October 30, 2015

Dr. Sanjeev Kalaswad (VIA Email: [sanjeev.kalaswad@twdb.texas.gov](mailto:sanjeev.kalaswad@twdb.texas.gov))

Director of Conservation & Innovative Water Technologies

Texas Water Development Board

P.O. Box 13231

Austin, Texas 78711-3231

Dear Dr. Kalaswad,

The Gonzales County Underground Water Conservation District (GCUWCD) is pleased to offer this public input on House Bill 30. The legislation directs the Texas Water Development Board (TWDB) to identify and designate brackish groundwater production zones and work with groundwater conservation districts (GCD’s) and stakeholders when identifying and designating brackish groundwater production zones.

Dr. Robert Mace’s power point presentation at the public hearing on October 26, 2015 indicated that in the first year, the TWDB will focus on the Blaine, Carrizo-Wilcox, Gulf Coast and Rustler aquifers. In year two, the focus would be on the Blossom, Nacatoch, and the Trinity aquifers.

GCUWCD respects that prior to identifying and designating brackish groundwater production zones, the TWDB is appropriately requesting input on the following questions from GCD’s and stakeholder interests:

* How should the TWDB define "significant impact”?
* How should the TWDB define "separated by hydrogeological barriers sufficient to prevent significant impacts"?
* How should the TWDB define significant source of water supply for municipal, domestic or agricultural purposes?; and
* Is there a distance from existing use that a brackish groundwater production zone could be designated?

The GCUWCD manages the Carrizo-Wilcox, Queen City, Sparta, and Yegua-Jackson Aquifers. These aquifers dip to the southeast at an angle slightly greater than the slope of the land surface and most thicken in the same direction. Most of the formations have been cut by many normal faults that trend generally northwestward, approximately parallel to the strike of the formations. Monitoring of these aquifers by the TWDB and the GCUWCD since the 1950’s has not shown any significant effects from faulting on the occurrence of groundwater that would indicate there are no currently known hydrogeologic barriers between the fresh and brackish water areas within the aquifers sufficient to prevent significant impact.

Groundwater Availability Models (GAMs) developed by the TWDB and used in developing desired future conditions for our district contains information on leakage between aquifers. To be consistent with current on-going DFC development by Groundwater Management Areas (GMAs) we suggest using the information contained in the GAMs unless a GCD can provide more up to date information. The limitations of the leakage estimates should be fully identified in the final study report. The current GAM used by GMA 13 shows the existence of some degree of leakage between aquifers and the confining layers for each of our aquifers.

GCUWCD aquifers have both fresh water and brackish water usage documented by water quality sampling and analysis conducted by both the TWDB and the GCUWCD since the 1950’s. Brackish water use has increased recently in the Carrizo, Queen City, Sparta, and Yegua-Jackson Aquifers due to the Eagle Ford Shale Play. The current use of brackish water in our aquifers includes municipal supply, domestic supply, agricultural supply, and industrial/commercial supply. The amount of brackish water use varies by aquifer, however, because it is currently in use means that it is a valuable source for existing water users and may become a more important source of water in the future as the State’s water supplies come under more pressure due to increasing population growth. What some may identify as an insignificant source of water supply today may be extremely significant in the future. The TWDB should define significant source of water supply as any water supply that is currently being used for municipal, domestic, or agricultural purposes.

The definition of “significant impact” for the aquifers in our district, which have no currently known hydrogeologic barriers between the fresh and brackish water and which according to the GAM show leakage into the confining layers would be “any impact” from a designated brackish zone on a fresh water zone. Any amount of groundwater use from a designated brackish zone that impacts a fresh water zone with designated DFCs would improperly take protection of private property rights and historic use from current well owners and operators thus negating all protection and conservation of the resource within GCUWCD. The fresh water and brackish water in aquifers that are not separated by hydrogeologic barriers should be regulated as a single source of groundwater, as they currently are in the GCUWCD, with no areas of the aquifer receiving “special relaxed oversight” and/or “untethered use”.

At a recent GCUWCD Board Workshop on brackish water management zones three different hydrogeologists testified that groundwater production from the brackish portions of the Carrizo-Wilcox Aquifers would impact aquifer levels exactly like groundwater production from areas containing fresh water, and that over time any withdrawals from the brackish portions would impact aquifer levels in the fresh water areas and recharge zone. Their testimony also stated that the quality of the groundwater produced does not make any difference on the cone of depression of the well or the overall impact on aquifer levels.

The GCUWCD is willing and able to support our comments with the best available scientific research, in-house water quality screening, source aquifer status reports, annual production reports by permit holders, and exempt estimates of use for the last five years. GCUWCD believes that we have sufficient evidence necessary to assist the TWDB to better understand that the aquifers in our jurisdiction are a “*significant source*” of groundwater for beneficial use within our jurisdiction.

Because of the known differences between aquifer conditions and regional characteristics across the state, and the subjectivity of the aforementioned questions, GCUWCD strongly recommends the TWDB seek to define of what constitutes a “*significant impact*”, “*significant source*”, or a sufficient “*definition of separation of a hydrogeological barrier*” on an area by area basis with direct input from local GCD’s as well as local municipal, rural water suppliers, domestic and agricultural stakeholders located within a proposed brackish groundwater zone prior to final designation. We adamantly believe there is not a one-size fits all definition to the proposed questions.

Additionally, the GCUWCD strongly recommends the TWDB hold a minimum of two stakeholder meetings in each of the proposed areas prior to the final designation of a zone in order to receive local input from residents and landowners as it relates to the defining questions, the economic impact of designating a brackish groundwater production zone and the impact if any to private property rights.

We believe if the TWDB reaches out to local residents and landowners in their respective home areas, and afford them the ability to provide input in the identification and designation process of brackish groundwater production zones, this will incentivize the utilization of brackish groundwater furthermore reducing the use of fresh groundwater resources.

The GCUWCD sees the added importance of TWDB effectively reaching out to GCD’s for groundwater information that may be incorporated in the facilitation of identifying and designating brackish groundwater production zones. GCD’s have a wealth of data and information, evidenced by our submittals with these comments. We strongly recommend the TWDB utilize direct input from local GCD’s and input from local stakeholder groups as they work to identify and designate brackish groundwater production zones.

Thank you for the opportunity and your consideration of these comments. If you have any questions please contact us.

Sincerely,

Greg Sengelmann

Greg Sengelmann, P.G.