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The Texas Water Development Board has a [new website address: www.twdb.texas.gov](http://www.twdb.texas.gov). Although the [old website address \(www.twdb.state.tx.us\)](http://www.twdb.state.tx.us) will work for some time, please update your bookmarks soon to help ensure that you do not encounter broken links.

## Sparta Aquifer

[interactive map](#)

### Summary

The Sparta Aquifer is a minor aquifer extending across East and South Texas, parallel to the Gulf of Mexico coastline and about 100 miles inland. Water is contained within a part of the Claiborne Group known as the Sparta Formation, a sand-rich unit interbedded with silt and clay layers and with massive sand beds in the bottom section. The thickness of the formation changes gradually from more than 700 feet at the Sabine River to about 200 feet in South Texas. Freshwater saturated thickness averages about 120 feet.

In outcrop areas and for a few miles in the subsurface, the water is usually fresh, with an average concentration of 300 milligrams per liter of total dissolved solids; however, water quality deteriorates with depth (below about 2,000 feet), where groundwater has an average concentration of 800 milligrams per liter of total dissolved solids. Excess iron concentrations are common throughout the aquifer.

Water from the aquifer is predominantly used for domestic and livestock purposes, and its quality has not been significantly impacted by pumping. Elkhart Creek Springs originates from the Sparta Sand in Houston County and flows at a rate of as much as 3.4 cubic feet per second. In some areas, such as in Houston and Brazos counties, the aquifer is used for municipal, industrial, and irrigation purposes. No significant water level declines have been detected throughout the aquifer in wells measured by the TWDB.

### Reports

Search Table:

[Skip to Table](#)

ID	Date	Type	Description
<a href="#">R-380</a>	7/1/2011	TWDB numbered report	Aquifers of Texas
<a href="#">R-327</a>	2/1/1991	TWDB numbered report	Evaluation of Ground Water Resources in the Vicinity of the Cities of Henderson, Jacksonville, Kilgore, Lufkin, Nacogdoches, Rusk, and Tyler in East Texas
<a href="#">R-186</a>	9/1/1974	TWDB numbered report	Ground-Water Resources of Grimes County, Texas
<a href="#">R-185</a>	9/1/1974	TWDB numbered report	Ground-Water Resources of Brazos and Burleson Counties, Texas
<a href="#">R-150</a>	8/1/1972	TWDB numbered report	Ground-Water Conditions in Anderson, Cherokee, Freestone, and Henderson Counties, Texas

<b>ID</b>	<b>Date</b>	<b>Type</b>	<b>Description</b>
<u>R-110</u>	3/1/1970	TWDB numbered report	Ground-Water Conditions in Angelina and Nacogdoches Counties, Texas
<u>R-109</u>	3/1/1970	TWDB numbered report	Ground-Water Resources of Bastrop County, Texas
<u>R-056</u>	8/1/1967	TWDB numbered report	Availability and Quality of Ground Water in Fayette County, Texas
<u>R-037</u>	1/1/1967	TWDB numbered report	Ground-Water Resources of Sabine and San Augustine Counties, Texas
<u>R-032</u>	12/1/1966	TWDB numbered report	Ground-Water Resources of Atascosa and Frio Counties, Texas
<u>R-026</u>	8/1/1966	TWDB numbered report	Base-Flow Studies, Big Elkhart and Little Elkhart Creeks, Trinity River Basin, Texas: Quantity and Quality, September 15-16, 1965
<u>R-020</u>	3/1/1966	TWDB numbered report	Ground-Water Resources of Lee County, Texas
<u>R-018</u>	3/1/1966	TWDB numbered report	Ground-Water Resources of Houston County, Texas
<u>R-004</u>	11/1/1965	TWDB numbered report	Ground-Water Resources of Gonzales County, Texas
<u>HA-05</u>	1/1/1997	Hydrologic atlas	Water Quality in the Sparta Aquifer
<u>GT10-024</u>	7/16/2010	GAM task	Analysis of pumping information for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 12
<u>GT10-020</u>	11/22/2010	GAM task	Depth to aquifer layers for the Carrizo-Wilcox, Queen City, and Sparta aquifers in McMullen County
<u>GT10-009</u>	9/3/2010	GAM task	Predictive simulations for the Carrizo-Wilcox, Queen City, Sparta, and Yegua-Jackson aquifers in Groundwater Management Area 11
<u>GR11-010_D</u>	7/20/2011	GAM run	Predictive simulations for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 11
<u>GR11-007_D</u>	5/11/2011	GAM run	Estimated drawdown under assumed future pumping for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 13
<u>GR11-007_Add</u>	8/16/2011	GAM run	Drawdown maps and water budget information for GAM Run 11-007
<u>GR10-054_MAG</u>	11/18/2011	GAM run - MAG	Modeled available groundwater estimates for the Sparta Aquifer in Groundwater Management Area 14
<u>GR10-046_MAG_D</u>	11/29/2010	GAM run - MAG	Draft managed available groundwater estimates for the Sparta Aquifer in Groundwater Management Area 12
<u>GR10-029_MP</u>	1/4/2011	GAM run - Management Plan	Management plan information for Post Oak Savannah GCD
<u>GR10-024_MP</u>	8/18/2010	GAM run - Management Plan	Management plan information for Wintergarden GCD
<u>GR10-016_MAG_D</u>	11/12/2010	GAM run - MAG	Draft managed available groundwater estimates for the Carrizo-Wilcox, Queen City, Sparta, and Yegua-Jackson aquifers in Groundwater Management Area 11

