

NOTICE OF OPEN MEETING OF THE
SOUTH CENTRAL TEXAS
REGIONAL WATER PLANNING
GROUNDWATER AVAILABILITIES
WORK GROUP

TAKE NOTICE that a meeting of the Groundwater Availabilities Work Group, as established by the South Central Texas Regional Water Planning Group (SCTRWPG) will be held on Monday, April 15, 2024, at 10:30 AM both in person and virtually. The in person meeting will be held at the San Antonio River Authority, 100 E. Guenther Street, San Antonio, TX 78204. You can attend virtually on GotoMeeting at <https://meet.goto.com/115653501>. The following subjects will be considered for discussion and/or action at said meeting.

1. Discussion and Establishment of the Responsibilities of the Groundwater Availabilities Work Group
2. Presentation and Discussion Regarding Groundwater Availabilities for Inclusion in the 2026 South Central Texas (Region L) Regional Water Plan
3. Discussion and Appropriate Action Regarding Recommendation to RWPG for Estimating Non-MAG Groundwater Availabilities

Comments and submissions may be submitted through email to ccastillo@sariverauthority.org. Any written documentation can be sent to Tim Andruss, Chair, South Central Texas Regional Water Planning Group, c/o San Antonio River Authority, Attn: Caye Castillo, 100 E. Guenther Street, San Antonio, TX 78204. Please direct any questions to Caye Castillo at (210) 302-4258.

Groundwater Availabilities Workgroup

South Central Texas (Region L) Regional Water Planning Group

April 15, 2024

Agenda Item 1: Discussion and Establishment of the Responsibilities of the Groundwater Availabilities Workgroup

Agenda Item 2: Presentation and Discussion Regarding Groundwater Availabilities for Inclusion in the 2026 South Central Texas (Region L) Regional Water Plan

Chapter 3 of Regional Water Plan

Chapter 3 documents the evaluation and results of the region's source availability and existing water supplies.

Water Availability refers to the maximum amount of raw water that could be produced by/at a water source (such as a reservoir or aquifer) during a repeat of the drought of record.



Chapter 3 of Regional Water Plan

Chapter 3 documents the evaluation and results of the region's source availability and existing water supplies.

Existing water supply is the maximum amount of water that is physically and legally accessible from existing sources for immediate use by a WUG, under drought of record conditions.

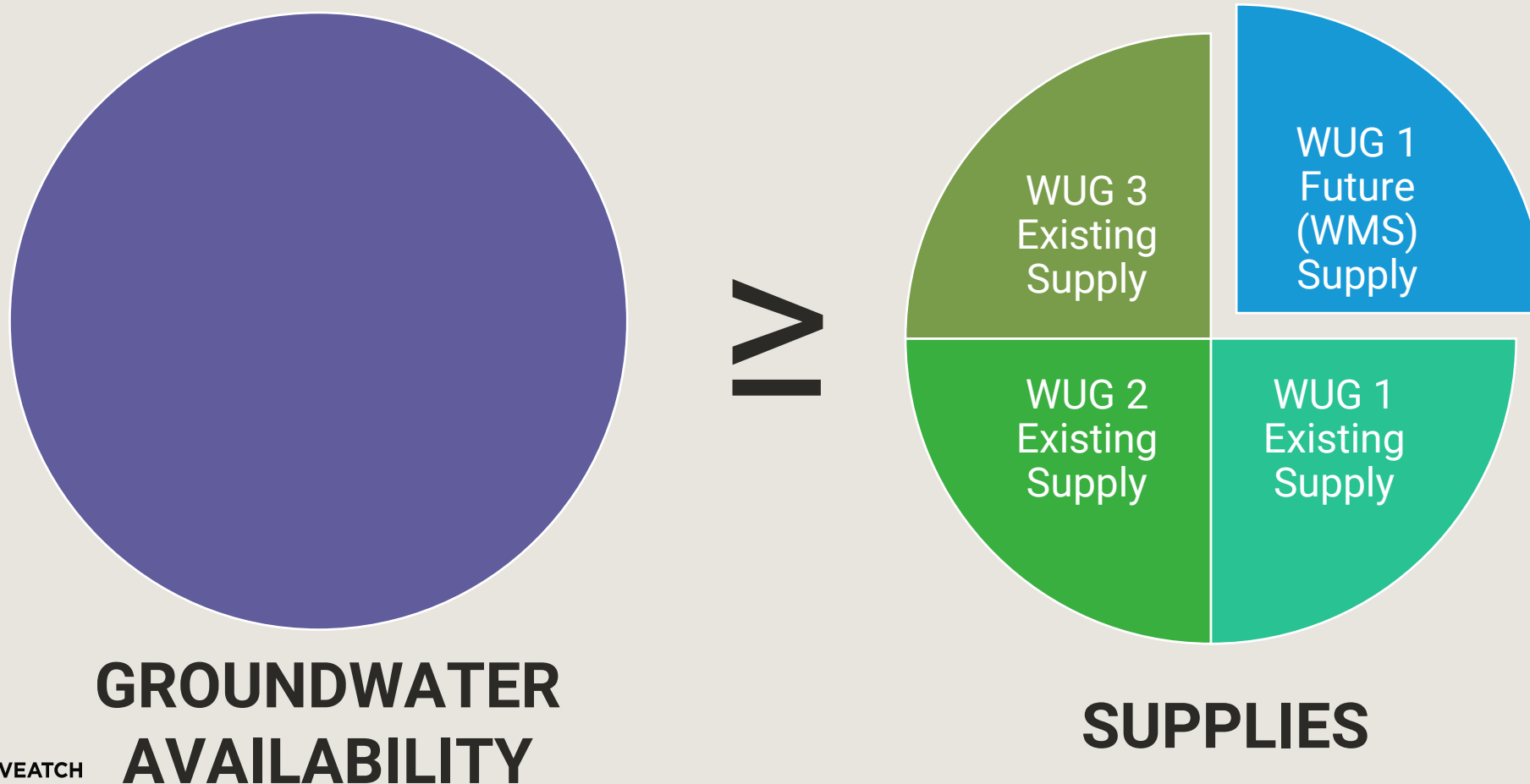
Supplies are categorized as:

- Existing Supplies
- Future Supplies from a Water Management Strategy (WMS)



How Groundwater Availability is Used in Regional Water Planning

Supplies cannot exceed the groundwater availability for any discrete geographic-aquifer unit may not exceed the groundwater availability as provided in DB27

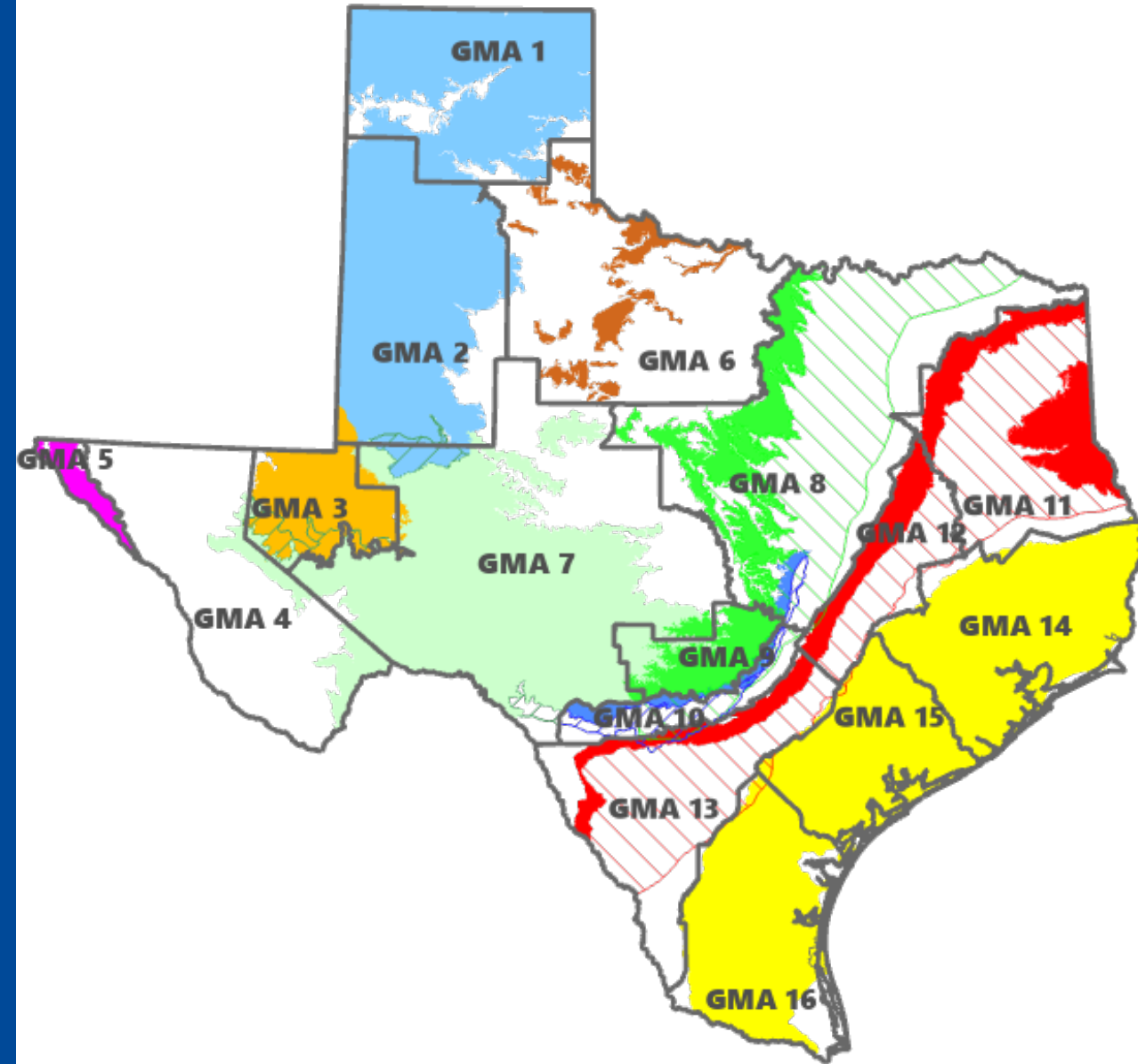


Joint Groundwater Planning

Representatives from Groundwater Conservation Districts (GCDs) in a Groundwater Management Area (GMA) conduct Joint Planning, including:

