



Development of Deep Freshwater to Brackish Groundwater Supplies in Part of Southeastern Texas

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EXTENDED ABSTRACT

Plentiful groundwater and surface water supplies have been essential to the growth of the Houston metropolitan region. The population of Houston and many other areas in Texas is substantial and future increases in population and water demands will require more efficient use of existing surface and groundwater supplies and the development of new supplies, including investigating and developing deeper freshwater to brackish groundwater in some areas of the state.

The Houston metropolitan region has plentiful and dependable groundwater supplies that have been developed from freshwater aquifers and occasionally slightly brackish aquifers. In addition, dams and reservoirs have been constructed on the San Jacinto River (Lake Houston in 1953 and Lake Conroe in 1973) and the Trinity River (Lake Livingston in 1969) to provide surface water supplies to the region. The groundwater development in the Houston region has occurred from the Gulf Coast Aquifer. The subsurface aquifers that are present in the region, from youngest to oldest and shallowest to deepest, are the Chicot, Evangeline, Jasper, and Catahoula aquifers, which dip to the southeast toward the Gulf of Mexico.

Evaluations of oil and gas well and test hole log data and the development of groundwater from deeper production wells completed in the Jasper and Catahoula aquifers have provided increasing hydrogeological, geophysical and groundwater quality data and logs for part of southeastern Texas. The available data help to assess the prospects and identify potential issues to address during the development of deep freshwater, slightly brackish and brackish groundwater in parts of southeast Texas and the Gulf Coast region.

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