.gov

U.S. GOVERNMENT PRINTING OFFICE

90-157 PS WASHINGTON : 2004

For sale by the Superintendent of Documents, U.S. Government Printing Office
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LEGISLATIVE HEARING ON H.R. 3334, TO AUTHORIZE THE SECRETARY OF THE INTERIOR TO PARTICIPATE IN THE DESIGN AND CONSTRUCTION OF THE RIVERSIDE-CORONA FEEDER IN COOPERATION WITH THE WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE, CALIFORNIA; H.R. 3391, THE PROVO RIVER PROJECT TRANSFER ACT; AND S. 212, TO AUTHORIZE THE SECRETARY OF THE INTERIOR TO COOPERATE WITH THE HIGH PLAINS AQUIFER STATES IN CONDUCTING A HYDROGEOLOGIC CHARACTERIZATION, MAPPING, AND MODELING PROGRAM FOR THE HIGH PLAINS AQUIFER, AND FOR OTHER PURPOSES.

Thursday, October 30, 2003
U.S. House of Representatives
Subcommittee on Water and Power
Committee on Resources
Washington, D.C.

The Subcommittee met, pursuant to notice, at 10:03 a.m., in Room 1334, Longworth House Office Building, Hon. Ken Calvert [Chairman of the Subcommittee] presiding.

Present: Representatives Calvert, Napolitano, Tancredo, Inslee, Grijalva, Osborne, Renzi and Nunes.

Also Present: Representatives Cannon, Tom Udall, Neugebauer and Moran

STATEMENT OF THE HON. KEN CALVERT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. CALVERT. First, let me apologize to the witnesses and our guests today. We will have a vote in a few minutes. So when that occurs, we will recess and come back and reconvene the hearing.

The Subcommittee is meeting today to hear testimony on H.R. 3334, a bill that I authored to authorize the Secretary of

Interior to participate in the design and construction of the Riverside-Corona Feeder in cooperation with the Western Municipal Water District of Riverside, California; H.R. 3391, the Provo River Project Transfer Act, authored by our colleague, Chris Cannon; and Senate Bill 212, Senator Jeff Bingaman's bill, to authorize the Secretary of Interior to cooperate with the High Plains Aquifer States in conducting a Hydrogeologic Characterization, Mapping, and Modeling Program for the High Plains Aquifer and other purposes.

Mr. CALVERT. Before we get underway with the opening statements, I ask unanimous consent for Representatives Randy Neugebauer and Tom Udall, members of the Resources Committee, to sit on the dais when they come to the Committee.

Without objection, so ordered.

This Subcommittee continues to look at ways to improve water delivery to our communities, eliminate unnecessary bureaucracy and improve the coordination of all levels of Government. Today, we will hear three bills aimed at achieving these goals.

The bill that I introduced, the Riverside-Corona Feeder Authorization Act, will capture and store water in wet years to increase the firm water supplies and improve water quality through the construction of wells and a new pipeline. This is a win-win scenario that will reduce Southern California's reliance on imported Colorado River and improve water reliability.

The Subcommittee is privileged to have one of my Riverside constituents, Elizabeth Cunnison, of the Western Municipal Water District, here before us today to testify on this bill. In addition, I am also pleased to have Ben Wicke, of the Elsinore Valley Water District, with us also today.

My colleague Chris Cannon's bill will also improve water reliability by eliminating unnecessary bureaucracy and costs through a title transfer of the Provo River Project to local users. I continue to support the concept of title transfers and hope that the Bureau of Reclamation will improve the general framework of title transfers. I understand the Administration will not testify on this bill today since the bill was just very recently introduced. The Subcommittee would appreciate written testimony, however, from the Bureau within 10 working days.

Finally, we will hear testimony on Senator Bingaman's bill on the High Plains Aquifer. Senator Bingaman has a worthy goal in seeking to coordinate Federal, State and local Government efforts on the High Plains Aquifer, but some have questioned whether legislation is needed to accomplish the bill's objectives.

Many have also raised concerns that the bill reinvents the wheel by duplicating current programs and the bill would be a camel's nose under the tent for Federal groundwater regulation. All of these concerns are embodied in a letter from six of our colleagues, sent to Chairman Pombo and myself last week.

We will hear from both sides of the bill today, but this fact remains clear to me: No one has a good accounting of how much and what to do and to what extent funds are being spent on the High Plains Aquifer or defining whether current programs are meeting their intended objectives. In fact, the recent congressional research report identifies a number of Federal and State programs that are

being implemented and coordinated to benefit the High Plains Aquifer.

Yes, this bill seeks to further coordinate such activities, but I believe it is a good idea to look at the big picture first in determining whether this bill is necessary when the authorities and coordination may already exist. If we march forward with the concept of this bill, we must find clear answers first before we create a new $90-million program that will compete with other priorities. The American taxpayer deserves nothing less.

For this reason, I will ask the Administration and other parties to engage in an extensive cross-cut budget exercise. Similar to the CALFED cross-cut budget, this budget will detail ongoing programs, expenditures, successes and the level of coordination. Everyone agrees the goal of better intergovernment, but we shouldn't pass costly legislation until we have a better idea of what is out there right now. I believe this cross-cut budget is the first logical step in that direction.

With that, I want to thank my colleagues and witnesses for being here today and look forward to today's testimony.

I would now like to recognize my good friend, Mrs. Napolitano, the Ranking Democrat member, for any opening statements she may have.

[The prepared statement of Mr. Calvert follows:]

Statement of The Honorable Ken Calvert, a Representative in Congress from the State of California, on S. 212, H.R. 3334 and H.R. 3391

This Subcommittee continues to look at ways to improve water delivery to our communities, eliminate unnecessary bureaucracy, and improve the coordination of all levels of government.

Today, we will hear three bills aimed at achieving these goals. My bill, the Riverside-Corona Feeder Authorization Act, will capture and store water in wet years to increase firm water supplies and improve water quality through construction of wells and a new pipeline. This is a win-win scenario that will reduce southern California's reliance on imported Colorado River water and improve water reliability. The Subcommittee is privileged to have one of my Riverside constituents, Elizabeth Cunnison of the Western Municipal Water District, here before us today to testify on this bill.

My colleague Chris Cannon's bill would also improve water reliability by eliminating unnecessary bureaucracy and costs through a title transfer of the Provo River Project to the local users. I continue to support the concept of title transfers and hope that the Bureau of Reclamation will improve the general framework of title transfers. I understand the Administration will not testify on this bill today since it was just introduced. The Subcommittee would appreciate written testimony, however, from the Bureau within the next 10 days on this important bill.

Finally, we will hear testimony on Senator Bingaman's bill to map, model and monitor the High Plains Aquifer. Senator Bingaman has a worthy goal of seeking to coordinate federal, state and local governmental efforts on the High Plains Aquifer, but some have questioned whether legislation is needed to accomplish the bill's objectives. Many have also raised concerns that the bill reinvents the wheel by duplicating current programs and that the bill could be the camel's nose under the tent for federal groundwater regulation. All of these concerns are embodied in a letter from six of our colleagues sent to Chairman Pombo and myself last week.

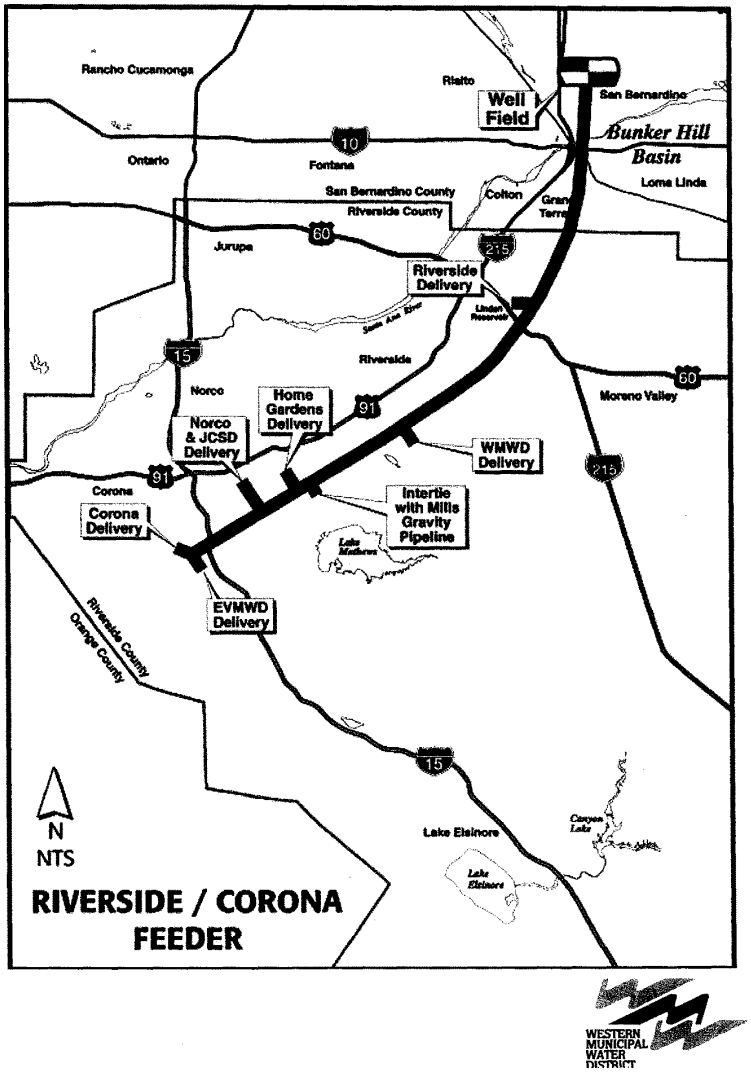
We will hear from both sides of the bill today, but this fact remains clear to me: No one has a good accounting of how much, and to what extent, funds are being spent on the High Plains Aquifer or defining whether programs are meeting their intended objectives. In fact, a recent Congressional Research Service report identifies a number of federal and state programs that are being implemented and coordinated to benefit the High Plains Aquifer. Yes, this bill seeks to further coordinate such activities, but I believe it's a good idea to look at the big picture in determining whether this bill is necessary when the authorities and coordination may already exist. If we march forward with the concept of this bill, we must find clear answers

first before we create a new 90 million dollar program that will compete with other priorities. The American taxpayer deserves nothing less.

For this reason, I will ask the Administration and other parties to engage in an extensive cross-cut budget exercise. Similar to the CALFED cross-cut budget, this budget will detail ongoing programs, expenditures, successes and the level of coordination. Everyone agrees with the goal of better intergovernmental cooperation, but we shouldn't pass costly legislation until we have a better idea of what's out there now. I believe this cross-cut budget is the first logical step in that direction.

With that, I want to thank my colleagues and the witnesses for being here today and look forward to today's testimony.

[A map of the Riverside/Corona Feeder submitted for the record by The Honorable Ken Calvert follows:]



STATEMENT OF THE HON. GRACE F. NAPOLITANO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mrs. NAPOLITANO. Thank you, Mr. Chairman. For brevity's sake, since I think we are going to have a vote momentarily, I thank you for the hearing on these very important bills and thanks to the witnesses who traveled to be here to be part of this hearing.

You talk about the Cannon bill being recently introduced yesterday, and I am with you in that, since the Administration was not able to opine on it, I still have reason to think that maybe we should sit on it for another day or two and put it up next week, but you have already introduced it. So I guess we will listen to it today while the witnesses are here.

I do have questions on that particular piece of legislation, and I think it is important that we have the views of the Administration on this particular bill and also we want to ensure that transferring ownership of the Bureau of Reclamation facilities does not interfere with our efforts to recover the endangered June sucker.

I also look forward to the Administration's testimony on your bill, H.R. 3334, and I am very curious to learn what role, if any, the Bureau of Reclamation wants to play in encouraging Western communities to develop projects that will be essential during periods of drought.

Finally, Mr. Chair, we will learn more today about one of our country's largest underground water suppliers, the High Plains Aquifer, and my understanding is this underground water supply directly benefits eight States, from Wyoming to Texas. Being a former Texan, I have a great interest in that, also. I look forward to hearing more about this particular water supply and how we can work to protect it.

Thank you, Mr. Chairman, and I look forward to the testimony.

[The prepared statement of Mrs. Napolitano follows:]

Statement of The Honorable Grace Napolitano, a Representative in Congress from the State of California on H.R. 3391, H.R. 3334 and S. 212

Mr. Chairman, thank you for scheduling today's hearings. I also want to thank our witnesses for traveling to Washington to testify.

I am aware that the Administration is not able to provide testimony on the Cannon bill, which was just introduced yesterday. I do have questions about this legislation. It is important that we have the views of the Administration before we give our approval to this bill. We will want to make sure that transferring ownership of the Bureau of Reclamation facilities does not interfere with our efforts to recover the endangered June Sucker.

I also look forward to the Administration's testimony on the Chairman's bill, H.R. 3334. I am especially curious to learn what role, if any, the Bureau of Reclamation wants to play in encouraging western communities to develop projects that could be useful during droughts.

Finally, Mr. Chairman, we will learn more today about one of the country's largest underground water supplies, the High Plains Aquifer. This underground water supply directly benefits eight states, from Wyoming to Texas. I look forward to hearing more about this water supply and how we can work to protect it.

Thank you, Mr. Chairman.

Mr. CALVERT. I thank the gentlelady.

If we haven't asked for unanimous consent for Mr. Moran to join us today, I would ask so now.

Is there any objection?

[No response.]

Mr. CALVERT. Hearing none, so ordered.

All of you folks from Nebraska and everybody, calm down.

[Laughter.]

Mr. CALVERT. With that, are there any additional opening statements?

[No response.]

Mr. CALVERT. Is Senator Bingaman here yet to testify? He will be here shortly.

So I will recognize Congressman Jerry Moran.

STATEMENT OF THE HON. JERRY MORAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS

Mr. MORAN. Mr. Chairman, thank you, and thank the Ranking Member and the Committee for allowing me the opportunity to join you today and for the courtesy you have extended me to join you here at the dais.

I was pleased to hear both your opening statements. I am here on one of the bills that you are considering related to the High Plains Aquifer, which Kansas is one of those eight States that the Ogallala Aquifer has a huge consequence to us. A significant part of our agricultural economy is related to irrigation, and the Ogallala Aquifer is the significant supplier of that irrigation, but it is more than just agriculture. Many of my communities' water supplies are served by the Ogallala Aquifer. Our economic growth in Kansas has generally followed the lines of where that Ogallala Aquifer provides water. And, clearly, with 4 years of drought in our State in the last 4 years, the Ogallala Aquifer has become even more significant in the role it plays in the lives of many Kansans.

The Ogallala Aquifer provides 99 percent of the water supply for communities, businesses and homes, as well as agriculture production. As you indicated, it covers eight States. It is 174,000 square miles of land. In Kansas, it is 33,500 square miles. It is generally that part of Kansas along the Colorado line up to Nebraska, about a third of the way across our State from west to east, in 46 counties, all of them in the 1st District of Kansas that I have the honor of representing.

It is the lifeblood of the High Plains for us. Groundwater has allowed Kansas and our neighbors to function as the breadbasket really of the world. Irrigated crop production in Southwest Kansas alone generates the second-largest component of our State's economy, right behind aviation and the aviation industry generally in the Wichita area.

Our livestock industry, there is more cattle on feed in Southwest Kansas in the 1st Congressional District of the country than any place in the country, any congressional district, and it is dependent upon the feed that is grown as a result of irrigation.

But, unfortunately, our water supply is not endless, and Kansans are recognizing that fact. In fact, I think our State has taken serious steps, has been a leader in an effort to understand the Ogallala Aquifer, understand its depletion, understand its recharge and began to recognize, in recent years, the importance of taking steps to prolong the life of the Ogallala Aquifer. Much of our ability to do that is dependent upon coordination and activities with other

States. Kansas alone cannot fully understand and appreciate the Ogallala Aquifer through scientific analysis, research, hydrology, without cooperation with the other seven States that have the High Plains Aquifer, and we also can't take the steps necessary to conserve water and increase recharge on our own. So Kansas is one of those States that believes that we have a lot to gain by coordination and involvement of our surrounding States, the other seven States, with the High Plains Aquifer.

I have introduced legislation in the past on this topic, including a bill similar to the one that you are considering today. I have not introduced it in this congressional session. I have also introduced a larger bill that dealt with conservation issues as well. A number of those components were successfully added to the 2002 farm bill. For the first time EQIP funding is now available for conservation practices under the farm bill, under the conservation title of the farm bill, for purposes of encouraging less depletion of the Ogallala Aquifer.

So we are taking some legislative steps. The issue before us today is the ability to coordinate research and mapping activities, analysis of the Ogallala with other States. And I am here to tell you that, from my perspective in representing Kansans, that it is an awfully important issue for us, and I look forward to working with this Committee, as well as State authorities, to make certain that legislation that we may pass in this area is one that is compatible with a desire that Kansans have, which is that we would like to regulate and manage our own resources, but we recognize that not all of the water is under our State, and what happens in those other seven States has a significant effect upon the supply of water to citizens of the State of Kansas.

So I welcome your help. I heard your opening comments and concerns about property rights and intrusion by the Federal Government. You will find me to be an ally on those issues, but I think there is clearly an opportunity, in fact, a need for us to coordinate activities as we begin a more concerted effort to understand the relationship of the Ogallala Aquifer to its use, its recharge and again reiterate this is just a hugely significant issue to the folks whose livelihoods and communities depend upon this vital and important resource.

And I thank the Chairman for allowing me the opportunity to speak today, and I will submit my written testimony for the record.

[The prepared statement of Mr. Moran follows:]

Statement of The Honorable Jerry Moran, a Representative in Congress from the State of Kansas, on S. 212

Chairman Calvert, Ranking Member Napolitano, and other members of the Subcommittee, thank you for allowing me the opportunity today to testify in support of geologic research for the High Plains Aquifer. As members of the Water and Power Subcommittee, I know that you understand the importance of one of our most critical natural resources: water. Water quality and quantity are among the most serious environmental issues we face. A reliable source of water is essential to maintain our quality of life and to preserve that quality of life for future generations.

Like the Kansans I represent, I know that you also appreciate the need for conservation of this resource, especially in scarce areas such as western Kansas and the other regions that rely on the limited groundwater supply of the Ogallala Aquifer. I want to discuss with you today how this particular water source exemplifies the need for sound scientific information as a basis to preserve and extend the life of the water supply for years to come.

The High Plains Aquifer and Kansas

In the High Plains region of the United States, one groundwater source, the Ogallala Aquifer, provides 99% of the water supply for communities, businesses, homes, and agricultural production. Eight states are served by the aquifer: Kansas, Nebraska, South Dakota, Wyoming, Colorado, Oklahoma, New Mexico and Texas. The aquifer underlies 174,000 square miles of land—that's an area more than 5 times greater than the world's largest freshwater lake and over 150% larger than the surface area of all 5 Great Lakes combined.

In Kansas, the Ogallala underlies 33,500 square miles of 46 counties, all in the First Congressional District. Ogallala groundwater is the source of over 99% of reported water use in southwest Kansas.

History of High Plains Water Use

Because of its significance to economic development, water is the lifeblood of the High Plains. The primary user of water is agriculture, which is the backbone of the western Kansas economy and many other rural economies.

Groundwater has allowed Kansas and our neighbors to function as the breadbasket of the U.S. The irrigated crop production in southwest Kansas alone generates the second strongest segment of our state's economy, second only to aviation. Across the 8-state High Plains regions, approximately 170,000 wells pump aquifer groundwater to irrigate nearly 14 million acres of cropland. Twenty percent of all irrigated land in the U.S. is in the High Plains. Fifteen million acre feet of groundwater, about 30% of the total used for irrigation nationwide, is pumped annually from the High Plains Aquifer.

In addition to supporting crop production, the aquifer is the water source for the largest concentration of beef production in North America. Not only crops, but also America's livestock industry depends on the High Plains Aquifer.

Many years ago, this underground sea of water seemed endless. More recently, however, we have learned that this is not the case. The water supply is finite, and, because of the heavy reliance upon this primary source and the rate of usage, the end of the supply is a concern for many High Plains residents. Today, the estimated life of the aquifer for irrigation, at current usage rate, is less than 25 years.

The Need for Coordinated Efforts to Preserve the Aquifer

Kansas has long been a leader in research to determine the supply, usage and rate of recharge of water in the High Plains Aquifer. The Kansas Department of Agriculture's Division of Water Resources, along with the Kansas Water Office, the Kansas Geologic Survey, the Kansas Association of Groundwater Management Districts, and numerous appointed and volunteer task forces made up of producers, community leaders, hydrologists, and geologists, have recognized the problems of water decline and have taken proactive steps to slow the rate of usage and extend the life of the aquifer.

However, despite efforts undertaken by the State of Kansas to manage our portion of the High Plains Aquifer, a tremendous need for hard scientific data about the aquifer remains. Since the aquifer crosses the borders of 8 states, it is crucial to have information about its hydrologic and geologic interdependence.

Past and Potential Legislative Action

Because rural communities, and in a broader sense, American agriculture, depend on the High Plains Aquifer, we need to invest in its future. A coordinated research effort involving all 8 states would be a useful first step in assessing the overall condition of the aquifer.

The bill that is the subject of today's hearing is similar to legislation, H.R. 5486, that I introduced almost one year ago. That legislation was supported by the entire Kansas delegation, but no action was taken prior to the end of the 107th Congress.

The content of H.R. 5486 was a provision in a more comprehensive water conservation bill, H.R. 3121, that I introduced in 2001. In the 2002 Farm Bill, the conservation incentives for agriculture producers that were a major focus of H.R. 3121 were incorporated into the Ground and Surface Water Conservation portion of the Environmental Quality Incentives Program administered by the U.S. Department of Agriculture. However, the research component of H.R. 3121 was not included in the Farm Bill because it was not under the Agriculture Committee's jurisdiction, so it was introduced as a separate free standing bill.

There is a continued need for legislation which would allow the High Plains states to work together to conduct comprehensive interstate research on the health of the entire aquifer. I would welcome the help of my High Plains colleagues in developing legislation that benefits each of our districts while at the same time preserving the water supply that serves us all.

I understand that there may be concerns about the involvement of the Federal government in water issues that are so critical to our states, and I share those concerns. However, I believe that it is possible to craft legislation that accomplishes the intent of enhanced research without unnecessarily intruding on private landowners' rights or issues over which states have primary authority. It is the intent of all Kansans to manage our own state's water supplies in a responsible manner, but, in this instance, where water flow does not stop at the state lines, some regional coordination is required.

Mr. Chairman, for the hearing record, I would like to submit on behalf of my constituents their letters of support for High Plains Aquifer research. Included are statements from the Ogallala Aquifer Institute, located in Garden City, Kansas; and a letter from the Board of Directors of Southwest Kansas Groundwater Management District #3, which is the second largest such district in the nation.

In conclusion, Mr. Chairman, I would again like to thank you and other members of the Committee for allowing me to testify, especially to those members who also represent districts in the High Plains Aquifer. Those of us from the High Plains live in a constant struggle to access enough water for the survival of our farms, businesses, and communities. Only by working together can we attempt to address the problems of a scarce water supply.

I look forward to working with members of the Committee on this concept of enhanced geologic research for the High Plains Aquifer. Thank you again.

Mr. CALVERT. Without objection. Thank you.

What we scheduled to do is to have Senator Bingaman's testimony and then your testimony, Mr. Moran, and then we were going to have questions from the panel. So we may have a question or two, and hopefully I understand Senator Bingaman is on his way over here right now.

I would add just one question. There are a number of Federal programs, as you are very well aware, involved with the High Plains Aquifer. In fact, I guess I would ask this question. Is there any impediment today that you know of that would keep or preclude the States and the Federal agencies from cooperating right now on this data?

Mr. MORAN. I see this type of legislation as an encouragement to States to cooperate, and of course the impediment I think is not legal. I think, generally, there is no question, but that the eight States involved in the High Plains Aquifer can cooperate, can move forward in additional activities together, but the resources, the boundaries, the different economic interests and I would guess, in large part, a lack of resources and coordination, in fact, steps have been taken, the Kansas Geological Survey, and you have a witness on your panel, Dr. Lee Allison, from the Kansas Geological Survey, who can testify to these issues, but steps have been taken by these eight States already, with their geological surveys and their water authorities, to begin the process of coordination of the scientific research.

So I am not certain that there are legal impediments. I think it is a matter of coordination, developing the structure, and having mutual interests, as well as the dollars necessary, to complete those activities.

Mr. CALVERT. I see that Senator Bingaman has arrived. I know that the Senator is busy, so we will be more than happy to recognize the Senator for his opening statement.

STATEMENT OF JEFF BINGAMAN, A UNITED STATES SENATOR FROM THE STATE OF NEW MEXICO

Senator BINGAMAN. Thank you very much, Mr. Chairman, for giving me just a few minutes, and I appreciate you having a hearing on this important issue in this bill, S. 212. I think this is bipartisan legislation. Senator Brownback and Senator Domenici are cosponsoring the bill with me in the Senate. I believe it is an important issue for us to try to address. It would establish this cooperative science program related to the High Plains Aquifer, which is comprised, in large part, by the Ogallala Aquifer.

Now, we have a chart here that shows the various States. I think each of you may have seen this before this was prepared by the Geological Survey and shows the various States that overlay the Ogallala Aquifer and depend upon it. It is important in my State, Eastern New Mexico, in particular, because we have communities there that depend entirely on the Ogallala Aquifer for their livelihood, and we have a lot of farming that takes place there, dependent very much on that.

There have been, in recent years, some alarming declines in water levels in the Ogallala Aquifer. For example, there are some portions in New Mexico, and Texas, and Kansas that have seen the water level decline by more than 60 feet over the last two decades. The aquifer is the source of water, as I indicated, for the communities, for the farmers, for the ranchers, agriculture, which is the main industry, at least in the part of the State, part of my State that depends upon the aquifer is totally dependent upon it, and clearly the depletion of it could bring about a traumatic change in the way of life in that whole part of our country.

So, for these reasons, we have put this bill forward. It was passed through the Senate last Congress. It was passed through the Senate, of course, this year as well. I am pleased that the farm bill that we passed in the last Congress has in it a new voluntary, incentive-based program to improve water conservation practices in the High Plains Aquifer States, and I am hoping that this legislation could pass in this Congress.

Let me just mention a couple of things that the legislation does and then a couple of things it does not do.

First, the legislation tries to ensure a sound and objective science and information base about hydrology and geology of the aquifer.

Second, the bill provides new funding to State and local entities to ensure that this important work can be done at the State and local levels to the extent possible or State and local agencies and academic institutions already are working in these areas, this would be a new source of funding to complement their work and assist with their work. And where some of these agencies and universities have not been active, they would be able to be active because of these funds.

This does not compel any State to participate. Each State would make that judgment. Each Governor would decide whether his or her State should be involved in this. The legislation clearly provides that States may elect to not participate, as well as to participate.

A third thing the bill does is it makes mapping, characterizing and modeling of this High Plains Aquifer a very high priority. We

have not had a comprehensive overall assessment of the aquifer for over two decades, and there has been a lot of change in that time.

The bill does emphasize a cooperative approach, as I think you, yourself, have indicated in your comments.

Let me underscore a few things the bill does not do. It does not have any regulatory component to it. It does not tell anybody to do anything in particular. It is not a first step toward Federal regulation of groundwater, as some have suggested. It does not, nor can it, properly or fairly be interpreted to impact on the role of States or local Governments with respect to the administration of water resources. Any suggestion to the contrary just is not supported in the language of the bill.

Funding for the program provided for by the bill would not affect the availability of dollars under other farm programs or for rural assistance or for safe drinking water. The legislation would ensure that we have the relevant science information available to make good judgments about how we proceed, and that is the sole purpose of the bill.

I do have a letter of support, a strong letter of support, from the New Mexico State Engineer that I would ask be included in your record and made available to the Committee.

Mr. CALVERT. Without objection, so ordered.

[NOTE: Letters submitted for the record have been retained in the Committee's official files.]

Senator BINGAMAN. I am glad to answer any questions anyone would have about this.

[The prepared statement of Senator Bingaman follows:]

Statement of The Honorable Jeff Bingaman, a U.S. Senator from the State of New Mexico, on S. 212

I am pleased to have an opportunity to offer a statement on S. 212, the "High Plains Aquifer Hydrogeologic Characterization, Mapping and Modeling Act." I appreciate the Subcommittee considering this important legislation today.

Senators Brownback and Domenici have joined me in cosponsoring S. 212, a bill that has significance for much of the Great Plains region of our Nation. The legislation will establish a new, cooperative science program relating to the High Plains Aquifer, comprised in large part by the Ogallala Aquifer, which extends from Wyoming to New Mexico and Texas. This bipartisan legislation passed the Senate by unanimous consent last April. Similar legislation also unanimously passed the Senate last Congress.

The High Plains Aquifer extends under eight states: Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming. It is experiencing alarming declines in water levels. For example, some portions of the Aquifer in New Mexico, Texas, and Kansas saw a water level decline of more than sixty feet over the last two decades. This aquifer is the source of water for farmers, ranchers and communities throughout the Great Plains region. There are several communities in eastern New Mexico that depend exclusively on the Aquifer for drinking water supplies. Agriculture, a very important industry in this part of my state, also relies on the water resources of the Aquifer. Simply stated, depletion of this aquifer is a threat to our way of life in the Great Plains and eastern New Mexico.

For this reason, I am committed to legislative efforts to address this important resource. I am pleased that the Farm Bill passed last Congress includes a new voluntary, incentive-based program for improved water conservation practices in the High Plains Aquifer States. I am hopeful that during this Congress, we will enact this legislation to provide better science and information regarding the Aquifer.

I would like to be clear about several things this bill would do and several things that it would not do. First, the legislation would ensure that sound and objective science and information is available with respect to the hydrology and geology of the High Plains Aquifer. Having knowledge is key to our ability to plan for the future.

Secondly, this bill would provide new funding to State and local entities to ensure that this important work can be done at the State and local levels. Fifty percent of the funds available under the Program would be used to fund the participation of State and local agencies and institutions of higher education in the High Plains Aquifer States. Where States and local agencies and academic institutions already have work underway with respect to the Aquifer, this new funding is intended to enhance and complement their work. In fact, the Program can serve as an additional source of funding for them. Where State and local agencies and universities have not had resources to undertake this important work, S. 212 would provide new opportunities.

I want to emphasize that under the bill, no State is compelled to participate in this Program. The legislation clearly provides that States may elect to participate or not. If a State chooses not to participate, its share of the funding would be distributed for projects undertaken by State and local agencies and universities in the other participating High Plains Aquifer States.

Third, the bill makes mapping, characterizing, and modeling the High Plains Aquifer a top priority. While some local, State and Federal dollars are already being dedicated to this purpose, the legislation sends a clear signal that gaining an understanding of the High Plains Aquifer is a high priority. There has not been a comprehensive, overall assessment of the Aquifer for over two decades. Too often issues of importance to the heartland of our Nation are overlooked, and resources are not directed by Washington to our part of the country. This bill would correct the situation and make certain that dollars are available at local, State, and Federal levels to assess the Aquifer.

Finally, the bill emphasizes a cooperative approach. It is patterned after the highly successful National Cooperative Geologic Mapping Program undertaken cooperatively by the States and the U.S. Geological Survey. The Program will be guided by a Review Panel, the majority of which will be representatives of the High Plains Aquifer States. The modeling and mapping tools developed pursuant to this legislation will be invaluable to local water resource managers who are responsible for stewardship of our non-renewable water supplies.

Mr. Chairman, I also want to underscore that there are several things this bill does not do. The bill does not have any regulatory component. It is in no way the first step toward the Federal regulation of groundwater, as some have suggested. It does not, nor can it be fairly interpreted to, have any impact on the role of the States or local governments with respect to the administration of water resources. Any suggestion to the contrary is simply incorrect. Moreover, funding for the Program provided for by the bill would not affect the availability of dollars under the Farm Programs, for other rural assistance, or for safe drinking water.

A reliable source of groundwater is essential to the well-being and livelihoods of people in the Great Plains region. This legislation would ensure that the relevant science and information is available so that we will have a better understanding of the High Plains Aquifer. We cannot afford to have less than the best possible science and information regarding this resource—a resource that is crucial to the heartland of our Nation.

Mr. Chairman, thank you again for conducting this hearing on S. 212. I hope that you will assist us in enacting this important bipartisan legislation.

Mr. CALVERT. Thank you, Senator, and thank you for your testimony and coming over here today.

I just have two questions, and I am sure some others on the panel would like to ask some questions, also.

In my testimony, I mentioned the need for a cross-cut budget to determine what is being spent today and what programs exist today on the High Plains Aquifer. Do you support that concept?

Senator BINGAMAN. Well, I certainly would. As far as this kind of research that this bill would try to support, I think the geological survey is the main agency that is doing any of this research, and it would not be difficult at all to ascertain the extent of their work, and I think it is not very great right now because of funding limitations.

