MEMO

To:	Kevin Ward
Through	Bill Hutchison BWH
	Robert Mace REM
From:	Rima Petrossian RP
Date:	12/9/2010
Re:	Management Plan Approval for Trinity Glen Rose Groundwater Conservation District (GCD)

Staff recommends that the Trinity Glen Rose GCD plan be approved as administratively complete.

Trinity Glen Rose GCD is due for the Executive Administrator's approval by Thursday, December 23, 2010.

Texas Water Development Board
Groundwater Conservation District Management Plan Review and Approval Tracking

Reviewers Recommending the Plan for Approval

1) Stephen Allen — Date Nov 23, 2010
Stephen Allen, P.G., Geoscientist, Groundwater Technical Assistance

2) [signature] — Date 11/29/2010
David Wuerch, P.G., Geologist, Groundwater Technical Assistance

3) Meredith E. Worthen — Date 11/23/2010
Meredith Worthen, Program Specialist, Groundwater Technical Assistance

Recommended for Approval

1) Rima Petrossian — Date 12/09/2010
Rima Petrossian, P.G., Manager, Groundwater Technical Assistance

2) William R. Hutchison — Date 12/10/10
Bill Hutchison, Ph.D., P.G., P.E., Director, Groundwater Resources Division

3) [signature] — Date 12/14/10
Robert E. Mace, Ph.D., P.G., Deputy Executive Administrator, Water Science & Conservation

Approval

The groundwater conservation district management plan document submitted by:

Trinity Glen Rose Groundwater Conservation District

for approval, as administratively complete under the requirements of 31 TAC Ch. 356, has been found by me, to be in fulfillment of said requirements.

[signature] — Date 12/14/10
J. Kevin Ward, Executive Administrator, Texas Water Development Board

Texas Water Development Board

Groundwater Conservation District Management Plan Checklist

Trinity Glen Rose GCD ☑ Official review ☐ Prereview

Reviewing staff: David Wuerch

Date plan received: 10/26/10

Date plan reviewed: 11/22/10

	Citation of rule	Citation of statute	Present in plan and administratively complete	Citation of source or method	Evidence that best available data was used	Notes
Is a paper hard copy of the plan available?	31 TAC §356.6(a)(1)		Yes			
Is an electronic copy of the plan available?	31 TAC §356.6(a)(1)		Yes			
1. Is an estimate of the managed available groundwater in the District based on the desired future condition of the aquifer(s) included (if available from the TWDB)?	31 TAC §356.5(a)(5)(A)	TWC §36.1071(e)(3)(A)	N/A	N/A	N/A	p.8
2. Is an estimate of the amount of groundwater being used within the District on an annual basis for at least the most recent five years, included?	31 TAC §356.5(a)(5)(B); §356.2(2)	TWC §36.1071(e)(3)(B)	Yes	TWDB WUS and District data	Yes	p.12,p.43-54
3. Is an estimate of the annual amount of recharge, from precipitation, to the groundwater resources within the District included?	31 TAC §356.5(a)(5)(C)	TWC §36.1071(e)(3)(C)	Yes	GAM 09-032	Yes	p.15 Table 3
4. For each aquifer in the district, is an estimate of the annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams and rivers, included?	31 TAC §356.5(a)(5)(D)	TWC §36.1071(e)(3)(D)	Yes	GAM 09-032	Yes	p.15 Table 3
5. Is an estimate of the annual volume of flow	31 TAC §356.5(a)(5)(E)	TWC §36.1071(e)(3)(E)				
a) into the District within each aquifer,			Yes	GAM 09-032	Yes	p.15 Table 3
b) out of the District within each aquifer,			Yes	GAM 09-032	Yes	p.15 Table 3
c) and between aquifers in the District,			Yes	GAM 09-032	Yes	p.15 Table 3
if a groundwater availability model is available, included?						
6. Is an estimate of the projected surface water supply within the District according to the most recently adopted state water plan included?	31 TAC §356.5(a)(5)(F)	TWC §36.1071(e)(3)(F)	Yes	2007 SWP	Yes	Appendix B
7. Is an estimate of the projected total demand for water within the District according to the most recently adopted state water plan included?	31 TAC §356.5(a)(5)(G)	TWC §36.1071(e)(3)(G)	Yes	2007 SWP	Yes	Appendix B
8. Did the District consider the water supply needs that are included in the adopted state water plan?	31 TAC §356.5(a)(7)	TWC §36.1071(e)(4)	Yes			Appendix B
9. Did the District consider the water management strategies that are included in the adopted state water plan?	31 TAC §356.5(a)(7)	TWC §36.1071(e)(4)	Yes			Appendix B
10. Are the actions, procedures, performance, and avoidance necessary to effectuate the management plan, including specifications and proposed rules, all specified in as much detail as possible, included in the plan?	31 TAC §356.5(a)(4); §356.6(a)(3)	TWC §36.1071(e)(2)	Yes			p.18 web link to rules.
11. Was a certified copy of the District's resolution adopting the plan included?	31 TAC §356.6(a)(2)		Yes			Appendix B
12. Was evidence that the plan was adopted, after notice and hearing, included?	31 TAC §356.6(a)(5)	TWC §36.1071(a)	Yes			Appendix B
13. Was evidence that, following notice and hearing, the District coordinated in the development of its management plan with all surface water management entities, included?	31 TAC §356.6(a)(4)	TWC §36.1071(a)	Yes			Appendix B
14. Has any available site-specific information been provided by the district to the executive administrator for review and comment before being used in the management plan when developing the estimates required in subsection 31 TAC §§356.5(a)(5)(C), (D), and (E) ?	31 TAC §356.5(b)	TWC §36.1071(h)	N/A			

Mark an affirmative response with YES
Mark a negative response with NO
Mark a non-applicable checklist item with N/A

Management goals required to be addressed	Management goal (as applicable) present in plan	Methodology for tracking progress 31TAC §356.5(a)(6)	Management objective(s)	Performance standard(s)	Notes
Providing the most efficient use of groundwater 31 TAC 356.5(a)(1)(A); TWC §36.1071(a)(1)	15) Yes	16) p.19 Annual Report	17) Yes	18) Yes	p.20
Controlling and preventing waste of groundwater 31 TAC 356.5(a)(1)(B); TWC §36.1071(a)(2)	19) Yes	20) p.19 Annual Report	21) Yes	22) Yes	p.20
Controlling and preventing subsidence 31 TAC 356.5(a)(1)(C); TWC §36.1071(a)(3)	23) N/A	24) N/A	25) N/A	26) N/A	p.21
Addressing conjunctive surface water management issues 31 TAC 356.5(a)(1)(D); TWC §36.1071(a)(4)	27) Yes	28) p.19 Annual Report	29) Yes	30) Yes	p.21
Addressing natural resource issues that impact the use and availability of groundwater and which are impacted by the use of groundwater 31 TAC 356.5(a)(1)(E); TWC §36.1071(a)(5)	31) N/A	32) N/A	33) N/A	34) N/A	p.21
Addressing drought conditions 31 TAC 356.5(a)(1)(F); §36.1071(a)(6)	35) Yes	36) p.19 Annual Report	37) Yes	38) Yes	p.21-22
Addressing	39)	40)	41)	42)	
a) conservation,	39a) Yes	40a) p.19 Annual Report	41a) Yes	42a) Yes	p.22-23
b) recharge enhancement,	39b) Yes	40b) p.19 Annual Report	41b) Yes	42b) Yes	p. 23
c) rainwater harvesting,	39c) Yes	40c) p.19 Annual Report	41c) Yes	42c) Yes	p.23
d) precipitation enhancement, and	39d) N/A	40d) N/A	41d) N/A	42d) N/A	p.23
e) brush control	39e) Yes	40e) p.19 Annual Report	41e) Yes	42e) Yes	p.23-24
where appropriate and cost effective 31 TAC 356.5(a)(1)(G); TWC §36.1071(a)(7)					
Addressing in a quantitative manner the desired future conditions of the groundwater resources in the District (if available from the districts in the groundwater management area) 31 TAC 356.5(a)(1)(H); TWC §36.1071(a)(8)	43) N/A	44) N/A	45) N/A	46) N/A	p.24
Does the plan identify the performance standards and management objectives for effecting the plan? 31 TAC §356.5(a)(2)&(3); TWC §36.1071(e)(1)			47) Yes	48) Yes	p.20-24

Mark required elements that are present in the plan with YES
Mark any required elements that are missing from the plan with NO
Mark Plan elements that have been indicated as not applicable to the district with (N/A)