- Establish Desired Future Conditions (DFCs)
- Review Management Plans
- Submit explanatory report to Texas Water Development Board (TWDB)

TWDB uses DFCs to develop Modeled Available Groundwater (MAG) Estimates using Groundwater Availability Models (GAMs)



Source: TWDB

Separate Processes, Shared Information

Joint Groundwater Planning

GMA establish DFCs

GMA submit explanatory report to TWDB

Texas Water Development Board

TWDB develops MAG reports based on GAMs

TWDB provides MAG reports to GCDs and RWPG Chairs

Regional Water Planning

RWPGs receive MAGs for inclusion in the planning cycle

What are MAGs?

- The TWDB uses the DFCs to determine a MAG value for an aquifer or portion of an aquifer based on the GAMs.

Desired Future Conditions (DFC)

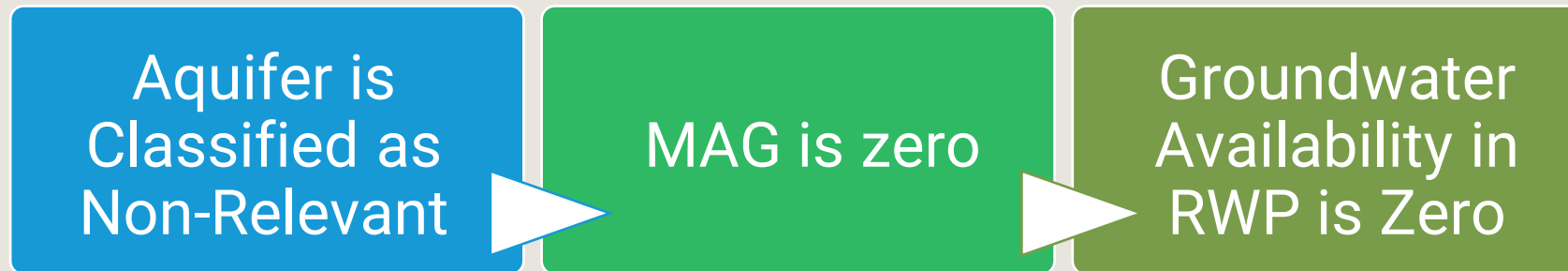
The desired, quantified conditions of groundwater resources (such as water levels, water quality, spring-flows, or storage volumes) at a specified time in the future or in perpetuity. DFCs are required for major or minor aquifers. These aquifers are referred to as relevant aquifers.

However, a groundwater management area may declare a major or minor aquifer as non-relevant. In these situations, the non-relevant aquifer would not have a DFC or MAG.

- The MAG value is the volume of groundwater production on an average annual basis that will achieve the DFC.

Impact of Non-Relevant Aquifers on Regional Water Planning

Aquifers may be classified as **Non-relevant** if the GCD determines that aquifer characteristics, groundwater demands, and current groundwater uses do not warrant adoption of a DFC.



In Regional Water Planning, if an aquifer is classified as non-relevant, the MAG is zero, which means the groundwater availability is zero ***unless the RWPG develops their own estimates*** or the TWDB develops non-MAG estimates .

How Groundwater Availability is Determined in Regional Water Planning

- MAGs become Groundwater Availabilities for Regional Water Planning unless:
 - The TWDB develops DFC-compatible non-MAG estimates for use in the Regional Water Plan, based on aquifers with DFC-compatible supplies calculated by TWDB using GAMs.
 - The RWPG develops estimates for use in the Regional Water Plan.



RWPG-Estimated Groundwater Availabilities

- Per TWDB's Exhibit C *General Guidelines for Development of the 2026 Regional Water Plans*:
 - RWPGs may determine the groundwater availability for planning purposes.
 - These RWPG-estimated groundwater availabilities may be determined by using availability values presented in the local GCD management plan, TWDB GAMs, if available, or other means.
 - Planning groups are strongly encouraged to consider the physical compatibility with adjacent or nearby DFCs of the regional aquifers in the development of RWPG-estimated groundwater availability.

2021 Region L Plan and Groundwater Availabilities

Previous Approach:

- Used MAGs from TWDB
- Used Non-MAG estimates from TWDB
- Developed RWPG-estimated groundwater availabilities for the following:
 - San Marcos River Alluvium in Caldwell County
 - Leona Gravel Aquifer in Medina County
 - Edwards-Balcones Fault Zone (BFZ) Aquifer for Frio County
 - Edwards-BFZ Aquifer for counties in Edwards Aquifer Authority (EAA) jurisdiction for the following counties:

▪ Atascosa	▪ Guadalupe	▪ Medina
▪ Bexar	▪ Hays	▪ Uvalde
▪ Comal	▪ Medina	

2026 Region L Plan and Proposed Groundwater Availabilities

Difference from
2021 Plan denoted
in blue text

Proposed Approach:

- Use MAGs from TWDB
- Use Non-MAG estimates from TWDB
- Develop RWPG-estimated groundwater availabilities for the following:
 - Carrizo-Wilcox Aquifer in Karnes County
 - San Marcos River Alluvium in Caldwell County
 - Leona Gravel Aquifer in Medina County
 - Edwards-Balcones Fault Zone (BFZ) Aquifer for Frio County
 - Edwards-BFZ Aquifer for counties in Edwards Aquifer Authority (EAA) jurisdiction for the following counties:

▪ Atascosa	▪ Guadalupe	▪ Medina
▪ Bexar	▪ Hays	▪ Uvalde
▪ Comal	▪ Medina	

Tech Memo: Source Water Availability, Groundwater (1 of 2)

Table D-1: Groundwater Availabilities from TWDB and RWPG-Estimated Groundwater Availabilities

No.	SOURCE INFORMATION				2080 TWDB ORIGINAL, UNMODIFIED GROUNDWATER AVAILABILITIES (ACFT/YR) IN DB27	2080 RWPG- ESTIMATED GROUNDWATER AVAILABILITIES (ACFT/YR) *
	NAME	COUNTY	BASIN	METHODOLOGY TYPE		
1	Carrizo-Wilcox Aquifer	Karnes	Guadalupe	Published Reports / Data	0	50
2	Carrizo-Wilcox Aquifer	Karnes	Nueces	Published Reports / Data	0	84
3	Carrizo-Wilcox Aquifer	Karnes	San Antonio	Published Reports / Data	1,043	1,078
4	Edwards-BFZ Aquifer	Atascosa	Nueces	Permitted Amount	360	522
5	Edwards-BFZ Aquifer	Atascosa	San Antonio	Permitted Amount	100	145
6	Edwards-BFZ Aquifer	Bexar	Nueces	Permitted Amount	356	446
7	Edwards-BFZ Aquifer	Bexar	San Antonio	Permitted Amount	202,000	211,795
8	Edwards-BFZ Aquifer	Comal	Guadalupe	Permitted Amount	12,000	13,179
9	Edwards-BFZ Aquifer	Comal	San Antonio	Permitted Amount	362	549
10	Edwards-BFZ Aquifer	Frio	Nueces	Published Reports / Data	23,213	23,213
11	Edwards-BFZ Aquifer	Guadalupe	Guadalupe	Permitted Amount	221	293
Notes:						
* Revisions from TWDB Groundwater Availabilities denoted in red text.						

Tech Memo: Source Water Availability, Groundwater (2 of 2)

Table D-1: Groundwater Availabilities from TWDB and RWPG-Estimated Groundwater Availabilities

No.	SOURCE INFORMATION				2080 TWDB ORIGINAL, UNMODIFIED GROUNDWATER AVAILABILITIES (ACFT/YR) IN DB27	2080 RWPG- ESTIMATED GROUNDWATER AVAILABILITIES (ACFT/YR) *
	NAME	COUNTY	BASIN	METHODOLOGY TYPE		
12	Edwards-BFZ Aquifer	Hays	Guadalupe	Permitted Amount	942	8,283
13	Edwards-BFZ Aquifer	Medina	Nueces	Permitted Amount	20,128	25,419
14	Edwards-BFZ Aquifer	Medina	San Antonio	Permitted Amount	5,550	7,009
15	Edwards-BFZ Aquifer	Uvalde	Nueces	Permitted Amount	15,367	29,855
16	Leona Gravel Aquifer	Medina	Nueces	Published Reports / Data	17,955	17,955
17	Leona Gravel Aquifer	Medina	San Antonio	Published Reports / Data	4,062	4,062
18	San Marcos River Alluvium	Caldwell	Guadalupe	Published Reports / Data	271	271
Notes: * Revisions from TWDB Groundwater Availabilities denoted in red text.						

