

In Summary:

The CDP does provide a tool for identifying water availability and water quality variations in the delivery system. By providing spatial relationship information, the CDP will provide real-time information about the location of water demands and water deliveries. With a timely data sharing, water managers can also make quick decisions to reduce operational spills, which in turn will conserve water and make more water available for water marketing or banking.

Water conserved in any one year from the implementation of any of these proposals is stored at Elephant Butte Reservoir, and is subsequently re-allocated among EBID, El Paso County Water Improvement District No. 1 (EPCWID), and Mexico for use during the following year. EBID,

one of the partners in this proposal, has operated a water bank for facilitating transfers of water among agricultural water users for over a decade. The archived data obtained from the installation of the flow and TDS measurement equipment would also be a key component in the detailed evaluation of several drain mitigation strategies that were conceptually developed as part of the El Paso-Las Cruces Regional Sustainable Water Project (SWP) of the New Mexico-Texas Water Commission. If implemented, these drain mitigation strategies have the potential to improve water quality for both M&I and agricultural water users, and to improve surface water availability for the City of El Paso.

Agency	Proposal Title	Proposal Focus
El Paso Water Utilities	Installation of River and Drain Instrumentation Stations to Monitor Flow and Water Quality and Internet Data Sharing	Real-time Flow and TDS measurement of drain and river flows, plus sharing of historic and real-time water flow/water quality data through an ArcIMS website sponsored by the Paso del Norte Watershed Council
EBID	Flow Metering and Data Collection Project	Flow measurement at EBID's canals and turnouts (water delivery system). Technology transfer with Coachella Valley Water District (CVWD).
City of Las Cruces	Burn Lake Regulating Reservoir: Reclaiming Water for Conservation and Recreation.	Utilization of Burn Lake as regulating reservoir, for capturing storm flows, and to improve water quality for aquatic life and aesthetic value.

Supporting Agencies:

- New Mexico-Texas Water Commission
- New Mexico State University/Water Resources Research Institute
- Paso del Norte Watershed Council
- Texas A&M University
- U.S. Army Corps of Engineers
- U.S. International Boundary and Water Commission

Grant Funding Proposal
by
El Paso Water Utilities with Participation by Elephant Butte Irrigation District and Paso Del Norte Watershed Council

Installation of River and Drain Instrumentation Stations to Monitor Flow and Water Quality and Internet Data Sharing



Western Water Initiative
U.S. Bureau of Reclamation
FY 2005 Challenge Grant
Water 2025 Program
January 2005

One of Three Linked Proposals In a Collaborative Effort Among -



Monitoring the River

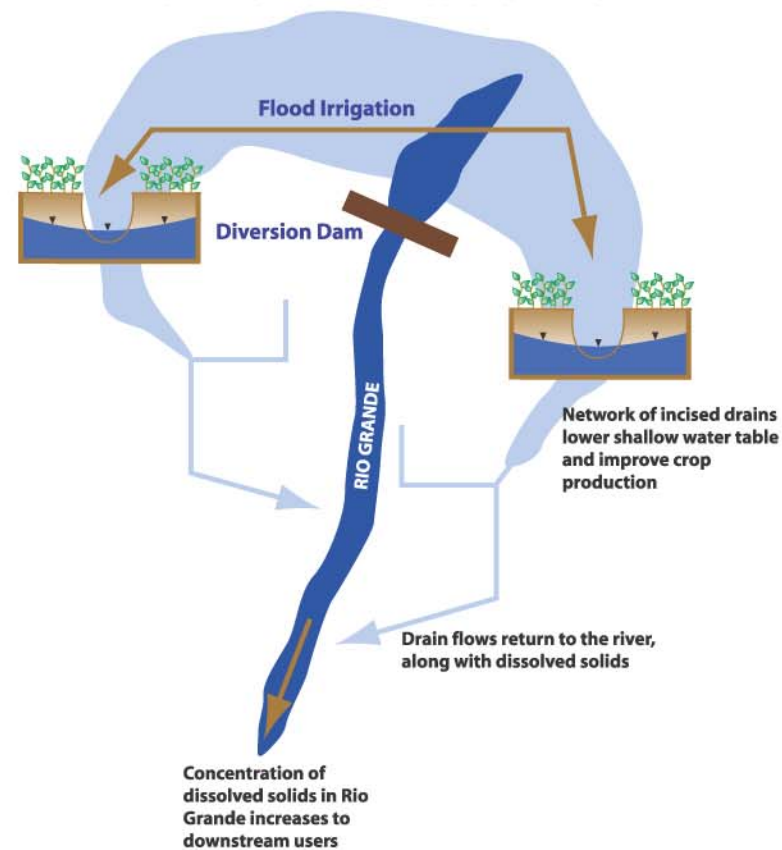


U.S. Bureau of Reclamation - Sponsored Funding Program:

Water 2025: Preventing Crisis and Conflict in the West is intended to focus attention on the reality that explosive population growth in western urban areas, the emerging need for water for environmental and recreational uses, and the national importance of the domestic production of food and fiber from western farms and ranches are driving major conflicts between these competing uses of water.

Water 2025, recognizes that state and local governments should have a leading role in meeting these challenges, and that the Department of Interior should focus its attention and existing resources on areas where scarce federal dollars can provide the greatest benefits to the West and the rest of the Nation.

Relationship of Irrigation Canals, Agricultural Drains, and the Return of Drain Flows Back to the River



This proposal is one of three linked proposals being submitted by three sponsoring agencies - **Elephant Butte Irrigation District (EBID)**, the **City of Las Cruces** in New Mexico and **El Paso Water Utilities (EPWU)** in Texas. Each of the proposals, although linked in terms of their contributions toward an overall goal of improving water management, has a somewhat different focus based on the applicant agencies' current needs.

EBID is a critical partner in the implementation of this proposal. A key component of EBID's successes in dealing with Municipal and Industrial (M&I) and environmental interests is its dedication to quantitative management, with the goal of metering all releases from storage, flows in the Rio Grande, diversions from the river, deliveries to district constituents, and return flows. By taking a scientific, unbiased approach to management and sharing water data with other agencies, the district has been able to negotiate innovative approaches to changing water needs while avoiding conflict.

EPWU, the City of Las Cruces and EBID recognize the need for developing a structured, equitable mechanism for transferring water from its traditional use in irrigation to other uses, particularly M&I applications.

Archival data on Rio Grande Project drain flows and total dissolved solids (TDS) levels exists, but this data is inadequate, in terms of temporal resolution and time period commonality among stations, to allow a detailed, planning level evaluation of several drain mitigation strategies currently being considered by EPWU. The Paso del Norte Watershed Council (PdNWC), in conjunction with New Mexico State University and Texas A&M University, implemented a project entitled the "Coordinated Database and GIS Project" (CDP) which offers regional water related data on the internet via its project website. However, additional website improvements, which are included in this proposal, are necessary to make the data acquired under this proposal available to users and to enhance the functionality and usefulness of this data and of other data which is already accessible on the website. As proposed, this project will accomplish the following tasks:

- Installation of fifteen (15) electrical conductivity - TDS measurement stations and water flow stations on the Rio Grande and on various Mesilla Valley drains, each with a solar power supply and telemetry to transmit data to EBID's main server.
- Provide internet based access to both real-time and archived data from these stations at EBID's website, with replication of this data on the CDP website, including implementation of data quality assurance/quality control (QA/QC) processes.
- Provide productivity enhancements to the CDP website to insure users obtain maximum functionality and user friendliness.
- Upon completion, all the data will be shared on a real-time basis through the CDP.

Location of Drain Flow/TDS Measurement Sites

