



April 13, 2022

Ms. Jennifer Jones
Executive Director
Sunset Advisory Commission
P.O. Box 13066
Austin, Texas 78711

Re: Comments on the Sunset Staff Report on the Texas Water Development Board

Dear Ms. Jones:

Environmental Defense Fund (EDF) appreciates the opportunity to submit comments on the Sunset Staff Report on the Texas Water Development Board (TWDB or Board). We support all the recommendations made by Sunset Staff. Our comments are focused on the Board's authority over groundwater science and planning in Texas. EDF believes that while the agency serves as a model to the nation, there are areas where needed enhancements related to TWDB's involvement in groundwater science and planning would increase the agency's ability to meet the various charges placed on it by the Legislature.

Groundwater availability is critical to water infrastructure development.

First, water infrastructure development and financing in Texas should not be separate from groundwater availability analysis, when groundwater is the water supply source for a community. Aquifers are infrastructure too, especially in rural Texas. The Sunset staff report focuses on areas where TWDB can improve its outreach to rural and underserved communities to ensure that these communities can utilize funding to support water and wastewater infrastructure development. Staff also recommends that TWDB conduct risk-based assessments of projects. The availability of groundwater as a water supply source, particularly in rural areas, is critical to a risk-based assessment of any water infrastructure project, but the Board is not required to conduct an analysis of whether there is enough groundwater available to support a particular project. Furthermore, with the exception of a small amount of grant dollars available for agricultural water conservation projects, TWDB does not provide funding for communities to develop the science to understand groundwater availability at a local level. Allowing rural communities to build out water infrastructure without knowing the impact on aquifer levels - without knowing whether the water supply is sustainable - will place communities at risk in the future.

Recommendations:

EDF believes it is a critical oversight to finance water infrastructure projects without consideration to whether the water supply is sustainable. EDF recommends that TWDB be directed to consider how existing water

infrastructure funds can be used to support technical needs related to groundwater availability. Additionally, EDF recommends that TWDB be directed to conduct a groundwater availability analysis or independently validate submitted supporting data as part of any risk-based assessment for a water infrastructure project that is sourced on groundwater.

Groundwater availability is critical to state water planning.

Development of the state water plan is central to the mission of the TWDB. According to TWDB, “Texas’ regional and state water supply planning approach is at the forefront of water supply planning in the nation. Texas maintains the most consistent approach to both funding and the development of cyclical state water plans, in a bottom-up manner with regional stakeholders driving the decision-making, within the state framework. Uniquely, Texas water plans produce highly credible data-driven plans and include very specific information for how thousands of individual water user groups can implement thousands of strategies and projects to meet their water demands under drought conditions for the next 50 years. And thanks to the Texas Legislature’s significant ongoing investments in surface water and groundwater modeling efforts, Texas water plans, unlike most other states, are founded on and bound by highly credible assessments of the capacities of Texas’ extensive range of water resources.” TWDB SER at 11.

TWDB Role in Groundwater Planning

Groundwater management and planning are critical elements of the state water planning process, and TWDB has several important responsibilities that inform this process.

Chapter 36 of the Texas Water Code requires GCDs to develop long-term management goals, referred to as desired future conditions (DFCS) every five years. This process is referred to as the joint planning process. GCDs with jurisdiction over shared aquifers work together in a groundwater management area (GMA) to establish desired future conditions for these aquifers. The TWDB has the responsibility to delineate the boundaries of GMAs under Tex. Water Code 35.004.

DFCs are defined as the “the desired, quantified conditions of groundwater resources (such as water levels, water quality, springflow, or saturated thickness) at a specified time or times in the future” – essentially a long-term objective for how much groundwater will remain in the aquifer in 50 years. To assist GCDs with adoption of DFCs, TWDB provides GCDs with regional groundwater availability models (GAMs) as required by Tex. Water Code 16.012(l). GCDs must consider the GAMs provided by the TWDB when adopting DFCs. In addition to consideration of the GAM, under 36.108(d), GCDs are required to consider nine factors when adopting DFCs:

1. Aquifer uses or conditions within the management area, including conditions that differ substantially from one geographic area to another.
2. The water supply needs and water management strategies included in the state water plan.
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.
4. Other environmental impacts, including impacts on spring flow and other interactions between groundwater and surface water.
5. The impact on subsidence.
6. Socioeconomic impacts reasonably expected to occur.
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 as recognized under Section 36.002.
8. The feasibility of achieving the desired future condition.
9. Any other information relevant to the specific desired future conditions.

