

Item 3 | Consideration of Funding a Groundwater/Surface Water Interaction Study of the Brazos River Alluvium Aquifer

Groundwater/Surface Water (GW/SW) interaction has become an important issue within the groundwater world. Current studies are limited in number and have done little to properly address the matter. GMA 12 updated the Groundwater Availability Model in 2018 and included a segment addressing GW/SW interaction along both the Brazos and Colorado rivers. The update primarily addressed faulting and connection (leakage) between confined aquifers and not the GW/SW interaction aspect.

HB 3990 by Kacal was filed this legislative session and instructing the TWDB to compile and review all GW/SW interaction studies conducted in Texas. By December 1, 2024, a report would be issued summarizing the collected information and recommendations for further studies to be conducted in areas lacking sufficient data.

HB 3990 was heard in the House Natural Resources Committee (HNR) on March 28, 2023 and reported favorably out of committee April 4, 2023. During testimony before the committee, the subject of the San Saba River Alluvium came up resurrecting an issue raised three sessions ago basically attempting to classify all alluvial deposits the same.

I had extended conversations with then HNR Chairman Lyle Larson enlightening him that the Brazos River Alluvium Aquifer (BRAA) is the only alluvial deposit designated as an aquifer and should not be lumped in with alluvial deposits directly connected to a river. Any bills filed that session and in subsequent sessions addressing this issue failed to pass.

Dr. Joe Yelderman, Professor & Chair, Department of Geosciences at Baylor University, mentored a Master's student, Erin Noonan, through a salinity study of the Brazos River in the river segment in southern McLennan/northern Falls counties. Ms. Noonan provided a presentation of thesis to the BVGCD board in 2019 which concluded that GW/SW interaction over a 37-day high bank event penetrated the alluvium no more than 88 feet.

With so much attention to GW/SW interaction at the GMA level and around the state, it is prudent for the District to engage in a study of GW/SW interaction along the segment of the Brazos River adjacent to the District. I have spoken with Gary Westbrook, General Manager of Post Oak Savannah GCD (POSGCD), about a partnership of our two districts on such a study. He indicated that the POSGCD board would very likely want to be an equal partner.

I reached out to Dr. Joe and queried his interest in performing/overseeing a GW/SW interaction study along our segment of the Brazos River. He jumped at the possible opportunity indicating that a Master's student was presently being recruited. Asking about costs of the study, Dr. Joe ballparked the expense between \$75,000 and \$100,000 using a 15% cap for "indirect" costs charged Baylor University.

It is important the District protect the groundwater rights of Brazos River Alluvium landowners. The proposed study will do just that and put to rest the thought that the BRAA is fed by “underflow” of the Brazos River and is not groundwater.

It is the recommendation of the General Manager the District enter into a contract with Dr. Joe Yelderma and Baylor University to conduct a groundwater/surface water interaction study of Brazos River and the Brazos River Alluvium Aquifer along the segment inclusive of Robertson, Milam, Brazos, and Burleson counties and cost-share with the Post Oak Savannah Groundwater Conservation District on the project. Total cost of the study will be between \$75,000 and \$125,000.