LCRA
ENERGY • WATER • COMMUNITY SERVICES

MAR 14 2016

March 7, 2016

Mr. Nathan Ausley, Chair
Groundwater Management Area 12
c/o Post Oak Savannah Groundwater Conservation District
P.O. Box 92
Milano, TX 76556

Re: Proposed Revision to Desired Future Conditions for the Simsboro Unit of the Carrizo/Wilcox Aquifer

Dear Mr. Ausley:

The Carrizo/Wilcox aquifer is a statewide and regional resource with significant quantities of water in the various formations in the aquifer. LCRA has developed a groundwater supply in the Simsboro formation of the aquifer at our Lost Pines Power Park in Bastrop County and realizes the importance of the aquifer in helping to meet the water needs of the area. LCRA commends the Groundwater Management Area 12 (GMA) for the detailed and diligent review being made of the current Desired Future Conditions for the aquifers within the GMA. LCRA is a steward of major surface water resources in and near the area of the GMA and, we understand the responsibility each of the districts in the GMA have for fairly and equitably managing groundwater resources.

In addition to our investment at the power park, LCRA has purchased pumping rights on other property located over the Simsboro aquifer and we have a vested interest in the management and regulation imposed on the groundwater resources within our service area.

The current DFCs in GMA 12 are based on a projected future drawdown of the aquifer occurring in 2060 at the end of the planning horizon for the 2012 State Water Plan. However, LCRA is concerned that the DFCs for the Simsboro formation vary from GCD to GCD within the GMA. For instance, the DFC for the Mid-East Texas GCD is 115-ft of drawdown, while the adjacent Brazos Valley GCD adopted a DFC allowing a drawdown of 270-ft. The Post Oak Savannah GCD DFC is 300-ft of drawdown, while across the county line in the Lost Pines GCD, the DFC drawdown is 237-ft (63-ft difference). In the long run, this approach of having differing DFCs means that higher pumping may be allowed in GCDs that have DFCs with greater drawdowns, which could mean that pumping or production is restricted in neighboring districts with DFCs that have more restrictive drawdown limits.

LCRA is concerned these different DFCs have the potential to result in unfair, and potentially unreasonably discriminatory permit and pumping limits within GCDs with more conservative DFCs, including the LPGCD where LCRA's groundwater interests are located, even though the characteristics of the aquifer across the GMA are not significantly different.

In addition to the potential long-term effect of differing DFCs on individual permittees, the DFCs also affect the TWDB regional and state water planning effort. Because the DFCs are used to develop Modeled Available Groundwater, the DFCs indirectly limit the amount of groundwater supply the planning groups can include as available for meeting future water needs. Differing DFCs across an aquifer that is reasonably uniform in character will result in different MAGs across county lines, which, in turn, leads to an inequitable allocation of groundwater in the planning process and, ultimately, has the potential to adversely affect the viability of groundwater strategies in the state and regional planning process.

LCRA proposes that the Carrizo/Wilcox aquifer, and particularly the Simsboro formation, be developed and managed based on the physical capability of the aquifer to supply water, prudent management goals that balance interests, and uniform DFCs across the GMA consistent with aquifer characteristics. In the case of the Simsboro formation, LCRA understands there is a common pool of water in a sand formation below the GMA 12. Pumpage within the aquifer causes changes in artesian water levels throughout the aquifer. Although there are no expected near-term effects on pumpage or permits with the current approach, the current inconsistency between DFCs and the underlying aquifer response could ultimately adversely affect landowners in an inequitable manner.

Last Spring, LCRA submitted written comments to you advocating for an approach to establishing a DFC that considered actual aquifer characteristics across the entire GMA and the adoption of a uniform DFC for the entire GMA unless there are compelling scientific reasons for distinguishing between separate groundwater conservation districts. LCRA also urged more consideration of where future growth and demands are expected than reflected in a drawdown approach that appears to give more protection to historic permits. Consistent with our past comments, LCRA proposes the GCDs within GMA 12 adopt a uniform DFC across GMA 12 and implement it in a manner to ensure that existing and future users within a single GCD are not unduly impacted by actions in a neighboring GCD within GMA 12. Our proposal is to adopt a DFC that would retain a vast amount of water in storage in 2070, considering the full extent of the Simsboro formation in GMA 12.

Specifically, LCRA proposes an approach to setting DFCs that will be uniform across the resource, i.e. in this case, across the GMA 12. The proposal recognizes:

- the resource is a common pool;
- groundwater withdrawal in any part of the resource affects conditions through the pool;

- there is a large amount of water in storage and the resource should be managed to allow some use of it, while balancing the effects on the aquifer.

LCRA proposes that the DFC be developed based on the amount of water in storage. The proposal is to have a DFC condition based on leaving a large amount of water in storage at the end of the DFC planning period (i.e. the year 2070). The measurement and reporting of the amount of water in storage would be for the entirety of the aquifer in the GMA 12 and without regard to the individual GCD boundaries. The LCRA's proposed DFC offered for consideration is:

> "*For the Simsboro formation of the Carrizo/Wilcox Aquifer the desired future condition is: the water remaining in storage in 2070 be at least 95 percent of the amount in storage in the formation existing in 2010, based on the full extent of the Simsboro formation in GMA 12.*"

In closing, LCRA points out:

- A consistent DFC addresses the inter-connectedness of all users of the aquifer and the fact that there are no known significant hydrologic differences to justify different DFCs by GCD.
- A DFC based on retaining an amount of water in storage is a simple physical parameter.
- Use of a small percentage of the water in storage over the next 55 years allows for reasonable, but not excessive development of the resource.
- A uniform approach across the GMA could provide for a more fair opportunity to develop groundwater than offered by the current DFCs.

