TEXAS WATER DEVELOPMENT BOARD

September 30, 2008

Mr. John Burke
Aqua Water Supply Corporation
P.O. Drawer P
Bastrop TX 78602

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Mr. Burke:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

As noted in your letter dated December 26, 2007, the submitted desired future condition for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8 was as follows:

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Managed available groundwater is defined in the Texas Water Code as the amount of water that may be permitted by a district for beneficial use in accordance with the desired future condition of the aquifer as determined under Texas Water Code, Section 36.108. For various planning purposes, the managed available groundwater estimates have been reported at the combined aquifer, county, river basin, regional water planning area, groundwater management area, groundwater conservation district (if applicable), and geographic area/subdivision (if designated) level.

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Sincerely,

J. Kevin Ward
Executive Administrator

Attachment: GAM Run 08-10mag

c: Cary Betz, Texas Commission of Environmental Quality Water Supply Division

Kelly Mills, Texas Commission of Environmental Quality Groundwater Planning and Assessment Division

Carolyn Brittin, Deputy Executive Administrator, TWDB Water Resources Planning and Information

David Meesey, Manager, TWDB Regional Water Planning Section

Matt Nelson, Planner Region G, TWDB Regional Water Planning Section

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Cindy Ridgeway, P.G., Manager, TWDB Groundwater Availability Modeling Section

Roberto Anaya, P.G., Groundwater Modeler, TWDB Groundwater Availability Modeling Section

Mr. David Dunn, HDR Engineering

Mr. Mark Lowry, TCB Inc

September 30, 2008

Mr. Scott Mack
Region G
108 North Cranbrook Court
Ingram TX 78025

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Mr. Mack:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

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Executive Administrator

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J. Kevin Ward
Executive Administrator

Jack Hunt, *Vice Chairman*
Thomas Weir Labatt III, *Member*
Joe M. Crutcher, *Member*

September 30, 2008

Mr. Richard Bowers
Central Texas Groundwater Conservation District
P.O. Box 870
Burnet, TX 78611

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Mr. Bowers:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

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Executive Administrator

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Mr. Mark Lowry, TCB Inc

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Executive Administrator

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Thomas Weir Labatt III, *Member*
Joe M. Crutcher, *Member*

September 30, 2008

Ms. Cheryl Maxwell
Clearwater Underground Water Conservation District
P.O. Box 729
Belton, TX 76513

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Ms. Maxwell:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

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Executive Administrator

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Kelly Mills, Texas Commission of Environmental Quality Groundwater Planning and Assessment Division

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Mr. Mark Lowry, TCB Inc

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Executive Administrator

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Thomas Weir Labatt III, *Member*
Joe M. Crutcher, *Member*

September 30, 2008

Mr. Rodney Carlisle
Fox Crossing Water District
P.O. Box 926
Goldthwaite, TX 76844

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Mr. Carlisle:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

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Sincerely,

J. Kevin Ward
Executive Administrator

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Kelly Mills, Texas Commission of Environmental Quality Groundwater Planning and Assessment Division

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Roberto Anaya, P.G., Groundwater Modeler, TWDB Groundwater Availability Modeling Section

Mr. David Dunn, HDR Engineering

Mr. Mark Lowry, TCB Inc

September 30, 2008

The Honorable Jim Lewis
McLennan County Groundwater Conservation District
P.O. Box 1728
Waco, TX 76703

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Judge Lewis:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

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Executive Administrator

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Kelly Mills, Texas Commission of Environmental Quality Groundwater Planning and Assessment Division

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Roberto Anaya, P.G., Groundwater Modeler, TWDB Groundwater Availability Modeling Section

Mr. David Dunn, HDR Engineering

Mr. Mark Lowry, TCB Inc

September 30, 2008

Mr. Joe Cooper
Middle Trinity Groundwater Conservation District
150 North Harbin Drive
Suite 434
Stephenville, TX 76401

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Mr. Cooper:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

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Mr. Mark Lowry, TCB Inc

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J. Kevin Ward
Executive Administrator

Jack Hunt, *Vice Chairman*
Thomas Weir Labatt III, *Member*
Joe M. Crutcher, *Member*

September 30, 2008

Mr. Russell Laughlin
Northern Trinity Groundwater Conservation District
13600 Heritage Parkway
Suite 200
Fort Worth, TX 76177