Texas Water Development Board

Groundwater Conservation District Management Plan Checklist

District name: Trinity Glen Rose GCD ☑ Official review ☐ Prereview

Reviewing staff: Stephen Allen, SB, DW

Date plan received: October 26, 2010

Date plan reviewed: November 23, 2010

	Citation of rule	Citation of statute	Present in plan and administratively complete	Citation of source or method	Evidence that best available data was used	Notes
Is a paper hard copy of the plan available?	31 TAC §356.6(a)(1)		yes			yes
Is an electronic copy of the plan available?	31 TAC §356.6(a)(1)		yes			yes, cd
1. Is an estimate of the managed available groundwater in the District based on the desired future condition of the aquifer(s) included (if available from the TWDB)?	31 TAC §356.5(a)(5)(A)	TWC §36.1071(e)(3)(A)	n/a	n/a	n/a	p. 8, no MAGs, Copy of DFC resolution for GMA 9 in App A
2. Is an estimate of the amount of groundwater being used within the District on an annual basis for at least the most recent five years, included?	31 TAC §356.5(a)(5)(B); §356.2(2)	TWC §36.1071(e)(3)(B)	yes	twdb wus	yes	p. 12, table 1; App. B, pp. 43-54
3. Is an estimate of the annual amount of recharge, from precipitation, to the groundwater resources within the District included?	31 TAC §356.5(a)(5)(C)	TWC §36.1071(e)(3)(C)	yes	GAM Run 09-032	yes	p. 15, table 3
4. For each aquifer in the district, is an estimate of the annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams and rivers, included?	31 TAC §356.5(a)(5)(D)	TWC §36.1071(e)(3)(D)	yes	GAM Run 09-032	yes	p. 15, table 3
5. Is an estimate of the annual volume of flow	31 TAC §356.5(a)(5)(E)	TWC §36.1071(e)(3)(E)				
a) into the District within each aquifer,			yes	GAM Run 09-032	yes	p. 15, table 3
b) out of the District within each aquifer,			yes	GAM Run 09-032	yes	p. 15, table 3
c) and between aquifers in the District,			yes	GAM Run 09-032	yes	p. 15, table 3
if a groundwater availability model is available, included?						
6. Is an estimate of the projected surface water supply within the District according to the most recently adopted state water plan included?	31 TAC §356.5(a)(5)(F)	TWC §36.1071(e)(3)(F)	yes	SWP 2007	yes	p. 13; App. B, pp. 33-35
7. Is an estimate of the projected total demand for water within the District according to the most recently adopted state water plan included?	31 TAC §356.5(a)(5)(G)	TWC §36.1071(e)(3)(G)	yes	SWP 2007	yes	p. 13, table 2; p. 16, table 4; App. B, pp. 30-32
8. Did the District consider the water supply needs that are included in the adopted state water plan?	31 TAC §356.5(a)(7)	TWC §36.1071(e)(4)	yes			App. B, pp. 36-38
9. Did the District consider the water management strategies that are included in the adopted state water plan?	31 TAC §356.5(a)(7)	TWC §36.1071(e)(4)	yes			App. B, pp. 39-42
10. Are the actions, procedures, performance, and avoidance necessary to effectuate the management plan, including specifications and proposed rules, all specified in as much detail as possible, included in the plan?	31 TAC §356.5(a)(4); §356.6(a)(3)	TWC §36.1071(e)(2)	yes			p. 18, rules are at: www.trinityglenrose.com/district-rules
11. Was a certified copy of the District's resolution adopting the plan included?	31 TAC §356.6(a)(2)		yes			10/14/2010
12. Was evidence that the plan was adopted, after notice and hearing, included?	31 TAC §356.6(a)(5)	TWC §36.1071(a)	yes			10/7/2010, postings of hearing at 3 county courthouses
13. Was evidence that, following notice and hearing, the District coordinated in the development of its management plan with all surface water management entities, included?	31 TAC §356.6(a)(4)	TWC §36.1071(a)	yes			copy of email dated 11/18/2010 indicates that digital copy of the plan was sent to the entities
14. Has any available site-specific information been provided by the district to the executive administrator for review and comment before being used in the management plan when developing the estimates required in subsection 31 TAC §§356.5(a)(5)(C), (D), and (E) ?	31 TAC §356.5(b)	TWC §36.1071(h)	n/a			

Mark an affirmative response with YES
Mark a negative response with NO
Mark a non-applicable checklist item with N/A

Management goals required to be addressed	Management goal (as applicable) present in plan	Methodology for tracking progress 31TAC §356.5(a)(6)	Management objective(s)	Performance standard(s)	Notes
Providing the most efficient use of groundwater 31 TAC 356.5(a)(1)(A); TWC §36.1071(a)(1)	15) YES	16) YES p. 19	17) YES	18) YES	p. 20
Controlling and preventing waste of groundwater 31 TAC 356.5(a)(1)(B); TWC §36.1071(a)(2)	19) YES	20) YES p. 19	21) YES	22) YES	p. 20
Controlling and preventing subsidence 31 TAC 356.5(a)(1)(C); TWC §36.1071(a)(3)	23) N/A	24) N/A	25) N/A	26) N/A	p. 21
Addressing conjunctive surface water management issues 31 TAC 356.5(a)(1)(D); TWC §36.1071(a)(4)	27) YES	28) YES p. 19	29) YES	30) YES	p. 21
Addressing natural resource issues that impact the use and availability of groundwater and which are impacted by the use of groundwater 31 TAC 356.5(a)(1)(E); TWC §36.1071(a)(5)	31) N/A	32) N/A	33) N/A	34) N/A	p. 21
Addressing drought conditions 31 TAC 356.5(a)(1)(F); §36.1071(a)(6)	35) YES	36) YES p. 19	37) YES	38) YES	p. 21-22
Addressing	39)	40)	41)	42)	
a) conservation,	39a) YES	40a) YES p. 19	41a) YES	42a) YES	p. 22-23
b) recharge enhancement,	39b) YES	40b) YES p. 19	41b) YES	42b) YES	p. 23
c) rainwater harvesting,	39c) YES	40c) YES p. 19	41c) YES	42c) YES	p. 23
d) precipitation enhancement, and	39d) N/A	40d) N/A	41d) N/A	42d) N/A	p. 23
e) brush control	39e) YES	40e) YES p. 19	41e) YES	42e) YES	p. 23-24
where appropriate and cost effective 31 TAC 356.5(a)(1)(G); TWC §36.1071(a)(7)					
Addressing in a quantitative manner the desired future conditions of the groundwater resources in the District (if available from the districts in the groundwater management area) 31 TAC 356.5(a)(1)(H); TWC §36.1071(a)(8)	43) N/A	44) N/A p. 19	45) N/A	46) N/A	p. 24
Does the plan identify the performance standards and management objectives for effecting the plan? 31 TAC §356.5(a)(2)&(3); TWC §36.1071(e)(1)			47) YES	48) YES	

Mark required elements that are present in the plan with YES
Mark any required elements that are missing from the plan with NO
Mark Plan elements that have been indicated as not applicable to the district with (N/A)

Texas Water Development Board

Groundwater Conservation District Management Plan Checklist

District name: Trinity - Glen Rose Groundwater Conservation District - OFFICIAL ☑ Official review ☐ Prereview

Reviewing staff: Meredith Worthen

Date plan received: by TWDB 10/26/10; by mew 11/19/2010

Date plan reviewed: meeting on 11/23/2010

	Citation of rule	Citation of statute	Present in plan and administratively complete	Citation of source or method	Evidence that best available data was used	Notes
Is a paper hard copy of the plan available?	31 TAC §356.6(a)(1)		Yes			date stamped TWDB 10/26/10
Is an electronic copy of the plan available?	31 TAC §356.6(a)(1)		Yes			plan submitted on CD
1. Is an estimate of the managed available groundwater in the District based on the desired future condition of the aquifer(s) included (if available from the TWDB)?	31 TAC §356.5(a)(5)(A)	TWC §36.1071(e)(3)(A)	N/A	N/A	N/A	p. 8 - DFC in Appendix A (adopted 7/26/10) - MAG not yet available; DFC for the Trinity Aquifer in GMA 9, "allow for an increase in average drawdown of approximately 30 feet through 2060"
2. Is an estimate of the amount of groundwater being used within the District on an annual basis for at least the most recent five years, included?	31 TAC §356.5(a)(5)(B); §356.2(2)	TWC §36.1071(e)(3)(B)	Yes	District Data & WUS	Yes	p. 12 - Table 1 from District pumpage database; Appendix B - WUS Historical Pumpage tables pp.43-48 & WUS Historical Water Use tables pp.49-54
3. Is an estimate of the annual amount of recharge, from precipitation, to the groundwater resources within the District included?	31 TAC §356.5(a)(5)(C)	TWC §36.1071(e)(3)(C)	Yes	GAM Run 09-032	Yes	recharge discussion pp. 14-15; GAM results in Table 3 on p. 15
4. For each aquifer in the district, is an estimate of the annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams and rivers, included?	31 TAC §356.5(a)(5)(D)	TWC §36.1071(e)(3)(D)	Yes	GAM Run 09-032	Yes	GAM results in Table 3 on p. 15
5. Is an estimate of the annual volume of flow	31 TAC §356.5(a)(5)(E)	TWC §36.1071(e)(3)(E)				
a) into the District within each aquifer,			Yes	GAM Run 09-032	Yes	GAM results in Table 3 on p. 15
b) out of the District within each aquifer,			Yes	GAM Run 09-032	Yes	GAM results in Table 3 on p. 15
c) and between aquifers in the District,			Yes	GAM Run 09-032	Yes	GAM results in Table 3 on p. 15
if a groundwater availability model is available, included?						
6. Is an estimate of the projected surface water supply within the District according to the most recently adopted state water plan included?	31 TAC §356.5(a)(5)(F)	TWC §36.1071(e)(3)(F)	Yes	SWP 2007	Yes	p. 13; Tables in Appendix B - pp.33-35
7. Is an estimate of the projected total demand for water within the District according to the most recently adopted state water plan included?	31 TAC §356.5(a)(5)(G)	TWC §36.1071(e)(3)(G)	Yes	SWP 2007	Yes	p. 13, pp. 15-16, & Appendix B - pp.30-32
8. Did the District consider the water supply needs that are included in the adopted state water plan?	31 TAC §356.5(a)(7)	TWC §36.1071(e)(4)	Yes			Tables in Appendix B - pp.36-38
9. Did the District consider the water management strategies that are included in the adopted state water plan?	31 TAC §356.5(a)(7)	TWC §36.1071(e)(4)	Yes			Tables Appendix B - pp.39-42
10. Are the actions, procedures, performance, and avoidance necessary to effectuate the management plan, including specifications and proposed rules, all specified in as much detail as possible, included in the plan?	31 TAC §356.5(a)(4); §356.6(a)(3)	TWC §36.1071(e)(2)	Yes			pp. 18-19 Link to rules included in this section; Rules on their website include some (proposed?) rule section headers that are "in development," according to the district
11. Was a certified copy of the District's resolution adopting the plan included?	31 TAC §356.6(a)(2)		Yes			resolution adopted 14 Oct 2010
12. Was evidence that the plan was adopted, after notice and hearing, included?	31 TAC §356.6(a)(5)	TWC §36.1071(a)	Yes			agenda for public hearing and meeting posted with Bexar, Comal & Kendall County Clerks
13. Was evidence that, following notice and hearing, the District coordinated in the development of its management plan with all surface water management entities, included?	31 TAC §356.6(a)(4)	TWC §36.1071(a)	Yes			copy of email dated 11/18/10 indicates that digital copy of the plan was sent to SARA, SAWS, GBRA, City of Fair Oaks Ranch, Bexar Met
14. Has any available site-specific information been provided by the district to the executive administrator for review and comment before being used in the management plan when developing the estimates required in subsection 31 TAC §§356.5(a)(5)(C), (D), and (E) ?	31 TAC §356.5(b)	TWC §36.1071(h)	N/A			

