February 13, 2023

Re: Environmental Defense Fund's Testimony on Article VI of the budget in support of funding for groundwater science

Dear Chair Huffman and Members of the Senate Committee on Finance,

Water in underground aquifers is one of Texas' most vital natural resources. It provides approximately 55 % of the water used in the state, from agriculture to industry to cities. Outflows from aquifers sustain an average of 30% of the water flowing in streams and rivers that support additional water uses, fish and wildlife, and recreation**. Aquifers are a critical component of Texas' water infrastructure**, just as much as reservoirs, drinking water systems and treatment plants. Aquifers are especially vital in rural Texas, as groundwater is often the only source of water for rural communities and landowners.

The Texas Legislature has a generational opportunity in 2023 to protect this critical infrastructure and the families, businesses, and communities that count on it. EDF recommends that the Legislature:

- Fully fund the Texas Water Development Board's (TWDB) Legislative Appropriations Request — specifically Exceptional Item Requests that will fund groundwater data needs. This includes appropriations to the Agricultural Water Conservation Fund and the Data Enhancement and Modernization Package.

- Increase appropriations to the Texas Water Development Board's Groundwater Availability Monitoring (GAM) Program so that regional models can be refined and updated more quickly.

- Appropriate dollars to the TWDB's Research and Planning Fund. This critical funding could be used by districts to conduct research, such as data gathering and predictive modeling, to assess local conditions and impacts.

Effective Study of Groundwater Remains Underfunded

Despite the importance of groundwater to Texas' water security, the state has severely under-invested in understanding, protecting, and managing this piece of the state's water infrastructure. State funding for ground water modeling - essential to science-based management - has declined dramatically over the past decade, dropping nearly 45% since 2011 — without adjusting for inflation. The TWDB is responsible for ensuring that groundwater modeling and availability assessments, particularly for water planning purposes, are based on the best available science and data. In 2011, the Legislature substantially cut TWDB's budget, and its groundwater modeling program inordinately suffered as compared to other TWDB programs.

The TWDB's entire 2022 budget for the Technical Assistance and Modeling Program (which includes **both** surface water and groundwater) was only about $ 2.6 million in 2022. That is a reduction from about $ 4.5 million/year in the 2010/2011 budget, out of a total budget of about $ 260 million.[1] This compares with about $10 million per year in state funding for "water planning," as well as billions spent every year to build and repair water infrastructure throughout the state.[2] Additionally, except for limited funding under the Agricultural Water Conservation Fund, there is no grant program at the TWDB that provides funding to groundwater conservation districts to develop local groundwater science. **With increased population growth and drought, this lack of investment in groundwater science is placing both Texas' water security and Texan's property rights at risk.**

Treating Groundwater Like Other Components of Texas' Infrastructure

The lack of funding for groundwater as a key element of Texas infrastructure becomes clearer when compared with state expenditures for other pieces of major infrastructure, such as healthcare, transportation, and education. Compared to the $2.6 million for the Technical Assistance and Modeling Program, the state allocated over $9 million to the Department of State Health Services for its efforts in reducing the use of tobacco. Additionally, the Department of Transportation received over $27 million in 2022 for research and development to improve transportation operations. The Texas Education Agency also received over $206 million in grants for School and Program Improvement and Innovation.

While the state faces many budgetary needs, the importance of water – and especially groundwater – must be recognized, particularly because Texas' aquifer infrastructure is

[1] https://capitol.texas.gov/tlodocs/87R/billtext/pdf/SB00001F.pdf#navpanes=0, Section VI.
[2] See, e.g., https://comptroller.texas.gov/economy/fiscal-notes/2019/apr/funding-water.php.

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in trouble. A report by the Meadows Center for Water and the Environment[3] found that of 21 aquifer systems analyzed, 8 were being pumped at levels above the maximum sustainable production levels (3 of the major aquifers and 5 of the minor aquifers), meaning that current levels of use are causing water level declines in the aquifer. Additionally, current management goals for these aquifers, referred to as "desired future conditions," which are set by groundwater districts and groundwater management areas, will result in additional declines from several of these aquifers over the next few decades, potentially impacting the water supply for many rural Texans.

Continuing to underfund necessary groundwater research could create disastrous effects on the economy and state budget well into the future. Investments starting now in groundwater science are essential for Texas' future.

Texas Water Development Board's Legislative Appropriations Request

EDF supports the Texas Water Development Board's Legislative Appropriations Request and urges this committee to fully fund it. TWDB has done a superb job providing funding to communities to address water infrastructure needs and developing science that informs water planning. As former TWDB Director Kathleen Jackson often stated, "the better the data, the better the science, the better the science, the better the decisions."

Two elements of TWDB's request are especially relevant to groundwater science: the Data Enhancement and Data Modernization Package and the Agricultural Water Conservation Fund. The Data Enhancement and Modernization package will create a comprehensive resource for state-wide water conditions and allow for a complete buildout of the state's hydrometeorological network; the program will increase knowledge and data, allowing for better planning and resource development. Increased research allows for better decision-making regarding groundwater issues and a more stable economic impact. Additionally, the Agricultural Water Conservation Fund, which in addition to funding agricultural water conservation technology, can provide funding for groundwater monitoring data when groundwater is pumped for agricultural uses.

[3] Mace, Robert, Five Gallons in a Ten Gallon Hat: Groundwater Sustainability in Texas, The Meadows Center for Water and the Environment, Texas State University, Report No 2021-08, November 2021.

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Additional Appropriations for Groundwater Science

In addition to funding the TWDB's Legislative Appropriations Request, **EDF urges this committee to appropriate additional funding to the TWDB to update and enhance GAMs beyond what is currently in TWDB's base budget**, as well as increase investment in data needed to improve the accuracy of GAMs. A total of 3.5 million per year in addition to two additional FTE's would enable the TWDB to update groundwater availability models more quickly, utilizing updated data and new coding. This will result in more sophisticated, accurate, and refined GAMs that will better inform groundwater availability and planning and consideration of local hydrogeological conditions.

Furthermore, **EDF urges this committee to appropriate at least $1.5 million dollars into the TWDB's Research and Planning Fund** (created under Tex. Water Code, Chapter 15 and implemented under 31 TAC Chapter 355), including one additional FTE, to be used by groundwater conservation districts to conduct groundwater research that will help inform their decision-making.

While groundwater may be an often-over looked part of Texas' infrastructure, it is critical to the state's water security and to rural Texans. Investment now is necessary to avoid increased costs in the future. Texas can be proactive and support the development of the best available science to ensure the state's future resilience.

I look forward to working with you on these critical issues.

Respectfully,

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