For Further Discussion: Source Water Availability, Groundwater

Categories for Further Discussion	SOURCE INFORMATION					2080 TWDB ORIGINAL, UNMODIFIED GROUNDWATER AVAILABILITIES (ACFT/YR) IN DB27	2080 RWPG- ESTIMATED GROUNDWATER AVAILABILITIES (ACFT/YR) *
	No.	NAME	COUNTY	BASIN	METHODOLOGY TYPE		
1.	1	Carrizo-Wilcox Aquifer	Karnes	Guadalupe	Published Reports / Data	0	50
	2	Carrizo-Wilcox Aquifer	Karnes	Nueces	Published Reports / Data	0	84
	3	Carrizo-Wilcox Aquifer	Karnes	San Antonio	Published Reports / Data	1,043	1,078
2.	16	Leona Gravel Aquifer	Medina	Nueces	Published Reports / Data	17,955	17,955
	17	Leona Gravel Aquifer	Medina	San Antonio	Published Reports / Data	4,062	4,062
Notes: * Revisions from TWDB Groundwater Availabilities denoted in red text.							

1. Carrizo-Wilcox Aquifer in Karnes County

- Methodology to Develop RWPG-estimated Groundwater Availabilities:
 - **Approach:** Estimate availabilities based on the maximum annual groundwater production values from 2019 to 2021.
 - **Data Source:** TWDB Water Use Survey Detailed Groundwater Pumpage by County
- Historic Pumpage Data

Basin	2019 Pumpage (acft/yr)	2020 Pumpage (acft/yr)	2021 Pumpage (acft/yr)	Maximum Pumpage (acft/yr)
Guadalupe	50	49	43	50
Nueces	84	80	72	84
San Antonio	1,078	918	892	1,078

- Result: Historic groundwater pumpage volumes in the Guadalupe, Nueces, and San Antonio Basins were 50 acft/yr, 84 acft/yr, and 1,078 acft/yr, respectively.

1. Carrizo-Wilcox Aquifer in Karnes County

- Proposed Availabilities from Tech Memo:

No.	SOURCE INFORMATION				MAXIMUM MAG (ACFT/YR)	RWPG- ESTIMATED GROUNDWATER AVAILABILITIES (ACFT/YR)
	NAME	COUNTY	BASIN	METHODOLOGY TYPE		
1	Carrizo-Wilcox Aquifer	Karnes	Guadalupe	Published Reports / Data	0	50
2	Carrizo-Wilcox Aquifer	Karnes	Nueces	Published Reports / Data	0	84
3	Carrizo-Wilcox Aquifer	Karnes	San Antonio	Published Reports / Data	1,043	1,078

Discussion

2. Leona Gravel Aquifer in Medina County

- Reason for Proposing RWPG-estimated Availabilities:
 - RWPG-estimates carried forward from previous cycle, based on TWDB publications.
 - MAG is zero (non-relevant aquifer)
 - Historic data indicates there are existing wells that are producing water so having zero availability is not reflective of reality. We want to satisfy needs while reflecting accurate, reality-based information.
- MAG values from TWDB: are zero because the aquifer was classified as Non-Relevant

2. Leona Gravel Aquifer in Medina County

- Methodology to Develop RWPG-estimated Groundwater Availabilities:
 - **Approach:** Carry-forward estimates from 2021 Plan, which were based on TWDB-published reports of the MAG for this particular aquifer in this particular county, split by basin.
 - **Data Sources:**
 - GMA 10, Medina County, Leona Gravel Aquifer: Bradley, Robert. GTA Aquifer Assessment 10-07 MAG: Modeled Available Groundwater Estimates for Leona Gravel Aquifer in Medina County. Texas Water Development Board. 20 August 2012, 8 p
 - GMA 13, Medina County, Leona Gravel Aquifer: Bradley, Robert. Aquifer Assessment 10-41: Aquifer Assessment for the Leona Gravel Aquifer in Groundwater Management Area 13. Texas Water Development Board. 20 August 2012, 8 p.

2. Leona Gravel Aquifer in Medina County

- Result:

GMA	LEONA GRAVEL AQUIFER AVAILABILITIES (ACFT/YR)						
	BASIN	2030	2040	2050	2060	2070	2080
GMA 10 ^A	Nueces	12,369	12,369	12,369	12,369	N/A	N/A
	San Antonio	4,013	4,013	4,013	4,013	N/A	N/A
GMA 13 ^B	Nueces	5,586	5,586	5,586	5,586	N/A	N/A
	San Antonio	49	49	49	49	N/A	N/A
TOTAL	Nueces	17,955	17,955	17,955	17,955	N/A	N/A
	San Antonio	4,062	4,062	4,062	4,062	N/A	N/A

Notes:

^A MAG values from GTA Aquifer Assessment 10-07 MAG (2012)

^B MAG values from Aquifer Assessment 10-41: Aquifer Assessment for the Leona Gravel Aquifer in Groundwater Management Area 13 (2012)

2. Leona Gravel Aquifer in Medina County

- Proposed Availabilities:

NAME	COUNTY	BASIN	2030	2040	2050	2060	2070	2080
Leona Gravel Aquifer	Medina	Nueces	17,955	17,955	17,955	17,955	17,955	17,955
Leona Gravel Aquifer	Medina	San Antonio	4,062	4,062	4,062	4,062	4,062	4,062

Discussion

Next Steps



Workgroup considers whether to revise groundwater availabilities included in Tech Memo



If revisions are necessary, Workgroup develops recommendation to RWPG



Workgroup activities and recommendation (if necessary) are presented to RWPG during May 2nd RWPG meeting

Agenda Item 3: Discussion and Appropriate Action Regarding Recommendation to RWPG for Estimating Non-MAG Groundwater Availabilities

Tech Memo: Source Water Availability, Groundwater (1 of 2)

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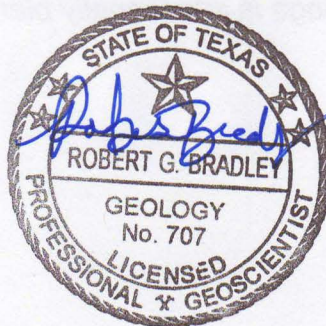
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GTA Aquifer Assessment 10-07 MAG
Groundwater Management Area 10
Leona Gravel Aquifer in Medina County
Modeled Available Groundwater estimates
August 20, 2012

GTA Aquifer Assessment 10-07 MAG

by **Robert G. Bradley**

Texas Water Development Board
Groundwater Technical Assistance Section
(512) 936-0871



Robert G. Bradley, P.G. 707, authorized the seal appearing on this document on August 20, 2012.

GTA Aquifer Assessment 10-07 MAG
Groundwater Management Area 10
Leona Gravel Aquifer in Medina County
Modeled Available Groundwater estimates
August 20, 2012

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EXECUTIVE SUMMARY:

The estimated modeled available groundwater from the Leona Gravel Aquifer within Medina County that achieves the desired future condition adopted by members of Groundwater Management Area 10 is approximately 16,382 acre-feet per year and is summarized by county, regional water planning area, and river basin as shown in Table 1. The modeled available groundwater estimates were extracted from GTA Aquifer Assessment 09-01, which Groundwater Management Area 10 used as the basis for developing a desired future condition.

REQUESTOR:

Mr. Rick Illgner of the Edwards Aquifer Authority acting on behalf of the member groundwater conservation districts of Groundwater Management Area 10.

DESCRIPTION OF REQUEST:

In a letter received August 11, 2010, Mr. Rick Illgner provided the Texas Water Development Board (TWDB) with the desired future condition of Leona Gravel Aquifer within Medina County, adopted by the members of Groundwater Management Area 10. The desired future condition for the Leona Gravel Aquifer, as described in Resolution No. 2010-01 and adopted May 17, 2010 by the groundwater conservation districts in Groundwater Management Area 10 is summarized below:

An average annual drawdown of 15 feet over the next 50 years.

In response to receiving the adopted desired future condition, TWDB has estimated the modeled available groundwater that achieves the above desired future condition for Groundwater Management Area 10.

METHODS:

Groundwater Management Area 10, located in South Central Texas, includes part of the Leona Gravel Aquifer (Figure 1). This is neither a major nor a minor aquifer, but has been determined to be locally relevant for joint planning purposes. At the request of Groundwater Management Area 10, the TWDB previously analyzed several water level decline scenarios for the Leona Gravel Aquifer, documented in GTA Aquifer Assessment 09-01.

One of the scenarios included the desired future condition of 15 feet of water level decline, and this was adopted as the desired future condition of the Leona Gravel Aquifer within Medina County for GMA 10.

The modeled available groundwater numbers are divided by regional water planning area and river basin. Medina County is completely within the South Central Regional Water Planning Area and the Medina County Groundwater Conservation District encompasses the whole county. Regional maps of these areas are shown in Figure 2.

PARAMETERS AND ASSUMPTIONS:

- Parameters, assumptions, volumetric calculations, and areas were obtained from GTA Aquifer Assessment 09-01 (George, 2010).
- Water-level declines of 15 feet were estimated to be uniform across the aquifer.

