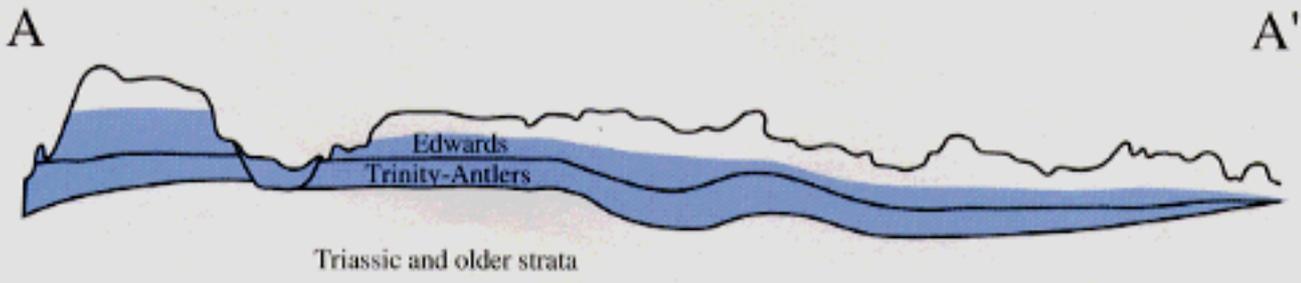
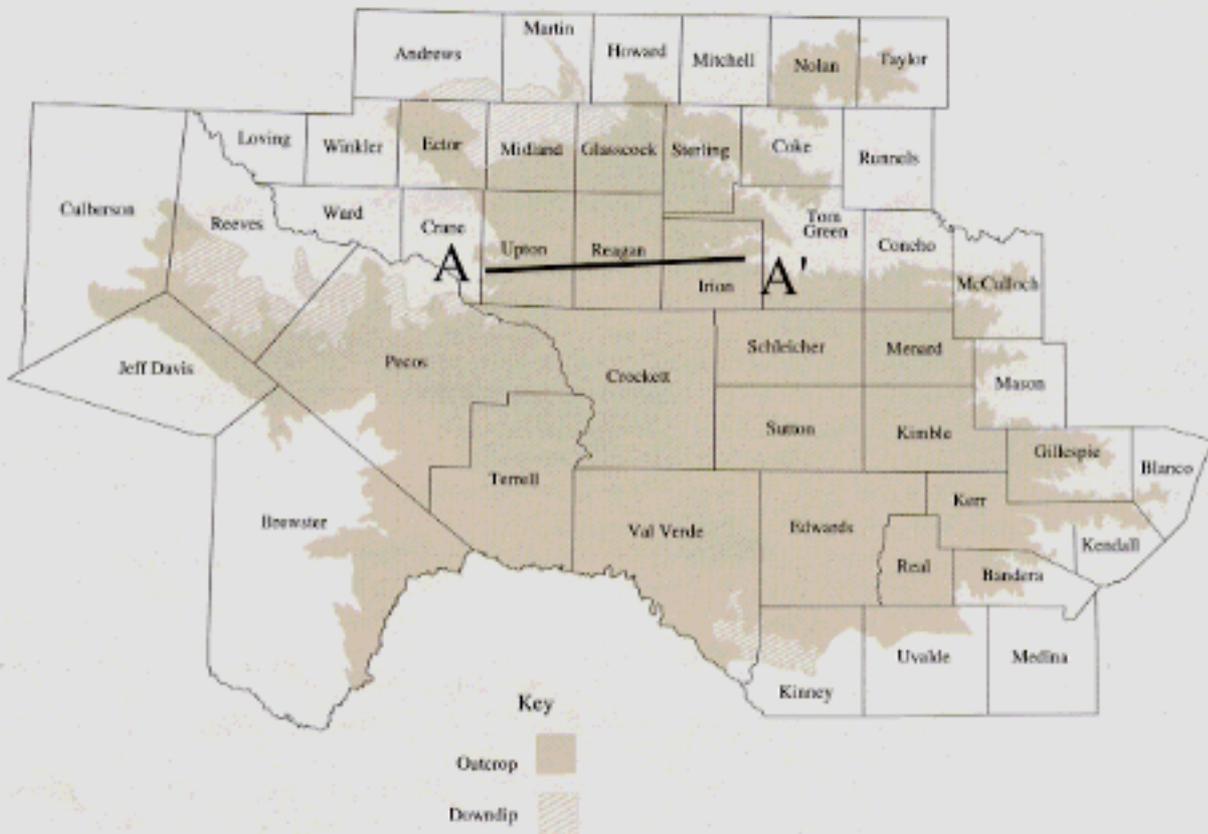


Edwards-Trinity (Plateau)



Modified from Walker, 1979

Edwards-Trinity (Plateau) Aquifer

The Edwards-Trinity (Plateau) aquifer underlies the Edwards Plateau east of the Pecos River and the Stockton Plateau west of the Pecos River, providing water to all or parts of 38 counties. The aquifer extends from the Hill Country of Central Texas to the Trans-Pecos region of West Texas. Irrigation accounts for 70 percent of the total pumpage, whereas municipal use accounts for 15 percent.

The aquifer consists of saturated sediments of lower Cretaceous age Trinity Group formations and overlying limestones and dolomites of the Comanche Peak, Edwards, and Georgetown formations. The Glen Rose Limestone is the primary unit of the Trinity in the southern part of the plateau and is replaced by the Antlers Sand north of the Glen Rose pinchout. The Maxon Sand is present in the western Stockton Plateau region. Maximum saturated thickness of the aquifer is greater than 800 feet.

The aquifer generally exists under water-table conditions; however, where the Trinity is fully saturated and a zone of low permeability occurs near the base of the overlying Edwards aquifer, artesian conditions may exist in the Trinity. Reported well yields commonly range from less than 50 gal/min, where saturated thickness is thin, to more than 1,000 gal/min, where large-capacity wells are completed in jointed and cavernous limestone.

Chemical quality of Edwards-Trinity (Plateau) water ranges from fresh to slightly saline. The water is typically hard and may vary widely in concentrations of dissolved solids made up mostly of calcium and bicarbonate. The salinity of the ground water tends to increase toward the west. Certain areas have unacceptable levels of fluoride.

There is little pumpage from the aquifer over most of its extent, and water levels have remained constant or have fluctuated only with seasonal precipitation. In some instances, water levels have declined as a result of increased pumpage. Although historical declines have occurred in the northwestern part of the aquifer in Reagan, Upton, Midland, and Glasscock counties as a result of irrigation, none of the areas has experienced declines greater than 20 feet since 1980.

References

- Ashworth, J.B., and Christian, P.C., 1989, Evaluation of ground-water resources in parts of Midland, Reagan, and Upton counties, Texas: TWDB Rept. 3 12, 52 p.
- Rees, R., and Buckner, A.W., 1980, Occurrence and quality of ground water in the Edwards-Trinity (Plateau) aquifer in the Trans-Pecos region of Texas: TDWR Rept. 255, 41 p.
- Taylor, H.D., 1978, Occurrence, quantity, and quality of ground water in Taylor County, Texas: TDWR Rept. 224, 136 p.
- Walker, L.E., 1979, Occurrence, availability, and chemical quality of ground water in the Edwards Plateau region of Texas: TDWR Rept. 235, 114 p.