Wintergarden Groundwater Conservation District Groundwater Management Plan

Adopted May 11, 2016 TEXAS WATER DEVELOPMENT BOARD approval on _____

The Wintergarden Groundwater Conservation District Office is located at:

2881 Hwy. 277 West
P. O. Box 1433
Carrizo Springs, TX 78834

Telephone: (830) 876-3801
Fax: (830) 876-3782
E-mail wgcd.swtrea@sbcglobal.net

Office Hours: 8:00 a.m.-12:00 noon, 1:00 p.m. - 5:00 p.m.

Table of Contents

I. District's Mission

The mission of the Wintergarden Groundwater Conservation District ("District") is to manage, preserve and protect the groundwater resources within the District's boundaries. The District will work to minimize the further drawdown of water levels, prevent the waste of groundwater, prevent interference between wells, protect the existing and historic use of groundwater, prevent the degradation of the quality of groundwater, use public education to promote water conservation, give consideration to the needs of the agricultural community and carry out the powers and duties conferred under Chapter 36 of the Texas Water Code. Any action taken by the District shall be only after full consideration and respect has been afforded to the individual property rights of all citizens of the District.

II. Purpose of the Management Plan

The purpose of this Management Plan is to provide a planning tool for the District as it moves forward to manage, protect and conserve the groundwater resources within its boundaries. This Management Plan currently contains the hydrogeological and technical information provided by the Texas Water Development Board ("TWDB") regarding the groundwater resources of the District. As the District obtains more site-specific groundwater information, the District will update and amend this Management Plan, as necessary.

The development of the District's Management Plan will enable the District to comply with the requirements of state law. The Texas Legislature created a statewide water planning process with the passage of Senate Bill 1 ("SB 1") in 1997, Senate Bill 2 ("SB 2") in 2001, and Senate Bill 3 ("SB 3")" in 2007. The development of management plans by each groundwater conservation district ("GCD") in Texas is an integral part of the statewide water planning process. The District's Management Plan satisfies all the requirements established for GCD's by SB 1, SB 2, SB 3, the requirements of Chapter 36 of the Texas Water Code, and the requirements of the rules of the TWDB.

III. District Information

A. Creation

The District was created in 1997 by the 75th Legislature with the enactment of House Bill 3602 ("Appendix A"). In its enabling legislation, the District was provided the powers and duties provided by the general law of the state of Texas, including Chapter 36 of the Texas Water Code, applicable to groundwater conservation districts created under Section 59, Article XVI of the Texas Constitution. The District was confirmed by election in January 1998. The initial tax rate was $0.04 per $100.00 valuation. The District's current tax rate is $0.00573 per $100.00 valuation. The District retains the authority and responsibilities specified in its enabling act, Chapter 36 of the Texas Water Code, the TWDB rules, this groundwater Management Plan, and the District rules as they may be amended.

B. Board of Directors

The Board of Directors is made up of seven (7) members. Two (2) directors are elected from each of the three (3) counties within the district, Dimmit, Zavala and La Salle counties in addition to one director at large from the District. Board members serve staggered terms and Board elections are every two years.

C. Authority

The District has the rights and responsibilities provided for in Texas Water Code Chapter 36 and 31 Texas Administrative Code Chapter 356. The District exercises the authority given to preserve and protect the groundwater resources of the District through the adoption and implementation of District Rules.

D. Location and Extent of District Boundaries

The boundaries of the District are coextensive with the boundaries of Zavala, Dimmit and La Salle counties. This includes approximately 2,685,148 acres, or 4,195 square miles. A map showing the District boundaries is contained in "Appendix B".

E. Groundwater Resources of District

The aquifers within the District include the Sparta, Queen City, Carrizo-Wilcox, and Jackson-Yegua. The Carrizo Sand is the principal aquifer in Dimmit, La Salle, and Zavala counties supplying large quantities of water to wells throughout the District. The primary use of Carrizo groundwater within the District is for irrigation, municipal use, and oil and gas activities. The Carrizo outcrops in a belt extending from the Rio Grande through the western part of Dimmit County to the Zavala County line. In the vicinity of the Carrizo Springs anticline, west and southwest of the City of Carrizo Springs, the outcrop has a maximum width of about nine (9) miles narrowing again to about two (2) miles at the Zavala County line. The Carrizo Sand consists of beds of massive, commonly cross bedded, loosely cemented, remarkably clean sand and some minor amount of sand stone and clay. The average thickness of the Carrizo Sand in Dimmit County is about 265 feet; however, the thickness ranges from 0 at the outcrop to a maximum of 360 feet. See Texas Board of Water Engineers, Bulletin 6003, Geology and Ground-Water Resources of Dimmit County, TX 1960.

In Dimmit County, water levels and wells tapping the Carrizo Sand fluctuate in response to changes in groundwater storage and changes in artisan pressure. Water recharging the aquifer in the outcrop tends to make water levels rise, whereas withdrawals from wells tend to make water levels decline. The Carrizo Sand contains water of generally good quality.

The Wilcox portion of the Carrizo-Wilcox Aquifer contains water of acceptable quality, but the Wilcox is not as prolific as the Carrizo Aquifer. As one moves easterly in the District, the Wilcox Group is deeper and the water quality degenerates.

Based on Texas Water Commission Bulletin 6520, August 1965 the Carrizo Sand is, by far, the largest potential source of groundwater in La Salle County. The chemical quality of water from wells in La Salle ranges from fresh to moderately saline. The Carrizo Sand contains the largest quantity of fresh to slightly saline water in this area. According to the published report, yields of up to 1000 GPM might be obtained from the Queen City Sand in much of La

Salle County. The Sparta Sand probably is capable of yielding as much as 400 GPM to wells in the western two-thirds of La Salle County. The water from both the Queen City Sand and Sparta Sand is of doubtful quality for irrigation. However, the water from the Sparta, especially above a depth of about 100 feet, is of better quality then the water from the Queen City Aquifer. Other geologic formations in La Salle are capably of yielding only small quantities of water, and most of the water is saline. There is minor pumping of the Yegua-Jackson Aquifer in La Salle County.

The primary source of usable groundwater in Zavala County is the Carrizo-Wilcox Aquifer. The Yegua-Jackson Aquifer is not present in Zavala or Dimmit counties. According to published reports, the Leona Formation, which is limited in thickness, has been a source of irrigation water in Zavala County. See U.S. Department of the Interior-Texas Board of Water Engineers; Geology and Groundwater Resources of the Winter Garden District, Texas, 1948.

IV. Criteria for Plan Approval

A. Planning Horizon

The Management Plan is adopted to be effective for a ten (10) year planning period, which will begin on the date TWDB approves this plan. In accordance with Section 36.1072(e) of the Texas Water Code and TWDB rules (in 31 TAC §356.3), the District will review and re-adopt its Management Plan with or without amendments, every five (5) years and will re-submit its Management Plan for TWDB approval after re-adoption. This Management Plan will be effective until replaced by a revised plan that has been approved by the TWDB.

B. Plan Adoption

Public notices demonstrating that this Management Plan was adopted after the required public hearing and Board Meeting are attached to this plan as “Appendix C”.

C. Board Resolution

A certified copy of the resolution of the Board of Directors of the District adopting this Management Plan is attached to this plan as “Appendix D”.

D. Coordination with Surface Management Entities

Letters transmitting copies of this Management Plan to the Nueces River Authority and the Region L Regional Water Planning Group are located in “Appendix E” -Correspondence to Surface Water Management Entities.

V. Desired Future Conditions and Modeled Available Groundwater

Modeled available groundwater (“MAG”) is defined in Texas Water Code § 36.001(25) as “the amount of water that may be produced on an average annual basis to achieve a desired future condition established under Section 36.108.” Under Texas Water Code § 36.108(d), the desired future condition (“DFC”) may only be determined through joint planning with other groundwater conservation districts (“GCDs”) in the same groundwater management area (“GMA”). The District is located in GMA-13.

The district members of GMA-13 adopted Scenario 4 (from GAM Run 09-034) an average annual drawdown of 23 feet for the Sparta, Weches, Queen City, Reklaw, Carrizo and the Wilcox Aquifers on April 9, 2010. The district members of GMA-13 adopted Scenario 4 (from GAM Task T10-012) and an average annual drawdown of two (2) feet for the Yegua-Jackson Aquifer on August 12, 2010. Only La Salle County was pumping from the Yegua-Jackson Aquifer within the District; this pumping is only about 12 acre-feet/year and there was no drawdown anticipated in that aquifer within the District.

The current DFCs are based on water level drawdown relative to 1999, the final year of the calibration period in the Scenario 4 model results and cover a 61 year simulation period extending from 1999 to 2060. For each aquifer, the DFC average drawdowns encompassed the full extent of the aquifers within the District, from the outcrop to the down dip limits of the aquifer within the District boundary. The GMA-13 wide DFCs equate to drawdowns in the District aquifers as shown below in Table 1.

TABLE 1. AVERAGE 2060 DRAWDOWN IN FEET FOR WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT FROM GAM RUN 09-034 (WADE AND JIGMOND, 2010) SCENARIO 4.

Groundwater Conservation District	Groundwater Management Area 13 drawdown (feet) – GR 09-034 scenario 4								
Wintergarden GCD	Sparta	Weches	Queen City	Reklaw	Carrizo	Layer 6	Layer 7	Layer 8	Wilcox Overall
	5	6	0	-4	0	0	-9	-10	-7

The MAG for the Carrizo-Wilcox, Queen City and Sparta Aquifers in the District is set out in GAM Run 10-012 MAG (Wade, 2012) see Appendix F. The MAG was extracted from results of GAM Model Run 09-034, Scenario 4 and meets the DFCs adopted by members of GMA-13. Table 2 below includes the modeled available groundwater for Wintergarden Groundwater Conservation District.

TABLE 2. MODELED AVAILABLE GROUNDWATER FOR THE CARRIZO-WILCOX, QUEEN CITY AND SPARTA AQUIFERS FOR EACH DECADE BETWEEN 2010 AND 2060 (GAM RUN 10-012 MAG Wade, 2012). RESULTS ARE IN ACRE-FEET PER YEAR.

Groundwater Conservation District	Year					
	2010	2020	2030	2040	2050	2060
Wintergarden	46,660	46,660	46,322	46,189	46,089	45,770

The MAG for the Yegua-Jackson Aquifer for the District is 91 acre-feet per year for each decade between 2010 and 2060 as set forth in GAM Run 10-041 MAG (Hassan, 2011). See Appendix G.

VI. Groundwater Budget

The groundwater budget summarizes how the GAM model estimates water entering and leaving the aquifer. It was derived from GAM Run 15-007, July 29, 2015. See Appendix H.

The total recharge (rainfall/distributed) for Dimmit, La Salle, and Zavala counties from the GAM Run 15-007 is 22,503 acre-feet per year. See Appendix H. Total estimated flow into the District aquifers other than distributed recharge is 29,448 acre feet for a total of 51,951 acre feet per year.

VII. Projected Total Demand for Water in the District

The District's three counties include the following municipalities;
Dimmit: Asherton, Big Wells, Brundage, Catarina, and Carrizo Springs
La Salle: Artesia Wells, Cotulla, Encinal, Fowlerton, Los Angeles, Millett, and Woodward.
Zavala: Batesville, Crystal City, and La Pryor

Based on available data from the 2012 State Water Plan, annual water demands (acre feet/year) in the District have been projected to be:

	2010	2020	2030	2040	2050	2060
Dimmit	14,727	14,611	14,584	14,157	13,677	13,157
La Salle	8,277	8,276	8,245	8,210	8,176	8,134
Zavala	76,832	74,250	71,752	69,283	66,906	64,634
District Total	**99,836**	**97,137**	**94,581**	**91,650**	**88,759**	**85,925**

See Appendix I

Water Supply Needs - Total Water Needs Data (Dimmit, La Salle, and Zavala Counties) - (2012 State Water Plan Supply)
The Projected Water Supply Needs from the TWDB 2012 State Water Plan Data for the District is attached as Appendix I.

VIII. Projected Surface Water Supply (Dimmit, La Salle, and Zavala Counties) –

(2012 State Water Plan - Total County Surface Water Supplies)

The Projected Surface Water Supply in the District according to the 2012 State Water Plan is attached as Appendix I.

IX. Water Management Strategies

The following table identifies from 2012 State Water Plan various strategies for Dimmit, La Salle, and Zavala Counties. All the strategies involve conservation. The District has considered the following management strategies and will periodically review them as the State Water Plan is updated.

Projected Water Management Strategies - Total County Water Strategies Data (Dimmit, La Salle, and Zavala Counties) - (2012 State Water Plan)

RWPG	WUG	WUG County	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
L	ASHERTON	DIMMIT	NUECES	MUNICIPAL WATER CONSERVATION	CONSERVATION	DIMMIT	20	43	58	59	62	64
L	BIG WELLS	DIMMIT	NUECES	MUNICIPAL WATER CONSERVATION	CONSERVATION	DIMMIT	11	23	30	30	32	33
L	CARRIZO SPRINGS	DIMMIT	NUECES	MUNICIPAL WATER CONSERVATION	CONSERVATION	DIMMIT	152	312	464	590	700	777
Total Projected Water Management Strategies (acre-feet per year) =							183	378	552	679	794	874

RWPG	WUG	WUG County	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
L	ENCINAL	LA SALLE	NUECES	MUNICIPAL WATER CONSERVATION	CONSERVATION	LA SALLE	9	9	10	10	11	14
L	COTULLA	LA SALLE	NUECES	MUNICIPAL WATER CONSERVATION	CONSERVATION	LA SALLE	118	248	369	488	615	745
L	COUNTY-OTHER	LA SALLE	NUECES	MUNICIPAL WATER CONSERVATION	CONSERVATION	LA SALLE	3	4	11	17	29	42
Total Projected Water Management Strategies (acre-feet per year) =							130	261	390	515	655	801

RWPG	WUG	WUG County	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
L	COUNTY-OTHER	ZAVALA	NUECES	MUNICIPAL WATER CONSERVATION	CONSERVATION	ZAVALA	42	54	71	89	115	149
L	CRYSTAL CITY	ZAVALA	NUECES	MUNICIPAL WATER CONSERVATION	CONSERVATION	ZAVALA	192	364	543	695	850	1,002
L	IRRIGATION	ZAVALA	NUECES	IRRIGATION WATER CONSERVATION	CONSERVATION	ZAVALA	6948	6948	6948	6948	6948	6948
Total Projected Water Management Strategies (acre-feet per year) =							7182	7366	7562	7732	7913	8099

X. Estimated Historical Water Use Summary by Groundwater and Surface Water Unit: Acre Feet ((acre-feet) - TWDB Water Use Survey Dataset l)

The Estimated Historical water use in the District from 2000 through 2013 derived from the 2012 State Water Plan Dataset is attached as Appendix I.

XI. Management of Groundwater Resources / Actions, Procedures, Performance and Avoidance Necessary to Effectuate the Plan

The Texas Legislature has established that GCDs are the state's preferred method of groundwater management. The Texas Legislature codified this policy decision in Section 36.0015 of the Texas Water Code, which establishes that districts will manage groundwater resources through rules developed and implemented in accordance with Chapter 36 of the Texas Water Code. Chapter 36 gives districts the tools to protect and manage the groundwater resources within their boundaries. The District will use the regulatory rules provided by Chapter 36 and the Texas Legislature to manage the groundwater resources within its boundaries.

The District will manage the groundwater supply within the District to conserve the resource while seeking to maintain the economic viability of all resource user groups, public and private. In consideration of the economic and cultural activities occurring within the District, the District will identify and engage in such activities and practices, that if implemented, would result in a

reduction of groundwater use. A groundwater monitoring well observation network has been established to be maintained by the District in order to monitor changing storage conditions of groundwater supplies within the District. The District will make a regular assessment of water supply and groundwater storage conditions and will report those conditions to the Board and to the public. The District will undertake, if necessary, and cooperate with investigations of the groundwater resources within the District and will make the results of the investigation available to the public upon adoption by the Board.

The District has adopted rules to regulate groundwater withdrawals by means of spacing and production limits: http://wgcd.net/sites/wgcd.net/files/file/13/wgcd-rules-adopted-november-10-2014a-1.pdf. In making a determination, the District may deny a well permit or limit groundwater withdrawals via unanimous vote in accordance with the guidelines stated in the rules of the District. In addition, the District will monitor water levels and selected observation wells and evaluate whether the annual average change in water levels is in conformance with the DFCs adopted by GMA-13 for each aquifer.

The District will estimate the total annual groundwater production for each aquifer based on water use reports, estimated exempt use, and other relevant information and compare those production estimates to the MAG's. The District will base future permitting decisions on the amount of existing water permitted, amount of existing water being produced, and the condition of the aquifer (average water level drawdown) at the time a permit application is filed in order achieve the DFC.

The District may deny or limit groundwater withdrawals via unanimous vote following the guideline stated in the rules of the District and this Management Plan. In determining whether to issue a permit other than a groundwater withdrawal, the District will consider the public benefit against individual hardship after considering all relevant evidence, appropriate testimony and all relevant factors.

Water conservation has become a strong initiative throughout the state of Texas. It has been recognized that freshwater is a valued commodity that can only last through preservation. The District may require a conservation plan as a condition to permitting to wells in order to be sure that the groundwater produced is put to a beneficial use and not wasted. The District will work with water utilities, industry, oil and gas sector, and agricultural users to promote the most efficient use of water so that the District may preserve one of its most valuable resources. The District will explore other conservation methods and options and will adopt new requirements as they become necessary.

The District will seek the cooperation and implementation of this Management Plan and the management of groundwater supplies within the District. All activities of the District will be undertaken in cooperation and coordinated with the appropriate state, regional or local water management entities.

Periodic drought is a condition that plagues the District. The Board of Directors of the District is very concerned that water might not be available for the needs of its citizens during times of drought. The General Manager of the District will update the Board at every monthly meeting on

drought conditions in the District. The General Manager will report the Palmer Drought Severity Index to the Board during the Manager's report for the month. The Board of Directors will instruct the General Manager of the appropriate actions to be taken upon notification of moderate to severe drought. The possible actions to be taken may include public service announcements on the radio, newspaper articles on conditions of the aquifer, water conservation information, and/or notices to municipal suppliers to implement their drought plan.

A well informed public is vital to the proper operation of a GCD. The District will keep the citizens of the District informed by means of a website, timely newspaper articles and/or public service radio announcements. As part of the public information program, the District Manager may make presentations to public gathers, as requested, in order to keep the citizens informed about District activities and promote proper use of available groundwater.

Abandoned oil wells and injection wells for oil and gas waste pose the greatest threat to the aquifers of the District. District personnel will monitor oilfield activities and notify the public that they may report abandoned oil wells and other problems associated with oil production to the District. In addition, the District will review all applications filed with the Texas Railroad Commission ("RRC") for injection wells for oil and gas waste proposed to be located within the District. If the District deems a proposed injection well to pose a threat to the groundwater resources of the District, the District will intervene in Texas Railroad Commission proceedings to oppose proposed RRC injection well permits.

XII. Methodology the District Will Use to Track Progress on an Annual Basis in Achieving All Management Goals

The District Manager will prepare an annual report on District performances in achieving the management goals. The annual report will be presented to the Board of Directors during the first quarter of each calendar year. The report will include the number of instances each objective activity was engaged in during the year, referenced to the expenditure of staff time and budget so that the effectiveness and efficiency of each activity may be evaluated. The annual report will be maintained on file at the District Office and made available to the public upon adoption by the Board.

XIII. Goals and Objectives

Goal 1.0 Providing the Most Efficient Use of Groundwater
Management Objectives: District will continue monitoring and recording data from the seven (7) Carrizo Aquifer continuous well water level recorders. A large decrease in water levels could indicate unsustainable mining of groundwater.
Performance Standards: The District will assimilate data from the continuous well water level recorders and present to the Board monthly.

Goal 2.0 Controlling and Preventing Waste of Groundwater
Management Objectives: The District will at least on two (2) occasions each year provide public information on water conservation and waste prevention through public speaking appearances at public schools, and civic organizations or newspaper articles.

Performance Standards:
A. The number of speaking appearances made by the District each year.
B. The number of newspaper articles published by the District each year.

Goal 3.0 Controlling and Preventing Subsidence This management goal is not applicable to the District due to the fact that subsidence is not a problem identified in the District or region.

Goal 4.0 Addressing Conjunctive Surface Water Management Issues
Management Objectives: Each year the District will confer at least on one occasion with the Nueces River Authority on cooperative opportunities for conjunctive resource management.
Performance Standard: The number of conferences on conjunctive resource management opportunities held with Nueces River Authority each year.

Goal 5.0 Addressing Natural Resource Issues that Impact the Use and Availability of Groundwater
Management Objectives: Each year the District will insure that all new wells permitted for construction within the District and exempt wells that are registered comply with the District construction standards through monitoring of the State of Texas water well report required to be provided to the District by water well drillers.
Performance Standard: The number of newly permitted water wells within the District monitored for compliance will be reported to the Board annually.
Management Objectives: The District will review all applications filed with the Texas Railroad Commission (TRC) for oil and gas waste disposal or recycling within The District. Where a threat to groundwater resources is posed by a proposed oil and gas waste disposal or recycling project, the District will file a protest of the application with the TRC and, if necessary to protect groundwater resources, participate in contested case hearings.
Performance Standard: Annual Report to the Board summarizing The District's protests of TRC oil and gas waste disposal or recycling applications.

Goal 6.0 Addressing Water Conservation
Management Objectives: The District will promote water conservation by promoting water stewardship by raising public awareness of the necessity and importance of water conservation.
Performance Standard: Annual Report to the Board indicating the number of individuals or schools addressed.
Performance Standard: The number of newspaper articles published encouraging water conservation.

Goal 6.1 Addressing Recharge Enhancement
Management Objectives: The District will monitor existing recharge structure and evaluate how natural or artificial recharge may be increased for the groundwater resources within the District via the existing structure and/or new sites.
Performance Standard: The number of recharge sites monitored will be at least one site annually.
Performance Standard: The number of acre feet of captured rainwater in the recharge pit will be documented and reported to the Board of Directors annually.

Goal 6.2 Addressing Precipitation Enhancement - The Board of Directors feel that precipitation enhancement is not cost effective and is not appropriate for our District at this time.

Goal 6.3 Addressing Brush Control
Management Objective – Recharge Enhancement and Conservation Project with landowners, along with guidance from local Natural Resource Conservation Service (NRCS) and chemical companies, will sponsor, in part, with the landowners operations to control brush and provide conservation and recharge. This will include spray, root plowing, roller chopping, and other brush control methods to be approved by the Board of Directors on an individual basis.
Performance Standard: District will verify controls have been followed and report to the Board of Directors on accomplishment of project, cost-to-date per county and other relevant factors.

Goal 6.4 Rainwater Harvesting
Management Objective: The District, in conjunction with other entities, will sponsor, in part, with the entity a rainwater harvesting system for their use, public observation, and education.
Performance Standard: The District will acquire the volume of rainwater captured per year and include this information in the annual report to the Board of Directors.