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Mr. Laughlin:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

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Mr. David Dunn, HDR Engineering

Mr. Mark Lowry, TCB Inc

September 30, 2008

Mr. Gary Westbrook
Post Oak Savannah Groundwater Conservation District
P.O. Box 92
Milano, TX 76556

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Mr. Westbrook:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

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Mr. David Dunn, HDR Engineering

Mr. Mark Lowry, TCB Inc

September 30, 2008

Mr. Randy McGuire
Saratoga Underground Water Conservation District
P.O. Box 231
Lampasas, TX 76550

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Mr. McGuire:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

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- Maintain at least 60 acre-feet per month of aggregated stream/springflow during a repeat of the drought of record in Williamson County.

Managed available groundwater is defined in the Texas Water Code as the amount of water that may be permitted by a district for beneficial use in accordance with the desired future condition of the aquifer as determined under Texas Water Code, Section 36.108. For various planning purposes, the managed available groundwater estimates have been reported at the combined aquifer, county, river basin, regional water planning area, groundwater management area, groundwater conservation district (if applicable), and geographic area/subdivision (if designated) level.

We understand that groundwater conservation districts have options on how to distribute managed available groundwater in a groundwater management area, therefore, we encourage open communication and coordination between groundwater conservation districts, regional water planning groups, and the TWDB to ensure that managed available groundwater reported in regional water planning groups' groundwater management plans are not in conflict. In addition, please note that estimates of managed available groundwater are based on the best available scientific tools that can be used to evaluate managed available groundwater and that these estimates may be based on assumptions made on the magnitude and distribution of pumping in the aquifer. Therefore, it is important for groundwater conservation districts to monitor whether or not their management of pumping is achieving their desired future conditions. Districts are encouraged to work with the TWDB to better define available groundwater as better data becomes available for how the aquifer responds to the actual magnitude and distribution of pumping now and in the future.

Sincerely,

J. Kevin Ward
Executive Administrator

Attachment: GAM Run 08-10mag

c: Cary Betz, Texas Commission of Environmental Quality Water Supply Division

Kelly Mills, Texas Commission of Environmental Quality Groundwater Planning and Assessment Division

Carolyn Brittin, Deputy Executive Administrator, TWDB Water Resources Planning and Information

David Meesey, Manager, TWDB Regional Water Planning Section

Matt Nelson, Planner Region G, TWDB Regional Water Planning Section

William Mullican, Deputy Executive Administrator, TWDB Water Science and Conservation

Robert Mace, Ph.D., P.G., Director, TWDB Groundwater Resources

Rima Petrossian, P.G., Manager, TWDB Groundwater Technical Assistance Section

Cindy Ridgeway, P.G., Manager, TWDB Groundwater Availability Modeling Section

Roberto Anaya, P.G., Groundwater Modeler, TWDB Groundwater Availability Modeling Section

Mr. David Dunn, HDR Engineering

Mr. Mark Lowry, TCB Inc

TEXAS WATER DEVELOPMENT BOARD

James E. Herring, *Chairman*
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J. Kevin Ward
Executive Administrator

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Thomas Weir Labatt III, *Member*
Joe M. Crutcher, *Member*

September 30, 2008

The Honorable John Firth
Tablerock Groundwater Conservation District
620 East Main
Gatesville, TX 76528

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Judge Firth:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

As noted in your letter dated December 26, 2007, the submitted desired future condition for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8 was as follows:

- Maintain at least 100 acre-feet per month stream/springflow in Salado Creek during a repeat of the drought of record in Bell County.
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J. Kevin Ward
Executive Administrator

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Roberto Anaya, P.G., Groundwater Modeler, TWDB Groundwater Availability Modeling Section

Mr. David Dunn, HDR Engineering

Mr. Mark Lowry, TCB Inc

September 30, 2008

Mr. Mike Massey
Upper Trinity Groundwater Conservation District
P.O. Box 1786
Granbury, TX 76048

Re: Managed available groundwater estimates for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8

Dear Mr. Massey:

The Texas Water Code, Section 36.108, Subsection (o), states that the Texas Water Development Board's (TWDB) Executive Administrator shall provide each district and regional water planning group, located wholly or partly within a groundwater management area, with the managed available groundwater in the management area based upon the desired future condition of the groundwater resource. This letter and the attached report (GAM Run 08-10mag) are in response to this directive.

