



The Central Arizona Project was originally constructed to provide water for agriculture, but growing municipalities are using much of the water.

Old Water Management Institutions, the New West, and the Inevitability of Politics

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In 1893 Frederick Jackson Turner contended, “The problem of the West is nothing less than the problem of American development.” The western United States was not the only undeveloped part of the country in the 1890s, but the region benefited from the vitality of its newness and the mythical frontier image that held sway in the American mind. And President Theodore Roosevelt and other progressives believed that settling the West was critical to the development of American civilization.

East coast progressivism brought settlement to the West, together with homesteading, federal land grants to states for irrigation, mineral giveaways, and construction of the transcontinental railroad. Science, management philosophy, and socialism were key to transforming California into an agricultural and cultural cornucopia, producing great cities, and turning the western United States into one of the most affluent places on the planet. This was accomplished by managers in the U.S. Bureau of Reclamation and other agencies who tamed the Colorado, Columbia, and other river systems through engineering, a firm belief in the gospel of efficiency and conservation, and a nationalized water resources development program that was overwhelmingly subsidized by the nation’s taxpayers.

Perhaps the most important of these accomplishments was the development of legal institutions related to water management, such as the 1922 Colorado River Compact, the doctrine of prior appropriation, provisions in state constitutions defining beneficial use, and

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various court decisions and state laws. These laws and policies allowed water in the West to be distributed for beneficial use, encouraged interstate compromise when it came to competition for resources and development, and allowed the interbasin transfer of water, giving rise to Denver, Albuquerque, Phoenix, and the urban-agricultural complex of Southern California.

Is the Compact Outdated?

The Colorado River Compact is a key element within this legal framework. Because it allows water that is allocated but unused in one state to be used by another, the compact fosters competition for water, effectively driving the

construction of projects such as the Central Arizona Project that enabled that state to receive the full share of water it was entitled to. Does competition lead to good water resources management today, 86 years after the compact was signed? Robert Johnson, commissioner of the Bureau of Reclamation, and D. Randolph Seaholm, chief of water supply protection at the Colorado Water Conservation Board, contend the compact continues to protect water users in the region from intergovernmental conflict and provides for the equitable distribution of water. They point to the recently adopted guidelines (DOI, 2007) for sharing Colorado River water in times of drought as evidence that water users can adjust to changing circumstances.

However, factors such as shifting demographics, climate change, and energy costs have begun to challenge the existing water management institutions. The competition the Colorado River Compact has fostered among developers and managers in the lower and upper basin states over water resources development opportunities is increasingly fractious and counterproductive. An example is the Animas-La Plata project in southwestern Colorado, which will cost at least \$500 million and except for settling water rights claims for the Southern Ute and Ute Mountain Ute Tribes, does little to

efficiently distribute water. Since the tribes' stored water was recently converted from irrigation to municipal and industrial use, the project might have some utility if the tribes could market the water downstream. But because they are located close to the New Mexico border and the water cannot be marketed outside of Colorado, the lack of potential customers prevents that.

Similarly, but on a much larger scale, the cities of Los Angeles, Denver, Albuquerque, Phoenix and others now must operate within legal institutions designed for the development of an irrigation-based society. It still is far cheaper and easier to obtain water rights for agricultural use than for municipal/industrial use, and groundwater is managed separately from surface water. However, some new approaches are being developed to work within the existing institutions, such as conjunctive management techniques to address institutional problems that govern the storage and use of surface and groundwater in Arizona.

The Changing West

Demographics and land use have changed significantly since the Colorado River Compact was drafted: the Colorado River Basin states now host mostly urban/suburban enclaves. Although half of the nation's produce is grown in California—a great accomplishment of the reclamation program—California now is 97 percent urban, with only 1.67 percent of the population working on farms. In Colorado and Arizona, 86 percent and 89 percent of the population, respectively, live in metropolitan areas and just 1.48 percent and 0.67 percent of the workforce is involved in agriculture. Forty-two percent of New Mexicans live in the Albuquerque metropolitan area and state farm employment is only 2.14 percent (USDA Economic Research Service, 2008). Except for Northern California, most of these southwestern populations are dependent on water from the Colorado River Basin to service economic sectors and lifestyles that the authors of the compact could not have imagined.

Clearly, the fundamental variables upon which water resource institutions were

constructed—everything from the doctrine of prior appropriation to the rules of the Colorado River Compact—have been radically altered. The basin states now have plenty of people and growing populations (except Wyoming), and have turned away from agricultural economies to embrace development based on services and globalization. Additionally, energy availability and cost compound these demographic changes, since cities like Los Angeles, Phoenix, and Denver were constructed when electricity and oil were cheap and plentiful. As sprawl becomes increasingly expensive, development is likely to become even more urban—a trend that is already in evidence in cities such as Denver.

Another threat to these economies is climate change: the West is becoming drier. Farmers in California and other states are irrigating fewer acres or abandoning fields altogether, snowpacks are diminishing, reservoir levels have reached historic lows, many aquifers are being mined, and cities are responding with calls for conservation.

Envisioning the Future

Legal institutions such as the Colorado River Compact, the doctrine of prior appropriation, and other water management provisions were constructed to ensure that experts make decisions about the

distribution of water rather than politicians. These institutions worked very well during the settlement of the West, facilitating the construction of large water transfer projects that grew our western societies.

However, today's urban West is not the agricultural society that was originally envisioned, consequently many of the water-management institutions no longer function efficiently. They are further hampered by the effects of climate change and energy issues. These factors will increasingly force politicians—rather than agencies operating under the existing legal institutions—to solve the water problems that affect western cities and the large water transfer projects that support them. Eighty percent of the Colorado River Basin population now live in urban areas, and they are not going to willingly give up their water. Instead, their demands on elected officials will further the transition from agricultural to urban life and ultimately affect our water management policies.

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