

An Overview of the Balcones Fault Zone Portion of the Edwards Aquifer in South-Central Texas

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Abstract

The Balcones Fault Zone Portion of the Edwards Aquifer is located in south central Texas and includes portions of Kinney, Uvalde, Medina, Bexar, Comal, and Hays Countys. The Edwards Aquifer is the sole source of water for over 1.5 million people including the city of San Antonio. It is extensively used for crop irrigation and is the source of water for the two largest springs in the southwestern U.S.—Comal Springs and San Marcos Springs. Geologically, the aquifer occurs in the Cretaceous-aged Edwards Limestone, which is extensively faulted and fractured. Groundwater is contained in dissolutionally enlarged fractures and bedding plane parting.

Previous examination of the Edwards Aquifer revealed the presence of at least 44 unique species living within the aquifer, including the widemouthed blindcat and the toothless blindcat. However, little is known of the distribution and population of these species.

The Edwards Aquifer Authority has been mandated by the Texas Legislature to manage, conserve, preserve, and protect the Edwards Aquifer. Pursuant to this mandate, the Authority has undertaken a series of 17 inter-related “optimization” studies over the next eight years at a cost of more than \$6 million. These studies are designed to obtain the necessary data to better manage the aquifer.