



April 12, 2022

Ms. Jennifer Jones  
Executive Director  
**Attn: TWDB and SWIFT**  
P.O. Box 13066  
Austin, Texas 78711

Re: Comments regarding the Texas Water Development Board Sunset Review

Dear Ms. Jones,

I write today to express support for the Texas Water Development Board (TWDB) as you undergo the agency's Sunset review. As former Chairman of the TWDB and TCEQ Commissioner I know first-hand the critical role the TWDB plays in science, planning and funding for our current and future water needs.

For these reasons I also find agreement with the Sunset staff's report and recommendation - specifically that the TWDB has become a large infrastructure bank; that the TWDB would benefit from risk-based reviews and decisions and that a rule review process is in order. I also share your recognition and commend the TWDB for how effectively it has implemented significant legislative directives - particularly since 2013.

I am however troubled by the lack of mention in the staff's report relative to the inextricable link the equally important tasks of science and planning have as it relates to funding decisions. These interactions, with failings in one, can impact the other and increase risk and cost to the TWDB and to Texans. Specifically, as it relates to surface and groundwater availability modeling, planning and oversight of the development of desired future conditions (DFC) and groundwater management plans.

In my view, the current lack of authority and clarity in statute as it relates to DFC development and the critical role it plays in the establishment of the Modeled Available Groundwater (MAG) factor contribute to inaccurate planning assumptions that may result in what water planning is supposed to prevent - the creation of new unmet water needs.

At a previous hearing of the Senate Water, Agriculture, and Rural Affairs Committee, which I attended - Chairman Perry expressed the need to have "honest planning". That is, that our assumptions of surface and groundwater availability are as accurate as possible and that the amount of water we are counting on as available supply will in fact be there in the coming decades. I share Chairman Perry's view.

The current DFC process does not promote honest water planning.

My concerns can be summarized as follows:

1. Poorly developed DFCs do not contribute to honest water planning.
2. Inaccurate MAGs are derived from poorly developed DFCs.
3. Together, inaccurate DFCs and related MAGs contribute, at best, to groundwater management plans that may not in reality achieve the DFC targets.
4. These failures in the DFC process and review do not contribute to the protection of groundwater, or property interest in groundwater - including ownership in place.
5. Some of the failures in the DFC process translate into GCD regulations that unjustly prevent achieving a balance between the highest practicable level of groundwater production and the conservation, preservation, and protection of groundwater as required by TWC §36.108(d-2).
6. A related issue is the limitations and purpose of development of Groundwater Availability Models (GAMs). Particularly the inappropriate reliance on these models to arrive at conclusions for purposes that are not within the original intent of the GAM development or current capacity.

I am pleased that both Senate and House interim charge issues speak in part to the above concerns. I was also pleased to read in the TWDB self-evaluation report that the TWDB recognizes in part the need for statutory clarity as it relates to the concerns I express herein. The TWDB in fact identified as a **major issue** the interconnection between DFCs, MAGs and management plans. Having said that, I believe the recommendation for resolution offered by the TWDB (which I do support) needs to be expanded. And by direct relationship, so do the Sunset staff recommendations.

Specifically, I recommend that the TWDB be given greater authority and responsibility in:

- Verifying the level of review and accuracy that GCDs have undertaken in the development of DFCs and how these are considered at the GMA level.
- Charge the TWDB to identify and resolve disputes when some GCDs within a GMA have in fact undertaken substantial review and applicability of the nine factors outlined in Texas Water Code (TWC) §36.108; yet adoption of the DFCs at the GMA level do not incorporate these well studied concerns and result less protective and thus erroneous DFCs.
- Aside from the augmentation in responsibility and authority to review the adoption of DFCs, and consistent with Sunset staff recommendation relative to rule review, the agency should also be directed to modify TAC §356.33 which currently reads.
  - *A submitted package will be considered administratively complete if it contains complete copies of all documents required under §356.32 of this subchapter (relating to Submission Package) and is signed and dated.*
  - *(1) The executive administrator will acknowledge in writing receipt of submitted packages and will advise whether they are administratively complete or will provide a notice of deficiencies.*
  - *(2) Districts must submit to the executive administrator an updated package that contains corrections to the deficiencies noted in paragraph (1) of this section no later than 90 days following the date on which the executive administrator provided a notice of deficiencies.*

