

To: Dr. Sanjeev Kalaswad, Director of Conservation & Innovative Water Technologies, TWDB

From: Mr. Lynn Smith, P.G., General Manager

Re: HB 30 Public Input

Date: October 29, 2015



The Mesquite Groundwater Conservation District (MGCD) was originally created by the Texas Legislature in 1986 as the Collingsworth County Underground Water Conservation District. The name was changed to the present name in 2007 as the district grew. It now encompasses 1.2 million acres covering portions of four counties. Aquifers present in the district include the Seymour (major), the Blaine (minor), and various Paleozoic, terrace, alluvial, and eolian deposits. Groundwater production rates range from less than two gallons per minute to greater than 700 gallons per minute. Water salinity ranges from fresh to saline, even within the same aquifer over a relatively short distance and similar depth. The district has streams that lose surface water to groundwater and streams that gain water from groundwater.

MGCD encourages and will participate in the scientific study of the Blaine aquifer. A great body of knowledge stands to be gained from any original scientific study that generates field-based data and uses that data to ground-truth and test any hypotheses or models proposed. However, MGCD has concerns that the study proposed within HB 30 will not generate any new data and may negatively impact existing groundwater management activities.

The Blaine aquifer is karstic in nature, primarily through the dissolution of anhydrite, gypsum, halite, and minor amounts of limestone/dolomite. Within our district, the outcrop area dominates with a number of high capacity irrigation wells along with some domestic and livestock wells being completed there. There are also a few irrigation wells and livestock wells in the downdip portion of the aquifer. The general practice of local drillers is to complete several testholes or to perform a geophysical survey prior to completing an irrigation well. It is not uncommon for no significant water to be found on a parcel where the Blaine aquifer is mapped at large scale. Testholes spaced a few hundred feet apart frequently indicate vastly different porosity and permeability, even on the same parcel of land. Unfortunately, much of the data that shows a lack of aquifer water presence never makes it to databases that might be utilized in various types of studies.

Water quality in the Blaine varies widely over a few thousand feet as well. Cavities that are in close proximity and direct communication with the scattered surface crevices or sinkholes have fresh water. Cavities that are somewhat removed from those recharge features have slightly saline to very saline water. MGCD has not identified an overall water quality trend beyond this empirical relationship.

Mesquite GCD is concerned that a desktop study of the Blaine aquifer, in the absence of a significant field-based study, would likely lead to significantly erroneous conclusions due to the non-homogeneous

nature of the aquifer itself. Furthermore, those conclusions might be used to pre-empt a GCD's responsibility to protect and conserve an aquifer, irrespective of its water quality or productivity.

Many negatives might occur from this. For example, the state might allow waste or brine injection into an inappropriate zone without the GCD's consent. Another possible scenario might involve the use of aquifer water for desalination outside of the permitting authority of the GCD. These are not trivial instances and occur regularly across the state under existing statute. Changing how they are permitted, based on potentially insufficient data and outside of the preferred method of managing groundwater, should be considered only in the most limited of circumstances and in no circumstance, as an aquifer-wide practice where a GCD already exists to perform that same function.



*Lynn Smith*  
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