Mr. CALVERT. And the other question, in your testimony, you mentioned that the intent of this legislation is not to have any

Federal groundwater regulation. Would you support provisions that would state that the data cannot be used for the creation of Federal or interstate groundwater regulations?

Senator BINGAMAN. Well, I think that would be fine. I mean, that is not the purpose of the legislation. The purpose is to collect the data and then use it for whatever future policies the Congress decides on or Federal agencies decide on.

Mr. CALVERT. Any additional questions from the panel?

The gentleman from Nebraska?

Mr. OSBORNE. Thank you, Mr. Chairman.

I am going to exercise one of my pet peeves, which is you have an expert come in, and instead of asking him a question, I am going to make a statement and then maybe a question.

But if you look at the map, you realize that 90 percent of the State of Nebraska has the Ogallala Aquifer under it and almost all of my district, which is about 85 percent of the State, and Nebraska is sitting on the equivalent of Lake Michigan. The average depth of water is about 33 feet, in some places 4- or 500 feet deep, and that aquifer, as it extends on down into Texas and New Mexico is probably maybe the greatest in the world, and I would submit that it may be more valuable, long-term, long haul, than if it were oil. And if that was oil, we would certainly make sure we knew exactly what was there and what the demographics of it was.

The other thing to remember is that this is not static. The aquifer comes off the mountains, so it moves, in my State, at least, from West to East, and sometimes that water is 30 or 40 years old before we pump it.

And it also has a correlation with surface water. So we are all concerned about rivers. Well, Mr. Moran is concerned about rivers coming out of Nebraska and going on down into Kansas, but there is an interrelationship. And so if we pump water out of the aquifer, it lowers the rivers, and nobody knows exactly what that correlation is.

So I think part of it is it is in the national interest to know exactly how this water interacts; in other words, the water in Nebraska how does that relate to the water in Kansas, and the water in Oklahoma, in Texas, in New Mexico? So I think that, for my knowledge, there are some studies, but I don't think there is a comprehensive overall study, so I would certainly be supportive of what the Senator is trying to do here.

And one last just a question now after all of that diatribe, it is my understanding that much of the aquifer down in Oklahoma, Texas, New Mexico is pretty much on a shale basin, is that correct? Where when you pump it, it may not regenerate very quickly?

Senator BINGAMAN. I think that is right, but I don't claim any expertise. So there may be more expert people here who can tell us that we are wrong.

Mr. OSBORNE. Well, the red areas on the map I believe is where the aquifer is declining; is that correct?

Senator BINGAMAN. Right. That is correct. Yes, I think the darkest red show that that is more than 60 feet of decline between 1980 and 1999.

Mr. OSBORNE. I think it is really important that we get a handle on that as to what we can do to make sure that we do not take

so much out that it does not regenerate. How do you handle that? And is there any flow coming down from Kansas? Is there any flow from Nebraska? Those are the things that I think you need to get after them, and so I appreciate your efforts and am very supportive of what you are trying to do.

I yield back.

Senator BINGAMAN. Thank you.

Mr. CALVERT. Thank the gentleman.

The gentlelady from California?

Mrs. NAPOLITANO. Thank you, Mr. Chair.

Senator, welcome again. It is good to see you.

Senator BINGAMAN. Thank you.

Mrs. NAPOLITANO. I am very pleased that the States are getting together and really getting behind a full study of the aquifer that serves everybody so well. One of the questions I would have for you, are any of the States doing any recharge; that is, capturing of water to pump back or settle back into the aquifer, that you know of?

Senator BINGAMAN. Again, I claim no expertise. My impression though is that there is not a significant amount of recharge going on. There is some natural recharge, but it is much less than the pumping that is occurring, and I think it is not clear where the source of the water would come from for that recharge, at least that is certainly true in my State.

Mrs. NAPOLITANO. Because in California we try to utilize, and capture, and recycle, and do everything we can with one drop of water. Would your bill include a possible look at that issue, plus the issue of contamination coming from any State into the aquifer?

Senator BINGAMAN. Well, again, I think what the main focus of the bill has been is to quantify the water and map and characterize the aquifer and not to get into questions of water quality, except to the extent that that impacts on usability of the water. Obviously, I think that would probably be dealt with. But to the extent the water is usable for municipal purposes, for agricultural purposes and other things, I think that would be the determination.

Mrs. NAPOLITANO. Well, to me, that is kind of part and parcel because you start contaminating, then the whole thing is at risk. And even though that is kind of farfetched, we have had it happen to some of our aquifers, and that has taken 50 years ago, it has taken us many years to identify and be able to deal with it to find out how best to get everybody on the same page—the polluters, plus the Federal agencies.

How about the quality, Senator? You say availability, but does it actually deal with ensuring that that quality is available for all States? The water, in other words.

Senator BINGAMAN. The quality of the water?

Mrs. NAPOLITANO. Yes, sir.

Senator BINGAMAN. Again, I think that, as I have contemplated this, they would be looking at the aquifer and part of what I assume they would determine is whether or not the, you know, how much potable water there is in the aquifer, how much usable water. To the extent that the aquifer is reduced to saline, brackish water, which was not usable for farming or whatever, then

obviously I think that would be an appropriate thing to determine as part of the study also.

Mrs. NAPOLITANO. It is very interesting. You say most of that water is used for agricultural purposes.

Senator BINGAMAN. I believe that is right.

Mrs. NAPOLITANO. Would the farmers have considerable use of fertilizers and pesticides, I am assuming?

Senator BINGAMAN. Well, I think some do and some probably don't.

Mrs. NAPOLITANO. Where I am leading with this, Senator, is that we have found, in our great State, that that has caused a lot of contamination in our aquifers and made a lot of our water pools—of course, this is a great big area that can meld easily, but it has also been a big problem in our area, and I am just wondering whether that has been identified as a possibility to look at.

Senator BINGAMAN. Well, again, I do not think these—the geological survey and the agencies that we are talking about here at the State and local level—would be focused primarily on the hydrology and not on water quality issues that the EPA or someone else would be looking at. That would be a very different study.

Mrs. NAPOLITANO. OK. Well, I would hope that maybe they might consider adding some of that into this, so that when they go back and have to do a water quality study they have some information to go by, and that is my point is that in order to be able to be prepared. Because pumping out water, not knowing what the quality is can be a detriment to the communities, whether it is the ad community or the residential community.

There are a couple of other questions that I have. How deep is the aquifer?

Senator BINGAMAN. I have no information, other than what I just heard—about several hundred feet of depth at various places.

Mrs. NAPOLITANO. And you have lost about 30-60 feet?

Mr. MORAN. That is one reason the mapping would be so useful is the consequences and changes are dramatically different from one place in the aquifer to another, but——

Mrs. NAPOLITANO. Does that mean an increase in cost to be able to pump it?

Mr. MORAN. Yes, it does. It takes more effort and more energy, in particular. Plus, then, the water is simply, at a certain level, is no longer available. Just the depth is too narrow, too shallow.

Mrs. NAPOLITANO. Are you coming down to areas that might be possibly contaminated?

Mr. MORAN. There is always concern about contamination of underground water supply, including in the High Plains Aquifer, particularly related to agricultural use of that land.

Mrs. NAPOLITANO. Thank you, Mr. Chair.

Mr. CALVERT. I thank the gentlelady.

We are going to ask the gentleman from Texas to ask a couple of quick questions because we have to recess in order to vote, and I know you need to get back over to the Senate. So we can do that right away.

The gentleman from Texas is recognized.

Mr. NEUGEBAUER. I thank the Senator for being here and for my friends in Kansas and Nebraska. A lot of the red area that you see on that map occurs in my district in Texas, in the 19th District.

I think one of the concerns I have, Senator, is that there is extensive amount of research going on right now on the aquifer and a lot of monitoring and mapping being done by the underground water districts that were established. One of the things that, and I do not know how much interstate dialog is going on between the States talking about the aquifer, but it just really appears to me a couple of observations about your bill. I appreciate your concern about it, but I think it is somewhat duplicating some things that are already in place. I think it also kind of introduces some federalism into an issue really which I think really needs to remain at the State level, and that is the monitoring and the policy for underground water in those individual States.

I think if we are going to spend $80- or $90 million, I think it would be a best bet to give that to the States directly and to those underground water districts and to some conservation programs and some research that these entities are already in place and are already doing that kind of research. And so I think this kind of creates another layer of federalism and bureaucracy at a time really when we are trying to kind of streamline Government and make Government more efficient.

Senator BINGAMAN. Well, I would just respond and say that the bill does provide that 50 percent of the funding does go to State and local agencies that are engaged in this kind of work or are interested in pursuing it so that the idea is that a significant part of what we are doing here is provide more resources. I do think that better coordination between States about the information that they are collecting would be very useful, and this would accomplish that, as I see it.

The other point is, of course, no State is required to participate. So, if Texas decided that they were doing enough of monitoring of their water situation and did not want to be part of this, then that would be, that would be an appropriate course as well.

Now, the $80- to $90 million you referred to, the bill provides whatever sums are appropriated. So it would be up to the Congress each year to determine what the right level of funding for this would be. I would hope that it would be as high as you are talking about, but I have no reason to believe it would.

Mr. CALVERT. Senator, thank you for your testimony. I apologize, but we have to go vote. Thank you for coming over here today.

Senator BINGAMAN. Thank you very much for giving me the time.

Mr. CALVERT. Thank you very much.

We will recess for approximately 20 minutes and reconvene.

[Recess from 10:39 a.m. to 11:11 a.m.]

Mr. CALVERT. The hearing is reconvened.

Now, I would like to recognize Mr. Udall to introduce a friend and constituent from his home State.

STATEMENT OF THE HON. TOM UDALL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW MEXICO

Mr. TOM UDALL. Chairman Calvert, thank you very much.

I have got a constituent and a friend who is going to be testifying on this issue that you just had Senator Bingaman and I believe another representative.

The gentleman I want to introduce, he is out here in the audience, he is not going to testify right now, but he will be on this panel, is Leland, Leland, otherwise known as Lee Tillman, who has served as the Executive Director of the Eastern Plains Council of Governments, which serves a seven county area in Northeastern New Mexico, since 1975.

The Eastern Plains Council, known as EPCOG, is headquartered in Clovis, but serves an 18,000-square mile region, including Union, Harding, Quay, Guadalupe, De Baca, Roosevelt and Curry Counties. EPCOG supports the planning and implementation of programs and projects which support local and regional goals in the area.

Mr. Tillman has focused particular attention on the need for strong local leadership in rural areas and has been actively involved in the community and rural development issues for many years. Major program responsibilities include rural economic development, street and strategic planning, and in this case, very important to this bill, water planning, a diversified housing program and implementation of the Workforce Investment Act.

Mr. Tillman has been actively involved in water-related organizations and currently serves on the Board of Directors of the New Mexico Water Dialogue, Inc., a nonprofit organization which sponsors periodic statewide forums to facilitate citizen involvement in water resource issues. He has served on the State Water Quality Advisory Committee and the Conference Planning Committee for the Water Resources Research Institute.

And Mr. Tillman, Mr. Calvert, when he gets a chance to testify, he is very experienced in water issues, and I think will enlighten this Subcommittee on the issues relating to Senator Bingaman's bill on the High Plains Aquifer.

With that, I am going to yield back, and I will try to get here for the testimony with the schedule we have going on.

Thank you.

[The prepared statement of Mr. Udall follows:]

Statement of The Honorable Tom Udall, a Representative in Congress from the State of New Mexico

Thank you, Mr. Chairman, for holding a hearing today on S. 212, the High Plains Aquifer Hydrogeologic Characterization, Mapping, and Modeling Act of 2003. I am glad to have the opportunity today to introduce a fellow New Mexican, Mr. Lee Tillman, Executive Director of the Eastern Plains Council of Governments, and to participate in this Water and Power Subcommittee hearing.

S. 212 authorizes the Secretary of the Interior to work in cooperation with the eight Ogallala Aquifer states to conduct a hydrogeologic program that would be administered by the U.S. Geological Survey. The data collected from the components in this bill will provide us with accurate information relating to groundwater depletion and resource assessment of the Aquifer.

In New Mexico, the aquifer serves Curry, Roosevelt, Lea, Quay, Union and Harding counties. The Ogallala also serves portions of Texas, Oklahoma, Kansas, Colorado, Nebraska, Wyoming, and South Dakota. Groundwater from the aquifer is used chiefly for agriculture irrigation, accounting for 94% of the groundwater consumption. The aquifer also supplies 82% of the high plains' drinking water needs, and supplies water for livestock, mining, and industry. In many areas, withdrawals from the aquifer are greatly exceeding recharge, resulting in large water level decreases.

The lack of water has become a growing concern in New Mexico, particularly in the eastern portion of the state where the Ogallala Aquifer serves many agriculture communities. Consequently, I believe that we must do whatever possible to conserve the precious few water resources available. And, while we have already taken steps that will help reduce the amount of water drained from the aquifer, this legislation will facilitate the acquisition and utilization of the best available science so that we can better address depletion issues and extend the life of the aquifer for future generations.

S. 212 will facilitate the accumulation of detailed information designed to aid in the long-term planning of this valuable resource. This information could be useful to irrigators who depend on the Aquifer as a water source and communities who derive their drinking water supplies from the Aquifer. This legislation is not an attempt to federalize groundwater.

I was an original cosponsor of this bill in the 107th Congress. The current version is supported New Mexico State Engineer, John D'Antonio, and by the Western States Water Council, an organization comprised of the heads of several state water agencies, included those listed above. I believe that we must heed the advice of these agencies and do whatever possible to conserve the precious few water resources available. And, while we have already taken steps that will help reduce the amount of water drained from the aquifer, this legislation will facilitate the acquisition and utilization of the best available science so that we can better address depletion issues and extend the life of the aquifer for future generations.

Mr. CALVERT. I thank the gentleman. I appreciate his introduction.

Mr. TOM UDALL. Appreciate your courtesies. Thank you, Mr. Chairman.

Mr. CALVERT. Sure.

The gentleman from Texas would like to do an opening statement, Mr. Neugebauer?

STATEMENT OF THE HON. RANDY NEUGEBAUER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. NEUGEBAUER. Thank you, Mr. Chairman. Chairman Calvert, thank you for allowing me to join the Water and Power Subcommittee today as you consider legislation that many of my constituents in West Texas are concerned about. I appreciate the opportunity to participate in this hearing with your Subcommittee.

I also appreciate your hearing testimony from three West Texans. I want to recognize Jim Conkwright, the General Manager of the High Plains Water District in Water Conservation District No. 1 in Lubbock, and also Lloyd Arthur, a farmer from Ralls, Texas, and Vice President of the Texas Farm Bureau, and Ms. Irene Favila, Workforce Development Coordinator in Plainview, Texas.

I am sorry if I mispronounced that, but with a name like Neugebauer, I have had people mispronounce my name, also.

[Laughter.]

Mr. NEUGEBAUER. Thank you for making the trip to Washington and sharing your expertise with the Subcommittee.

I ask that my full statement on S. 212 be included in the record, and I would like to also submit for the record a statement that the Texas Corn Producers Association sent to me expressing their concerns about this legislation.

[NOTE: Letters submitted for the record have been retained in the Committee's official files.]

Mr. NEUGEBAUER. Communities and farmers in the Texas High Plains depend on the Ogallala Aquifer for drinking water, for irrigation water to supplement the 18 to 20 inches of annual rainfall

in order for the region to maintain its agricultural productivity. Residents of the region fully recognize the aquifer is invaluable and a limited resource that must be protected.

Technical advances in irrigation, crop varieties and crop rotation have significantly increased the water conservation. Local water conservation districts, with the authority given to them by the Texas Legislature, have led the way in mapping and monitoring the aquifer and in advancing conservation efforts.

S. 212 does not fully recognize existing local and State research and authority over its local resource. I would like to submit a memo for the record prepared by the Congressional Research Service that lists existing Federal and State programs involved with studying, and mapping and modeling the High Plains Aquifer.

Mr. NEUGEBAUER. I believe that 212 duplicates these efforts already underway and coordination of existing programs could accomplish the stated goals of S. 212.

Groundwater resources are a local resource and should be managed on a local level. Locally coordinated efforts, not federally managed ones, are the best means to extend the life of the Ogallala Aquifer, and those efforts are already having positive effects on the water conservation.

Thank you, again, Mr. Chairman.

[The prepared statement of Mr. Neugebauer follows:]

Statement of The Honorable Randy Neugebauer, a Representative in Congress from the State of Texas, on S. 212

Communities and farmers in the Texas High Plains depend on the Ogallala Aquifer for drinking water and for irrigation, and residents of the region fully realize the aquifer is an invaluable and limited resource that must be protected.

The Ogallala Aquifer is the principle source of agriculture irrigation water to supplement the annual 18 to 20 inches of rainfall we receive per year, and 90 percent of aquifer withdrawals are used for irrigation. The High Plains Aquifer region produces about a quarter of the nation's winter wheat and rain sorghum, four percent of the nation's corn and 42 percent of the country's fed beef. The Texas High Plains region produces a quarter of the cotton grown in the nation. The economies of rural communities depend on agriculture, and agriculture productivity depends on a plentiful, accessible and affordable supply of water.

Supporters of S. 212 state this legislation would help coordinate federal, state and local water research and conservation efforts and provide new funding and data collection. However, in my view and in the view of many of my constituents, the bill ignores state and local water research and conservation efforts, duplicates existing programs and could open the door to federal regulation of groundwater use, especially as relates to agriculture.

In Texas, local water conservation districts, with the authority given them by the State Legislature in the 1950's, have lead the way in mapping and monitoring the aquifer and advancing conservation efforts. The High Plains Underground Water Conservation District around Lubbock is the oldest such district the state.

The High Plains District, like other districts, is staffed by geologists, hydrologists and other technical experts. The district takes annual water measurements from its 1,200 wells to determine average change in water levels, and promotes new conservation technologies. In addition, the district publishes complete hydrologic atlases for all counties in its jurisdiction every five years that illustrate the volume of water across the area. The Texas Water Development Board also works with local districts on ground water modeling and water use strategies.

Farmers have also taken the responsibility to conserve water seriously. Over the past decade, they have made significant investments in new irrigation systems that increase water use efficiencies dramatically. Low Energy Precision Systems (LEPA) and new subsurface drip systems reduce nearly all water losses from runoff or evaporation.

Due to these efforts, annual water level declines are decreasing in the High Plains District. Annual rates used to be two to three feet, but now are about one foot. Recharge rates average an inch or two per year.

Local and state protection of groundwater resources underpins the success of conservation of the Ogallala in the Texas High Plains region. S. 212 creates yet another federal program and duplicates ongoing federal and state efforts.

The Congressional Research Service has reported that the federal government already has seven programs involved with the High Plains Aquifer. Several of the federal programs involve the U.S. Geological Service, including one to match funds to state and local agencies to help support their data collection and research. In the 2002 Farm Bill, a subprogram was added to EQUIP to provide cost-share assistance and loans for producers to carry out water conservation improvements. This program was created with the High Plains Aquifer region in mind.

In addition, members of Congress from the region secured $750,000 in Agriculture Research Service funding for cooperative research at Texas Tech, Texas A&M, West Texas A&M, the ARS Plant Stress Lab, and Kansas State to address Ogallala Aquifer research needs. Another $1.7 million is included in the House-passed agriculture appropriations for the 2004 fiscal year. This joint research is focusing on new irrigation technology, new crop rotation and other management strategies, more water-efficient plant species a regional GIS water database, hydrologic models and producer education.

I understand there are differences of opinion among states that use the aquifer about the best means to coordinate data on the aquifer and monitor water use because states manage water differently. However, all states in the area have their own efforts and have taken part in regional initiatives for aquifer research. In the Senate hearing on the legislation, the U.S. Geological Survey testified that the goals of S. 212, "can be achieved without legislation through better coordination of existing Federal and state programs."

A new federally-coordinated effort, as created by S. 212, is not the best way to extend the life of the aquifer. Once the federal government takes on a new coordinating role, the door is opened for a regulatory role and for federal involvement in water use decisions. Such a reach by the federal government is unacceptable.

Local control is the best means to ensure a longer life for the Ogallala Aquifer, and local communities know how much their economies depend on the aquifer's water supply. I hope this Subcommittee, after hearing from witnesses today, will agree and will take no further action on S. 212. There are opportunities for states and localities to better coordinate their knowledge of the aquifer, and federal support has been available to assist in these efforts. One more federal program with an uncertain budget will not do the job our farmers, local water boards and states are already doing.

[The Congressional Research Service report follows:]

Memorandum October 29, 2003

TO: Hon. Randy Neugebauer

FROM: Pervaze Sheikh
Natural Resources Policy Analyst
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SUBJECT: High Plains Aquifer

This memorandum responds to your request for information on federal programs and examples of state and regional programs that are involved in studying, mapping, and modeling the High Plains Aquifer. If you have questions, please call Pervaze Sheikh at 7-6070, Stephen Viña at 7-8079 , or Barbara Johnson at 7-0248.

Background. The High Plains Aquifer underlies about 174,000 square miles in parts of eight Great Plains states (Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming). It is comprised in large part by a subunit known as the Ogallala Aquifer. Since large-scale irrigation began in the 1940s, withdrawals of water have far exceeded recharge there by depleting the aquifer. USDA's Economic Research Service reports that between 1940 and 1980, the regions' average groundwater level dropped a total of about 10 feet. (As with any average, the 10-foot drop was indicative of what happened in some states but not others. For example, during this period the aquifer level dropped about 10 feet in Kansas, Oklahoma and New Mexico, but in Texas the aquifer dropped almost 40 feet.)[1]

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[1] U.S. Dept. of Agriculture, Economic Research Service website, "Briefing Room: Agricultural Chemicals and Production Technology: Questions and Answers," at [http://www.ers.usda.gov/Briefing/AgChemicals/Questions/susqa2.htm], accessed October 21, 2003.

According to the U.S. Geological Survey (USGS), about 30% of the groundwater used for irrigation in the United States is from the High Plains Aquifer. Irrigation withdrawals far exceed withdrawals for water consumption. The USGS reports that irrigation withdrawals in 1990 exceeded 14 billion gallons per day, while public water supply withdrawals constituted about 332 million gallons per day.[2] The depletion of the aquifer is therefore largely an agricultural issue.

The following two tables contain federal, state and regional programs involved with studying the High Plains Aquifer. In Table 1, the authorizations for primarily USGS programs involved with mapping and modeling the High Plains Aquifer are provided. In Table 2, examples of regional and state programs that are involved with studying, mapping, and modeling the High Plains Aquifer are given.

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[2] See U.S. Geological Survey, *National Water-Quality Assessment Program, High Plains Regional Groundwater Study*, at [http://webserver.cr.usgs.gov/nawqa/hpgw/HPGW_home.html], accessed on October 21, 2003.

Table 1. Federal Programs Involved With the High Plains Aquifer

Federal Program[a]	Description
USGS - Groundwater Resources Program[b]	This program evaluates groundwater in the major aquifer systems of the United States. There are seven priority areas for this program: 1) support for aquifer management decisions; 2) natural groundwater recharge; 3) groundwater flow in shallow aquifers; 4) saltwater intrusion; 5) surface water and groundwater interaction; 6) groundwater in Karst and fractured rock aquifers; and 7) improving the hydrological framework of aquifers. One goal of this program is to build a database that contains up-to-date information on major features of all of the Nation's regional aquifer systems. This would be called the National Aquifer database. There is a specific program on studies of ground-water depletion and water use for the High Plains Aquifer in Wyoming, South Dakota, Colorado, Nebraska, Kansas, Oklahoma, Texas, and New Mexico. The Act of March 3, 1879 (20 Stat. 394; 43 U.S.C. §31), was the Organic Act that established the Geological Survey, providing for "...the classification of public lands, the examination of the geological structure, mineral resources, and products of the national domain." The Act of October 2, 1888 (25 Stat. 526), authorized surveys to identify irrigable lands in arid regions, and "selection of sites for reservoirs and other hydraulic works necessary for the storage and utilization of water for irrigation and the prevention of floods." Specific appropriations by Congress for gauging streams and performing other functions relating to water resources have been made annually since the Act of August 18, 1894, for FY1895 (28 Stat. 398), providing for "gauging the streams and determining the water supply of the United States, including the investigation of underground currents and artesian wells in arid and semiarid sections...." The most recent annual Appropriations Act is P.L. 108-7, which makes appropriations for FY2003. This act includes the works "...to perform surveys, investigations, and research covering topography, geology, hydrology, and the mineral and water resources of the United States, its Territories and possessions, and other areas as authorized by law (43 U.S.C. §31.1332 and §1340)."
USGS - National Cooperative Geological Mapping Program	This is a partnership between the USGS and state geological surveys and universities to produce geologic maps and databases. This program has produced maps and databases as the framework for groundwater assessments of regional aquifers. This program was initially authorized by the National Geographic Mapping Act of 1992 (P.L. 102-285) and subsequently reauthorized by the National Geographic Mapping Reauthorization Acts of 1997 (P.L. 105-36) and 1999 (P.L. 106-148).

Federal Program*	Description
USGS- National Water Quality Assessment Program	This program was created in 1991 to provide information on the status and trends of groundwater and surface water quality. The groundwater component has focused on determining the effect of human activities on groundwater quality in agricultural and urban areas. *According to the USGS, a National Water-Quality Assessment Program was recommended in the House and Conference Reports for the FY1996 Appropriations Act (P.L. 104-134). The USGS further stipulates that the term, *water resources* as used in appropriations language for the USGS (see P.L. 106-291, P.L. 107-63 and P.L. 108-7) implies the study of water quantity and water quality, even though water quality studies are not explicitly mentioned. The USGS also cites the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 et seq.) and its successors, the Clean Water Act of 1977, and the Water Quality Act of 1987, which authorize extensive water quality planning, studies, and monitoring as authority for the National Water-Quality Assessment Program.
USGS- Water Resources Research Act Program	This program, initially authorized by §104 of the Water Resources Research Act of 1984, as amended by the Water Resources Research Act Amendments of 2000 (P.L. 106-374; 42 U.S.C. §10301, et seq.), is a federal-state partnership which plans, facilitates, and conducts research to resolve state and regional water problems; promotes technology transfer; provides for the training of scientists and engineers; and provides for competitive grants to be awarded under the Water Resources Research Act.
USGS- Cooperative Water Program	This program matches funds from state and local agencies to support data collection and investigations that serve the interests of all involved parties. One of the results of this program has been the creation of a national database on water quality, water use, and surface and ground water data. According to the USGS, the first cooperative water-resources investigation was with the State of Kansas in 1895. In 1905, Congress appropriated funds specifically for cooperative studies, marking the official beginning of the program. In 1928, Congress gave formal recognition to the federal-state partnership and limited the federal financial contribution for cooperative water-resources studies to no more than 50% of the total funds for each investigation (44 Stat. 963). The USGS further cites 43 U.S.C. §50, which provides that "the share of the Geological Survey in any topographic mapping or water resources investigations carried on in cooperation with any State or municipality shall not exceed 50 per centum of the cost thereof...."

Federal Program[a]	Description
U.S. Environmental Protection Agency (EPA)- Superfund sites.	The EPA is indirectly involved with the High Plains Aquifer because of its work in superfund sites in areas that cover the aquifer (e.g., Nebraska, Texas, Oklahoma and Texas). Remediation efforts in these projects involve the protection of groundwater and surface water that may become contaminated with toxins. For more information, see [www.epa.gov/superfunds/sites/npl/npl.html], accessed Oct. 21, 2003.
U.S. Department of Agriculture- Ground and Surface Water Conservation.	Ground and Surface Water Conservation is a subprogram of the Environmental Quality Incentives Program (EQIP), as authorized in the 2002 Farm Bill (Farm Security and Rural Investment Act of 2002, P.L. 107-171, §2301). The subprogram promotes groundwater and surface water conservation by providing cost-share payments, incentive payments, and loans to producers to carry out eligible water conservation activities including improving/enhancing irrigation systems, converting to less water-intensive crops or to dryland farming, improving water storage, mitigating drought effects or other measures. The 2002 Farm Bill report accompanying the bill (H. Rept. 107-24) states that the High Plains Aquifer is a critical source of groundwater for agricultural and municipal uses. Managers encouraged the Secretary of Agriculture to give producers in the aquifer the "highest priority" for funding under the Ground and Surface Water Conservation subprogram. They also noted a need for regional coordination in the aquifer area.

[a]Information on the authorities for USGS programs were provided by the USGS Congressional Liaison Office, on Oct. 17, 2003.

[b]For more information on detailed programs and reports by the USGS, see [http://www-ne.cr.usgs.gov/highplains/hpactivities.html], accessed Oct. 20, 2003.

Table 2. Examples of State and Regional Programs Involved with the High Plains Aquifer

States and Organizations	Program Description
Kansas	Kansas Geological Survey has done studies on the portion of the High Plains Aquifer in Kansas including mapping the aquifer, and assessing groundwater storage and use. Source: [http://www.kgs.ukans.edu/HighPlains/OHP/index.html], accessed Oct. 20, 2003.
Nebraska	University of Nebraska, Institute of Agriculture and Natural Resources conducts studies on the geochemical and physical attributes of the High Plains aquifers. Source: [http://csd.unl.edu/csd.html], accessed Oct. 20, 2003.
Texas	There are 69 groundwater conservation districts in Texas that measure and map groundwater resources and test water quality, among other things. Some of these districts lie over portions of the Ogalalla Aquifer in Texas and hence, measure this resource. (For more information, see [http://www.twdb.state.tx.us/gcd%20web.html], accessed Oct. 20, 2003.
Oklahoma	The Oklahoma Water Resources Board teamed up with the USGS to create a groundwater flow model, and to assess water use and groundwater recharge in portions of the Ogalalla Aquifer that are in Oklahoma. Source: [http://www.owrb.state.ok.us/studies/pdf_stu/high_plains.pdf], accessed Oct. 20, 2003.
Colorado	University of Colorado has studies on land cover and climate change over the High Plains Aquifer. Source: [http://stripe.colorado.edu/~mangan/rsch.html], accessed Oct. 20, 2003.
High Plains Aquifer Coalition	This coalition is comprised of several state and federal agencies and universities, including the geological surveys of Kansas, Colorado, Oklahoma, South Dakota, Wyoming; the USGS; and departments within the University of Nebraska, University of Kansas, and University of Texas. The mission of this organization is do cooperative research on the geological and hydrological characteristics of the High Plains Aquifer. Source: [http://www.kgs.ku.edu/Hydro/HPAC/index.html], accessed Oct. 20, 2003.

Mr. CALVERT. I thank the gentleman.

I now recognize our next panel of witnesses, Mr. John Keys, III, Commissioner, Bureau of Reclamation. He will be testifying on H.R. 3334, a great piece of legislation, Mr. Commissioner.

And testifying on S. 212 is Mr. Robert Hirsch, Assistant Director of the Water Resources U.S. Geological Survey.

And with that, Mr. Keys, you are recognized.

STATEMENT OF JOHN KEYS, III, COMMISSIONER, BUREAU OF RECLAMATION

Mr. KEYS. Mr. Chairman, good morning. It is certainly my pleasure to be here. I would ask that our written testimony be made part of the official record for the hearing, please.

Mr. CALVERT. Without objection, so ordered.

Mr. KEYS. Mr. Chairman, H.R. 3334 would authorize the Secretary of Interior to work with the Western Municipal Water District in the design and construction of a water supply project known as the Riverside-Corona Feeder. The project would take up to 40,000 acre-feet of water from San Bernardino Valley groundwater aquifers, Seven Oaks Reservoir and the California State

Water project and delivered to communities in Western Riverside County.

It would consist of about 20 wells, 28 miles of pipeline. The project would help protect the county from drought and reduce its dependence on imported water.

H.R. 3334 would provide Federal funding for the project. Thirty-five percent of the total project cost or $50 million, whichever is greater.

Mr. Chairman, the Department supports this type of resourceful utilization of local water supplies that this bill calls for. However, we cannot support H.R. 3334 in its present form.

First, the language establishing the Federal share of the project cost needs to be clarified to clearly set a maximum Federal cost share. As it is written, it sets a minimum.

Second, we understand that feasibility level studies have not yet been completed for this project. Without a proper analysis of the project that meets appropriate Federal guidelines for project authorization, we cannot support Reclamation's participation in design and construction activities.

Mr. Chairman, with that being said, we look forward to working with you, we need the Committee, and the sponsors of the project to bring about the necessary changes to H.R. 3334 required for the Department's support.

That concludes my testimony, and I would certainly be happy to answer any questions that you might have.

[The prepared statements of Mr. Keys on H.R. 3334 and H.R. 3391 follow:]

Statement of John Keys, III, Commissioner, Bureau of Reclamation, U.S. Department of the Interior, on H.R. 3334

Mr. Chairman and Members of the Subcommittee, I am John Keys, Commissioner of the Bureau of Reclamation. I am pleased to be here today to give the Department's views on H.R. 3334, the Riverside-Corona Feeder Authorization Act.

