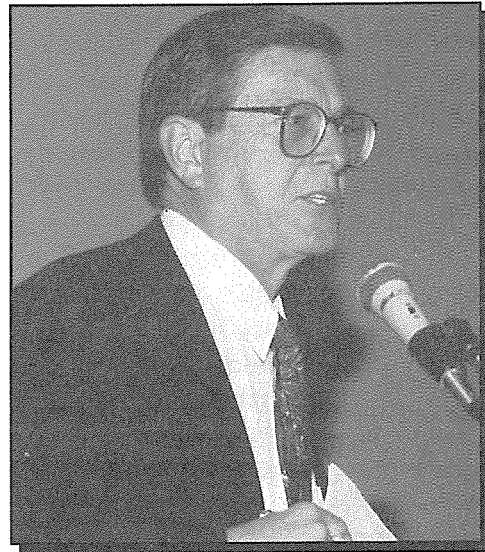


Pete Domenici is a native New Mexican not needing a great deal of introduction. What many people don't realize is that he could have been a major leaguer, having pitched for the Albuquerque Dukes, a farm club for the Old Brooklyn Dodgers in 1954. Pete left baseball to become a math teacher at Garfield Junior High in Albuquerque. He now is recognized as one of the nation's foremost experts on the federal budget and its relationship to the nation's economy. Senator Domenici developed his expertise during his many years on the Senate Budget Committee, where he currently serves as chairman, a position he held for six years in past Congresses. Pete is also widely recognized for his leadership in the water resources field and is catalyzing important discussions on the need for more scientific information about water resources in the state, particularly in Albuquerque and Middle Rio Grande Basin.



WATER: A MATTER OF LIFE AND FUTURE

Senator Pete Domenici
Hart Senate Office Building
Room 328
Washington, DC 20510

Hello, everybody! I am really glad to be with you and must tell you that this conference has forced me in the last couple of weeks to work to gain a better understanding of where things are, how things have changed, what we ought to be worried about, and what we ought to try to get done concerning water in the Rio Grande Valley, including metropolitan Albuquerque.

Water is life, nobody can doubt that, and water defines our future. Because water is a matter of life and future, wise water management must be based on the best information possible to obtain. That is the gist of my message today.

This is a political season and pollsters will tell us that crime and education are the two issues high on New Mexicans' minds. Not to

diminish the importance of either crime or education, I really believe, as Justice Brennan wrote, "It is probable that no problem of the Southwest section of the nation is more critical than that of scarcity of water." Obviously, long-term interests of the states are more closely tied to water than any other issue. How we manage it for our children and grandchildren is a matter of life and future.

New Mexico is what the politically correct crowd in Washington might call a "water challenged" state. In 1994, we worry about the growing demand and the limited supply. Today we are not sure about the relationship between the aquifer and the river. We have problems of supply, demand and quality.

New Mexico has a history, a distinguished history, of being at the forefront of water management. The Native Americans in New Mexico were practicing water-resource management long before the pilgrims arrived. New Mexico's concern about water is a tradition that goes back to the acequias, a system of community ditches that has been in continuous operation since the 17th century. Native Americans and early Hispanic settlers living in New Mexico started our state's tradition of reverence for water, a reverence that should continue today. One pueblo leader fondly called water, "the Life Source, a gift of the Great Spirit." Before the state of New Mexico even had a Constitution, it practiced the Doctrine of Prior Appropriation. Being at the forefront of managing our water is a heritage of the Native Americans and the early Hispanic settlers and right on down to the legacy of our great water engineer, Steve Reynolds.

The series of studies, meetings and conferences, like this one taking place today, is consistent with that long tradition of New Mexicans caring about how their water resources are managed. Conservation and reallocation are primary methods of meeting the growing demand for water. As a result of the preliminary U.S. Geological Survey report, the City of Albuquerque is aggressively pursuing water conservation. I saw first hand the tremendous participation by people who worked to help the mayor formulate the conservation plan. On the way over to this conference, I heard a public service announcement on the radio about water conservation. The mayor should be commended for getting Albuquerque to focus on conservation of this very essential resource. We should not lose the momentum that has been generated. But, as important and necessary as conservation is, it will probably only expand our water supply by another ten percent.

In my opinion, there is no issue more important to New Mexico's future than water, and one of the most important basins is the Middle Rio Grande basin. The Middle Rio Grande basin is the site of this conference. This region, the Middle Rio Grande Region, is what

some have gone so far as to call a "critical basin." There is a very large and growing population living on top of the basin, about 40 percent of New Mexico's population. The region is growing and the associated demands of economic development and jobs must be addressed. In addition, there is a significant federal interest in the region.

It is easy to describe the superficial attributes of the Albuquerque basin. It extends from Cochiti on the north, to Bernardo on the south and occupies approximately 4,300 square miles. It covers part of five counties: Santa Fe, Sandoval, Bernalillo, Valencia, and Socorro and includes the municipalities of Albuquerque, Belen, Bernalillo, Los Lunas and Rio Rancho, plus nine of our pueblos and several villages.