<b>ID</b>	<b>Date</b>	<b>Type</b>	<b>Description</b>
<u>GR10-015_MP</u>	6/15/2010	GAM run - Management Plan	Management plan information for Evergreen UWCD
<u>GR10-014_MP</u>	6/9/2010	GAM run - Management Plan	Management plan information for Lost Pines GCD
<u>GR10-013_MP</u>	10/4/2011	GAM run - Management Plan	Management plan information for Brazos Valley GCD
<u>GR10-012_MAG_D</u>	12/15/2010	GAM run - MAG	Draft managed available groundwater estimates for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 13
<u>GR09-034</u>	6/29/2010	GAM run	Predictive simulations for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 13
<u>GR09-021_MP</u>	7/31/2009	GAM run - Management Plan	Management plan information for Neches & Trinity Valleys GCD
<u>GR09-020_MP</u>	8/6/2009	GAM run - Management Plan	Management plan information for Rusk County GCD
<u>GR09-004</u>	6/29/2010	GAM run	Predictive simulations for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 13
<u>GR08-089_MP</u>	5/20/2009	GAM run - Management Plan	Management plan information for Lost Pines GCD
<u>GR08-087_MP</u>	5/8/2009	GAM run - Management Plan	Management plan information for Bluebonnet GCD
<u>GR08-077_MP</u>	2/25/2009	GAM run - Management Plan	Management plan information for Mid-East Texas GCD
<u>GR08-073_MP</u>	12/9/2008	GAM run - Management Plan	Management plan information for Brazos Valley GCD
<u>GR08-071_MP</u>	10/3/2008	GAM run - Management Plan	Management plan information for Neches & Trinity Valleys GCD
<u>GR08-062_MP</u>	9/3/2008	GAM run - Management Plan	Management plan information for Evergreen UWCD
<u>GR08-050_MP</u>	7/16/2008	GAM run - Management Plan	Management plan information for Panola County GCD
<u>GR08-049_MP</u>	7/7/2008	GAM run - Management Plan	Management plan information for Pineywoods GCD
<u>GR08-043_CM</u>	9/29/2008	GAM run	Average drawdowns by county for GAM Runs 08-41, 08-42, and 08-43 in Groundwater Management Area 13
<u>GR08-043</u>	9/19/2008	GAM run	Predictive simulation for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 13