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Sincerely,

J. Kevin Ward
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Roberto Anaya, P.G., Groundwater Modeler, TWDB Groundwater Availability Modeling Section

Mr. David Dunn, HDR Engineering

Mr. Mark Lowry, TCB Inc

October 5, 2008

The attached letter you were copied on was sent to the following Conservation Districts and Chairs:

Central Texas Groundwater Conservation District
Mr. Richard Bowers
P.O. Box 870
Burnet, TX 78611

Clearwater Underground Water Conservation District
Ms. Cheryl Maxwell
P.O. Box 729
Belton, TX 76513

Fox Crossing Water District
Mr. Rodney Carlisle
P.O. Box 926
Goldthwaite, TX 76844

McLennan County Groundwater Conservation District
Judge Jim Lewis
P.O. Box 1728
Waco, TX 76703

Middle Trinity Groundwater Conservation District
Mr. Joe Cooper
150 North Harbin Drive
Suite 434
Stephenville, TX 76401

Northern Trinity Groundwater Conservation District
Mr. Russell Laughlin
13600 Heritage Parkway
Suite 200
Fort Worth, TX 76177

Post Oak Savannah Groundwater Conservation District
Mr. Gary Westbrook
P.O. Box 92
310 East Avenue C
Milano, TX 76556

Saratoga Underground Water Conservation District
Mr. Randy McGuire
P.O. Box 231
Lampasas, TX 76550

Tablerock Groundwater Conservation District
Judge John Firth
620 East Main
Gatesville, TX 76528

Upper Trinity Groundwater Conservation District
Mr. Mike Massey
P.O. Box 1786
Granbury, TX 76048

Mr. Scott Mack
Region G Chair
108 North Cranbrook Court
Ingram, Texas 78025

Mr. John Burke
Region K Chair
PO Drawer P
Bastrop, Texas 78602

GAM Run 08-10mag

by Roberto Anaya, P.G.
Texas Water Development Board
Groundwater Availability Modeling Section
(512) 936-2415
April 3, 2008

REQUESTOR:

Ms. Cheryl Maxwell of the Clearwater Underground Water Conservation District acting on behalf of the groundwater conservation districts in Groundwater Management Area 8.

DESCRIPTION OF REQUEST:

In a letter dated December 26, 2007, Ms. Cheryl Maxwell provided the TWDB with the desired future conditions for the Edwards (Balcones Fault Zone), Blossom, Brazos River Alluvium, Nacatoch, and Woodbine aquifers in Groundwater Management Area 8 and requested that TWDB estimate managed available groundwater values. This groundwater availability modeling run presents the managed available groundwater for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8.

DESIRED FUTURE CONDITIONS:

Desired future conditions for the northern segment of the Edwards (Balcones Fault Zone) Aquifer submitted to TWDB by the groundwater conservation districts in Groundwater Management Area 8:

- Maintain at least 100 acre-feet per month of stream/spring flow in Salado Creek during a repeat of the drought of record in Bell County.
- Maintain at least 42 acre-feet per month of aggregated stream/spring flow during a repeat of the drought of record in Travis County.
- Maintain at least 60 acre-feet per month of aggregated stream/spring flow during a repeat of the drought of record in Williamson County.

EXECUTIVE SUMMARY:

TWDB staff ran the groundwater availability model for the northern segment of the Edwards (Balcones Fault Zone) Aquifer to determine the managed available groundwater based on the desired future conditions for the Edwards (Balcones Fault Zone) Aquifer (Williams, 2007) adopted by the groundwater conservation districts in Groundwater Management Area 8.

Table 1. Managed available groundwater for the northern segment of the Edwards (Balcones Fault Zone) Aquifer by geographic subdivisions (See Figure 1).

MapRef	Aquifer	County	RWPA	River Basin	GCD	GMA	GeoArea	Year	MAG (Acre-feet per year)
1	EBFZ_N	Bell	G	Brazos	Clearwater	8	n/a	n/a	6,469
2	EBFZ_N	Williamson	G	Brazos	None	8	n/a	n/a	3,351
3	EBFZ_N	Williamson	G	Colorado	None	8	n/a	n/a	101
4	EBFZ_N	Williamson	K	Brazos	None	8	n/a	n/a	6
5	EBFZ_N	Williamson	K	Colorado	None	8	n/a	n/a	4
6	EBFZ_N	Travis	K	Brazos	None	8	n/a	n/a	275
7	EBFZ_N	Travis	K	Colorado	None	8	n/a	n/a	4,962
									15,168

Clearwater = Clearwater Underground Water Conservation District.