MODELED AVAILABLE GROUNDWATER AND PERMITTING:

As defined in Chapter 36 of the Texas Water Code, “modeled available groundwater” is the estimated average amount of water that may be produced annually to achieve a desired future condition. This is distinct from “managed available groundwater,” shown in the draft version of this report dated November 9, 2010, which was a permitting value and accounted for the estimated use of the aquifer exempt from permitting. This change was made to reflect changes in statute by the 82nd Texas Legislature, effective September 1, 2011. The previous version of this report was completed prior to the readopting of the desired future conditions.

Groundwater conservation districts are required to consider modeled available groundwater, along with several other factors, when issuing permits in order to manage groundwater production to achieve the desired future condition(s).

The other factors districts must consider include annual precipitation and production patterns, the estimated amount of pumping exempt from permitting, existing permits, and a reasonable estimate of actual groundwater production under existing permits. The estimated amount of pumping exempt from permitting, which the Texas Water Development Board is now required to develop after soliciting input from applicable groundwater conservation districts, will be provided in a separate report.

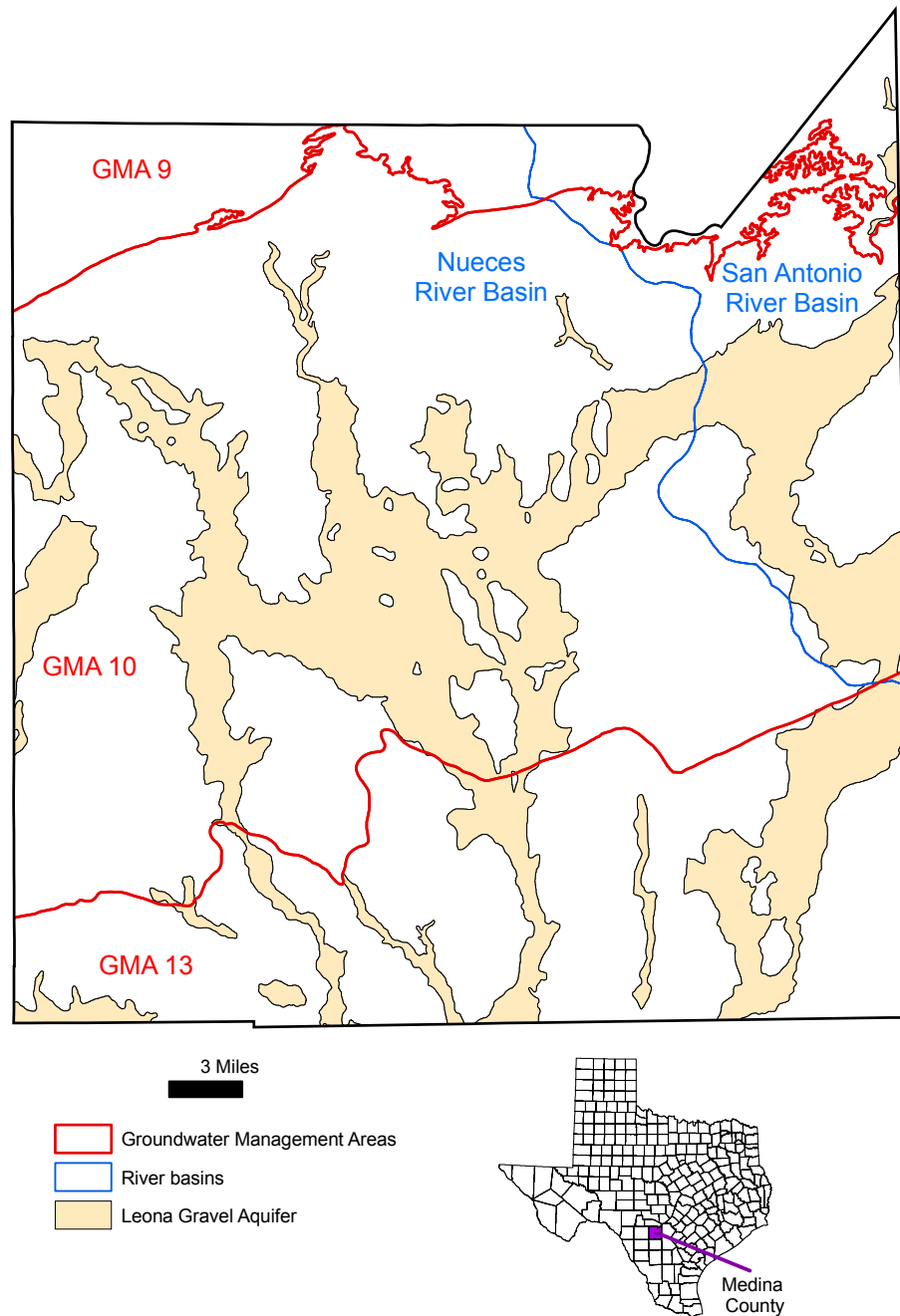


Figure 1. Map showing the groundwater management areas, river basins, and extent of the Leona Gravel Aquifer in Medina County (after George, 2010).

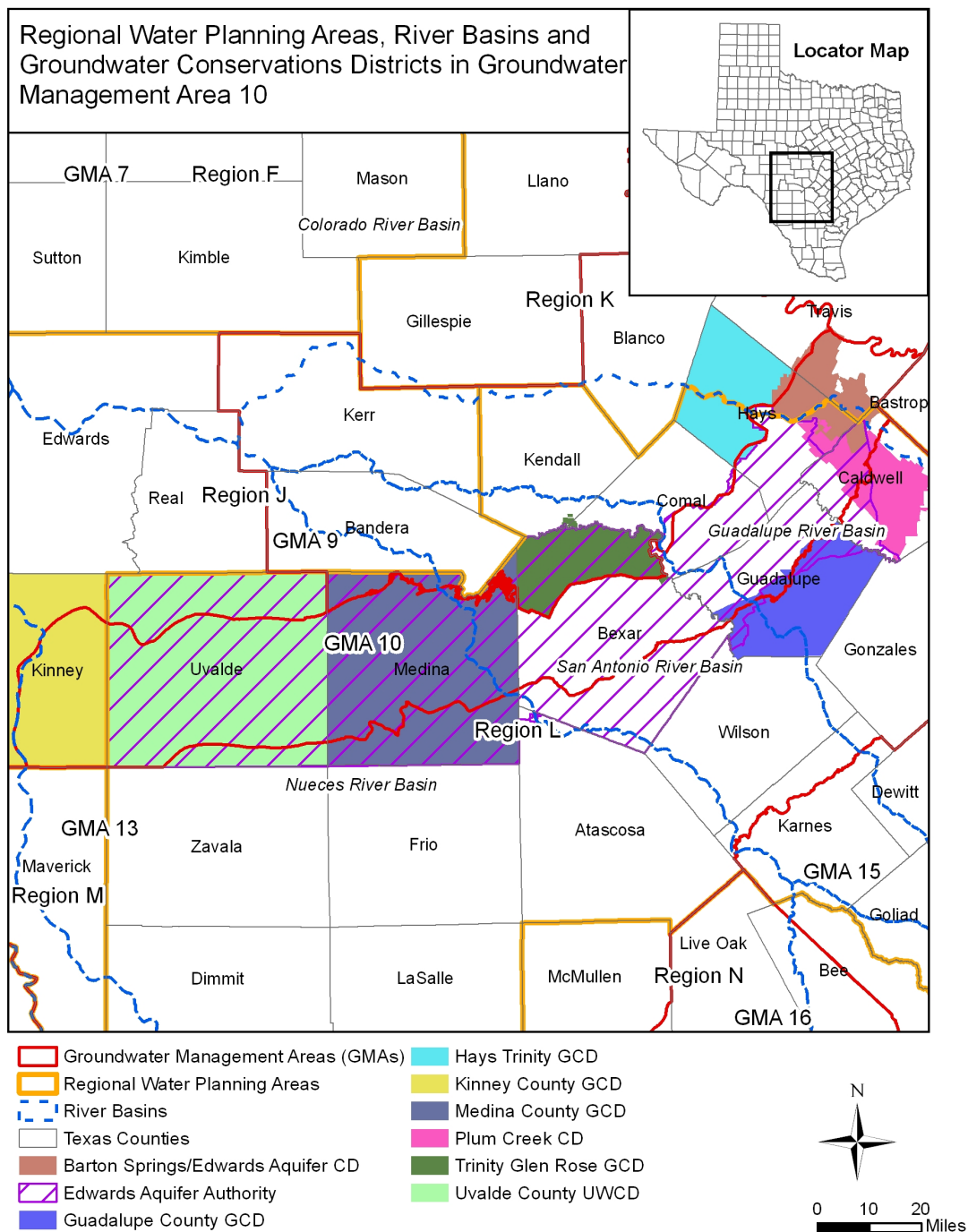


Figure 2. Map showing regional water planning areas, river basins, groundwater conservation districts, and counties in and neighboring Groundwater Management Area 10 (from Thorkildsen and Backhouse, 2010).
CD = Conservation District, GCD = Groundwater Conservation District, UWCD = Underground Water Conservation District

RESULTS:

The estimated modeled available groundwater from the Leona Gravel Aquifer within Medina County in Groundwater Management Area 10 that achieves the adopted desired future condition is approximately 16,382 acre-feet per year. This pumping has been divided by county, regional water planning area, and river basin for each decade between 2010 and 2060 for use in the regional water planning process (Table 1). In addition, the modeled available groundwater estimates are tabulated for the Medina County Groundwater Conservation District in Table 2.

