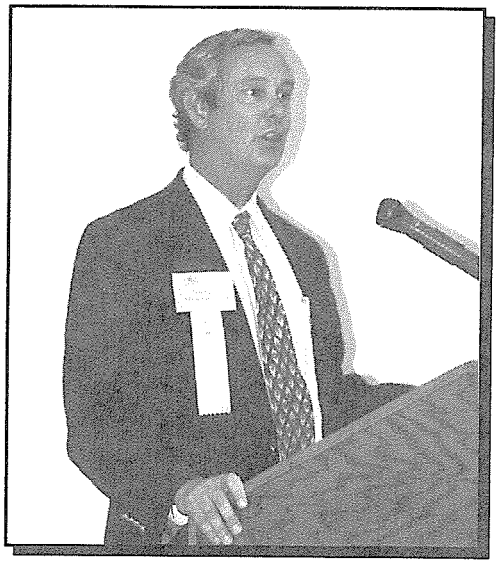
Before becoming State Engineer, Tom Turney worked for many cities in northern and central New Mexico as well as with the Mescalero Apache and Navajo tribes on a variety of water-related projects, including water and sewer infrastructure improvements, environmental assessments, flood and drainage design, and water right transfers. His goal as State Engineer is to work with his staff and New Mexico's water users to develop a water resources strategy that protects existing water right holders while addressing the growing population pressures on the state's limited water supply.



WATER RESOURCES ISSUES OF THE FOUR CORNERS REGION THE NEW MEXICO PERSPECTIVE

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The theme of this year's water conference is integrated water resources management. I will try to describe what this term means to the state of New Mexico. Integrated water resources management is the new buzz term that has made its way into professional journals. It is said to be an outgrowth of what was happening in the electrical industry in the 1980s. An attempt was being made to look at the broader picture. In the *American Water Works Journal,* integrated water resources management is described as an approach that takes a much broader look at water issues such as water quality, water quantity, endangered species, and other issues.

The history of development in northwestern New Mexico, given the state's share of the water available under the Upper Colorado River Compact, is a classic study of integrated water resources management and development. What has transpired in this area reflects the many aspects that constitute integrated water resources management—including water rights, water quality, dam construction, endangered fish, sport fisheries, economic development, cost effectiveness and affordability, Indian concerns, and, as Al Utton described earlier today, the politics of the last several decades.

Let me talk a bit about the area's development. As you drive along the highways here you will see several ditches emanating from the Animas Valley or the San Juan River. The ditches begin to tell the history of the area with priority dates on the ditches reflecting the earliest development. The Lower Animas ditch has a priority date of 1877, the McDermott ditch 1879, and the Turney ditch 1876, nearly 120 years old. We have not found any evidence of earlier prehistoric ditches in the area; however, they may exist and from a personal and professional standpoint, I

would find it fascinating to investigate any prehistoric ditch or reservoir found in the area.

Planning began in the area for its extensive development during the 1920s and 1930s. Compacts were written including the 1938 Rio Grande Compact. That compact contained a paragraph describing how New Mexico, Colorado or even the United States might someday import water from the Colorado Basin into the Rio Grande Basin. We've seen that actually come to pass.

The Upper Colorado River Compact was signed in 1948 and gave New Mexico a share of about 11.25 percent of the water of the Colorado River. Curious as to where in the world this percentage came from, I discovered that the actual amount of water produced in the state of New Mexico is only about 2.5 percent of the total water in the Colorado River system. So why did we get five times that amount of water? My recent research of historical documents and records suggests that New Mexico's share was increased because the Bureau of Indian Affairs at the time had a series of proposed projects.