EBFZ_N = Northern segment of the Edwards (Balcones Fault Zone) Aquifer.

GCD = Groundwater conservation district.

GeoArea = Geographic areas defined by unique desired future conditions as specified by a groundwater management area.

GMA = Groundwater management area.

MAG = Managed available groundwater in units of acre-feet per year.

MapRef = Key identifier for managed available groundwater referenced to geographic subdivisions (See Figure 1).

RWPA = Regional water planning area.

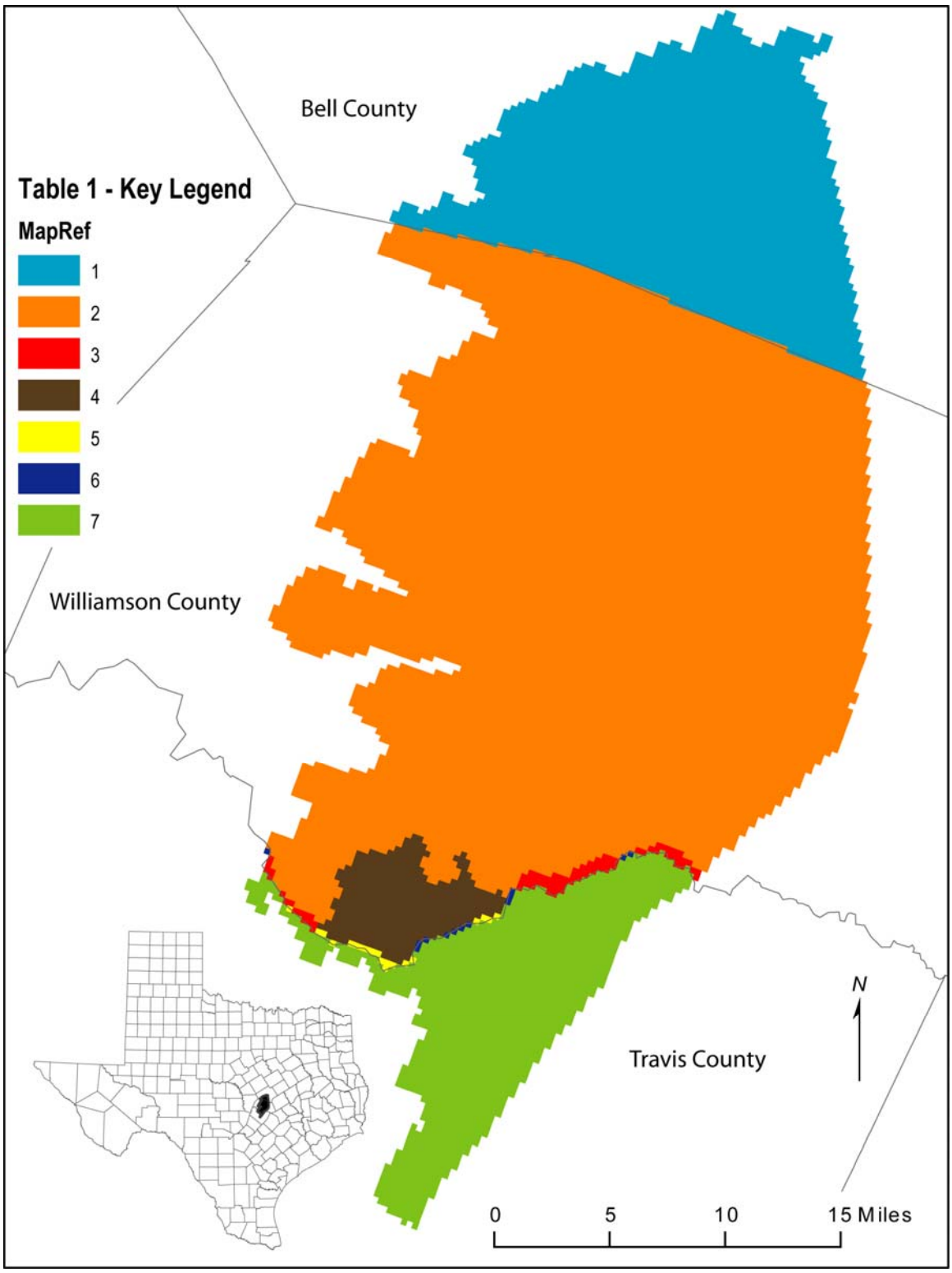


Figure 1: Geographic subdivisions of managed available groundwater for the northern segment of the Edwards (Balcones Fault Zone) Aquifer. See Table 1 for descriptions of the geographic subdivisions.