Table 1. Estimated modeled available groundwater by decade for the Leona Gravel Aquifer in Groundwater Management Area 10. Results are in acre-feet per year and are divided by county, regional water planning area, and river basin.

County	Regional Water Planning Area	River Basin	Year					
			2010	2020	2030	2040	2050	2060
Medina	L	Nueces	12,369	12,369	12,369	12,369	12,369	12,369
		San Antonio	4,013	4,013	4,013	4,013	4,013	4,013
Total			16,382	16,382	16,382	16,382	16,382	16,382

Table 2. Estimated modeled available groundwater for the Leona Gravel Aquifer in the Medina County Groundwater Conservation District for each decade between 2010 and 2060. Results are in acre-feet per year.

County	Year					
	2010	2020	2030	2040	2050	2060
Medina County Groundwater Conservation District	16,382	16,382	16,382	16,382	16,382	16,382

Limitations:

As indicated by George (2010), additional data are needed to create improved estimates; these estimates are a basic interpretation of the requested conditions. This analysis assumes homogeneous and isotropic aquifers; however, conditions for the Leona Gravel Aquifer may not behave in a uniform manner. There is uncertainty with respect to the distribution of the sand and gravel in the aquifer (Lowry and Couch, 2002; Green, 2003). The analysis further assumes that precipitation is the only source of aquifer recharge and that lateral inflow to the aquifer is equal to lateral outflow from the aquifer, and that future pumping will not alter this balance.

Discharge and recharge from other aquifers, such as the Edwards BFZ aquifer, are unknown as is recharge from streams. Discharge to streams from the Leona Gravel Aquifer is assumed to be 15,000 acre-feet per year (George, 2010), but this number needs to be investigated with gain-loss streamflow assessment research. The recharge rate is also a rough estimate as is the specific yield.

In addition, certain assumptions have been made regarding future precipitation, recharge, and streamflow in developing modeled available groundwater estimates. These assumptions need to be considered and compared to actual future data when evaluating achievement of the desired future condition.

Given these limitations, users of this information are cautioned that the modeled available groundwater numbers should not be considered a definitive, permanent description of the amount of groundwater that can be pumped to meet the adopted desired future condition. The TWDB makes no warranties or representations relating to the actual conditions of any aquifer at a particular location or at a particular time.

It is important for groundwater conservation districts to monitor future groundwater pumping and water levels to know if they are achieving their desired future conditions. Because of the limitations and assumptions in this analysis, it is important that the groundwater conservation districts work with the TWDB to refine these modeled available groundwater numbers given the reality of how the aquifer responds to the actual amount and location of pumping now and in the future.

REFERENCES:

George, P., 2010, GTA Aquifer Assessment 09-01: Texas Water Development Board, GTA Aquifer Assessment Report 09-01 Report, 14 p.

Green, R.T., 2003, Geophysical survey to determine the depth and lateral extent of the Leona Aquifer in the Leona river floodplain, south of Uvalde, Texas: Prepared for the Edwards Aquifer Authority by the Southwest Research Institute, 21 p.

Lowry, M.V., and Couch, B. E., 2002, Phase I Leona Gravel Aquifer Study: Prepared for the Medina County Groundwater Conservation District by Turner Collie & Braden Inc., 51 p.

Thorkildsen D. and Backhouse S., 2010, GTA Aquifer Assessment 10-29: Texas Water Development Board, GTA Aquifer Assessment 10-29 Report, 11 p.

Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

August 21, 2012

Mr. Kirk Holland
General Manager
Barton Springs/Edwards Aquifer Conservation District
1124-A Regal Row
Austin, TX 78748

Re: Modeled available groundwater estimates for the Leona Gravel Aquifer in Groundwater
Management Area 10 for Medina County

Dear Mr. Holland:

The Texas Water Code, Section 36.1084, Subsection (b), states that the Texas Water Development Board's (TWDB) executive administrator shall provide each groundwater conservation district and regional water planning group located wholly or partly in the groundwater management area with the modeled available groundwater in the management area based upon the desired future conditions adopted by the districts. This letter and the attached report (Aquifer Assessment 10-07 MAG) are in response to this directive.

As noted in the letter received by the TWDB on August 11, 2010, from Rick Illgner of the Edwards Aquifer Authority on behalf of Groundwater Management Area 10, the desired future condition for the Leona Gravel Aquifer in Medina County was adopted on May 17, 2010.

Modeled available groundwater is defined in the Texas Water Code, Section 36.001, Subsection (25), as "the amount of water that the executive administrator determines may be produced on an average annual basis to achieve a desired future condition established under Section 36.108." For use in the regional water planning process, modeled available groundwater estimates have been reported by aquifer, county, river basin, regional water planning area, groundwater conservation district, and any other subdivision of the aquifer designated by the management area (if applicable).

We encourage open communication and coordination between groundwater conservation districts, regional water planning groups, and the TWDB to ensure that the modeled available groundwater reported in regional water plans and groundwater management plans are not in conflict. We estimated modeled available groundwater that would have to occur to achieve the desired future condition using the best available scientific tools. However, these estimates are based on assumptions of the magnitude and distribution of projected pumping in the aquifer. It is, therefore, important for groundwater conservation districts to monitor whether their management of pumping is achieving their desired future conditions. Districts are encouraged to continue to work with the TWDB to better define available groundwater as additional information may help better assess responses of the aquifer to pumping and its distribution now and in the future.

Our Mission

To provide leadership, planning, financial assistance, information, and education for the conservation and responsible development of water for Texas

Board Members

Billy R. Bradford Jr., Chairman
Joe M. Crutcher, Vice Chairman
Melanie Callahan, Executive Administrator

Lewis H. McMahan, Member
Edward G. Vaughan, Member

Monte Cluck, Member
F.A. "Rick" Rylander, Member

If you have any questions, please contact Ms. Rima Petrossian of my staff at 512-936-2420 or rima.petrossian@twdb.texas.gov for further information.

Sincerely,



Melanie Callahan
Executive Administrator

Attachment: Aquifer Assessment 10-07 MAG

c w/att.: L'Oreal Stepney, Deputy Director, Office of Water, Texas Commission of Environmental Quality
Kellye Rila, Texas Commission of Environmental Quality
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Austin, TX 78711-3231, www.twdb.texas.gov
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August 21, 2012

Mr. Rick Illgner
Governmental Affairs Officer
Edwards Aquifer Authority
1615 N. St. Mary's
San Antonio, TX 78215

Re: Modeled available groundwater estimates for the Leona Gravel Aquifer in Groundwater
Management Area 10 for Medina County

Dear Mr. Illgner:

The Texas Water Code, Section 36.1084, Subsection (b), states that the Texas Water Development Board's (TWDB) executive administrator shall provide each groundwater conservation district and regional water planning group located wholly or partly in the groundwater management area with the modeled available groundwater in the management area based upon the desired future conditions adopted by the districts. This letter and the attached report (Aquifer Assessment 10-07 MAG) are in response to this directive.

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August 21, 2012

Mr. Ron Naumann
President
Guadalupe County Groundwater Conservation District
P.O. Box 1221
Seguin, TX 78156

Re: Modeled available groundwater estimates for the Leona Gravel Aquifer in Groundwater
Management Area 10 for Medina County

Dear Mr. Naumann:

The Texas Water Code, Section 36.1084, Subsection (b), states that the Texas Water Development Board's (TWDB) executive administrator shall provide each groundwater conservation district and regional water planning group located wholly or partly in the groundwater management area with the modeled available groundwater in the management area based upon the desired future conditions adopted by the districts. This letter and the attached report (Aquifer Assessment 10-07 MAG) are in response to this directive.

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Executive Administrator

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August 21, 2012

Mr. Ken Carver
General Manager
Kinney County Groundwater Conservation District
P.O. Box 369
Brackettville, TX 78832

Re: Modeled available groundwater estimates for the Leona Gravel Aquifer in Groundwater
Management Area 10 for Medina County

Dear Mr. Carver:

The Texas Water Code, Section 36.1084, Subsection (b), states that the Texas Water Development Board's (TWDB) executive administrator shall provide each groundwater conservation district and regional water planning group located wholly or partly in the groundwater management area with the modeled available groundwater in the management area based upon the desired future conditions adopted by the districts. This letter and the attached report (Aquifer Assessment 10-07 MAG) are in response to this directive.

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Sincerely,



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Executive Administrator

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August 21, 2012

Ms. Luana Buckner
General Manager
Medina County Groundwater Conservation District
1613 Avenue K, Suite 105
Hondo, TX 78861

Re: Modeled available groundwater estimates for the Leona Gravel Aquifer in Groundwater
Management Area 10 for Medina County

Dear Ms. Buckner:

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Melanie Callahan
Executive Administrator

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August 21, 2012

Mr. Daniel Meyer
Assistant Manager
Plum Creek Conservation District
P.O. Box 328
Lockhart, TX 78644

Re: Modeled available groundwater estimates for the Leona Gravel Aquifer in Groundwater
Management Area 10 for Medina County

Dear Mr. Meyer:

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August 21, 2012

Mr. Vic Hilderbran
General Manager
Uvalde County Underground Water Conservation District
200 E. Nopal Street, Suite 203
Uvalde, TX 78801

Re: Modeled available groundwater estimates for the Leona Gravel Aquifer in Groundwater
Management Area 10 for Medina County

Dear Mr. Hilderbran:

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August 21, 2012

Mr. Jonathan Letz
Plateau Regional Water Planning Group Chairman
Kerr County
700 Main Street, Suite 101
Kerrville, TX 78028

Re: Modeled available groundwater estimates for the Leona Gravel Aquifer in Groundwater
Management Area 10 for Medina County

Dear Mr. Letz:

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August 21, 2012

Mr. John Burke
Lower Colorado Regional Water Planning Group Chairman
John Burke & Associates
496 Shiloh Road
Bastrop, TX 78602

Re: Modeled available groundwater estimates for the Leona Gravel Aquifer in Groundwater
Management Area 10 for Medina County

Dear Mr. Burke:

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If you have any questions, please contact Ms. Rima Petrossian of my staff at 512-936-2420 or rima.petrossian@twdb.texas.gov for further information.