H.R. 3334 would authorize the Secretary of the Interior to participate with the Western Municipal Water District in the design and construction of a water supply project known as the Riverside-Corona Feeder. It provides for Federal funding for this project of 35 percent of the total project cost or $50 million, whichever is greater.

This project would withdraw water from San Bernardino Valley groundwater aquifers that are replenished during wet years from local runoff, regulated releases from Seven Oaks Reservoir, and water from the State Water Project. It would consist of a number of wells and connecting pipelines, which would deliver up to 40,000 acre-feet of water annually to communities in western Riverside County. Project benefits include local drought protection, better groundwater management, and reduced dependence on imported water.

Mr. Chairman, the Department supports the type of resourceful utilization of local water supplies this bill calls for and the potential for reducing the use of imported supplies from the Colorado River and Bay-Delta. However, we cannot support H.R. 3334 in its present form. First, the language establishing the federal share of the project costs needs to be clarified to clearly set a maximum federal cost share. Second, we understand that feasibility level studies have not yet been completed for this project. Without a proper analysis that adheres to the "Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies," and which otherwise meets appropriate federal guidelines for consideration of project authorization, we cannot support Reclamation's participation in design and construction activities.

While I have noted our concerns with this legislation, we look forward to working with you to bring about the necessary changes required for the Department's support.

Mr. Chairman this concludes my testimony. I would be happy to answer any questions at this time.

Statement of John Keys, III, Commissioner, Bureau of Reclamation, U.S. Department of the Interior, on H.R. 3391

My name is John Keys and I am the Commissioner of the Bureau of Reclamation (Reclamation). I am pleased to present the views of the Department regarding H.R. 3391, legislation to authorize the Secretary of the Interior to convey certain lands and facilities of the Provo River Project in Utah.

The Department of the Interior (Department) has an active title transfer program and supports transferring ownership of certain Reclamation project facilities to non-Federal entities, particularly in cases where transfers could create opportunities, not just for those who receive title, but for other stakeholders and the public as well. While we believe that this transfer has the potential to create such opportunities, the Department has several concerns with H.R. 3391, as presently drafted.

Background:

The Provo River Project stores and delivers water from the Provo River for irrigation and municipal and industrial uses along the Wasatch front, a highly urbanized area, located within Utah and Salt Lake Counties. The three features of the project under consideration for transfer are the 22-mile-long Provo Reservoir Canal; a 3.79-acre office building site, which would be transferred to the Provo River Water Users Association (Association); and the 42-mile-long Salt Lake Aqueduct, which would be transferred to the Metropolitan Water District of Salt Lake and Sandy (District).

Reclamation began discussing this transfer with the Association and the District in November 2002. Since that time a great deal of work and progress has been made.

In August 2003, Reclamation, the Association and the District signed a memorandum of agreement (Contract No. 03-WC-40-8800), which articulated the respective roles, responsibilities, and cost obligations for carrying out the title transfer process. Since that time, several other water user entities, including the Central Utah Water Conservancy District (Central) and the Jordan Valley Water Conservancy District (Jordan Valley) have also become involved. A title transfer work group made up of these entities and Reclamation has been formed to discuss the issues of importance to the entities involved. To date, the workgroup has been meeting on a monthly basis.

In order to initiate the public review process required under the National Environmental Policy Act (NEPA), the title transfer work group assembled a list of over 2,000 individuals, agencies, and other entities having a potential interest in this transfer. This list includes a large number of owners of private property located adjacent to the transfer facilities. It also includes several state and federal agencies and environmental and recreational interest groups. On September 29, 2003, an initial scoping letter describing the proposal was mailed to all on this list. Public scoping meetings were held on October 27, 28th and 30th in Sandy, Lehi and Provo respectively. Many interesting concerns and issues were raised both at these meetings and in subsequent calls, letters and e-mails by interested stakeholders. To enable anyone else with interests and concerns to have an opportunity to voice them, the official public comment period was held open until November 26, 2003.

H.R. 3391

H.R. 3391 requires the Secretary to convey to the Provo River Water Users Association, pursuant to a transfer agreement yet to be developed and signed, all right, title, and interest of the United States in the lands, rights-of-way, and facilities that are part of the Provo River Project in Utah. The bill does not impair any existing contracts that allow for or create a right to convey water through the Provo Reservoir Canal.

Section 6 of H.R. 3391 requires that the Association and the Metropolitan Water District of Salt Lake & Sandy pay or contribute to administrative costs, real estate transfer costs, the costs of compliance with the National Environmental Policy Act of 1969 (NEPA), the Endangered Species Act of 1973 (ESA), the National Historic Preservation Act, and other Federal cultural resource laws, as laid out in the transfer agreement. In addition, section 6 requires the Association and the District to pay the net present value of the property being transferred.

H.R. 3391 clearly states in section 7 that before any property is conveyed the Secretary must complete all actions required under NEPA, the ESA, and all other applicable laws. Finally the bill makes it clear that, upon conveyance of the land and facilities, the United States will not be liable for future occurrences on those lands

and facilities, and the Association and District will not be entitled to receive any future reclamation benefits with respect to the transferred properties, except those benefits available to other nonreclamation facilities.

Issues of Concern

Despite the Administration's support for the transfer of these lands and facilities, we see this legislation as somewhat premature and have a number of concerns about H.R. 3391 as drafted.

Operating Agreements: During the course of its deliberations, the members of the work group identified several written agreements among the parties that are needed in order to ensure that the transfer achieves its intended purposes without adversely impacting the other affected parties. At present, none of the agreements identified by the work group have been completed or signed. We also believe that other agreements, not yet identified, may be required prior to title transfer as the action is scoped and developed. Section 3(a) of the bill partially addresses this issue by requiring that the Association provide the Secretary with certification, prior to transfer. We are concerned that this does not fully address our situation or the issue.

We would prefer that the key agreements be completed prior to transfer of title. We believe that completing the agreements prior to passage of the legislation will expedite implementation of the transfer and potentially lower the cost of the environmental compliance required under Section 7 of H.R. 3991. Our experience has shown that transfers move more expeditiously when involved parties complete preliminary work, including written agreements, before proceeding with legislation. In many cases where agreements were not completed before legislation was passed, significant delays occurred while issues were identified, negotiated, and satisfactorily addressed in agreements.

Further, Section 2(h) of the bill defines a transfer agreement among the United States, the District and the Association. Even though H.R. 3391 requires the transfer to be completed in accordance with the terms of that transfer agreement, the transfer agreement itself has not been completed or signed. This transfer agreement should include a complete property description of land interests to be transferred, including rights-of-ways. Also, at a minimum, the agreement defined in Section 2(H) should include terms which: (1) provide for orderly and efficient transfer and protect public interests; (2) preserve access for operation and maintenance of nearby facilities which continue to be federally owned; (3) provide for coordinated operation of transferred and retained portions of the Provo River Project; (4) ensure the Department can continue to fulfill its obligations.

Certification of Agreements: Section 3(a) directs the Secretary to convey the lands and facilities of the Project when the Association has certified that the agreements entered into are satisfactory to the Association, District, Central, and Jordan Valley. Since many of the features and facilities of the Project will not be conveyed and because of the close relationship between this project and the Central Utah Project, which will not be transferred, the Secretary will be a party to many of these agreements. As such, we believe that the Secretary should have a greater role in this certification process than is provided in H.R. 3391 as drafted.

Operational Access: The canal and the aqueduct to be transferred in H.R. 3391 are in close proximity and operationally related to the Central Utah Project which will remain in Federal ownership. For a sizeable portion of its alignment, the canal lies so near key Central Utah Project facilities that lack of access to the canal right-of-way would make operation and maintenance of those Central Utah Project facilities difficult. Conversely, operation and maintenance of the canal would be problematic without access to Central Utah Project lands. Accordingly, it is important that provisions for reciprocal access are included in the agreement defined in Section 2(h) of the bill.

Forest Service Lands: In several locations, the Salt Lake Aqueduct crosses lands lying within the boundaries of the Uinta and Wasatch-Cache National Forests under the jurisdiction of the U.S. Forest Service. Prior to constructing the aqueduct, Reclamation withdrew significant blocks of land in locations where the aqueduct alignment crosses through these National Forests. At present, operation and maintenance of the aqueduct by the District within Forest boundaries is possible solely because the aqueduct is federally owned and located upon Reclamation withdrawals. Any revocation of Reclamation's withdrawals will return primary jurisdiction of these areas to the U.S. Forest Service. H.R.3391 needs to address this issue or it will significantly delay conveyance of the lands and rights-of-way and will negatively impact the District's ability to operate and maintain the facilities once transferred. We also recommend the transfer agreement defined in Section 2(h) include a suitable provision covering replacement of withdrawals with a linear right-of-way.

Valuation of Withdrawn Lands: As stated above, some lands were withdrawn from the U.S. Forest Service for development of the Project. If lands were purchased out of private ownership for a project when the project was developed, then the costs of the acquisition would have been included in the repayment obligation of the District. However, if lands were withdrawn from the public domain, they were simply made available to the project at no cost, and so their value was never included in the repayment obligation of the entity taking title. Generally, withdrawn lands that are no longer needed for a Reclamation project are either transferred back to the BLM or the Forest Service (as appropriate) to be administered as public domain lands, or offered to the General Services Administration for disposal through competitive bidding. After title transfer, the District will need some type of legal interest in the lands underlying the Salt Lake Aqueduct. Where acquired lands are involved, Reclamation will transfer whatever interest is currently held by the United States (either fee title or permanent easement). Reclamation believes that in the case of the withdrawn lands, a permanent easement would be sufficient. If, however, the District desires fee title ownership of any withdrawn lands, they should be required to pay fair market value.

Impact on the Ongoing Utah Lake Basin Water Delivery System EIS: We understand that the Central Utah Conservancy District and the Department are planning to make a draft environmental impact statement (EIS) for the Utah Lake Basin Water Delivery System (ULS) available to the public early in 2004. We further understand that this draft EIS will indicate that about 24,000 acre-feet of CUP M&I water would be conveyed through the Provo Reservoir Canal for use in Salt Lake County, which is proposed for transfer under H.R. 3391. As part of this legislation or the transfer process for these facilities, it is important to ensure that this transfer does not impact the NEPA compliance process for the ULS or, more importantly, prevent the utilization of the canal to convey CUP M&I water.

Technical Issues

In addition to the policy and procedural issues identified above, we have identified several minor technical corrections to H.R. 3391 that are needed in order to facilitate completion of the transfer.

Include Both Reservoirs at the Salt Lake Aqueduct: In the definition for the Salt Lake Aqueduct, H.R. 3391 refers to the "Terminal Reservoir located at 3300 South and I-215." There are in fact two reservoirs located at the terminus of the Salt Lake Aqueduct. We believe any transfer should include both. Therefore, Section 2(g) of the bill should be amended to change "Terminal Reservoir" to "Terminal Reservoirs".

Make Consistent with Existing Contributed Funds Act Agreement: On August 21, 2003 Reclamation, the Association, and the District signed an agreement entitled "Contributed Funds Act Agreement and Memorandum of Agreement (Contract No. 03-WC-40-8800) (Contributed Funds Act Agreement) to formalize, among other things, the cost-sharing obligations of the various parties for transfer-related expenses. To ensure that the legislation is consistent with the already signed Contributed Funds Act Agreement, Section 6(a) of the bill should be amended to read: "The Secretary shall require, as a condition of the conveyance under section 3, that the Association and the District pay all administrative costs and real estate transfer costs, and half of costs associated with compliance with the National Environmental Policy Act of 1969, the Endangered Species Act, the National Historic Preservation Act, and other federal cultural resource laws, all as described in the Agreement." This would make it consistent with the terms of the existing agreement.

Modify Payment Requirement: Section 6(b)(1) requires the Association to pay "the net present value of the Provo Reservoir Canal and the Pleasant Grove Property". Similarly, Section 6(b)(2) requires the District to pay "the net present value of the Salt Lake Aqueduct." We believe the intent of these sections is to require the transfer recipients to pay, not the net present value of a facility (potentially, a very large sum), but rather the present value of the remaining obligations for that facility. Therefore, we recommend these portions of Section 6(b) be amended to read:

(1) "In addition to subsection (a) the Secretary shall also require, as a condition of the conveyances under Sections 3(a) and 3(b), that the Association pay to the United States the net present value of the remaining debt obligation, including future miscellaneous revenue streams, attributable to the Provo Reservoir Canal and the Pleasant Grove Property, as described in the Agreement; Provided, however, that the Association may deduct from the net present value such sums as are required to accomplish the reimbursement described in the Contributed Funds Act Agreement." "

(2) "In addition to subsection (a) the Secretary shall also require, as a condition of the conveyance under Section 3(c), that the District pay to the United States the

net present value of the remaining debt obligation, including future miscellaneous revenue streams, attributable to the Salt Lake Aqueduct, as described in the Agreement; Provided, however, that the Association may deduct from the net present value such sums as are required to accomplish the reimbursement described in the Contributed Funds Act Agreement."

National Environmental Policy Act Citation: Section 7 should be modified to correct an error in the citation for the National Environmental Policy Act of 1969 (42 U.S.C. 4321, et seq.).

Conclusion:

In conclusion, Mr. Chairman, the Department recognizes significant benefits that may be achieved by the proposed title transfer and has worked closely and cooperatively with the interested parties to facilitate this process. If the above-mentioned issues and technical corrections can be addressed, I believe the Department could support passage of this legislation.

We look forward to working with Congressman Cannon, Committee staff, as well as the Association, the District, the Title Transfer Working Group and anyone else to craft provisions necessary to resolve these issues. That concludes my testimony.

Mr. CALVERT. And I will have some questions, but first I will recognize Mr. Hirsch for his 5-minute statement, and then we will have questions.

Thank you.

STATEMENT OF ROBERT HIRSCH, ASSISTANT DIRECTOR OF WATER RESOURCES, U.S. GEOLOGICAL SURVEY

Mr. HIRSCH. Mr. Chairman and members of the Committee, I am Robert Hirsch, Associate Director for Water of the U.S. Geological Survey. Thank you for the opportunity to provide the views of the Administration on S. 212, the High Plains Aquifer Hydrogeologic Characterization, Mapping and Modeling Act.

The Administration agrees with the bill's sponsors about the goals of the bill. However, the Administration has three concerns with the bill:

First, the goals of this bill can be achieved without legislation. The primary issue is the funding levels, which the bill fails to specify. The goals of the bill can be met through the combined activities of four specific existing programs of the U.S. Geological Survey. These programs are the Cooperative Water Program, the National Cooperative Geologic Mapping Program, the Water Resources Research Institutes Program, and the Groundwater Resources Program.

The first three programs I mentioned involve significant consultation and cost sharing with the States.

Second, the bill, as amended, does not address the need for monitoring, although it mentions characterization, mapping and modeling. Monitoring is a crucial scientific component aimed at better understanding this aquifer. We note that S. 212, as introduced originally in the Senate, contained provisions that addressed monitoring. Exclusion of monitoring means that the modeling in this program would be rather hypothetical rather than keeping it rooted in the actual conditions of the aquifer as they develop over time.

Third, USGS scientific activities should be done in collaboration with the States, when appropriate. We are concerned that S. 212 does not contain specific language about State cost sharing. In testimony given before the Senate, Energy and Natural Resources Subcommittee on Water and Power on S. 212, we recommended

the inclusion of language calling for Federal-State cost sharing. As drafted, this bill would be difficult to administer and would come into conflict with existing USGS programs because it lacks specificity about funding mechanisms.

I would like to make a few background comments about the importance of the High Plains Aquifer.

Irrigation water pumped from the High Plains Aquifer has made this one of the Nation's most important agricultural areas. The intense use of groundwater has caused major declines in groundwater levels in some areas, raising concern about the long-term sustainability of irrigated agriculture in these areas. The changes are particularly evident in the Central and Southern Parts of the High Plains where some areas have experienced dewatering of more than 50 percent.

The role identified for the Department of Interior in S. 212 is consistent with the leadership role that USGS has long held in interpretation, research and assessment of the earth and biological resources of the Nation. As the Nation's largest water, earth and biological science and civilian mapping agency, USGS conducts the most extensive geologic mapping and groundwater investigations in the Nation in conjunction with our State and local partners.

The USGS has offices in each of the eight States underlain by the High Plains Aquifer. These offices have a long history of groundwater monitoring and assessment activities within the aquifer in conjunction with State and many local agencies.

The USGS carried out the first comprehensive quantitative study of the High Plains Aquifer in the late 1970s through the Regional Aquifer Systems Analysis Program. With our partners in the Cooperative Water Program, we continue to provide groundwater models to evaluate the present and future state of the aquifer in some parts of the High Plains, although an overall assessment of the aquifer is now over two decades old.

In response to the water level declines, a groundwater monitoring program was begun across the High Plains in 1988 in response to a congressional directive to the USGS. The goal of this existing program is to assess water level changes in the aquifer. This has been accomplished through a collaboration among numerous Federal, State and local water resource agencies. What we have learned is that water levels continue to decline in some areas of the aquifer. However, the monitoring has indicated that the overall rate of decline in the water table has slowed during the past two decades. This change is caused by improved irrigation and cultivation practices, decreases in irrigated acreage and above-normal precipitation during the period.

More in-depth studies are required to determine the relative importance of these different factors and to improve estimates of recharge rates which is crucial to projecting future water levels and their response to changing agricultural practices.

A reliable source of groundwater is an essential element of the economy of the communities of the High Plains. The goals of S. 212 are commendable. It contains provisions that are well within the scope and expertise of the USGS, and it focuses on a significant economic concern of the Nation. However, as noted above, the Administration has concerns about the bill, including the

availability of resources needed over and above the current levels of funding of existing USGS programs related to the aquifer.

Mr. Chairman, thank you for the opportunity to present this testimony. I would be pleased to answer any questions that you or other members of the Committee might have.

[The prepared statement of Mr. Hirsch follows:]

Statement of Robert M. Hirsch, Associate Director for Water, U.S. Geological Survey, Department of the Interior, on S. 212

Mr. Chairman and Members of the Committee, I am Robert Hirsch, Associate Director for Water at the U.S. Geological Survey. Thank you for the opportunity to provide the views of the Administration on S. 212, the "High Plains Aquifer Hydrogeologic Characterization, Mapping and Modeling Act," as amended and passed by the Senate. The Administration agrees with the bill's sponsors about the goals of the bill. Specifically, the importance of characterizing, mapping and modeling the High Plains Aquifer and the importance of coordinating efforts among Federal, State, and local entities. The Administration has three concerns with this bill as discussed more fully below.

Analysis of S. 212

First, the goals of this bill can be achieved without legislation, through better coordination of existing Federal and State programs. We are concerned that the total costs of the program proposed in S. 212 are uncertain. Funding is not included in the President's FY 2004 budget and would be subject to available resources. In future years, funding would need to be established in light of the full range of competing priorities of the Administration. The goals of the bill can be met through a combination of activities in four specific existing programs of the U.S. Geological Survey (USGS). These programs are the Cooperative Water Program, the National Cooperative Geologic Mapping Program, the Water Resources Research Institutes Program, and the Ground Water Resources Program. The first three programs involve significant consultation and cost sharing with the States. The last program, the Ground Water Resources Program, provides research and summarization of the status and trends of the water resources of the entire High Plains Aquifer system.

Second, the bill, as amended, does not address the need for monitoring, although it mentions characterization, mapping, and modeling. Monitoring is a crucial scientific component aimed at better understanding this aquifer. We note that S. 212, as introduced, contained provisions that addressed monitoring.

Third, USGS scientific activities should be done in collaboration with State scientific activities, when appropriate. Accordingly, we are concerned that S. 212 as amended does not contain specific language limiting the Federal cost share to no more than 50 percent. In testimony given before the Senate Energy and Natural Resources Subcommittee on Water and Power on S. 212, we recommended the inclusion of language similar to that currently contained in the National Cooperative Mapping Act (43 U.S.C. Chapter 2, Section 31 c.). As currently drafted, the S. 212 is unclear about funding mechanisms and formulas.

Background

Irrigation water pumped from the High Plains Aquifer has made the High Plains one of the Nation's most important agricultural areas. The intense use of ground water has caused major declines in ground-water levels raising concerns about the long-term sustainability of irrigated agriculture in many areas of the High Plains. The changes are particularly evident in the central and southern parts of the High Plains, where more than 50 percent of the aquifer has been dewatered in some areas.

S. 212 directs the Secretary of the Interior, acting through the USGS, and in cooperation with the High Plains Aquifer States, to establish and carry out a program of characterization, mapping, modeling, and monitoring of the High Plains Aquifer. This would be accomplished through mapping of the configuration of the High Plains Aquifer, and analyses of the rates at which ground water is being withdrawn and recharged, changes in water storage in the aquifer, and the factors controlling the rate of flow of water within the aquifer. Effective coordination of the data collection and monitoring efforts requires that any data collected under the program be consistent with Federal Geographic Data Committee data standards and that metadata be published on the National Spatial Data Infrastructure Clearinghouse.

The role identified for DOI in S. 212 is consistent with USGS's leadership role in interpretation, research, and assessment of the earth and biological resources of

the Nation. As the Nation's largest water, earth, and biological science, and civilian mapping agency, USGS conducts the most extensive geologic mapping and ground-water investigations in the Nation in conjunction with our State and local partners. Furthermore, the USGS has been active in a number of programs and investigations that involve the High Plains Aquifer, specifically.

The USGS has offices in each of the eight States underlain by the High Plains Aquifer (Texas, Oklahoma, Kansas, Nebraska, South Dakota, Wyoming, Colorado, and New Mexico). These offices have a long history of ground-water monitoring and assessment activities within the aquifer.

The USGS carried out the first comprehensive quantitative study of the High Plains Aquifer in the late 1970's through the Regional Aquifer-System Analysis (RASA) Program. With our partners in the Cooperative Water Program, we continue to provide ground-water models to evaluate the present and future state of the aquifer in some parts of the High Plains, although an overall assessment of the aquifer is now over two decades old.

In response to the water-level declines, a ground-water monitoring program was begun across the High Plains in 1988 to assess annual water-level changes in the aquifer, an effort requiring collaboration among numerous Federal, State, and local water-resource agencies. Water levels continue to decrease in many areas of the aquifer, but the monitoring has indicated that the overall rate of decline of the water table has slowed during the past two decades. This change is attributed to improved irrigation and cultivation practices, decreases in irrigated acreage, and above-normal precipitation during this period. More in-depth studies are required to determine the relative importance of these different factors and to improve estimates of recharge rates, which is crucial to projecting future water levels and their response to changing agricultural practices.

Conclusion

A reliable source of ground water is an essential element of the economy of the communities on the High Plains. The goals of S. 212 are commendable; it contains provisions that are well within the scope and expertise of the USGS, and it emphasizes a high level of coordination between the Department of Interior and the States in addressing an issue of significant economic concern to the Nation. However, as noted above, the Administration has concerns about the bill. Moreover, any new funding resulting from its enactment would remain subject to available resources.

Mr. Chairman, thank you for the opportunity to present this testimony. I will be pleased to answer any questions that you and other members of the Committee might have.

Mr. CALVERT. I thank the gentleman.

First, before we get into questions, I have a statement from Mr. Stenholm. Without objection, we will enter this statement into the record.

So ordered.

[The prepared statement of Mr. Stenholm follows:]

Statement submitted for the record by The Honorable Charles W. Stenholm, a Representative in Congress from the State of Texas, on S. 212

Thank you for the opportunity to present my thoughts regarding S. 212, the High Plains Aquifer Hydrogeologic Characterization, Mapping, and Modeling Act. I have serious concerns about this particular legislation for a number of reasons.

Specifically, I am concerned about S. 212 for the following reasons: I believe it will duplicate existing monitoring and modeling efforts; it may divert limited resources from ongoing on-the-ground conservation programs; it will needlessly involve another federal agency in an area historically managed by state and local entities; and finally, it might unintentionally undermine some of the significant successes we are presently seeing in the condition of the Ogallala Aquifer.

The reason I feel so strongly about this is simple: groundwater from the Ogallala formation is the life-blood of the High Plains, both in Texas and in many other states. In Texas alone, this amazing natural resource underlies approximately 36,080 square miles of land, servicing hundreds of thousands of residences, small businesses, and farm and ranch enterprises.

While I am supportive of research in general, not every research proposal is a wise and efficient use of limited federal dollars. One should note that in the 2002 Farm Bill we have already authorized a multi-million dollar Ground and Surface

Water Conservation Program that would focus on providing technical expertise and cost-share assistance to enhance water stewardship for farmers and ranchers in the High Plain Aquifer states.

In fact, along with the former Chairman of the House Committee on Agriculture, Larry Combest, I included language in the report on the 2002 Farm Bill that specifically recognized the critical importance of the Ogallala. During the first round of funding that went out under the Ground Water and Surface Water Conservation Program, the USDA made the Ogallala its priority. However, this new effort merely supplements the decades of monitoring, modeling and conservation work that has been done and is still being carried out by the following entities: USDA's Natural Resources Conservation Service; USDA's Agricultural Research Service; various Land Grant universities, along with Texas Tech University; local underground water districts; state and local agencies; and private land owners.

I understand there are some who think an issue has not been addressed until the federal government becomes involved. I trust that most of us here recognize that this is not necessarily always the case. The truth is that the work of the organizations I just mentioned has already produced most of the information and much of the improvements that S. 212 purports to encourage.

Underground water districts in Texas have already mapped, and regularly monitor, most all of the High Plains Aquifer in the state. The Natural Resources Conservation Service is already providing coordination, technical assistance, and cost-share assistance for implementation of irrigation conservation practices. Universities and federal research facilities are already working together to provide the increased information that will help us to improve our stewardship of precious groundwater resources. The bottom line is this: these and many other efforts are already producing real, measurable results. Water use efficiency in the Ogallala has improved dramatically, with some new irrigation systems reaching almost 100 percent efficiency. This is a huge improvement from the 50 percent efficiency rates we saw back in the 1950s and 1960s.

While I trust the good intentions by the authors of this legislation, the law of unintended consequences is still in effect. With that in mind, I do not believe we need to encourage another layer of federal involvement in the stewardship of this already well-monitored resource. In point of fact, the folks working in the Ogallala need the freedom and the financial assistance to implement those actions they know will work with regard to conservation. I firmly believe that the folks whose livelihoods and futures depend on this water resource are the best ones to actually do the work that the authors of S. 212 seem to want to encourage.

Mr. Chairman, let me thank you once again for allowing me to present these views this morning. I look forward to working with my colleagues on the Resources Committee to preserve and enhance the usefulness of the Ogallala for years and years to come.

Mr. CALVERT. Mr. Keys, what is the criteria, as you understand it, that the Administration uses with respect to which proposed projects require cost-share agreements?

Mr. KEYS. Mr. Chairman, I am not sure I understand your question. If you are talking about the Title 16 programs that we work with, they require agreements with the project sponsors for which they will pay 75 percent of the cost, and the Government pays 25 percent of the cost of those projects.

Mr. CALVERT. Has that been consistent on various types of projects throughout the Reclamation Department over time?

Mr. KEYS. Mr. Chairman, under Title 16, the 25 percent is certainly there. On other projects that have their own specific authorizations, it has been different than that.

Mr. CALVERT. From the sessions which Reclamation held in its Water 2025 initiative, what were some of the topics brought to table with respect to municipal water supplies and Reclamation's role in providing those water needs?

Mr. KEYS. Mr. Chairman, we had nine different sessions across the Western United States to talk with folks about Water 2025. There were numerous municipalities that have talked with us

about problems that they have, have talked to us about different ways to accommodate different water needs now and in the future, now dealing with the drought that we are facing in the future to deal with exploding populations and growing areas.

The range of those discussions is from small amounts of storage or wastewater treatment facilities all the way up to needing large storage facilities in the future.

Mr. CALVERT. So you would agree, then, that the project that is being outlined in H.R. 3334 meets the criteria that you intend to put forth in 2025, Water 2025?

Mr. KEYS. Mr. Chairman, Water 2025, what we have proposed there in most cases has been a 50-50 cost share. Our objection on this bill is not with the 35 percent, although we would rather have it 25 percent like some of the others. Our objection is that there is no cap on it. The way the bill is written now, if the project, just for example, if it went to a billion dollars, the Federal Government would have to pay $350 million of it. We would like to see a cap put on that.

Mr. CALVERT. I think I can guarantee you right now it won't cost a billion dollars.

Mr. KEYS. And I understand that, for sure. I understand that it is like $150 million, but still we think there should be a cap put on there so that we know how much we are having to deal with in the future.

Mr. CALVERT. So, based upon your testimony, when the feasibility studies are completed, what you are saying is that we can come to a more accurate number, and then the Administration is prepared to enter into an agreement that would accept a certain cap and move forward on this project?

Mr. KEYS. Mr. Chairman, that is my understanding.

Mr. CALVERT. We certainly look forward to working with you, and certainly with Western Water and other agencies to make sure that we move this forward.

Mr. Hirsch, how has been the cooperation between USGS, the States, and the localities on the High Plains Aquifer programs; have they been good?

Mr. HIRSCH. Yes, I think the relationships are excellent. We have a number of cooperative kinds of programs, such as our Cooperative Water Program. I can't tell you how many agencies in this area are, but we have 1,400 State and local agencies nationwide with whom we cooperate on water programs. So that there is a close collaboration.

The map that you see over here, in fact, is produced through collaboration between the USGS and many, many State and county and regional agencies, all of whom are engaged in the monitoring of water levels and under congressional mandate through the Appropriations Committee.

We produce maps of this kind about once every 2 years describing the continued changing state. This involves a great deal of information that is collected by others, and then we assemble it across the entire High Plains region.

Mr. CALVERT. As you have indicated, the bill probably is not necessary, since better coordination of current programs can do the job, and you apparently believe that. What would be the immediate

way that you could do this without Federal legislation to improve coordination?

Mr. HIRSCH. I think holding some regional meetings. I note that, for example, the Western States Water Council about a month from now is going to be having a first meeting, not just relating to the High Plains, but relating to the groundwater issues. Working with organizations like Western States Water Council, I think we could bring together the parties to look at the variety of activities and try to get that multi-State collaboration, multi-State and Federal collaboration even better than it is today.

Mr. CALVERT. I appreciate that.

As Mr. Keys knows, and I think our experience with water is, it is difficult to compel people to do anything with water. So it is best if we can work together to come to some kind of an arrangement.

With that, Mrs. Napolitano?

Mrs. NAPOLITANO. Thank you, Mr. Chair.

Commissioner, it is good to see you again.

I am referring to 3391 because you have not been able to see it nor opine on it. I would be asking if you can give us your commitment that the Administration will provide us with the Bureau of Reclamation's and the Fish and Wildlife Service's view on it, to this Committee.

Mr. KEYS. Mr. Chairman and Mrs. Napolitano, we have not seen the bill, and certainly title transfer is a valuable part of our commitment to working with irrigation districts and other water users that we work on a daily basis with, and certainly we are working with and will continue to work with the sponsors of the bill, the people on the ground, and the Committee to make that happen.

I will certainly promise to give you the viewpoint of the Administration, and that certainly includes——

Mrs. NAPOLITANO. Would you make sure that this Committee gets it, Mr. Keys?

Mr. KEYS. Ma'am?

Mrs. NAPOLITANO. Make sure that this Committee gets a copy of those views, please, from both agencies—the Fish and Wildlife and Bureau of Reclamation.

Mr. KEYS. Mr. Chairman and Mrs. Napolitano, I understand that the Committee would like our testimony to be added into the record——

Mrs. NAPOLITANO. Correct.

Mr. KEYS. And certainly that was how I would propose to do that.

Mrs. NAPOLITANO. That is fine.

Mr. CALVERT. That is correct.

Mrs. NAPOLITANO. We just need to be sure we get it so we can go over it.

Mr. Hirsch, this is on 212. You know that the level of the aquifer is declining in some areas, and we talked about it. Are they increasing in other areas?

Mr. HIRSCH. Yes. That is an interesting question. Overall, the entire aquifer, we estimate that about 6 percent of the original storage, say, half a century ago, has been diminished. In other words, we are at about 94 percent of the amount of water that was in there 50 years ago, and those declines are particularly focused in

the State of Texas with about a 27-percent decline and Kansas with about a 16-percent decline.

On the other hand, the State of Nebraska has actually seen small increases in the amount of water and storage in the High Plains Aquifer, owing to the fact that there is a good deal of surface water irrigation in the State of Nebraska overlying the Ogallala, and there has actually been water level rises in some of those areas. So it is quite a different picture in different parts.

It is illustrated on this USGS map over here. The blue areas indicate areas of water level rise; the grey indicates very, very little change; whereas, the reds and oranges indicate the areas of considerable decline, which you see are particularly focused in Kansas and Texas.

Mrs. NAPOLITANO. I am glad you have good eyesight because I don't.