The difficult part is to describe *how* the basin works and its hydrological interaction with the river. We know there is underground water in the pores that are part of the subsurface of the earth. Some believe that this is ancient water. Others argue that the aquifer is replenished by precipitation and seepage from the river. Frankly, we used to choose one of those possibilities and thought that it was highly probable that it was correct. But today we are not sure just how the aquifer works. No one has been down there to find out for sure. We are not exactly sure how thick this aquifer is, but we must try to find out. We do not know how easy or difficult it would be to extract water from different layers in the aquifer. We do not know the degree of "connectivity" between the aquifers and the Rio Grande and among aquifers. We do not know whether faults are compartmentalizing the basin and whether they prevent or enhance water movement.

Some have suggested that we need to do on-the-ground fieldwork to determine the answers to some of these questions and then use field data to improve computer models. To do it right, to get the level of detail that we need will require the use of the supercomputers at Los Alamos and Sandia. How fortunate we are to have those laboratories here. From what I can tell, we also are fortunate that they are ready and willing to be participants. So we have high-tech

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and low-tech tools to help us better understand the interaction, but we have to use these high-tech and low-tech tools in a coordinated way. It is imperative that we get all the facts, understand all our options, and implement a plan that is best calculated to guarantee our quality of life and economic future.

Before I tell you about what I believe needs to be done, I want to tell you about some Congressional work done this year through the coordinated action of several delegations. Congress has made a very fine down payment on trying to get the south valley of Albuquerque into a wastewater treatment facility and on an overall water-delivery system. Now, that may be superfluous to this issue, but it is obviously important that we take areas like the south valley and many others in New Mexico and make strides toward improving their water quality.

In September, some of you are aware that I held a meeting in Albuquerque so that I could get updated on the water situation. Too often the issues are couched in hydrological and geological terms. We should not lose sight of the ramifications these scientific pronouncements have on communities. For example, Corrales ponders whether its shallow wells will run dry. Other communities worry about arsenic contamination. Rio Rancho worries that water might adversely affect other companies' decisions to make billion dollar investments in and around their community and take their thousands of jobs for the future elsewhere. Santa Fe is looking at a rate increase to service bonds—rate increases that might raise the price of water by one-third.

Some of today's program participants made presentations in September at an informal evening meeting. As a result of that meeting, the State Engineer has indicated that he would like to work with me to get all the facts and to utilize the significant expertise residing in our state. A series of technical meetings has been held to develop what might be called a master work plan focusing on what has been termed "critical basins." John Hernandez has been doing a good job making sure that the necessary progress is made. So far we have a very good interdisciplinary core group working on this very

exciting effort but I believe the group should be expanded. I believe the New Mexico congressional delegation will support this effort as soon as we have some information, some boundaries for this project. I will ask for their help and am certain the City of Albuquerque will be involved. What we really need to do is find a way to steer a research effort that gives us the answers consistent with modern techniques for finding facts. From my standpoint, there is significant enough federal interest that I would seek federal assistance, either by way of matching funds or the like, to get this multi-year evaluation going. But I do not want anybody to think that in the meantime things are not happening and that things should not be happening. Clearly, they should and they are.

Chuck DuMars outlined that September evening some of the key elements of a work plan, as did Chuck Chapin. Specifically, we need the facts about the behavior of the groundwater and surface water system supplying the Middle Rio Grande area.

We will be building on analytical work done on the basins as far back as 1907. There are at least 20 studies to build upon. In 1978, Congress directed the USGS, Water Resources Division, to begin a Regional Aquifer System Analysis. One of the basin aquifer systems selected for simulation was the Albuquerque basin. We have always presumed the aquifer and the river were hydrologically interconnected. That may be the case or it may not be the case, or it may be part of the case but not the whole case. A related assumption being challenged is whether depletion of groundwater is immediately compensated by approximately equal depletion of surface water from the Rio Grande. The 1986 USGS report made those assumptions. The 1992 report does not necessarily make the same assumptions. This is a threshold question. This is a "one-for-the-history-books" question. A "big picture" question.

There was a time when scientists like Ptolemy believed the earth was the center of the universe and the sun and the planets revolved around the earth. Copernicus proved Ptolemy wrong and demonstrated that the sun was the

center of the solar system and the earth and other planets revolved around the sun. More recently, Columbus finally disproved the then-popular belief that the world was flat. The fate of world commerce and trade was changed by Columbus.