Goal 7.0 Addressing Drought Conditions
Management Objectives: Each month the District will download the Palmer Drought Severity Index (PDSI) map by accessing the National Weather Service - Climate Prediction Center website http://www.cpc.ncep.noaa.gov/products/monitoring_and_data/drought.shtml. The District will check for updates on the TWDB web page http://waterdatafortexas.org/drought/.
Performance Standard: The staff will assess the status of drought in the District and prepare a briefing with maps and situation reports for the Board of Directors. Monthly downloads will be filed for future use. Currently engaged with Southwest Research Institute to develop and prepare a drought contingency plan.

Goal 8.0 Addressing the Desired Future Conditions
Management Objectives: The District will annually compile well monitoring data from seven (7)) wells within the District, and will determine seven (7) year water well averages for the Carrizo/Wilcox Aquifer based on this data.
Performance Standard: The District's Annual Report will include a discussion of the newly permitted wells along with water level data as it relates to the 50-year Desired Future Conditions.

References

1. Bulletin 6003 Geology and Ground-Water Resources of Dimmit County; Texas Board of Water Engineers; June 1960
2. Bulletin 6520 Ground-Water Resources of La Salle and Mc Mullen Counties, Texas; Texas Water Commission, August 1965
3. Geology and Ground-Water Resources of the Winter Garden District Texas 1948; Geologic Survey Water-Supply Paper 1481; U.S. Department of the Interior
4. GAM Run 09-034 (TWDB Wade and Jigmound June 29, 2010)
5. GAM Task 10-012 (TWDB Oliver August 9, 2010)
6. GAM Run 10-012 MAG (TWDB Wade August 2, 2012)
7. GAM Run 15-007 Wintergarden Groundwater Conservation District Management Plan (TWDB Bagans and Wade July 29, 2015)
8. GAM Run 10-041 MAG (TWDB Hassan December 11, 2011)
9. Estimated Historical Water Use and 2012 State Water Plan Datasets

APPENDIX A

AN ACT

relating to the creation, administration, powers, duties, operation, and financing of the Wintergarden Groundwater Conservation District.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. CREATION. (a) A groundwater conservation district, to be known as the Wintergarden Groundwater Conservation District, is created in Zavala, Dimmit, and La Salle counties, subject to approval at a confirmation election under Section 8 of this Act. The district is a governmental agency and a body politic and corporate.

(b) The district is created under and is essential to accomplish the purposes of Section 59, Article XVI, Texas Constitution.

SECTION 2. DEFINITION. In this Act, "district" means the Wintergarden Groundwater Conservation District.

SECTION 3. BOUNDARIES. The boundaries of the district are coextensive with the boundaries of Zavala, Dimmit, and La Salle counties.

SECTION 4. FINDING OF BENEFIT. All of the land and other property included within the boundaries of the district will be benefited by the works and projects that are to be accomplished by the district under powers conferred by Section 59, Article XVI, Texas Constitution. The district is created to serve a public use and benefit.

SECTION 5. POWERS. (a) The district has all of the rights, powers, privileges, authority, functions, and duties provided by the general law of this state, including Chapters 36 and 49, Water Code, applicable to groundwater conservation districts created under Section 59, Article XVI, Texas Constitution. This Act prevails over any provision of general law that is in conflict or inconsistent with this Act.

(b) The rights, powers, privileges, authority, functions, and duties of the district are subject to the continuing right of supervision of the state to be exercised by and through the Texas Natural Resource Conservation Commission.

(c) Notwithstanding Subsection (a) of this section, the following provisions prevail over a conflicting or inconsistent provision in this Act:

(1) Sections 36.107-36.108, Water Code;

(2) Sections 36.159-36.161, Water Code; and

(3) Subchapter I, Chapter 36, Water Code.

SECTION 6. BOARD OF DIRECTORS. (a) The district is governed by a board of seven directors.

(b) Temporary directors serve until initial permanent directors are elected under Section 8 of this Act.

(c) Initial permanent directors serve until permanent directors are elected under Section 9 of this Act.

(d) Permanent directors other than initial permanent directors serve staggered four-year terms.

(e) Each director must qualify to serve as director in the manner provided by Section 36.055, Water Code.

(f) A director serves until the director's successor has qualified.

SECTION 7. TEMPORARY DIRECTORS. (a) The temporary board of directors is composed of:

(1) Jay Myers, director at large;

(2) Cleo Bustamante, Jr.;

(3) John Petry;

(4) Alfredo Zamora;

(5) Robert Hart;

(6) Ana Maria Farias; and

(7) James Camilo Flanagan.

(b) If a temporary director fails to qualify for office, the temporary directors who have qualified shall appoint a person to fill the vacancy. If at any time there are fewer than four qualified temporary directors, the Texas Natural Resource Conservation Commission shall appoint the necessary number of persons to fill all vacancies on the board.

SECTION 8. CONFIRMATION AND INITIAL DIRECTORS' ELECTION. (a) The temporary board of directors shall call and hold an election to confirm establishment of the district and to elect two initial directors from each county in the district and one initial director at large from the district.

(b) At the confirmation and initial directors' election, the temporary board of directors shall provide for a ballot that permits voting for or against confirmation of the district and that permits qualified voters in each county to vote for two initial directors to represent the county and one initial director at large. The temporary board shall have the names of the persons serving as temporary directors placed on the ballot together with the name of any candidate filing for the office of director and blank spaces to write in the names of other persons. If the district is confirmed at the election, the temporary directors, at the time the vote is canvassed, shall declare the person who received the most votes for director at large and the two persons in each county who received the most votes in the county for a position other than director at large to be elected as the initial directors. The temporary directors shall include the results of the directors' election in the district's election report to the Texas Natural Resource Conservation Commission.

(c) An initial director elected from a county must reside in the county represented by the initial director. An initial director elected at large from the district must reside in the district.

(d) Section 41.001(a), Election Code, does not apply to a confirmation and initial directors' election held as provided by this section.

(e) Except as provided by this section, a confirmation and initial directors' election must be conducted as provided by Sections 36.017(b)-(h), Water Code, and the Election Code.

SECTION 9. ELECTION OF DIRECTORS. (a) On the first Saturday in May of the second year after the year in which the district is authorized to be created at a confirmation election, an election shall be held in the district for the election of two directors from each county in the district and one director at large from the district. Three directors elected under this subsection shall each serve a two-year term, and four directors elected under this subsection shall each serve a four-year term.

(b) A director elected from a county must reside in the county represented by the director. A director elected at large from the district must reside in the district.

(c) On the first Saturday in May of each subsequent second year following the election, the appropriate number of directors shall be elected to the board.

SECTION 10. FINDINGS RELATED TO PROCEDURAL REQUIREMENTS. (a) The proper and legal notice of the intention to introduce this Act, setting forth the general substance of this Act, has been published as provided by law, and the notice and a copy of this Act have been furnished to all persons, agencies, officials, or entities to which they are required to be furnished by the constitution and other laws of this state, including the governor, who has submitted the notice and Act to the Texas Natural Resource Conservation Commission.

(b) The Texas Natural Resource Conservation Commission has filed its recommendations relating to this Act with the governor, lieutenant governor, and speaker of the house of representatives within the required time.

(c) All requirements of the constitution and laws of this state and the rules and procedures of the legislature with respect to the notice, introduction, and passage of this Act are fulfilled and accomplished.

SECTION 11. EMERGENCY. The importance of this legislation and the crowded condition of the calendars in both houses create an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three several days in each house be suspended, and this rule is hereby suspended, and that this Act take effect and be in force from and after its passage, and it is so enacted.

President of the Senate Speaker of the House

I certify that H.B. No. 3602 was passed by the House on May 10, 1997, by a non-record vote; and that the House concurred in Senate amendments to H.B. No. 3602 on May 29, 1997, by the following vote: Yeas 138, Nays 0, 1 present, not voting.

Chief Clerk of the House

I certify that H.B. No. 3602 was passed by the Senate, with amendments, on May 26, 1997, by the following vote: Yeas 31, Nays 0.

Secretary of the Senate

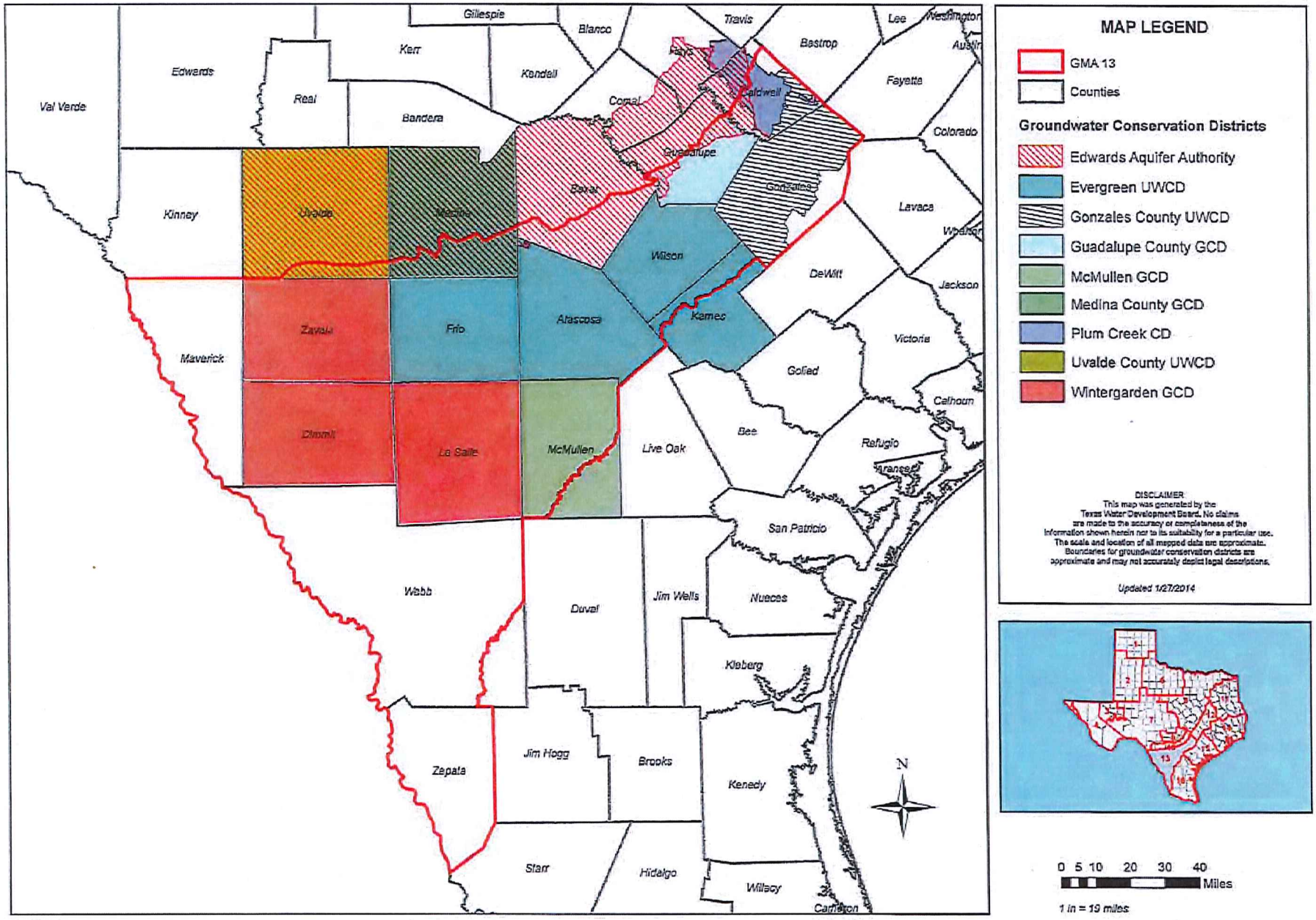
APPROVED: _____

Date

Governor

APPENDIX B

Groundwater Management Area 13



MAP LEGEND

- GMA 13
- Counties

Groundwater Conservation Districts

- Edwards Aquifer Authority
- Evergreen UWCD
- Gonzales County UWCD
- Guadalupe County GCD
- McMullen GCD
- Medina County GCD
- Plum Creek CD
- Uvalde County UWCD
- Wintergarden GCD

DISCLAIMER
This map was generated by the Texas Water Development Board. No claims are made to the accuracy or completeness of the information shown herein nor to its suitability for a particular use. The scale and location of all mapped data are approximate. Boundaries for groundwater conservation districts are approximate and may not accurately depict legal descriptions.

Updated 1/27/2014

0 5 10 20 30 40 Miles

1 in = 19 miles

APPENDIX C

NOTICE OF PUBLIC HEARING
OF
WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT
on
Proposed Additions and Amendments to the
District's Management Plan

The Wintergarden Groundwater Conservation District (the District) will hold a public hearing for the purpose of receiving comments on the proposed adoption of the Management Plan of the District.

The Board of Directors will take public comments on the proposed Management Plan on May 11, 2016, at Yolie's Steakhouse, 1511 N. Hwy. 83, Crystal City, Texas. The public hearing will begin at 12:00 noon. Agenda is as follows:

1. Call to order.
2. Receive comments from the public on the District's proposed Management Plan.
3. Adjourn.

The Board of Directors will consider and possibly take action to adopt by resolution the proposed Management Plan at their regular meeting immediately following this Public Hearing.

Copies of the proposed Management Plan are available at the office of the Wintergarden Groundwater Conservation District, 2881 Hwy. 277 West, Carrizo Springs, Texas, from 8:00 a.m. – 12:00 noon and 1:00 p.m. to 5:00 p.m., Monday thru Friday.

Written comments should be submitted to the General Manager, P. O. Box 1433, Carrizo Springs, Texas 78834. The deadline for submission of written comments is May 6, 2016, at 5:00 p.m.

The above agenda schedule represents an estimate of the order for the indicated items and is subject to change at any time. These public meetings are available to all persons regardless of disability. If you require special assistance to attend the meeting, please call 830-876-3801 at least 24 hours in advance of the meeting to coordinate any special physical access arrangements.

Filed this _____ day of April, 2016.
County Clerks' Offices (Dimmit, La Salle, and Zavala Counties)

FILED
DATE May 5, 2016
AT 10:00 O'CLOCK A M.
MARIO Z. GARCIA
County Clerk, Dimmit County, Texas
By _____ Deputy

NOTICE OF PUBLIC HEARING
OF
WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT
on
Proposed Additions and Amendments to the
District's Management Plan

The Wintergarden Groundwater Conservation District (the District) will hold a public hearing for the purpose of receiving comments on the proposed adoption of the Management Plan of the District.

The Board of Directors will take public comments on the proposed Management Plan on May 11, 2016, at Yolie's Steakhouse, 1511 N. Hwy. 83, Crystal City, Texas. The public hearing will begin at 12:00 noon. Agenda is as follows:

1. Call to order.
2. Receive comments from the public on the District's proposed Management Plan.
3. Adjourn.

The Board of Directors will consider and possibly take action to adopt by resolution the proposed Management Plan at their regular meeting immediately following this Public Hearing.

Copies of the proposed Management Plan are available at the office of the Wintergarden Groundwater Conservation District, 2881 Hwy. 277 West, Carrizo Springs, Texas, from 8:00 a.m. – 12:00 noon and 1:00 p.m. to 5:00 p.m., Monday thru Friday.

Written comments should be submitted to the General Manager, P. O. Box 1433, Carrizo Springs, Texas 78834. The deadline for submission of written comments is May 6, 2016, at 5:00 p.m.

The above agenda schedule represents an estimate of the order for the indicated items and is subject to change at any time. These public meetings are available to all persons regardless of disability. If you require special assistance to attend the meeting, please call 830-876-3801 at least 24 hours in advance of the meeting to coordinate any special physical access arrangements.

Filed this 5th day of ~~April~~ May, 2016.
County Clerks' Offices (Dimmit, La Salle, and Zavala Counties)

FILED FOR RECORD
At 11:30 o'clock A.M.
MAY 5 2016
MARGARITA ESQUEDA
COUNTY CT CLERK
LA SALLE COUNTY, TEXAS
By Deputy

POSTED
This 5th day of May, 2016
at 10:20 o'clock, PM
ORALIA G. TREVINO
County Clerk, Zavala County, TX
By: [signature]

NOTICE OF PUBLIC HEARING
OF
WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT
on
Proposed Additions and Amendments to the
District's Management Plan

The Wintergarden Groundwater Conservation District (the District) will hold a public hearing for the purpose of receiving comments on the proposed adoption of the Management Plan of the District.

The Board of Directors will take public comments on the proposed Management Plan on May 11, 2016, at Yolie's Steakhouse, 1511 N. Hwy. 83, Crystal City, Texas. The public hearing will begin at 12:00 noon. Agenda is as follows:

1. Call to order.
2. Receive comments from the public on the District's proposed Management Plan.
3. Adjourn.

The Board of Directors will consider and possibly take action to adopt by resolution the proposed Management Plan at their regular meeting immediately following this Public Hearing.

Copies of the proposed Management Plan are available at the office of the Wintergarden Groundwater Conservation District, 2881 Hwy. 277 West, Carrizo Springs, Texas, from 8:00 a.m. – 12:00 noon and 1:00 p.m. to 5:00 p.m., Monday thru Friday.

Written comments should be submitted to the General Manager, P. O. Box 1433, Carrizo Springs, Texas 78834. The deadline for submission of written comments is May 6, 2016, at 5:00 p.m.

The above agenda schedule represents an estimate of the order for the indicated items and is subject to change at any time. These public meetings are available to all persons regardless of disability. If you require special assistance to attend the meeting, please call 830-876-3801 at least 24 hours in advance of the meeting to coordinate any special physical access arrangements.

Filed this _____ day of April, 2016.
County Clerks' Offices (Dimmit, La Salle, and Zavala Counties)

The Carrizo Springs Javelin

PUBLISHER'S AFFIDAVIT

Before me, the undersigned authority, on this day did personally appear Claudia McDaniel, who on her oath stated that she is one of the publishers of The Carrizo Springs Javelin, a weekly (non-daily) newspaper published in Carrizo Springs, Dimmit County, Texas; and of general circulation in said County; which newspaper meets the requirements of Section 2051.044, TEXAS GOVERNMENT CODE; and has been published for more than twelve (12) months prior to the insertion of the attached notice; and that she knows the facts stated in this affidavit.

That the attached printed matter represents a true and correct copy of the publication of which it purports to be a true copy, as the same appeared in such newspaper in the respective issue(s) of April 20, 2016 re: Notice of Public Hearing of Wintergarden Groundwater Conservation District on Proposed Additions and Amendments to the District's Management Plan.

Claudia McDaniel

CLAUDIA MCDANIEL, Publisher

Subscribed and sworn to before me on this the 12th day of April, 2016.

Leticia C. Carmona

Notary Public, State of Texas

LETICIA C. CARMONA
Notary Public, State of Texas
My Commission expires
October 07, 2018

JOB OPENING

DENTAL ASSISTANT

South Texas Rural Health Services, Inc. is now accepting applications for a Dental Assistant in Carrizo Springs, TX for more information please call Adriana Martinez at 830-879-2502. Applications may be picked at any STRHS Clinic and submitted to Myrta Garcia, Chief Operations Officer via fax at 830-879-3869 or via e-mail to sanmis.sthrs@tachc.org.

MINIMAL QUALIFICATIONS:

- Must have strong computer skills
- High level of accuracy is important
- Must be a current Registered Dental Assistant
- Must be able to travel, have a valid driver license and auto insurance
- Must be CPR Certified
- Must be willing to follow directives, policies and procedures both written and verbal

An Equal Opportunity Employer. Criminal Background and Driver's License Check required.

MEDICAL ASSISTANT

South Texas Rural health Services, Inc. is accepting applications for Medical Assistant in Carrizo Springs, TX.

Qualifications:

- Licensure/Certification must be current
- Some experience in clinical setting, providing patient care, lab services and immunizations.
- Must be able to travel and have a Valid TX Driver License
- Must have auto insurance
- Bi-lingual preferred
- Must have current CPR certification
- Must be willing to abide by Agency's policies, procedures, and directives both written and verbal

An Equal Opportunity Employer

Criminal and Driving background will be conducted.

For more information call Adriana Martinez at (830) 879-3048. You may submit your application and resume Attention Myrta Garcia, Chief Operation Officer via fax at 830-879-3869 or submit to the nearest South Texas Rural Health Services, Inc. Clinic.

16-2tp

PUBLIC/LEGAL NOTICE

PUBLIC NOTICE

The Housing Authority of the City of Carrizo Springs is requesting applicants who wish to participate in the Low-Rent Program. Please come by the office and pickup an application. Applications may be picked up between the hours 8:00 AM - 12:00 PM and 1:00 PM - 4:30 PM. Completed applications will be accepted and placed on the waiting list.

Housing Authority of the City of Carrizo Springs
207 North 4th Street
Carrizo Springs, TX 78834

In accordance with federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age or disability.

If you have any questions, please contact the main office at 830-876-5211.

Equal Housing Opportunity. This institution is an Equal Opportunity provider and employer.

32-tfn

PUBLIC NOTICE

The Housing Authority of the City of Carrizo Springs is requesting applicants who wish to participate in the FMHA Program. Please come by the office and pickup an application. Applications may be picked up between the hours 8:00 AM - 12:00 PM and 1:00 PM - 4:30 PM. Completed applications will be accepted and placed on the waiting list.

Housing Authority of the City of Carrizo Springs
207 North 4th Street
Carrizo Springs, TX 78834

In accordance with federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age or disability.

If you have any questions, please contact the main office at 830-876-5211.

Equal Housing Opportunity. This institution is an Equal Opportunity provider and employer.

32-tfn

PUBLIC/LEGAL NOTICE

SUMMONS AND NOTICE TERMINATION OF PARENTAL RIGHTS MATTER

State of Minnesota
Redwood County
District Court
Judicial District: Fifth
Court File Number: 64-JV-16-31
Case Type: Juvenile

In the Matter of the Welfare of the Child(ren) of: Christina Garcia-Smith, Petitioner/Parent

NOTICE TO: Juan Gomez III, above-named parent(s) or legal custodian(s).

A Termination of Parental Rights Petition has been filed in the Office of the Clerk of Juvenile Court located at Redwood Co Courthouse, 250th & Jefferson Redwood Falls Minnesota 56283, alleging that parental rights of the above-named parent(s) or legal custodian(s) to the child(ren) named in the petition should be permanently severed.

Notice is hereby given that the matter of said Termination of Parental Rights Petition will be called for hearing before the Juvenile Court located at Redwood Co Courthouse. 250th & Jefferson Redwood Falls Minnesota 56283, on May 26th, 2016 at 9:00 a.m. or as soon after as the Matter can be heard.

YOU ARE ORDERED to appear before the Juvenile Court at the scheduled time and date.

You have the right to be represented by counsel.