Mark an affirmative response with YES
Mark a negative response with NO
Mark a non-applicable checklist item with N/A

Management goals required to be addressed	Management goal (as applicable) present in plan	Methodology for tracking progress 31TAC §356.5(a)(6)	Management objective(s)	Performance standard(s)	Notes
Providing the most efficient use of groundwater 31 TAC 356.5(a)(1)(A); TWC §36.1071(a)(1)	15) Yes	16) Yes p. 19	17) Yes	18) Yes	p. 20 - Goal 1
Controlling and preventing waste of groundwater 31 TAC 356.5(a)(1)(B); TWC §36.1071(a)(2)	19) Yes	20) Yes p. 19	21) Yes	22) Yes	pp. 20-21 - Goal 2
Controlling and preventing subsidence 31 TAC 356.5(a)(1)(C); TWC §36.1071(a)(3)	23) N/A	24) N/A	25) N/A	26) N/A	p. 21 - Goal 3 not applicable
Addressing conjunctive surface water management issues 31 TAC 356.5(a)(1)(D); TWC §36.1071(a)(4)	27) Yes	28) Yes p. 19	29) Yes	30) Yes	p. 21 - Goal 4
Addressing natural resource issues that impact the use and availability of groundwater and which are impacted by the use of groundwater 31 TAC 356.5(a)(1)(E); TWC §36.1071(a)(5)	31) N/A	32) N/A	33) N/A	34) N/A	p. 21 - Goal 5 not applicable
Addressing drought conditions 31 TAC 356.5(a)(1)(F); §36.1071(a)(6)	35) Yes	36) Yes p. 19	37) Yes	38) Yes	pp. 21-22 - Goal 6
Addressing	39)	40)	41)	42)	
a) conservation,	39a) Yes	40a) Yes p. 19	41a) Yes	42a) Yes	pp. 22-23 - Goal 7, Objectives 7.1, 7.2, & 7.3
b) recharge enhancement,	39b) Yes	40b) Yes p. 19	41b) Yes	42b) Yes	p. 23 - Goal 7, Objective 7.4
c) rainwater harvesting,	39c) Yes	40c) Yes p. 19	41c) Yes	42c) Yes	p. 23 - Goal 7, Objective 7.5
d) precipitation enhancement, and	39d) N/A	40d) N/A	41d) N/A	42d) N/A	p. 23 - not applicable
e) brush control	39e) YES	40e) YES p. 19	41e) YES	42e) YES	pp. 23-24 - Goal 7, Objective 7.6
where appropriate and cost effective 31 TAC 356.5(a)(1)(G); TWC §36.1071(a)(7)					
Addressing in a quantitative manner the desired future conditions of the groundwater resources in the District (if available from the districts in the groundwater management area) 31 TAC 356.5(a)(1)(H); TWC §36.1071(a)(8)	43) N/A	44) N/A	45) N/A	46) N/A	p. 24 - Goal 8 - not applicable
Does the plan identify the performance standards and management objectives for effecting the plan? 31 TAC §356.5(a)(2)&(3); TWC §36.1071(e)(1)			47) Yes	48) Yes	

Mark required elements that are present in the plan with YES
Mark any required elements that are missing from the plan with NO
Mark Plan elements that have been indicated as not applicable to the district with (N/A)

Trinity Glen Rose Groundwater Conservation District

Member	District	Position
Brad Groves	District 2	President
Jorge H. Gonzalez	District 5	Vice President
David Anderson	District 4	Treasurer
Don Reddout	District 1	Secretary
Harris Dickey	District 3	Asst. Secretary/Treasurer

Co-Managers

George Wissmann
Jennifer Youngblood

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www.trinityglenrose.com

Trinity Glen Rose Groundwater Conservation District Management Plan

Revision Record

Date Adopted	Effective Date	Version/Resolution
October 14, 2004	October 14, 2004	Original Adoption, TGRGCD Board Resolution
October 14, 2010	October 14, 2010	Re-adoption, TGRGCD Board Resolution

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Appendix

List of Maps

List of Tables

TIME PERIOD FOR THIS PLAN

This plan becomes effective upon adoption by the Trinity Glen Rose Groundwater Conservation District Board of Directors and subsequent approval by the Texas Water Development Board (TWDB). This plan incorporates a planning period of ten years in accordance with 31TAC §356.5(a). After five years, the plan will be reviewed for consistency with the applicable Regional Water Plans and the State Water Plan and shall be readopted with or without amendments. The plan may be revised at anytime in order to maintain such consistency or as necessary to address any new or revised data, Groundwater Availability Models, Desired Future Conditions, Managed Available Groundwater, or District management strategies.

DISTRICT MISSION

The Trinity Glen Rose Groundwater Conservation District (TGRGCD or District) was created in 2001 during the 77th Texas Legislature and confirmed by voters in 2002. The District was created in response to the Texas Natural Resources Conservation Commission designating a portion of the Trinity Aquifer within Bexar Country as a Priority Groundwater Management Area (PGMA). The District was created for the purpose of conserving, preserving, recharging, protecting and preventing waste of groundwater from the Trinity Aquifer in Northern Bexar County. Additionally, the District is charged with developing and implementing regulatory programs for the resources within District boundaries. With continued growth in Northern Bexar County, the District is challenged with balancing the needs of families and business with the need to maintain the water resources in this area. To effectively meet these needs, the District's mission and activities include conducting research, collecting and analyzing well water and aquifer data, issuing permits for well drilling, modification, and plugging, developing education and conservation programming, and working with stakeholders to ensure a comprehensive management strategy.

STATEMENT OF GUIDING PRINCIPLES

The TGRGCD was created in order that appropriate groundwater management techniques and strategies could be implemented at the local level to address groundwater issues or problems within the District. The District has considered data from the TWDB's Groundwater Availability Models (GAMs), input from the Groundwater Management Area 9 cooperative planning process, public input, and the most current and accurate site-specific data available in the development of this plan. This plan serves as a guideline for the District to ensure greater understanding of local aquifer conditions, development of groundwater management concepts and strategies, and subsequent implementation of appropriate groundwater management policies.