The fate of New Mexico's economic future will be similarly impacted by the studies the USGS, the State Engineer, the Bureau of Mines, and various other experts are conducting and need to conduct on the nature of the aquifer and its relationship to the Rio Grande. This is a job that calls for intellect and resources of a modern-day Copernicus. We have State Engineer Martinez, Albuquerque's excellent city expert, Gaume, who everybody tells me is absolutely dynamic and intellectually sound, and USGS hydrologist, Kernodle—and it is important that USGS hydrologists be intimately involved in this effort. It is an undertaking that needs the courage of Columbus. We have DuMars, Chapin, and Hawley. The state legislature and the Congress need to have real vision to get this project started.

New Mexico must understand and all New Mexicans must appreciate the long-term reliable surface water supply, the amount of groundwater in storage and how both of these resources can be utilized to provide a greater amount of net benefit to all New Mexicans—current residents and their children. All agricultural, domestic and industrial users would benefit from a program that would quantify the water resources available to the region.

The State Engineer suggested at that September meeting that we put together a steering group that would recommend how this multidisciplinary, multi-year evaluation in quantifying the water resources would take place. It is important that we follow up on that suggestion and hopefully recommendations from that group will be forthcoming soon. At that time it seems to me the leadership in New Mexico should decide how to manage such an effort. It should be managed at the highest, totally impartial level. Perhaps our three major universities could act as water regents, of sort, as this study and evaluation is defined, funded and carried for-

ward. Perhaps our two great laboratories should be included, and perhaps, some informed and interested citizens should join in some sort of a major review process to carry this evaluation forward. If we can accomplish this, I pledge and will be more than pleased, and hopefully joined by our delegation, to see if we can obtain federal grants or other federal funds to help get this program underway.

Currently, the estimates are that this evaluation will cost somewhere between \$25-\$35 million. I believe this is important enough that we better fund it. We do not have it organized today, but I believe this conference could encourage the establishment of a major steering group to develop a comprehensive, interdisciplinary study of the water supply in the Middle Rio Grande basin. The studies conducted to this point are indeterminate and indefinite. They provide some insight and clearly we do not have as much water as we once thought.

So, I am willing to ask Congress to help fund this effort because I think it is very, very important not only that we determine the water supply part of the equation, but also the methodologies for controlling water use and demand. Currently two engineering solutions are being used more and more, recycling water and reinjection of water into the aquifer after it has been treated and cleaned up, and we ought to move ahead with both techniques. These are important activities and I am pleased that work is being done to determine the feasibility of artificially enhancing groundwater recharge. To the extent that we can learn from the experience of our neighbors in El Paso and other communities, we should.

The Middle Rio Grande Conservancy District has an important role to play. Water supply for irrigation and farming is part of our heritage. Many of the uses in the valley are agricultural. Tribal farms on six pueblos served by the Middle Rio Grande Conservancy District are the heart of a vital Native American community whose roots are the deepest in America.

At this time in history when our turn-of-the-century water code is meeting our 1990 water needs, we may call upon the Middle Rio

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Grande Conservancy District to be a water broker who can help the valley satisfy its needs. I am not sure of that, but it has been suggested and I am not reluctant to put it on the table. So the sooner we get all the facts, the more options we will have.

I could not speak on the enormous issue of our future water life without talking about San Juan-Chama water. At the time the federal legislation was passed relating to the San Juan-Chama project, Maurice Sanchez was chairman of the city commission. We didn't have a mayor per se back then. He was the chairman before I was fortunate enough to become chairman. A long-term commitment was entered into between the City of Albuquerque and the U.S. government which entailed paying a lot of money for San Juan-Chama water. Obviously, some may not have thought it was a good deal. It is very expensive water and clearly Albuquerque burdened itself with its high cost. But no one since has dared to suggest that we cease paying this long-term commitment for the rights and privileges of San Juan-Chama water. Today questions remain about the role San Juan-Chama water will play and how to maximize its benefits to help insure New Mexico's water future.

Hardly a major issue comes into play in New Mexico without reminding us how very fortunate we are to have two national laboratories in New Mexico with enormous technical facilities, scientific expertise, and fantastic computer capabilities. Los Alamos' and Sandia's geo-technical and environmental research, development and engineering capabilities can be used at the regional level to support federal agencies responsible for defining water resources and insuring water quality. Sandia is cooperating with the City of Albuquerque in addressing several water resource related problems. Intel has entered into joint research agreements with Sandia National Laboratories and Los Alamos National Laboratory regarding recycling and reinjection research. They stand ready, from what I can tell, to involve themselves with their technology and skills where needed to assist in this overall evaluation, and in the meantime, to

use the most modern techniques in pursuing research that is already underway.

Let me close by suggesting that I believe the time is now—perhaps even before this year passes into 1995—that the leadership in New Mexico establish a coordinating group—impartial, powerful, strong—capable of putting together a plan to quantify the water situation for us and for our future, and in the process establish greater cooperation between users, between the communities and the cities. I believe this is what leadership is all about. I have found no one reluctant to work on this. The challenge is there, we must accept it and get on with it.

Thank you very much. It is great to be with you this morning.