If you fail to appear at the hearing, the Court may still conduct the hearing and grant appropriate relief, including permanently severing the paternal rights of the above-named parent(s) or legal custodian(s) and taking permanent custody of the child/ren named in the Petition.

Witness: The Honorable Patrick Rohland, Judge of District Court
By: Patty L Amberg /s/ Brenda Dresser
Court Administrator
Redwood County, MN
Filed 3/28/16
14-3tc

PUBLIC SERVICE ANNOUNCEMENT: FAIR HOUSING, IT'S THE LAW

To promote fair housing practices, the City of Asherton encourages potential homeowners and renters to be aware of their rights under the National Fair Housing Law.

Title VIII of the Civil Rights Act of 1968, as amended, prohibits discrimination against any person on the basis of race, color, religion, sex, disability, familial status or national origin in the sale or rental of units in the housing market.

For more information on fair housing or to report possible fair housing discrimination, call the U.S. Department of Housing and Urban Development's toll-free hotline at 1-800-669-9777.

15-2tc

PUBLIC/LEGAL NOTICE

PUBLIC NOTICE

Time Warner Cable

Crystal City/Asherton

Time Warner Cable's agreements with programmers to carry their services routinely expire from time to time. We are usually able to obtain renewals or extensions of such agreements, and carriage of programming services is discontinued only in rare circumstances. The following agreements with programmers are due to expire soon, and we may be required to cease carriage of one or more of these services in the near future.

5StarMAX
ActionMAX
ActionMAX West
Cinemax
Cinemáx
Cinemax West
Fuse
GolTV
HBO
HBO West
HBO 2
HBO 2 West
HBO Comedy
HBO Comedy West
HBO Family
HBO Family West
HBO Latino
HBO Latino West
HBO Signature
HBO Signature West
HBO Zone
HBO Zone West
KSAT ABC
MoreMAX
MovieMAX
MoreMAX West
Music Choice channels 1900-1950
Outdoor Channel
OuterMAX
The Weather Channel
ThrillerMAX
ThrillerMAX West

In addition, from time to time we make certain changes in the services that we offer in order to better serve our customers. The following changes are planned:

ADD: None at this time

MOVE: EVINE Live will move from Starter TV Channel 60 to Starter TV Channel 37

DELETE: None at this time.

CHANGE: Tennis Channel will be dual illuminated on Preferred TV (Variety Pass) Channel 406, will remain on TWC Sports Pass Channel 406.

16-1tc

PUBLIC/LEGAL NOTICE

NOTICE OF PUBLIC HEARING OF WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT on Proposed Additions and Amendments to the District's Management Plan

The Wintergarden Groundwater Conservation District (the District) will hold a public hearing for the purpose of receiving comments on the proposed adoption of the Management Plan of the District.

The Board of Directors will take public comments on the proposed Management Plan on May 11, 2016, at Yolie's Steakhouse, 1511 N. Hwy. 83, Crystal City, Texas. The public hearing will begin at 12:00 noon. Agenda is as follows:

- Call to order.
- Receive comments from the public on the District's proposed Management Plan.
- Adjourn.

The Board of Directors will consider and possibly take action to adopt by resolution the proposed Management Plan at their regular meeting immediately following this Public Hearing.

Copies of the proposed Management Plan are available at the office of the Wintergarden Groundwater Conservation District, 2881 Hwy. 277 West, Carrizo Springs, Texas, from 8:00 a.m. – 12:00 noon and 1:00 p.m. to 5:00 p.m., Monday thru Friday.

Written comments should be submitted to the General Manager, P. O. Box 1433, Carrizo Springs, Texas 78834. The deadline for submission of written comments is May 6, 2016, at 5:00 p.m.

The above agenda schedule represents an estimate of the order for the indicated items and is subject to change at any time. These public meetings are available to all persons regardless of disability. If you require special assistance to attend the meeting, please call 830-876-3801 at least 24 hours in advance of the meeting to coordinate any special physical access arrangements.

Filed this 20 day of April, 2016.
County Clerks' Offices
(Dimmit, La Salle, and Zavala Counties)
16-1tc

ORDINANCE NO. 751 ORDER OF ELECTION

An election is hereby ordered to be held on May 7, 2016 for the purpose of: CONDUCTION A "GENERAL ELECTION" TO ELECT TWO (2) CITY COUNCILORS.

Early voting by personal appearance will be conducted each weekday at 308 WEST PENA STREET: CARRIZO SPRINGS, TEXAS 78834, CITY HALL MUNICIPAL BUILDING between the hours of 8:00 a.m. to 5:00 p.m. beginning Monday, April 25, 2016 and ending on May 3, 2016.

Additional early voting will be held as follows: Location 308 West Pena Street, Carrizo Springs, TX 78834 April 28, 2016 7:00 a.m. to 7:00 p.m. and 308 West Pena Street, Carrizo Springs, TX 78834, May 3, 2016 7:00 a.m. to 7:00 p.m.

Applications for ballot by mail shall be mailed to: Melissa Guerra, PO Box 329/ 308 West Pena Street, Carrizo Springs, TX 78834.

Applications for ballots by mail must be received no later than the close of business on TUESDAY, APRIL 26, 2016.

Issued this the 11th day of JANUARY, 2016.

/s/ Dina Balderas
Presiding Officer
16-2tc

CARRIZO SPRINGS CISD
NOTICE FOR REQUEST FOR PROPOSALS (RFP)

Carrizo Springs CISD will solicit and receive Competitive Sealed Bids/Proposals for:

RFP NO:	DESCRIPTION:
RFP NO 16-0401	WELDING & HVAC SUPPLIES
RFP NO 16-0402	INSPECTION & MAINTENANCE OF FIRE EXTINGUISHERS & KITCHEN FIRE SUPPRESSION SYSTEMS
RFP NO 16-0403	T-SHIRTS, STUDENTS JACKETS & UNIFORMS, ACCESSORIES & PROMOTIONAL SUPPLIES

RELEASE DATE: WEDNESDAY, APRIL 20, 2016
DUE DATE & TIME: TUESDAY, MAY 10, 2016 AT 3:00 P.M.

Specifications may be obtained from the Carrizo Springs CISD Finance Office, 300 N. 7th Street, Carrizo Springs, Texas 78834. Properly sealed and marked proposals shall be received **NO LATER THAN** the dates and time stated above at the Finance Office located at 300 N. 7th Street, Carrizo Springs, TX 78834. Proposals received after opening time will not be considered. The Board of Trustees reserves the right to reject any and/or all proposals. **FOR MORE INFORMATION, PLEASE CALL OUR OFFICE AT (830) 876-3869.**
A COPY OF THE PROPOSAL MAY BE DOWNLOADED FROM OUR WEBSITE AT www.cscisd.net after the release date.

Zavala County Sentinel

Publisher's Affidavit

State of Texas }
County of Zavala }

Before me, the undersigned authority, on this day personally appeared Annie Lee Garcia, Editor, of the Zavala County Sentinel, a newspaper having general circulation in Zavala County, Texas, who being by me duly sworn, deposes and says that the foregoing attached notice was published in the Zavala County Sentinel on the following date(s), to wit: April 20, 2016

Subscribed and sworn to before me this the 13th day of May, 2016, to certify which, witness my hand and seal of office.

Notary Public
in and for the State of Texas

NELLY FERNANDEZ
Notary Public, State of Texas
Comm. Expires 03-24-2019
Notary ID 128562072

WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT
on
Proposed Additions and Amendments to the District's Management Plan

The Wintergarden Groundwater Conservation District (the District) will hold a public hearing for the purpose of receiving comments on the proposed adoption of the Management Plan of the District.

The Board of Directors will take public comments on the proposed Management Plan on May 11, 2016, at Yolie's Steakhouse, 1511 N. Hwy. 83, Crystal City, Texas. The public hearing will begin at 12:00 noon. Agenda is as follows:

- Call to order.
- Receive comments from the public on the District's proposed Management Plan.
- Adjourn.

The Board of Directors will consider and possibly take action to adopt by resolution the proposed Management Plan at their regular meeting immediately following this Public Hearing.

Copies of the proposed Management Plan are available at the office of the Wintergarden Groundwater Conservation District, 2881 Hwy. 277 West, Carrizo Springs, Texas, from 8:00 a.m. – 12:00 noon and 1:00 p.m. to 5:00 p.m., Monday thru Friday.

Written comments should be submitted to the General Manager, P. O. Box 1433, Carrizo Springs, Texas 78834. The deadline for submission of written comments is May 6, 2016, at 5:00 p.m.

PUBLIC NOTICE

The above agenda schedule represents an estimate of the order for the indicated items and is subject to change at any time. These public meetings are available to all persons regardless of disability. If you require special assistance to attend the meeting, please call 830-876-3801 at least 24 hours in advance of the meeting to coordinate any special physical access arrangements.

Filed this 14th day of April, 2016.
County Clerks' Offices (Dimmit, La Salle, and Zavala Counties)

PUBLISHER'S AFFIDAVIT

STATE OF TEXAS

COUNTY OF FRIO AND LA SALLE COUNTIES

Before me, the undersigned authority, on this 21 day of April, 2016, personally appeared Manuel Azocar III known to me to be the Managing Editor of the Frio-Nueces Current, a publication of general circulation in Frio and La Salle Counties, Texas who being by me first duly sworn, upon oath, deposes and says that the following leaflet was inserted on day(s):

April 21, 2016

Manuel Azocar III

Managing Editor

Subscribed and sworn to before me, this 21 day of April, 2016, County of Frio, in the State of Texas.

Ronica D. Alcala

RONICA D. ALCALA
Notary Public
STATE OF TEXAS
NOTARY ID # 126675365
My Comm. Expires 09-29-2016

Ronica D. Alcala

Notary Public,
State of Texas
Notary ID#126675365
My Commission expires Sept. 29, 2016

Retailers Permit and a Food and Beverage Certificate by Mireya Leyva dba Dora's Rock House to be located at 211 East Colorado Street, Pearsall, Texas. Officers of said Corporation are Mireya Leyva.

NOTICE TO CREDITORS

Notice is hereby given that original Letters of Independent Administration for the Estate of Julio Serrano Elizondo, Deceased, were issued on April 11, 2016, in Cause No. 03615, pending in the County Court of Frio County, Texas, to: Michael Elizondo. All persons having claims against this Estate which is currently being administered are required to present them to the undersigned within the time and in the manner prescribed by law. **c/o: Michael Elizondo 8200 IH-10 West, Suite 101 San Antonio, Texas 78230. DATED** the day of , 2016. /S/ Ben A. Wallis, III Ben A. Wallis, III Attorney for Michael Elizondo State Bar No.: 24060793 8200 IH 10 West, Ste. 101 San Antonio, TX 78230 Telephone: (210) 525-1500 Facsimile: (210) 525-9323 E-mail: baw3@wallislawsa.com

NOTICE OF PUBLIC HEARING OF WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT On Proposed Additions and Amendments to the District's Management Plan

The Wintergarden Groundwater Conservation District (the District) will hold a public hearing for the purpose of receiving comments on the proposed adoption of the Management Plan of the District.

The Board of Directors will take public comments on the proposed Management Plan on May 11, 2016, at Yolie's Steakhouse, 1511 N. Hwy. 83, Crystal City, Texas. The public hearing will begin at 12:00 noon. Agenda is as follows:

1. Call to order.
2. Receive comments from the public on the District's proposed Management Plan.
3. Adjourn.

The Board of Directors will consider and possibly take action to adopt by resolution the proposed Management Plan at their regular meeting immediately following this Public Hearing.

Copies of the proposed Management Plan are available at the office of the Wintergarden Groundwater Conservation District, 2881 Hwy. 277 West, Carrizo Springs, Texas, from 8:00 a.m. – 12:00 noon and 1:00 p.m. to 5:00 p.m., Monday thru Friday.

Written comments should be submitted to the General Manager, P. O. Box 1433, Carrizo Springs, Texas 78834. The deadline for submission of written comments is May 6, 2016, at 5:00 p.m.

The above agenda schedule represents an estimate of the order for the indicated items and is subject to change at any time. These public meetings are available to all persons regardless of disability. If you require special assistance to attend the meeting, please call 830-876-3801 at least 24 hours in advance of the meeting to coordinate any special physical access arrangements.

Filed this _____ day of April, 2016. County Clerks' Offices (Dimmit, La Salle, and Zavala Counties)

NOTICE OF SALE
THE STATE OF TEXAS
BY VIRTUE OF AN ORDER OF SALE
COUNTY OF FRIO

DATED the 31st day of March, 2016, and issued pursuant to a judgment decree(s) of the District Court of Frio County, Texas, by the Clerk of said Court on said date, in the hereinafter numbered and styled suit(s), and to me directed and delivered as Sheriff or Constable of said County, I have on the 31st day of March, 2016, seized, levied upon, and will, on the first Tuesday in May, 2016, the same being the 3rd day of said month at the Courthouse door of Frio County, in the City of Pearsall, Texas, between the hours of 10 o'clock a.m. and 4 o'clock p.m. on said day, beginning at the hour of 10:00 o'clock A.M. on said day, proceed to sell for cash to the highest bidder all of the right, title, and interest of the defendants in such suit(s) in and to the following described real estate levied upon as the property of said defendants, the same lying and being situated in the County of Frio and the State of Texas, to wit:

10040010SCVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. JOSE CRUZ, JR., AKA JOSE LUIS CRUZ, ET AL
LOT 11, BLOCK 4, SUNSET HILL ADDITION, AN ADDITION TO THE CITY OF PEARSALL, FRIO COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 1, PAGE 30, MAP OR PLAT RECORDS OF FRIO COUNTY, TEXAS; ACCOUNT NO. 1801 (00154000040110000000)
100400117CVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. AGUSTIN PRIETO ARIZA
LOT 9, BLOCK "I", ORIGINAL TOWNSITE, CITY OF PEARSALL, FRIO COUNTY, TEXAS, AS IN VOLUME 1018, PAGE 788, DEED RECORDS OF FRIO COUNTY, TEXAS; ACCOUNT NO. 6490 (00166000200090000000)
100800264CVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. RUBEN MARTINEZ, ET AL
LOT 17, AND THE SOUTHEAST ONEHALF
OF LOT 16, BLOCK 5, FRIO HEIGHTS ADDITION, AN ADDITION TO THE CITY OF PEARSALL, FRIO COUNTY, TEXAS, AS DESCRIBED IN VOLUME 597, PAGE 228, DEED RECORDS OF FRIO COUNTY, TEXAS; ACCOUNT NO. 5722 (00122000050160000000)
110200047CVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. JUAN ANTONIO OBREGON, ET AL
LOT 14, BLOCK 2, COLONIA PROGRESSO ADDITION, AN ADDITION TO THE CITY OF PEARSALL, FRIO COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 77, PAGE 47, MAP OR PLAT RECORDS OF FRIO COUNTY, TEXAS; ACCOUNT NO. 6136 (00112000020140000000)
110200068CVF
DILLEY INDEPENDENT SCHOOL DISTRICT VS. MARIA ESTHER ELIZONDO
6.46 ACRES, MORE OR LESS, OUT OF ABSTRACT 340, SIMON GLENN, SURVEY 327, FRIO COUNTY, TEXAS, AS DESCRIBED IN VOLUME 837, PAGES 356358, OF THE OFFICIAL DEED RECORDS OF FRIO COUNTY; ACCOUNT NO. 10671 (00300003400025000000)
110600181CVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. ANDREA ARELLANO GALLARDO, ET AL
LOT 9, BLOCK "S", CITY OF PEARSALL, FRIO COUNTY, TEXAS, AS DESCRIBED IN VOLUME 195, PAGE 84, DEED RECORDS OF FRIO COUNTY, TEXAS; ACCOUNT NO. 2668 (00166000190090000000)
110600183CVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. MARIA WILLMOTT, AKA MARIA DELACRUZ WILLMOTT
LOTS 1, AND 2, BLOCK 23, SPEEDMOORE, AN ADDITION TO FRIO COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 18, PAGE 446, DEED RECORDS OF FRIO COUNTY, TEXAS; ACCOUNT NO. 7840 (00210000230010000000)
110600206CVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. MELINDA MICHELLE SANCHEZ, AKA MELINDA MICHELLE PENA, ET AL
LOTS 2, AND 3, BLOCK 131, ORIGINAL TOWNSITE, CITY OF PEARSALL, FRIO COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 51, PAGE 274, OFFICIAL PUBLIC RECORDS OF FRIO COUNTY, TEXAS; ACCOUNT NO. 6811 (00164001310020000000)
120100053CVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. PORFIRIO A. DIAZ, JR., ET AL
IMPROVEMENT ONLY CONSISTING OF A FRAME RESIDENCE LOCATED ON LOTS 6263 OF THE PARADISE RANCH SUBDIVISION UNIT 2 SITUATED IN FRIO COUNTY TEXAS; ACCOUNT NO. 20035 (00600020090204000000)
120700255CVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. WINTER GARDEN MEDICAL CENTER, INC.
LOT 8, BLOCK 4, JUAREZ ADDITION, AN ADDITION TO THE CITY OF PEARSALL, FRIO COUNTY, TEXAS, AS DESCRIBED IN VOLUME 252, PAGE 297, DEED RECORDS OF FRIO COUNTY, TEXAS; ACCOUNT NO. 9432 (00138000040080000000)
120700258CVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. HERMENEGILDO VASQUEZ, ET AL
LOT 3, BLOCK 1, HORIZON WEST ADDITION, UNIT 2, AN ADDITION TO FRIO COUNTY, TEXAS, ACCORDING TO THE DEED THEREOF, RECORDED IN VOLUME 51, PAGE 98 OF THE DEED RECORDS OF FRIO COUNTY, TEXAS; ACCOUNT NO. 5628 (00132002010030000000)
131000428CVF
CITY OF DILLEY VS. JOAQUIN TIJERINA, DECEASED
0.172 ACRE TRACT OF LAND, MORE OR LESS, OUT OF ABSTRACT 818, HOOPER & WADE SURVEY #2,
TO THE CITY OF DILLEY, FRIO COUNTY, TEXAS, AS DESCRIBED IN VOLUME 840, PAGES 338339, OF THE OFFICIAL DEED RECORDS OF FRIO COUNTY, TEXAS; ACCOUNT NO. 15025 (00080000030002000000)
131200501CVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. GUADALUPE S. GUTIERREZ, III, ET AL
LOTS 1 AND 2, BLOCK 5, FRIO HEIGHTS ADDITION, AN ADDITION TO THE CITY OF PEARSALL, FRIO COUNTY, TEXAS, AS DESCRIBED IN VOLUME 847, PAGE 177, DEED RECORDS OF FRIO COUNTY, TEXAS; ACCOUNT NO. 3297 (00122000050010100000)
131200504CVF
PEARSALL INDEPENDENT SCHOOL DISTRICT, ET AL VS. DAVID MARTINEZ
IMPROVEMENT ONLY LOCATED IN FRIO COUNTY TEXAS; ACCOUNT NO. 19342 (00600020070132900000)
140900311CVF
CITY OF PEARSALL, PEARSALL INDEPENDENT SCHOOL DISTRICT AND FRIO HOSPITAL DISTRICT VS. ANGELICA MACIAS, ET AL
LOTS 4 & 5 BLOCK 6 COLONIA PROGRESSO ADDITION TO THE CITY OF PEARSALL, TEXAS SITUATED IN FRIO COUNTY, TEXAS ACCORDING TO THE DEED THEREOF RECORDED IN VOLUME 71 PAGES 219220 DEED RECORDS FRIO COUNTY, TEXAS; ACCOUNT NO. 9072 (00112000060040000000)
140900316CVF
CITY OF PEARSALL, PEARSALL INDEPENDENT SCHOOL DISTRICT AND FRIO HOSPITAL DISTRICT VS. NADHESSA FIGUEROA, AKA NADESSA FIGUEROA
ALL OF LOTS 19 & 20 IN BLOCK 11 COLONIA ALTA VISTA ADDITION TO THE CITY OF PEARSALL, TEXAS SITUATED IN FRIO COUNTY, TEXAS ACCORDING TO THE DEED THEREOF RECORDED IN VOLUME 61 PAGES 258 259 DEED RECORDS FRIO COUNTY, TEXAS; ACCOUNT NO. 15029 (00102000110190000000)
140900323CVF
CITY OF PEARSALL, PEARSALL INDEPENDENT SCHOOL DISTRICT AND FRIO HOSPITAL DISTRICT VS. JOHN CHRISTOPHER FLORES
ALL OF LOT 17 IN BLOCK 6 COLONIA ALTA VISTA ADDITION TO THE CITY OF PEARSALL, TEXAS SITUATED IN FRIO, COUNTY, TEXAS ACCORDING TO THE DEED THEREOF RECORDED IN VOLUME
31 PAGES 9899 DEED RECORDS FRIO COUNTY, TEXAS; ACCOUNT NO. 2534 (00102000601700000000)
(any volume and page references, unless otherwise indicated, being to the Deed Records, Frio County,
Texas, to which instruments reference may be made for a more complete description of each respective
tract) or, upon the written request of said defendants or their attorney, a sufficient portion of the property
described above shall be sold to satisfy said judgment(s), interest, penalties and costs; and any property
sold shall be subject to the right of redemption of the defendants or any person having an interest therein, to redeem the said property, or their interest therein, within the time and in the manner provided by law, and shall be subject to any other and further rights to which the defendants or anyone interested therein may be entitled, under the provisions of law. Said sale to be made by me to satisfy the judgment(s) rendered in the above styled and numbered suit(s), together with interest, penalties, and costs of suit, and the proceeds of said sale to be applied to the satisfaction thereof, and the remainder, if any, to be applied
as the law directs.
DATED this the 31st day of March, 2016, at Pearsall, Texas.
BYLionel Trevino, Sheriff, Deputy
Frio County, Texas
THE MINIMUM BID IS THE LESSER OF THE AMOUNT AWARDED IN THE JUDGMENT PLUS INTEREST AND COSTS OR THE ADJUDGED VALUE. HOWEVER, THE MINIMUM BID FOR A PERSON OWNING AN INTEREST IN THE PROPERTY OR FOR A PERSON WHO IS A PARTY TO THE SUIT (OTHER THAN A TAXING UNIT), IS THE AGGREGATE AMOUNT OF THE JUDGMENTS AGAINST THE PROPERTY PLUS ALL COSTS OF SUIT AND SALE. ALL SALES ARE SUBJECT TO CANCELLATION WITHOUT PRIOR NOTICE. THERE MAY BE ADDITIONAL TAXES DUE ON THE PROPERTY WHICH HAVE BEEN ASSESSED SINCE THE DATE OF THE JUDGMENT. ALL COURT COSTS AND ALL COSTS OF SALE MUST BE PAID IN FULL TO REMOVE PROPERTY FROM FORECLOSURE PROCEEDINGS. CONTACT LINEBARGER GOGGAN BLAIR AND SAMPSON, LLP AT 8008766144 FOR AMOUNTS. THIS SALE IS BEING CONDUCTED PURSUANT TO STATUTORY OR JUDICIAL REQUIREMENTS. BIDDERS WILL BID ON THE RIGHTS, TITLE, AND INTERESTS, IF ANY, OWNED BY THE DEFENDANT(S) IN SUCH SUIT(S) IN AND TO THE REAL PROPERTY OFFERED.
THE PROPERTY IS SOLD AS IS, WHERE IS, AND WITHOUT ANY WARRANTY, EITHER EXPRESS OR IMPLIED. NEITHER THE COUNTY NOR THE SHERIFF'S DEPARTMENT WARRANTS OR MAKES ANY REPRESENTATIONS ABOUT THE PROPERTY'S TITLE, CONDITION, HABITABILITY, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. BUYERS ASSUME ALL RISKS, IN SOME SITUATIONS, A LOT OF FIVE ACRES OR LESS IS PRESUMED TO BE INTENDED FOR RESIDENTIAL USE. HOWEVER, IF THE PROPERTY LACKS WATER OR WASTEWATER SERVICE, THE PROPERTY MAY NOT QUALIFY FOR RESIDENTIAL USE. A POTENTIAL BUYER WHO WOULD LIKE MORE INFORMATION SHOULD MAKE ADDITIONAL INQUIRIES OR CONSULT WITH PRIVATE COUNSEL.