COMMITMENT TO IMPLEMENT GROUNDWATER MANAGEMENT PLAN

To address potential groundwater quantity and quality issues, the District is committed to, and will actively pursue, the groundwater management strategies identified in this management plan. These management strategies will be implemented in conjunction with District Rules, policies, and activities in order to effectively manage and regulate the drilling of wells, production of groundwater within the District, protection of recharge features, pollution and waste prevention, and the possible transfer of water out of the District. Additionally, the District will encourage conservation practices and efficient use of water resources, assure compliance with the District Drought Contingency Plan, and provide for the identification of any critical

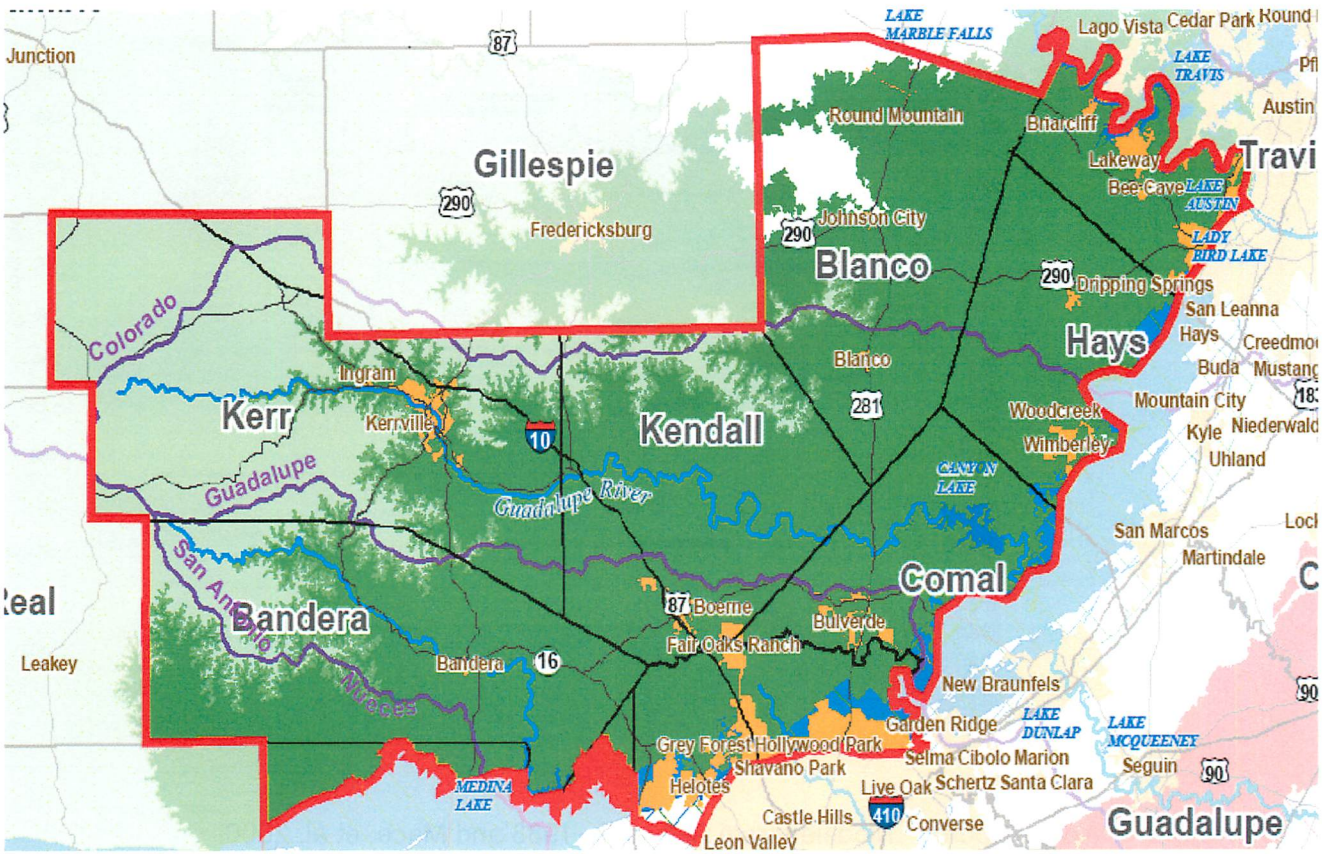
groundwater depletion areas within the District. To the greatest extent practical, the District will cooperate with and coordinate its management plan and regulatory policies with adjacent groundwater districts, Groundwater Management Area 9, Regional Water Planning Groups, local water purveyors and stakeholders, and adjacent counties with similar aquifers and/or groundwater usage.

JOINT PLANNING IN MANAGEMENT AREA

Not later than September 1, 2010, and every five years thereafter, the districts in GMA9 shall consider groundwater availability models and other data or information for the management area and shall establish desired future conditions for the relevant aquifers within the management area. In establishing the desired future conditions of the aquifers under this section, the districts shall consider uses or conditions of an aquifer within the management area that differ substantially from one geographic area to another.

The GMA may establish different desired future conditions for each aquifer, subdivision of an aquifer, or geologic strata located in whole or in part within the boundaries of the management area; or each geographic area overlying an aquifer in whole or in part or subdivisions of an aquifer within the boundaries of the management area. The Texas Water Development Board will calculate the Managed Available Groundwater (MAG) from the adopted Desired Future Conditions (DFC) of the management area.

Map 1: GROUNDWATER MANAGEMENT AREA (GMA) 9:

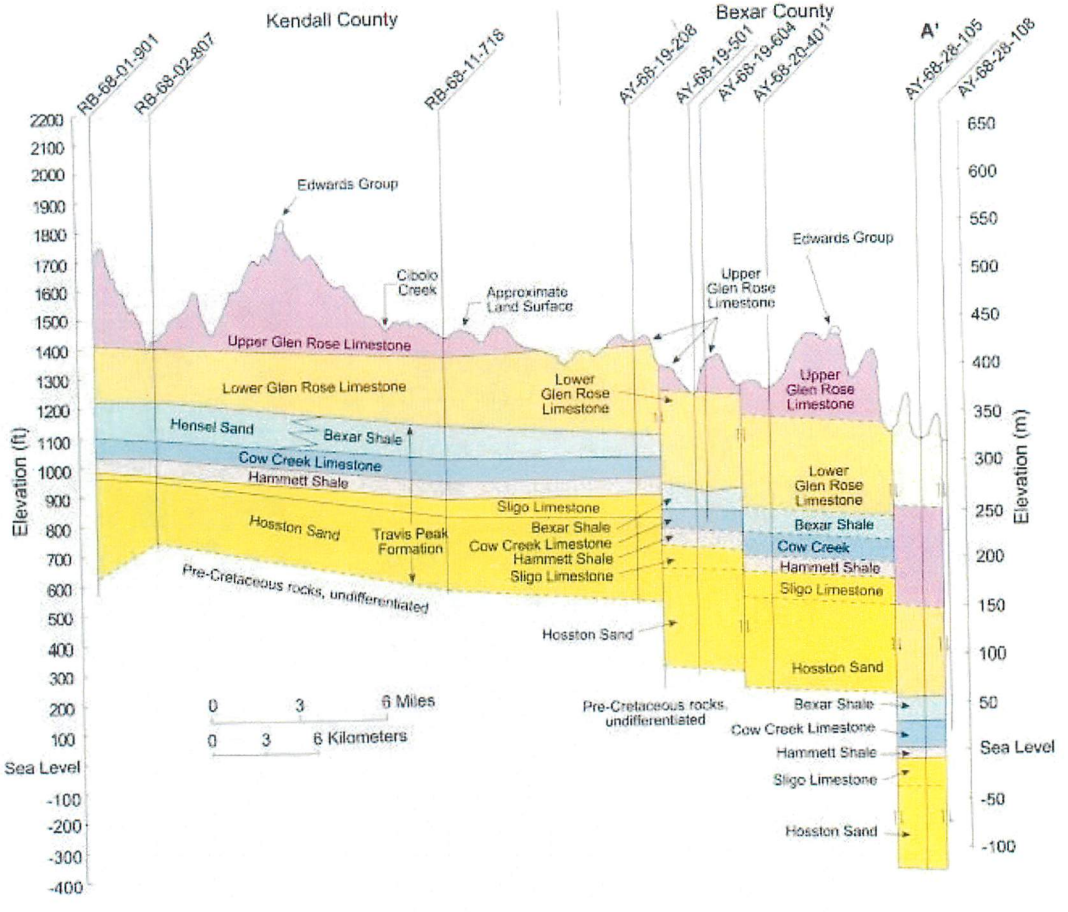


Source: TWDB; http://www.twdb.state.tx.us/mapping/maps/pdf/gma/GMA_9.pdf

ESTIMATE OF MANAGED AVAILABLE GROUNDWATER

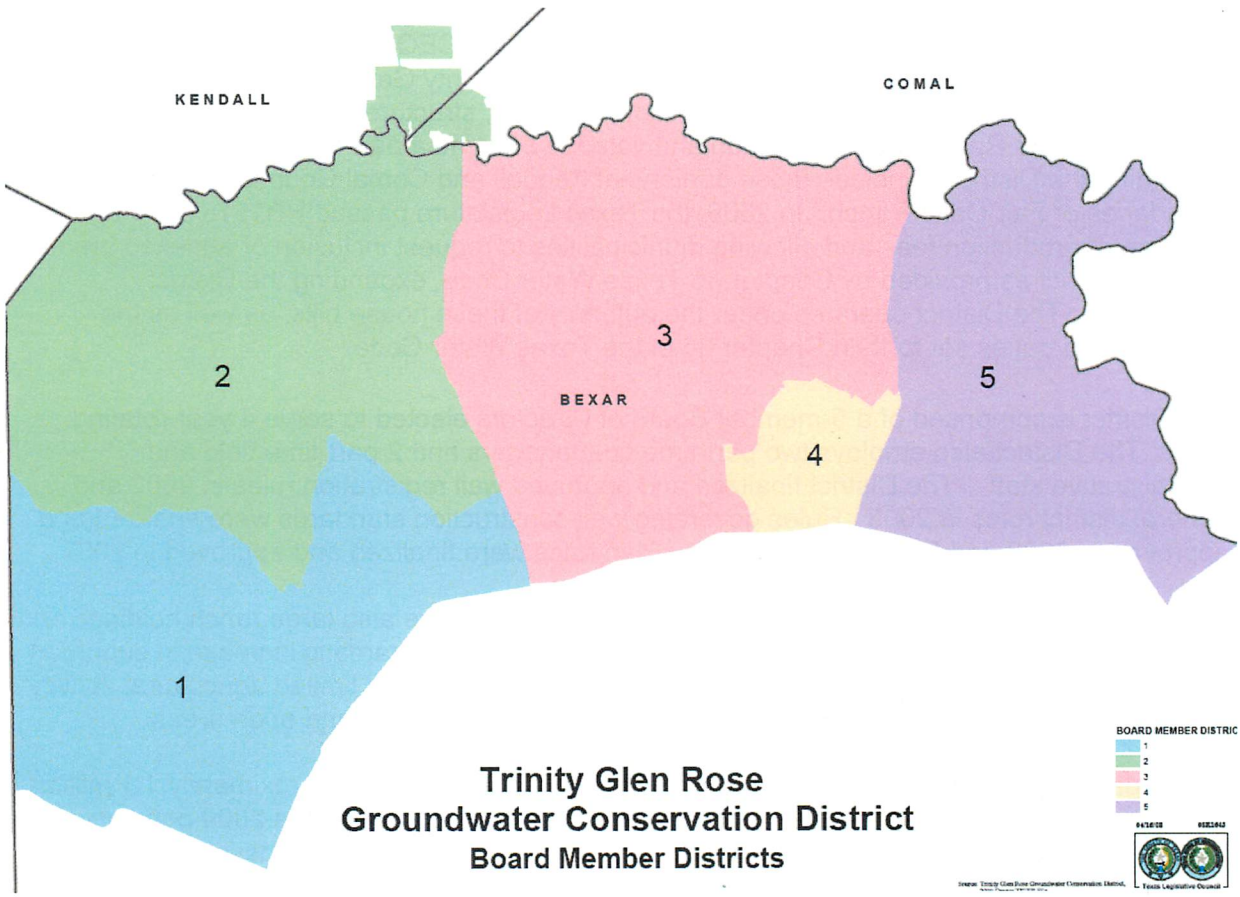
The Desired Future Conditions for the aquifers located within the District boundaries and within Groundwater Management Area 9 has been established by Resolution #072610-01 (see appendix A). TGRGCD will amend this section of the management plan once TWDB provides an estimate of Managed Available Groundwater based on the DFCs.

Map 2: STRATIGRAPHIC CROSS SECTIONS OF THE HILL COUNTRY AREA:



Source: Modified from Ashworth, 1983 and Mace, et al, 2000.

Map 3: DISTRICT BOUNDARY MAP:



Source: Texas Legislative Council, TGRGCD 2000 Census TIGER File

GENERAL DESCRIPTION OF THE DISTRICT

The Trinity Glen Rose Groundwater Conservation District is located in Northern Bexar County and portions of Kendall and Comal Counties. The District covers approximately 311 square miles (199,574 acres). In 2001, the Texas Legislature passed House Bill (HB) 2005 creating the TGRGCD, in part due to a response to the State of Texas (TCEQ) designating the portion of the Trinity Group of Aquifers lying within Bexar County as a Priority Groundwater Management Area (PGMA). HB2005 outlined the District's creation, authority, structure, and funding. In 2004, the City of Fair Oaks Ranch held an election and voted to become a part of the TGRGCD, expanding the District to include those portions of Kendall and Comal Counties within the boundaries of Fair Oaks Ranch. In 2009, the Texas Legislature passed HB1518 allowing an increase of production fees and allowing municipalities to request inclusion of annexed areas into the District as provided by Chapter 36 Texas Water Code, expanding the District boundaries. The District operates under the authority of these house bills, as well as the authority and duties set forth in Chapter 36 of the Texas Water Code.

The District is comprised of a 5-member Board of Directors elected to serve 4 year rotating terms. The District also employs two part-time co-managers and 2 part-time field and administrative staff. The District finalized and approved well registration rules in 2002 and general district rules in 2003. Rules governing well construction standards were finalized and approved in 2005 and Drought Contingency Plan rules were finalized and approved in 2007.

North Bexar County's economy is primarily residential. There are also large ranch holdings and military reservations in the area. The past 15 years has seen a dramatic increase in suburban development and increased residential population density. There is limited agricultural activity in the area that consists of small pastures, grazing, and native grassland open areas.

The largest city within the District is San Antonio with a population of approximately 1.1 million.[1] According to the Texas State Data Center and the State Demographer, the 2009 population for San Antonio was 1.6 million, an increase of over 17% since the national census in 2000. Approximately 111,000 of the 1.1 million residents live within the District's boundaries. The remainder of the District is made up of smaller cities including Fair Oaks Ranch and Grey Forest, as well as smaller subdivisions and rural residential population. The District encompasses a high-growth area with on-going plans for future development.

North Bexar County lies within the San Antonio River basin and for statewide water planning purposes it is part of the South Central Texas Regional Water Planning Group (Region L). The District is also the southernmost portion of the Groundwater Management Area (GMA) 9. The region is unique in comparison to other areas within GMA9 due to the population density, impact of increasing development, and recharge impact from Cibolo Creek Basin.

TOPOGRAPHY AND DRAINAGE

The primary watershed in North Bexar County is the San Antonio River which is a tributary to the Guadalupe River. Surface drainage within the District is generally from northwest to southeast. Cibolo Creek is a tributary of the San Antonio River and drains from northwest to southeast across the Trinity Group of Aquifers and forms a large portion of the boundary between North Bexar County and adjacent counties. Cibolo Creek is a major recharge feature

[1] 2000 US Census

of the Trinity Group of Aquifers in North Bexar County and eventually confluences with the San Antonio River.

The major geologic feature located within the District's boundaries is the Edwards Plateau. This broad, topographically high area is composed of Cretaceous age limestone, dolomite and marl. Deep erosion and down cutting by streams and rivers in the area have resulted in the Edwards Plateau being perceptibly higher than adjacent areas. The plateau is the southernmost extension of the Great Plains, extending westward from the Colorado River to the Pecos, and covers many Central and West Texas counties. It is bordered on the northeast by the pre-Cambrian rocks of the Llano Uplift. North Bexar County lies near the southeastern edge of the Plateau.

Elevation within the District ranges from a low of approximately 730 feet above sea level where the Cibolo Creek leaves North Bexar County to the southeast to approximately 1,892 feet above sea level at Mount Smith in the northwestern portion of the district.

WATER RESOURCES WITHIN THE TGRGCD

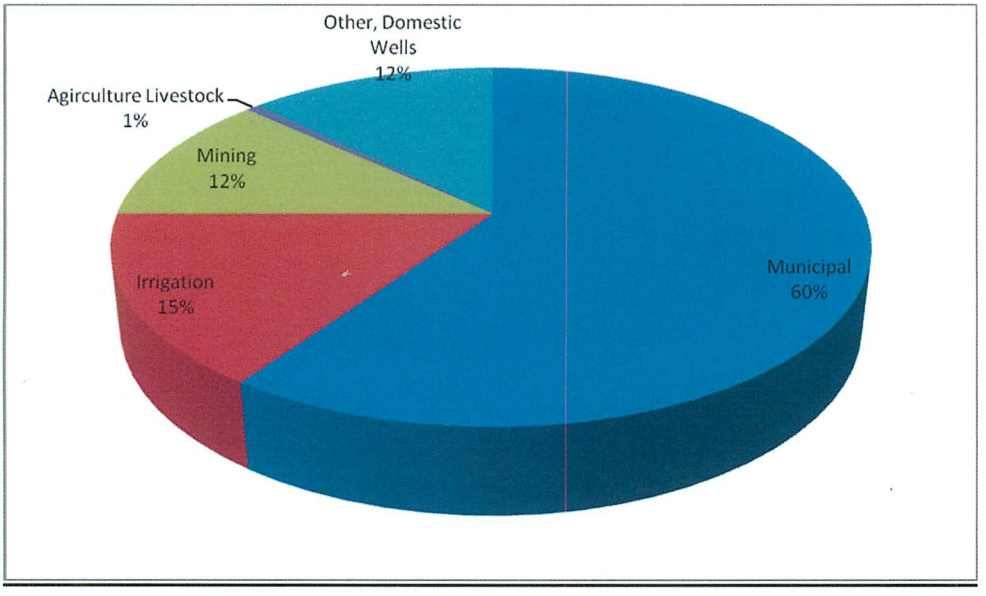
GROUNDWATER RESOURCES AND USAGE IN NORTHERN BEXAR COUNTY

Within the TGRGCD, the only major aquifer that provides groundwater to county residents is the Trinity Group of Aquifers consisting of the Upper Glen Rose Limestone, Lower Glen Rose Limestone, Cow Creek Limestone, Sligo Limestone and Hosston Sand. Well depths vary from shallow, hand-dug wells to drilled wells from 100 feet deep to over 1,600 feet deep based on TWDB records for Bexar County. Depths are highly variable even within the same aquifer and depend entirely on site-specific topography and geology, especially faulting. Water quality and water quantity also vary greatly throughout the District. Water quality within a specific aquifer can be defined or characterized in a general sense, but can still be affected by local geology, hydrology and structure.