[Laughter.]

Mr. HIRSCH. I am familiar with the map.

Mrs. NAPOLITANO. You are saying that the aquifer performs differently in the different areas.

Mr. HIRSCH. Indeed.

Mrs. NAPOLITANO. How would this affect the delivery of quality water?

Mr. HIRSCH. It is a comment on quality because the primary use of water throughout the High Plains Aquifer is for irrigated agriculture. Much of that irrigated agriculture includes the addition of chemicals, primarily fertilizers and pesticides. We know that, to some extent, there is recharge of that irrigation water through the unsaturated zone to the Ogallala Aquifer, which does carry some of the nitrate and some of the pesticides down to the water table. This is an active area of research for the USGS at the present time through our National Water Quality Assessment Program.

So there is I think in a long-run view, there are reasons to be concerned about the quality of water in the High Plains Aquifer, particularly for the individual farmers and the small and large communities that derive their drinking water from the High Plains Aquifer.

Mrs. NAPOLITANO. Is, then, there an issue with the possibility of those areas not having potable water or having problems, having to clean it before they reuse it or before they recharge the aquifer?

Mr. HIRSCH. Looking at other agricultural areas in the country, we can anticipate the possibility, particularly with respect to nitrate, which is of a health concern particularly for babies, that those concentrations could increase to the point where it would be problematic for those communities and that there would be need either for point-of-use treatments in homes or for community water supplies to treat the water to treat for the nitrate contamination that might occur.

Mrs. NAPOLITANO. Thank you, Mr. Hirsch.

Mr. CALVERT. Thank you.

The gentleman from Nebraska?

Mr. OSBORNE. Thank you, Mr. Chairman.

I gather from your comments that you don't really believe this study is warranted or necessary; is that correct?

Mr. HIRSCH. We believe that this is an extremely valuable resource, the High Plains Aquifer, and that we, in fact, conduct and conduct in conjunction with many, many State and local agencies, research and monitoring which I think are extremely important to the viability of this really breadbasket area of the country. The question really is whether an additional authorization is needed to supplement those kinds of things that are already going on. So we conduct and highly value the research that we and many of our partners and others in the area do. We think it is extremely important to the area, but we don't think that additional legislation is needed to deal with the issues.

Mr. OSBORNE. Is there currently a comprehensive study? I know there are some maps, but is there a comprehensive understanding of the dynamics? Because I realize we want to keep the water rights at the State level. I don't think anybody wants to see that violated, but I think, from my own experience, each State tends to look at their own problems.

As I mentioned earlier, I believe this is somewhat of a dynamic system. Some of the Southwest States, I think the aquifer is primarily from rainwater that seeps down into a basin, but there is still a lot of flow in Nebraska, some in Kansas, where it is interchangeable. And so is there a comprehensive study right now that indicates the dynamics? I look at this as somewhat of a living system.

Mr. HIRSCH. Mr. Osborne, indeed, I think "living system" is an excellent way to term it. It is dynamic. There is no ongoing comprehensive study of the High Plains Aquifer. The USGS, in its regional aquifer system analysis, did a comprehensive look at the aquifer system. That was done in the late 1970s, and there has not been a relook at that study, a remodeling based on better geologic information and changing agricultural practices and new information on water level.

There are many excellent more State, local or regional scale models. For example, the USGS was involved in one involving Nebraska and Kansas and the Republican River and its interactions with this system. So there are a number of modeling studies in particular areas.

The only other thing that is going on I would say in a comprehensive manner is this mapping of water level changes that we conduct every two, about every 2 years. In fact, a report on those water level changes is coming out within the next few months that we did in cooperation with the States.

That is not a study of the dynamics of the system and how it behaves, but rather it is more like a census; that is to say, quantifying the amounts of change that have occurred over recent decades.

Mr. OSBORNE. One thing you mentioned, that in places in Nebraska the aquifer has increased, and essentially that is because of some dams that have been built because we have stored surface water, and that surface water then has regenerated, you know, through underground flow, some of the aquifer and has raised it up. And that is why I am mentioning it is dynamic.

Also, we notice that some of the aquifer from the Platte Valley spills over into the Republican Valley, and I am sure there is some

seepage or there is some interaction with Kansas. So the only thing I can say to you is that, in view of the fact that there are ongoing studies, but it doesn't seem to me that there is anything that has been real comprehensive and has looked at the whole system and one study is something would be appropriate along those lines.

Mr. HIRSCH. Yes, and——

Mr. OSBORNE. And maybe it can be done by amalgamating all of the ongoing studies, but I really believe this is such a valuable resource, we need to have a very accurate picture of what is happening there.

Mr. HIRSCH. If I could just comment on the kind of concept of amalgamating. I think one of the approaches that the hydrologic sciences community, USGS and others, use is to develop groundwater models which are mathematical representations of the behavior of the whole system, the precipitation, the recharge, the percolation, the movement of the water to the water table, and the pumping, et cetera, and the lateral flow.

There are existing programs that could carry out such a comprehensive study, but they are not currently funded at levels that would enable them to do such a study.

Mr. OSBORNE. Thank you, Mr. Chairman. I yield back.

Mr. CALVERT. Thank the gentleman.

The gentleman from Texas?

Mr. NEUGEBAUER. Thank you, Mr. Chairman.

Mr. Hirsch, is the USGS currently mapping the High Plains Aquifer?

Mr. HIRSCH. In some areas, we are engaged in additional mapping, particularly through our National Cooperative Geologic Mapping Program. This is a program that is carried out in very close conjunction with the State geological surveys, where the USGS does some mapping, the State surveys do mapping. Dr. Lee Allison, the State geologist of Kansas will be testifying in front of you in a few minutes. He is actually better qualified to talk about that mapping aspect than I am because he works on the geologic side of things. Whereas, I tend to work more on the hydrologic side.

So there are areas within the High Plains Aquifer where our programs are engaged in some additional mapping.

Mr. NEUGEBAUER. And in your testimony you mentioned that this bill does not provide for monitoring, but there is, in fact, monitoring going on throughout the High Plains Aquifer; is that not correct?

Mr. HIRSCH. Absolutely, there is monitoring. My point was that we see, in the carrying out of hydrogeologic studies, the need to very closely coordinate monitoring efforts and modeling efforts. It is a little bit like a doctor looking at a patient, figuring out what tests to do in order to understand how the patient is doing and behaving, and you want to make sure your monitoring is at the right places and at the right frequency to really better define the dynamics of the system.

And so to have this Committee come together to plan studies and not to discuss monitoring seems to us to be an unbalanced approach to improving the overall understanding of the system.

Mr. NEUGEBAUER. The gentleman from Nebraska brought up some points about a more comprehensive study possibly, but there

is really nothing currently that is prohibiting you from doing a more comprehensive analysis with the partners that you are already partnering with, is there?

Mr. HIRSCH. No, it is a question of resources. We have something in the USGS called the Groundwater Resources Program, where we have taken on looking at large aquifer systems. Fairly recently we completed work on the Middle Rio Grande Aquifer system. Now, admittedly, that is only one State, but it is quite a large system, and our Groundwater Resources Program could, if funds were appropriated for it, the Groundwater Resources Program could certainly conduct such a study and would do so in close collaboration with many State and local agencies.

Mr. NEUGEBAUER. So, really, what you are saying, if I hear your testimony correctly, it is really not an authorization issue that is before us on this aquifer. It is more of an appropriations issue that possibly other members of this panel, those of us that have a great deal of interest in this aquifer maybe should be pointing our efforts toward that.

What kinds of coordination efforts are currently going on between the underground—I think you mentioned a Western States group. Can you kind of elaborate what kinds of ways you interact with those different agencies, and is it at the State level or is it individual conservation or water district level?

Mr. HIRSCH. We have, within the U.S. Geological Survey, a program called the Cooperative Water Program. It has been in existence for 105 years, in which we enter into agreements with State or local and underground storage districts, et cetera, the conservation districts, et cetera, would be some of the participants, in which we negotiate agreements about studies and monitoring, et cetera, to be carried out.

So we interact with, nationwide, 1,400 different State and local agencies on hydrologic studies. And we often gather together many of those agencies in statewide meetings to talk about the conduct of these programs to look for the synergies between and across these many agencies involved.

We have less degree of this kind of collaboration, perhaps, across State lines, but rather a lot of collaboration, say, within the State boundaries.

Mr. NEUGEBAUER. But if you were to be authorized or appropriated the appropriate amount of money to do a more in-depth study, a part of that appropriation could be worked out in a collaborative effort between those other States, could it not?

Mr. HIRSCH. Absolutely. An interesting, the appropriations bill that just came through the Conference Committee a couple of days ago, in fact, has an example of that. The Spokane Valley-Rathdrum Prairie Aquifer that straddles Washington and Idaho calls for us to conduct, beginning at least to conduct a comprehensive study of that aquifer system in close coordination and conjunction with those two States. And similar things could be done here.

Mr. NEUGEBAUER. Thank you, Mr. Hirsch.

I yield back my time.

Mr. CALVERT. I thank the gentleman.

The gentleman from Utah?

Mr. CANNON. Thank you, Mr. Chairman.

First, let me thank the panel for being here today. We seriously appreciate that.

I just had one question relating to my bill. Mr. Keys, I understand that this was just recently introduced, and that the Department would not have a position on it yet, but could you comment, generally. If you know something about the bill or have a view of the bill, I would appreciate that, but more generally on the idea of title transfers and where you would like to see your agency go with those.

Mr. KEYS. Mr. Chairman, Mr. Cannon, I have not seen the bill and certainly can't testify on it today.

What I would tell you is that Reclamation and the Administration supports title transfer. We have an active program underway to transfer title to those districts, to those entities that feel like they would like to have their own title.

In some cases, it is very judicious to do that; in other places, it may not be quite as attractive. In this case, we have worked closely with all of the sponsors there, the local people. We will certainly continue to do that. We think that it makes sense to transfer the title to this one, and it is up to the parties and us to work together to work out the details.

Mr. CANNON. Thank you very much. We appreciate that and look forward to your input as we go through this process.

I thank you, Mr. Chairman, and I yield back.

Mr. CALVERT. Thank you very much.

We are talking about California. There is not much of it left.

Mrs. Napolitano?

Mrs. NAPOLITANO. Yes, Mr. Hirsch, again back to 212.

Do you have any idea how much funding, how much money has been spent on studying aquifer?

Mr. HIRSCH. I don't think I could give you a figure at this time.

Mrs. NAPOLITANO. Ballpark?

Mr. HIRSCH. Do you mean on an annual basis or historically over——

Mrs. NAPOLITANO. Total.

Mr. HIRSCH. Combining our efforts and those of State and local entities, some tens of millions of dollars perhaps over time.

Mrs. NAPOLITANO. But not in a coordinated effort.

Mr. HIRSCH. Coordinated and perhaps on a State-by-State basis, and some of our efforts have been coordinated across the aquifer, such as those that produced this map or the study I referred to in the 1970s, the Regional Aquifer System Analysis study that was done in the late 1970s, which was coordinated across the region.

Mrs. NAPOLITANO. I agree with you on the idea that the States possibly could work together and come to a joint effort to do a coordinated study with support and funding from the Federal Government. The less Federal Government involvement in terms of legislation to me is much better. But do you see any problems with the States wanting to work together? As it is, we are saying in the bill that it is not mandatory for any State to become part of this.

Mr. HIRSCH. One of the issues that we encounter working in our cooperative aspects of our programs in the USGS is the differing interests of the States in terms of working on studies that cover hydrologic systems that are, of course, which do not respect State

boundaries, and it is certainly difficult to carry out a study of a system like this that may stop and start at State boundary lines because the water simply can, the knowledge needs to be looked at across the State lines and, in fact, the water, to some extent, does flow across State lines.

So to do a comprehensive study either would have to have sufficient Federal funding so that it could straddle all States regardless of their degree of interest or would have to, in some manner, mandate State participation because a comprehensive study would have to look, of course, at all States involved in it.

Mrs. NAPOLITANO. Which do you believe might be more favorably looked at by the States? After all, this is their water.

Mr. HIRSCH. Right. Obviously, they would not be interested in a mandatory effort.

Mrs. NAPOLITANO. But they would want the money.

Mr. HIRSCH. I suspect they would.

[Laughter.]

Mrs. NAPOLITANO. Does, well, the United States really have plans to regulate water withdrawals from the High Plains Aquifer or from any aquifer for that matter?

Mr. HIRSCH. The U.S. Geological Survey, where I work, does not involve itself in issues of regulation, but I think I can state pretty clearly that there is no intent within this Administration to regulate the use of groundwater.

Mrs. NAPOLITANO. Has there ever been any regulation of groundwater withdrawals?

Mr. HIRSCH. That is a pretty——

Mrs. NAPOLITANO. Pretty deep.

Mr. HIRSCH [continuing]. A pretty sort of global kind of question. I suspect there are instances where particular local water quality concerns or ecological concerns have resulted in controls established on the pumping of groundwater.

Mrs. NAPOLITANO. But would those not be really on an as-needed basis; in other words, a very dire need?

Mr. HIRSCH. I guess I don't know exactly how to characterize the level of need that might require them, but certainly I could think of cases where there are contamination problems, where continued pumping would exacerbate that problem and perhaps, under Superfund or other regulation, other laws that certain people had to stop pumping, for example.

Mrs. NAPOLITANO. I guess maybe I am more concerned about, in 212, in the thinking that there might be a heavy-handed approach by the Government over the actual withdrawal of water by the States.

Mr. HIRSCH. I guess I would say that you need to ask the sponsors of the legislation that question, rather than me.

Mrs. NAPOLITANO. Thank you.

Mr. CALVERT. I thank the gentlelady, and I thank this panel. I appreciate your coming today. You are excused.

Our next panel of witnesses are from the prestigious 44th Congressional District of California, Riverside, California.

Elizabeth Cunnison and Ben Wicke are from the 44th, but I also see my good friend and former Mayor of my hometown, Corona,

Al Lopez, in the audience with us today, with the Western Water Board. Welcome, Al. Good to see you.

Please take your seats.

My friend Don Harrier couldn't be here today. I understand he is not feeling well, so certainly let him know that we are thinking about him. My good friend for many years, as everyone on the Western Board have been. So it is good to see you again.

Ms. CUNNISON. Good to see you.

Mr. CALVERT. We have a 5-minute rule here to try to keep things moving, so I would ask you to keep your comments within the 5 minutes. Any additional comments certainly will be entered into the record.

With that, Ms. Cunnison, you are recognized for 5 minutes.

STATEMENT OF ELIZABETH L. CUNNISON, DIRECTOR, REPRESENTING DIVISION 2, WESTERN MUNICIPAL WATER DISTRICT

Ms. CUNNISON. Thank you. Good morning, Mr. Chairman. I am Elizabeth Cunnison. It is a pleasure to be here before you today to discuss a project near and dear to the hearts of the people of your district, the Riverside-Corona Feeder. With me are S.R. "Al" Lopez, representing the City of Corona, who has with him a letter of support from the City; Terry Milne, Director of Metropolitan Water District, who has a letter of support from metropolitan, and I work like to enter those.

Mr. CALVERT. Without objection, so ordered.

[NOTE: Letters submitted for the record have been retained in the Committee's official files.]

Ms. CUNNISON. Also in attendance is W.R. Ben Wicke, Director for Elsinore Valley Municipal Water District; William Dendy, project consultant; and Melodie Johnson, our public information officer.

This is a very important day for our region because it represents years of cooperative effort to structure a plan that is agreeable to the region, viable technically and economically, and beneficial to the larger issues of the State, reducing the demands for water from the Colorado and Northern California in dry years. We commend you for your leadership in introducing this bill, H.R. 3334, and in holding this hearing.

While I will give the primary testimony and Ben Wicke will provide brief, supplemental comments, the others came to demonstrate the wide appeal and importance this project has to Western's area, from San Bernardino to Riverside to Corona to the Elsinore Valley.

First, a brief history about why this project is now possible. Recently, an agreement has been signed, coupled with historic court water rights judgments, that creates an opportunity for Western Municipal Water District to meet drought-year water supply needs in its 510-square-mile service region with additional local and wet-year supplies. In order to deliver this water during dry-year conditions, a conveyance system is needed.

Now let me briefly describe the project itself. Its purpose is to capture and store new water in wet years in order to increase firm water supplies, reduce water costs, and improve water quality. This new water will come, in wet years, from local runoff, including

regulated releases from Seven Oaks Reservoir on the Santa Ana River, and from the State Water Project through Metropolitan. It will be stored in San Bernardino Valley groundwater basins.

In order to deliver this stored water to consumers, the project will provide new groundwater pumping capacity and new delivery pipeline capacity throughout our system. This new pumping and delivery capacity will enable the new water to be stored safely by providing important new means to control water tables which currently fluctuate. When pumped, the water will be delivered to communities in western Riverside County through 28 miles of pipeline capable of moving 40,000-acre-feet of water per year. A map is attached to my testimony which shows the configuration of the system.

The direct project beneficiaries are water consumers currently served by the following entities: the City of Corona, Elsinore Valley Municipal Water District, Jurupa Community Services District, Rubidoux Community Services District, Western Municipal Water District—the project sponsor—City of Norco, City of Riverside, Lee Lake Water District, and Home Gardens County Water District.

As I mentioned previously, we have a representative from Elsinore Valley Municipal Water District who has joined us today to speak briefly on the importance of this project to his community.

In addition, because the project will store wet-year water, it will benefit others in dry years, including Colorado River water users, other Metropolitan Water District water users, and even water-dependent environments in Northern California.

Let me briefly enumerate the project benefits which will accrue when H.R. 3334 is enacted and the project is completed.

The first is local drought protection. In western Riverside County, dependence on imported water in dry years will be reduced, water costs will be reduced, and water reliability will be improved.

Second, we will have better groundwater management. In San Bernardino Valley, groundwater levels will be better managed to help reduce the threat of liquefaction in some areas while maintaining levels that support water supply wells in other areas.

We will have regional benefits. Water users elsewhere in Metropolitan Water District who are unable to practice conjunctive use will benefit from increased availability of imported water in dry years due to Western's ability to reduce demand on imported water.

The Colorado River will benefit. Other water users that are dependent on the Colorado River may enjoy improved dry-year water supplies as the local region reduces imported water demand.

And, fifth, Northern California. To the extent Metropolitan is able to reduce its overall dry-year demand on imported water supplies from the State Water Project due to Western Municipal Water District's reduced dry-year demand, the State Water Project will be able to dedicate more environmental water to the Delta and other areas.

Mr. Chairman, we have estimated our project cost at $151 million, and your legislation authorized the Bureau of Reclamation to contribute 35 percent of that cost. Environmental work is currently underway, funded by Western. We are confident that this

important project and this bill will significantly improve the lives of the people in the Riverside County region.

At this point, I will turn to Mr. Wicke for his statement, and then my colleagues and I will be happy to answer any questions that you may have.

[The prepared statement of Ms. Cunnison follows:]

Statement of Elizabeth L. Cunnison, Director, Western Municipal Water District on the Riverside-Corona Feeder

Mr. Chairman, it is a pleasure to be here before you today to discuss a project near and dear the hearts of the people of your district—the Riverside-Corona Feeder. With me are S.R. "Al" Lopez, a fellow Director, representing the city of Corona on our Board; W.R. "Ben" Wicke, Director for Elsinore Valley Municipal Water District; Randall Van Gelder, Assistant General Manager, San Bernardino Valley Municipal Water District; William Dendy, Project Consultant; and Melodie D. Johnson, our Public Information Officer.

This is a very important day for our region because it represents years of cooperative effort to structure a plan that is agreeable to the region, viable technically and economically, and beneficial to the larger issues of the State—reducing the demands for water from the Colorado and Northern California in dry years. We commend you for your leadership; in introducing the bill—H.R. 3434—and in holding this hearing.

While I will give the primary testimony and Ben Wicke will provide brief, supplemental comments, the others came to demonstrate the wide appeal and importance this project has to Western's area, from San Bernardino to Riverside to Corona to the Elsinore Valley.

First, a brief history about why this project is now possible. Recently, an agreement has been signed, coupled with historic court water right judgments, that creates an opportunity for Western Municipal Water District to meet drought-year water supply needs in its 510 square mile service region with additional local and wet year supplies. In order to deliver this water during dry year conditions, a conveyance system is needed.

Now let me briefly describe the project itself. Its purpose is to capture and store new water in wet years in order to increase firm water supplies, reduce water costs and improve water quality. This new water will come, in wet years, from local runoff, including regulated releases from Seven Oaks Reservoir on the Santa Ana River, and from the State Water Project. It will be stored in San Bernardino Valley groundwater basins.

In order to deliver this stored water to consumers, the project will provide new groundwater pumping capacity and new delivery pipeline capacity throughout the system. This new pumping and delivery capacity will enable the new water to be stored safely by providing important new means to control water tables which currently fluctuate. When pumped, the water will be delivered to communities in western Riverside County through 28 miles of pipeline capable of moving 40,000 acre feet per year of groundwater. A map is attached to my testimony which shows the configuration of the system.

The direct project beneficiaries are water consumers currently served by the following entities: City of Corona, Elsinore Valley Municipal Water District, Jurupa Community Services District, Rubidoux Community Services District, Western Municipal Water District (the project sponsor), City of Norco, City of Riverside, Lee Lake Water District, and Home Gardens County Water District.

As I mentioned, previously, we have a representative from Elsinore Valley Municipal Water District who has joined us today to speak briefly on the importance of this project in his community.

In addition, because the project will store wet year water, it will benefit others in dry years including Colorado River water users, other Metropolitan Water District water users and even water-dependent environments in Northern California.

Let me briefly then enumerate the project benefits which will accrue when H.R. 3334 is enacted and the project is completed:

Local Drought Protection: In western Riverside County, dependence on imported water in dry years will be reduced, water costs will be reduced, and water reliability will be improved.;

Better Groundwater Management: In San Bernardino Valley, groundwater levels will be better-managed to help reduce the threat of liquefaction in some areas while maintaining levels that support water supply wells in other areas;

Regional Benefits: Water users elsewhere in Metropolitan Water District, who are unable to practice conjunctive use, will benefit from increased availability of

imported water in dry years due to Western's ability to reduce demand on imported water during dry years;

Colorado River: Other water users that are dependent on the Colorado River may enjoy improved dry year water supplies as the local region reduces imported water demand; and

Northern California: To the extent Metropolitan is able to reduce its overall dry year demand on imported water supplies from the State Water Project due to Western Municipal Water District's reduced dry year demand, the State Water Project will be able to dedicate more environmental water to the Delta and other areas.

Mr. Chairman, we have estimated our project cost at $151 million and your legislation authorized the Bureau of Reclamation to contribute 35% of that cost up to a ceiling of $50 million Environmental work is currently underway, funded by Western. We are confident that this important project and this bill will significantly improve the lives of the people in the Riverside County region. At this point, I will turn to Mr. Wicke for his statement, and then my colleagues and I will be happy to answer any questions you may have.

STATEMENT OF W.R. "BEN" WICKE, DIRECTOR, ELSINORE VALLEY MUNICIPAL WATER DISTRICT

Mr. WICKE. Mr. Chairman and Committee members, as Mrs. Cunnison explained, the people I represent would be among the many beneficiaries of this important project. I appear before you today to state my agency's strong support for the Riverside-Corona Feeder.

Elsinore Valley Municipal Water District is a 53-year-old, full-service agency serving the water, sewer, agricultural, and reclaimed water needs of our 100,000-member community in southwest Riverside County. We are developing every possible water source to maintain the needs of our customers. Elsinore Valley Municipal Water District currently uses local groundwater, local surface runoff of the San Jacinto River Watershed, Metropolitan Water District imported water, and our own recycled wastewater to meet the needs of our community. The district is developing a groundwater conjunctive use storage program also. We are also expanding our recycled water distribution network. We are working to add additional raw water connections.

However, in spite of our efforts, we must purchase imported water supplies, including Colorado River water, from Western Municipal. We believe the Riverside-Corona Feeder project would assist Elsinore Valley, plus other water agencies in the region, to further reduce deliveries of Colorado River water and decrease dependence on imported supplies during drought.

I again would like to reiterate our strong support for this project, not only as representative of a direct beneficiary agency, but in the realization that the Riverside-Corona Feeder has far-reaching benefits well beyond those to our community.

Thank you to the Committee for your time today, and thank you, Mr. Chairman, for your introduction H.R. 3334.

We will be happy to answer any questions.

[The prepared statement of Mr. Wicke follows:]

Statement of W. R. "Ben" Wicke, Director, Elsinore Valley Municipal Water District

Mr. Chairman and Committee members: As Mrs. Cunnison explained, the people I represent would be among the many beneficiaries of this important project. I appear before you today to state my agency's strong support for the Riverside-Corona Feeder.

Elsinore Valley Municipal Water District is a 53-year-old, full-service agency serving the water, sewer, agricultural and reclaimed water needs of our 100,000 member community in Southwest Riverside County. We are developing every possible water source to maintain the needs of our customers. EVMWD currently uses local groundwater, local surface runoff of the San Jacinto River Watershed, Metropolitan Water District imported water, and our own recycled waste water to meet the needs of our community. The District is developing a ground water conjunctive use storage program. We are also expanding our recycled water distribution network. We are working to add additional raw water connections.

However, in spite of our efforts, we must purchase imported water supplies, including Colorado River water, from Western. We believe the Riverside-Corona Feeder project would assist Elsinore Valley, plus other water agencies in the region, to further our efforts to reduce direct delivery of imported supplies and decrease dependence on these imported supplies during drought.

I again would like to reiterate our strong support for this project, not only as representative of a direct beneficiary agency, but in the realization that the Riverside-Corona Feeder has far-reaching benefits well beyond those to our community. Thank you to the Committee for your time today and thank you, Mr. Chairman, for your introduction of H.R. 3434.

Mr. CALVERT. I thank the gentleman, and I apologize that we have a vote on. I am going to have to leave, all of us will have to leave and vote. I have to go to a meeting after that on the wildfires in California that I need to be at shortly after. But let me assure you, my friends from Riverside County, California, that I am obviously very supportive of this bill. I think you hear from the Commissioner that I think we need to firm up a number. The feasibility reports hopefully will help do that. And we can work the Department of Reclamation to negotiate that, hopefully in short order. And where we can be able to make sure we get a bill that is supported by the Administration, it makes things a lot simpler, and we can move this legislation as quickly as possible. So I want to thank you for your attendance.

We are going to recess. We have a number of 15-minute votes. I think we will be back in approximately half an hour. The gentleman from Texas will chair the meeting upon return. The witnesses from Utah, certainly we will look forward to your testimony, and the people from Riverside, unless there are any questions for you, I think you are probably excused, unless Mrs. Napolitano would ask any questions upon your return. Would you like——

Mrs. NAPOLITANO. I will ask a few.

Mr. CALVERT. OK. Then hang around.

Thank you very much. We are recessed for about half an hour.

[Recess.]

Mr. CANNON. [Presiding.] We are now going to move to testimony on H.R. 3391, which is my bill, and we would like to welcome Mr. John Carman here, who is the General Manager of the Metropolitan Water District of Salt Lake and Sandy, and Mr. Don Christiansen, the General Manager of the Central Utah Water Conservancy District. I am just looking here to see what they say nice about you guys, and then I will introduce you.

Well, they do not say a lot, so let me just point out that we are very pleased to have you here from the great State of Utah on a project of great importance to me and my district, the people in my district, and the people also in the other side of Salt Lake County.

At this point, Mr. Carman, we would like to turn the time over to you to testify.

STATEMENT OF JOHN R. CARMAN, GENERAL MANAGER, METROPOLITAN WATER DISTRICT OF SALT LAKE AND SANDY

Mr. CARMAN. Thank you, Mr. Chairman, members of the Committee. I appreciate this opportunity. My name is John Carman. I am General Manager of the Metropolitan Water District of Salt Lake and Sandy.

The Metropolitan Water District of Salt Lake and Sandy provides wholesale water to Salt Lake City and Sandy City and large portions of unincorporated Salt Lake County. In most years, our district also provides water to the Jordan Valley Water Conservancy District, the other large wholesaler located in Salt Lake County.

The Metropolitan Water District of Salt Lake and Sandy is the major shareholder in the Provo River Water Users Association. I am currently serving as President of the Board of Directors for the Provo River Water Users Association, and we have with us here today Keith Denos, General Manager for the Association.

The district and the association I represent are the entities responsible to repay to the United States all the construction costs of the Provo River Project. There are really two components of that project. The Salt Lake Aqueduct component is the responsibility of the Metropolitan Water District, and the rest of the Provo River Project is the responsibility of the association.

The district and the association are interested in pursuing title transfer of certain features of the Provo River Project. These would include the Salt Lake Aqueduct, the Provo Reservoir Canal, and a small parcel of ground in Pleasant Grove, Utah, that is currently used for the Office and Shop Complex.

Construction of the Salt Lake Aqueduct was begun in 1939, and due to a delay with World War II, was completed in 1951. It begins at the base of Deer Creek Dam, at the top of Provo Canyon, which is in Wasatch County, Utah, and makes its way down through Utah County, eventually terminating in Salt Lake County. The pipeline is approximately 41 miles long and terminates at a reservoir in Salt Lake County.

The Provo Reservoir Canal is approximately 23 miles long, beginning with the diversion off of the Provo River and meandering through eight cities in Utah County. It is primarily an unlined earthen structure and sits above and below a rapidly urbanizing area in Utah County.

The Provo Reservoir Canal was privately constructed in the early 1900s, and then to improve it, the legal title to the canal was transferred to the Bureau of Reclamation under the Reclamation Act of 1902 to facilitate financing of improvements at that time. Ironically, because the United States holds legal title to the Provo Reservoir Canal, the local government entities which own, we estimate, 90 percent of the capacity in the canal cannot use their tax-exempt financing to finance the improvements that are critically needed.

Then, finally, there is a small parcel of ground in Pleasant Grove, Utah, on which we have built our Office and Shop Complex for the association. The Association was given a perpetual right to use this land in 1956, but the actual title for that property remains in the name of the United States.

We believe the proposed title transfer will be the first step in accomplishing the following goals:

First, non-Federal financing of necessary facility improvements. While the Salt Lake Aqueduct is generally in good shape, there are several features of it that are now 60 years old and in need of upgrade. As Metro, we are a political subdivision of the State of Utah and cannot use our tax-exempt financing status to finance those improvements.

The Provo Reservoir Canal must be enclosed. We anticipate this enclosure project in partnership with Central Utah.

The fact that the title is held in the name of the United States prevents us from using our ability to gain low-cost, tax-exempt financing from non-Federal sources.

There are several other benefits we believe will come from that. Water conservation, we estimate that approximately 8 percent of the water that is transmitted through the canal on an annual basis is lost due to seepage or evaporation. Some of that water we anticipate using for stream habitat to provide for the endangered June sucker which has critical habitat in the lower Provo River.

We believe it will be an improvement to public safety. In the last 20 years, we estimate that 14 people have died in the canal due to drownings.

It will improve public drinking water protection and security. Increasingly, the water transmitted through this canal is treated for public drinking water uses, and right now it is vulnerable to access in many places.

We also believe that there will be a more efficient and coordinated use of the water treatment and conveyance facilities to benefit all of the water users in Utah and Salt Lake Counties.

Transfer of title for the Salt Lake Aqueduct and the Provo Reservoir Canal and the enclosure of the canal will allow a more comprehensive and coordinated use of these facilities.

We also believe that enclosure of the canal will allow for recreational benefits which are not currently available. We currently prevent people from accessing the maintenance road because of safety, security, and other concerns.

We also believe, finally, that the title transfer will reduce demands on limited reclamation resources. Currently, the Bureau helps the association and the district with right-of-way issues, those sorts of things, and we understand that the district and the association would have to completely take on these tasks and that Reclamation resources would be freed up for other Federal needs.

Completion of the title transfer to the Salt Lake Aqueduct and the Pleasant Grove Property will require a title transfer agreement with the Secretary. Completion of title transfer to the Provo Reservoir Canal will require certain agreements among the impacted local entities and the United States. Completion of title transfer will require NEPA compliance and other compliance work. The first step is congressional authorization of this process, and we ask for your support in this critical first step.

Thank you.

[The prepared statement of Mr. Carman follows:]

Statement of John Robert Carman, General Manager, Metropolitan Water District of Salt Lake & Sandy

My name is John Carman. I am the General Manager of the Metropolitan Water District of Salt Lake & Sandy.

The Metropolitan Water District of Salt Lake & Sandy provides wholesale supplemental drinking water to Salt Lake City and Sandy City. In most years our District also provides water to a sister agency, Jordan Valley Water Conservancy District, the other large public wholesaler located in Salt Lake County.

The Metropolitan Water District of Salt Lake & Sandy is the major shareholder in the Provo River Water Users Association. I serve as the President of the Board of Directors of the Provo River Water Users Association.