In the 1950s, New Mexico State Engineer Steve Reynolds endorsed a series of applications. I say "endorsed" because typically on the back of an application for unappropriated water, a space is provided for the "approved" signature, yet the word "approved" was actually whited-out and the word "endorsed" typed in. On June 17, 1955, Steve Reynolds signed three major applications. First was the San Juan Transmountain Diversion for 235,000 acre-feet. He also approved the Hammond Project for 23,000 acre-feet, and I guess his pen was hot because he went ahead and signed the Navajo Project for 630,000 acre-feet. About six months later, in January 1956, he signed another application for 28,800 acre-feet for evaporation losses from Navajo Reservoir. In May 1956 he signed the Animas-La Plata Project (A-LP) for 49,510 acre-feet of water.

In 1961 congressional legislation authorized the Navajo Indian Irrigation Project (NIIP) and the San Juan-Chama Diversion Project. The projects were both contained in one bill, not two separate bills and they were contingent upon each other. These particular bills are very interesting to read. One specific item of note is what they called "shortage sharing." Testimony prior to the final bill passage reveals that the Navajo Nation had *Winters* claims on waters in this area. Navajos were willing to forego those claims on the Navajo Dam Project—not on the entire basin but on the Navajo Dam Project—that was their concession. This is so important because the Navajo Nation was willing to go to shortage sharing, meaning that during a year when there is a shortage, all parties agree to share the shortage to some degree. This was a monumental step for the Navajos to take because if their *Winters* claims had gone forward, they would have ended up with the earliest priority date on the river. It is interesting historically that the Navajos were willing to forego this particular priority right issue.

Letters and testimony given as part of this legislation state very clearly that the Navajos were willing to forego their *Winters* claims if they received approval for the NIIP, but if they did not receive approval for the NIIP, they were going to consider being bound by the agreement. The NIIP, which is south of San Juan River, is a large irrigation project—only about 60 percent complete. One reason the State of New Mexico supports the Navajo tribe's effort with further development in the area was the part of the legislation aimed at shortage sharing—which we believe is extremely important to the entire state. The San Juan-Chama Diversion Project was completed; the tunnels built, the river diversions constructed, and the gates were enlarged at El Vado. But the NIIP has not been completed. It is very important that it be completed and that we continue to give it our support.

Now let me talk a bit about the A-LP—what was planned originally and what our files show. The A-LP began as an agricultural project. Above Silverton, Colorado is a little village named Howardsville on the Animas River where the dam was going to be built in 1956. They were actually going to gravity-flow it down from Howardsville and provide water to the La Plata/McDermott area as part of an irrigation project. Records prepared by the U.S. Bureau of Reclamation, dating back to 1961-1962, indicate that the project was being considered as a source for municipal and industrial usage. In 1981, a Definite Plan report was issued and specifically identified Aztec, Bloomfield and Farmington as beneficiaries of the project as well as some agricultural users in New Mexico.

A series of environmental impact statements on the A-LP has been completed on what has become a

continually evolving project. From a dam above Howardsville, the project has now grown into its present-day configuration starting with a pumping station off the Animas River in Durango. If the past is any indicator of what will happen in the future, I don't doubt that the project will evolve and change a bit more. However, the New Mexico State Engineer Office and the Interstate Stream Commission continue to support the project because we feel that it is very important for the protection of New Mexico's water rights. A number of things are occurring, including what we call the Romer Process. I will be calling Colorado Governor Romer's office as soon as we leave this conference to discuss the process. An attempt is being made to get opponents and proponents together to get the project moving—maybe consider a different scope—somehow figure a way to forge ahead. Federal mediation is being discussed. I cannot predict where the project will go in the future, but I do know I will take a very active role in protecting New Mexico's water rights within that project.

Let me shift now and discuss water rights applications. I think there is a series of some 14 or 15 applications submitted by Aztec, Bloomfield, Farmington and eleven rural water users associations to obtain water from the A-LP. Those applications have been approved. I worked on a number of studies in this area and historically, water is available in the river most of the time to satisfy the communities' needs. However, if you look at a very dry year, water is not available to satisfy the senior water rights holders along with the communities, and thus, storage facilities are needed to carry users through those very, very dry weeks in a very dry year. An exceptionally dry year occurred in 1978 and if you superimpose future demands of this area on such a dry year as 1978, you are left with basically very low flows in the river. Storage is an extremely important future issue for the area. A bill was introduced and approved by Representative Jerry Sandell two or three years ago that gives some special protection if the A-L P is abandoned and what will happen with those water rights that have been approved.

