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The Drought in Texas: Its Impact and Consequences

The recent drought illustrated that we have still failed to deal with three extremely important issues: (1) the lack of change in the management of the Río Bravo, which is still managed primarily for agriculture, even as municipal and other needs are increasing more rapidly; (2) the failure to face the need to regulate groundwater pumping in Texas; and (3) the need to strengthen the binational framework for groundwater management. These three issues are serious barriers to effective water management in this region.

AGRICULTURAL WATER USE ISSUES

John Baker, Commissioner of the Texas Natural Resource Conservation Commission (TNRCC), in his speech presented at the Cuernavaca conference on issues surrounding the waters of the Río Grande/Río Bravo Basin, alluded to the fact that we now have a culture of residential/municipal water users that expects cheap water. I agree with that statement, but it is also applicable to agricultural users. Irrigators in the Texas portion of the Río Bravo basin have come to expect not only cheap water, but also that the river will be managed primarily for their needs.

Irrigated agriculture still uses and retains paper rights to the vast majority of the Texas share of Río Bravo waters. Irrigation accounts for almost 90 percent of the water use in the Lower Río Grande Valley, for example. Yet, the application of conservation techniques to water use in this sector has been extremely slow, primarily because the water is so cheap. There is little incentive to conserve in the absence of price structures that foster conservation. The main question, however, is how do we actually change price structures for irrigation water from the Río Bravo? Should the International Boundary and Water Commission (IBWC)/ *Comisión de Límites y Agua* (CILA) begin to consider charging for water released to the two countries? Should the state of Texas examine the need for water pricing changes just for the Texas share? Does the responsibility lie with the large irrigation districts? There does seem to be broad consensus that little conservation will occur without some modification to the pricing structure, but the question of how those modifications will occur is rarely discussed.

Another issue is how we deal with agricultural water use when projecting water demand into the future. The Texas Water Development

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Board projections for the Lower Río Grande Valley, for example, do not consider that much of the irrigated agricultural land may be lost to residential and commercial development over the next 20 years in this rapidly growing region. Thus, we end up with projections that show little or no decline in agricultural water use, and cities, therefore, begin to look to expensive and potentially environmentally-destructive water supply alternatives such as channel dams. Given the feasibility of water rights marketing in the Río Grande (because of the existing watermaster system), it would be unfortunate if inter-sectoral allocation options are not exhausted before new dams are contemplated.

A related issue is the lack of an accurate analysis of how much of the paper irrigation rights are really being used. Our preliminary analyses of agricultural use figures (which are often based on estimates, not actual metering) indicate that agricultural use may be far below paper rights. If that is true, then there is more water available than is generally assumed. If these rights have been unused for the statutory period of time (10 years), then the state's environmental agency, Texas Natural Resource Conservation Commission (TNRCC), should begin statutorily-authorized water rights cancellation procedures. The new Senate Bill 1 (involving comprehensive water planning legislation adopted by the state of Texas in 1997) should provide some incentive and funding for better water rights tracking and better water availability models for the Río Bravo.

Finally, in the upper portion of the Texas/Mexico Río Bravo basin, the barriers to El Paso's ability to increase its use of surface waters and decrease its reliance on the binational aquifers are directly linked to management changes for Caballo and Elephant Butte reservoirs. Year-round, in-channel releases of water from these reservoirs—versus releases made solely to meet irrigators needs—could significantly reduce the costs of El Paso's shift to surface water. Such releases should also improve water quality and riparian habitat conditions throughout the stretch of the Río Grande from the reservoirs to Big Bend National Park.

GROUNDWATER ISSUES

As other researchers have repeatedly pointed out, the 1944 Treaty between the United States and Mexico governing the allocation of transboundary surface waters (the waters of the Río Grande and the Colorado) failed to deal with binational groundwater reserves. This failure must be addressed in order to have effective and sustainable long-term management of water resources in the basin. This is, of course, true not only in the El Paso/Juárez/southern New Mexico region, but also in the middle border region, where there are strong interconnections between groundwater and levels in Amistad Reservoir and where the southern-

most portion of the Trinity/Edwards aquifer extends across the border into Mexico.

Texas must also come to grips with the need to regulate groundwater pumping in Texas through, at a minimum, a modified rule of capture. TNRCC Chairman Barry McBee suggested a thoughtful approach to this issue early in his term, but he did not receive the necessary support from other statewide political leaders. That is disappointing, because the drought, at least, got everyone thinking. If top state leaders continue to be unwilling to face facts, it is likely to take another severe drought to move the issue forward.