As noted above, under 36.108(d)(3), the TWDB is required to provide GCDs with the Total Estimated Recoverable Storage (TERS) of aquifers for consideration in the DFC adoption process. The TWDB defines total estimated recoverable storage (TERS) as “[t]he estimated amount of groundwater within an aquifer that accounts for recovery scenarios that range between 25% and 75% of the porosity-adjusted aquifer volume.” In other words, TERS represents the maximum amount of groundwater that may be technologically feasible to recover from an aquifer without regard to other impacts.

DFCs must balance the highest practicable level of groundwater production against conserving and preserving groundwater and preventing waste and subsidence. Tex. Water Code § 36.108(d-1). Each GMA submits its DFCs to the TWDB in an explanatory report, which provides policy and technical justification for the DFC, as well as documentation that the nine factors under 36.108(d) were considered by the districts and a discussion of how the adopted desired future conditions impact each factor. The TWDB determines whether the explanatory report is administratively complete. 31 TAC 356.33

Under 36.108(4)(b), the TWDB is required to provide the modeled available groundwater (MAG) for the aquifer – the amount of groundwater that can be pumped and achieve the DFC – to GCDs and regional water planning groups. Additionally, the TWDB is required to provide GCDs with an estimate of the current and projected amount of groundwater produced under exemptions within the district, as these exempt pumping volumes are in MAG.

GCDs use the MAG as a factor in their permitting decisions, but the MAG plays an important role in regional water planning decisions as well. To help the state develop future water supplies, the Water Code tasks regional water planning groups with, among other things, quantifying current and projected population and water demands over a 50-year planning horizon and evaluating and quantifying current water supplies within each region. Chapter 16 of the Water Code requires regional water plans to be consistent with the DFC for the relevant aquifer in the regional planning area and requires regional planning groups to use the MAG volume for groundwater availability. Regional water planning groups may not recommend water management strategies that exceed MAG volumes. **Thus, the long-term management goals or DFCs that local GCDs adopt heavily influence the availability of groundwater under the regional and ultimately the state water planning process.**

TWDB's Role in Groundwater Management

Local groundwater management is also connected to the larger regional water planning process. Chapter 36 of the Texas Water Code requires GCDs to develop local management plans that detail how they will achieve certain management goals and particularly, how GCDs will manage groundwater to achieve the DFC. TWDB has a role in this process as well.

Chapter 36 requires GCDs to address eight goals in their management plans:

1. Most efficient use of groundwater.
2. Controlling and preventing waste.
3. Controlling and preventing subsidence.
4. Addressing conjunctive surface water management issues.
5. Addressing natural resource issues.
6. Addressing drought conditions.
7. Addressing conservation, recharge enhancement, rainwater harvesting, precipitation enhancement or brush control, where appropriate and cost-effective.
8. Addressing the desired future conditions adopted.

Under 36.1071(e)(3), GCDs must include in their management plan estimates of modeled available groundwater; the amount of groundwater being used within the district on an annual basis; the annual amount of recharge from precipitation, if any, to the groundwater resources within the district; for each aquifer, the annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams, and rivers; the annual volume of flow into and out of the district within each aquifer and

between aquifers in the district, if a groundwater availability model is available; the projected surface water supply in the district according to the most recently adopted state water plan; and the projected total demand for water in the district according to the most recently adopted state water plan. Under 31 TAC 356.52, the TWDB provides these estimates for GCDs to include in their management plans.

If requested by a GCD, under 36.1071(c), the TWDB must provide technical assistance to the GCDs in development of a management plan. Additionally, under 36.107(f), GCDs must submit their management plans to the executive administrator of the Texas Water Development Board for approval; however, this approval is limited to an administrative completeness review, not a substantive review.

