

Summary of Groundwater Use Planning Strategies and Best Management Practices for Drought Scenarios, Val Verde County, Texas

TWDB Groundwater Management Report 23-01 and Special Report to the Texas Legislature

The hydrological landscape in Val Verde County is unique and complex. Groundwater and surface water resources are intimately connected, sensitive wildlife species are dependent on groundwater flows supporting streamflow, and potential future groundwater development is on the horizon. Establishing a better understanding of the resources and setting management goals that address the interests of a broad group of stakeholders is critical to effective groundwater management in the county.

In 2018, the TWDB completed the *Overview of Groundwater Conditions in Val Verde County, Texas* report (Weinberg and others, 2018) to provide an overview and an assessment of the feasibility of employing hydrologic triggers to manage the Edwards-Trinity (Plateau) Aquifer. Article 6, Rider 25 of the 2021 General Appropriations Act tasked the TWDB to use the 2018 report (Weinberg and others, 2018) to identify possible groundwater planning strategies, including and prioritizing best management practices for drought scenarios.

Informed decisions begin with data. Accurate, available data form the foundation of groundwater management decision-making. Refined groundwater monitoring and filling data gaps for key factors, such as groundwater-surface water interactions, aquifer storage, and recharge, will go a long way to inform effective groundwater management in Val Verde County.

Suggesting groundwater management strategies, particularly for drought periods, in an area without a groundwater conservation district is difficult without an entity to incorporate stakeholder interests and monitor implementation and compliance. In identifying possible groundwater use planning strategies, the TWDB investigated groundwater management in areas with similar springs, geology, and species protection issues to provide background and examples for potential groundwater management strategies in Val Verde County. These examples may be applied to the proposed groundwater management zones from Weinberg and others (2018; Figure S-1).

The recommendations and information included in both Weinberg and others (2018) and in this report can be used to guide groundwater management efforts by Val Verde County, the City of Del Rio, any future groundwater conservation district, and any other entities involved in groundwater-related decision making. The TWDB proposes the following recommendations:

Education and outreach

Education and outreach are important aspects of any groundwater management plan, within a city or in more rural areas.

- Develop a county-wide drought and water awareness campaign. The Texas Water Foundation's statewide campaign, Texas Runs on Water (Texas Water Foundation, 2023) may be an effective

campaign to pursue because it can be localized to specific communities and combined with local interests.

- Set up a web-based drought portal to improve knowledge of groundwater drought conditions, including citizen-based reporting of groundwater levels and drought conditions and providing education about water wells during drought conditions. This could include the creation of indices to show the occurrence of groundwater drought. An initial web-based portal could include links to existing resources, such as the TWDB Water Data for Texas drought and groundwater dashboards and the U.S. Geological Survey National Water Data Dashboard.
- Provide rural well owners with educational opportunities, such as those offered through the Texas Well Owner Network, with an emphasis on conservation and drought.

Data and research

As noted in this report and in Weinberg and others (2018), more detailed hydrogeological assessments are needed to support groundwater management objectives.

- Consider a technical advisory workgroup composed of stakeholders actively engaged in data collection and research in Val Verde County.
- Fill data gaps for key factors, such as groundwater-surface water interactions, aquifer storage, and recharge.
- Establish a representative groundwater monitoring network of at least 25 to 30 wells equipped with instruments to provide daily water level measurements.
- Monitor groundwater production. Val Verde County, the City of Del Rio and others may monitor water levels and establish a voluntary water well metering and reporting program to inform estimates of groundwater production in the absence of a groundwater conservation district. Voluntary water well metering may be used to establish historic use for permitting by any future groundwater conservation district.
- Further refine proposed management zones (Figure S-1) based on data and research initiatives.

Groundwater management and planning

- Val Verde County, the City of Del Rio, and others may consider preparing groundwater management strategies consistent with groundwater management plan goals required by Texas Water Code Chapter 36 requirements for groundwater conservation district management plans.
- Val Verde County may consider requiring groundwater availability certifications for subdivisions (Local Government Code § 232.0032). The City of Del Rio already requires these certifications under authority granted by Local Government Code § 212.0101. Information from these groundwater availability studies can be another source of data collection for the groundwater resources in the county.
- Val Verde County, the City of Del Rio, and other interested parties would benefit from participating in Groundwater Management Area 7 activities. Providing funding and input to the joint groundwater planning process would ensure that conditions adopted by the district members include consideration of groundwater concerns for Val Verde County.

- Utilize the proposed groundwater management zones (Figure S-1) as a starting point to improve groundwater data collection and cooperation to support future groundwater management, whether by a groundwater conservation district or other existing entity.



Figure S-1. Map of possible groundwater management zones for Val Verde County (from Weinberg and others, 2018).