Sincerely,



Melanie Callahan
Executive Administrator

Attachment: Aquifer Assessment 10-07 MAG

c w/att.: L'Oreal Stepney, Deputy Director, Office of Water, Texas Commission of Environmental Quality
Kellye Rila, Texas Commission of Environmental Quality
Kelly Mills, Texas Commission of Environmental Quality
John Ashworth, LBG-Guyton
Jaime Burke, AECOM, Inc.
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Texas Water Development Board

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Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

August 21, 2012

Mr. Con Mims
South Central Texas Regional Water Planning Group Chairman
Nueces River Authority
P.O. Box 349
Uvalde, TX 78802

Re: Modeled available groundwater estimates for the Leona Gravel Aquifer in Groundwater
Management Area 10 for Medina County

Dear Mr. Mims:

The Texas Water Code, Section 36.1084, Subsection (b), states that the Texas Water Development Board's (TWDB) executive administrator shall provide each groundwater conservation district and regional water planning group located wholly or partly in the groundwater management area with the modeled available groundwater in the management area based upon the desired future conditions adopted by the districts. This letter and the attached report (Aquifer Assessment 10-07 MAG) are in response to this directive.

As noted in the letter received by the TWDB on August 11, 2010, from Rick Illgner of the Edwards Aquifer Authority on behalf of Groundwater Management Area 10, the desired future condition for the Leona Gravel Aquifer in Medina County was adopted on May 17, 2010.

Modeled available groundwater is defined in the Texas Water Code, Section 36.001, Subsection (25), as "the amount of water that the executive administrator determines may be produced on an average annual basis to achieve a desired future condition established under Section 36.108." For use in the regional water planning process, modeled available groundwater estimates have been reported by aquifer, county, river basin, regional water planning area, groundwater conservation district, and any other subdivision of the aquifer designated by the management area (if applicable).

We encourage open communication and coordination between groundwater conservation districts, regional water planning groups, and the TWDB to ensure that the modeled available groundwater reported in regional water plans and groundwater management plans are not in conflict. We estimated modeled available groundwater that would have to occur to achieve the desired future condition using the best available scientific tools. However, these estimates are based on assumptions of the magnitude and distribution of projected pumping in the aquifer. It is, therefore, important for groundwater conservation districts to monitor whether their management of pumping is achieving their desired future conditions. Districts are encouraged to continue to work with the TWDB to better define available groundwater as additional information may help better assess responses of the aquifer to pumping and its distribution now and in the future.

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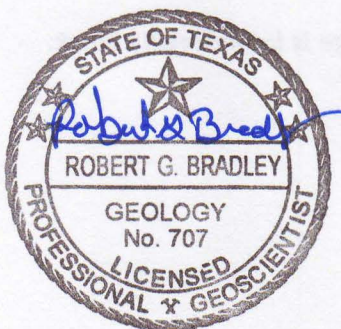
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AQUIFER ASSESSMENT 10-41: AQUIFER ASSESSMENT FOR THE LEONA GRAVEL AQUIFER IN GROUNDWATER MANAGEMENT AREA 13

by Robert G. Bradley, P.G.
Texas Water Development Board
Groundwater Resources Division
Groundwater Technical Assistance Section
(512) 936-0870
August 20, 2012



Robert G. Bradley, P.G. 707, authorized the seal appearing on this document on August 20, 2012.

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AQUIFER ASSESSMENT 10-41: AQUIFER ASSESSMENT FOR THE LEONA GRAVEL AQUIFER IN GROUNDWATER MANAGEMENT AREA 13

by Robert G. Bradley, P.G.
Texas Water Development Board
Groundwater Resources Division
Groundwater Technical Assistance Section
(512) 936-0870
August 20, 2012

EXECUTIVE SUMMARY:

This report summarizes the final modeled available groundwater as calculated by George (2010) for the Leona Gravel Aquifer in Medina County that lies within Groundwater Management Area 13. The estimated modeled available groundwater from the Leona Gravel Aquifer within Medina County that achieves the desired future condition adopted by members of Groundwater Management Area 13 is approximately 5,635 acre-feet per year and is summarized by county, regional water planning area, and river basin as shown in Table 1.

REQUESTOR:

Ms. Luanna Buckner of the Medina County Groundwater Conservation District acting on behalf of Groundwater Management Area 13.

DESCRIPTION OF REQUEST:

In a letter received July 22, 2011, Ms. Luana Buckner provided the Texas Water Development Board (TWDB) with the desired future condition of Leona Gravel Aquifer within Medina County, adopted by the members of Groundwater Management Area 13. The desired future condition for the Leona Gravel Aquifer, as described in Resolution No. 2011-01 and adopted July 13, 2011 by the groundwater conservation districts in Groundwater Management Area 13 is summarized as an average drawdown of 15 feet for the Leona Gravel Aquifer in Medina County.

Aquifer Assessment 10-41:

Aquifer Assessment for the Leona Gravel Aquifer in Groundwater Management Area 13

August 20, 2012

Page 4 of 8

METHODS:

Groundwater Management Area 13, located in South Central Texas, includes part of the Leona Gravel Aquifer (Figure 1). This is neither a major nor a minor aquifer, but has been determined to be locally relevant for joint planning purposes. At the request of Groundwater Management Area 13, the TWDB previously analyzed several water level decline scenarios for the Leona Gravel Aquifer, documented in GTA Aquifer Assessment 09-01 (George, 2010).

One of the scenarios included the desired future condition of 15 feet of water level decline, and this was adopted as the desired future condition of the Leona Gravel Aquifer within Medina County for GMA 13.

The modeled available groundwater estimates are divided by regional water planning area and river basin. Medina County is completely within the South Central Regional Water Planning Area and the Medina County Groundwater Conservation District encompasses the whole county. Regional maps of these areas are shown in Figure 2.

PARAMETERS AND ASSUMPTIONS:

Parameters, assumptions, volumetric calculations, and areas were obtained from GTA Aquifer Assessment 09-01 (George, 2010). The water-level declines of 15 feet were estimated to be uniform across the aquifer.

RESULTS:

The estimated modeled available groundwater from the Leona Gravel Aquifer within Medina County in Groundwater Management Area 13 that achieves the adopted desired future condition is approximately 5,635 acre-feet per year. This pumping has been divided by county, regional water planning area, and river basin for each decade between 2010 and 2060 for use in the regional water planning process (Table 1). In addition, the total pumping estimates are summarized by county in Table 2.

Aquifer Assessment 10-41:

Aquifer Assessment for the Leona Gravel Aquifer in Groundwater Management Area 13

August 20, 2012

Page 5 of 8

Table 1. Modeled available groundwater by decade for the Leona Gravel Aquifer in groundwater management area 13. Results are in acre-feet per year and are divided by county, regional water planning area, and river basin

County	Region	Basin	Year					
			2010	2020	2030	2040	2050	2060
Medina	L	Nueces	5,586	5,586	5,586	5,586	5,586	5,586
		San Antonio	49	49	49	49	49	49

LIMITATIONS:

As indicated by George (2010), additional data are needed to create improved estimates; these estimates are a basic interpretation of the requested conditions. This analysis assumes homogeneous and isotropic aquifers; however, conditions for the Leona Gravel Aquifer may not behave in a uniform manner. There is uncertainty with respect to the distribution of the sand and gravel in the aquifer (Lowry and Couch, 2002; Green, 2003). The analysis further assumes that precipitation is the only source of aquifer recharge and that lateral inflow to the aquifer is equal to lateral outflow from the aquifer, and that future pumping will not alter this balance.

Discharge and recharge from other aquifers, such as the Edwards (Balcones Fault Zone) Aquifer, are unknown as is recharge from streams. Discharge to streams from the Leona Gravel Aquifer is assumed to be 15,000 acre-feet per year (George, 2010), but this number needs to be investigated with gain-loss streamflow assessment research. The recharge rate and specific yield estimates are rough approximations.

This analysis was determined to be the best method to calculate a modeled available groundwater estimate; however, this method has limitations and should be replaced with better tools, including groundwater models and additional data that are not currently available, whenever possible. This analysis assumes that the aquifer is in a state of dynamic equilibrium. This assumption needs to be considered and compared to actual future data when evaluating achievement of the desired future condition.

Given these limitations, users of this information are cautioned that the modeled available groundwater estimates should not be considered a definitive, permanent description of the amount of groundwater that can be pumped to meet the adopted desired future condition. The TWDB makes no warranties or representations relating to the actual conditions of any aquifer at a particular location or at a particular time.

