BRINGING BACK COMANCHE SPRINGS

CAPITALIZING THE WORLD'S FIRST SPRING RESTORATION MARKET

LOST TO HISTORY

The story of Comanche Springs is known to every student of Texas water law. Once a 30 million-gallon-a-day oasis on the edge of the Chihuahuan Desert, Comanche Springs supported native populations and early settlers through the 1940s, when it began to sputter. It finally went dry in the 1950s due to significant groundwater pumping upgradient from the springs.

The sudden demise of the springs led to a seminal court case, *Pecos County Water Control and Improvement District No. 1 v. Williams et al. (PCWID No. 1 v. Williams)*—a case still cited today, as it maintained the legality of the Rule of Capture, which holds that a groundwater user whose lawful pumping diminishes his neighbor's water resources cannot be held liable for those damages. Since the PCWCID No. 1 District v. Williams case was decided, the down-spring farms along Comanche Creek have been entirely extirpated, as have the populations of desert fish that once thrived in Comanche Springs.

For seventy years, Comanche Springs was a relic of the past, and a bellwether of Texas' possible future.

REVIVING THE DEAD

Yet over the last decade, the once-quiet springs have begun flowing again in the late winter months when the aquifer rebounds from summer irrigation pumping – leading The Meadows Center for Water and the Environment and Texas Water Trade to ask, "Could Comanche Springs be permanently restored?"

In 2018, with a generous grant from the Fort Stockton Convention and Visitors Bureau and the National Fish and Wildlife Foundation, The Meadows Center and Texas Water Trade began assessing the feasibility of a market-based restoration of Comanche Springs. In cooperation with the Middle Pecos Groundwater Conservation District, which now regulates pumping from the aquifer feeding Comanche Springs, the partners have now identified a set of market-based strategies that we believe could be deployed for the permanent restoration of these springs.

Our strategy hinges on leveraging a condition often cited as the primary impediment to sustainable groundwater management in Texas: the private ownership of groundwater. The groundwater that is the source of Comanche Springs is owned by a relatively small set of entities, with the vast majority of current water use supporting cultivation of crops. Given the importance of agriculture to Fort Stockton and Pecos County, our goal is to incentivize agricultural producers to reduce their groundwater pumping while keeping their farms in production.

The Meadows Center for Water and the Environment
Texas State University

Texas Water Trade

www.MeadowsWater.org
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A LANDMARK MARKET

To our knowledge, a spring restoration of this scale has never been attempted, making a voluntary market-based restoration of Comanche Springs an effort of both statewide and international significance.

A restoration project of this size can be anticipated to take years of dedicated work and significant capital resources. Based on valuation of water rights and foregone crop revenues, we believe that the full cost of restoration could reach or exceed $20 million. Targeting the optimal volume of pumping reduction (and the resulting optimal restoration cost) would benefit from at least 1-3 years of temporary arrangements to test the sensitivity of springflow to production curtailments. In addition, a sustained restoration of the springs would require significant public buy-in to support regulatory steps that would need to be taken by the Groundwater Conservation District and infrastructure investments to manage spring flows and restore the natural spring environment. Finally, the long history of litigation among groundwater owners in the District leads us to believe that the most successful market design will be one that allows more than one groundwater owner to benefit from the spring's restoration.

Therefore, to gain public confidence in the feasibility of the spring's restoration, to zero in on the optimal pumping reductions that would be required to support perennial springflow, and to allow us time to discover agreeable terms with a larger set of groundwater users, the partners are now embarking on a one-year pilot market.

CAPITALIZING THE SPRING RESTORATION MARKET

Using the best available groundwater science and cost-effective market design, we are targeting voluntary reductions in pumping in the Groundwater Conservation District's Management Zone 1, equal to roughly 25% of current production from the spring source. The pilot market would seek to enroll agricultural irrigators to reduce pumping during the growing season that begins in February of each year. Our goals are to enhance springflow beyond the temporary flows now observed from November to April—thereby building public confidence in the viability of restoration—and to cooperate with the Groundwater Conservation District to provide observational data that will be used to shape their improved model of the correlation between groundwater production in Management Zone 1 and spring flow. The data produced by our pilot will improve the model's performance, to the benefit of "right-sizing" the permanent restoration market and informing regulatory decisions that will need to be made by the Groundwater Conservation District to ensure long-term protection of spring flows.

The estimated cost of this one-year market is $850,000. The Meadows Center and Texas Water Trade are now seeking philanthropic partners who believe in the transformative power of a restored Comanche Springs and who are willing to take this first step on that journey.