The District and the Association I represent are the entities responsible to repay to the United States all of the costs of construction of the Provo River Project. Repayment for, and the operation and maintenance of, the Aqueduct Division of the Provo River Project is the responsibility of the District. Repayment for, and the operation and maintenance of, the Deer Creek Division of the Provo River Project is the responsibility of the Association.

The District and the Association are interested in pursuing a title transfer of certain features of the Provo River Project in Utah. The Association and the District are seeking title to the Salt Lake Aqueduct, the Provo Reservoir Canal, and a 3.79 acre parcel of land in Pleasant Grove, Utah, that is being used for the Association's Office and Shop Complex.

Construction of the Salt Lake Aqueduct was initiated in 1939. The Salt Lake Aqueduct consists of a new intake structure, recently constructed without federal funds, located at the base of Deer Creek Dam, at the top of Provo Canyon in Wasatch County, Utah. From the intake structure, water is conveyed through approximately 41 miles of pipe with an inside diameter of 69", as well as several tunnels. The Salt Lake Aqueduct reaches from the intake to the District's Little Cottonwood Water Treatment Plant in Salt Lake County. From the plant, water is conveyed to two 20 million gallon finished water reservoirs located at approximately I-215 and 3300 South in Salt Lake City.

The Provo Reservoir Canal is approximately 23 miles long and reaches from the mouth of the Provo Canyon, through eight Utah County cities to the south end of Salt Lake County. For most of its length the canal is an open, unlined, earthen structure, perched on foothills above and below a rapidly urbanizing area. The Provo Reservoir Canal includes four large siphons to move water under streams and roads.

The Provo Reservoir Canal was privately constructed in the early 1900s. Legal title to the Provo Reservoir Canal was conveyed to the Bureau of Reclamation in 1939 to facilitate financing of canal improvements through the Reclamation Act of 1902. Ironically, because the United States holds legal title to the Provo Reservoir Canal, the local governmental entities are inhibited from obtaining locally financed improvements that are critically needed.

The 3.79 acre parcel of project land in Pleasant Grove, Utah, is the location of a new $2 million Office and Shop Complex recently completed by the Association using no federal dollars. Though the Association was given a perpetual right to use this land in 1956, title to the land remains in the name of the United States.

The proposed title transfer will be the first step to accomplishing the following goals:

1. Non-federal financing of necessary facility improvements.

While the Salt Lake Aqueduct is generally in very good condition, we anticipate accelerating repairs in the coming decades to improve security, seismic safety and longevity of the facility.

The Provo Reservoir Canal must be enclosed. We anticipate an enclosure project in partnership with the Central Utah Project.

The fact that title is held by the United States prevents certain low-cost, non-federal financing sources.

2. Water conservation. It is estimated that the unlined Provo Reservoir Canal loses approximately 8% of the water moved through that facility. The proposed enclosure would make that water available for use.

3. Use of some of the conserved water for stream habitat. It is anticipated that some of the saved water will be used by the Department of the Interior for instream purposes in the lower Provo River by agreement. The lower five miles of the Provo River have been designated critical habitat for the June Sucker.

4. An increase in the Central Utah Project (CUP) water supply. It is anticipated that several petitioners for CUP water will be able to turn back some CUP water because of the availability of the water saved through enclosure of the Provo Reservoir Canal.

5. Improved public safety. The land surrounding the canal is quickly developing, and interactions with the canal are increasing. Approximately 14 people have drowned in the Provo Reservoir Canal in the last 20 years. Enclosure would virtually eliminate this risk.

6. Improved public drinking water protection and security. Today, the majority of the water moved through the Provo Reservoir Canal is treated and used for drinking water. The open canal exposes the water to a number of contaminants.

7. More efficient and coordinated use of water treatment and conveyance facilities for the benefit of a number of local governmental entities. The Provo Reservoir Canal, the Salt Lake Aqueduct and the Jordan Aqueduct all serve water to north Utah County and Salt Lake County. Several water treatment plants are, or will be, tied together with this facility, and additional facilities currently being constructed by this District. Transfer of title to the Salt Lake Aqueduct and the Provo Reservoir Canal, and enclosure of the canal, will allow a more comprehensive and coordinated use of these facilities, to the benefit of all of the communities involved. It is anticipated that the coordinated use of these facilities will assist the Central Utah Project in meeting some minimum in-stream flow commitments.

8. New public recreational opportunities. Water quality and safety concerns prevent the lawful use of the Provo Reservoir Canal maintenance road as a public trail. When the canal is enclosed the surface could be used safely for a public trail.

9. The elimination of demands on limited Reclamation resources. The Bureau of Reclamation provides dedicated and competent staff support and resources to assist with the maintenance of the aqueduct and canal rights of way. Those responsibilities will have to be assumed completely by the District and the Association, and Reclamation resources will be freed up for other federal needs.

Completion of title transfer to the Salt Lake Aqueduct and the Pleasant Grove Property will require a title transfer agreement with the Secretary. Completion of title transfer to the Provo Reservoir Canal will require certain agreements among the impacted local entities and the United States. Completion of title transfer will require NEPA compliance and other compliance work. The first step is Congressional authorization of this process. We ask for your support of this critical first step.

Mr. CANNON. Thank you, Mr. Carman. We appreciate that testimony.

Mr. Christiansen, you are recognized for 5 minutes.

STATEMENT OF DON CHRISTIANSEN, GENERAL MANAGER, CENTRAL UTAH WATER CONSERVANCY DISTRICT

Mr. CHRISTIANSEN. Mr. Chairman and members of the Committee, I appreciate the opportunity to be here today to testify in support of the Provo River Project Transfer Act to authorize the transfer of the title of certain features of this project. You might wonder why the Central Utah District has an interest in this bill. The Central Utah Project and the Provo River Project have been intertwined and co-dependent for decades. Both projects have dams for water storage on the Provo River. Both projects capture this high-quality water and divert it through conveyance structures to water users in Northern Utah and Salt Lake Counties, and both projects share a duty to the recovery of the June sucker in the lower Provo River and Utah Lake.

This bill is important to us at several levels. First, the district is finalizing planning and NEPA review for construction of facilities required to distribute the remaining water supply being developed by the Bonneville Unit of the Central Utah Project for use along the Wasatch Front. While we have not selected a proposed action, several of the alternatives being studied contemplate the delivery of new supplies of water to Salt Lake County. Salt Lake presently receives its Provo River supplies through one of three systems: the Provo Reservoir Canal, the Salt Lake Aqueduct, and the Jordan

Aqueduct. Our new Bonneville Unit water must be delivered through one or more of these existing conveyance systems. We believe that coordinated operation of these three conveyance systems will maximize the efficient delivery of water and at the lowest possible cost. Hence, before title is transferred out of Federal ownership to two of these three systems, we believe it is important to advance this dialog among the various water districts.

Of particular importance to the Central Utah Water Conservancy District are provisions of the bill authorizing the title transfer for the Provo Reservoir Canal. When the canal was first planned, there were only a few communities along its right-of-way, and one of these is the beautiful community of Alpine, where I lived for over 25 years. Nearly two decades ago while I was serving as Mayor of Alpine, I started a campaign to convince the Bureau of Reclamation to replace that open canal with a buried pipeline. I failed, but my journey led me from being Mayor to the Chairman of the Board of Trustees to the General Manager's position of the Central Utah Water Conservancy District.

My concern then as Mayor was one of safety for the community. This concern remains. Just last month, two young men were drowned in a tragic accident in the Provo Reservoir Canal. In addition to the safety issues of the open canal, which now runs through numerous residential neighborhoods, we estimate that over 8,000-acre-feet of water is lost through evaporation and leakage. The Central Utah Water Conservancy District has offered to pay half of the estimated $115 million cost to enclose the canal in return for which we would receive the conserved water. This water would then be made available to the Secretary of Interior under provisions of the Central Utah Project Completion Act, which would enable the water to be applied to in-stream flows in the lower Provo River to help recover the endangered June sucker through the recovery program. I want to point out that the obligation of the June Sucker Recovery Program is one that is shared by all of the water users who divert water from the Provo River, including the water districts that operate the storage facilities on the Provo River.

It is our plan to create a joint public agency among the Central Utah District, the Jordan Valley Water Conservancy District, and the Metropolitan Water District of Salt Lake and Sandy to take title to a portion of the capacity in this facility. This is a vital step in order for us to be able to finance the project with tax-advantaged bonds which are only available to local public water districts.

Although we have not heard from the Department of Interior today, we know that they have some concerns, and we have heard other concerns that have been expressed. But we believe that the bill should proceed while the agreements that are necessitated are being negotiated. And we think that the process should go forward simultaneously with the negotiation of the several agreements that have to accompany the title transfer. If we were to wait another 6 or 8 months, the time it will take to conclude our discussions, it would be too late in the legislative process to advance the bill from introduction to enactment.

To address the Department of Interior's concerns, we have built a mechanism into the bill draft that restricts the Secretary's authority to transfer the title to the Provo Reservoir Canal until the

Provo River Water Users Association certifies that the necessary future ownership, financing, operation, and transfer agreements have been completed.

I want to thank John Carman and the Metropolitan Water District of Salt Lake and Sandy and Representative Cannon for working with us on this provision. With its inclusion, we are here to urge you to move forward with this bill as soon as your calendar permits.

I thank you for the opportunity of testifying today.

[The prepared statement of Mr. Christiansen follows:]

Statement of Don Christiansen, General Manager, Central Utah Water Conservancy District

Chairman Calvert, Congressman Cannon and members of the Committee, I appreciate the opportunity to testify today in support of the Provo River Project Transfer Act to authorize the transfer of title to certain features of the Provo River Project. You might wonder why the Central Utah District cares about this bill. The Central Utah Project and the Provo River Project have been intertwined and co-dependent for decades. Both projects have dams for water storage on the Provo River; both projects capture this high quality water and divert it through conveyance structures to water users in Northern Utah and Salt Lake Counties; and both Projects share a duty to the recovery of the June sucker in the lower Provo River and Utah Lake.

This bill is important to us at several levels. First, the District is finalizing planning and NEPA review for the construction of the facilities required to distribute the remaining water supply being developed by the Bonneville Unit for use along the Wasatch Front. While we have not selected a proposed action, several of the alternatives being studied contemplate the delivery of new supplies of water to Salt Lake County. Salt Lake presently "drinks" its Provo River supplies through one of three "straws": the Provo Reservoir Canal, the Salt Lake Aqueduct and the Jordan Aqueduct. Our new Bonneville Unit water must be delivered through one or more of these existing conveyance straws. We believe that the coordinated operation of these three conveyance "straws" will maximize the efficient delivery of water at the least cost. Hence, before title is transferred out of federal ownership to two of these three straws, we believe it is important to advance this dialogue among the various water districts.

Of particular importance to the Central Utah Water Conservancy District are the provisions of the bill authorizing the title transfer for the Provo Reservoir Canal. When the Canal was first planned, there were only a few communities along its right of way, one of which is a beautiful community of Alpine, where I lived for twenty five years. Nearly two decades ago, while serving as the Mayor of Alpine, I started a campaign to convince the Bureau of Reclamation to replace the open canal with a buried pipeline. I failed then—but my journey led me from Mayor to Chairman of the Board of Trustees and then to General Manager of the Central Utah Water Conservancy District.

My concern then as Mayor was one of safety for the community. This concern remains. Just last month two young men drowned in a tragic accident in the Provo Reservoir Canal. In addition to the safety issues of an open canal, which now runs through numerous residential neighborhoods, we estimate that over 8,000 acre feet of water are wasted through evaporation and leakage. The Central Utah Water Conservancy District has offered to pay half of the estimated $115 million cost to enclose the canal in return for which we would receive the conserved water. This water would then be made available to the Secretary under provisions of the Central Utah Project Completion Act, which enables the water to be applied to instream flows in the lower Provo River to help recover the endangered June sucker through the recovery program. I want to point out that the obligation to the June Sucker Recovery Program is one that is shared by all of the water users who divert water from the Provo River, including the water districts that operate the storage facilities on the Provo River.

It is our plan to create a Joint Public Agency among the Central Utah District, the Jordan Valley Water Conservancy District, and the Metropolitan Water District of Salt Lake & Sandy to take title to a portion of the capacity in this facility. This is a vital step in order for us to be able to finance the project with tax-advantaged bonds which are available only to local public water districts.

Although we have not heard from the Interior Department today, we understand that the Department supports the concept of this title transfer bill, but does not

believe that the bill should proceed until after all the details have been negotiated to the several agreements that will govern the operation of the facilities. While we agree that these agreements are vital, it is our view that the legislation should proceed simultaneously with the negotiations on the several agreements associated with the title transfer. If we were to wait another six to eight months, the time it will take to conclude our discussions, it will be too late in the legislative process to advance the bill from introduction to enactment. To address the Department of the Interior's concerns, we have built a mechanism into the bill draft that restricts the Secretary's authority to transfer the title to the Provo Reservoir Canal until the Provo River Waters Users Association certifies that the necessary future ownership, financing, operation and transfer agreements have been completed. I want to thank John Carmen and the Metropolitan Water District of Salt Lake & Sandy and Representative Cannon for working with us on this provision. With its inclusion, we urge you to move forward with this bill as soon as your calendar permits. Thank you.

Mr. CANNON. Thank you. I want to thank both of you for your testimony. At this point I would like to ask unanimous consent to submit a statement for the record, and without objection, so ordered.

[The prepared statement of Mr. Cannon follows:]

Statement of The Honorable Chris Cannon, a Representative in Congress from the State of Utah, on H.R. 3391

Mr. Chairman, I appreciate the Subcommittee allowing me to join you on the dais today, and I thank you for holding a hearing on H.R. 3391. This legislation would authorize the title transfer of certain features of the Provo River Project, which would include the canal itself, the Salt Lake Aqueduct and land in Pleasant Grove from the Bureau of Reclamation to non-federal ownership.

For the past 60 years the Provo River Water Users Association has operated this canal. As long as the title is still in the name of the federal government, the water users association and our local governments that use the water will not be able to obtain the tax-exempt financing necessary to cover this canal. It could cost approximately $115 million to complete this critical project of enclosing the canal.

Perhaps the most important reason to enclose the canal is safety. On October 1st of this year two young men drowned in the canal when they attempted to go scuba diving. This latest tragedy raised the total number of drownings in the canal to 14 people.

Security is another extremely important element of concern regarding this canal. The canal transports drinking water to a significant part of the Salt Lake City metropolitan area. The twenty-three miles of open canal that currently exist are very difficult to protect, therefore transferring the title would be extremely beneficial to the safety of the water supply.

Water efficiencies will also result from title transfer. Approximately 8 percent of the water is lost to evaporation and seepage since the canal is not enclosed. There are environmental benefits as well—for instance, some of the saved water will be made available to meet the needs of the endangered June-sucker. Covering the canal will also allow for the development of recreational trails that can be used for hiking and cycling.

Mr. Chairman, I thank you again for holding this hearing on an extremely important piece of legislation that works to alleviate the ever present water problem facing the west. While I am proud to say that this transfer has received almost universal support, as we move forward Mr. Chairman, I will work with all parties to resolve any legitimate concerns that arise.

Mr. CANNON. Now, as Chair, I recognize myself for 5 minutes. I would like to start off by just making a couple of comments.

The Metropolitan Water District is one of the most incredibly well-managed organizations of its type, and we appreciate the fact that you are here, Mr. Carman, and that you have been so thoughtful in the process of moving this issue, which is very, very important. Also, Mr. Christiansen's old and great—well, he is not old.

Our relationship is old and very dear to me, and he has managed a project for a long period of time now that has consistently outperformed expectations, and we appreciate your being here and bringing so vital a part to this project that is important.

I thought I would just start by pointing out that I have actually lived very near this canal and have watched that area grow all the way along the canal area. And although we have had 14 deaths, including these two recent and very unfortunate deaths, the fact is it is a much more dangerous canal now because we have many more families and many more small children. And although there are some protections, it is a danger. Is that not—do you both agree with that?

Mr. CHRISTIANSEN. Absolutely.

Mr. CARMAN. Absolutely.

Mr. CANNON. Thank you. This is one of the major reasons why I pursued the bill.

I would like to ask several technical questions just so we can be sure that we are clear for the record. Am I correct in saying that this legislation requires a transfer agreement and that that agreement would lay out the financial obligations of the district, Mr. Carman?

Mr. CARMAN. That is correct. The title transfer agreement is between the Bureau of Reclamation, Department of Interior, and the contracting agencies who are responsible for repaying the costs of the project. So in the Salt Lake Aqueduct case, that would be Metro and the canal situation. That would be the association.

Mr. CANNON. And what are the levels of the payments that you anticipate making to the United States?

Mr. CARMAN. There is a formal process under Bureau guidelines for determining that cost, and they have suggested to us what the remaining payout is on both facilities.

Now, that gets updated using their procedures inside the Bureau at the time when the transfer takes place, but the estimate, as we understood it, was $747,800, approximately, on the Salt Lake Aqueduct remains to be paid, and $753,400, approximately, on the Provo Reservoir Canal. These were estimates provided a month or so ago.

Mr. CANNON. So very close to $1.5 million for both projects.

Mr. CARMAN. That is correct.

Mr. CANNON. Is there any different mechanism to accomplish the goals of this legislation besides the transfer of title?

Mr. CARMAN. We have suggested that if the Department of Interior could reinstate their RMB loan and loan us $400 million over the next 40 years, that we would be very happy to pursue that, or we could talk about changes in IRS Code. But this seems to us to be the most logical way for the local entities to take on the responsibility for this infrastructure and move it forward on their own.

Mr. CANNON. Is that in part because of the low interest rate you have through your municipal financing of the project?

Mr. CARMAN. That is correct. As Don suggested, estimated cost is $115 to $120 million, and the difference between taxable and tax-exempt financing at a 1.5 percent approximate difference is

$1.5 million a year, maybe $2 million a year, just in interest costs alone.

Mr. CANNON. And so the total capital cost of that project is how much?

Mr. CARMAN. To enclose the canal, the range is $90 to $120 million, and we have been using 115 for negotiating purposes.

Mr. CANNON. And you expect the bulk of that to be done with municipal bonds at a lower interest rate?

Mr. CARMAN. That is correct.

Mr. CANNON. Thank you.

Will operation and management of the Salt Lake Aqueduct change after title transfer?

Mr. CARMAN. Currently, that is the responsibility of the Metropolitan Water District of Salt Lake and Sandy. The one thing we would expect to see is that currently, for example, when somebody wants to build a road across the aqueduct or to put a sewage pipe crossing past the aqueduct, they have to get approval from both ourselves and the Bureau. And after a title transfer, the Bureau's staff would no longer be available to work on those, and we would have to take on that responsibility ourselves.

Mr. CANNON. And that would raise the cost a little bit, but you are willing to do that?

Mr. CARMAN. Yes.

Mr. CANNON. What role will the local municipalities and water districts play in the Provo Reservoir Canal enclosure project?

Mr. CARMAN. We feel that their support is essential. Obviously, they benefit from the safety improvements. But, in fact, most of the local municipalities are beneficiaries of the water side of the project as well. Either directly or indirectly, I believe, all of those cities have an interest in the Provo Reservoir Canal on the water side. Once it is in a pipe, then it does have the potential to become a great recreational asset for the communities as well as improving the situation with the safety hazard.

Mr. CANNON. Thank you, Mr. Carman.

Mr. Christiansen, what types of agreements do you believe are necessary to complete the title transfers contemplated by this legislation? And how long will it take to conclude negotiations on them?

Mr. CHRISTIANSEN. I think I can remember most of them. The title transfer agreement that John has just talked about, there needs to be an operating agreement, talking about the operation of them. There needs to be an agreement as to how the ownership will be assumed on a local basis and how we would finance paying for the improvements to the canal. Embodied in those agreements I believe can be all of the concerns that anyone might have as to the transfer of this facility from the Federal ownership to the local ownership.

Mr. CANNON. Thank you. I ask unanimous consent to extend my time by 2 minutes. Without objection. I just have another couple of questions. We won't keep you long.

Mr. Christiansen, how will the Central Utah Water Conservancy District contribute to the cost of rehabilitating the Provo Reservoir Canal?

Mr. CHRISTIANSEN. As I indicated, we have committed to provide half of the funding, 50 percent of whatever that turns out to be.

We assume that we can get a fair amount of that under Section 207 of the Central Utah Completion Act, which would be Federal funding for water conservation. And so we assume that a fair amount of that 50 percent can come from that source; 40 to 60 percent may be there. That is why the 8,000-acre-feet of saved water is so important to us because we would want to do that under the Section 207 water conservation.

Mr. CANNON. Thank you. Has it been determined how much of the saved water will be provided to the Secretary for in-stream flows in the lower Provo River?

Mr. CHRISTIANSEN. The exact amount has not been determined, but it is our assumption that there will be in excess of 8,000-acre-feet of saved water, and it is our intent to furnish 100 percent of all of the saved water for the use of the Department in minimum flows in the Provo River for the benefit of the June sucker.

Mr. CANNON. So there is a huge benefit to the Department, and you expect the Department to work with you on the cost sharing on the other side?

Mr. CHRISTIANSEN. Absolutely.

Mr. CANNON. Thank you. I have no further questions, and so I yield back time.

Mrs. Napolitano? The gentlelady is recognized for 5 minutes, or so much time as she may decided she would like in addition. Thank you.

Mrs. NAPOLITANO. Thank you, Mr. Chairman. It is a good thing we are friends.

I just was wondering about the agreement that has not been signed. Isn't that like an open check until that agreement is really hammered and signed?

Mr. CHRISTIANSEN. Do you want me to respond?

Mrs. NAPOLITANO. Either one of you.

Mr. CHRISTIANSEN. There are a number of issues that have not yet been negotiated and resolved on the various agreements that I listed previously. We think that the provision in the legislation that says that title transfer cannot be effected by the Secretary of Interior until various agreements are in place is the safeguard that we need to move forward on that. There are a number of issues, as anyone may anticipate, that will be a little testy among the various organizations, but we think that we can get there. Without those agreements, the way the legislation is written, the title would not be transferred.

Mrs. NAPOLITANO. I am kind of hesitant to say that this bill meets all the criteria. All of the other bills that have come before this Committee that require transfer agreements prepared, signed, and delivered have been so done. And it just is not good thinking to say that you are going to get all your agreements done. It could be hanging in fire, and here we are passing through what could be the bill that might change because of the agreement.

Mr. CHRISTIANSEN. Do you want to respond to that?

Mr. CARMAN. Well, I appreciate your thoughts on that. There are some aspects of this that are going to be very difficult to achieve. You know, for example, the way that we hold the interest for the public entities and the joint public action agency which would ultimately receive the public component of the canal could take years

to unravel. So the agreement will really in our minds define how that is going to happen, but it may be many years before all of the pieces are in place. But those are really local issues that have to be worked out amongst the parties.

The one thing that happens if we can't get those agreements in place is that nothing changes from the way it is today. The canal remains unlined. It continues to leak. It continues to be a safety issue.

So from the local perspective, should those agreements take longer, that is really a problem for us more so than the Federal Government.

Mrs. NAPOLITANO. It may be a problem for the locals, but it is also a problem for us to be able to pass through something that does not have an agreement signed.

Mr. CANNON. If the gentlelady would yield?

Mrs. NAPOLITANO. Certainly.

Mr. CANNON. I can give her assurances that before we bring this to markup, we will have the basic agreement in place and satisfactory.

Mrs. NAPOLITANO. I will hold you to it, sir.

Mr. CANNON. Thank you.

Mrs. NAPOLITANO. Then the other thing I would want to find out is the Bureau of Reclamation is holding hearings this week, is my understanding, about the environmental concerns the public may have on the transfer of the canal, and that the scoping sessions will not address transfer of headworks because the Bureau wants to retain ownership of the facility. Is that part of the issue with the transfer?

Mr. CARMAN. That is not the understanding we have. There was some suggestion that they not be addressed specifically in the NEPA scoping document, but it was our intent to be up front that we wanted to transfer the headworks.

Now, it is clear that the water rights themselves remain in the name of the Federal Government, so there is no attempt here to transfer those water rights into the name of the local entities. In our view, that gives the Federal Government all the protection they need to look out for the needs of the June sucker.

Mrs. NAPOLITANO. So you are amenable to the bill stating that only the canal will be transferred, but not the components Bureau of Reclamation opposes, such as the Murdock Diversion and the Salt Lake Aqueduct?

Mr. CARMAN. Say that one more time?

Mrs. NAPOLITANO. Well, there is a question as to whether the bill—if the bill is going through and is amended or will be amended to clarify that only the canal will be transferred but not the components the Bureau of Reclamation opposes, and I have information that states that it is such as the Murdock Diversion Dam and the Salt Lake Aqueduct?

Mr. CARMAN. It is my understanding that that is not the official position of the Department of Interior, so——

Mrs. NAPOLITANO. That is the reason we needed the report from the Fish and Wildlife and the Bureau of Reclamation, because this would not be an issue then.

Mr. CARMAN. Right, which they, as I understand it, will provide. But it is our intent to transfer title on intake structures because if you have a pipe but not an intake structure, what is it that you have?

Mrs. NAPOLITANO. OK. Mr. Christiansen, if we authorize the Salt Lake Inlet and the Murdock Diversion Dam to be transferred to non-Federal entities, there may be implications for the recovery plan of the endangered June sucker, and I look forward to the testimony that might clarify that. What is your reaction to the concern?

Mr. CHRISTIANSEN. We are in this June Sucker Recovery Program together. I would tell you that we have been the leading cause, the Central Utah District, in getting the recovery program in place and operating it. But I believe all of us who divert water along the Provo River are in with the same responsibilities under the ESA to that June sucker. And I am confident that we can negotiate before the title transfer actually takes place, the official title transfer, the safeguards that we will need in order to operate to benefit the recovery of the June sucker. I am confident of that. We are not there, but we will get there.

Mrs. NAPOLITANO. Is there any question about the Endangered Species Act having an effect on this?

Mr. CHRISTIANSEN. Certainly the Endangered Species Act should have an effect on it, yes.

Mrs. NAPOLITANO. Thank you, Mr. Chair.

Mr. CANNON. The gentlelady yields back.

Mr. Neugebauer?

Mr. NEUGEBAUER. No questions.

Mr. CANNON. Thank you. We appreciate you for being here and for your thoughtful comments. And with that, you are dismissed, and I am going to turn this over to Mr. Neugebauer, and he will recognize the next panel.

Mr. NEUGEBAUER. [Presiding.] Good afternoon. I would now like to recognize the final panel of witnesses to testify on S. 212: Ms. Irene Favila, Workforce Development Coordinator in Plainview, Texas; Mr. Leland Tillman, Executive Director of Eastern Plains Council of Governments; Mr. Lloyd Arthur, American Farm Bureau Federation, from Ralls, Texas; Mr. Lee Allison, Director and State Geologist, Kansas Geological Survey; Mr. Scott Wall, National Corn Growers Association, Yuma, Colorado; and Mr. Jim Conkwright, Manager of High Plains Underground Water District No. 1, Lubbock, Texas.

I would now recognize Ms. Favila to testify for 5 minutes.

STATEMENT OF IRENE FAVILA, CITY COUNCILWOMAN AND WORKFORCE DEVELOPMENT COORDINATOR, PLAINVIEW, TEXAS

Ms. FAVILA. Thank you. Good afternoon.

First, I would like to thank the distinguished members of the Subcommittee for allowing me the opportunity to provide you with information and offer another perspective on the potential implications of S. 212.

My name is Irene Favila, and I am from Plainview, Texas. Plainview is a small city situated in the Texas Panhandle—a region that

depends heavily on water available through the Ogallala formation within the High Plains Aquifer. Crop production in the region, which is dominated by cotton and grain commodities, requires significant irrigation to meet watering demand. It is estimated that 95 percent of all crop land in the Panhandle is irrigated with water obtained through the aquifer.

I am a workforce development coordinator for Motivation Education and Train, Inc., or MET, which is a community-based organization that helps displaced farm workers find jobs outside of agriculture, as well as assisting in the stabilization of agricultural employment for underemployed workers and their families. During my 28 years with MET, I have witnessed some rather profound changes in both the agricultural economy and the social environment in our local area, and I have come to better understand the delicate balance between the prevailing forces that fuel agricultural production and the varied interests that have a stake in this diverse and important industry. For the past 11-and-a-half years, I have been honored to serve on the Plainview City Council, and I consider it both a privilege and obligation to help improve the quality of life in my hometown and the surrounding area.

It would be difficult to live in the High Plains and not appreciate the importance of agriculture, but it is fairly easy to look at the broader landscape and not see some of the finer details. The migrant and seasonal farm workers whom I serve are among the poorest working families in the Nation, and their struggle to survive economically is a contest that would be unimaginable for most Americans. With average household incomes around $7,600 per year, and an average household size of 3.8, Texas farm workers are often faced with unfair tradeoffs and extremely hard choices.

During 2001, our clients were only able to find farm employment for an average of 83 days. The need for income is so desperate that the mere promise of a job is sufficient to force whole families to migrate hundreds and sometimes thousands of miles. Natural forces and increasingly global economic realities impact the ability of farm workers to find employment throughout the migrant stream, and workers and their families have endured a steady erosion of jobs and income over the last several decades. In Plainview alone, where once around 30 packing sheds supported a vibrant produce industry, none exist today.

The relationship between agricultural producers and the workers on whose behalf I am here today is often portrayed as an uneasy coexistence between "us" and "them." However, the reality of the situation is that the economic destinies of both parties are intertwined, bound by a common interest in the viability of crop and animal production, and vulnerable to many of the same natural and economic variables. While growers get the lion's share of attention during lean production periods, for every farmer that faces a crop failure or other disaster, there are untold numbers of farm workers whose losses are every bit as compelling and likely more economically devastating.

I believe that my experience working with the agricultural labor force, my knowledge of the employment situation in the region, and the familiarity with the agricultural industry in general enable me to speak knowledgeably about the potential impact of the

legislation before the Subcommittee. Additionally, my public policy work as an elected official, as well as that accomplished through volunteer efforts, has provided me a greater understanding of how governmental initiatives impact the local and regional environments.

My chief concern with S. 212 is the proposed Federal monitoring of the High Plains Aquifer and its potential for increased regulation and restrictions that could adversely impact the already bleak employment prospects for migrant and seasonal farm workers. Although the bill does not explicitly mention regulations, one must question the purpose of a new Federal monitoring program when there are already State and local laws on the books for mapping the aquifer. One must also question the need and nature of a federally led monitoring program and what Federal strings may eventually be attached to aquifer use. Should this legislation be enacted, cutbacks in production and crop losses due to insufficient water availability are legitimate concerns for growers and workers alike. We understand the necessity of better utilization, but we also believe that collective local engagement is the best means of addressing this crucial component of natural resource management. Texas is already leading the conservation movement to secure sufficient resources for future generations.

Secondary concerns with respect to this legislation are that it will further constrain the targeting of scarce Federal resources for other potentially more advantageous initiatives, as well as the possibility that implementation of this program will discourage precisely the type of local planning and coordination that is truly necessary for meaningful and sustainable community-driven action. S. 212 appears to duplicate existing programs, and the objectives of the legislation could be better met through improved coordination. I must also question the need for creating a new $90 million program that will compete with ongoing domestic needs in our communities.

The most important part of my job is helping workers who have been displaced from agriculture prepare for and secure jobs in other industries. Pardon?

Mr. NEUGEBAUER. I would ask you to wrap up your statement, please.

Ms. FAVILA. OK. I would respectfully offer my hope that in trying to promote the public interest that we do not impose unintended consequences on those with little ability to effectively pay the resultant economic and social costs.

May God bless you all, and thank you again for your consideration.

[The prepared statement of Ms. Favila follows:]

Statement of Irene Favila, Workforce Development Coordinator, Motivation Education & Training, Inc. (MET), on S. 212

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significant irrigation to meet watering demand. It is estimated that 95 percent of all cropland in the Panhandle is irrigated with water obtained through the Aquifer.

I am a workforce development coordinator for Motivation Education & Training Inc. or "MET"—which is a community-based organization that helps displaced farm workers find jobs outside of agriculture, as well as assisting in the stabilization of agricultural employment for underemployed workers and their families. During my 28-years with MET, I have witnessed some rather profound changes in both the agricultural economy and the social environment in our local area, and I have come to better understand the delicate balance between the prevailing forces that fuel agricultural production, and the varied interests that have a stake in this diverse and important industry. For the past eleven-and-a-half years, I have been honored to serve on the Plainview City Council, and I consider it both a privilege and obligation to help improve the quality of life in my hometown and the surrounding area.