*****

ESTA VENTA SE REALIZA CONFORME A LOS REQUISITOS ESTATUTARIOS O JUDICIALES. LOS POSTORES LICITARÁN POR LOS DERECHOS, TÍTULOS E INTERESES, SI FUESE EL CASO, DE LA PROPIEDAD INMUEBLE QUE SE OFRECE.
LA PROPIEDAD SE VENDE TAL CUAL, DONDE SE ENCUENTRE Y SIN NINGUNA GARANTÍA EXPRESA O IMPLÍCITA. NI EL CONDADO NI EL DEPARTAMENTO DEL ALGUACIL GARANTIZAN OR REALIZAN ALGUNA DECLARACIÓN RESPECTO AL TÍTULO, CONDICIÓN, HABITATBILIDAD, COMERCIABILIDAD OR APTITUD PARA UN PROPÓSITO PARTICULAR. LOS COMPRADORES SE RESPONSABILIZAN POR TODOS LOS RIESGOS.
EN ALGUNAS SITUACIONES, UN LOTE DE CINCO ACRES O MENOS SE PRESUME QUE SE DESTINA PARA USO RESIDENCIAL. SIN EMBARGO, SI LA PROPIEDAD CARECE DE SERVICIOS DE AGUA POTABLE O ALCANTARILLADO, LA PROPIEDAD PUEDE NO CALIFICAR PARA USO RESIDENCIAL. SI UN COMPRADOR POTENCIAL DESEA MÁS INFORMACIÓN DEBE PREGUNTAR O CONSULTAR A UN ASESRO PRIVADO.

ORDINANCES

ORDINANCE NO. 2016-01-02

ADOPTION OF AN ORDINANCE ORDERING A GENERAL ELECTION FOR MAY 7, 2016 FOR THE PURPOSE OF ELECTING FOUR COUNCIL MEMBERS (PLACES NO. 1, 2, 3, AND 4) BY THE QUALIFIED VOTERS OF THE CITY PURSUANT TO THE CITY OF PEARSALL HOME RULE CHARTER, ORDERING THE APPOINTMENT OF A PRESIDING JUDGE AND ALTERNATE JUDGE, ORDERING THE APPOINTMENT OF AN EARLY VOTING BALLOT BOARD AND ORDERING THE SETTING OF THE RATE OF PAY FOR ALL ELECTION JUDGES AND CLERKS FOR THE GENERAL ELECTION ON MAY 7, 2016, PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE. WHEREAS, the laws of the State of Texas,

(Continued on page 15)

Wintergarden Groundwater Conservation District
P. O. Box 1433
Carrizo Springs, TX 78834
830-876-3801
830-876-3782 FAX
www.wgcd.net
"An Equal Opportunity Employer"

AGENDA
Board of Directors Meeting
Wednesday, May 11, 2016
12:00 noon

The Wintergarden Groundwater Conservation District (the District) will hold their regular meeting on Wednesday, May 11, 2016 at 12:00 noon at Yolie's Steakhouse, 1511 N. Hwy. 83, Crystal City, Texas.

1. Call to order.
2. Introduction of visitors.
3. Public comment.
4. Review and approve minutes of the March 9, 2016, meeting.
5. Review and approve Bills for Payment and Financial Statements for the months of March and April 2016.
6. Presentation of Management Report for the months of March and April 2016.
7. Discussion and appropriate action to adopt by resolution the District's Management Plan as amended.
8. Administer Oath of Office to duly elected directors Sunny Fitzsimons, Dimmit County, Michael Whitwell, La Salle County, Mario A. Escobar, Zavala County, and Frank Solansky, Director-at-Large.
9. Presentation of Appreciation Award.
10. Election of Officers for the District--President, Vice-President, Secretary and Treasurer.
11. Presentation of report from the Dimmit Central Appraisal District regarding possible purchase, construction or renovation of real property.
12. Report from Southwest Research Institute.
13. Discussion and appropriate action to adopt by resolution a memorandum of understanding between the District and the Texas Department of Licensing and Regulation and the Texas Commission on Environmental Quality.
14. Discussion and appropriate action to approve purchase of new pickup.
15. Discussion and appropriate action regarding Brush Control program.
16. Discussion and appropriate action to approve Brush Control applications from Zavala Mustang Ranch, Holly Van Cleve, Oscar Ortiz, Augustine De La Garza, and Randolph Vaclavik.
17. Discussion and appropriate action regarding recharge projects.
18. Other business.
19. Adjourn.

FILED
DATE May 6, 2016
AT 10:30 O'CLOCK A M
MARIO Z. GARCIA
County Clerk, Dimmit County, Texas
By _____ Deputy

Wintergarden Groundwater Conservation District
P. O. Box 1433
Carrizo Springs, TX 78834
830-876-3801
830-876-3782 FAX
www.wgcd.net
"An Equal Opportunity Employer"

AGENDA
Board of Directors Meeting
Wednesday, May 11, 2016
12:00 noon

The Wintergarden Groundwater Conservation District (the District) will hold their regular meeting on Wednesday, May 11, 2016 at 12:00 noon at Yolie's Steakhouse, 1511 N. Hwy. 83, Crystal City, Texas.

1. Call to order.
2. Introduction of visitors.
3. Public comment.
4. Review and approve minutes of the March 9, 2016, meeting.
5. Review and approve Bills for Payment and Financial Statements for the months of March and April 2016.
6. Presentation of Management Report for the months of March and April 2016.
7. Discussion and appropriate action to adopt by resolution the District's Management Plan as amended.
8. Administer Oath of Office to duly elected directors Sunny Fitzsimons, Dimmit County, Michael Whitwell, La Salle County, Mario A. Escobar, Zavala County, and Frank Solansky, Director-at-Large.
9. Presentation of Appreciation Award.
10. Election of Officers for the District--President, Vice-President, Secretary and Treasurer.
11. Presentation of report from the Dimmit Central Appraisal District regarding possible purchase, construction or renovation of real property.
12. Report from Southwest Research Institute.
13. Discussion and appropriate action to adopt by resolution a memorandum of understanding between the District and the Texas Department of Licensing and Regulation and the Texas Commission on Environmental Quality.
14. Discussion and appropriate action to approve purchase of new pickup.
15. Discussion and appropriate action regarding Brush Control program.
16. Discussion and appropriate action to approve Brush Control applications from Zavala Mustang Ranch, Holly Van Cleve, Oscar Ortiz, Augustine De La Garza, and Randolph Vaclavik.
17. Discussion and appropriate action regarding recharge projects.
18. Other business.
19. Adjourn.

Ed Walker, General Manager

Posted at 9:40 AM this 9th day of May, 2016.
(County Clerks' Offices: Dimmit, La Salle and Zavala Counties)

Wintergarden Groundwater Conservation District
P. O. Box 1433
Carrizo Springs, TX 78834
830-876-3801
830-876-3782 FAX
wgcd.swtrca@sbcglobal.net
"An Equal Opportunity Employer"

Date: May 6, 2016

Fax: 830-483-5100

To: Margarita Esqueda, La Salle County Clerk

Number of pages including cover page: 2

If the number of pages indicated above are not received, please contact us by phone at the number listed above. Thank you.

From: Debbie Farmer

Re: WGCD Agenda to post

Comments: Please post the attached agenda for the WGCD Board meeting scheduled for May 11, 2016.

PLEASE RETURN A DATE/STAMPED COPY OF THE POSTED AGENDA TO 8308763782. VERY IMPORTANT TO RECEIVE A COPY BACK!

THANKS!

POSTED
This 6th day of May, 2016
at 11:00 o'clock, AM
ORALIA G. TREVINO
County Clerk, Zavala County, TX
By

Wintergarden Groundwater Conservation District
P. O. Box 1433
Carrizo Springs, TX 78834
830-876-3801
830-876-3782 FAX
www.wgcd.net
"An Equal Opportunity Employer"

AGENDA
Board of Directors Meeting
Wednesday, May 11, 2016
12:00 noon

The Wintergarden Groundwater Conservation District (the District) will hold their regular meeting on Wednesday, May 11, 2016 at 12:00 noon at Yolie's Steakhouse, 1511 N. Hwy. 83, Crystal City, Texas.

1. Call to order.
2. Introduction of visitors.
3. Public comment.
4. Review and approve minutes of the March 9, 2016, meeting.
5. Review and approve Bills for Payment and Financial Statements for the months of March and April 2016.
6. Presentation of Management Report for the months of March and April 2016.
7. Discussion and appropriate action to adopt by resolution the District's Management Plan as amended.
8. Administer Oath of Office to duly elected directors Sunny Fitzsimons, Dimmit County, Michael Whitwell, La Salle County, Mario A. Escobar, Zavala County, and Frank Solansky, Director-at-Large.
9. Presentation of Appreciation Award.
10. Election of Officers for the District--President, Vice-President, Secretary and Treasurer.
11. Presentation of report from the Dimmit Central Appraisal District regarding possible purchase, construction or renovation of real property.
12. Report from Southwest Research Institute.
13. Discussion and appropriate action to adopt by resolution a memorandum of understanding between the District and the Texas Department of Licensing and Regulation and the Texas Commission on Environmental Quality.
14. Discussion and appropriate action to approve purchase of new pickup.
15. Discussion and appropriate action regarding Brush Control program.
16. Discussion and appropriate action to approve Brush Control applications from Zavala Mustang Ranch, Holly Van Cleve, Oscar Ortiz, Augustine De La Garza, and Randolph Vaclavik.
17. Discussion and appropriate action regarding recharge projects.
18. Other business.
19. Adjourn.

Ed Walker, General Manager

Posted at 11:00 am this 6th day of May, 2016.
(County Clerks' Offices: Dimmit, La Salle and Zavala Counties)

APPENDIX D

RESOLUTION ADOPTING MANAGEMENT PLAN

Resolution of the Board of Directors of the Wintergarden Groundwater Conservation District ("The District") authorizing Amendment of the District Management Plan.

WHEREAS, the existing Management Plan of the District expires on February 7, 2017; and

WHEREAS, the amended Management Plan of The District, attached hereto as "Attachment A", has been developed for the purpose of conserving, preserving, protecting, and recharging the aquifers in the District, and this action is taken under the District's statutory authority to prevent waste and protect rights of owners of interest in groundwater; and

WHEREAS, the Notice of Public Hearing was published in the Carrizo Springs Javelin on April 20, 2016; the Frio-Nueces Current on April 21, 2016; and the Zavala County Sentinel on April 20, 2016; and

WHEREAS, the Board conducted a public hearing on May 11, 2016; and

WHEREAS, after notice and public hearing the Board of Directors ("Board") of the District adopted a Management Plan on May 11, 2016; and

WHEREAS, the Management Plan meets the requirements of Texas Water Code Sections 36.1071 and 36.1072 and 31 T.A.C. 356.5 and 356.6; and

WHEREAS, under no circumstance, and in no particular case will this Management Plan, or any part of it, be construed as a limitation or restriction upon the exercise of any discretion, where such exists; nor may they in any event be construed to deprive the Board of an exercise of powers, duties, and jurisdiction conferred by law, nor to limit or restrict the amount and character of data or information which may be required for the proper administration of the law;

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT THAT:

(1) The Management Plan of the Wintergarden Groundwater Conservation District contained in "Attachment A" is hereby adopted.

(2) This Management Plan will take effect upon approval by the Executive Administrator of the Texas Water Development Board. It will remain in effect until a revised District Management Plan is adopted and approved.

AND IT IS SO ORDERED.

IN FAVOR 7
OPPOSED 0

PASSED AND APPROVED ON THIS 11th day of May, 2016.

SIGNED _____ 5-11-16
John H. Northcut, President — Date

ATTEST _____ 5.16.16
Bill Martin, Secretary — Date

APPENDIX E

Wintergarden Groundwater Conservation District
P. O. Box 1433
Carrizo Springs, TX 78834
830-876-3801
830-876-3782 FAX
www.wgcd.net
"An Equal Opportunity Employer"

May 12, 2016

Zavala Dimmit Water District No.1
1992 FM 1433
Carrizo Springs, Texas 78834

Re: Transmittal of Wintergarden Groundwater Conservation District Management Plan to Surface Water Management entities

Dear Sir or Madam:

In accordance with 31 TAC §356.6(a)(4) and TWC §36.1071(a) the Wintergarden Groundwater Conservation District is submitting our amended Management Plan which was adopted by the Board of Directors on May 11, 2016.

If you have any questions concerning this Management Plan please contact me at 830-876-3801.

Sincerely,

Ed Walker
General Manager
Wintergarden GCD

Enclosure

JDH/yc

Wintergarden Groundwater Conservation District
P. O. Box 1433
Carrizo Springs, TX 78834
830-876-3801
830-876-3782 FAX
www.wgcd.net
"An Equal Opportunity Employer"

May 12, 2016

Mr. Con Mims, Executive Director
Nueces River Authority
200 East Nopal St., Suite 206
Uvalde, Texas 78801

Re: Transmittal of Wintergarden Groundwater Conservation District Management Plan to Surface Water Management entities

Dear Mr. Mims:

In accordance with 31 TAC §356.6(a)(4) and TWC §36.1071(a) the Wintergarden Groundwater Conservation District is submitting our amended Management Plan which was adopted by the Board of Directors on May 11, 2016.

If you have any questions concerning this Management Plan please contact me at 830-876-3801.

Sincerely,

Ed Walker
General Manager
Wintergarden GCD

Enclosure

JDH/yc

Wintergarden Groundwater Conservation District
P. O. Box 1433
Carrizo Springs, TX 78834
830-876-3801
830-876-3782 FAX
www.wgcd.net
"An Equal Opportunity Employer"

May 12, 2016

South Central Texas Regional Water Planning Group
c/o San Antonio River Authority
P.O. Box 839980
San Antonio, Texas 78283-9980

Re: Transmittal of Wintergarden Groundwater Conservation District Management Plan to Regional Water Planning Group

Dear Sir or Madam:

In accordance with Texas Water Code §36.1071(b), the Wintergarden Groundwater Conservation District is submitting our amended Management Plan which was adopted by the Board of Directors on May 11, 2016.

If you have any questions concerning this Management Plan please contact me at 830-876-3801.

Sincerely,

Ed Walker
General Manager
Wintergarden GCD

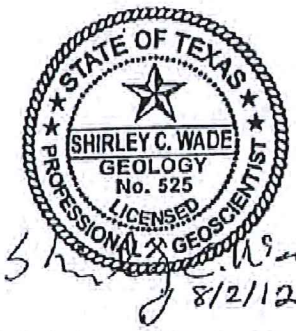
Enclosure

JDH/yc

APPENDIX F

GAM Run 10-012 MAG: Modeled Available Groundwater for the Carrizo-Wilcox, Queen City, and Sparta Aquifers in Groundwater Management Area 13

by Shirley C. Wade, Ph.D., P.G.
Texas Water Development Board
Groundwater Resources Division
Groundwater Availability Modeling Section
(512) 936-0883
August 2, 2012



The seal appearing on this document was authorized by Shirley C. Wade, P.G. 525, on August 2, 2012.

This page is intentionally left blank

GAM Run 10-012 MAG: Modeled Available Groundwater for the Carrizo-Wilcox, Queen City, and Sparta Aquifers in Groundwater Management Area 13

by Shirley C. Wade, Ph.D., P.G.
Texas Water Development Board
Groundwater Resources Division
Groundwater Availability Modeling Section
(512) 936-0883
August 2, 2012

EXECUTIVE SUMMARY:

The modeled available groundwater for Groundwater Management Area 13 for the Carrizo-Wilcox, Queen City, and Sparta aquifers is summarized in Table 1, 2, and 3 for use in the regional water planning process. These values are also listed by decade for each aquifer by county (Table 4), river basin (Table 5), regional water planning group (Table 6), and groundwater conservation district (Table 7). The modeled available groundwater estimates for the Queen City, Sparta, and Carrizo-Wilcox aquifers range from approximately 399,000 acre-feet per year in 2010 to 425,000 acre-feet per year in 2060 (Table 4). The estimates were extracted from results of Groundwater Availability Model Run 09-034, scenario 4, which meets the desired future conditions adopted by members of Groundwater Management Area 13.

This report reflects the official release of the revised groundwater district boundaries by the Texas Commission on Environmental Quality (TCEQ). Specifically, this report reflects the division of modeled available groundwater between the Gonzales County Underground Water Conservation District and Plum Creek Conservation District based on the new groundwater conservation district boundaries.

REQUESTOR:

Mr. Mike Mahoney from the Evergreen Underground Water Conservation District acting on behalf of Groundwater Management Area 13.

DESCRIPTION OF REQUEST:

In a letter dated April 13, 2010 and received by the Texas Water Development Board (TWDB) on April 15, 2010, Mr. Mike Mahoney provided the TWDB with the desired future conditions of the Carrizo-Wilcox, Queen City, and Sparta aquifers adopted by the groundwater conservation districts in Groundwater Management Area 13. The desired future conditions for the Carrizo-Wilcox, Queen City, and Sparta aquifers, as described in Resolution R 2010-01 and adopted April 9, 2010 by the groundwater conservation districts within Groundwater Management Area 13, are described below:

- "In reference to GAM Run 09-034, the committee has considered, the base scenario of an average drawdown of 22 feet, scenario 2 an average drawdown of 22 feet, scenario 3 an average drawdown of 23 feet and scenario 4 an average drawdown of 23 feet;"
- "The district members of Groundwater Management Area 13, adopt scenario 4, and an average drawdown of 23 feet for the Sparta, Weches, Queen City, Reklaw, Carrizo, and the Wilcox Aquifers"

In response to receiving the adopted desired future conditions, TWDB has estimated the modeled available groundwater for the Carrizo-Wilcox, Queen City, and Sparta Aquifers in Groundwater Management Area 13.

METHODS:

Groundwater Management Area 13, located in south central Texas, includes the southern part of the Queen City, Sparta, and Carrizo-Wilcox aquifers (Figure 1). For the previously completed Groundwater Availability Model Run 09-034 (Wade and Jigmond, 2010) average recharge and evapotranspiration rates and initial streamflows based on the historical calibration-verification runs, representing 1981 to 1999 were summarized. These averages were then used for each year of the 61-year predictive simulations along with pumping specified by Groundwater Management Area 13 members in four scenarios. The results of the pumping scenarios were reviewed by members of Groundwater Management Area 13 to develop their desired future conditions. Model scenario 4 resulted in an overall average drawdown of 23 feet for the Queen City, Sparta, and Carrizo-Wilcox aquifers and for the Weches and Reklaw confining units. The pumping for scenario 4 was extracted from the model results and divided by county, river basin, regional water planning area and groundwater conservation district within Groundwater Management Area 13 (Figure 2).

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. 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 required to develop after soliciting input from applicable groundwater conservation districts, will be provided in a separate report.

PARAMETERS AND ASSUMPTIONS:

The parameters and assumptions for the groundwater availability model for the southern part of the Queen City, Sparta, and Carrizo-Wilcox aquifers are described below:

- Version 2.01 of the groundwater availability model for the southern part of the Queen City, Sparta, and Carrizo-Wilcox aquifers was used for this analysis
- See Deeds and others (2003) and Kelley and others (2004) for assumptions and limitations of the groundwater availability model for the southern part of the Queen City, Sparta, and Carrizo-Wilcox aquifers.
- The model includes eight layers representing:
- the Sparta Aquifer (layer 1),
- the Weches Formation (layer 2),
- the Queen City Aquifer (layer 3),
- the Reklaw Formation (layer 4),
- the Carrizo Aquifer (layer 5),
- the upper and where the upper is missing, the middle Wilcox Aquifer (layer 6),
- the middle Wilcox Aquifer (layer 7), and
- the lower Wilcox Aquifer (layer 8).

- Groundwater in the groundwater availability model for the southern portion of the Queen City, Sparta, and Carrizo-Wilcox aquifers ranges from fresh to saline (Kelley and others, 2004).

- The root mean square error (a measure of the difference between simulated and measured water levels during model calibration) in the entire model for 1999 is 23 feet for the Sparta Aquifer, 18 feet for the Queen City aquifer, and 33 feet for the Carrizo aquifer (Kelley and others, 2004).

- Recharge rates, evapotranspiration rates, and initial streamflows are averages of historic estimates from 1981 to 1999.

RESULTS:

The modeled available groundwater for the Carrizo-Wilcox Aquifer that achieves the desired future conditions adopted by Groundwater Management Area 13 increases from 375,654 to 404,000 acre-feet per year between 2010 and 2060 (Table 1). The modeled available groundwater for the Queen City Aquifer in Groundwater Management Area 13 declines from 16,311 to 14,538 acre-feet per year over the same time period (Table 2). The modeled available groundwater for the Sparta Aquifer in Groundwater Management Area 13 declines from 6,800 to 6,365 acre-feet per year (Table 3). The modeled available groundwater in tables 1, 2, and 3 has been summarized by county, river basin, and regional water planning area for use in the regional water planning process.

The modeled available groundwater is also summarized by county (Table 4), river basin (Table 5), regional water planning area (Table 6), and groundwater conservation district (Table 7). In Table 7, the modeled available groundwater among all districts has been calculated both excluding and including areas outside the jurisdiction of a groundwater conservation district.

LIMITATIONS:

The groundwater model used in completing this analysis is the best available scientific tool that can be used to meet the stated objective(s). To the extent that this analysis will be used for planning purposes and/or regulatory purposes related to pumping in the past and into the future, it is important to recognize the assumptions and limitations associated with the use of the results. In reviewing the use of models in environmental regulatory decision making, the National Research Council (2007) noted:

> "Models will always be constrained by computational limitations, assumptions, and knowledge gaps. They can best be viewed as tools to help inform decisions rather than as machines to generate truth or make decisions. Scientific advances will never make it possible to build a perfect model that accounts for every aspect of reality or to prove that a given model is correct in all respects for a particular regulatory application. These characteristics make evaluation of a regulatory model more complex than solely a comparison of measurement data with model results."