Recommendations

The Texas Water Code has established a data driven, science-based framework for both local groundwater management and long-term groundwater planning, which are critical to state water planning in Texas. Despite the significance that groundwater management and joint planning play in the state water planning process, TWDB's role is rather limited.

With respect to joint planning and the adoption of DFCs, Chapter 36 only requires TWDB to provide two pieces of information to GCDs: groundwater availability models and the total Estimated Recoverable Storage Volume. This is despite the fact that the MAG, which is based on the DFC, is an integral part of state water planning. While GCDs may utilize other data that is provided to them by TWDB in development of the management plan, there is no requirement for them to do so, leading to inconsistent standards in the DFC process. Additionally, in some cases, GCDs need additional data to inform robust consideration of the nine criteria.

For example, with respect to TERS, according to the TWDB, although roughly 25% to 75% of the approximate 16.8 billion acre-feet of freshwater groundwater in Texas may be recoverable, "this range does not account for possible economic, environmental, or legal consequences of such pumping," factors that do set realistic limits on what the highest practicable level of production might be in a certain aquifer.¹⁰¹ Thus, many hydrogeologists agree that the MAG represents a volume that falls somewhere between what is sustainable and what the highest practicable level of groundwater production is in an aquifer. According to hydrogeologists, "with few exceptions, TERS is far greater than the highest practicable level of groundwater production and is not a useful tool for the planning and management of aquifers." Additionally, for GCDs to adequately consider technical factors like subsidence or impacts to spring flow, they need highly local data and refined models. The GAMS are too regional for GCDs to utilize to understand local hydrogeological conditions; however, the TWDB does not provide this data or modeling to GCDs to utilize in the DFC adoption process.

To ensure state water planning is sound and to support Sunset staff's recognition of the importance of risk-based assessments, EDF recommends the following:

- TWDB should have a greater role in the joint planning/ DFC development process beyond an administrative completeness review of explanatory reports. Chapter 36 should require that acceptance of the explanatory reports under Tex. Water Code §36.108 include an independent TWDB led technical review of the technical assumptions that contribute to the report. This will require a rule change to TAC §356.33 of the TWDB's rules. EDF supports local management and regulation of groundwater in Texas, but believes that additional technical review by TWDB will provide GCDs with additional technical support and will ensure that the DFC informs sound planning and effective local management.
- TWDB should clarify the appropriate level of meaningful review that should be carried out by GCDs in developing DFCs as per Texas Water Code §36.108.
- TWDB should provide GCDs with "modeled sustained pumping" volumes – the amount of groundwater that can be pumped in perpetuity from an aquifer – to address the impracticality of TERS.
- Allow the TWDB to identify, or for the legislature to appropriate additional funding to support the joint planning process in a manner similar to the regional water planning and flood planning process. With groundwater supply 60% of the state's water, it is imperative that the state invest in long term planning and support TWDB's role in this process.
- Allow the TWDB to identify or for the legislature to appropriate additional funding to support GCD required actions that directly impact state water planning and ultimately funding considerations, such

as the need to develop local data and refined models to enhance planning. We would point out that an investment in GCDs will in the end be less costly to the state than continued reliance in incomplete planning assumption that may lead to creation of new unmet water needs that may require additional TWDB funding to resolve.

- Clarify and augment TWDB's responsibility and ability to review groundwater management plans beyond an administrative complete process. Require that acceptance of the management plans include an independent TWDB led technical review of the assumptions that contribute to the plan and its ability to meet the DFCs. This will require a rule change to TAC §356.53 of the TWDB's rules.
- Require that TWDB reassess the boundaries of groundwater management areas to ensure that they are hydrogeologically based and do not inadvertently create obstacles to water planning efforts.

We very much appreciate the work of staff in their review of TWDB and the opportunity to submit additional recommendations for consideration. We look forward to working with the Sunset Advisory Commission and the Legislature on TWDB's Sunset bill. Please reach out to any of the organizations below for more information on these issues.

Respectfully,



Vanessa Puig-Williams
Director, Texas Water Program
Environmental Defense Fund
vpuigwilliams@edf.org