Aquifer Assessment 10-41:

Aquifer Assessment for the Leona Gravel Aquifer in Groundwater Management Area 13

August 20, 2012

Page 6 of 8

It is important for groundwater conservation districts to monitor future groundwater pumping and water levels to know if they are achieving their desired future conditions. Because of the limitations and assumptions in this analysis, it is important that the groundwater conservation districts work with the TWDB to refine these modeled available groundwater numbers given the reality of how the aquifer responds to the actual amount and location of pumping now and in the future.

REFERENCES:

George, P., 2010, GTA Aquifer Assessment 09-01: Texas Water Development Board, GTA Aquifer Assessment Report 09-01 Report, 14 p.

Green, R.T., 2003, Geophysical survey to determine the depth and lateral extent of the Leona Aquifer in the Leona river floodplain, south of Uvalde, Texas: Prepared for the Edwards Aquifer Authority by the Southwest Research Institute, 21 p.

Lowry, M.V., and Couch, B. E., 2002, Phase I Leona Gravel Aquifer Study: Prepared for the Medina County Groundwater Conservation District by Turner Collie & Braden Inc., 51 p.

Thorkildsen D. and Backhouse S., 2011, GTA Aquifer Assessment 10-26: Texas Water Development Board, GTA Aquifer Assessment 10-26 Report, 11 p.

Aquifer Assessment 10-41:
Aquifer Assessment for the Leona Gravel Aquifer in
Groundwater Management Area 13

August 20, 2012

Page 7 of 8

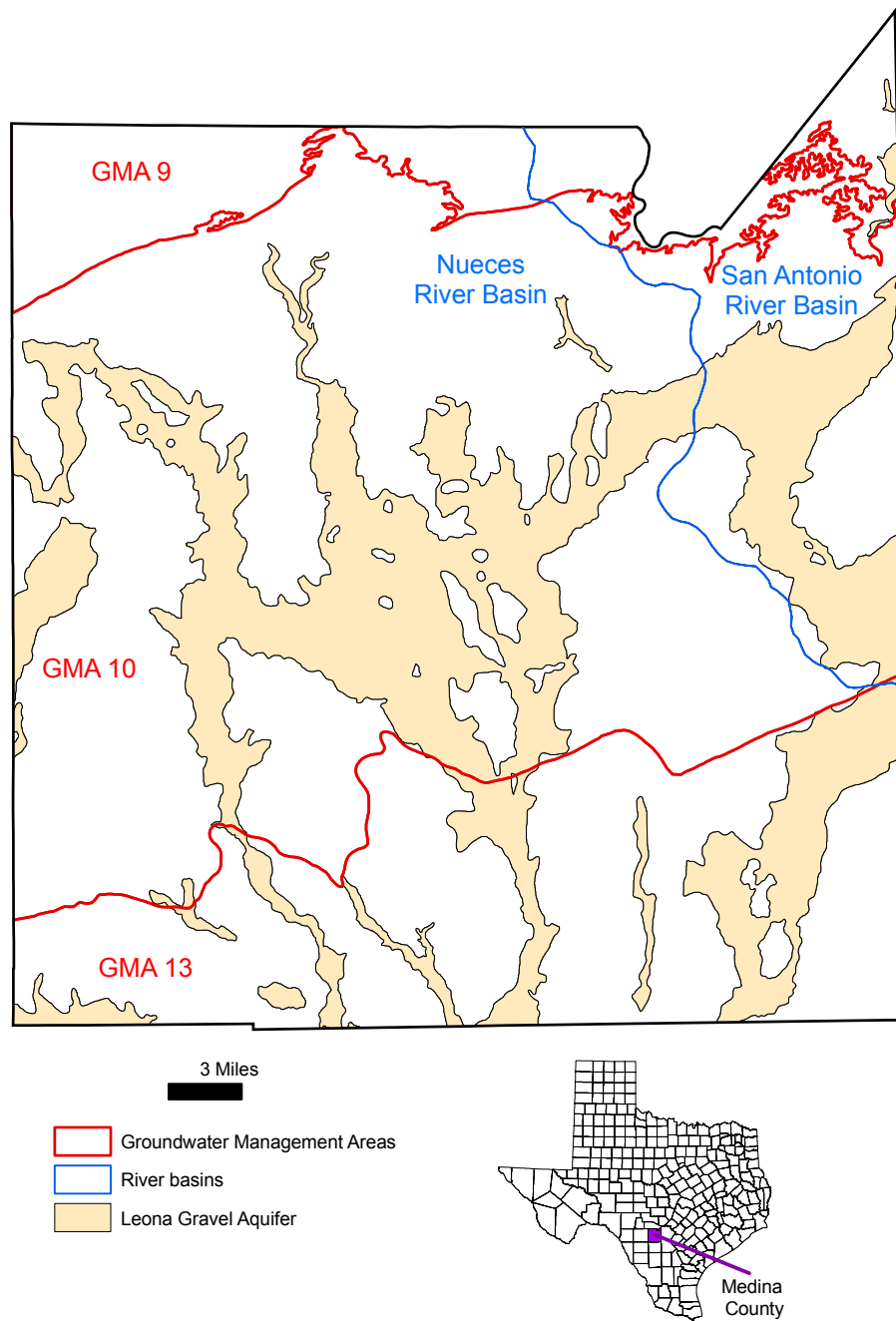


Figure 1. Map Showing the groundwater management areas, river basins, and extent of the Leona Gravel Aquifer in Medina County (After George, 2010).

Aquifer Assessment 10-41:
 Aquifer Assessment for the Leona Gravel Aquifer in
 Groundwater Management Area 13

August 20, 2012

Page 8 of 8

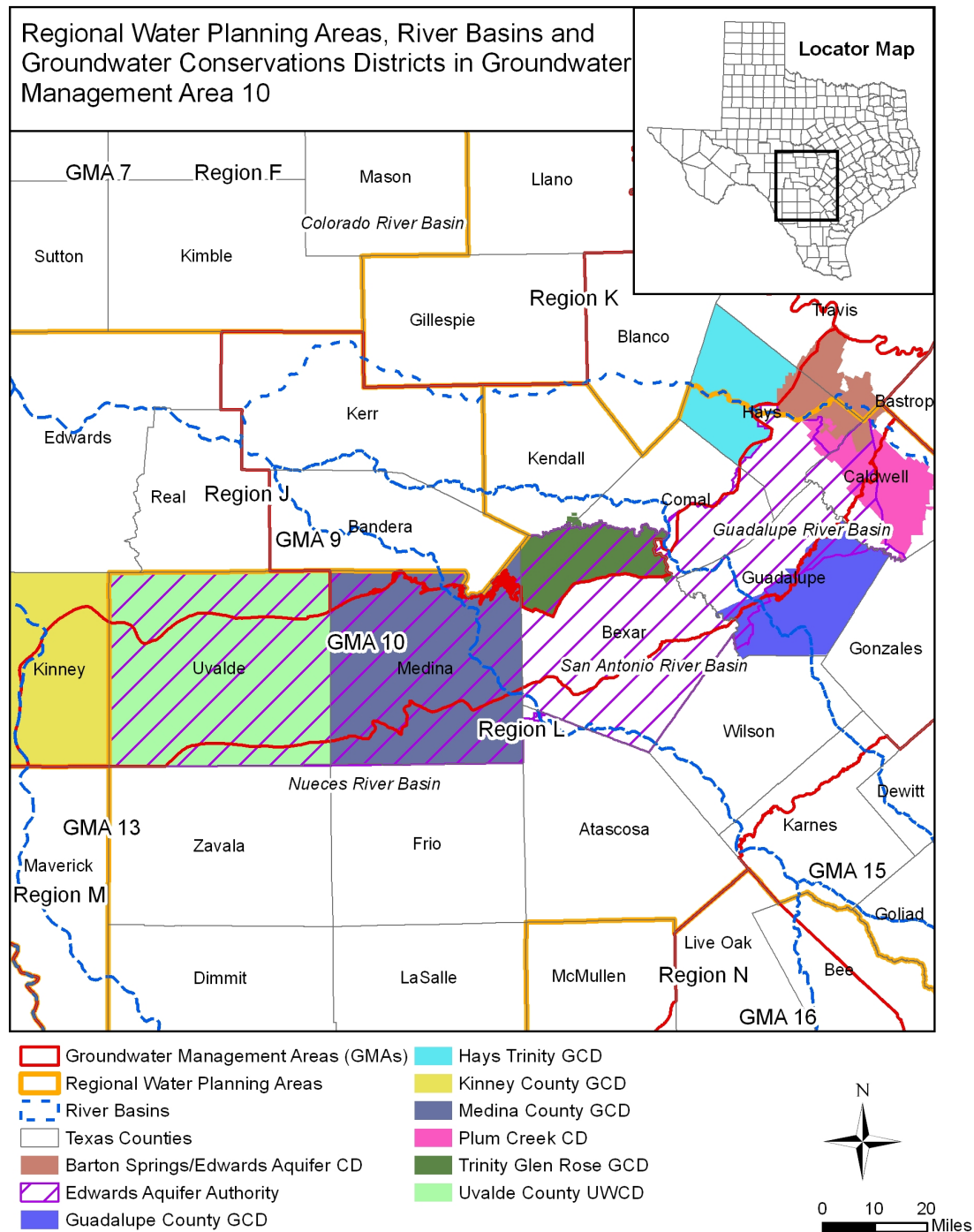


Figure 2. Map showing regional water planning areas, river basins, groundwater conservation districts, and counties in and neighboring groundwater management area 10 (from Thorkildsen and Backhouse, 2010). CD = conservation district, GCD = groundwater conservation district, UWCD = underground water conservation district

August 21, 2012

Mr. Rick Illgner
Governmental Affairs Officer
Edwards Aquifer Authority
1615 N. St. Mary's
San Antonio, TX 78215

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Mr. Illgner:

The Texas Water Code, Section 36.1084, Subsection (b), states that the Texas Water Development Board's (TWDB) executive administrator shall provide each groundwater conservation district and regional water planning group located wholly or partly in the groundwater management area with the modeled available groundwater in the management area based upon the desired future conditions adopted by the districts. This letter and the attached reports (Aquifer Assessment 10-40 MAG and Aquifer Assessment 10-41 MAG) are in response to this directive.