A key aspect of using the groundwater model to evaluate historic groundwater flow conditions includes the assumptions about the location in the aquifer where historic pumping was placed. Understanding the amount and location of historic pumping is as important as evaluating the volume of groundwater flow into and out of the district, between aquifers within the district (as applicable), interactions with surface water (as applicable), recharge to the aquifer system (as applicable), and other metrics that describe the impacts of that pumping. In addition, assumptions regarding precipitation, recharge, and streamflow are specific to a particular historic time period.

Because the application of the groundwater model was designed to address regional scale questions, the results are most effective on a regional scale. 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 groundwater pumping and overall conditions of the aquifer. Because of the limitations of the groundwater model and the assumptions in this analysis, it is important that the groundwater conservation districts work with the TWDB to refine this analysis in the future given the reality of how the aquifer responds to the actual amount and location of pumping now and in the future. Historic precipitation patterns also need to be placed in context as future climatic conditions, such as dry and wet year precipitation patterns, may differ and affect groundwater flow conditions.

REFERENCES:

Deeds, N., Kelley, V., Fryar, D., Jones, T., Whallon, A. J., and Dean, K. E., 2003, Groundwater Availability Model for the Southern Carrizo-Wilcox Aquifer: contract report to the Texas Water Development Board, 452 p.

Donnelly, A.C.A., 2007a, GAM Run 06-29, Texas Water Development Board GAM Run Report, 59 p.

Donnelly, A.C.A., 2007b, GAM Run 07-16, Texas Water Development Board GAM Run Report, 63 p.

Donnelly, A.C.A., 2007c, GAM Run 07-17, Texas Water Development Board GAM Run Report, 38 p.

Kelley, V. A., Deeds, N. E., Fryar, D. G., and Nicot, J. P., 2004, Groundwater availability models for the Queen City and Sparta aquifers: contract report to the Texas Water Development Board, 867 p.

National Research Council, 2007, Models in Environmental Regulatory Decision Making. Committee on Models in the Regulatory Decision Process, National Academies Press, Washington D.C., 287 p.

Wade S.C., 2008a, GAM Run 08-41, Texas Water Development Board GAM Run Report, 56 p.

Wade S.C., 2008b, GAM Run 08-42, Texas Water Development Board GAM Run Report, 56 p.

Wade S.C., 2008c, GAM Run 08-43, Texas Water Development Board GAM Run Report, 58 p.

Wade S.C. and Jigmond, M., 2010, GAM Run 09-034, Texas Water Development Board GAM Run Report, 146 p.

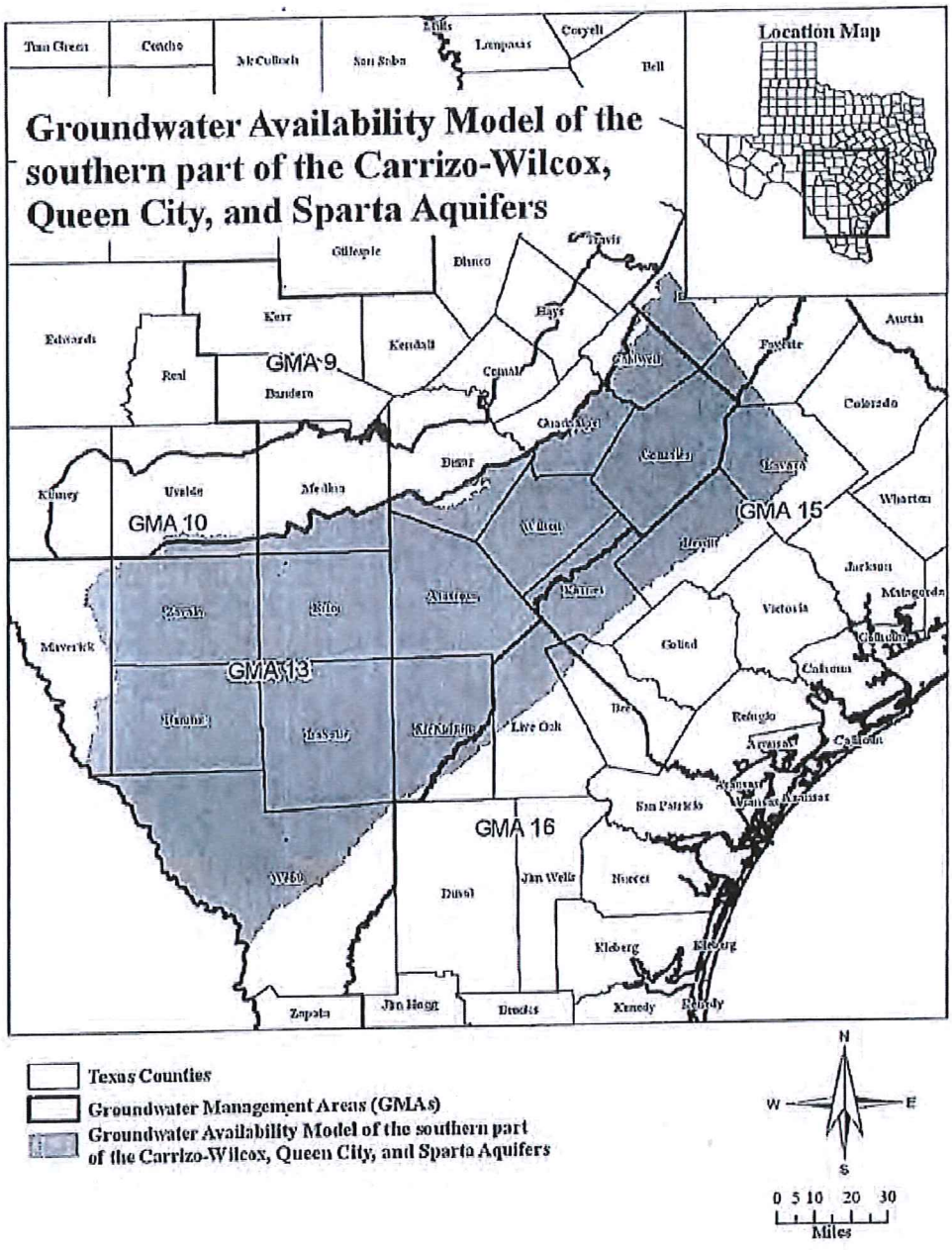


FIGURE 1. MAP SHOWING THE AREAS COVERED BY THE GROUNDWATER AVAILABILITY MODEL FOR THE SOUTHERN PART OF THE CARRIZO-WILCOX, QUEEN CITY, AND SPARTA AQUIFERS.

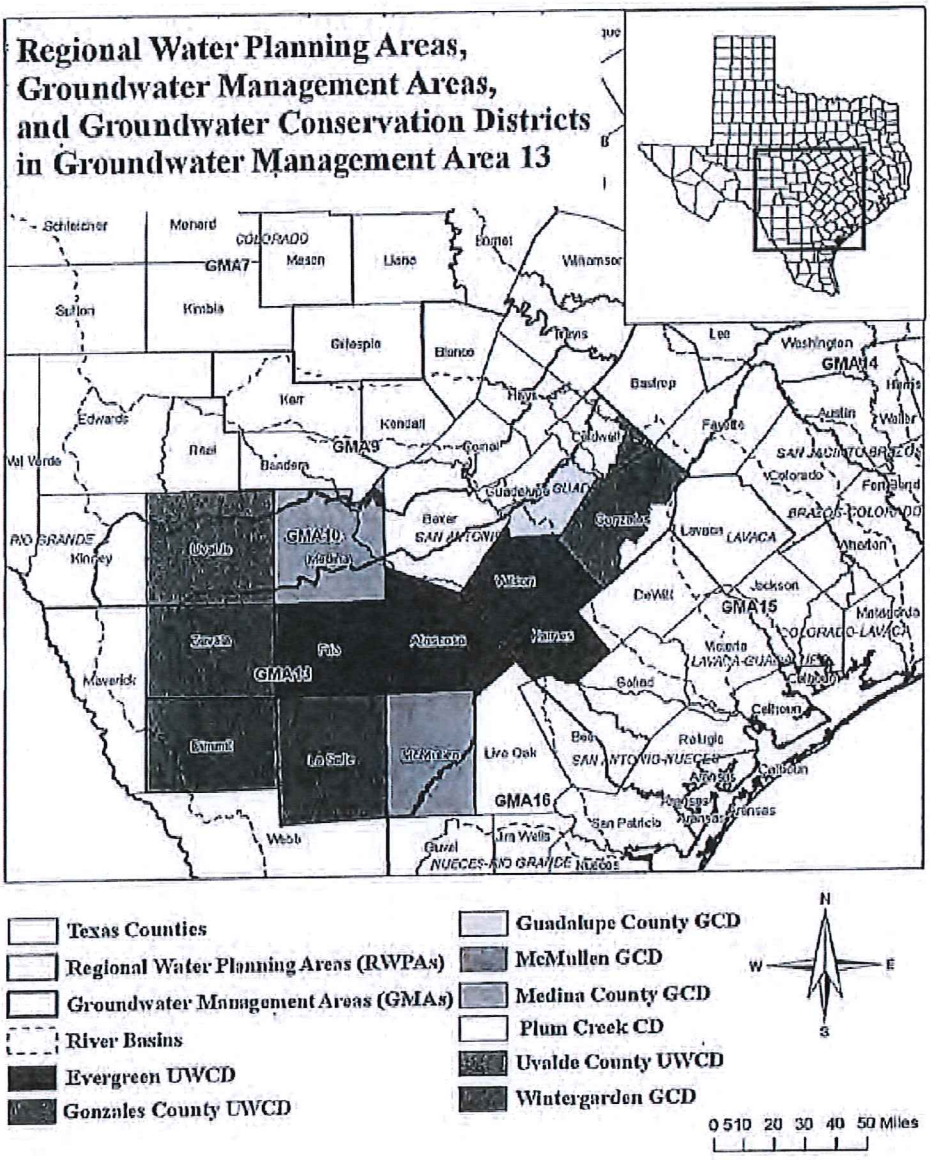


FIGURE 2. MAP SHOWING REGIONAL WATER PLANNING AREAS, GROUNDWATER MANAGEMENT AREAS, GROUNDWATER CONSERVATION DISTRICTS (GCDS), COUNTIES, AND RIVER BASINS IN AND NEIGHBORING GROUNDWATER MANAGEMENT AREA 13. UWCD REFERS TO UNDERGROUND WATER CONSERVATION DISTRICT.

TABLE 1. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE CARRIZO-WILCOX AQUIFER IN GROUNDWATER MANAGEMENT AREA 13. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE DIVIDED BY COUNTY, RIVER BASIN, AND REGIONAL WATER PLANNING AREA.

County	Regional Water Planning Area	Basin	Year					
			2010	2020	2030	2040	2050	2060
Atascosa	L	Nueces	67,829	68,656	70,249	71,827	73,666	75,688
		San Antonio	120	120	120	120	120	120
Bexar	L	Nueces	14,198	14,198	14,198	14,198	14,198	14,198
		San Antonio	12,080	12,080	12,080	12,080	12,080	11,909
Caldwell	L	Colorado	593	593	593	593	593	593
		Guadalupe	43,951	43,951	43,543	43,543	42,967	42,967
Dimmit	L	Nueces	3,253	3,253	3,253	3,253	3,253	3,253
		Rio Grande	106	106	106	106	106	106
Frio	L	Nueces	81,551	79,089	76,734	74,439	72,222	70,030
Gonzales	L	Guadalupe	52,268	62,101	70,102	75,576	75,755	75,755
		Lavaca	215	215	215	215	215	215
Guadalupe	L	Guadalupe	8,868	9,460	9,910	11,648	12,168	12,668
		San Antonio	1,373	1,373	1,373	1,373	1,373	1,373
Karnes	L	Guadalupe	185	195	207	215	220	224
		Nueces	87	92	97	101	103	105
		San Antonio	787	830	878	915	936	951
La Salle	L	Nueces	6,454	6,454	6,454	6,454	6,454	6,454
Maverick	M	Nueces	777	777	777	472	472	472
		Rio Grande	1,266	1,266	1,247	1,205	1,098	1,060
McMullen	N	Nueces	1,819	1,819	1,819	1,819	1,819	1,819
Medina	L	Nueces	2,542	2,519	2,507	2,507	2,507	2,507
		San Antonio	26	26	26	26	26	26
Uvalde	L	Nueces	2,971	1,230	828	828	828	828
Webb	M	Nueces	92	92	92	92	92	92
		Rio Grande	824	824	824	824	824	824
Wilson	L	Guadalupe	624	672	731	791	861	938
		Nueces	7,151	7,311	7,505	7,703	7,932	8,185
		San Antonio	27,785	29,003	30,481	31,992	33,738	35,671
Zavala	L	Nueces	35,859	35,859	35,521	35,388	35,288	34,969
Total			**375,654**	**384,164**	**392,470**	**400,303**	**401,914**	**404,000**

TABLE 2. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE QUEEN CITY AQUIFER IN GROUNDWATER MANAGEMENT AREA 13. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE DIVIDED BY COUNTY, RIVER BASIN, AND REGIONAL WATER PLANNING AREA.

County	Regional Water Planning Area	Basin	Year					
			2010	2020	2030	2040	2050	2060
Atascosa	L	Nueces	4,546	4,546	4,513	4,405	4,300	4,202
Caldwell	L	Guadalupe	306	306	306	306	306	306
Dimmit	L	Nueces	0	0	0	0	0	0
		Rio Grande	0	0	0	0	0	0
Frio	L	Nueces	4,748	4,582	4,422	4,270	4,124	3,983
Gonzales	L	Guadalupe	5,030	5,030	5,030	5,030	5,030	5,030
		Lavaca	35	35	35	35	35	35
Guadalupe	L	Guadalupe	0	0	0	0	0	0
Karnes	L	Guadalupe	0	0	0	0	0	0
		Nueces	0	0	0	0	0	0
		San Antonio	0	0	0	0	0	0
La Salle	L	Nueces	1	1	1	1	1	1
McMullen	N	Nueces	136	136	136	136	136	136
Webb	M	Nueces	0	0	0	0	0	0
		Rio Grande	0	0	0	0	0	0
Wilson	L	Guadalupe	128	114	101	90	80	72
		Nueces	148	132	117	104	93	83
		San Antonio	1,233	1,094	973	866	772	690
Zavala	L	Nueces	0	0	0	0	0	0
Total			**16,311**	**15,976**	**15,634**	**15,243**	**14,877**	**14,538**

TABLE 3. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE SPARTA AQUIFER IN GROUNDWATER MANAGEMENT AREA 13. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE DIVIDED BY COUNTY, RIVER BASIN, AND REGIONAL WATER PLANNING AREA.

County	Regional Water Planning Area	Basin	Year					
			2010	2020	2030	2040	2050	2060
Atascosa	L	Nueces	1,191	1,130	1,082	1,042	1,013	994
Dimmit	L	Nueces	0	0	0	0	0	0
Frio	L	Nueces	729	698	674	650	624	601
Gonzales	L	Guadalupe	3,529	3,529	3,529	3,529	3,529	3,529
		Lavaca	23	23	23	23	23	23
Karnes	L	Guadalupe	0	0	0	0	0	0
		Nueces	0	0	0	0	0	0
		San Antonio	0	0	0	0	0	0
La Salle	L	Nueces	987	987	987	987	987	987
McMullen	N	Nueces	90	90	90	90	90	90
Webb	M	Nueces	0	0	0	0	0	0
		Rio Grande	0	0	0	0	0	0
Wilson	L	Guadalupe	23	20	18	16	14	13
		Nueces	55	49	44	39	34	31
		San Antonio	173	154	137	121	108	97
Zavala	L	Nueces	0	0	0	0	0	0
Total			**6,800**	**6,680**	**6,584**	**6,497**	**6,422**	**6,365**

TABLE 4. MODELED AVAILABLE GROUNDWATER FOR THE CARRIZO-WILCOX, QUEEN CITY, AND SPARTA AQUIFERS SUMMARIZED BY COUNTY IN GROUNDWATER MANAGEMENT AREA 13 FOR EACH DECADE BETWEEN 2010 AND 2060. RESULTS ARE IN ACRE-FEET PER YEAR.

County	Year					
	2010	2020	2030	2040	2050	2060
Atascosa	73,686	74,452	75,964	77,394	79,099	81,004
Bexar	26,278	26,278	26,278	26,278	26,278	26,107
Caldwell	44,850	44,850	44,442	44,442	43,866	43,866
Dimmit	3,359	3,359	3,359	3,359	3,359	3,359
Frio	87,028	84,369	81,830	79,359	76,970	74,614
Gonzales	61,100	70,933	78,934	84,408	84,587	84,587
Guadalup	10,241	10,833	11,283	13,021	13,541	14,041
Karnes	1,059	1,117	1,182	1,231	1,259	1,280
La Salle	7,442	7,442	7,442	7,442	7,442	7,442
Maverick	2,043	2,043	2,024	1,677	1,570	1,532
McMullen	2,045	2,045	2,045	2,045	2,045	2,045
Medina	2,568	2,545	2,533	2,533	2,533	2,533
Uvalde	2,971	1,230	828	828	828	828
Webb	916	916	916	916	916	916
Wilson	37,320	38,549	40,107	41,722	43,632	45,780
Zavala	35,859	35,859	35,521	35,388	35,288	34,969
Total	**398,765**	**406,820**	**414,688**	**422,043**	**423,213**	**424,903**

TABLE 5. MODELED AVAILABLE GROUNDWATER FOR THE CARRIZO-WILCOX, QUEEN CITY, AND SPARTA AQUIFERS SUMMARIZED BY RIVER BASIN IN GROUNDWATER MANAGEMENT AREA 13 FOR EACH DECADE BETWEEN 2010 AND 2060. RESULTS ARE IN ACRE-FEET PER YEAR.

Basin	Year					
	2010	2020	2030	2040	2050	2060
Colorado	593	593	593	593	593	593
Guadalupe	114,912	125,378	133,477	140,744	140,930	141,502
Lavaca	273	273	273	273	273	273
Nueces	237,214	233,700	232,100	230,805	230,236	229,708
Rio Grande	2,196	2,196	2,177	2,135	2,028	1,990
San Antonio	43,577	44,680	46,068	47,493	49,153	50,837
Total	**398,765**	**406,820**	**414,688**	**422,043**	**423,213**	**424,903**

TABLE 6. MODELED AVAILABLE GROUNDWATER FOR THE CARRIZO-WILCOX, QUEEN CITY, AND SPARTA AQUIFERS SUMMARIZED BY REGIONAL WATER PLANNING AREA IN GROUNDWATER MANAGEMENT AREA 13 FOR EACH DECADE BETWEEN 2010 AND 2060. RESULTS ARE IN ACRE-FEET PER YEAR.

Regional Water	Year					
	2010	2020	2030	2040	2050	2060
L	393,761	401,816	409,703	417,405	418,682	420,410
M	2,959	2,959	2,940	2,593	2,486	2,448
N	2,045	2,045	2,045	2,045	2,045	2,045
Total	**398,765**	**406,820**	**414,688**	**422,043**	**423,213**	**424,903**

TABLE 7. MODELED AVAILABLE GROUNDWATER FOR THE CARRIZO-WILCOX, QUEEN CITY, AND SPARTA AQUIFERS SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) IN GROUNDWATER MANAGEMENT AREA 13 FOR EACH DECADE BETWEEN 2010 AND 2060. RESULTS ARE IN ACRE-FEET PER YEAR. UWCD REFERS TO UNDERGROUND WATER CONSERVATION DISTRICT.