2

Table 1: TGRGCD Historical Groundwater Usage (in acre feet) – 2004 - 2009[2]

	2004	2005	2006	2007	2008	2009	Total
Municipal	6,442	7,779	7,687	6,427	8,405	6,245	42,985
Irrigation	1,327	1,696	2,204	1,458	2,360	2,069	11,114
Mining	867	1,712	1,775	1,698	1,229	1,230	8,511
Agriculture	100	100	100	100	100	100	600
Other	1,500	1,500	1,500	1,500	1,500	1,500	9,000
Total	10,236	12,787	13,266	11,183	13,594	11,144	72,210



The projected total annual water availability in North Bexar County is currently predicted at 70,060 ac-ft of Trinity Group of Aquifers groundwater, 5,350 ac-ft of surface water (2006), with an additional variable surface water supply of 3,500 ac-ft declining over time, and 8,121 ac-ft from other sources. It is important to note that the water available from other sources will

[2] Trinity Glen Rose Groundwater Conservation District Pumpage Database

increase or decrease depending on demand and the service plans managed by the two major water utilities operating within the District, San Antonio Water System and Bexar Met.

TRINITY GROUP OF AQUIFERS

The Trinity Group of Aquifers in North Bexar County is comprised of the Upper and Lower Glen Rose Limestone, Cow Creek Limestone, Sligo Limestone and the Hosston Sand and is recharged from local precipitation on its outcrop; flow through Cibolo Creek and through the overlying units where it is in the subsurface. Yields vary greatly and are highly dependent on local subsurface physical characteristics. Yields are generally low, less than 20 gpm, but can occasionally be significantly higher, with yields of 600-800 gpm being reported in site-specific areas. Production from Trinity wells is primarily used for municipal, rural domestic, irrigation, and mining demands.

SURFACE WATER RESOURCES AND USAGE IN NORTHERN BEXAR COUNTY

Canyon Lake is the only major surface water supplier within the District. Fair Oaks Ranch has up to 1,850 ac-ft of surface water rights from Canyon Lake (Guadalupe- Blanco River Authority - GBRA), and also claims 39 ac-ft of groundwater from the Trinity Aquifer in Comal County and up to 75 ac-ft of groundwater from Kendall County. San Antonio Water System (SAWS) has up to 4,000 ac-ft of confirmed surface water rights water and up to an additional 4,800 ac-ft of variable term water available from Canyon Lake (GBRA) that declines over time through 2037.

PROJECTED TOTAL WATER DEMAND IN NORTHERN BEXAR COUNTY

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The projected total annual water demand in North Bexar County (Table 2) is currently 15,305 ac-ft. Of this total annual water demand, an estimated current annual demand of 8,121 ac-ft is supplied to water users through existing infrastructure from other sources. As future demands increase, changes in the infrastructure will be necessary. It is projected that the greatest demand on water resources will be from municipal suburban users who will rely on groundwater and other supplies provided by municipal providers. The majority of infrastructure improvements necessary to service these new groundwater users will be provided by either developers or municipal water supply companies. Therefore, it is anticipated that the amount of water supplied at any given time will be primarily related to suburban growth patterns.

Table 2: Projected Total Water Demand in North Bexar County[3]

Aquifer	Basin	Source	YR2000	YR2010	YR2020	YR2030
Trinity Aquifers	SAR	Groundwater	7,184	11,004	15,283	25,181
Other groundwater and Surface Sources	SAR	Groundwater	8,121	17,933	28,348	50,785
Total			**15,305**	**28,937**	**43,631**	**75,966**

[3] SCTRWPG, Region L Regional Water Plan, 2006

RECHARGE OF GROUNDWATER IN NORTHERN BEXAR COUNTY

The annual natural recharge occurring in North Bexar County is thought to be through percolation of rainfall countywide and more localized recharge, along with potentially higher rates of recharge, occurring in the bed of Cibolo Creek and its tributaries. The District is currently unaware of any significant recharge feature in North Bexar County that may be providing a major avenue for recharge other than unnamed sinkholes within Cibolo Creek and some cave/sinkhole structures within the district.

The Draft Cibolo Creek Study prepared by the Army Corp of Engineers in 2005 helps define recharge through the Cibolo Creek area. Additionally, a calculated annual recharge coefficient of approximately 4% of annual rainfall was developed in the September 2000 TWDB report on "Groundwater Availability of the Trinity Group of Aquifers, Hill Country Area, Texas, it seems reasonable for the District to assume a 4% average for North Bexar County Trinity Group Of Aquifers recharge, (Mace, et. al. has done this for the Trinity Group of Aquifers as a whole). John Ashworth also developed a similar annual effective recharge coefficient (also 4% of average annual rainfall of about 29.5 inches) for the Trinity Group of Aquifers in the Texas Department of Water Resources Report 273, Ground-Water Availability of the Lower Cretaceous Formations in the Hill Country of South-Central Texas, January 1983.

These recharge potentials are not to be confused with "recoverable" groundwater. Not all groundwater is recoverable. Some is lost to spring flow and seeps, some is used by plant life while the water is still near the surface, while some is almost permanently retained within the rock itself. However, water retained within the rock itself is a one-time recharge and should not affect available water from further recharge events. For instance, some areas of the Trinity Group of Aquifers may be a rather "tight" formation, particularly in the vertical direction. The Trinity Group of Aquifers in some areas is known to have low porosity and permeability, limited fracturing and faulting, and a complicated stratigraphy that includes layers of rock that reduce transmissivity and retard downward-moving recharge water. In other areas, dissolution of the limestone, cave/sinkhole formation, faulting, fracturing, higher porosity and permeability increase water movement and transmissivities as well as vertical movement. As a result, individual well yields can be very low to very high. Though large quantities of water may be present in the subsurface, much of the groundwater may be unrecoverable in some areas due to these hydrogeologic conditions while in other areas a large portion of the water is recoverable.

As previously mentioned, some water recharging the Trinity Group of Aquifers will be lost, some through biologic uptake and some through discharge at springs and seeps that provide some base flow to local creeks and tributaries. This is water that the aquifer rejects on an average annual basis and is potentially available and can theoretically be retrieved (at least on a short-term basis) without diminishing the average volume of groundwater being recharged to storage or, in other words, without creating a water losing situation within the aquifer. Extensive pumping will also reduce the pressure head and may result in a significantly larger quantity of recharge water actually percolating downward into the aquifer providing recharge that would not be normally available thus providing more reliable, long-term well production. Once pumping exceeds average annual recharge, then the aquifer(s) will be providing water from storage (thought to be a relative large amount) and the groundwater level will decline over time.

Table 3: District Flow Budget and Recharge Variable[4]

Management Plan Requirement	Aquifer	Results (ac-ft/yr)
Estimated annual amount of recharge from precipitation to the District	Trinity Aquifer	41,976
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body, including lakes, streams, and rivers	Trinity Aquifer	10,347
Estimated annual volume of flow into the District within each aquifer in the District	Trinity Aquifer	37,087
Estimated annual volume of flow out of the District within each aquifer in the District	Trinity Aquifer	36,644
Estimated net annual volume of flow between each aquifer in the District	NA	NA

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5c

RECHARGE ENHANCEMENT POTENTIAL

The District is just beginning operations and has yet to assess potential recharge projects in North Bexar County. The District will solicit ideas and information and will investigate any potential recharge enhancement opportunity, natural or artificial, that is brought to the District's attention. Such projects may include, but are not limited to: cleanup or site protection projects at any identified significant recharge feature, encouragement of prudent brush control practices, non-point source pollution mitigation projects, aquifer storage and recovery projects, development of recharge ponds or small reservoirs, and the encouragement of appropriate and practical erosion and sedimentation control at construction projects located near surface streams. One project being studied in the area is the Cibolo Creek Enhancement Project under the direction of the U. S. Army Corps of Engineers in conjunction with SARA, GBRA and SAWS. Studies are currently on going with Phase I, data collection completed and Phase II underway. These studies are to determine if flood damage reduction, ecosystem restoration, aquifer recharge and brush clearing activities may be useful and beneficial in the North Bexar County area.

PROJECTED POPULATION AND WATER DEMANDS IN NORTHERN BEXAR COUNTY

Population and water demand projections are given for Bexar County in the Region L Plan. However, the 2000 Census has provided new population data. This data has been incorporated by the TWDB for an upcoming revision. The following table incorporates those revisions and provides updated North Bexar County populations and Trinity Group of Aquifers annual water demand projections for every ten years beginning in 2000 and ending with 2030. Updated

[4] TWDB, Groundwater Availability Model (GAM) 09-032

annual municipal/rural water demands in Table 3 are based on the new population data multiplied by a Per Capita Rate (calculated from the estimated populations and municipal/rural demands in the original Region L Plan). Estimated demands on Trinity Group of Aquifers groundwater by irrigation, mining, and livestock users have been left unchanged except for estimating the 2030 demands.