It would be difficult to live in the High Plains and not appreciate the importance of agriculture, but it is fairly easy to look at the broader landscape and not see some of the finer details. The migrant and seasonal farm workers whom I serve are among the poorest working families in the nation, and their struggle to survive economically is a contest that would be unimaginable for most Americans. With average household incomes around $7,600 per year, and an average household size of 3.8, Texas farm workers are often faced with unfair tradeoffs and extremely hard choices. During 2001, our clients were only able to find farm employment for an average of 83 days. The need for income is so desperate that the mere promise of a job is sufficient to force whole families to migrate hundreds and sometimes thousands of miles. Natural forces, and increasingly global economic realities, impact the ability of farm workers to find employment throughout the migrant stream, and workers and their families have endured a steady erosion of jobs and income over the last several decades. In Plainview alone, where once around 30 packing sheds supported a vibrant produce industry, none exist today.

The relationship between agricultural producers and the workers, on whose behalf I am here today, is often portrayed as an uneasy coexistence between "us" and "them." However, the reality of the situation is that the economic destinies of both parties are intertwined, bound by a common interest in the viability of crop and animal production, and vulnerable to many of the same natural and economic variables. While growers get the lion's share of attention during lean production periods, for every farmer that faces a crop failure or other disaster, there are untold numbers of farm workers whose losses are every bit as compelling and likely more economically devastating.

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The most important part of my job is helping workers who have been displaced from agriculture prepare for, and secure, jobs in other industries. The difficulty in rural areas, such as Plainview, is that the entire economy is influenced by the performance of the farm and ranch sectors. While there may be considerable disagreement about the most effective means of managing natural resources, it would seem to make sense in this case that we should avoid at all cost hurting the very people who depend on the water held in the High Plains Aquifer. I believe, especially in light of current economic realities, that we should at least strive to do no harm with respect to current jobs held by American workers, particularly those individuals who struggle at the bottom of the economic ladder, such as migrant and seasonal farm workers. I would respectfully offer my hope that, in trying to promote the public interest, that we do not impose unintended consequences on those with little ability to effectively pay the resultant economic and social costs. May God Bless You All.

Thank you again for your consideration.

Mr. NEUGEBAUER. Thank you.

The Chair now recognizes Mr. Tillman.

STATEMENT OF LELAND D. TILLMAN, EXECUTIVE DIRECTOR, EASTERN PLAINS COUNCIL OF GOVERNMENTS

Mr. TILLMAN. Thank you, Mr. Chairman, members of the Committee. I thank you for the opportunity to testify today on Senate bill 212. My name is Leland Tillman. I am from Clovis, New Mexico. I am the Director of the Eastern Plains Council of Governments, which is a voluntary association of local governments which serves 22 incorporated communities in seven counties in northeastern New Mexico.

Every community in our area is dependent exclusively on groundwater for their municipal and industrial water needs. About three-fourths of the population depends exclusively on the Ogallala Aquifer, the High Plains Aquifer, for their drinking water supply.

Even though New Mexico has only about 1.5 percent of both the land area and the volumes remaining in the aquifer, our water problems are particularly important because we see our problems as a precursor of other problems that will occur in other areas. This issue has become our primary resource management issue and our top economic development issue as we continue to improve conservation efforts and move toward a less water-intensive economy.

Agriculture is an important economic engine in the counties of Curry, Roosevelt, Quay, and Union in eastern New Mexico that accounts for a $683 million input into our economy in 2001.

Under New Mexico law, communities are required to plan for an adequate water supply to meet their estimated demand during a 40-year planning horizon. In light of the fact that some of our communities in New Mexico have had continuous occupation and existence for more than 400 years, 40 years is considered a relatively near-term time frame for a community.

As State and regional water planning becomes increasingly important in New Mexico and other Western States, State and local policy officials are clamoring for better hydrologic data and better projections and estimates on the remaining supply. Several of our communities which are dependent upon the aquifer are working together to develop dependable surface supplies to augment the remaining groundwater. The Eastern New Mexico Rural Water Supply Project is a clear recognition that our groundwater resources are finite in our area. In the nearer term, several communities are

purchasing additional groundwater resources to extend their supply.

Even though some areas clearly have adequate groundwater reserves to address current and future needs, others face the harsh prospect of running out of water in the next 40 to 50 years. That is why conservation, improved agricultural technologies, and more reclamation and reuse becomes incredibly important.

Good data is essential to our understanding of the characteristics of the aquifer. This information becomes even more useful when it can be used to enhance recharge and further extend aquifer life.

While some have been critical of irrigated agriculture in our area for being the primary user of groundwater, I am very quick to point out the outstanding conservation efforts made by agriculture, which has improved the efficiency for irrigation from roughly 35 percent efficiency for row irrigation up to 90-plus percent efficiency for today's cutting-edge low energy precision application systems, which use drop lines, drag lines, water socks, and other conservation techniques.

But for municipalities, declining water tables mean a continued diminishment of well yields, necessitating more wells pumping more of the time.

We appreciate the excellent contribution that the USGS has made over the past 10 or 15 years in understanding the scope and limitations of the High Plains Aquifer. But now annual measurements of local wells would be considerably more helpful to State and local policy officials than the current program in New Mexico which measures large numbers of wells only every 5 years.

Despite continued friction between States in some localized areas over groundwater issues, there is a growing awareness among water users in New Mexico that it will take the very best efforts of our governments, our institutions, and the people themselves to work together to make the very most of our the limited groundwater remaining for the future.

I hope the Committee recognizes the importance of these Western water problems, compounded by wildfires and the drought, make water issues a national concern, and we appreciate your willingness to support the State geological surveys and the valuable contributions that they have made to help us better understand this important problem.

Recognizing my time is limited, I would like to make sure the support letters from our local mayors and county commissioners are submitted for the record and our State engineer's office letter mentioned by Senator Bingaman earlier.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Tillman follows:]

Statement of Leland D. Tillman, Executive Director, Eastern Plains Council of Governments, on S. 212

Mr. Chairman and members of the Committee, thank you for the opportunity to testify on S. 212. My name is Leland D. Tillman. I'm from Clovis, New Mexico. I am the Executive Director of the Eastern Plains Council of Governments, which is a voluntary association of local governments which serves 22 incorporated communities in seven counties of northeastern New Mexico.

Every community in our area depends exclusively on groundwater for their municipal and industrial water supply. About three- fourths of the population have the High Plains Aquifer as their primary source of drinking water.

Even though New Mexico has only a minor percentage (about 1/2 percent) of both land area and volumes of water remaining in the aquifer, our water problems should be of particular importance since our area will be a precursor to what will likely occur in other areas. This issue has become our primary resource management issue and a top economic development issue as we continue to improve our conservation efforts and move towards a less water intensive economy.

Agriculture in Curry, Roosevelt, Quay and Union Counties was a $683 million enterprise in 2001, with $578,865,000 in commodity sales and an additional $104,566,000 attributable to livestock receipts.

As state and regional water planning becomes increasingly important in New Mexico and other western states, State and local policy officials clamor for better hydrologic data and better projections and estimates on the remaining supply.

Under water laws in New Mexico, communities are required to plan for adequate water supplies to meet estimated demand during a 40 year planning horizon. In the life of communities, 40 years is considered near term since we have communities in New Mexico that have had more than 400 years of continuous existence.

Several of our communities, which are dependent on this aquifer, are working together to develop a dependable surface supply to augment the remaining groundwater supply. The Eastern New Mexico Rural Water Supply Project is a clear recognition that our groundwater resource is finite in our area. In the nearer term, several communities are purchasing additional groundwater resources to extend their supply.

Even though some areas clearly have adequate groundwater reserves to address current and future needs, others face the harsh prospect of running out of water over the next 40-50 years. That's why conservation, improved agricultural technologies, and more reclamation and reuse becomes incredibly important.

Good data is essential to our understanding of the characteristics of the aquifer. This information becomes even more useful when it can be used to enhance recharge and further extend aquifer life.

While some have been critical of irrigated agriculture for being the primary user of groundwater in our area, I'm very quick to point out the outstanding conservation efforts in agriculture which has improved the irrigation efficiency from the 35% for row irrigation on up to 90-plus percent efficient with today's cutting edge LEPA (low energy precision application) systems with drop lines, drag lines, and water socks.

For municipalities, declining water tables mean a continued diminishment of well yields necessitating more wells pumping more of the time.

We appreciate the excellent contribution the USGS has made over the past 10-15 years in understanding the scope and limitations of the High Plains Aquifer. But now, annual measurements of local wells would be considerably more helpful to State and local policy officials than the current program which measures large numbers of wells every five years.

Despite continued friction between states in some localized areas over groundwater issues, there is a growing awareness among water users in New Mexico that it will take the very best efforts of our governments, our institutions and agencies, and of the people themselves, to work together to make the very most of the limited groundwater available to us for the future.

I hope you will recognize that Western water problems, compounded by wildfires and droughts, make water issues a national concern, and we appreciate your willingness to support our state geological surveys and the valuable contribution the USGS can make to help us better understand our problem, and, more importantly, to better understand our opportunities to work together for mutual benefit and improve aquifer health throughout this important geographic region.

Our Constitution provides a fairly straightforward framework for surface and groundwater administration by deferring to states on groundwater issues, but requiring interstate compacts among states for surface water.

State compacts were negotiated, approved by the individual legislatures, signed by each governor and then approved by Congress and signed by the President. No such mechanism exists for cooperative efforts among, and between, states on groundwater issues. Having had the opportunity to work with stat-level geologists and hydrologists in Oklahoma and Texas and the local people in our soil and water conservation districts and the underground water districts in Texas, I believe local farmers, business people and local governments (especially in border areas} understand that a cooperative effort is needed among local communities and among and between our states.

This legislation is a very practical demonstration on how the federal government can assist the states with their individual efforts utilizing the best science and technology available through the USGS in the Department of Interior. Work resulting

from the legislation will contribute to a better understanding of this vast and complicated aquifer which is so important to our entire country.

I know my time is limited and I would like to make sure these letters from some of our area Mayors and County Commissioners are included in the record. I will also be happy to respond to any questions at the appropriate time.

Mr. NEUGEBAUER. Thank you.

The Chair now recognizes Mr. Arthur.

STATEMENT OF LLOYD ARTHUR, AMERICAN FARM BUREAU FEDERATION AND THE TEXAS FARM BUREAU, RALLS, TEXAS

Mr. ARTHUR. Mr. Chairman and members of the Water and Power Subcommittee, my name is Lloyd Arthur. I am a cotton farmer from Ralls, Texas, and operate 3,781 acres of farmland in that area. I irrigate my cotton and grain sorghum from the High Plains Aquifer, and the aquifer is essential to my livelihood. I also currently serve as the Vice President of the Texas Farm Bureau. I testify before you on behalf of the American Farm Bureau Federation (AFBF) and the Texas Farm Bureau in opposition to Senate bill 212.

The High Plains Aquifer is an open aquifer system containing some 3.3 billion acre-feet of water. The average water table thickness is 300 feet. The overlying land is some of the most fertile and productive agricultural land in the United States. Farmers and ranchers like myself have utilized water resources through irrigation to produce an abundance of crops and products that beneficially add to the local and State economies and help feed America and the world. While agriculture is often pointed to as the reason for declining water tables in the High Plains Aquifer, the fact is that developing irrigation technology continues to make American agriculture the most efficient groundwater user in the world.

Residents of the Texas Panhandle are aware of the importance of the High Plains Aquifer on our local economy and on the economy of the State of Texas. Thirty-five percent of Texas' agribusiness is generated in the 41 counties that overlay the aquifer from Lubbock to Amarillo. The High Plains area produces 50 percent of the State's cotton crop. Approximately 30 percent of the income from the Panhandle is dependent on its regional agricultural industry. The same can be said for all of the States that overlay the High Plains Aquifer.

Overall, the citizens of Texas, and particularly farmers and ranchers, have done a tremendous job of finding and using ways to conserve the water of the High Plains Aquifer. Ten years ago, my farming operation was 100 percent conventional furrow irrigation, which is about 60 percent water efficient. Over time, I have modified my operation to the use of nine center pivot irrigation systems. These pivot systems, using the low energy precision application technologies, are estimated to be about 95 percent efficient. Currently, I am considering a conversion to the new subsurface drip irrigation system that is 97 percent efficient. Because of these conservation methods, I have reduced the amount of acres I have irrigated from the aquifer by 18 percent over the last 10 years. In reducing the acres irrigated, I have reduced the usage of water to those acres and have not had any negative effect or loss of crop production.

Many of these advances in water conservation were made possible because of State research and local control over groundwater issues. When this work is done at the local level, it has the support and cooperation of constituents and maintains the trust and confidence of the local citizenry. This level of local cooperation could be lost if the Federal Government were to assume the much greater role in groundwater resources management that S. 212 suggests.

S. 212 contains numerous provisions that move the management of groundwater toward Federal jurisdiction. The legislation would require the Secretary of Interior through the U.S. Geological Survey to oversee work to characterize, map, model, and monitor the High Plains Aquifer. AFBF and the Texas Farm Bureau oppose the Federal component and specifically the establishment of a Federal Review Panel and any requirement of the Secretary of Interior to report to Congress on the High Plains Aquifer.

Each of the eight States that overlie the High Plains Aquifer has for decades actively mapped, monitored, and managed those portions of the aquifer that occur within their respective borders. The collected data continues to be used by agencies to manage the aquifer on a watershed or other sub-regional basis. The data indicates that water levels of the High Plains Aquifer can vary significantly within a single watershed. If management strategies must be made to address localized water levels, those strategies can better be developed and implemented by State agencies or local governing bodies. This is a clear example as to why the Federal Government should not have jurisdiction over groundwater management, including oversight of mapping, modeling, or monitoring of the High Plains Aquifer or any other aquifer.

Within the eight-State region of the High Plains Aquifer, 4,800 wells are used annually for observing water levels. One ongoing comprehensive study by various State institutions, including Texas A&M University, is being conducted on the aquifer to further assist State agencies in their management of the aquifer. While this study effort uses Federal funding, it is not a top-down, federally driven groundwater management program. S. 212 would duplicate this research and ongoing State programs and would also give the Federal Government some authority over an area that has historically been under the jurisdiction of States.

I thank you for the opportunity to testify before you today on behalf of the AFBF and the Texas Farm Bureau regarding our opposition to S. 212. I would be happy to answer any questions that you may have now, Mr. Chairman.

[The prepared statement of Mr. Arthur follows:]

Statement of Lloyd Arthur, Vice President, Texas Farm Bureau, Representative, The American Farm Bureau Federation, on S. 212

Mr. Chairman and Members of the Water and Power Subcommittee, my name is Lloyd Arthur. I am a cotton farmer from Ralls, Texas, and operate 3,781 acres of farmland in that area. I irrigate my cotton and grain sorghum from the High Plains Aquifer, and the aquifer is essential to my livelihood. I also currently serve as the Vice President of the Texas Farm Bureau. I testify before you on behalf of the American Farm Bureau Federation and the Texas Farm Bureau in opposition to S. 212 and the direct and indirect impacts of such legislation.

The High Plains Aquifer is an open aquifer system containing some 3.3 billion acre-feet of water. The average water table thickness is 300 feet. The overlying land

is some of the most fertile and productive agricultural land in the United States. Farmers and ranchers, like myself, have utilized water resources through irrigation to produce an abundance of crops and products that beneficially add to local and state economies and help feed America and the world. While agriculture is often pointed to as the reason for water table declines in some areas of the High Plains Aquifer, the fact is that developing irrigation technology continues to make American agriculture the most efficient groundwater user in the world.

All of us in the Texas panhandle are aware of the importance of the High Plains Aquifer on our local economy and on the economy of the State of Texas. Thirty-five percent of Texas' agribusiness is generated in the forty-one counties that overlay the aquifer from Lubbock to Amarillo. The panhandle area produces 50 percent of the state's cotton crop. This area's agricultural economic impact is critical to the State of Texas. The same can be said for agriculture's economic impact in all of the states that overlie the High Plains Aquifer.

Overall, the citizens of Texas have done a tremendous job of finding and using ways to conserve the water of the High Plains Aquifer. Ten years ago my farming operation was one hundred percent conventional furrow irrigation, which is about 60 percent water efficient. Over time, I have modified my operation from no Center Pivot Irrigation systems to nine. These pivot systems, using the Low Energy Precision Application (LEPA) technology, are estimated to be about ninety five percent efficient. Due to these conservation methods, I have reduced the amount of acres I irrigate from the aquifer by eighteen percent over the past ten years. In reducing the acres irrigated, I have reduced the usage of water to those acres and have not had loss of crop production.

Many of these advances in water conservation were made possible because of state research and local control over groundwater issues. When this work is done at the local level, it has the support and cooperation of constituents and maintains the trust and confidence of the local citizenry. This level of local cooperation could be lost if the federal government were to assume the much greater role in groundwater resources management that S. 212 suggests.

S. 212 contains numerous provisions that move the management of groundwater toward federal jurisdiction. This legislation would require the Secretary of Interior through the U.S. Geological Survey (USGS) to oversee work to characterize, map, model and monitor the High Plains Aquifer. AFBF and the Texas Farm Bureau oppose the federal component and, specifically, the establishment of a Federal Review Panel and any requirement of the Secretary of Interior to report to Congress on the High Plains Aquifer.

Each of the eight states that overlie the High Plains Aquifer has for decades, actively mapped, monitored and managed those portions of the aquifer that occur within their respective borders. The collected data continues to be used by state agencies to manage the aquifer on a watershed or other subregional basis. The data indicates that water levels of the High Plains Aquifer can vary significantly even within a single watershed. If management strategies must be made to address localized water levels, those strategies can better be developed and implemented by state agencies or local governing bodies. This is a clear example as to why the federal government should not have jurisdiction over groundwater management, including oversight of mapping, modeling or monitoring of the High Plains aquifer.

Within the eight-state region of the High Plains Aquifer 4,800 wells are used annually for observing water levels. One ongoing comprehensive study by various state institutions, including Texas A&M University, is being conducted on the aquifer to further assist state agencies in their management of the aquifer. While this study effort uses federal funding, it is not a top down, federally driven groundwater management program. S. 212 has been estimated by the Congressional Budget Office to cost as much as $90 million; additional money that will need to be appropriated in order for the Federal government to duplicate the work of ongoing state research regarding the High Plains Aquifer. That money could be much better spent directly by states to further ongoing water conservation programs.

I thank you for the opportunity to testify before you today on behalf of AFBF and the Texas Farm Bureau regarding our opposition to S. 212. I would be happy to answer any questions that you may have.

Mr. NEUGEBAUER. Thank you.

The Chair now recognizes Dr. Allison.

STATEMENT OF M. LEE ALLISON, PH.D., DIRECTOR AND STATE GEOLOGIST, KANSAS GEOLOGICAL SURVEY

Dr. ALLISON. Thank you. Mr. Chairman and members of the Subcommittee, my name is Lee Allison, and I am the State Geologist of Kansas and Director of the Kansas Geological Survey and the organizer of the High Plains Aquifer Coalition. Thanks for the opportunity to testify on behalf of the High Plains Aquifer Coalition in support of Senate bill 212. The High Plains Aquifer Coalition is a joint effort between the geological surveys of the eight High Plains Aquifer States and the U.S. Geological Survey. The coalition objective is to extend the life of the High Plains Aquifer through improved geological characterization and understanding at the State and local level. We appreciate the Committee holding a hearing on this important issue.

The High Plains Aquifer is the most intensely pumped aquifer in the United States, yielding about 30 percent of the Nation's groundwater used for irrigation. The region accounts for about 19 percent of total U.S. production of wheat and of cotton, 15 percent of our corn, and 3 percent of our sorghum. In addition, the region produces nearly 18 percent of U.S. beef. These numbers alone should elevate concern about the usable life of the aquifer from a regional to a national level.

When it comes to water, people in the High Plains have trouble agreeing on almost anything, yet the detailed survey of the needs of more than 40 State agencies and 130 local water agencies of the eight High Plains States showed remarkable agreement in terms of the need for detailed knowledge of the aquifer's makeup, research on groundwater recharge, improved knowledge of the interaction of groundwater and surface water, better understanding of the impact of climate change, more information on how the geology of the aquifer affects water quality, the ability to effectively and efficiently exchange information, and the development of new techniques for understanding the aquifer.

Mr. Chairman, earlier today, we were asked if these could be done in an inventory—if these could be an inventory of research currently underway. I am pleased to report that the High Plains Aquifer Coalition has compiled such a survey of State and local agency prospects and projects and those being done by the USGS, and that is attached with my written testimony submitted to the Committee.

The coalition has identified a preliminary list of other data that would be needed to enhance local decisionmaking abilities about the aquifer. These include definition of aquifer subunits, determination of recharge, estimates of total saturated thickness and how it varies across the aquifer, estimates of depth ranges to the base of the aquifer, assessment of uncertainties in the yield of the aquifer, including saturated thickness, water level measurements, and depth to bedrock in different areas, and delineation of critical recharge areas.

S. 212 is a grassroots effort by scientists at the State level to provide the data and information needed by farmers, bankers, cities and towns, businesses, water districts, and State legislators, among others, to make informed decisions about the future of this threatened resource. This bill grew out of 2 years of discussion,

collaboration, and consensus building among all segments of the water community. We in the States who are struggling to extend and preserve the life of the High Plains Aquifer know that ignorance is dangerous. State and local water users and managers are increasingly demanding the types and quality of data needed to develop useful and reasonable water management programs. Current resources for water agencies are insufficient to meet these increasing needs.

This bill empowers the States in their efforts to protect a declining resource and extend the life of the High Plains Aquifer. Scientific analyses and data collection would be improved. This bill provides a mechanism for States to develop or enhance their own capabilities in hydrogeology. Without this assistance, States are less able to control their destinies. They are less able to evaluate data analyses and interpretations produced by others. This bill puts the States on a more equal footing with the Federal Government.

Nothing in this bill changes the way the aquifer is managed. Nothing in this bill duplicates current efforts. The role of the USGS would be one of support in response to State requests and as a source of highly specialized technical expertise that individual State and local jurisdictions cannot afford.

Can this work be done without legislation? Yes. But it has not been done. This bill sets support for State efforts as a higher priority for the USGS. It authorizes resources requested by State and local water agencies to help achieve their goals.

In conclusion, the High Plains Aquifer Hydrogeologic Characterization, Mapping, Modeling, and Monitoring Act is an important step in a comprehensive program to extend the life of the aquifer. We are adamant about the primacy of the States in the managing and controlling of our water.

In times of reduced State funding, this bill will help States and local stakeholders develop their own data and interpretations without having to rely on Federal agencies. We urge this Committee to support Senate bill 212.

This concludes my testimony, Mr. Chairman, and I would be pleased to answer any questions that you or the other Committee members have.

[The prepared statement of Dr. Allison follows:]

Statement of M. Lee Allison, Ph.D., State Geologist and Director, Kansas Geological Survey, University of Kansas, on S. 212

Mr. Chairman and Members of the Committee, thank you for the opportunity to speak to you today. I am submitting this testimony on behalf of the High Plains Aquifer Coalition in support of Senate Bill 212—The High Plains Aquifer Hydrogeologic Characterization, Mapping, Modeling and Monitoring Act. The Coalition is a joint effort between the geological surveys of the eight High Plains Aquifer states and the U.S. Geological Survey. The Coalition objective is to improve the geological characterization and understanding of the High Plains aquifer at the state and local level. We appreciate the Committee holding a hearing on this important issue.

Introduction: A reliable source of water is essential to the well-being and livelihoods of people in the High Plains region where ground water is used for drinking water, ranching, farming, and other purposes. Many areas of the High Plains aquifer have experienced a dramatic depletion of this resource. Large-volume pumping from this aquifer has led to steadily declining water levels in the region, and

the area faces critical water-related issues. No other major source of water is available for the region.

Let me begin with some facts about the aquifer. The High Plains aquifer is the most widespread blanket sand and gravel aquifer in the nation. It encompasses one of the major agricultural regions in the world and underlies 174,000 square miles, including parts of eight states—New Mexico, Texas, Oklahoma, Kansas, Colorado, Nebraska, Wyoming, and South Dakota (Figure 1).

Approximately 2.3 million people live within the High Plains, and the aquifer supplies drinking water for 82 percent of them. Agriculture, however, represents both the dominant land and water use in the region (94 percent of ground water withdrawals from the aquifer are for irrigation). The High Plains aquifer is the most intensely pumped aquifer in the United States, yielding about 30 percent of the nation's groundwater used for irrigation. During 1995, total water use in the High Plains was estimated to be 19.9 billion gallons per day and, with the exception of the Platte River valley of Nebraska, 92 percent of that need was met by aquifer water. It is estimated that 5 trillion gallons of water are pumped from the aquifer each year, which, for comparison, is 10 times the average annual water use for New York City.

Although High Plains dry-land farming is possible, availability of "water on demand" from the aquifer has made abundant, reliable crop yields a reality. As a result, the region accounts for about 19 percent of total U.S. production of wheat and of cotton, 15 percent of our corn, and 3 percent of our sorghum. In addition, the region produces nearly 18 percent of U.S. beef and is rapidly becoming a center for hog and dairy industries. Those numbers alone should elevate concern about the sustainability of the aquifer from a regional to a national level.

Aquifer characterization: Aquifers are underground deposits containing porous rock or sediments (silts, sands, and gravels) from which water can be pumped in usable quantities. Although the High Plains aquifer often is discussed as a single entity, it is a regional system composed of eight smaller units that are geologically similar and hydrologically connected—that is, water can move from one aquifer to the other. The aquifer consists of a highly variable mixture of loose clays, silts, sands, and gravels that formed over millions of years by ancient river systems. These ancient rivers meandered across the landscape, so that, over time, the stacks of sediments that were deposited differ greatly from one area to the next, often over the distance of a few miles or less. The Ogallala Formation is the principal geologic unit, but the aquifer, as a whole, also includes deposits that are older and younger than the Ogallala.

Aquifer characteristics are determined in large part by geology. The aquifer varies greatly from place to place: thick in some places, thin in others; permeable (able to transmit water easily) in some places, less so in others. Where the deposits are thick and permeable, water is easily removed and the aquifer can support large volumes of pumping for long periods. In most areas, this water is of good quality.

Beneath the High Plains aquifer is much older, consolidated bedrock, usually limestone, sandstone, or shale. In some places this bedrock holds enough water to be called an aquifer, and it may be connected to the overlying aquifer. Some layers of the underlying bedrock contain saline water; where these are directly connected to the High Plains aquifer, they pose a threat to water quality.

Water Resources in the High Plains Aquifer: Usable water in the High Plains aquifer is in the pore spaces between particles of sand and gravel. This water (called groundwater) accumulated slowly—in some of the deeper parts of the aquifer, over tens of thousands of years. In the subsurface, water in the aquifer generally moves laterally slowly from west to east, usually at the rate of tens of feet per year. One measure of ground water is saturated thickness. The saturated thickness of the High Plains aquifer is the vertical distance between the water table and the base of the aquifer. Saturated thickness is commonly measured in feet, but "feet of saturated thickness" is not the same as feet of actual water. Only about 10 to 25 percent of the aquifer volume is pore space that can yield extractable water. Therefore, in an aquifer with 17 percent pore space, removing 1 acre-foot of water causes the water table to drop by about 6 feet. The saturated thickness of the aquifer can exceed 1,000 feet, but averages about 200 feet. Much greater saturated thicknesses were common before the onset of large-scale irrigation.

Groundwater also can be measured in terms of its availability: How much water can be removed by a well over short periods. Large volumes of water can be pumped rapidly (1,000 gallons or more per minute) from the High Plains aquifer in many locations. This contrasts with many areas in the region, where wells generally produce smaller amounts (less than 100 gallons per minute). By way of comparison, a good household well produces 5 to 10 gallons per minute, although many household wells produce less.

Recharge is the natural movement of water into an aquifer, usually from precipitation. Areas of increased recharge to the aquifer can be the result of one or more of the following factors: greater than normal precipitation; decreased withdrawals; or downward leakage of surface-water irrigation and water from unlined canals and reservoirs. The relatively low rainfall of the region limits aquifer-recharge rates and thus provides a long-term limit on sustainable water use. The estimated average annual potential recharge from rainfall is as little as 1/4 of an inch per year in the southwestern portion of the aquifer area. Where the aquifer is closer to the earth's surface, where soils are sandier, and precipitation amounts greater, recharge can be significant, as much as 4 to 6 inches per year.

Water in the High Plains aquifer generally flows eastward and discharges naturally to streams and springs. Water also may be lost from the aquifer by evapotranspiration or through leakage into underlying rock units. However, pumping from the numerous irrigation wells is the primary cause of ground water withdrawal. Decreases in saturated thickness of 10 percent or more result in a decrease in well yields and an increase in pumping costs because the pumps must lift the water from greater depths (Figures 3 and 4).

Water-level Declines in the Aquifer: Large-scale irrigation began in the High Plains in the late 1800's, with the use of ditches to divert water from rivers. As technology improved, ground water became the major irrigation source because surface water (lakes, rivers, and streams) is relatively scarce in the region. With the advent of large-capacity pumps that were capable of drawing several hundred gallons of water per minute, people began to exploit that groundwater. In the 1950's and 1960's, technological developments led to a dramatic increase in large-scale pumping. In particular, center-pivot irrigation systems—large sprinklers that roll across the land on wheels—allowed people to irrigate uneven terrain, thus opening up large new areas for irrigation. These irrigation methods led to the cultivation of crops, such as corn, that could not previously be grown reliably in the area.

For many years, people believed that the High Plains aquifer contained an inexhaustible amount of water. However, large-volume pumping (mostly for irrigation) eventually led to substantial declines in the water table, and people realized that the amount of water in the aquifer was finite and could be exhausted. Much of the Ogallala portion of the High Plains aquifer has declined since predevelopment, with some areas having declines of more than 60 percent.

Withdrawals greatly exceeded recharge in many areas since intensive irrigation began in the 1940's. This has resulted in widespread water-level declines, especially in southern areas—more than 100 feet in parts of Kansas, New Mexico, Oklahoma, and Texas. In some places, irrigation has become impossible or cost prohibitive because of such declines. From 1980 to 1997, the average water level in the aquifer fell 2.7 feet (Figure 2). Depth to water table ranges from 0 to 500 feet, with an average of about 100 feet.

When Will the Aquifer Run Dry? Perhaps the most common and important question about the High Plains aquifer is: How much longer can it support large-scale pumping? It's a simple question with a complicated answer. First, the aquifer will probably be able to support small, domestic wells far into the future. With proper planning, most cities and towns should be able to provide for their water needs. Second, the future of agricultural use of the aquifer depends on a variety of factors, including the price of irrigated crops, the price and availability of energy (the deeper the water table, the more energy it takes to pump water), climate, and how the water is managed. Third, it is important to note that the aquifer is not one consistent, homogeneous unit. Rather, it varies considerably from place to place. In places, the aquifer consists of less than 50 feet of saturated thickness and receives little recharge. In other places, the aquifer is far thicker or receives considerably more recharge. The geology of the aquifers is highly variable and poorly characterized. I mentioned that the aquifer sediments in some areas are gravels and coarse sands deposited within ancient river channels. However, outside of these channels the aquifer sediments can be composed of muddy and silty overbank deposits, with significantly less capacity to store and transport water.

Over the past few decades, petroleum companies have spent billions of dollars to characterize the geology of oil and gas fields. New technologies have been developed and new concepts of reservoir characterization have evolved. As a result, the life of our oil and gas fields is being dramatically increased. In ground-water geology we are applying similar approaches and analyses, but we have not had the resources to make full use of technology advances, especially at the state and local levels.

With those qualifications in mind, researchers have made projections about the aquifer, based on past trends in water-level declines. Obviously, the actual future use of water will be affected by commodity prices, energy prices, climate, and management policies. In addition, relatively little data are available for some parts of

the aquifer, and projections are not practical in those areas. Assuming a saturated thickness of 30 feet as the minimum amount necessary to support large-scale pumping, researchers concluded that parts of the aquifer are effectively already exhausted. Other parts of the aquifer are predicted to have a lifespan /of less than 25 years, based on past decline trends. However, the biggest share of the aquifer would not be depleted for 50 to 200 years or longer. It is important to remember that these projections are based on past trends, and future changes could alter the actual depletion rate.

A saturated thickness of 30 feet has been accepted as the minimum needed to sustain high-yield pumping. However, in recent years, we have recognized rapid drawdowns of 70 feet or more in some areas. These areas may run out of sufficient water for irrigation much sooner than expected. We need to geologically characterize these areas to determine what factors are causing these dramatic drawdowns, their extent, and possible solutions to the problem.

Where Do We Go From Here? Individuals, governmental agencies, and private organizations are all attempting to address issues related to the High Plains aquifer. In addition, several new institutions have recently been proposed to deal with issues concerning the aquifer on a regional basis. Irrigators have implemented a number of techniques that have improved the efficiency with which they use water—using low-pressure application methods on center-pivot systems, for example, instead of spraying water high into the air.

Local water districts are making critical decisions about the future of the aquifer using limited data often gathered at considerable distances that may not be applicable to their situations. More detailed knowledge of the geological framework of the aquifer will allow local water agencies to make decisions using the data and analyses that are most relevant and applicable to their situations.