Groundwater Conservation District	Year					
	2010	2020	2030	2040	2050	2060
Evergreen UWCD	199,093	198,487	199,083	199,706	200,960	202,678
Gonzales County UWCD*	86,846	96,679	104,680	110,154	110,333	110,333
Guadalupe County	10,241	10,833	11,283	13,021	13,541	14,041
McMullen	2,045	2,045	2,045	2,045	2,045	2,045
Medina County	2,568	2,545	2,533	2,533	2,533	2,533
Plum Creek	18,122	18,122	17,714	17,714	17,138	17,138
Uvalde County UWCD	2,971	1,230	828	828	828	828
Wintergarden	46,660	46,660	46,322	46,189	46,089	45,770
Total (excluding non-district areas)	**368,546**	**376,601**	**384,488**	**392,190**	**393,467**	**395,366**
No District	30,219	30,219	30,200	29,853	29,746	29,537
Total (including non-district areas)	**398,765**	**406,820**	**414,688**	**422,043**	**423,213**	**424,903**

*Note: Gonzales County UWCD includes area in Caldwell County

Appendix A

Estimates of total pumping split by aquifer layers for Groundwater Conservation Districts

Evergreen Underground Water Conservation District		Year					
	Unit or Layer	**2010**	**2020**	**2030**	**2040**	**2050**	**2060**
Pumping	Sparta	2,171	2,051	1,955	1,868	1,793	1,736
	Queen City	10,803	10,468	10,126	9,735	9,369	9,030
	Carrizo	151,373	151,222	152,256	153,357	155,052	157,166
	Wilcox (Layer 6)	375	375	375	375	375	375
	Wilcox (Layer 7)	371	371	371	371	371	371
	Wilcox (Layer 8)	34,000	34,000	34,000	34,000	34,000	34,000
	Total	**199,093**	**198,487**	**199,083**	**199,706**	**200,960**	**202,678**

Gonzales County Underground Water Conservation District		Year					
	Unit or Layer	**2010**	**2020**	**2030**	**2040**	**2050**	**2060**
Pumping	Sparta	3,552	3,552	3,552	3,552	3,552	3,552
	Queen City	5,349	5,349	5,349	5,349	5,349	5,349
	Carrizo	45,884	55,717	63,718	69,192	69,371	69,371
	Wilcox (Layer 6)	0	0	0	0	0	0
	Wilcox (Layer 7)	12,159	12,159	12,159	12,159	12,159	12,159
	Wilcox (Layer 8)	19,902	19,902	19,902	19,902	19,902	19,902
	Total	**86,846**	**96,679**	**104,680**	**110,154**	**110,333**	**110,333**

Guadalupe County Groundwater Conservation District		Year					
	Unit or Layer	**2010**	**2020**	**2030**	**2040**	**2050**	**2060**
Pumping	Carrizo	5,500	6,239	6,689	8,427	9,000	9,500
	Wilcox (Layer 6)	0	0	0	0	0	0
	Wilcox (Layer 7)	3,194	3,047	3,047	3,047	2,994	2,994
	Wilcox (Layer 8)	1,547	1,547	1,547	1,547	1,547	1,547
	Total	**10,241**	**10,833**	**11,283**	**13,021**	**13,541**	**14,041**

McMullen Groundwater Conservation District		Year					
	Unit or Layer	2010	2020	2030	2040	2050	2060
Pumping	Sparta	90	90	90	90	90	90
	Queen City	136	136	136	136	136	136
	Carrizo	1,819	1,819	1,819	1,819	1,819	1,819
	Total	**2,045**	**2,045**	**2,045**	**2,045**	**2,045**	**2,045**

Medina County Groundwater Conservation District		Year					
	Unit or Layer	2010	2020	2030	2040	2050	2060
Pumping	Carrizo	400	400	400	400	400	400
	Wilcox (Layer 6)	0	0	0	0	0	0
	Wilcox (Layer 7)	1,248	1,248	1,248	1,248	1,248	1,248
	Wilcox (Layer 8)	920	897	885	885	885	885
	Total	**2,568**	**2,545**	**2,533**	**2,533**	**2,533**	**2,533**

Plum Creek Conservation District		Year					
	Unit or Layer	2010	2020	2030	2040	2050	2060
Pumping	Queen City	22	22	22	22	22	22
	Carrizo	3,498	3,498	3,498	3,498	3,498	3,498
	Wilcox (Layer 6)	0	0	0	0	0	0
	Wilcox (Layer 7)	4,869	4,869	4,869	4,869	4,293	4,293
	Wilcox (Layer 8)	9,733	9,733	9,325	9,325	9,325	9,325
	Total	**18,122**	**18,122**	**17,714**	**17,714**	**17,138**	**17,138**

Uvalde County Underground Water Conservation District		Year					
	Unit or Layer	**2010**	**2020**	**2030**	**2040**	**2050**	**2060**
Pumping	Carrizo	828	828	828	828	828	828
	Wilcox (Layer 6)	2,143	402	0	0	0	0
	Total	**2,971**	**1,230**	**828**	**828**	**828**	**828**

Wintergarden Groundwater Conservation District		Year					
	Unit or Layer	**2010**	**2020**	**2030**	**2040**	**2050**	**2060**
Pumping	Sparta	987	987	987	987	987	987
	Queen City	1	1	1	1	1	1
	Carrizo	31,990	31,990	31,652	31,519	31,419	31,100
	Wilcox (Layer 6)	9,259	9,259	9,259	9,259	9,259	9,259
	Wilcox (Layer 7)	4,007	4,007	4,007	4,007	4,007	4,007
	Wilcox (Layer 8)	416	416	416	416	416	416
	Total	**46,660**	**46,660**	**46,322**	**46,189**	**46,089**	**45,770**

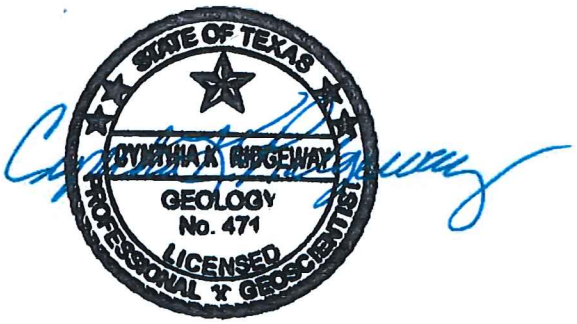
APPENDIX G

GAM Run 10-041 MAG

By Mohammad Masud Hassan, P.E.

Edited and finalized by Marius Jigmond to reflect statutory changes effective September 1, 2011

Texas Water Development Board
Groundwater Availability Modeling Section
(512) 463-8499
December 8, 2011



Cynthia K. Ridgeway, the Manager of the Groundwater Availability Modeling Section and Interim Director of the Groundwater Resources Division, is responsible for oversight of work performed by employees under her direct supervision. The seal appearing on this document was authorized by Cynthia K. Ridgeway, P.G. 471 on December 8, 2011.

This page is intentionally blank.

EXECUTIVE SUMMARY:

The modeled available groundwater for the Yegua-Jackson Aquifer as a result of the desired future condition adopted by the members of Groundwater Management Area 13 is approximately 31,700 acre-feet per year. This is shown divided by county, regional water planning area, and river basin in Table 1 for use in the regional water planning process. Modeled available groundwater is summarized by county, regional water planning area, river basin, and groundwater conservation district in tables 2 through 5. The estimates were extracted from Groundwater Availability Modeling Task 10-012, Scenario 4, which Groundwater Management Area 13 used as the basis for developing their desired future condition for the Yegua-Jackson Aquifer.

REQUESTOR:

Mr. Mike Mahoney of Evergreen Underground Water Conservation District on behalf of Groundwater Management Area 13

DESCRIPTION OF REQUEST:

In a letter dated August 31, 2010 and received September 2, 2010, Mr. Mike Mahoney provided the Texas Water Development Board (TWDB) with the desired future condition of the Yegua-Jackson Aquifer adopted by the members of Groundwater Management Area 13. The desired future condition for the Yegua-Jackson Aquifer in Groundwater Management Area 13, as shown in Resolution No. R 2010-02, is as follows:

> *"In reference to* [Groundwater Availability Model] *Run T10-012, Table C-1, the committee has considered, the base scenario of an average drawdown of 0.0 feet, Scenario 2.5 an average drawdown of 1 foot, Scenario 3.0 an average drawdown of 1 foot, and Scenario 4.0 an average drawdown of 2 feet for the Yegua-Jackson Aquifer; and*
>
> [...] *the district members of the Groundwater Management Area 13, adopt Scenario 4.0, and an average drawdown of 2 feet for the Yegua-Jackson Aquifer."*

In response to receiving the adopted desired future condition, the Texas Water Development Board has estimated the modeled available groundwater for the Yegua-Jackson Aquifer in Groundwater Management Area 13.

METHODS:

The Texas Water Development Board previously completed several predictive groundwater availability model simulations of the Yegua-Jackson Aquifer to assist the members of Groundwater Management Area 13 in developing a desired future condition for this aquifer. The location of Groundwater Management Area 13, the Yegua-Jackson Aquifer, and the groundwater availability model cells that represent the aquifer are shown in Figure 1. As described in Resolution No. R 2010-02, the management area considered Scenario 4 of Groundwater Availability Modeling (GAM) Task 10-012 when developing a desired future condition for the

Yegua-Jackson Aquifer (Oliver, 2010). Since the above desired future condition is met in Scenario 4 of GAM Task 10-012, the estimated pumping for Groundwater Management Area 13 presented here was taken directly from this simulation. The pumping was then divided by county, regional water planning area, river basin, and groundwater conservation district (Figure 2).

PARAMETERS AND ASSUMPTIONS:

The parameters and assumptions for the model run using the groundwater availability model for the Yegua-Jackson Aquifer are described below:

- The results presented in this report are taken from Scenario 4 in GAM Task 10-012 (Oliver, 2010). See GAM Task 10-012 for a full description of the methods, assumptions, and results for the groundwater availability model run.

- Version 1.01 of the groundwater availability model for the Yegua-Jackson Aquifer was used for this analysis. See Deeds and others (2010) for assumptions and limitations of the groundwater availability model.

- Cells were assigned to individual counties, river basins, regional water planning areas, and groundwater conservation districts as shown in the March 23, 2010 version of the file that associates the model grid to political and natural boundaries for the Yegua-Jackson Aquifer.

- The model results presented in this report were extracted from all areas of the model representing the units comprising the Yegua-Jackson Aquifer. This includes some areas outside the "official" boundary of the aquifer shown in the 2007 State Water Plan (TWDB, 2007).

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 December 15, 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.

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.

RESULTS:

The modeled available groundwater for the Yegua-Jackson Aquifer in Groundwater Management Area 13 consistent with the desired future condition is approximately 31,700 acre-feet per year. This 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).

The modeled available groundwater is also summarized by county, regional water planning area, river basin, and groundwater conservation district as shown in tables 2 through 5. In Table 5, the modeled available groundwater both excluding and including areas outside of a groundwater conservation district is shown.

LIMITATIONS:

The groundwater model used in developing estimates of modeled available groundwater is the best available scientific tool that can be used to estimate the pumping that will achieve the desired future conditions. Although the groundwater model used in this analysis is the best available scientific tool for this purpose, it, like all models, has limitations. In reviewing the use of models in environmental regulatory decision-making, the National Research Council (2007) noted:

> "Models will always be constrained by computational limitations, assumptions, and knowledge gaps. They can best be viewed as tools to help inform decisions rather than as machines to generate truth or make decisions. Scientific advances will never make it possible to build a perfect model that accounts for every aspect of reality or to prove that a given model is correct in all respects for a particular regulatory application. These characteristics make evaluation of a regulatory model more complex than solely a comparison of measurement data with model results."

A key aspect of using the groundwater model to develop estimates of modeled available groundwater is the need to make assumptions about the location in the aquifer where future pumping will occur. As actual pumping changes in the future, it will be necessary to evaluate the amount of that pumping as well as its location in the context of the assumptions associated with this analysis. Evaluating the amount and location of future pumping is as important as evaluating the changes in groundwater levels, spring flows, and other metrics that describe the condition of the groundwater resources in the area that relate to the adopted desired future condition(s).

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. Because the application of the groundwater model was designed to address regional scale questions, the results are most effective on a regional scale. 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 as well as whether or not they are achieving their desired future conditions. Because of the limitations of the model and the assumptions in this analysis, it is important that the groundwater

conservation districts work with the TWDB to refine the 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:

Oliver, W., 2010, GAM Task 10-012 Model Run Report: Texas Water Development Board, GAM Task 10-012 Report, 48 p.

Deeds, N.E., Yan, T., Singh, A., Jones, T.L., Kelley, V.A., Knox, P.R., Young, S.C., 2010, Groundwater availability model for the Yegua-Jackson Aquifer: Final report prepared for the Texas Water Development Board by INTERA, Inc., 582 p.

National Research Council, 2007, Models in Environmental Regulatory Decision Making. Committee on Models in the Regulatory Decision Process, National Academies Press, Washington D.C., 287 p.

Texas Water Development Board, 2007, Water for Texas – 2007—Volumes I-III; Texas Water Development Board Document No. GP-8-1, 392 p.

Table 1: Modeled available groundwater for the Yegua-Jackson 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	Regional Water Planning Area	River Basin	Year					
			2010	2020	2030	2040	2050	2060
Atascosa	L	Nueces	855	855	855	855	855	855
Frio	L	Nueces	0	0	0	0	0	0
Gonzales	L	Guadalupe	980	980	980	980	980	980
		Lavaca	3	3	3	3	3	3
Karnes	L	Guadalupe	112	112	112	112	112	112
		Nueces	34	34	34	34	34	34
		San Antonio	628	628	628	628	628	628
La Salle	L	Nueces	91	91	91	91	91	91
McMullen	N	Nueces	179	179	179	179	179	179
Webb	M	Nueces	11,969	11,969	11,969	11,969	11,969	11,969
		Rio Grande	8,030	8,030	8,030	8,030	8,030	8,030
Wilson	L	Guadalupe	48	48	48	48	48	48
		Nueces	184	184	184	184	184	184
		San Antonio	606	606	606	606	606	606
Zapata	M	Rio Grande	7,999	7,999	7,999	7,999	7,999	7,999
Total			**31,718**	**31,718**	**31,718**	**31,718**	**31,718**	**31,718**

Table 2: Modeled available groundwater for the Yegua-Jackson Aquifer summarized by county in Groundwater Management Area 13 for each decade between 2010 and 2060. Results are in acre-feet per year.

County	Year					
	2010	2020	2030	2040	2050	2060
Atascosa	855	855	855	855	855	855
Frio	0	0	0	0	0	0
Gonzales	983	983	983	983	983	983
Karnes	774	774	774	774	774	774
La Salle	91	91	91	91	91	91
McMullen	179	179	179	179	179	179
Webb	19,999	19,999	19,999	19,999	19,999	19,999
Wilson	838	838	838	838	838	838
Zapata	7,999	7,999	7,999	7,999	7,999	7,999
Total	**31,718**	**31,718**	**31,718**	**31,718**	**31,718**	**31,718**

Table 3: Modeled available groundwater for the Yegua-Jackson Aquifer summarized by regional water planning area in Groundwater Management Area 13 for each decade between 2010 and 2060. Results are in acre-feet per year.

Regional Water Planning Area	Year					
	2010	2020	2030	2040	2050	2060
L	3,541	3,541	3,541	3,541	3,541	3,541
M	27,998	27,998	27,998	27,998	27,998	27,998
N	179	179	179	179	179	179
Total	**31,718**	**31,718**	**31,718**	**31,718**	**31,718**	**31,718**

Table 4: Modeled available groundwater for the Yegua-Jackson Aquifer summarized by river basin in Groundwater Management Area 13 for each decade between 2010 and 2060. Results are in acre-feet per year.

River Basin	Year					
	2010	2020	2030	2040	2050	2060
Guadalupe	1,140	1,140	1,140	1,140	1,140	1,140
Lavaca	3	3	3	3	3	3
Nueces	13,312	13,312	13,312	13,312	13,312	13,312
Rio Grande	16,029	16,029	16,029	16,029	16,029	16,029
San Antonio	1,234	1,234	1,234	1,234	1,234	1,234
Total	**31,718**	**31,718**	**31,718**	**31,718**	**31,718**	**31,718**

Table 5: Modeled available groundwater for the Yegua-Jackson Aquifer summarized by groundwater conservation district (GCD) in Groundwater Management Area 13 for each decade between 2010 and 2060. Results are in acre-feet per year. UWCD refers to Underground Water Conservation District.

Groundwater Conservation District	Year					
	2010	2020	2030	2040	2050	2060
Evergreen UWCD	2,467	2,467	2,467	2,467	2,467	2,467
Gonzales County UWCD	865	865	865	865	865	865
McMullen GCD	179	179	179	179	179	179
Wintergarden GCD	91	91	91	91	91	91
Total (excluding non-district areas)	**3,602**	**3,602**	**3,602**	**3,602**	**3,602**	**3,602**
No District	28,116	28,116	28,116	28,116	28,116	28,116
Total (including non-district areas)	**31,718**	**31,718**	**31,718**	**31,718**	**31,718**	**31,718**

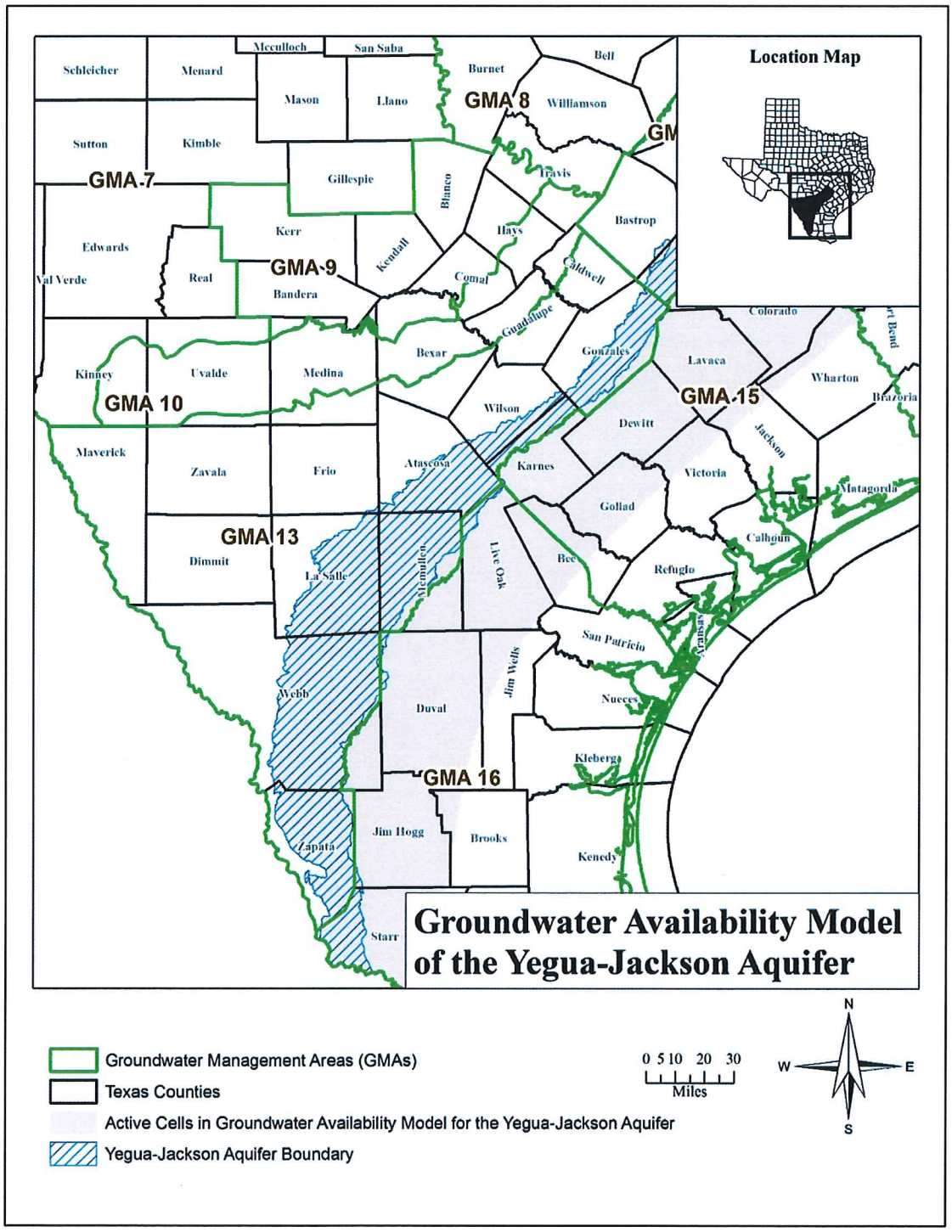


Figure 1: Map showing the areas covered by the groundwater availability model for the Yegua-Jackson Aquifer.

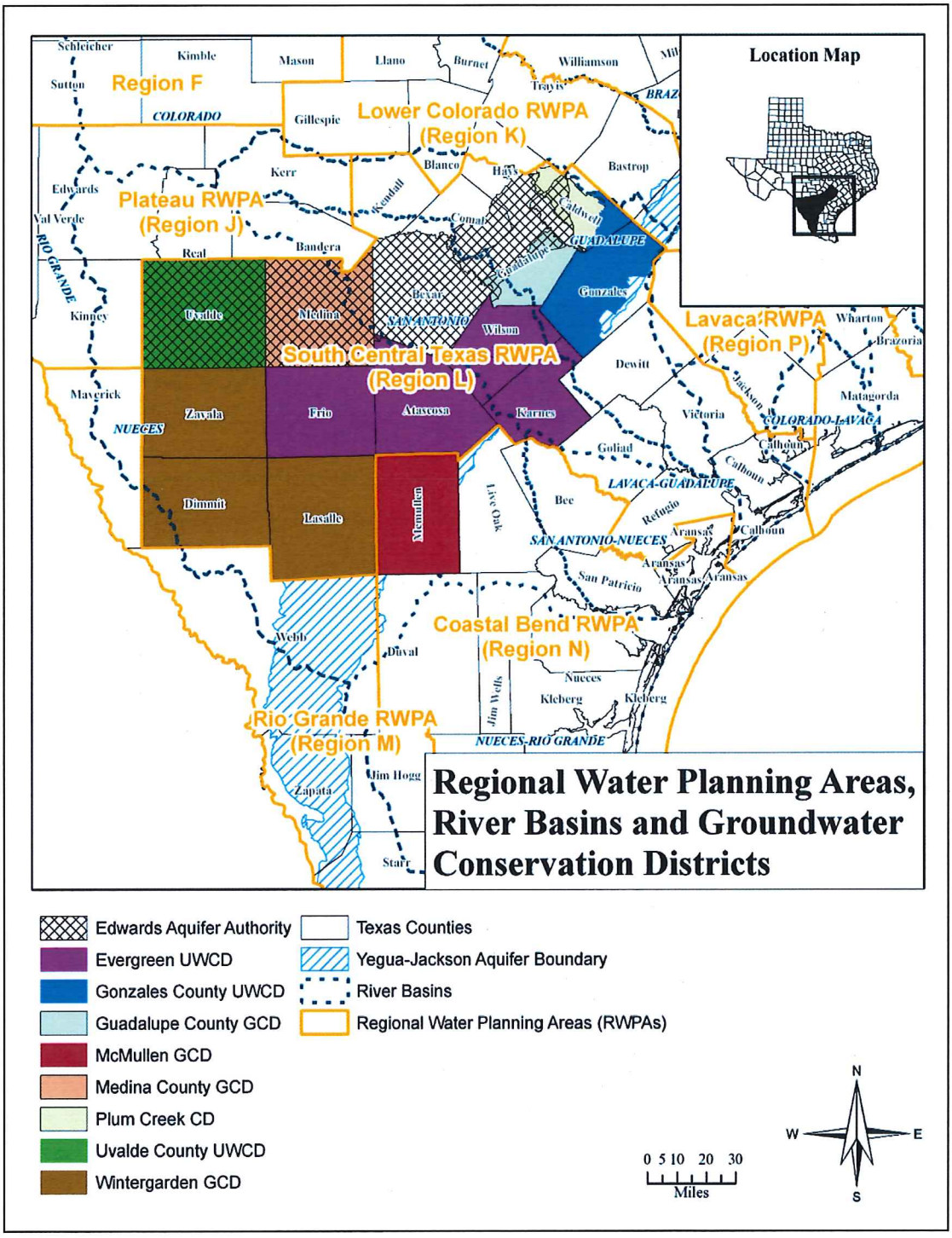


Figure 2: Map showing regional water planning areas (RWPAs), groundwater conservation districts (GCDs), counties, and river basins in Groundwater Management Area 13.

APPENDIX H

GAM RUN 15-007: WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN

by Richard C. Bagans and Shirley Wade, Ph.D., P.G.
Texas Water Development Board
Groundwater Resources Division
Groundwater Availability Modeling Section
(512) 936-0883
July 29, 2015

Cynthia K. Ridgeway 7/30/15

Shirley C. Wade 7/29/15

Cynthia K. Ridgeway is the Manager of the Groundwater Availability Modeling Section and is responsible for oversight of work performed by Richard C. Bagans under her direct supervision. The seal appearing on this document was authorized by Cynthia K. Ridgeway, P.G. 471 on July 29, 2015.

This page is intentionally blank

GAM RUN 15-007: WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN

by Richard C. Bagans and Shirley Wade, Ph.D., P.G.
Texas Water Development Board
Groundwater Resources Division
Groundwater Availability Modeling Section
(512) 936-0883
July 29, 2015

EXECUTIVE SUMMARY:

Texas State Water Code, Section 36.1071, Subsection (h) (Texas Water Code, 2011), states that, in developing its groundwater management plan, a groundwater conservation district shall use groundwater availability modeling information provided by the Executive Administrator of the Texas Water Development Board (TWDB) in conjunction with any available site-specific information provided by the district for review and comment to the Executive Administrator. Information derived from groundwater availability models that shall be included in the groundwater management plan includes:

- the annual amount of recharge from precipitation to the groundwater resources within the district, if any;
- for each aquifer within the district, the annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams, and rivers; and
- the annual volume of flow into and out of the district within each aquifer and between aquifers in the district.