Table 4: Population Projections and Trinity Water Demands (acre-feet)

Total Bexar County Population[5]	
2000	1,392,931
2010	1,631,935
2020	1,857,745
2040	2,222,887
2060	2,500,731

North Bexar County Population Projections[6]		**2000**	**2010**	**2020**	**2030**
North Bexar County Trinity Aquifer		23,242	42,946	63,185	105,087
North Bexar County Non-Trinity Aquifer		33,124	80,580	129,903	225,050
Total		**56,366**	**123,526**	**193,088**	**330,137**

North Bexar County Trinity-Water Demands		**2000**	**2010**	**2020**	**2030**
(Per Capita Rate)[7]	gpd	240	208	201	205
Municipal/Rural (Pop. x Per Capita Rate)	ac-ft/yr	6,400	10,163	14,384	24,288
Irrigation[8]		158	153	146	140
Mining		113	125	140	140
Livestock		13	13	13	13
Manufacturing		500	550	600	600
Steam Electric		0	0	0	0
Total Trinity Water Demand	**ac-ft/yr**	**7,184**	**11,004**	**15,283**	**25,181**

Up to the year 2030, total district wide Trinity Group of Aquifers annual water demand is estimated to increase approximately 350%, from 7,184 ac-ft to 25,181 ac-ft. The estimated amount of Trinity Group of Aquifers groundwater currently available within the county is approximately 70,060 ac-ft per year excluding imported water and estimated to remain such through 2030. As a result, there will be an estimated Trinity Group of Aquifer water surplus of 44,879 ac-ft per year in the year 2030. However, there could be areas of the district where demand will be such that some of the aquifers with lower production capability will be in a stressed condition and may not be able to meet higher demand. These areas should be identified as conditions manifest themselves and alternative water supplies investigated.

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[5] TWDB, Consensus Projections adopted by TWDB, September 17, 2003 (Region L IPP)
[6] US Census Bureau; US Census (2000)
[7] TWDB Area GPCD in gallons/day, Water Resources Planning & Information, Water Use Survey
[8] Irrigation, Mining, Livestock, Manufacturing, and Steam Electric Demands based on 2006 Region L Water Plan in ac-ft/year

Much of the growth now occurring in North Bexar County is focused on the major thoroughfares north of Loop 1604 such as Highway 281 North, Interstate 10 West, and Highway 16 to Bandera as well as along the 1604 North corridor. These areas are generally served by municipal suppliers and private water wells producing from the Upper Glen Rose and Lower Glen Rose stratigraphic units of the Trinity Group of Aquifers and the Cow Creek geologic unit. Municipal water systems and the influx of non-Trinity based water will reduce the dependence on the Trinity Group of Aquifers. Continued growth in the region will have an impact on the Trinity Group of Aquifers and may lead to overextension of the resources available. Water availability will require careful monitoring to assure that impact is managed and minimized to the extent possible.

10

ACTIONS, PROCEDURES, PERFORMANCE AND AVOIDANCE NECESSARY TO EFFECTUATE THE MANAGEMENT PLAN

The District will manage the supply of groundwater within the District based on the District's best available data and its assessment of water availability and groundwater storage conditions. The most current Groundwater Availability Model and Managed Available Groundwater developed by the TWDB for the Trinity Group of Aquifers or other groundwater models, as well as other studies performed by other entities, will also aid in the decision making process by the District.

The District has adopted Rules that require the permitting of non-exempt wells within the District consistent with the District Management Plan, the provisions of Chapter 36.113, and other pertinent sections of Chapter 36. District Rules can be found at www.trinityglenrose.com/district-rules.

The District is in agreement with the commonly accepted groundwater management principle that opposes the mining of groundwater. Therefore, it shall be the policy of the District to limit withdrawal of groundwater from permitted wells producing from North Bexar County aquifers to no more than the current groundwater availability volumes indicated for the Trinity Group of Aquifers in this Management Plan unless sufficient data is provided to indicate that water can be removed without causing regional reductions to the aquifer. Development or analysis of new or existing groundwater or aquifer data (MAG revisions) may result in changes to the groundwater availability volumes, with a corresponding change in production limits from the affected aquifers.

The District has adopted rules that regulate the production of groundwater consistent with the provisions Chapter 36.116. The District wishes to emphasize that in regulating or limiting groundwater production, it shall be the policy of the District to recognize good scientific data in the development of groundwater usage.

The District will implement and utilize the provisions of this groundwater management plan for all District activities. The District's current and future Rules have and will be promulgated pursuant to the provisions of Texas Water Code Chapter 36 and shall address, implement, and be consistent with the provisions and policies of this plan.

The District shall review and re-adopt this plan, with or without revisions, at least once every five years in accordance with Chapter 36.1072(e). Any amendment to this plan shall be in accordance with Chapter 36.1073.

The District will seek cooperation and coordination in the development and implementation of this plan with the appropriate state, regional or local water management or planning entities.

The District will monitor groundwater conditions through its water level and water quality monitoring programs. If necessary, the District may, through the rule-making process, identify areas within the District which, based on results from District aquifer monitoring, are identified as Critical Groundwater Depletion Areas (CGDA). These areas, when identified by the District in accordance with District Rules, may require specific pumping limits or reduction measures to ensure that groundwater supply is maintained and protected.

The District will encourage cooperative and voluntary Rule compliance, but if Rule enforcement becomes necessary, the enforcement will be legal, fair, and impartial.

METHODOLOGY FOR TRACKING PROGRESS IN ACHIEVING MANAGEMENT GOALS

The District will present an Annual Report to the Board of Directors on District performance and progress in achieving management goals and objectives at the last regular Board meeting of each fiscal year.

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GROUNDWATER MANAGEMENT GOALS

1.0 Implement management strategies that will provide for the most efficient use of groundwater.

1.1 **Management Objective**

Implement and maintain a program of issuing well operating permits for non-exempt wells within the District.

Performance Standards

Annually, the number of well operating permits applications and the number of permits issued for the year will be included in the Annual Report submitted to the Board of Directors of the District.

1.2 **Management Objective**

Collect meter readings and maintain database of monthly well pumping for non-exempt wells within the District which report pumping in accordance with the District Rules.

Performance Standards

The number of monthly records entered for non-exempt well pumping data.

2.0 Implement strategies that will control and prevent waste of groundwater.

2.1 **Management Objective**

Each year the District will provide to local newspapers at least one-article describing water efficient practices available for implementation by groundwater users.

Performance Standards

Number of articles describing water efficient practices submitted to local newspapers each year.

2.2 **Management Objective**

Each year, the District will provide information to the public on eliminating or reducing wasteful practices in the use of groundwater by including information on groundwater waste reduction on the District's website.

Performance Standards

Online resources available on District website addressing groundwater waste reduction practices.

2.3 **Management Objective**

Make a speaker available to local clubs and organizations or a display booth at public events.

Performance Standards

Number of speaking engagements or booth displays offered each year as noted in Annual Report.

2.4 **Management Objective**

The District will make an annual evaluation of the District Rules and determine if amendments to the District Rules are recommended to prevent or reduce the waste of groundwater in the District.

Performance Standards

Agenda item during at least one monthly Board Meeting for discussion of annual evaluation of the District Rules.

23

3.0 Implement strategies that will control and prevent subsidence.

The rigid geologic framework of the region precludes significant subsidence from occurring. Therefore, this goal is not applicable to the operations of this District.

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4.0 Implement management strategies that will address conjunctive surface water management issues.

4.1 **Management Objective**

Collaborate with USGS and other agencies through spring surveys and other research projects regarding correlations between spring flow, surface stream elevations/flows, rainfall, and groundwater levels.

Performance Standard

Evaluate need to conduct research and/or partner with other agencies to gather conjunctive surface water data and submit research recommendations to District Board annually.

31

5.0 Implement strategies that will address natural resource issues which impact the use and availability of groundwater, or which are impacted by the use of groundwater.

The District is not aware of any such natural resource issues that affect the use and availability of groundwater, or which are impacted by the use of groundwater. Therefore, this goal is not applicable to the operations of the District at this time.

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38

6.0 Implement strategies that will address drought conditions.

6.1 **Management Objective**

Review Palmer Drought Severity Index (PDSI) posted on the National Weather Service - Climate Prediction Center website www.ncdc.noaa.gov/oa/climate/research/prelim/drought/palmer.html

Monthly and check for updates to the Texas Drought Preparedness Council Situation Report on the Texas Department of Public Safety website www.txdps.state.tx.us/dem/sitrepindex.htm.

Performance Standards

Report drought status in the District to the Board of Directors at least quarterly.

6.2 **Management Objective**

Provide and post drought-orientated literature on the District's website.

Performance Standards

Drought-orientated literature posted on the District's website.

6.3 **Management Objective**

The District will collect water levels on selected monitor wells representative of the major aquifer within the District in accordance with the water level monitoring plan developed by the Board of Directors.

Performance Standard

Number of water level records collected annually.

6.4 **Management Objective**

Monitor compliance of non-exempt wells with District's Emergency Drought Management Plan once trigger conditions are reached.

Performance Standard

Preparation and distribution of Press Releases and District water restriction requirements to District water users.