The results show 15,168 acre-feet per year of managed available groundwater for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8. Under the jurisdiction of the Clearwater Underground Water Conservation District, Bell County has 6,469 acre-feet per year of managed available groundwater. The managed available groundwater estimates for Williamson and Travis counties are 3,462 and 5,237 acre-feet per year, respectively.

METHODS:

To address the request, we:

- ran the model for 141 years, starting with a 100-year initial stress period (pre-1980) followed by 21 years of historical monthly stress periods (1980 to 2000), then 10 years of predictive annual stress periods (2001 to 2010), and ending with 10 years of predictive monthly stress periods (2011 to 2020) to represent a simulated repeat of the 1950s' drought of record (Please see the discussion at end of this section about these stress periods);

- used pumpage and recharge distributions provided to us by staff at TCB Inc. and uniformly adjusted pumpage in Williamson County to meet the desired future conditions as outlined above;

- extracted projected discharge for drain cells representing Salado Creek in Bell County and drain cells representing aggregated springs and streams in Williamson and Travis counties, respectively, for each of the stress periods from 2011 through 2020 to verify that the desired future conditions were met (Please see the discussion at end of this section);

- determined which stress period reflected the worst case monthly scenario for Salado Springs during a repeat of the 1950s' drought of record;

- generated managed available groundwater for all three desired future conditions based on the lowest monthly springflow volume for Salado Springs during a simulated repeat of the 1950s' drought of record; and

- calculated managed available groundwater for each possible geographic subdivision (Figure 1) within Groundwater Management Area 8 based on a geographic information systems overlay analysis of counties, groundwater conservation districts, regional water planning areas, major river basins, and the boundary extents of Groundwater Management Area 8 and the northern segment of the Edwards (Balcones Fault Zone) Aquifer.

The initial 100-year stress period is for the model to reach equilibrium to known or observed conditions just prior to 1980. The 21 years of historical monthly stress periods from 1980 to 2000 represent the aquifer in a transient state for which the model was calibrated. The end of the 21 years of historical monthly stress periods also provides the initial conditions for starting the predictive portion of the model simulation. The next 10 years of annual stress periods represent

the first phase of the predictive model simulation under normal recharge conditions and with predictive pumpage rate estimates for the period from 2001 to 2010. This 10-year period allows the modeled aquifer to reach equilibrium with predictive pumpage rates before being stressed by the simulated drought of record recharge. The final 10 years of monthly stress periods from 2011 to 2020 represent the simulated repeat of the 1950s' drought of record recharge with the predictive pumpage rate estimates.

Initial distributed pumpage and recharge rates were developed by staff of TCB Inc. at the request of Ms. Cheryl Maxwell of the Clearwater Underground Water Conservation District acting on behalf of the groundwater districts in Groundwater Management Area 8. The recharge rates represent the 1950s' drought of record conditions. The pumpage rates represent predictive estimates of pumpage for Travis and Williamson counties and drought management pumpage rates for Bell County. These initial pumpage rates were used to develop the desired future conditions based on a previous groundwater availability modeling run (Anaya, 2007).

Because the submitted desired future condition for Williamson County was not possible with the pumping distribution in the previous groundwater availability modeling run (Anaya, 2007), TWDB staff uniformly adjusted the pumpage rates for Williamson County to achieve the desired future conditions.

PARAMETERS AND ASSUMPTIONS:

- TWDB staff assumed that the managed available groundwater for all three desired future conditions be based on the modeling stress period with the lowest monthly springflow volume for Salado Springs during a simulated repeat of the 1950s' drought of record.

- TWDB staff also assumed that the desired future conditions for the minimum aggregated stream/spring flows in Bell, Travis, and Williamson counties must be maintained for each and every month throughout the entire 1950s' drought of record simulation period.