- The rule change and statutory requirement should augment the administrative complete review to also incorporate a technical review of whether or not the explanatory report meaningfully and appropriately addresses the information required by Texas Water Code §36.108(d-3) and the criteria in Texas Water Code §36.108(d) per TAC §356.32. My concern is that as long as the explanatory reports make some veiled reference to a discussion, a presentation, or other work, the explanatory report is deemed complete. The failure is that in some instances the referenced discussion or other comments in reports are not vetted nor accurate. My recent review of the process is that some explanatory reports in fact refer to the regional planning reports, which as I have explained, in fact rely on the DFCs as a starting point and a failure in the DFC process contributes to inaccurate planning reports which are then relied upon to justify the lack of effort in undertaking the review and consideration of the referenced criteria in TWC §36.108
- The rule change and statutory requirement should augment the administrative complete review to also incorporate a meaningful technical review that allows the TWDB to alleviate the two concerns with the DFC process discussed below.
  - (a) Reverse Engineering the DFCs. Some GMAs develop DFCs based primarily on an evaluation of a series of GAM runs with different future production scenarios rather than on TWC §36.108(d-2) requirement that “DFCs must 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”. Some critics of the joint planning process refer to the practice of developing DFCs primarily based on GAM simulations with different future production rates as “reverse engineering” because the GMA is essentially having the MAG determine the DFC rather than DFC determine the MAG.
  - (b) Rubber Stamping the Explanatory Report. As I have previously mentioned above, even though a discussion of any of the nine factors in the explanatory report could be inaccurate, incomplete, or not appropriate, the TWDB is required to deem the report administratively complete. In addition, the TWDB usually does not generate MAGs based on model simulations independent of those submitted with the explanatory but rather uses the productions rates contained in the model files submitted with the explanatory report. A rule change that requires TWDB to perform a technical review of whether the explanatory report provides a sufficiently meaningful and appropriate consideration of the nine factors in §36.108(d) will help make the assumptions and analysis of groundwater availability as accurate as possible.
- The TWDB and/or the TCEQ should be authorized to undertake an enhanced role in monitoring the implementation of and reliance of the DFC criteria by GCDs in their management plans. This in part is what I interpret the **major issue** the TWDB self-identified in their self-evaluation report. Further, as I read the TCEQ self-evaluation report I find commonality with this concern as it relates to instances when water use curtailments are required. The enhanced role should include preparing guidelines or protocols for the collection and analysis of monitoring data for the purpose of evaluating DFC compliance. Within many GMAs, there is a lack of agreement in the methodologies used by GCDs to analyze measured water levels for determining if a drawdown-based DFCs has been exceeded. The lack of agreement among GCDs in a GMA will be a significant impediment for a GCD trying to curtail production based on their evaluation of the monitoring data.

- The TWDB should take actions that highlight the current limitations of the GAMs for setting DFCs because GCDs often use DFCs to regulate production through special permit conditions or curtailment programs. One of the limitations is that GAMs were originally, and continue to be, constructed and calibrated at a regional scale. In order for GAMs to address local scale issues, the regional-scale calibration criteria in GAMs needs to be augmented to include aquifer characterization and model calibration at the scale of a few miles to tens of miles. Another limitation is that the GAM reports do not adequately explain or demonstrate the relatively large amount of uncertainty that can be associated with a GAM's prediction of drawdown. Given the current awareness of climate variability and importance of resiliency in water supply, the TWDB has an obligation to address the potential importance of predictive uncertainty. Inappropriate reliance on GAMs for purposes beyond their designed capacity and purpose additionally contribute to erroneous findings that impact DFC development and management decisions.

As previously stated, lack of accurate DFCs development contributes to erroneous MAGs. This error translates to erroneous water planning and water availability determinations. When these failings in process result in less water actually available and the creation of new unmet needs for water - Texan's suffer. The state is also impacted as the TWDB's associated responsibility to provide funding for water management strategies that mitigate future unmet needs will likely increase in cost and effort due to the aforementioned failings.

I encourage the Sunset Commission Members to undertake appropriate legislative review and action to remedy the shortcomings I outlined in the current DFC, planning, management and funding programs and decisions.

Respectfully,



Carlos Rubinstein

Cc: Mr. Darren McDivitt, Sunset Team Project Manager for TWDB Review