Thank you for your consideration.

Sincerely,

Ken Bensley for

David Wheelock, P.E.
Manager, Water Supply Planning

/dac

Attachment

Proposed Desired Future Condition(s) for Aquifer(s) in GMA 12

Contact Information

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Representing: Lower Colorado River Authority

Proposed Desired Future Condition(s)

Please be as detailed as possible in describing your proposed DFC. Include the quantifiable value and a description of the method for measuring or calculating the value. Attach additional pages as needed.

Aquifer	Proposed DFC and Measuring/Calculating Method
Simsboro	The water remaining in storage in year 2070 is to be at least 95 percent of the amount in storage in year 2010, based on the full extent of the Simsboro aquifer in GMA 12.

Consideration of Proposed Desired Future Condition(s)

The Texas Water code requires that the GMA develop DFCs that "provide a balance between the highest practicable level of groundwater production and the conservation, preservation, protection, recharging, and prevention of waste of groundwater and control of subsidence in the management area." In the space below, or on additional attached pages, please provide your considerations with regard to the nine items that must be considered, per the Texas Water Code, for the proposed DFC(s).

Consideration 1 – "Aquifer uses or conditions within the management area, including conditions that differ substantially from one geographic area to another:"

LCRA's proposal is to have a consistent DFC for the full extent of the Simsboro aquifer within the GMA precisely because there are no known, significant hydrologic differences in aquifer conditions across the management area that would justify a significantly different management approach.

Consideration 2 – "The water supply needs and water management strategies included in the state water plan:"

Under the current approach, the Modeled Available Groundwater (MAG) could be distributed across the GMA in a way that could arbitrarily and prejudicially give preference to areas with less conservative DFCs even if anticipated water demands are located elsewhere within the GMA. A more uniform approach across the GMA, as proposed by LCRA, may allow important water management strategies to be included in the state water plan within DFCs that might otherwise be excluded solely due to the existence of very different DFCs within the same GMA even though the aquifer characteristics are not substantially different.

Consideration 3 – "Hydrological conditions, including for each aquifer in the management area the total estimated recoverable storage as provided by the executive administrator, and the average annual recharge, inflows, and discharge:"

LCRA is not aware of any substantially different hydrologic conditions within the aquifer across the GMA that would warrant adopting anything other than a uniform approach to DFCs across the GMA.

Consideration 4 – "Other environmental impacts, including impacts on spring flow and other interactions between groundwater and surface water:"

LCRA is not aware of any substantially different anticipated environmental conditions across different areas of the GMA that would warrant adopting anything other than a uniform approach to DFCs across the GMA. The proposed DFC, and any DFC that results in development of the aquifer, could change the water budget relative to groundwater and surface water interaction. In some areas of GMA 12, it is likely that groundwater that previously was discharged through evaporation, transpiration, and springflow could be captured to aquifer recharge as the effects of reduced artesian pressure from groundwater production reaches the outcrop. To the extent such capture of natural discharge occurs, it could increase the total available water supply to the region. Direct evaporation of groundwater will be reduced as will discharge via transpiration and springflow. These effects occur to varying degrees from groundwater development for any DFC.

Consideration 5 – "The impact on subsidence:"

Subsidence is limited or non-existent in the Carrizo/Wilcox aquifer due to the well consolidated materials forming the aquifer. LCRA is not aware of any substantially different subsidence concerns within the aquifer across the GMA that would warrant adopting anything other than a uniform approach to DFCs across the GMA.

Consideration 6 – "Socioeconomic impacts reasonably expected to occur:" _____

LCRA believes that the impacts of its proposal to adopt a uniform approach to DFCs across the GMA supports a positive socioeconomic impact across the GMA because it affords the best opportunity to all owners of groundwater rights to fairly develop the resource they own on a schedule that fits the demands of their particular region, in a manner that has the least potential for adversely impacting landowners within a neighboring DFC, while still retaining a significant amount of groundwater in storage over a long period of time. At present, the current approach to disparate DFCs has the potential to limit the ability to use groundwater to meet water demands within high growth areas in the GMA if the area has not adopted a more generous DFC than its neighboring DFC.

Consideration 7 – "The impact on the interests and rights in private property, including ownership and the rights of management area landowners and their lessees and assigns in groundwater:"

LCRA believes its proposal affords the best opportunity to fairly protect the interests of all owners of groundwater rights within the GMA. By basing the DFC on changes in storage, rather than artesian pressure, the proposed DFC protects the rights of all owners of the common aquifer more uniformly. By monitoring and regulating according to changes in storage, all property owners are provided their fair opportunity to use the groundwater under their land, while also restraining excess depletion of storage, should such depletion start to occur.

Consideration 8 – "The feasibility of achieving the desired future condition:" ____

Adoption of a uniform DFC across the entire GMA should better allow GCDs to manage the resource towards achieving but not exceeding the DFC while avoiding the need for curtailment except in exceptional circumstances and yet affording all groundwater rights owners a fair opportunity to access the groundwater under their land.

Consideration 9 – "Any other information relevant to the specific desired future conditions:" No additional information at this time.