- TWDB staff used version 1.01 of the groundwater availability model for the northern segment of the Edwards (Balcones Fault Zone) Aquifer.

- See Jones (2003) for a more detailed discussion of assumptions and limitations of the groundwater availability model for the northern segment of the Edwards (Balcones Fault Zone) Aquifer.

- The model consists of one layer representing the northern segment of the Edwards (Balcones Fault Zone) Aquifer and assumes no hydraulic communication with the underlying Trinity Aquifer.

- The model utilizes the Drain package of MODFLOW to simulate discharge from springs and perennial streams with the assumption that the perennial streams are always gaining water from the aquifer.

- The root mean square error (a measure of the difference between simulated and actual water levels during model calibration) in the groundwater availability model is 32 feet for the 1980 steady-state calibration period (Jones, 2003).

- TWDB staff used distributed pumpage and recharge rates (Anaya, 2007) provided by staff of TCB Inc. under contract to the groundwater conservation districts in Groundwater Management Area 8. For more detailed information regarding the methodology for distributing initial pumpage and recharge rates for this model run, please contact Ms. Cheryl Maxwell at the Clearwater Underground Water Conservation District at 254-933-0120.

- TWDB staff uniformly adjusted the pumpage rates in Williamson County for the stress periods from 2001 through 2020 to achieve the stated desired future condition for the Williamson County portion of the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8.

RESULTS:

Discharge from the model drain cells representing Salado Creek in Bell County and aggregated natural springs and streams in Williamson and Travis counties were verified to meet the desired future conditions developed by groundwater conservation districts for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8.

Managed available groundwater is defined in the Texas Water Code as the amount of water that may be permitted by a district for beneficial use in accordance with the desired future condition of the aquifer as determined under Texas Water Code, Section 36.108. For various planning purposes the managed available groundwater estimates have been reported at the combined aquifer, county, river basin, regional water planning area, groundwater management area, groundwater conservation district (if applicable), and geographic area/subdivision (if designated) level.

The results show 15,168 acre-feet per year of managed available groundwater for the northern segment of the Edwards (Balcones Fault Zone) Aquifer in Groundwater Management Area 8. Under the jurisdiction of the Clearwater Underground Water Conservation District, Bell County has 6,469 acre-feet per year of managed available groundwater. Williamson and Travis counties have 3,462 and 5,237 acre-feet per year of managed available groundwater, respectively (Table 1 and Figure 1).

The geographically subdivided managed available groundwater values for this modeling run resulted in small separate areas along the Williamson and Travis county boundary. The reason for these areas is because the Williamson and Travis county boundary is located close to the Colorado River and Brazos River basin boundary but does not coincide with it. In addition, the regional water planning area boundary is also located near the county and river basin boundaries and it too does not coincide exactly with the other boundaries.

Note that estimates of managed available groundwater are based on the best available scientific tools that can be used to evaluate managed available groundwater and that these estimates can be a function of assumptions made on the magnitude and distribution of pumping in the aquifer.

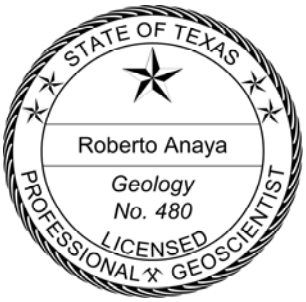
Therefore, it is important for groundwater conservation districts to monitor whether or not they are achieving their desired future conditions and to work with the TWDB to refine managed available groundwater given the reality of how the aquifer responds to the actual magnitude and distribution of pumping now and in the future.

REFERENCES:

Jones, I.C., 2003, Groundwater availability modeling: Northern Segment of the Edwards Aquifer: Texas Water Development Board, Report 358, 75 p.

Anaya, R., 2007, GAM run 07-21: Texas Water Development Board, GAM Run 07-21 Report, 11 p.

Williams, C.R., 2007, Desired Future Conditions of N. Edwards BFZ Aquifer: Memorandum to Cheryl Maxwell, Administrative Manager of the Clearwater Underground Water Conservation District and Administrative Manager for Groundwater Management Area 8, http://www.gma8.org/images/stories/desired%20future%20conditions%20for%20the%20n.%20edwards%20aquifer_final.pdf, accessed March 2008.



The seal appearing on this document was authorized by Roberto Anaya, P.G., on April 3, 2008.