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# Water Management in the Binational Texas/Mexico Rio Grande/Rio Bravo Basin

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She obtained her law degree in 1985 from the University of Texas (with honors). She also holds a Bachelor of Science degree in Chemical Engineering from the University of Arizona (1979, with distinction) and spent four years as an engineer with Radian Corporation. She is "of counsel" to the Austin law firm of Henry, Lowerre, and Frederick and was an associate and partner at that firm from 1986 to 1990.

## ABSTRACT

This paper provides an overview of the water management challenges in the Texas/Mexico portion Río Grande basin. It includes a brief description of this area of the basin; reviews recent population data; examines water availability and water quality and the current and future demand for water, including water for environmental needs. It also discusses the legal and institutional framework for water management, with a special focus on the transboundary framework provided by the 1944 US/Mexico treaty. The paper concludes with a brief set of recommendations.

The 180,000 square mile binational Río Grande basin presents a full range of complex water management challenges:

- an arid region, with limited surface and groundwater supplies;
- rapidly growing population centers and an economic shift from agriculture to trade, manufacturing and tourism;

- a river system that has been dammed, diverted and largely managed for agriculture;
- a lack of incentives or funds for improving irrigation efficiency;
- simmering rural/urban conflicts, particularly over groundwater;
- aquatic ecosystems that have suffered damage from reduced stream and spring flows and from river channelization projects;
- areas where municipal, industrial or agricultural discharges have caused severe water quality problems;
- difficulties in meeting basic water needs of low income populations in an affordable manner;
- in some areas, water management decision-making that suffers from a lack of basic data about water availability, water use and projected demands;
- a complex (and somewhat outdated) set of local, state, and federal laws and institutions affecting water policy management; and
- a US/Mexico water treaty that is increasingly less than adequate for dealing with the binational management challenges facing the basin.

These difficult, but pressing, challenges demand that policymakers begin looking at water management in the Río Grande basin in new ways. In addition to increasing public awareness of the limits on water supply in the basin, long-held notions about the relationships among growth management, economic development and water supply, as well as about how water should be used in urban and rural areas, will have to be re-examined.

The importance of irrigated agriculture—to food production, local economies and a rapidly disappearing way of life in the basin—cannot be ignored, but the level of attention and resources devoted to making irrigation systems efficient must be greatly increased.

Moreover, if we are to preserve a semblance of the natural river system in the basin, adjustments will have to be made to help re-establish and protect instream flows and springs.

And, finally, in this basin, there is an urgent need to improve the US/Mexico framework for management of transboundary water resources.