This report—Part 2 of a two-part package of information from the TWDB to the Wintergarden Groundwater Conservation District—fulfills the requirements noted above. Part 1 of the two-part package is the Estimated Historical Water Use/State Water Plan data report. The District will receive this data report from the TWDB Groundwater Technical Assistance Section. Questions about the data report can be directed to Mr. Stephen Allen, stephen.allen@twdb.texas.gov, (512) 463-7317.

The groundwater management plan for the Wintergarden Groundwater Conservation District should be adopted by the district on or before November 9, 2016, and submitted to the Executive Administrator of the TWDB on or before December 9,

2016. The current management plan for the Wintergarden Groundwater Conservation District expires on February 7, 2017.

This report discusses the methods, assumptions, and results from model runs using the groundwater availability models for the southern portion of the Carrizo-Wilcox, Queen City and Sparta aquifers (Kelley and others, 2004), and the Yegua-Jackson Aquifer (Deeds and others, 2010). This model run replaces the results of GAM Run 10-024 (Hassan, 2010). GAM Run 15-007 meets current standards set after the release of GAM Run 10-024.

Tables 1 through 4 summarize the groundwater availability model data required by statute, and Figures 1 through 4 show the area of the models from which the values in the tables were extracted. If after review of the figures, the Wintergarden Groundwater Conservation District determines that the district boundaries used in the assessment do not reflect current conditions, please notify the TWDB at your earliest convenience.

METHODS:

In accordance with the provisions of the Texas State Water Code, Section 36.1071, Subsection (h), the groundwater availability models for the southern portion of the Carrizo-Wilcox, Queen City and Sparta aquifers (Kelley and others, 2004), and the Yegua-Jackson Aquifer (Deeds and others, 2010) were run for this analysis. Wintergarden Groundwater Conservation District water budgets were extracted for the historical model period used for calibration of the models using ZONEBUDGET Version 3.01 (Harbaugh, 2009). The average annual water budget values for recharge, surface water outflow, inflow to the district, outflow from the district, net inter-aquifer flow (upper), and net inter-aquifer flow (lower) for the portion of the aquifers located within the district are summarized in this report.

PARAMETERS AND ASSUMPTIONS:

Carrizo-Wilcox, Queen-City, and Sparta aquifers

- Version 2.01 of the groundwater availability model for the southern part of the Carrizo-Wilcox, Queen City, and Sparta aquifers was used for this analysis. See Deeds and others (2003) and Kelley and others (2004) for assumptions and limitations of the groundwater availability model for the southern part of the Carrizo-Wilcox, Queen City, and Sparta aquifers.

- This groundwater availability model includes eight layers which generally represent the Sparta Aquifer (Layer 1), the Weches Confining Unit (Layer2), the Queen City Aquifer (Layer 3), the Reklaw Confining Unit (Layer 4), the Carrizo Aquifer (Layer 5), the Upper Wilcox Aquifer and top of the Middle Wilcox Aquifer where the Upper Wilcox is missing (Layer 6), the Middle Wilcox Aquifer (Layer 7), and the Lower Wilcox Aquifer (Layer 8). Individual water budgets for the District were determined for the Sparta Aquifer (Layer 1), the Queen City Aquifer (Layer 3), and the Carrizo-Wilcox Aquifer (Layer 5 to Layer 8 collectively).

- Groundwater in the Carrizo-Wilcox, Queen City, and Sparta aquifers ranges from fresh to brackish in composition (Kelley and others, 2004). Groundwater with total dissolved solids of less than 1,000 milligrams per liter are considered fresh and total dissolved solids of 1,000 to 10,000 milligrams per liter are considered brackish.

- The model was run with MODFLOW-96 (Harbaugh and McDonald, 1996).

Yegua-Jackson Aquifer

- Version 1.01 of the groundwater availability model for the Yegua-Jackson Aquifer was used for this analysis. See Deeds and others (2010) for assumptions and limitations of the groundwater availability model.

- This groundwater availability model includes five layers which represent the outcrop section for the Yegua-Jackson Aquifer and younger overlying units (Layer 1), the upper portion of the Jackson Group (Layer 2), the lower portion of the Jackson Group (Layer 3), the upper portion of the Yegua Group (Layer 4), and the lower portion of the Yegua Group (Layer 5).

- An overall water budget for the district was determined for the Yegua-Jackson Aquifer (Layer 1 to Layer 5 collectively for the portions that represent the Yegua-Jackson Aquifer).

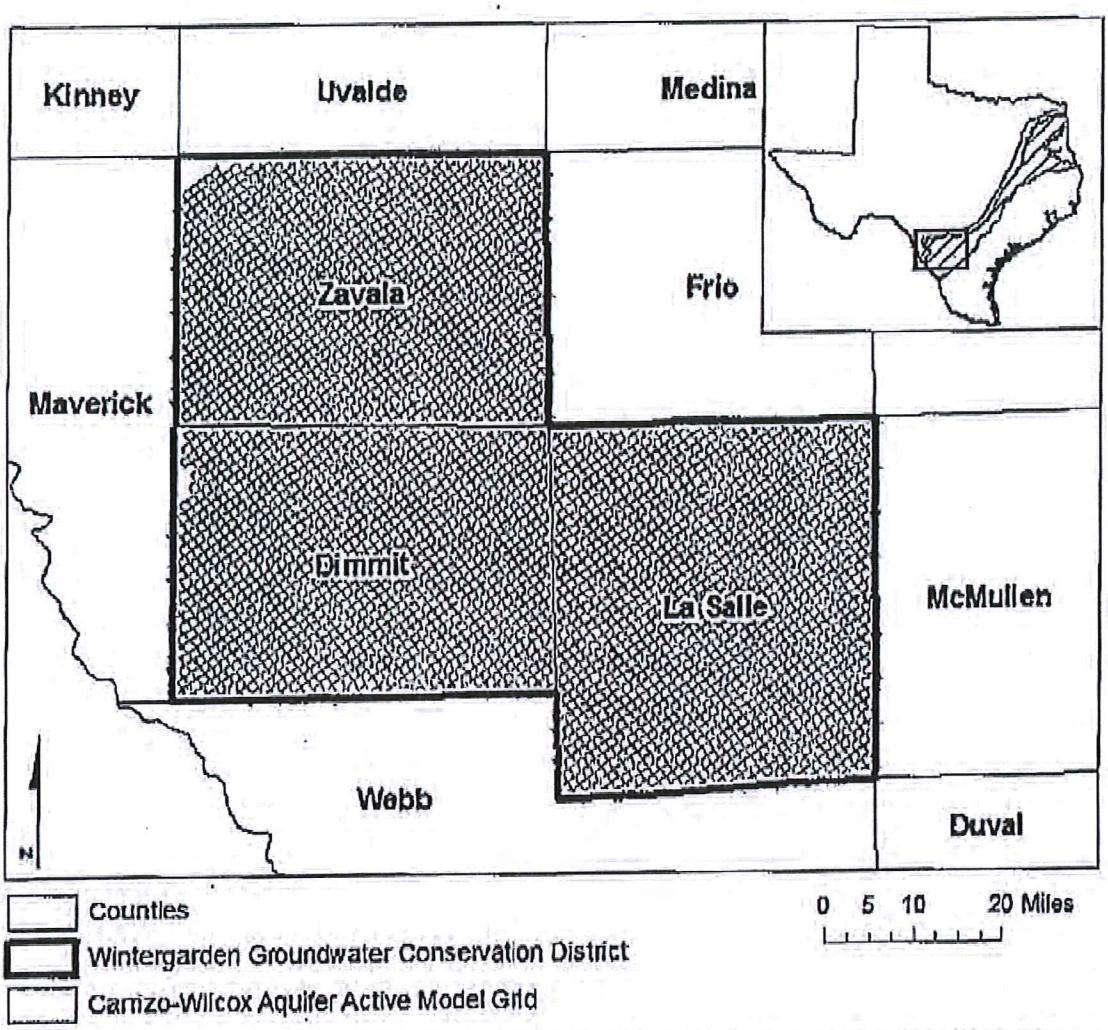
- The model was run with MODFLOW-2000 (Harbaugh and others, 2000).

RESULTS:

A groundwater budget summarizes the amount of water entering and leaving the aquifer according to the groundwater availability model. Selected groundwater budget components listed below were extracted from the model results for the aquifers located within the district and averaged over the duration of the calibration and verification portion of the model run in the district, as shown in Tables 1 through 4.

- Precipitation recharge—the areally distributed recharge sourced from precipitation falling on the outcrop areas of the aquifers (where the aquifer is exposed at land surface) within the district.
- Surface water outflow—the total water discharging from the aquifer (outflow) to surface water features such as streams, reservoirs, and springs.
- Flow into and out of district—the lateral flow within the aquifer between the district and adjacent counties.
- Flow between aquifers—The net vertical flow between the aquifer and adjacent aquifers or confining units. This flow is controlled by the relative water levels in each aquifer or confining unit and aquifer properties of each aquifer or confining unit that define the amount of leakage that occurs.

The information needed for the District's management plan is summarized in Tables 1 through 4. It is important to note that sub-regional water budgets are not exact. This is due to the size of the model cells and the approach used to extract data from the model. To avoid double accounting, a model cell that straddles a political boundary, such as a district or county boundary, is assigned to one side of the boundary based on the location of the centroid of the model cell. For example, if a cell contains two counties, the cell is assigned to the county where the centroid of the cell is located.



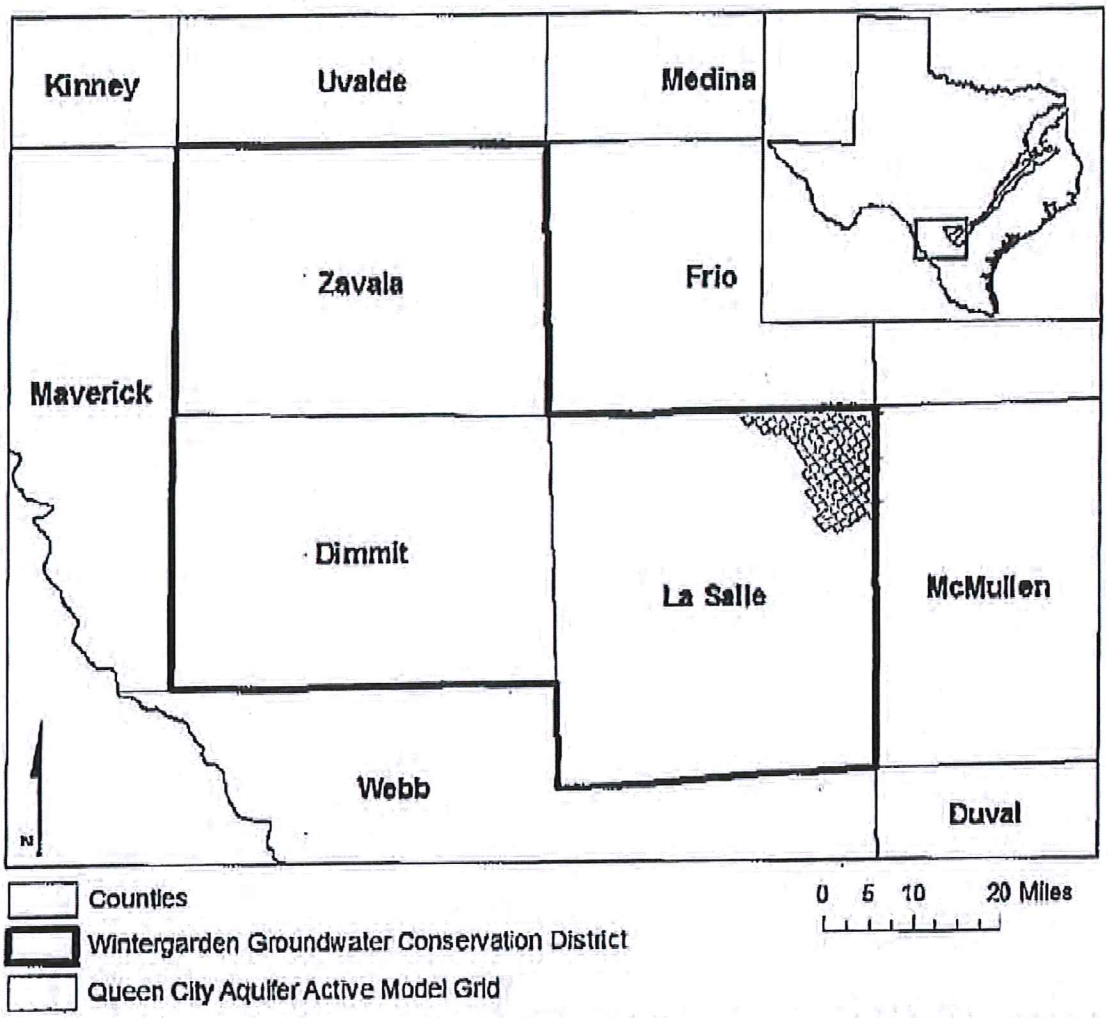
gcd boundary date = 11.12.14, county boundary date = 02.02.11, qcsp_s model grid date = 05.01.14

FIGURE 1: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE SOUTHERN PORTION OF THE CARRIZO-WILCOX, QUEEN CITY, AND SPARTA AQUIFERS FROM WHICH THE INFORMATION IN TABLE 1 WAS EXTRACTED (THE CARRIZO-WILCOX AQUIFER EXTENT WITHIN THE DISTRICT BOUNDARY).

TABLE 1: SUMMARIZED INFORMATION FOR THE CARRIZO-WILCOX AQUIFER THAT IS NEEDED FOR THE WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT'S GROUNDWATER MANAGEMENT PLAN. ALL VALUES ARE REPORTED IN ACRE-FEET PER YEAR AND ROUNDED TO THE NEAREST 1 ACRE-FOOT.

Management Plan requirement	Aquifer or confining unit	Results
Estimated annual amount of recharge from precipitation to the district	Carrizo-Wilcox Aquifer	14,851
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Carrizo-Wilcox Aquifer	329
Estimated annual volume of flow into the district within each aquifer in the district	Carrizo-Wilcox Aquifer	25,412
Estimated annual volume of flow out of the district within each aquifer in the district	Carrizo-Wilcox Aquifer	22,689
Estimated net annual volume of flow between each aquifer in the district*	From the Reklaw Confining Unit into the Carrizo-Wilcox Aquifer	28,251

*The groundwater availability model for southern portion of the Carrizo-Wilcox, Queen City, and Sparta aquifers assumes no-flow conditions at the base of the Carrizo-Wilcox Aquifer unit.

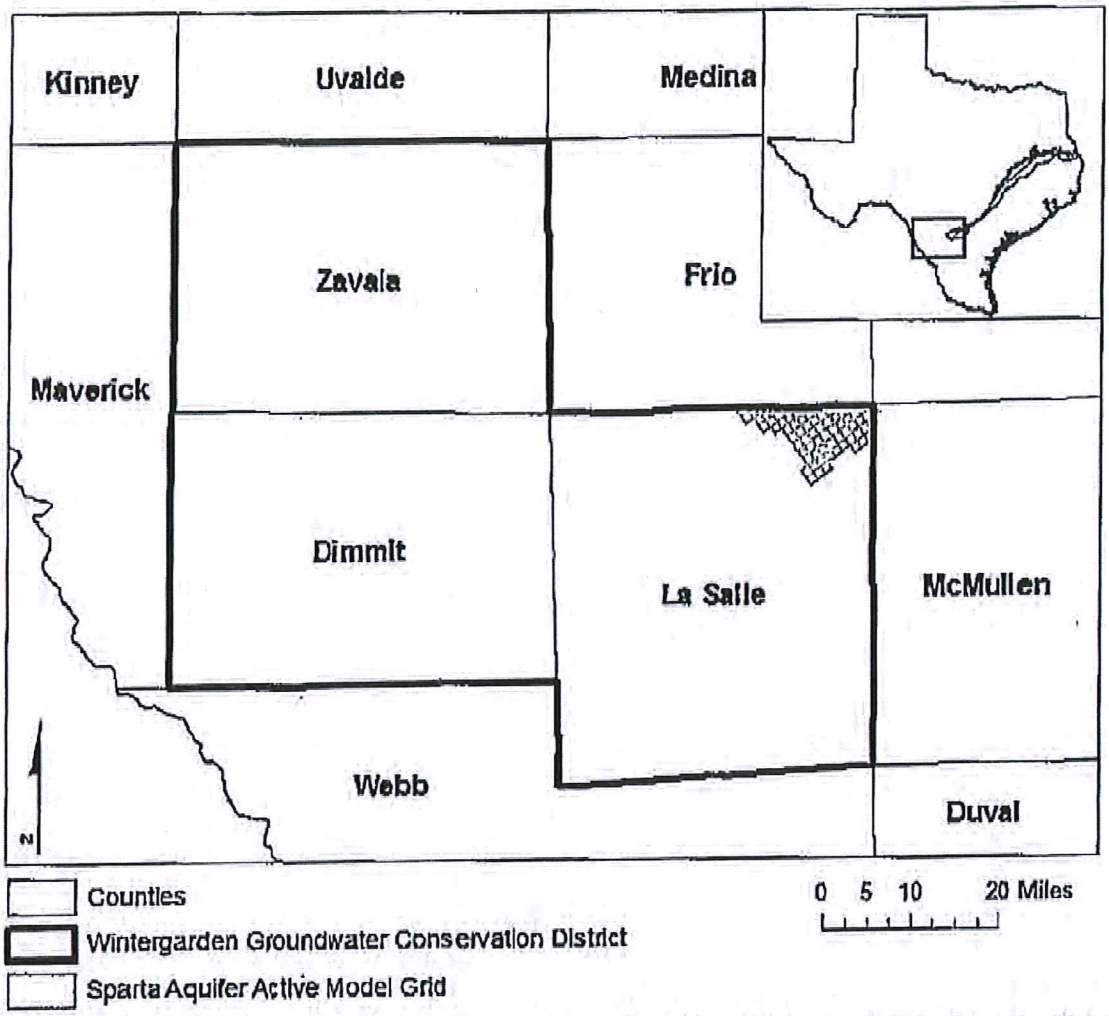


gcd boundary date = 11.12.14, county boundary date = 02.02.11, qcsp_s model grid date = 05.01.14

FIGURE 2: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE SOUTHERN PORTION OF THE CARRIZO-WILCOX, QUEEN CITY, AND SPARTA AQUIFERS FROM WHICH THE INFORMATION IN TABLE 2 WAS EXTRACTED (THE QUEEN CITY AQUIFER EXTENT WITHIN THE DISTRICT BOUNDARY).

TABLE 2: SUMMARIZED INFORMATION FOR THE QUEEN CITY AQUIFER THAT IS NEEDED FOR THE WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT'S GROUNDWATER MANAGEMENT PLAN. ALL VALUES ARE REPORTED IN ACRE-FEET PER YEAR AND ROUNDED TO THE NEAREST 1 ACRE-FOOT.

Management Plan requirement	Aquifer or confining unit	Results
Estimated annual amount of recharge from precipitation to the district	Queen City Aquifer	0
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Queen City Aquifer	0
Estimated annual volume of flow into the district within each aquifer in the district	Queen City Aquifer	720
Estimated annual volume of flow out of the district within each aquifer in the district	Queen City Aquifer	200
Estimated net annual volume of flow between each aquifer in the district	From Queen City Aquifer into the Weches Confining Unit	388
	From Queen City Aquifer into the Reklaw Confining Unit	453
	From the brackish portion of the Queen City Aquifer into the Queen City Aquifer	159



gcd boundary date = 11.12.14, county boundary date = 02.02.11, qcsp_s model grid date = 05.01.14

FIGURE 3: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE SOUTHERN PORTION OF THE CARRIZO-WILCOX, QUEEN CITY, AND SPARTA AQUIFERS FROM WHICH THE INFORMATION IN TABLE 3 WAS EXTRACTED (THE SPARTA AQUIFER EXTENT WITHIN THE DISTRICT BOUNDARY).

TABLE 3: SUMMARIZED INFORMATION FOR THE SPARTA AQUIFER THAT IS NEEDED FOR THE WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT'S GROUNDWATER MANAGEMENT PLAN. ALL VALUES ARE REPORTED IN ACRE-FEET PER YEAR AND ROUNDED TO THE NEAREST 1 ACRE-FOOT.

Management Plan requirement	Aquifer or confining unit	Results
Estimated annual amount of recharge from precipitation to the district	Sparta Aquifer	0
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Sparta Aquifer	0
Estimated annual volume of flow into the district within each aquifer in the district	Sparta Aquifer	599
Estimated annual volume of flow out of the district within each aquifer in the district	Sparta Aquifer	56
Estimated net annual volume of flow between each aquifer in the district	Into the Sparta Aquifer from the overlying younger units	91
	Into the Sparta Aquifer from the underlying Weches Confining Unit	19
	From the Sparta Aquifer into the brackish portion of the same geologic unit	379

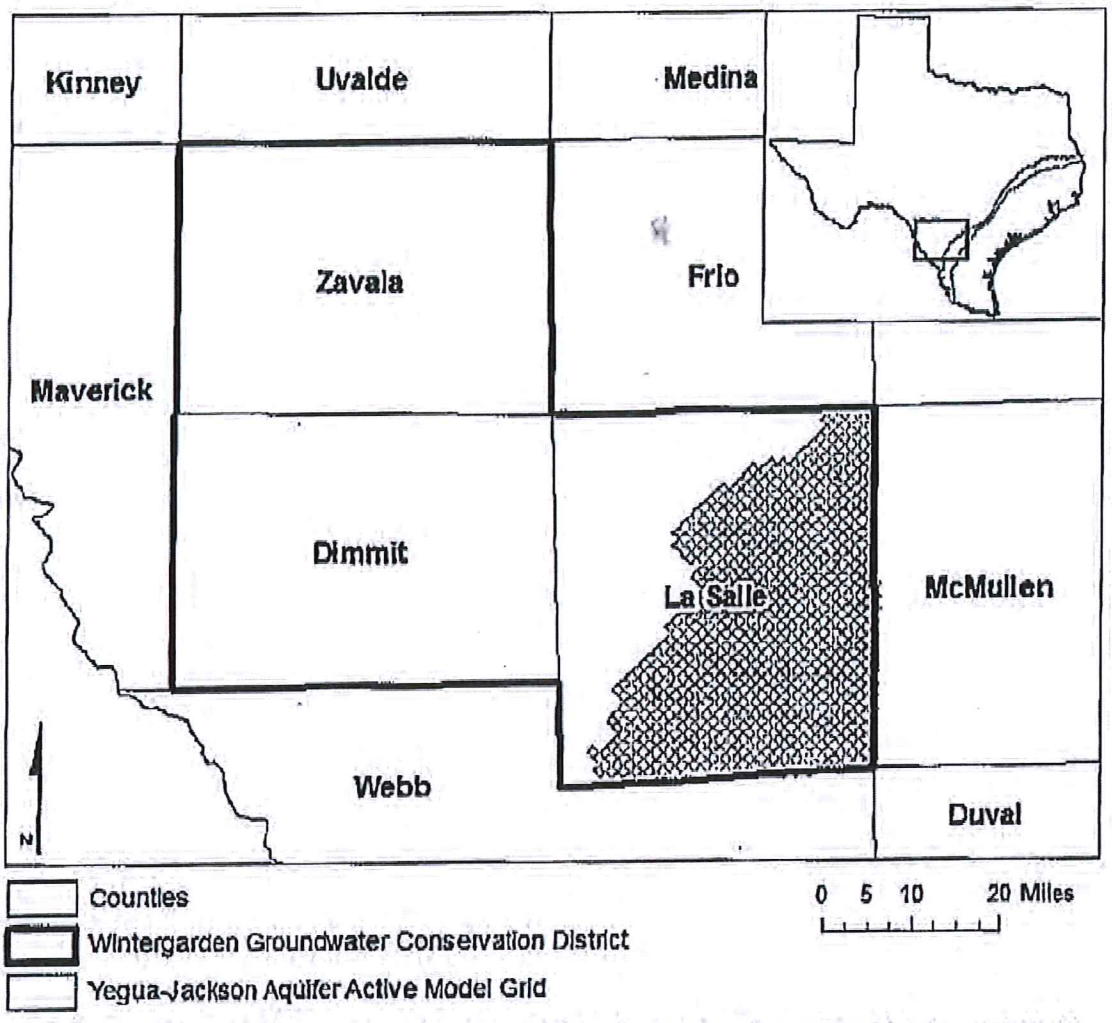


FIGURE 4: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE YEGUA-JACKSON AQUIFER FROM WHICH THE INFORMATION IN TABLE 4 WAS EXTRACTED (THE YEGUA-JACKSON AQUIFER EXTENT WITHIN THE DISTRICT BOUNDARY).