<b>ID</b>	<b>Date</b>	<b>Type</b>	<b>Description</b>
<u>GR08-042</u>	9/12/2008	GAM run	Predictive simulation for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 13
<u>GR08-041</u>	9/17/2008	GAM run	Predictive simulation for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 13
<u>GR08-038_MP</u>	5/30/2008	GAM run - Management Plan	Management plan information for Pecan Valley GCD
<u>GR08-035_MP</u>	5/29/2008	GAM run - Management Plan	Management plan information for Fayette County GCD
<u>GR08-023</u>	8/29/2008	GAM run	Predictive simulation for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 11
<u>GR08-022_MP_Rev1</u>	8/14/2008	GAM run - Management Plan	Management plan information for Gonzales County UWCD
<u>GR08-002_MP</u>	4/10/2008	GAM run - Management Plan	Management plan information for McMullen GCD
<u>GR08-001_MP</u>	3/10/2008	GAM run - Management Plan	Management plan information for Bee GCD
<u>GR07-025_MP</u>	9/6/2007	GAM run - Management Plan	Management plan information for Guadalupe GCD
<u>GR07-020</u>	9/28/2007	GAM run	Predictive simulation for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 11
<u>GR07-017</u>	9/28/2007	GAM run	Predictive simulation for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 13
<u>GR07-016</u>	6/26/2007	GAM run	Predictive simulation for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 13
<u>GR07-007_MP</u>	4/3/2007	GAM run - Management Plan	Management plan information for Anderson County UWCD
<u>GR06-029_CM</u>	11/8/2011	GAM run	Average drawdowns for the Carrizo-Wilcox, Queen City, and Sparta aquifers based on the analysis completed in GAM Run 06-029
<u>GR06-029</u>	1/11/2007	GAM run	Predictive simulation for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Groundwater Management Area 13
<u>GR06-024_MP</u>	1/3/2007	GAM run - Management Plan	Management plan information for Pineywoods GCD
<u>GR06-019</u>	9/7/2006	GAM run	Predictive simulation for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Fayette County GCD
<u>GR06-018_MP</u>	8/2/2006	GAM run - Management Plan	Management plan information for Plum Creek Conservation District
<u>GR06-009</u>	5/31/2006	GAM run	Predictive simulation for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Mid-East Texas GCD

ID	Date	Type	Description
<a href="#">GR05-036_MP</a>	11/28/2005	GAM run - Management Plan	Management plan information for McMullen GCD
<a href="#">GR05-034_MP</a>	9/8/2005	GAM run - Management Plan	Management plan information for Wintergarden GCD
<a href="#">GR05-028_Add</a>	7/25/2005	GAM run	Water budget information for the Queen City and Sparta aquifers in Dimmit, La Salle, and Zavala counties
<a href="#">GR05-028</a>	7/20/2005	GAM run	Recharge information for the Queen City and Sparta aquifers in Dimmit, La Salle, and Zavala counties
<a href="#">GR05-022</a>	6/3/2005	GAM run	Water level information for the Gulf Coast, Carrizo-Wilcox, Queen City, and Sparta aquifers in Live Oak County
<a href="#">GR05-020</a>	7/19/2005	GAM run	Recharge information for the Queen City and Sparta aquifers in Rusk County GCD
<a href="#">GR05-018</a>	4/29/2005	GAM run	Water budget information for the Carrizo-Wilcox, Queen City, and Sparta aquifers in Bee, Live Oak, and McMullen counties
<a href="#">GR05-005</a>	3/31/2005	GAM run	Post Oak Savannah GCD, water budget, water levels, drawdown through 2050, 2002 State Water Plan pumping summary, and interaction with the Brazos River Alluvium Aquifer
<a href="#">GR03-017</a>	8/18/2003	GAM run	Recharge and total storage data for the Carrizo-Wilcox, Queen City, Sparta, and Gulf Coast aquifers in Fayette County GCD
<a href="#">GMA14_DFC_01</a>	8/25/2010	DFC submission	Desired future conditions for the Gulf Coast, Carrizo-Wilcox, Queen City, Sparta, Yegua-Jackson, and River Alluvium aquifers
<a href="#">GMA13_DFC_01</a>	4/9/2010	DFC submission	Desired future conditions for the Carrizo-Wilcox, Queen City, and Sparta aquifers
<a href="#">GMA12_DFC_01</a>	8/11/2010	DFC submission	Desired future conditions for the Carrizo-Wilcox, Queen City, Sparta, Yegua-Jackson, and Brazos River Alluvium aquifers
<a href="#">GMA11_DFC_01</a>	4/13/2010	DFC submission	Desired future conditions for the Carrizo-Wilcox, Queen City, Sparta, and Yegua-Jackson aquifers
<a href="#">B-6513</a>	5/1/1965	Groundwater bulletin	Availability and Quality of Ground Water in Leon County, Texas
<a href="#">B-6310</a>	12/1/1973	Groundwater bulletin	Reconnaissance Investigation of the Ground-Water Resources of the Brazos River Basin, Texas
<a href="#">B-5710</a>	7/1/1957	Groundwater bulletin	Ground-Water Geology of Wilson County, Texas

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