High Plains Aquifer Coalition: Each state manages its water resources differently. The number of state and local water agencies and their duties vary dramatically among the eight High Plains states. None of the eight state geological surveys deals directly with ground-water management. State geological surveys provide scientific advice to their respective state and local management agencies. Some state surveys focus strictly on the geologic framework in which ground water exists; others investigate both the geology and the hydrology of groundwater.

Because the structure for conducting hydrogeologic research on the aquifer differs dramatically among states, both the existing knowledge base and ongoing aquifer research efforts vary substantially from state to state. Much of past research was limited by state expertise, budget allocations, and cooperation among state agencies. To share the results among state research efforts and to efficiently utilize existing research data, in June 2000, the geological surveys of the eight states that contain the High Plains aquifer formed the High Plains Aquifer Coalition, in alliance with the U.S. Geological Survey. Coalition members are Kansas Geological Survey, New Mexico Bureau of Geology and Mineral Resources, Nebraska Conservation and Survey Division, Texas Bureau of Economic Geology, Colorado Geological Survey, Oklahoma Geological Survey, South Dakota Geological Survey, Wyoming State Geological Survey, and U.S. Geological Survey.

The purpose of the Coalition is to cooperate in joint investigations and scientific exchanges concerning the earth sciences (including hydrology, geology, geochemistry, geochronology, geophysics, geotechnical and geological engineering, and related investigations) on topics of mutual interest. This agreement was specifically undertaken to advance the understanding of the three-dimensional distribution, character, and nature of the sedimentary deposits that make up the High Plains aquifer in the eight-state, Mid-continent region. It recognizes that the distribution, withdrawal, and recharge of groundwater, and the interaction with surface waters, are profoundly affected by the geology and the natural environment of the High Plains aquifer in all eight states—New Mexico, Texas, Oklahoma, Colorado, Kansas, Nebraska, South Dakota, and Wyoming—thereby establishing a commonality of interests among the Surveys and citizens of these states.

The geological surveys agreed that reaching a fuller understanding of the three-dimensional framework and hydrogeology of the High Plains aquifer is necessary to provide local and state policymakers with the earth-science information required to make wise decisions regarding urban and agricultural land use, the protection of aquifers and surface waters, and the environmental well-being of the citizens of this geologically unique region.

Research Needs:

When it comes to water, people on the High Plains have trouble agreeing on almost anything. Each state manages its water in different ways, and each state collects information about the High Plains aquifer in different ways. The Ogallala

Aquifer Institute (OAI) surveyed dozens of state and local water agencies in all eight High Plains states about their research and data needs. The agency offices contacted represented more than 130 local water districts and an uncounted number of water systems. A copy of the OAI findings is attached with our written statement to the Committee. Yet the detailed survey of the needs of water agencies of the eight High Plains states showed remarkable agreement in terms of the need for:

- detailed knowledge of the aquifer's make-up;
- research on recharge, or the movement of water back into the aquifer;
- improved knowledge of interaction of ground water and surface water;
- better understanding of the impact of climate change;
- more information about the aquifer's water quality;
- the ability to efficiently exchange information; and
- the development of new techniques for understanding the aquifer.

Through past research, we have learned that the aquifer consists of many subregions or smaller units. Past research also helped identify the need to focus future efforts on geological and hydrological characterization, mapping, modeling, and monitoring of aquifer subunits. The eight state geological surveys and the U.S. Geological Survey, in consultation with state and local water agencies and groups, have agreed on the need for comprehensive understanding of the subsurface configuration and hydrogeology of the High Plains aquifer. Improved knowledge in these areas will refine our understanding of the aquifer and provide better tools and strategies for long-term aquifer management.

In addition to a possible increase in the density of data, the Coalition has identified a preliminary list of other data that would be needed to enhance local decision-making abilities about the aquifer. These include:

- Determination of the approach to define aquifer subunits, such as hydrologic boundaries, ground-water divides, hydrological characteristics, aquifer extent, major differences in recharge, or saturated thickness, in conjunction with administrative boundaries;
- Determination of recharge, stream outflow, and ground-water inflow and outflow to give estimates of net sustainable quantities of water to be pumped from areas of different saturated thickness in the High Plains aquifer;
- Estimates of total saturated thickness and how it varies across the aquifer that will be needed for continued pumping;
- Estimates of depth ranges from ground surface to the base of the aquifer;
- Assessment of uncertainties for estimating sustainable yield of the aquifer, including practical saturated thickness, water-level measures, and depth to bedrock in different areas;
- Determination of methods to reduce the largest uncertainties in calculating the aquifer volume; and
- Delineation of critical recharge areas.

Why the Bill is Important to the Region and the Nation: Extending the life of the High Plains aquifer is essential to the economic viability of the region. No realistic alternative water sources exist to supply this region of the country. Accurate data about aquifer variability and subunit characteristics will allow us to properly determine current water levels, where and at what rates aquifer water moves, and the variables that impact water recharge rates in aquifer subunits. Knowledge of these factors will allow us to better predict water levels and ultimately will lead to development of improved approaches for enhancing and extending the life of the aquifer and other factors useful for economic and management purposes.

The High Plains Aquifer Hydrogeologic Characterization, Mapping, Modeling and Monitoring Act is a grassroots effort by scientists at the state level to provide the data and research needed by state and local agencies and by water users to make informed decisions about the future of this threatened resource. This bill grew out of two years of discussion, collaboration, and consensus building among all segments of the water community.

Federal funds under this bill will expand existing capabilities and enhance the effects of ongoing state and local funding. Complementary activities will allow us to build critical data bases and understanding of the aquifer. The bill enlists expertise from the U.S. Geological Survey not available at the state level and fosters better coordination with other groups within states and across state boundaries. State and local water users, managers, and regulators are increasingly demanding the types and quality of data needed to develop useful and reasonable water-management programs. For example, in Kansas, local Groundwater Management Districts are requesting subunit characterization of the aquifer that requires a more sophisticated and regional understanding of the nature of the aquifer. Current resources for state and federal water agencies are insufficient to meet these increasing needs.

This bill empowers the states in their efforts to protect a declining resource and extend the life of the High Plains aquifer. Scientific analyses and data collection would be improved. This bill provides a mechanism for states to develop or enhance their own capabilities in hydrogeology. Without this assistance, states are less able to control their destinies; they are less able to evaluate data, analyses, and interpretations produced by others. This bill puts the states on a more equal footing with the federal government.

New studies would either build on important, but often small and intermittent, efforts underway in the states, or would fill gaps and needs that are not being addressed at all. Nothing in this bill changes the ways the aquifer is managed. Nothing in this bill duplicates current efforts. This bill provides resources requested by state and local water agencies and establishes the High Plains aquifer as a priority area of study. The U.S. Geological Survey has undertaken aquifer studies for most of its 115-year history. Early water studies on the High Plains by the U.S.G.S. go back to 1905. The role of the U.S.G.S. is being better defined through the High Plains Aquifer Coalition as one of support in response to state requests and as a source of highly specialized technical expertise that individual state and local jurisdictions cannot afford. In their testimony to the Senate regarding this bill last March, the U.S.G.S. stated that the, "goals of this bill can be achieved without legislation through better coordination of existing Federal and State programs." While that may be possible, we have not seen that improved coordination. This bill sets those goals as higher priorities for the U.S.G.S. and authorizes resources to help achieve them.

We in the states who are struggling to extend and preserve the life of the High Plains aquifer know that ignorance is dangerous. Good information is needed by farmers, bankers, cities and towns, businesses, water districts, and state legislators, among others, to make rational and realistic decisions.

In conclusion, The High Plains Aquifer Hydrogeologic Characterization, Mapping, Modeling and Monitoring Act is an important step in a comprehensive program to extend the life of the aquifer. We are adamant about the primacy of the states in managing and controlling of our water. The Review Panel required in the bill is set up to assure state control of state activities under this bill. Each state is given the ability to assure that local stakeholders guide the investigations needed to address state and local issues. In times of reduced state funding, this bill will help states and local stakeholders develop their own data and interpretations without having to rely on federal agencies.

The bill will help ensure that the relevant science needed by state and locals agencies to address aquifer depletion is available so that we will have a better understanding of the resources of the High Plains aquifer and can ultimately lead to extending the life of the aquifer. We urge this Committee to support Senate Bill 212—The High Plains Aquifer Hydrogeologic Characterization, Mapping, Modeling and Monitoring Act.

This concludes my testimony. I would be pleased to answer any questions that the members of the Committee may have.

Acknowledgments:

Substantive parts of the above text were taken with permission from Buchanan and Buddemeier, 2001, and modified slightly for use here. Some material in this testimony was prepared with assistance from Dana Woodbury of the Ogallala Aquifer Institute, Garden City, Kansas.

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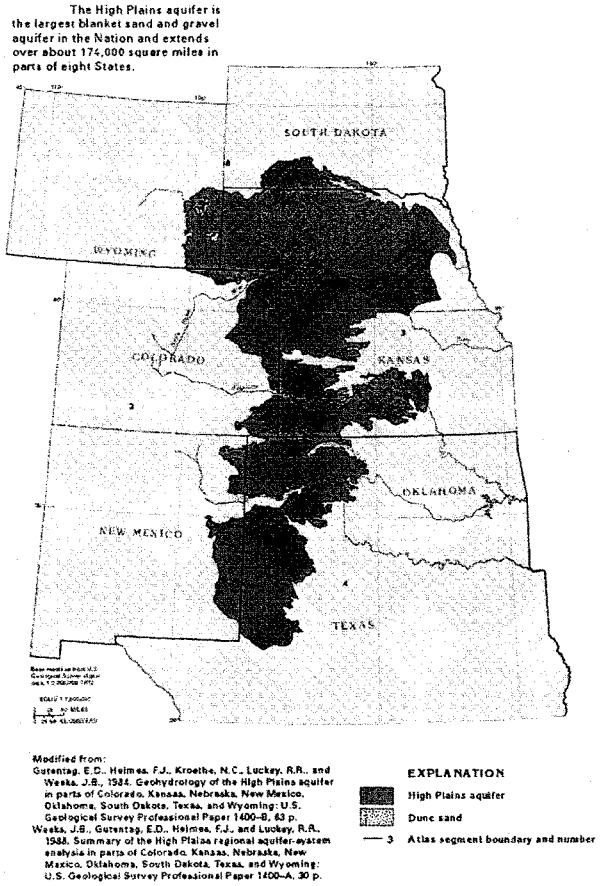


Figure 1

James Miller, 1999. USGS *Ground Water Atlas for the United States*. United States Geological Survey, Introduction and National Summary. http://capp.water.usgs.gov/gwa/index.html

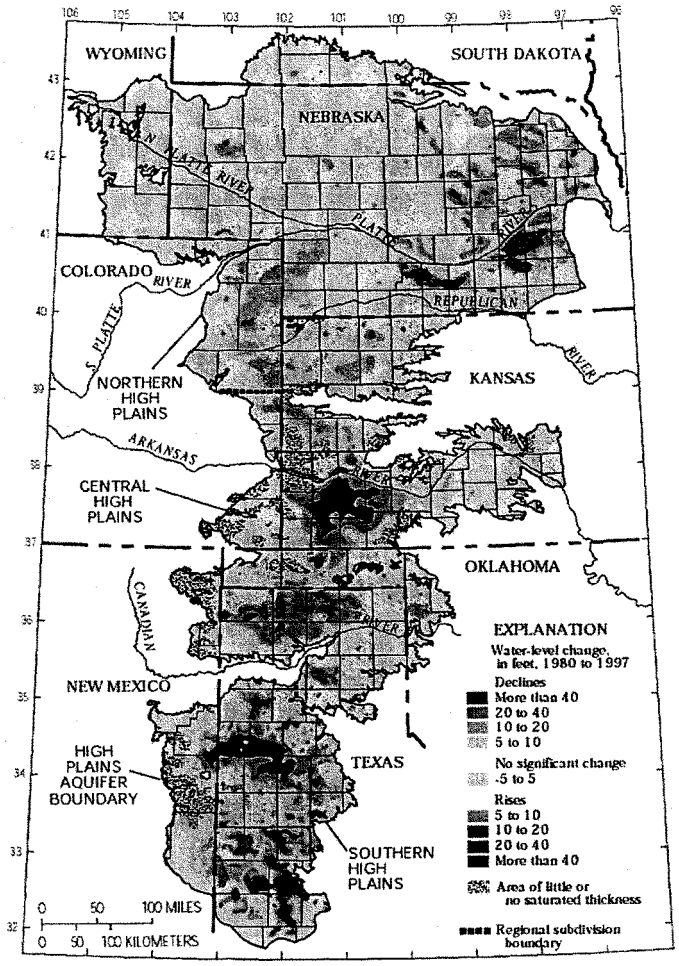


Figure 2

USGS – Water Level Changes in the High Plains Aquifer, 1980 to 1999.

V. L. McGuire, March 2001. *Water-Level Changes in the High Plains Aquifer, 1980 to 1999.* United States Geological Survey. Fact Sheet -029091.

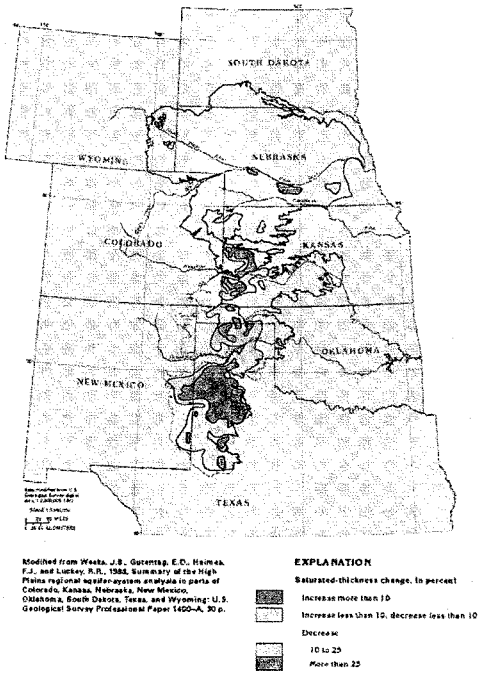
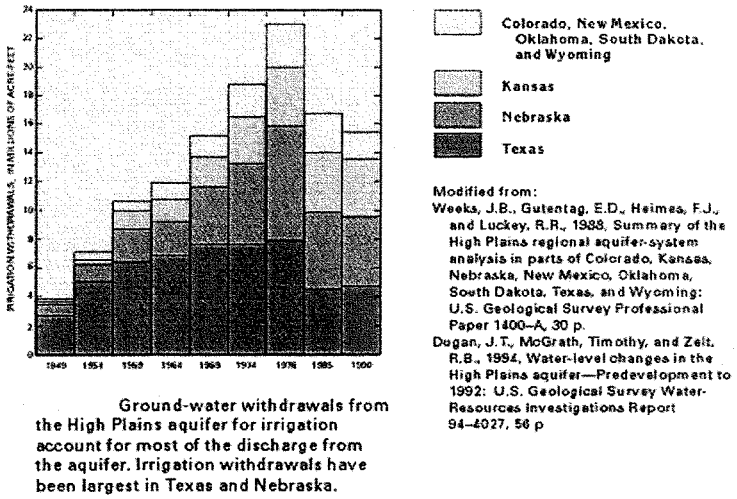


Figure 3

James Miller, 1999. *Ground Water Atlas for the United States*. United States Geological Survey, Introduction and National Summary. http://capp.water.usgs.gov/gwa/index.html



Ground-water withdrawals from the High Plains aquifer for irrigation account for most of the discharge from the aquifer. Irrigation withdrawals have been largest in Texas and Nebraska.

Figure 4

James Miller, 1999. *Ground Water Atlas for the United States*. United States Geological Survey, Introduction and National Summary. http://capp.water.usgs.gov/gwa/index.html

KANSAS GEOLOGICAL SURVEY OPEN-FILE REPORT 2003-54

RESEARCH ON THE HIGH PLAINS AQUIFER:

A REPORT FOR THE HIGH PLAINS AQUIFER COALITION

BY THE OGALLALA AQUIFER INSTITUTE

JANUARY 2003

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RESEARCH ON THE HIGH PLAINS AQUIFER: A REPORT FOR THE HIGH PLAINS AQUIFER COALITION

OGALLALA AQUIFER INSTITUTE

JANUARY 2003

Executive Summary

The High Plains aquifer underlies all or parts of eight Great Plains states. The High Plains aquifer, which includes the well-known Ogallala Aquifer, is the most important regional water source on the Great Plains, yielding about 30 percent of the nation's ground water used for irrigation. However, recent years have seen dramatic declines in water levels in parts of the aquifer—including depletion or near-depletion in some locations

In response to concerns about this resource, individuals, organizations, and agencies across the eight states have taken various voluntary and regulatory actions. Long-term management of the aquifer, however, requires scientific understanding and access to high-quality scientific information. To enhance the scientific understanding and information about the aquifer, the state geological surveys of the eight states and their federal counterpart, the U.S. Geological Survey, formed the High Plains Aquifer Coalition. The Coalition's objective is to improve the geological characterization and understanding of the High Plains aquifer, with an eye toward extending the life of this vital resource.

The High Plains aquifer varies considerably from place to place across the Great Plains—several hundred feet thick in some places, very thin in others. Similarly, each state has taken a different approach to managing water use. Additionally, each state has various levels of information about the aquifer and thus differing research programs aimed at understanding the aquifer. However, the states are increasingly recognizing the need to cooperate in managing and understanding the aquifer.

The High Plains Coalition was formed in response to this need. As part of its mission, the Coalition (working with the Ogallala Aquifer Institute) collected information about the research efforts and needs of each state. Based on extensive interviews with individuals and agency staff, the Coalition produced a comprehensive inventory of the data that are available for each state. It also collected information about the types of data that are not available and are needed. In addition, the Coalition identified research needs common to all the High Plains states. Those needs are summarized below, and, as such, help provide a general plan of research aimed at better understanding and management of the aquifer.

Aquifer subunits: The High Plains aquifer underlies more than 174,000 square miles and is highly variable from place to place. Managing a resource of this size is more effective when the aquifer is divided into smaller areas of similar characteristics, such as similar geological make-up or ability to produce water. Managing the resource by these smaller areas (referred to as aquifer subunits or well fields) requires:

- detailed knowledge of the aquifer's make-up, geology, porosity (or pore space), permeability (ability of water to move through the formation), depth to bedrock, and other characteristics; and
- detailed knowledge of the vertical and horizontal distribution of these aquifer characteristics.

Obtaining this detailed knowledge involves surface mapping, drilling, subsurface geophysical logging, correlation, and interpretation, and reexamination of existing surface and subsurface information.

Recharge: Recharge is the movement of water from the land's surface back into the aquifer, usually originating in the form of precipitation. Knowledge of recharge is crucial to managing the resource, to calculating how much water will be replenished compared to how much is pumped. Knowledge of recharge is also important for understanding the movement of contaminants, such as nitrates, back into the groundwater. Recharge is generally believed to be very low across much of the High Plains (less than an inch per year in many places), but exact amounts are difficult to determine for any single location and difficult to estimate for large areas. Recharge research would focus on:

- quantifying recharge rates, understanding recharge processes, and predicting the variability of recharge;
- measuring deep recharge and rates of recharge;
- comparing recharge under irrigated land to that under dryland farms; and
- analyzing the efficacy of artificial recharge projects and the impact of natural features, such as playas, on recharge.

Ground-water/Surface-water Interaction: Until the past few decades, it was generally assumed that there was little connection between groundwater (underground water in aquifers) and surface (streams and lakes) water. Recent research has made that connection clear: the amount and quality of water in streams affects water in neighboring (or alluvial) aquifers. Pumping from alluvial aquifers likewise has an impact on streams, with an attendant impact on wildlife, water quality, and other factors. However, this connection is not well understood. Very little is known about how these water sources influence each other, both in terms of quality and quantity. This requires detailed measurements of ground-water and surface-water interaction.

Water Quality: Much of the water in the High Plains aquifer is of extremely high quality, one reason it is such a valuable resource. However, relatively little is known about the variability of water quality across the aquifer, how quickly contaminants can move into the aquifer, the role of natural contaminants such as uranium and radon, from bedrock geologic units, as well as man-made contaminants, such as nitrates. Research is also needed on:

- the way contaminant movement is affected by the geology of the aquifer, both regionally and over time;
- the way water quality is affected by the movement of water from one geologic unit to another; and
- the impact of production agriculture or confined-livestock feeding operations on ground-water quality.

Climate change: Much of the High Plains aquifer is in a semi-arid area. Small changes in temperature and precipitation patterns may have a dramatic impact on land-use, irrigation, water in storage, and other factors. Understanding the role of climate and its impact is crucial to ground-water management here.

Information/Data: The quality of information and data varies widely in the states underlain by the aquifer. Access to consistent, high-quality data is central to making the best possible management decisions. This includes the need for establishing:

- instrumentation to provide real-time monitoring of water-level changes;
- water-quality data bases and the linking of data bases in different areas;
- electronic access to drillers' logs and electric logs (the records of wells drilled);
- better data on actual pumping rates and amount of irrigated land; and
- taking advantage of the possibilities of electronic dissemination of information.

New techniques: A variety of new scientific techniques can be developed or applied to ground-water issues on the High Plains. Geophysical measurements, such as the use of micro-gravity to measure the amount of water in storage in the aquifer, can be applied to better understand the aquifer and the amount of water it contains, to create more detailed and uniform analyses, and to do it more efficiently.

HIGH PLAINS AQUIFER COALITION

HIGH PLAINS AQUIFER STRATEGIC PLAN

JAN. 2003

Introduction

Extending the life of the High Plains aquifer is essential to the economic viability of the High Plains region because there are no realistic alternative water sources. State and local water users, managers and regulators are increasingly demanding the types and quality of data needed to develop useful and reasonable water management programs. Accurate data about aquifer variability and subunit characteristics will allow for accurate determination of current water levels, where, and at what rates, aquifer water moves, and the variables that impact water recharge rates in aquifer subunits. Knowledge of these factors will allow for more accurate predictions of future water levels and ultimately will lead to development of improved approaches for enhancing and extending the life of the aquifer and other factors useful for management purposes.

The eight High Plains aquifer states each manage their water resources in a different manner. The number of state and local water agencies and their duties vary dramatically among the eight High Plains states. Because the structure for conducting hydrogeologic research on the aquifer differs dramatically among states, both the existing knowledge base and ongoing aquifer research efforts vary substantially from state to state. Much of past research was limited by state expertise, budget allocations and cooperation among state agencies. To prevent future inconsistencies among state research efforts and to efficiently utilize existing research data, in June 2000, the geological surveys of the eight High Plains aquifer states formed the High Plains Aquifer Coalition (HPAC).

This HPAC strategic plan is intended to guide the HPAC in the most effective use of resources, research, and technical capabilities targeted at the High Plains aquifer. In addition, the plan will be a roadmap for prioritizing issues and actions. A plan that supports an integrated science approach for planning and execution will more effectively facilitate the alignment of relevant science with local and regional needs and the delivery of information to decision makers in a useful format. This plan, and the activities defined, is a means for providing greater coordination of HPAC activities. A cooperative regional strategic plan for scientific research and collaboration will lead to a more detailed understanding of what research is required and a priority for the region.

High Plains Aquifer Coalition Overview

The High Plains Aquifer Coalition is a joint effort between the geological surveys of the eight High Plains Aquifer states and the USGS. Coalition members include Kansas Geological Survey, New Mexico Bureau of Economic Geology, Colorado

Geologic Survey, Oklahoma Geological Survey, South Dakota Geological Survey, Wyoming State Geological Survey and U.S. Geological Survey.

The Coalition objective is to improve the geological characterization and understanding of the High Plains aquifer. The purpose of the Coalition is to cooperate in joint investigations and scientific exchanges concerning the earth sciences (including hydrology, geology, geochemistry, geochronology, geophysics, geotechnical and geological engineering and related investigations) on topics of mutual interest. This agreement was specifically undertaken to advance the understanding of the three-dimensional distribution, character, and nature of the sedimentary deposits that comprise the High Plains aquifer in the eight-state Mid-continent region. It recognizes that the distribution, withdrawal, and recharge of groundwater, and the interaction with surface waters is profoundly affected by the geology and the natural environment of the High Plains aquifer in all eight States—New Mexico, Texas, Oklahoma, Colorado, Kansas, Nebraska, South Dakota, and Wyoming—thereby establishing a commonality of interests among the Surveys and citizens of these states.

The Geological Surveys agreed that reaching a fuller understanding of the three-dimensional framework and hydrogeology of the High Plains Aquifer is necessary to provide local and state policymakers with the earth-science information required to make wise decisions regarding urban and agricultural land use, the protection of aquifers and surface waters, and the environmental well-being of the citizens of this geologically unique region.

Regional Issues HPAC Can Address

- Research on the regional geologic framework, particularly the completion of detailed, quadrangle-size (1:24,000 scale) surface and subsurface geologic maps and models in digital format, and the public dissemination of these maps and models, as well as interpretive information derived from them.
- Research on geologic processes relating to deposition of sedimentary sequences—their definition, nature, extent, origin, and bounding surfaces—forming the High Plains aquifer and adjacent aquifers.
- Research on the region's hydrogeology and its fluid systems.
- Research on processes controlling the quantity and quality of water recharging the High Plains aquifer, including the effect of past and future changes in climate and land-use activities on recharge.
- Research on enhancing the recharge of the High Plains aquifer.
- Research on the porosity, permeability, storage capacity, and specific yield of the aquifer.
- Research on the geological and hydrological processes controlling regional differences and temporal changes in water quality.
- Research on the vertical and lateral exchange of groundwater between different formations that make up the High Plains and adjacent aquifers and the effect of such exchange on water quality in the High Plains aquifer.
- Research on the age of groundwater recharging and moving through the aquifer.
- Research on improved techniques for modeling the occurrence, movement, and quality of water in the High Plains aquifer.
- Research on using geophysical techniques, procedures, and models for regional application in mapping subsurface deposits in the Mid-continent region.
- Transfer of technology and information among the Surveys and to both the private and public sectors.
- Determination of the approach to define aquifer subunits, such as hydrologic boundaries, ground-water divides, hydrological characteristics, aquifer extent, major differences in recharge, or saturated thickness, in conjunction with administrative boundaries.
- Determination of recharge, stream outflow, and ground-water inflow and outflow to give estimates of net sustainable quantities of water to be pumped from areas of different saturated thickness in the High Plains aquifer. Estimates of total saturated thickness and how it varies across the aquifer that will be needed for continued pumping.
- Estimates of depth ranges from ground surface to the base of the aquifer.
- Assessment of uncertainties for estimating sustainable yield volumetrics of the aquifer, including practical saturation thickness, water level measures, and depth to bedrock in different areas.
- Determination of methods to reduce the largest uncertainties in calculating the aquifer volume.
- Delineation of critical recharge areas.

Past and Current HPA Hydrogeologic Research Activities

Both the existing knowledge base and ongoing aquifer research efforts vary substantially from state to state. In addition, the structure for conducting hydrogeologic research on the High Plains aquifer differs dramatically among the states. Following is an overview of the major hydrogeologic HPA related research that has been conducted in the eight states during the past decade. (see attached grid)

HPA Strategic Plan

Vision:

The HPAC is a leader in the advancement and understanding of the three-dimensional distribution, character, and nature of the sedimentary deposits that comprise the High Plains aquifer in the eight-state region. Future decisions affecting the use, management and protection of the High Plains aquifer will benefit directly from the timely and appropriate HPAC research and data collection and collaboration.

Mission:

The mission of the HPAC is to improve the geological characterization and understanding of the High Plains aquifer through cooperation in joint investigations and scientific exchanges concerning the earth sciences (including hydrology, geology, geochemistry, geochronology, geophysics, geotechnical and geological engineering and related investigations) on topics of mutual interest.

Goals and Action Areas:

- Identify priority areas of research that is mutually beneficial for the eight High Plains aquifer states. Action: Develop priority area list and gain approval from all members.
- Develop science plans that address specific High Plains aquifer research areas. Action: Develop a plan for each issue. Establish a team for each issue.
- Identify and secure funding and other resources to implement the HPAC scientific strategic plan. Action: Identify potential sources of external and/or internal funding for proposed High Plains aquifer activities. Develop proposals or action plans to request funding.
- Implement a communications strategy that promotes dissemination of information in a simple, timely, and efficient manner. Action: Define strategy for communicating HPAC results to High Plains stakeholders.

Partners:

Kansas Geological Survey
New Mexico Bureau of Mines & Mineral Resources
Nebraska Conservation & Survey Division
Texas Bureau of Economic Geology
Colorado Geological Survey
Oklahoma Geological Survey
South Dakota Geological Survey
Wyoming State Geological Survey
U.S. Geological Survey
State and Local agencies

Summary and Conclusions:

This strategic plan defines the long-term goals for the HPAC to develop a unified approach to addressing High Plains aquifer issues in the eight state region. The priority areas will continually be refined as the HPAC determines areas of need. Each year the HPAC will meet to review progress on building the HPAC strategies and to define a new set of activities for the following year.

Mr. NEUGEBAUER. Thank you.

The Chair recognizes Mr. Wall.

STATEMENT OF SCOTT WALL, NATIONAL CORN GROWERS ASSOCIATION, YUMA, COLORADO

Mr. WALL. Good afternoon, Mr. Chairman, Ranking Member Napolitano. Thank you for inviting me to testify on S. 212.

My name is Scott Wall, and I am a corn and wheat farmer from Yuma, Colorado. My family and I farm just 1,000 acres, and much of it is irrigated. I am a member of the National Corn Growers Association (NCGA), and I serve on the Corn Board.

I am just finishing up my harvest, which is an incredibly demanding race against the clock. Yet I have left my work to be here for this hearing. The NCGA has three main concerns with S. 212: it would intrude on law traditionally reserved for the States; it would duplicate existing programs; and it would have a high and unnecessary cost.

The United States has a long and well-established tradition of respecting a State's right to govern and manage its water resources. While this tradition has been eroded for surface water, it still generally applies to groundwater.

Obviously, Congress plays an important role in setting national environmental policies and priorities. But another intrusion, no matter how innocuously drafted to help States or to conduct research, eventually opens the door to new laws and new regulations. Congress should not impose on States water rights, especially when the States that would be affected by this legislation have robust laws, regulatory agencies, and research capabilities in place.

For what should be a relatively simple concept—to create a program to characterize, model, and map the Ogallala Aquifer—S. 212 is a complex bill. Governors must request assistance. A review panel must be created. Funding must be split with the States. Reports must be generated. Why is this so prescriptive? It makes me wonder what the reason for the bill really is.

If the goal is to help the States and the region better understand the aquifer, why can't they ask the Department of Interior for additional assistance? According to testimony previously provided by the Department, the U.S. Geological Survey already is working with the States on the aquifer. In addition, the USGS has the authority to help the States in any way they need.

Colorado is a dry area, and we often suffer from droughts. Yet the Ogallala Aquifer has made my part of the State and the rest of the High Plains a highly productive agricultural area. Irrigators and other water users know intense use of groundwater has caused declines, and some serious. We know the trend raises questions about the sustainability of long-term agricultural production in the area.

However, farmers and other stakeholders and the States are addressing these concerns. More than 15 years ago, State, local and Federal agencies began a long-term monitoring program of the aquifer. Yearly assessments show that decreases have slowed, mainly because of increased irrigation efficiencies, changing cultivation practices, and generous rainfall, except for 2002, and actually 2003.

Most of the States in the region have robust, comprehensive ground and surface water management laws and programs. Colorado has two State agencies addressing water issues. Our agencies issue well permits, administer water rights, monitor flow, and educate the public.

While additional study is probably needed on the aquifer, the responsibility for conducting it should remain in the State and local level where it belongs.

According to the Congressional Budget Office, S. 212 would cost $90 million over 2 years. To a farmer, $90 million is a lot of money, especially for a program that duplicates State programs and is un-

necessary to solve any perceived research or agency coordination deficiencies.

As you know, the 2002 farm bill created the Ground and Surface Water Conservation Program. It provides cost-share payments, incentive payments, and loans to help farmers improve irrigation systems, enhance irrigation efficiencies, and mitigate drought.

This program is about outcomes—actually conserving water and increasing efficiency. Just think of what $90 million could do if it were used for on-the-ground water conservation instead of for just another report. NCGA suggests that if the bill's sponsors are serious about groundwater issues, they should put real money toward real problems, not just set up another program.

The Ogallala Aquifer is a wonderful resource. Colorado corn growers and all others that rely on it to produce their crops are well aware of what it has done for agriculture. Please leave its management to us and our States. We have done a good job and it shows.

Thank you very much for the opportunity to testify, and if there are any questions, I would be glad to answer them.

[The prepared statement of Mr. Wall follows:]

Statement of Scott Wall, Corn Board Member, National Corn Growers Association, on S. 212

Good morning, Chairman Calvert and Ranking Member Napolitano. Thank you for inviting me to testify on S. 212.