TABLE 4: SUMMARIZED INFORMATION FOR THE YEGUA-JACKSON AQUIFER THAT IS NEEDED FOR THE WINTERGARDEN GROUNDWATER CONSERVATION DISTRICT'S GROUNDWATER MANAGEMENT PLAN. ALL VALUES ARE REPORTED IN ACRE-FEET PER YEAR AND ROUNDED TO THE NEAREST 1 ACRE-FOOT.

Management Plan requirement	Aquifer or confining unit	Results
Estimated annual amount of recharge from precipitation to the district	Yegua-Jackson Aquifer	7,652
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers	Yegua-Jackson Aquifer	8,190
Estimated annual volume of flow into the district within each aquifer in the district	Yegua-Jackson Aquifer	2,717
Estimated annual volume of flow out of the district within each aquifer in the district	Yegua-Jackson Aquifer	2,704
Estimated net annual volume of flow between each aquifer in the district	Not applicable*	Not applicable*

*The groundwater availability model for the Yegua-Jackson Aquifer assumes no-flow conditions at the base of the aquifer unit.

LIMITATIONS:

The groundwater model(s) used in completing this analysis is the best available scientific tool that can be used to meet the stated objective(s). To the extent that this analysis will be used for planning purposes and/or regulatory purposes related to pumping in the past and into the future, it is important to recognize the assumptions and limitations associated with the use of the results. In reviewing the use of models in environmental regulatory decision making, the National Research Council (2007) noted:

> *"Models will always be constrained by computational limitations, assumptions, and knowledge gaps. They can best be viewed as tools to help inform decisions rather than as machines to generate truth or make decisions. Scientific advances will never make it possible to build a perfect model that accounts for every aspect of reality or to prove that a given model is correct in all respects for a particular regulatory application. These characteristics make evaluation of a regulatory model more complex than solely a comparison of measurement data with model results."*

A key aspect of using the groundwater model to evaluate historic groundwater flow conditions includes the assumptions about the location in the aquifer where historic pumping was placed. Understanding the amount and location of historic pumping is as important as evaluating the volume of groundwater flow into and out of the district, between aquifers within the district (as applicable), interactions with surface water (as applicable), recharge to the aquifer system (as applicable), and other metrics that describe the impacts of that pumping. In addition, assumptions regarding precipitation, recharge, and interaction with streams are specific to particular historic time periods.

Because the application of the groundwater models was designed to address regional scale questions, the results are most effective on a regional scale. The TWDB makes no warranties or representations related 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 groundwater pumping and overall conditions of the aquifer. Because of the limitations of the groundwater model and the assumptions in this analysis, it is important that the groundwater conservation districts work with the TWDB to refine this analysis in the future given the reality of how the aquifer responds to the actual amount and location of pumping now and in the future. Historic precipitation patterns also need to be placed in context as future climatic conditions, such as dry and wet year precipitation patterns, may differ and affect groundwater flow conditions.

REFERENCES:

Deeds, N., Kelley, V., Fryar, D., Jones, T., Whallon, A.J., and Dean, K.E., 2003, Groundwater Availability Model for the Southern Carrizo-Wilcox Aquifer: Contract report to the Texas Water Development Board, 452 p., http://www.twdb.texas.gov/groundwater/models/gam/czwx_s/CZWX_S_Full_Report.pdf.

Deeds, N.E., Yan, T., Singh, A., Jones, T.L., Kelley, V.A., Knox, P.R., Young, S.C., 2010, Groundwater availability model for the Yegua-Jackson Aquifer: Final report prepared for the Texas Water Development Board by INTERA, Inc., 582 p., http://www.twdb.texas.gov/groundwater/models/gam/ygjk/ygjk.asp.

Hassan, M. M., 2010, GAM Run 10-024: Texas Water Development Board, GAM Run 10-024 Report, 9 p., http://www.twdb.texas.gov/groundwater/docs/GAMruns/GR10-24.pdf.

Harbaugh, A. W., 2009, Zonebudget Version 3.01, A computer program for computing subregional water budgets formational research MODFLOW ground-water flow models, U.S. Geological Survey Groundwater Software.

Harbaugh, A. W., and McDonald, M. G., 1996, User's documentation for MODFLOW-96, an update to the U.S. Geological Survey modular finite-difference groundwater-water flow model: U.S. Geological Survey Open-File Report 96-485, 56 p.

Harbaugh, A.W., Banta, E.R., Hill, M.C., and McDonald, M.G., 2000, MODFLOW-2000, The U.S. Geological Survey modular ground-water model-User guide to modularization concepts and the ground-water flow process: U.S. Geological Survey, Open-File Report 00-92.

Kelley, V.A., Deeds, N.E., Fryar, D.G., and Nicot, J.P., 2004, Groundwater availability models for the Queen City and Sparta aquifers: Contract report to the Texas Water Development Board, 867 p., http://www.twdb.texas.gov/groundwater/models/gam/qcsp/qcsp.asp.

National Research Council, 2007, Models in Environmental Regulatory Decision Making Committee on Models in the Regulatory Decision Process, National Academies Press, Washington D.C., 287 p., http://www.nap.edu/catalog.php?record_id=11972.

Texas Water Code, 2011, http://www.statutes.legis.state.tx.us/docs/WA/pdf/WA.36.pdf

APPENDIX I

Estimated Historical Water Use And 2012 State Water Plan Datasets:

Wintergarden Groundwater Conservation District

by Stephen Allen
Texas Water Development Board
Groundwater Resources Division
Groundwater Technical Assistance Section
stephen.allen@twdb.texas.gov
(512) 463-7317
August 10, 2015

GROUNDWATER MANAGEMENT PLAN DATA:

This package of water data reports (part 1 of a 2-part package of information) is being provided to groundwater conservation districts to help them meet the requirements for approval of their five-year groundwater management plan. Each report in the package addresses a specific numbered requirement in the Texas Water Development Board's groundwater management plan checklist. The checklist can be viewed and downloaded from this web address:

http://www.twdb.texas.gov/groundwater/docs/GCD/GMPChecklist0113.pdf

The five reports included in part 1 are:

1. Estimated Historical Water Use (checklist Item 2)

   from the TWDB Historical Water Use Survey (WUS)

2. Projected Surface Water Supplies (checklist Item 6)
3. Projected Water Demands (checklist Item 7)
4. Projected Water Supply Needs (checklist Item 8)
5. Projected Water Management Strategies (checklist Item 9)

   reports 2-5 are from the 2012 Texas State Water Plan (SWP)

Part 2 of the 2-part package is the groundwater availability model (GAM) report. The District should have received, or will receive, this report from the Groundwater Availability Modeling Section. Questions about the GAM can be directed to Dr. Shirley Wade, shirley.wade@twdb.texas.gov, (512) 936-0883.

DISCLAIMER:

The data presented in this report represents the most up-to-date WUS and 2012 SWP data available as of 8/10/2015. Although it does not happen frequently, neither of these datasets are static so they are subject to change pending the availability of more accurate WUS data or an amendment to the 2012 SWP. District personnel must review these datasets and correct any discrepancies in order to ensure approval of their groundwater management plan.

The WUS dataset can be verified at this web address:

http://www.twdb.texas.gov/waterplanning/waterusesurvey/estimates/

The 2012 SWP dataset can be verified by contacting Sabrina Anderson (sabrina.anderson@twdb.texas.gov or 512-936-0886).

For additional questions regarding this data, please contact Stephen Allen (stephen.allen@twdb.texas.gov or 512-463-7317) or Rima Petrossian (rima.petrossian@twdb.texas.gov or 512-936-2420).

Estimated Historical Water Use

TWDB Historical Water Use Survey (WUS) Data

Groundwater and surface water historical use estimates are currently unavailable for calendar year 2014. TWDB staff anticipates the calculation and posting of these estimates at a later date.

DIMMIT COUNTY

All values are in acre-fee/year

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2013	GW	2,447	0	9,168	0	4,433	155	16,203
	SW	0	0	1,018	0	87	155	1,260
2012	GW	2,432	0	7,547	0	5,894	203	16,076
	SW	0	0	640	0	203	203	1,046
2011	GW	2,400	0	3,453	0	5,570	232	11,655
	SW	0	0	255	0	52	233	540
2010	GW	2,175	0	1,554	0	7,170	228	11,127
	SW	0	0	115	0	45	228	388
2009	GW	2,302	0	824	0	7,831	233	11,190
	SW	0	0	61	0	226	234	521
2008	GW	2,267	0	94	0	6,191	258	8,810
	SW	0	0	7	0	878	259	1,144
2007	GW	1,805	0	0	0	3,041	217	5,063
	SW	0	0	0	0	363	216	579
2006	GW	2,382	0	0	0	4,507	294	7,183
	SW	0	0	0	0	1,500	294	1,794
2005	GW	2,331	0	0	0	3,612	217	6,160
	SW	0	0	0	0	1,500	217	1,717
2004	GW	1,983	0	0	0	4,055	300	6,338
	SW	0	0	0	0	1,370	247	1,617
2003	GW	2,078	0	0	0	1,643	300	4,021
	SW	0	0	0	0	2,125	247	2,372
2002	GW	2,274	0	0	0	7,015	327	9,616
	SW	0	0	0	0	4,677	269	4,946
2001	GW	2,424	0	0	0	5,230	405	8,059
	SW	0	0	0	0	3,874	333	4,207
2000	GW	2,530	0	2	0	3,793	442	6,767
	SW	0	0	0	0	2,957	111	3,068

LA SALLE COUNTY

All values are in acre-fee/year

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2013	GW	1,738	0	7,421	0	5,924	192	15,275
	SW	0	0	824	0	0	192	1,016
2012	GW	1,754	0	6,712	0	6,248	251	14,965
	SW	0	0	565	0	0	250	815
2011	GW	1,746	0	2,500	0	8,026	289	12,561
	SW	0	0	463	0	0	290	753
2010	GW	1,711	0	584	0	4,229	288	6,812
	SW	0	0	108	0	0	287	395
2009	GW	1,586	0	323	0	5,087	293	7,289
	SW	0	0	60	0	0	293	353
2008	GW	1,404	0	62	0	4,491	292	6,249
	SW	0	0	11	0	0	293	304
2007	GW	1,193	0	0	0	3,337	201	4,731
	SW	0	0	0	0	0	200	200
2006	GW	1,405	0	0	0	6,636	384	8,425
	SW	0	0	0	0	0	384	384
2005	GW	1,192	0	0	0	4,370	276	5,838
	SW	0	0	0	0	0	276	276
2004	GW	1,145	0	0	0	4,334	64	5,543
	SW	0	0	0	0	0	573	573
2003	GW	1,136	0	0	0	4,518	60	5,714
	SW	0	0	0	0	2	543	545
2002	GW	1,456	0	0	0	5,286	69	6,811
	SW	0	0	0	0	0	619	619
2001	GW	1,456	0	0	0	3,134	87	4,677
	SW	0	0	0	0	0	785	785
2000	GW	1,565	0	0	0	4,003	70	5,638
	SW	.0	0	0	0	0	634	634

ZAVALA COUNTY

All values are in acre-fee/year

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2013	GW	2,840	551	602	0	43,368	358	47,719
	SW	0	0	66	0	448	358	872
2012	GW	2,906	495	578	0	47,350	448	51,777
	SW	0	0	49	0	501	448	998
2011	GW	2,925	495	398	0	55,645	556	60,019
	SW	0	0	41	0	1	557	599
2010	GW	2,792	541	29	0	39,298	513	43,173
	SW	0	0	3	0	450	513	966
2009	GW	2,832	541	0	0	40,682	597	44,652
	SW	0	0	0	0	2,318	597	2,915
2008	GW	2,808	566	0	0	24,283	573	28,230
	SW	0	0	0	0	13,409	573	13,982
2007	GW	2,788	707	0	0	35,241	470	39,206
	SW	0	0	0	0	10,856	470	11,326
2006	GW	2,915	1,103	0	0	44,019	585	48,622
	SW	0	0	0	0	4,000	585	4,585
2005	GW	2,868	1,103	0	0	51,396	420	55,787
	SW	0	0	0	0	4,000	420	4,420
2004	GW	2,727	982	0	0	50,481	87	54,277
	SW	0	0	0	0	4,110	783	4,893
2003	GW	2,731	920	0	0	41,692	101	45,444
	SW	0	0	0	0	6,375	905	7,280
2002	GW	3,089	1,412	0	0	111,873	77	116,451
	SW	0	0	0	0	35,328	695	36,023
2001	GW	3,096	758	0	0	40,617	52	44,523
	SW	0	0	0	0	14,251	469	14,720
2000	GW	4,426	922	0	0	35,140	76	40,564
	SW	0	0	0	0	11,135	681	11,816

Projected Surface Water Supplies
TWDB 2012 State Water Plan Data

DIMMIT COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
L	IRRIGATION	NUECES	NUECES RIVER COMBINED RUN-OF-RIVER IRRIGATION	2,261	2,261	2,261	2,261	2,261	2,261
L	LIVESTOCK	NUECES	LIVESTOCK LOCAL SUPPLY	224	224	224	224	224	224
L	LIVESTOCK	RIO GRANDE	LIVESTOCK LOCAL SUPPLY	53	53	53	53	53	53
L	MINING	NUECES	NUECES RIVER COMBINED RUN-OF-RIVER MINING	1	1	1	1	1	1
	Sum of Projected Surface Water Supplies (acre-feet/year)			**2,539**	**2,539**	**2,539**	**2,539**	**2,539**	**2,539**

LA SALLE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
L	IRRIGATION	NUECES	NUECES RIVER COMBINED RUN-OF-RIVER IRRIGATION	705	705	705	705	705	705
L	LIVESTOCK	NUECES	LIVESTOCK LOCAL SUPPLY	844	844	844	844	844	844
	Sum of Projected Surface Water Supplies (acre-feet/year)			**1,549**	**1,549**	**1,549**	**1,549**	**1,549**	**1,549**

ZAVALA COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
L	LIVESTOCK	NUECES	LIVESTOCK LOCAL SUPPLY	378	378	378	378	378	378
	Sum of Projected Surface Water Supplies (acre-feet/year)			**378**	**378**	**378**	**378**	**378**	**378**

Projected Water Demands
TWDB 2012 State Water Plan Data

Please note that the demand numbers presented here include the plumbing code savings found in the Regional and State Water Plans.

DIMMIT COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
L	MINING	NUECES	1,003	1,034	1,051	1,067	1,082	1,095
L	COUNTY-OTHER	NUECES	282	292	293	284	274	261
L	IRRIGATION	NUECES	10,611	10,333	10,225	9,813	9,391	8,987
L	LIVESTOCK	NUECES	447	447	447	447	447	447
L	ASHERTON	NUECES	286	299	306	301	293	279
L	BIG WELLS	NUECES	149	156	159	157	153	145
L	CARRIZO SPRINGS	NUECES	1,842	1,943	1,996	1,981	1,930	1,836
L	COUNTY-OTHER	RIO GRANDE	2	2	2	2	2	2
L	LIVESTOCK	RIO GRANDE	105	105	105	105	105	105
	Sum of Projected Water Demands (acre-feet/year)		**14,727**	**14,611**	**14,584**	**14,157**	**13,677**	**13,157**

LA SALLE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
L	ENCINAL	NUECES	110	109	108	106	107	107
L	COTULLA	NUECES	1,407	1,516	1,566	1,615	1,677	1,743
L	LIVESTOCK	NUECES	1,687	1,687	1,687	1,687	1,687	1,687
L	IRRIGATION	NUECES	4,791	4,643	4,500	4,361	4,227	4,097
L	COUNTY-OTHER	NUECES	282	321	384	441	478	500
	Sum of Projected Water Demands (acre-feet/year)		**8,277**	**8,276**	**8,245**	**8,210**	**8,176**	**8,134**

ZAVALA COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
L	LIVESTOCK	NUECES	756	756	756	756	756	756
L	IRRIGATION	NUECES	71,800	68,963	66,238	63,621	61,107	58,692
L	COUNTY-OTHER	NUECES	864	1,028	1,134	1,241	1,327	1,371
L	MANUFACTURING	NUECES	1,043	1,106	1,154	1,200	1,238	1,315
L	MINING	NUECES	122	125	127	128	129	130
L	CRYSTAL CITY	NUECES	2,247	2,272	2,343	2,337	2,349	2,370
	Sum of Projected Water Demands (acre-feet/year)		**76,832**	**74,250**	**71,752**	**69,283**	**66,906**	**64,634**

Projected Water Supply Needs
TWDB 2012 State Water Plan Data

Negative values (in red) reflect a projected water supply need, positive values a surplus.

DIMMIT COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
L	ASHERTON	NUECES	327	314	307	312	320	334
L	BIG WELLS	NUECES	502	495	492	494	498	506
L	CARRIZO SPRINGS	NUECES	368	267	214	229	280	374
L	COUNTY-OTHER	NUECES	58	48	47	56	66	79
L	COUNTY-OTHER	RIO GRANDE	1	1	1	1	1	1
L	IRRIGATION	NUECES	0	278	386	798	1,220	1,624
L	LIVESTOCK	NUECES	0	0	0	0	0	0
L	LIVESTOCK	RIO GRANDE	0	0	0	0	0	0
L	MINING	NUECES	92	61	44	28	13	0
	Sum of Projected Water Supply Needs (acre-feet/year)		**0**	**0**	**0**	**0**	**0**	**0**

LA SALLE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
L	COTULLA	NUECES	802	693	643	594	532	466
L	COUNTY-OTHER	NUECES	218	179	116	59	22	0
L	ENCINAL	NUECES	158	159	160	162	161	161
L	IRRIGATION	NUECES	1,200	1,348	1,491	1,630	1,764	1,894
L	LIVESTOCK	NUECES	0	0	0	0	0	0
	Sum of Projected Water Supply Needs (acre-feet/year)		**0**	**0**	**0**	**0**	**0**	**0**

ZAVALA COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
L	COUNTY-OTHER	NUECES	524	360	254	147	61	17
L	CRYSTAL CITY	NUECES	1,277	1,252	1,181	1,187	1,175	1,154
L	IRRIGATION	NUECES	-54,600	-51,763	-49,038	-46,421	-43,907	-41,492
L	LIVESTOCK	NUECES	0	0	0	0	0	0
L	MANUFACTURING	NUECES	272	209	161	115	77	0
L	MINING	NUECES	8	5	3	2	1	0
	Sum of Projected Water Supply Needs (acre-feet/year)		**-54,600**	**-51,763**	**-49,038**	**-46,421**	**-43,907**	**-41,492**

Projected Water Management Strategies
TWDB 2012 State Water Plan Data

DIMMIT COUNTY

WUG, Basin (RWPG) — All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
ASHERTON, NUECES (L)							
MUNICIPAL WATER CONSERVATION	CONSERVATION [DIMMIT]	20	43	58	59	62	64
BIG WELLS, NUECES (L)							
MUNICIPAL WATER CONSERVATION	CONSERVATION [DIMMIT]	11	23	30	30	32	33
CARRIZO SPRINGS, NUECES (L)							
MUNICIPAL WATER CONSERVATION	CONSERVATION [DIMMIT]	152	312	464	590	700	777
Sum of Projected Water Management Strategies (acre-feet/year)		**183**	**378**	**552**	**679**	**794**	**874**

LA SALLE COUNTY

WUG, Basin (RWPG) — All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
COTULLA, NUECES (L)							
MUNICIPAL WATER CONSERVATION	CONSERVATION [LA SALLE]	118	248	369	488	615	745
COUNTY-OTHER, NUECES (L)							
MUNICIPAL WATER CONSERVATION	CONSERVATION [LA SALLE]	3	4	11	17	29	42
ENCINAL, NUECES (L)							
MUNICIPAL WATER CONSERVATION	CONSERVATION [LA SALLE]	9	9	10	10	11	14
Sum of Projected Water Management Strategies (acre-feet/year)		**130**	**261**	**390**	**515**	**655**	**801**

ZAVALA COUNTY

WUG, Basin (RWPG) — All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
COUNTY-OTHER, NUECES (L)							
MUNICIPAL WATER CONSERVATION	CONSERVATION [ZAVALA]	42	54	71	89	115	149

Projected Water Management Strategies
TWDB 2012 State Water Plan Data

All values are in acre-feet/year

WUG, Basin (RWPG) / Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
CRYSTAL CITY, NUECES (L)							
MUNICIPAL WATER CONSERVATION	CONSERVATION [ZAVALA]	192	364	543	695	850	1,002
IRRIGATION, NUECES (L)							
IRRIGATION WATER CONSERVATION	CONSERVATION [ZAVALA]	6,948	6,948	6,948	6,948	6,948	6,948
Sum of Projected Water Management Strategies (acre-feet/year)		**7,182**	**7,366**	**7,562**	**7,732**	**7,913**	**8,099**