As noted in the letter received by the TWDB on September 2, 2010, from Mike Mahoney of the Evergreen Underground Water Conservation District on behalf of Groundwater Management Area 13, the desired future condition for the Edwards Aquifer in Frio County was adopted on August 12, 2010.

The desired future condition for the Leona Gravel Aquifer in Medina County was adopted on July 13, 2011, as noted in the letter from Luana Buckner of the Medina County Groundwater Conservation District on behalf of Groundwater Management Area 13, received by the TWDB on June 22, 2011.

Modeled available groundwater is defined in the Texas Water Code, Section 36.001, Subsection (25), as "the amount of water that the executive administrator determines may be produced on an average annual basis to achieve a desired future condition established under Section 36.108." For use in the regional water planning process, modeled available groundwater estimates have been reported by aquifer, county, river basin, regional water planning area, groundwater conservation district, and any other subdivision of the aquifer designated by the management area (if applicable).

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Mr. Illgner
August 21, 2012
Page 2

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Sincerely,



Melanie Callahan
Executive Administrator

Attachments: Aquifer Assessment 10-40 MAG
Aquifer Assessment 10-41 MAG

c w/atts.: L'Oreal Stepney, Deputy Director, Office of Water, Texas Commission of Environmental Quality
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Angela Kennedy, Water Resources Planning
Connie Townsend, Water Resources Planning
Wendy Barron, Water Resources Planning

August 21, 2012

Mr. Mike Mahoney
General Manager
Evergreen Underground Water Conservation District
110 Wyoming Blvd
Pleasanton, TX 78064

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Mr. Mahoney:

The Texas Water Code, Section 36.1084, Subsection (b), states that the Texas Water Development Board's (TWDB) executive administrator shall provide each groundwater conservation district and regional water planning group located wholly or partly in the groundwater management area with the modeled available groundwater in the management area based upon the desired future conditions adopted by the districts. This letter and the attached reports (Aquifer Assessment 10-40 MAG and Aquifer Assessment 10-41 MAG) are in response to this directive.

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August 21, 2012

Mr. Greg Sengelmann
General Manager
Gonzales County Underground Water Conservation District
P.O. Box 1919
Gonzales, TX 78629

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Mr. Sengelmann:

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August 21, 2012

Mr. Ron Naumann
President
Guadalupe County Groundwater Conservation District
P.O. Box 1221
Seguin, TX 78156

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Mr. Naumann:

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Phone (512) 463-7847, Fax (512) 475-2053

August 21, 2012

Mr. Lonnie Stewart
General Manager
McMullen Groundwater Conservation District
P.O. Box 232
Tilden, TX 78072

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Mr. Stewart:

The Texas Water Code, Section 36.1084, Subsection (b), states that the Texas Water Development Board's (TWDB) executive administrator shall provide each groundwater conservation district and regional water planning group located wholly or partly in the groundwater management area with the modeled available groundwater in the management area based upon the desired future conditions adopted by the districts. This letter and the attached reports (Aquifer Assessment 10-40 MAG and Aquifer Assessment 10-41 MAG) are in response to this directive.

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Mr. Stewart
August 21, 2012
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Sincerely,



Melanie Callahan
Executive Administrator

Attachments: Aquifer Assessment 10-40 MAG
Aquifer Assessment 10-41 MAG

c w/atts.: L'Oreal Stepney, Deputy Director, Office of Water, Texas Commission of Environmental Quality
Kellye Rila, Texas Commission of Environmental Quality
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Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

August 21, 2012

Ms. Luana Buckner
General Manager
Medina County Groundwater Conservation District
1613 Avenue K, Suite 105
Hondo, TX 78861

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Ms. Buckner:

The Texas Water Code, Section 36.1084, Subsection (b), states that the Texas Water Development Board's (TWDB) executive administrator shall provide each groundwater conservation district and regional water planning group located wholly or partly in the groundwater management area with the modeled available groundwater in the management area based upon the desired future conditions adopted by the districts. This letter and the attached reports (Aquifer Assessment 10-40 MAG and Aquifer Assessment 10-41 MAG) are in response to this directive.

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August 21, 2012

Mr. Daniel Meyer
Assistant Manager
Plum Creek Conservation District
P.O. Box 328
Lockhart, TX 78644

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Mr. Meyer:

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August 21, 2012

Mr. Vic Hilderbran
General Manager
Uvalde County Underground Water Conservation District
200 E. Nopal Street, Suite 203
Uvalde, TX 78801

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Mr. Hilderbran:

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August 21, 2012

Mr. Ed Walker
General Manager
Wintergarden Groundwater Conservation District
P.O. Box 1433
Carrizo Springs, TX 78834

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Mr. Walker:

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August 21, 2012

Mr. Con Mims
South Central Texas Regional Water Planning Group Chairman
Nueces River Authority
P.O. Box 349
Uvalde, TX 78802

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Mr. Mims:

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August 21, 2012

Mr. Glenn Jarvis
Rio Grande Regional Water Planning Group Chairman
Law Offices of Glenn Jarvis
1801 S. 2nd Street, Suite 550
McAllen, TX 78503

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Mr. Jarvis:

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August 21, 2012

Ms. Carola Serrato
Coastal Bend Regional Water Planning Group Co-Chair
South Texas Water Authority
P.O. Box 1701
Kingsville, TX 78364

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Ms. Serrato:

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Angela Kennedy, Water Resources Planning
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Wendy Barron, Water Resources Planning

August 21, 2012

Mr. Scott Bledsoe, III
Coastal Bend Regional Water Planning Group Co-Chair
Live Oak Underground Water Conservation District
P.O. Box 3
Oakville, TX 78060

Re: Modeled available groundwater estimates for the Edwards and Leona Gravel aquifers in
Groundwater Management Area 13

Dear Mr. Bledsoe:

The Texas Water Code, Section 36.1084, Subsection (b), states that the Texas Water Development Board's (TWDB) executive administrator shall provide each groundwater conservation district and regional water planning group located wholly or partly in the groundwater management area with the modeled available groundwater in the management area based upon the desired future conditions adopted by the districts. This letter and the attached reports (Aquifer Assessment 10-40 MAG and Aquifer Assessment 10-41 MAG) are in response to this directive.

As noted in the letter received by the TWDB on September 2, 2010, from Mike Mahoney of the Evergreen Underground Water Conservation District on behalf of Groundwater Management Area 13, the desired future condition for the Edwards Aquifer in Frio County was adopted on August 12, 2010.

The desired future condition for the Leona Gravel Aquifer in Medina County was adopted on July 13, 2011, as noted in the letter from Luana Buckner of the Medina County Groundwater Conservation District on behalf of Groundwater Management Area 13, received by the TWDB on June 22, 2011.

Modeled available groundwater is defined in the Texas Water Code, Section 36.001, Subsection (25), as "the amount of water that the executive administrator determines may be produced on an average annual basis to achieve a desired future condition established under Section 36.108." For use in the regional water planning process, modeled available groundwater estimates have been reported by aquifer, county, river basin, regional water planning area, groundwater conservation district, and any other subdivision of the aquifer designated by the management area (if applicable).

We encourage open communication and coordination between groundwater conservation districts, regional water planning groups, and the TWDB to ensure that the modeled available groundwater reported in regional water plans and groundwater management plans are not in conflict. We estimated modeled available groundwater that would have to occur to achieve the desired future conditions using the best available scientific tools. However, these estimates are based on assumptions of the magnitude and distribution of projected pumping in the aquifer. It is, therefore, important for groundwater

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conservation districts to monitor whether their management of pumping is achieving their desired future conditions. Districts are encouraged to continue to work with the TWDB to better define available groundwater as additional information may help better assess responses of the aquifer to pumping and its distribution now and in the future.

If you have any questions, please contact Ms. Rima Petrossian of my staff at 512-936-2420 or rima.petrossian@twdb.texas.gov for further information.

Sincerely,



Melanie Callahan
Executive Administrator

Attachments: Aquifer Assessment 10-40 MAG
Aquifer Assessment 10-41 MAG

c w/atts.: L'Oreal Stepney, Deputy Director, Office of Water, Texas Commission of Environmental Quality
Kellye Rila, Texas Commission of Environmental Quality
Kelly Mills, Texas Commission of Environmental Quality
Kristi Shaw, HDR Engineering
Sam Vaughn, HDR Engineering
David Anderson, Black & Veatch Corporation
Rocky Freund, Nueces River Authority
Deborah Morales, Lower Rio Grande Valley Development Council
Steve Raabe, San Antonio River Authority
Bill West, Guadalupe-Blanco River Authority
Robert E. Mace, Ph.D, P.G., Deputy Executive Administrator, Water Science and Conservation
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Cindy Ridgeway, P.G., Groundwater Resources
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