My name is Scott Wall. I am a corn and wheat producer from Yuma, Colorado. My family and I farm just under 1,000 acres, much of it irrigated. I am a member of the National Corn Growers Association (NCGA) and serve on the Corn Board. NCGA represents more than 33,000 corn growers from 27 states.

I am just finishing up my harvest, which those of you familiar with row crop production know is an incredibly demanding race against the clock. Yet, I left my work to be here for this hearing. NCGA has three main concerns with S. 212: it would intrude on law traditionally reserved for the states; it would duplicate existing state programs; and it would have a high and unnecessary cost.

State Water Rights

The United States has a long and well-established tradition of respecting a state's right to govern and manage its water resources. While this tradition has been eroded for surface water, it still generally applies to groundwater. The Federal Government—Congress—should resist the temptation to encroach on this area of law again. Obviously, Congress plays an important role in setting national environmental policies and priorities. But another intrusion, no matter how innocuously drafted to help states or to conduct research, eventually opens the door to more laws and new regulations. Congress should not impose on states water rights, especially when the states that would be affected by this legislation have robust laws, regulatory agencies and research capabilities in place.

Duplication with existing efforts

For what should be a relatively simple concept—to create a program to characterize, model and map the Ogallala Aquifer—S. 212 is a complex bill. Governors must request assistance. A review panel must be created. The review panel must evaluate research proposals and prioritize program activities. Funding must be split with the states. Reports on program implementation and the state of the aquifer must be generated. Why is this so prescriptive? It makes me wonder about the real reason for S. 212.

If the goal is to help the states in the region better understand the aquifer, why can't they simply ask the Department of the Interior for additional assistance? According to testimony previously provided by the Department to the Senate Water and Power Subcommittee, the U.S. Geological Survey (USGS) already is working with the states to evaluate the present and future State of the aquifer. In addition, USGS has the authority to help the states in any way they need.

Colorado is a dry area, and we often suffer from droughts. Yet, the Ogallala Aquifer has made my part of the state and the rest of the High Plains a highly pro-

ductive agricultural area. Irrigators and other water users recognize that intense use of groundwater has caused declines, some serious. We know this trend raises questions about the sustainability of long-term agricultural production in the area.

However, farmers, other stakeholders and the states are addressing these concerns. More than 15 years ago state, local and federal agencies began a long-term monitoring program to assess the changing condition of the aquifer. These yearly assessments show that decreases have slowed, mainly because of increased irrigation efficiencies, cultivation practice changes and generous rainfall (except for 2002).

Most of the states in the region have robust, comprehensive ground and surface water management laws and programs. Colorado has two state agencies addressing water issues. Nebraska brought two separate entities under one department a few years ago. Texas has one agency solely dedicated to water issues and a comprehensive system of local groundwater management.

In Colorado, our state water agencies issue water well permits, administer water rights, monitor flow and collect water data. We also have the Groundwater Commission and local water conservation districts that make recommendations to the commission. I list these entities and activities to give the Committee an idea of how seriously Colorado takes its water resources.

While additional study is probably needed on the aquifer, such as on sustainable recharge rates and how recharge corresponds with changing agricultural practices, the responsibility for conducting it needs to remain where it belongs on the state and local level.

Cost

According to the Congressional Budget Office (CBO), S. 212 would cost $90 million over 10 years. To a farmer, $90 million is a lot of money, especially for a program that duplicates state programs and is unnecessary to solve any perceived research or agency coordination deficiencies relating to the aquifer.

As you may know, the 2002 farm bill created the Ground and Surface Water Conservation program to be managed by the Natural Resources Conservation Service. The purpose is to provide cost-share payments, incentive payments and loans to help farmers improve water conservation. Eligible practices include improving irrigation systems, enhancing irrigation efficiencies and mitigating drought. The farm bill provided $25 million in 2002, $45 million in 2003 and $60 million for each FY 2004-2007.

This program is about outcomes—actually conserving water and increasing efficiency. Just think of what $90 million could do if it were used for on-the-ground water conservation instead of for just another report. NCGA suggests that, if the bill's sponsors are serious about groundwater issues, they should put real money toward real problems, not just set up yet another duplicative, unnecessary program.

Closing

The Ogallala Aquifer is a wonderful resource. Colorado corn growers and all others that rely on it to produce their crops are well aware of what it has done for agriculture. Please leave its management to us and our states. We've done a good job and it shows.

Thank you again for the opportunity to testify today. I would be happy to answer any questions.

Mr. NEUGEBAUER. Thank you.

The Chair now recognizes Mr. Conkwright.

STATEMENT OF JIM CONKWRIGHT, MANAGER, HIGH PLAINS UNDERGROUND WATER DISTRICT NO. 1, LUBBOCK, TEXAS

Mr. CONKWRIGHT. Thank you, Mr. Chairman. I thank you for the opportunity to be here today and to represent the High Plains Water District regarding Senate bill 212.

As a local groundwater conservation district manager, I am concerned that S. 212 duplicates State and local efforts to date, that it creates a new and unnecessary layer of Federal oversight, and that it may provide an opportunity for eventual Federal regulation of groundwater resources. It is the district's firm belief that local control is the best control. This belief has been echoed by the Texas Legislature, which has repeatedly stated, "Groundwater conserva-

tion districts are the preferred method of groundwater management in Texas."

Area residents and the Texas Legislature created water conservation districts in the early 1950s for local control of groundwater resources. The local boards and staff have a better understanding of the geology and hydrology of the aquifer than some outside the region. In fact, our district has two geologist-hydrologists on staff.

The High Plains Underground Water District, headquartered in Lubbock, is the oldest groundwater conservation district in Texas. Created in September of 1951, the district is designed to help conserve, preserve, and prevent the waste of groundwater stored in the aquifers within a 15-county service area. Many water conservation successes have been accomplished through improving irrigation application efficiencies, reducing water waste from fields, and by providing public information about the importance of water and water conservation.

The district work is supported through an ad valorem tax of 0.0083 per $100 of valuation, less than 1 cent. Irrigated agriculture on the Texas High Plains depends upon the groundwater stored and the formation. It is important to realize that agricultural producers only pump groundwater to supplement the 18 to 20 inches of average annual precipitation for this region.

Another issue that came up in questioning before the break from the Congressman from Nebraska. Much of the aquifer is site-specific. These are things, I think, that we all realize. The underlying materials are different. The way the aquifer operates is different. So we have site-specific situations that we deal with. And the residents of the Texas High Plains realize that the water stored in the Ogallala formation is a precious and limited resource.

Senate bill 212 seeks to establish a cooperative partnership. Again, in our opinion, this proposed legislation duplicates local and State services. Chapter 36 of the Texas Water Code states that "a district may make surveys of the groundwater reservoir or subdivisions or survey of the facilities in order to determine the quantity of water available for production and use and to determine the improvements, development, and recharging needed by a reservoir or its subdivision." Most underground water conservation districts in Texas that overlie the Ogallala conduct this activity.

For example, the High Plains District publishes a series of hydrologic atlases for each county or portion of a county within the water district every 5 years. These atlases illustrate the volume of water in storage—the saturated thickness—and other important information. The atlas series is constructed from data collected in established water level observation wells and supplementary water level observation wells within our district.

In addition, annual depth-to-water level measurements are made in a network of more than 1,200 privately owned observation water wells. These data are used to determine the average annual change in water levels in the Ogallala formation within the High Plains District. In recent years, district personnel have seen average annual changes in water levels decrease from 2 to 3 feet per year to approximately 1 foot per year. Our declines are declining.

The use of this data from the High Plains Water District's water level observation program is used by the United States Internal Revenue Service to establish and support deductions from Federal income taxes based upon the use of groundwater from the Ogallala Aquifer for irrigated farming.

Quickly, to wrap up, on the State level, the Texas Water Development Board in Austin is the lead agency for water matters. The 76th Texas Legislature approved funding for the Groundwater Availability Modeling (GAM) program. The GAM is to provide reliable and timely information on groundwater availability to the citizens of Texas. I am glad to say that we have just completed the first two aquifer models, and one of the first two is the Ogallala.

In wrapping up, again, we feel that groundwater is best managed, is best handled on a local and State basis, and that is what we have been successfully doing. We would ask that our testimony as written be included in the proceedings for the day as it includes many other important items that need to come before the Committee but that we do not have time to relate.

Thank you.

[The prepared statement of Mr. Conkwright follows:]

Statement of Mr. James C. (Jim) Conkwright, General Manager, High Plains Underground Water Conservation District No.1, on S. 212

Mr. Chairman, I would like to thank you for the opportunity to speak before your Committee today regarding S. 212, known as the High Plains Aquifer Hydrogeologic Characterization, Modeling, and Monitoring Act.

As a ground water conservation district manager, I am concerned that S. 212 duplicates state and local efforts to date, that it creates a new and unnecessary layer of federal oversight, and it may provide an opportunity for eventual federal regulation of ground water resources. It is the High Plains Underground Water Conservation District's firm belief that "local control is the best control." This belief has been echoed by the Texas Legislature, which has repeatedly stated, "Ground water conservation districts are the preferred method of ground water management in Texas."

Area residents and the Texas Legislature created ground water conservation districts in the early 1950s for local control of ground water resources. The local boards and staff have a better understanding of the geology and hydrology of the aquifer, water use practices, and farming operations within the region, as compared to a state agency in Austin or a federal agency in Washington, D.C.

The High Plains Underground Water Conservation District No. 1, headquartered in Lubbock, is the oldest ground water conservation district in Texas. Created in September 1951, the district is designed to help conserve, preserve, and prevent the waste of ground water stored in the aquifers within a 15-county service area. Many water conservation successes have been accomplished through improving irrigation application efficiencies, reducing water waste from fields ("irrigation tailwater"), and providing public information about the importance of water and water conservation.

Irrigated agriculture on the Texas High Plains depends upon the ground water stored in the Ogallala formation. It is important to realize that agricultural producers only pump ground water to supplement the 18 to 20 inches of average annual precipitation for the region.

Residents of the Texas High Plains know the ground water stored in the Ogallala formation is a precious and limited resource.

For many years, state and local agencies, ground water conservation districts, educational institutions, and the agricultural community have been leaders in efforts to monitor and conserve ground water stored in the Ogallala formation for future use. In addition, agricultural producers have proven to be the best stewards of our nation's natural resources. They continually work to implement the best management practices available to conserve our ground water supplies.

S. 212 seeks to establish a cooperative partnership effort between the Secretary of the Interior, the U.S. Geological Survey, and the High Plains Aquifer states for physical characterization of the High Plains Aquifer.

Again, in our opinion, this proposed legislation duplicates both local and state services. Chapter 36.106 of the Texas Water Code states that "a district may make

surveys of the ground water reservoir or subdivision or survey of the facilities in order to determine the quantity of water available for production and use and to determine the improvements, development, and recharging needed by a reservoir or its subdivision." Most underground water conservation districts in Texas that overlie the Ogallala conduct this activity.

As an example, the High Plains Underground Water Conservation District publishes a series of hydrologic atlases for each county or portion of a county within the Water District every five years. These atlases illustrate the volume of water in storage (saturated thickness), elevation of the water table, base of the Ogallala Formation, and land surface elevation for each county or portion of a county it serves. The atlas series is constructed from data collected in established water level observation wells and supplementary water level observation wells within the district.

In addition, annual depth-to-water level measurements are made in a network of more than 1,200 privately owned observation water wells. These data are used to determine the average annual change in water levels in the Ogallala formation within the High Plains Water District. In recent years, district personnel have seen average annual changes in water levels decrease from two to three feet per year to about one foot per year.

Use of data from the High Plains Water District's water level observation program is also used by the U.S. Internal Revenue Service to establish and support deductions from federal income taxes based upon the use of ground water from the Ogallala Aquifer for irrigated farming.

On the state level, the Texas Water Development Board in Austin is the lead agency for water matters. The 76th Texas Legislature approved funding for the Groundwater Availability Modeling (GAM) program. The GAM is to provide reliable and timely information on ground water availability to the citizens of Texas. These ground water models will be used by regional water planning groups and ground water conservation districts to evaluate water management strategies and to assess present and future ground water availability during normal and drought conditions. GAM models for the nine major aquifers in Texas are to be completed by September 1, 2004. Modeling of the 21 minor aquifers in Texas will follow soon thereafter.

The proposed legislation is designed to "undertake activities and provide technical capabilities not available at the state and local levels as may be requested by a Governor of a High Plains Aquifer state within each state."

It should also be noted that when the Governor of Texas desires water information, his staff generally contacts either the Texas Water Development Board in Austin and/or a local underground water conservation district. Both agencies have many years of geologic and hydrologic data on file at their offices. In addition, both promote water conservation programs to improve water use efficiencies, reduce water waste, and educate the public about the importance of water and water conservation.

We believe that this proposed legislation does not adequately consider the water conservation efforts and research already conducted by federal agencies, such as the U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) and the USDA-Agricultural Research Service (USDA-ARS); underground water conservation districts; state land grant colleges; and agricultural commodity producer groups.

The 2003-2011 funding to enact this proposed legislation, conduct resulting meetings, and publish subsequent reports could be better utilized to help implement more water conservation measures—such as a water reserve program, patterned after the successful Conservation Reserve Program (CRP). Such a program would provide financial incentives to agricultural producers to set aside their land and not pump ground water for a 10-year period.

Let me say again that we believe "local control is best control." Allowing state and local entities to direct water conservation efforts is best. By doing so, the federal government can accomplish its objectives in a manner that respects state law.

I thank the Committee for the opportunity to offer the High Plains Underground Water Conservation District's concerns regarding S. 212.

Mr. NEUGEBAUER. Thank you very much. We have a great panel here. I am going to recognize myself for 5 minutes, and then I will recognize other members.

Ms. Favila, this program is estimated to cost around $90 million, and obviously we are in a difficult time now with trying to allocate

Federal resources. How might this impact other programs that are important to the people in Plainview?

Ms. FAVILA. Thank you. If we could be able to obtain additional funding, we could be able to restore the funding that was cut back from previous years. That would assist with rising operating and training costs. We could also be able to improve the ability of organizations to deliver a high-quality information technology training and services in isolated rural communities, not only in Plainview but throughout America.

Mr. NEUGEBAUER. Thank you.

Mr. Arthur, what steps are the producers in your area taking to improve efficiency and to be better stewards of the aquifer?

Mr. ARTHUR. Mr. Chairman, as I had mentioned in my talk, the efficiencies that I have used on my own operation, in 1998, I believe, in Crosby County, the county that I live in, we had somewhere in the neighborhood of 14 center pivots. Over a 10-year period, that has grown to 500 center pivots. So with these new technologies in conservation, we have tremendously put a big input of our dollars into conservation of the water into the aquifer.

Also, we have used different techniques with research on trying to find drought-related crops that are more tolerant to drought. So, therefore, we are using less of the aquifer to water our crops.

And, finally, in years past, in the 1950s and 1960s, in irrigation online ditches were a common thing to find. Nowadays we use techniques such a poly pipe or other pipe to lessen the burden of that filtration, unneeded water filtrating through or percolating through the soil.

Mr. NEUGEBAUER. Thank you.

Dr. Allison, Senator Bingaman indicated in a Senate hearing, and I quote, "If the Administration had this as a top priority themselves, it would not be necessary for this legislation." How would you respond to that statement?

Dr. ALLISON. Well, I think that is probably true, Mr. Chairman. One of the reasons we urge that this be drafted in legislation is that we have not seen the priority placed within the USGS to do the kind of cooperative studies that we think need to be done. And when we have gone and talked to Congress in the past, the concern has been that if we do it through simply the appropriation process, it pulls the resources away from other programs that were considered higher priority at the time within the USGS.

So the intent was to go with a separate legislative approach to indicate that this is a high priority driven by the State and local needs, and instruct the USGS to treat it as a higher priority and to put the resources there that haven't been available to this point.

Mr. NEUGEBAUER. I think Mr. Hirsch said this morning that he really didn't think that we had an authorization problem, that we had an appropriation problem, that we have not been—what kinds of commitment from the State, of your State, are going to this initiative, the research and monitoring of the aquifer? In other words, what is the commitment in your State to this issue?

Dr. ALLISON. Mr. Chairman, in Kansas, we probably have the largest program of any of the eight States at the State level. The Kansas Geological Survey is the third largest State geological survey in the Nation and larger than any of the others in the region.

And so because of our resources, we have been able to put more into this.

But we have just completed a regional assessment, talking with our local districts, our water management districts and others, and all of them have a long laundry list of needs that they have that we are having trouble meeting. And so we have taken the leadership in bringing together the State geological surveys in the eight-State region, recognizing that we in Kansas have had more resources than they have had, and so they are much further behind. And every one we have talked to has indicated they need more resources.

In terms of actual numbers, I probably have about a dozen people on my staff involved with water in all areas, and eight of those would be scientists. And out of those, probably half a dozen are working full-time or close to full-time on the High Plains Aquifer.

Mr. NEUGEBAUER. So this legislation really wouldn't be empowering you to do any more than you are doing as far as from an authorization standpoint? What you are really saying, if I hear you correctly, is that there are just more resources needed for this initiative.

Dr. ALLISON. That is true. It does not change the authorization of what we do. We are authorized by the State to do what we do, as do all of my colleagues in the other States. It would provide resources and provide a higher priority within the USGS to provide that technical assistance. Each of us, if I have eight or ten people in my survey, they don't have the necessary specialization tools that we can get when we go to the USGS, which has hundreds of scientists working nationwide who have some great special technical capabilities that none of us can afford to maintain at the State level. So it would prioritize them working with us in the High Plains, being an area where this kind of research could be focused.

Mr. NEUGEBAUER. Thank you.

The Chair then yields to the gentleman from New Mexico, a neighbor, Mr. Udall.

Mr. TOM UDALL. Thank you, Mr. Chairman.

Dr. Allison, it was mentioned earlier that $90 million over 2 years. I wasn't clear whether that is 2 years or 10 years. I am a little murky on the Congressional Budget Office numbers. What do you think this would cost from what your estimate would be?

Dr. ALLISON. Mr. Udall, the bill I think lays out an 8-year period in which this cooperation would be authorized. There was no number ever put in any of the drafts of the bill. We have used a number of approximately $10 million a year as a ballpark estimate of what we thought this program might take. One of the studies we have been doing in cooperation with the Ogallala Aquifer Institute is try to do a comprehensive assessment of what status each State and local jurisdiction is in, what do they need, and from that we hope to come back and build a rough—a closer budget rather than the rough one we have.

The $90 million over 2 years I think is a mischaracterization. I have heard if we had $10 million for an 8-year period, that would be a maximum of $80 million. But my understanding was that the Congressional Office that does estimates of what this might cost

assumed that it would ramp up over a few years. And so their estimates may have been closer to $43 million, is what I recall, over an 8-year period.

Mr. TOM UDALL. All right. Thank you.

Mr. Tillman, you mentioned that the local people in New Mexico and the Eastern Plains out there support this. Could you elucidate a little more the cities and the—and I think the State engineer has taken a position, too. Isn't that correct?

Mr. TILLMAN. Mr. Chairman, Congressman Udall, our mayors of our larger communities, Clovis and Portales and some of the smaller ones like Melrose and Grady, did sign support letters. The harsh reality is that New Mexico is winning the race to the bottom of the aquifer. We are on the shallow side. And our State hasn't devoted the necessary resources, but we need the partnership with the Federal Government.

We also haven't had the institutional capacity that maybe exists in Texas nor the funding to adequately understand the sub-units and the unique circumstances in localized areas. So we are working with the State engineer, who has indicated support for Senate bill 212, and the local governments recognize that they lack the technical expertise and the funding. At the State level, we are daunted by a multitude of water-related issues. So any attention brought to this by this bill and cost sharing I think is the only way we are going to actually get through the complexity and the partnerships that are necessary.

If it is true no authorization is needed, then why has it been 22 years since we have had a comprehensive study?

Mr. TOM UDALL. Mr. Chairman, I would like to put into the record the letters from the local officials and our State Engineer, if that would be all right.

Mr. NEUGEBAUER. Without objection, so ordered.

Mr. TOM UDALL. Thank you.

[NOTE: Letters submitted for the record have been retained in the Committee's official files.]

Mr. TOM UDALL. Mr. Tillman, as you know, and you have worked in water issues many years in New Mexico and were very protective of the State of New Mexico having control over its water and protecting our State water laws and things like that. Do you see in this Senate bill 212 an effort by the Federal Government to intrude on State water law? Or is this more of a cooperative type arrangement?

Mr. TILLMAN. Mr. Chairman, Congressman Udall, I recognize the concern that had been expressed. I think our experience with surface water, the Endangered Species Act, and other issues certainly make everyone at the local level in these Western States sensitive and concerned about those issues.

I would point out that the Ogallala Aquifer, the High Plains Aquifer, doesn't care where the political boundaries are, the watershed doesn't care where the boundaries are. It just does what it does. So I don't see the intrusion here. Certainly, in the past, with the production of these maps that have been presented, I don't think there was anything with a regulatory implication there.

So I understand the concern, but I don't see in the bill the Federalization prospect that has been suggested by other panelists.

Thank you.

Mr. TOM UDALL. Thank you, Mr. Tillman, and thank you to the rest of the panel.

Mr. Chairman, I yield back.

Mr. NEUGEBAUER. Thanks to the gentleman.

I recognize the gentleman from Kansas, Mr. Moran.

Mr. MORAN. Mr. Chairman, thank you very much. I appreciate this Subcommittee's indulgence of allowing me to join you at least in part today and appreciate the testimony of the witnesses that I have read and heard.

Dr. Allison, you indicated that really what this is is an issue of resources, needing additional dollars in order to do things that can't be done. Your State geological survey may have additional resources as compared to the other seven States. Is there a component that is missing in regard to cooperation? If you had the resources, do you need anything more to get the research to be done across the Ogallala, across the High Plains Aquifer in all States? Will that happen if you have the dollars?

Dr. ALLISON. We are trying to make it happen, Mr. Moran, by developing this High Plains Aquifer Coalition. Three years ago, we took the lead in building that because we recognized that there had not been the priority and the cooperation, and we saw all of our States suing each other over issues where we were affecting the aquifer by taking water out of rivers or, vice versa, affecting rivers by taking water out of the aquifer.

We weren't seeing the kind of cooperation or the implementation of existing programs at the USGS that we felt were necessary. So we took the first steps on our own. But as we have worked together over the last 3 years, we have recognized that resources were a critical part of it and also raising the priority within the USGS that this is where their internal resources, their internal focus ought to be. But primarily resources would——

Mr. MORAN. If you had the resources, would this entity that you created 3 years ago conduct the research or monitor, organize, direct the research?

Dr. ALLISON. The organization itself would not, but the individual States and local entities. The way this bill was crafted is that 50 percent of the money to the States goes to State and local groups that put forward the research that is requested at the State and local level. So no research would go forward unless it was requested at the local level, and the review panel is in place, dominate by State-appointed folks to make sure that it is State-driven research meeting State needs and State priorities.

Mr. MORAN. So, in every instance, the eight States that make up the High Plains Aquifer would be the ones who are deciding what research needs to be conducted within their State, and they would have the opportunity to direct the direction that the research goes.

Dr. ALLISON. That is correct, sir.

Mr. MORAN. One of the things that has always seemed important to me on this issue is what we have done in Kansas in regard to trying to extend the life of our oil and gas production, and we have, with the help of the geological survey, found new technologies, new science that is making progress in extending the opportunity for us to mine oil and gas in our State.

Is there analogy to what we can do with water? If we had the kind of information knowledge and research that we are developing in the oil and gas industry available to those who make decisions about the use of the Ogallala, can we extend—is the oil and gas research an example of what we can do, a role model that will demonstrate we can make a difference?

Dr. ALLISON. Mr. Moran, that is absolutely true, and my own personal background comes from working many years within the oil industry. And what we have seen over the last 30 years or so, from billions of dollars invested by the oil companies, a way to characterize the geologic framework that holds the oil, and that technology, those understandings, have not been fully implemented in the groundwater area. We haven't had that same billions of dollars of investment, but we can learn from them. We can take that technology, those understandings.

And what we have discovered with the High Plains Aquifer, and particularly the Ogallala portion of it, it is a very complex geologic unit. It is not a sponge that you stick a straw into and suck water out; it is an old ancient river system, five to six million years old, where rivers meandered over geologic time back and forth the countryside, and so in one place you may have multiple river channels stacked up; in other place, it may be the silty or muddy overbank areas piled up.

We are working with Groundwater Management District No. 4 in Kansas to define their unit, their aquifer into subunits so that when they make a decision based on the best data they have, we make sure they have not picked a really good spot of the aquifer or a really bad spot of the aquifer and applied that across the region. It is the same technology that the oil industry has used to extend the life of their oilfields, doubled the life of oilfields in many cases. And so by doing this subunit level characterization and making decisions based on local variations in the geology, we can employ the same technology that is keeping the oilfields alive, we can keep our aquifers alive in the same way.

Mr. MORAN. My time has about expired. So, if you can answer this very briefly, is there any question, scientific question that what happens in Nebraska or South Dakota affects the Ogallala in Kansas or Texas or New Mexico? Is there any question about the interrelationship between the aquifer across those State borders?

Dr. ALLISON. The aquifer is a three-dimensional body, and the water moves back and forth, and what happens in one part of the aquifer can have an affect on it some distance away.

Mr. MORAN. And what you are attempting to do or the concept behind this legislation is supported by groundwater management districts in Kansas who operate similar to the ones in Texas as well. They just have a different opinion about the value of what we are doing here; is that true?

Dr. ALLISON. That is correct. We have had the support from the groundwater management districts, the Kansas Water Authority, the Western States Water Council, and I understand that Governor's Cabinet in Kansas was preparing a letter to send as well.

Mr. MORAN. I agree with the gentleman, Mr. Conkwright, who testified about managing and handling water at the State and local level. Certainly, that is where we want to be. The question I think

we have is where does the research need to be done or how could we get the resources on a broader basis. I also appreciate the compliment about the EQIP program. It is a Moran provision in the farm bill to try to provide some incentives for conservation, and I am glad to know that that was not seen as a threat to local use of water. We are glad here to try to cooperate with you.

I appreciate the panel's testimony and thank the Chairman for his indulgence.

Mr. NEUGEBAUER. Thank the gentleman.

Just for your information, Congress has adjourned, and there is a security situation where no one is being currently allowed to enter any of the House buildings or leave the House buildings. The Capitol Hill Police have encouraged everyone to stay just where we are for a while. We will keep you abreast of that. The good news is we have a very good Capitol Hill Police force, and whatever issue is there, I know they will take care of it quickly.

So we are going to have a little time for some additional questions. We could be here for a while.

[Laughter.]

Mr. NEUGEBAUER. Mr. Conkwright, there has been a lot of discussion about trying to relate what the oil industry knows about the geological formations in the oil and gas industry and what we do or do not know about the High Plains Aquifer. What other things, in your estimation, about the aquifer do we not know?

Mr. CONKWRIGHT. Congressman, I think one of the things that is fairly unknown across the breadth of it, because it is so site specific, is information on recharge. We have just entered in or we are entering into an agreement with the Texas Water Development Board, and we will be starting in January 2004—actually, probably December—a new recharge study for our 15 counties.

But I think this area is one that certainly could use more research. How it works, where it works, there is a lot of unknowns in that area.

Mr. NEUGEBAUER. In the High Plains Water District, are you all doing, you said you have just got this new study. What kind of time frame on getting that program up and going?

Mr. CONKWRIGHT. We should have our, basically, the sites that we will be working with identified, but we are shooting for the 1st of April because we want those in place before our normal rainy season begins. I would like to even have them in by March 15th. We will be working with personnel from the Water Development Board matching some funds and matching personnel, installing some equipment, some ideas that we are just going to try some different things that haven't been done, some that have, and monitor those. Our staff will be doing the monitoring and reporting to the State.

Let me say this. Back in even the mid-1970s we had recharge projects there within the district. My predecessor was very active in working on recharge, and it is difficult. There are newer techniques maybe available now than we had 30 years ago, 25 years ago, so we are anxious to get back into that area.

Mr. NEUGEBAUER. Thank you.

The Chair just wants to make some observations, both as resident that lives in an area directly affected by the High Plains

Aquifer and in listening to the testimony today. You know, number one is there seems to be a varying degree within the States of emphasis on this issue, and certainly I don't think the Federal Government ought to mandate emphasis. I think that the States certainly that are in this area ought to make this a priority if, in fact, they are deeply concerned about that.

I think the other thing that I, the continuing theme of this is it is a resource issue and not an authorization issue, and certainly Mr. Moran has led the charge in making sure that some of the issues are addressed in the farm bill.

I think maybe what this hearing may have brought forward is a need to emphasize in future appropriation bills the ability to fund additional resources for that.

I think the good thing that I hear about what is going on is this coalition that is put together. Having been around this process from a local Government official and working on issues important to the region where I come from, I find that these coalitions that are formed, whether they bring together a theme and some synergy within themselves, those tend to be more productive than those ones that have some kind of a Federal mandate and that we create panels and layers of bureaucracy on how the money is going to be spent. Because you know it takes months, if not years, sometimes to write all of the regulations that might be imposed on that. Whereas, a coalition that has a game plan and a target and what they want to accomplish is much more fluid than something that the Federal Government might form.

And so, for that reason, I am not going to be able to support this bill, but what I am supportive of is more conservation research, more research dollars to work with the coalition to see if there are other ways that we can improve the quality and the quantity and get a better handle on the aquifer.

Is there any other questions of any of the panel members?

[No response.]

Mr. NEUGEBAUER. There seems to be—I am all by myself, all alone.

Just as a parting, any other member of the panel want to make a——

[No response.]

Mr. NEUGEBAUER. Thank you very much for your travel and coming. This was very informative for us, and I appreciate your comments. If there are no other questions, this panel is dismissed, and this hearing is adjourned.

[Whereupon, at 1:58 p.m., the Subcommittee was adjourned.]

[Additional material submitted for the record follows:]

[A letter to Chairman Richard Pombo and Chairman Ken Calvert submitted for the record by The Honorable Randy Neugebauer,, et al., follows:]

Congress of the United States
Washington, DC 20515

October 21, 2003

The Honorable Richard Pombo
Chairman
House Committee on Resources
1324 Longworth House Office Building
Washington, DC 20515

The Honorable Ken Calvert
Chairman
Subcommittee on Water and Power
House Committee on Resources
1522 Longworth House Office Building
Washington, D.C. 20515

Dear Chairmen Pombo and Calvert:

We understand that the House Subcommittee on Water and Power may soon hold a hearing on S. 212, the "High Plains Aquifer Hydrogeologic Characterization, Mapping, Modeling and Monitoring Act." We have strong concerns with this legislation and ask that the Subcommittee hear from varied interests who share our concerns through the hearing process.

The High Plains Aquifer underlies 174,000 square miles, including parts of Texas, New Mexico, Oklahoma, Kansas, Colorado, Nebraska, Wyoming and South Dakota and provides for the irrigation and drinking water needs of nearly two million people.

We are concerned that S. 212 duplicates state and local water research and conservation efforts, creates a new layer of federal bureaucracy, and is a potential step towards eventual federal regulation of groundwater resources which, as you know, is already done at the state and local level. The U.S. Geological Survey testified in a Senate hearing on S. 212 that the "goals of this bill can be achieved without legislation through better coordination of existing Federal and State programs" and "that the total costs of the program are uncertain."

We support local and state control of water resources. In our view, the proposed legislation does not give adequate recognition to the efforts of local water conservation districts. Local water boards and staff have a better understanding of the geology and hydrology of the aquifer, water use practices and farming operations in the region compared to that of a federal agency. State and local governments, water conservation districts, land grant universities and the agriculture community have led the way in efforts to monitor and conserve water resources.

The funding needs for this new policy would compete with farm programs and rural community assistance such as the Payment in Lieu of Taxes program. Another real problem in our rural communities and throughout much of rural America is protecting federal programs that help provide safe drinking water. It is more prudent to fund these efforts that help folks with basic needs, than funding yet another federal monitoring program that duplicates the good works of others and could be the first step towards federal regulation of our groundwater resources.

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At a time when our agricultural communities are facing the problems of drought, low prices, foreign competition and burdensome regulation, Congress can ill-afford yet another federal research project that does nothing to solve these problems. With many new demands put on federal budgets due to wartime activities, we must work diligently to fund existing programs that are proven ways to help rural communities. Given the conservation and research efforts on the local and state level, we do not need to create a new and duplicative program the American taxpayer cannot afford.

Thank you for consideration of our views.

Sincerely,

Randy Neugebauer

Mac Thornberry

Charlie Stenholm

Henry Bonilla

Tom Osborne

Marilyn Musgrave

[NOTE: Additional letters submitted for the record on H.R. 3334, H.R. 3391 and S. 212 have been retained in the Committee's official files.]

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