

# GAM run 03-24

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Groundwater Availability Modeling Section  
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## REQUESTOR:

Mr. James Parks, Region C Water Planning Group

## DESCRIPTION OF REQUEST:

Mr. Parks requested the following information from the Central Carrizo-Wilcox aquifer Groundwater Availability Model (GAM) for Henderson, Navarro, and Freestone counties:

- Total water availability based on 100 percent of recharge with results broken out by county and basin.

## METHODS:

To address the request, we:

- Ran the predictive (2000-2050) model for the Central Carrizo-Wilcox aquifer Groundwater Availability Model (Dutton and others, 2003) and queried the budget files for the Carrizo and Wilcox aquifer layers in the following county-basins:
  1. Navarro-Trinity
  2. Henderson-Trinity
  3. Henderson-Neches
  4. Freestone-Trinity
  5. Freestone-Brazos
- Extracted recharge values for drought of record and average recharge conditions.

## PARAMETERS AND ASSUMPTIONS:

None: Data request.

## RESULTS:

The results are presented in table 1. Estimates of drought of record supply from the 2002 Region C Water Plan are also shown for reference in Table 1 (Texas Water Development Board, 2002).

**REFERENCES:**

Dutton, A. R., Harden, R., Nicot, J. P., and O' Rourke, D., 2003, Groundwater Availability Model for the Central part of the Carrizo-Wilcox Aquifer in Texas: Final Report prepared for the Texas Water Development Board.

Texas Water Development Board, 2002, Region C Water Plan in Water for Texas – 2002, Volume 3.

**Table 1. Recharge for the Central Carrizo-Wilcox aquifer model in acre-feet per year.**

Aquifer Layer	Navarro-Trinity	Henderson-Trinity	Henderson-Neches	Freestone-Trinity	Freestone-Brazos
<b>Average Recharge GAM Run</b>					
Carrizo	0	4,501	447	13,537	0
Upper Wilcox	76	3,259	350	8,301	1,918
Middle Wilcox	1,085	1,040	0	6,425	2,686
Lower Wilcox	1,038	1,211	0	2,833	716
All	2,199	10,008	797	31,096	5,320
<b>Drought of Record GAM Run</b>					
Carrizo	0	3,498	343	10,422	0
Upper Wilcox	9	418	45	1,126	687
Middle Wilcox	837	792	0	4,789	2,199
Lower Wilcox	412	404	0	964	234
All	1,258	5,112	388	17,301	3,120
<b>State Water Plan – Drought of Record Supply</b>					
Carrizo-Wilcox	9,172	4,258	not available	82,511	10,946

Notes:

1. The numbers are rounded to the nearest 1 acre-ft.