Another issue that fits into integrated water resources management is fisheries. In 1991, a memorandum of understanding (MOU) forming the basis of the San Juan River Recovery Program was implemented. The program had two basic purposes. We wanted the water rights in the area to be developed—and when we talk about water rights being developed, we mean that the water is put to beneficial use. Some of the water may not be put to beneficial use, for example, the NIIP was given a permit for a certain amount of water, 110,000 acre-feet, but the area has not yet been fully developed as originally envisioned. When we talk about development in the area, we acknowledge that all the water rights have not been put to beneficial use. Under New Mexico state law, beneficial use is the basis, the measure, and the limit of the water right. So there were two major objectives with the MOU: one was to allow water rights to be developed in the area, and second, to allow for recovery of endangered species. A seven-year test period was conducted on different flow regimes. I am sure you have witnessed high flows and their impact. We also had to consider low flows. When these water rights are fully developed, there will be low flows in the river in dry years. We need additional tests on what will happen during dry year conditions.

The fly-fisherman suit was filed last year to stop the two-week period of low-flow testing. Negotiations ensued and low-flow testing occurred for two weeks. Meanwhile we were very concerned about preserving the trout hatchery below Navajo Dam. In the last few weeks, we have made serious overtures to the New Mexico Department of Game and Fish to work with us to arrive at various types of engineering solutions to the problem. Are there any civil engineering solutions, any dams, any river modifications that could be implemented to try and preserve this world-class fish hatchery? Unfortunately, we are engineers and not fishermen and we do not know. But we are hopeful the Department of Game and Fish will help us to preserve the hatchery. Concerning the fly-fisherman suit, on Monday there was a hearing in Albuquerque and a decision made, but by court order, the decision will not be available until September 26.

In this year's State Engineer's budget, $250,000 was allotted for construction of certain civil works relating to the Recovery Program. We are discussing with the legislative finance committee and the Department of Finance whether those funds should more appropriately go to the Department of Game and Fish rather than the State Engineer Office.

Conservation continues to play an important role. The original project for the NIIP was for flood irrigation. That project has actually used less water by utilizing center pivot sprinklers. Area municipalities and several rural water users' associations have adopted water conservation plans, which include education, metering, and accounting in an attempt to determine where there are losses in the system.

Navajo Nation President Hale mentioned this morning that he has written a letter to the governor. About two months ago, at an Indian summit, the governor signed an agreement with the state's Indian tribes and the pueblos to work together on a government-to-government level. President Hale's letter is taking a very positive stand in indicating that they want to discuss settlement of water rights on the Animas and San Juan river systems. For the last six to eight months, I have been going to Window Rock and discussing water issues in this area and trying to see how well we can cooperate with each other. Every time I left our meetings, I felt very positive about our progress. I think President Hale's letter is a definite, positive step in the right direction toward addressing Navajo concerns.

We also have entered into a settlement with the Jicarillas for over 6,500 acre-feet of San Juan-Chama water that derives from the Transmountain Diversion. The Jicarillas have obtained approximately 25,000-30,000 acre-feet on the San Juan River side on depletions. The settlement must be approved by Congress.

Water quality is another major concern. The Environment Department has completed their review of the final environmental impact statement and has several concerns about the impact of the A-LP on New Mexico water quality standards. In addition, communities here in the Farmington area are going to have to carefully examine the NPDES permit requirements governing effluent discharges from the sewage treatment plant. Specifically, can the receiving streams continue with the same water quality standards or will other types of treatment be required?

In conclusion, you can see the tremendous gamut of issues that has arisen in developing this area over the past 60 years. They are complex. They are dynamic. They change almost on a weekly basis. I do not doubt that as time passes we are going to see water become a more and more important issue in this area as well as for the entire state. Thank you.