39a
41a
42a

7.0 Implement strategies that will address:

Conservation

7.1 **Management Objective**

Each year the District will provide local newspaper with at least one article identifying the importance of water conservation and water conservation methods.

Performance Standards

A copy of the article(s) regarding water conservation submitted each year will be included in the Annual Report to the District Board of Directors.

7.2 **Management Objective**

Provide water conservation guideline and resource links on the District's website.

Performance Standards

Conservation guidelines and links posted on the District's website.

7.3 **Management Objective**

Provide to the public, upon request, conservation literature handouts.

Performance Standards

Number of conservation handouts requested per year.

Recharge Enhancement

7.4 **Management Objective**

Investigate potential natural or artificial recharge enhancement projects.

Performance Standard

Annually, the General Manager will provide a report to Board of Directors on potential recharge enhancement projects.

39b
41b
42b

Rainwater Harvesting

7.5 **Management Objective**

Support rainwater harvesting efforts by providing information to the public through brochures and the Authorities educational program.

Performance Standard

Maintain brochures that are available to the public at the District office and have brochures available at 100% of educational events.

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41c
42c

Precipitation Enhancement

Not applicable at this time.

39d

Brush Control

7.6 **Management Objective**

The District will encourage brush control and Best Management Practices related to the same where appropriate.

Performance Standard

Annually, the District will conduct a review of the policies adopted by the District related to brush control practices and/or the progression of brush control within the District. A copy of the review will be included in the annual report to the

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42e

District Board of Directors. If it is found from review that no policies that relate to brush control practices were adopted by the District during the previous year, then a statement of such will be included in the annual report.

43

8.0 Addressing Desired Future Conditions in a quantitative manner

The District has set Desired Future Conditions and is currently awaiting receipt of Managed Available Groundwater estimates from TWDB. Once MAG estimates are received, the District will adopt a management policy, in conjunction with the GMA 9 Technical Committee recommendations, to address DFCs in a quantitative manner. At this time this goal is not applicable.

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Trinity Glen Rose Groundwater Conservation District, Pumpage Database.

U.S. Census Bureau, United States Census (2000).

APPENDIX A

STATE OF TEXAS §

§ **RESOLUTION # 072610-01**

GROUNDWATER §
MANAGEMENT AREA 9 §

Designation of Desired Future Conditions For Groundwater Management Area 9 Aquifers

WHEREAS, Groundwater Conservation Districts (GCDs) located within or partially within Groundwater Management Area 9 (GMA 9) are required under Chapter 36.108, Texas Water Code to conduct joint planning and designate the Desired Future Conditions of aquifers within GMA 9 and;

WHEREAS, the Board Presidents or their Designated Representatives of GCDs in GMA 9 have met as a Committee in various meetings and conducted joint planning in accordance with Chapter 36.108, Texas Water Code since September 2005 and;

WHEREAS, GMA 9, having given proper and timely notice, held an open meeting of the GMA 9 Committee on July 26, 2010 at the Boerne High School Auditorium, 1 Greyhound Lane, Boerne, Texas and;

WHEREAS, since September 20, 2005, GMA 9 has solicited and considered public comment at various GMA 9 Committee meetings, at nine special Public Meetings, one Public Hearing on the Edwards Group of the Edwards Trinity (Plateau), and from a stakeholders section in the University of Texas at Austin LBJ School of Public Affairs Policy Research Project Report 161, and;

WHEREAS, the GMA 9 Committee received and considered technical advice regarding local aquifers, hydrology, geology, recharge characteristics, local groundwater demands and usage, population projections, ground and surface water inter-relationships, and other considerations that affect groundwater conditions from the Texas Water Development Board (TWDB), Regional Water Planning Groups J, K, and L, consultants, hydrologists, geologists, and other groundwater professionals, and;

WHEREAS, following public discussion and due consideration of the current and future needs and conditions of the aquifers in question, the current and projected groundwater demand estimates from local GCDs, the TWDB, and Regional Water Planning Groups J, K, and L, and

the potential effects on springs, surface water, habitat, and water-dependent species for DFCs set through the year 2060, the following motions were made:

Motion #1:
Moved by Tommy Boehme and seconded by Gene Williams to designate the following Desired Future Condition through the year 2060 for the Trinity aquifer located in GMA 9:

- Hill Country Trinity Aquifer -
  allow for an increase in average drawdown of approximately 30 feet through 2060 consistent with "Scenario 6" in TWDB Draft GAM Task 10-005

the vote on the motion was 8 ayes, 1 nays, and 0 abstentions, and the Motion Passed.

Motion #2
Moved by Gene Williams and seconded by Luana Buckner to declare the Edwards Group of the Hill Country Aquifer located in Kerr County as a not-relevant aquifer:

the vote on the motion was 7 ayes, 2 nays, and 0 abstentions, and the Motion Passed.

Motion #3
Moved by Micah Voulgaris and seconded by Luana Buckner to declare the Edwards Group of the Hill Country Aquifer located in Kendall County as a relevant aquifer:

the vote on the motion was 9 ayes, 0 nays, and 0 abstentions, and the Motion Passed.

Motion #4
Moved by Jim Chastain and seconded by Luana Buckner to declare the Edwards Group of the Hill Country Aquifer located in Bandera County as a relevant aquifer:

the vote on the motion was 9 ayes, 0 nays, and 0 abstentions, and the Motion Passed.

Motion #5
Moved by Micah Voulgaris and seconded by Jim Chastain to designate the following Desired Future Condition through the year 2060 for the Edwards Group of the Hill Country Aquifer located in Kendall and Bandera County:

- Edward Group of the Edwards Trinity (Plateau) – no net increase in average drawdown for those portions located in Kendall and Bandera County

the vote on the motion was 9 ayes, 0 nays, and 0 abstentions, and the Motion Passed.

Motion #6
Moved by Neill Binford and seconded by Luana Buckner to declare the Edwards Group of the Hill Country Aquifer located in Blanco County as a not-relevant aquifer:

the vote on the motion was 9 ayes, 0 nays, and 0 abstentions, and the Motion Passed, and,

Whereas, the above Motions and votes of each Committee Member have been recorded in the Minutes of the July 26, 2010 GMA 9 Committee Meeting,

NOW THEREFORE BE IT RESOLVED, Groundwater Management Area 9 Committee Members present and voting on July 26, 2010 do hereby document, record, and confirm the above described Motions and votes.

Approved by consensus and signed on July 26, 2010 by the following Voting GMA 9 Committee Members,

_____

Neill Binford - President of the Blanco Pedernales GCD

_____

Jim Chastain - President of the Bandera County River Authority and Groundwater Conservation District

_____

Tommy Boehme - President of the Medina County GCD

_____

Jimmy Skipton - President of the Hays Trinity GCD

_____

Brian Hunt - Designated Representative for the Barton Springs/Edwards Aquifer Conservation District

_____

Micah Voulgaris – General Manager and Designated Representative for the Cow Creek GCD

_____

Jorge Gonzales – Vice President and Designated Representative for the Trinity Glen Rose GCD

_____

Luana Buckner - Chairman of the Edwards Aquifer Authority

_____

Gene Williams - Designated Representative for the Headwaters GCD

Appendix B – TGRGCD Management Plan Data Export

(Compiled County Wide and TGRGCD Specific Data Sets[9])

[9] Data compiled and distributed to TGRGCD by TWDB, Lance Christian, 12/30/09

7

2007 State Water Plan
Projected Water Demands
Trinity Glen Rose Groundwater Conservation District (District Specific)
Water Demands Data

Bexar County[10]

RWPG	Water User Group	County	River Basin	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Bexar	San Antonio	1,090	1,094	1,097	1,101	1,099	1,104
L	Helotes	Bexar	San Antonio	1,537	2,249	2,820	3,264	3,679	4,047
L	San Antonio	Bexar	San Antonio	192,008	213,942	234,864	250,671	265,957	281,204
L	San Antonio	Bexar	San Antonio	24,654	27,471	30,157	32,187	34,150	36,107
L	San Antonio	Bexar	San Antonio	284	317	348	371	394	416
L	Bexar Met Water District	Bexar	San Antonio	8,736	8,869	8,944	8,945	9,081	9,278
L	Water Services Inc.	Bexar	San Antonio	570	697	809	902	982	1,061
L	**County Other***	**Bexar**	**San Antonio**	**176**	**139**	**118**	**185**	**246**	**301**
L	**County Other***	**Bexar**	**San Antonio**	**1,412**	**1,433**	**1,446**	**1,446**	**1,467**	**1,499**
L	**Manufacturing***	**Bexar**	**San Antonio**	**6,472**	**7,357**	**8,174**	**8,995**	**9,718**	**10,503**
L	**Steam Electric Power***	**Bexar**	**San Antonio**	**4,317**	**4,308**	**5,037**	**5,925**	**7,008**	**8,327**
L	**Mining***	**Bexar**	**San Antonio**	**861**	**945**	**997**	**1,048**	**1,100**	**1,145**
L	**Irrigation***	**Bexar**	**San Antonio**	**3,489**	**3,342**	**3,201**	**3,065**	**2,935**	**2,811**
L	**Livestock***	**Bexar**	**San Antonio**	**323**	**323**	**323**	**323**	**323**	**323**
Total Projected Water Demands (acre-feet per year) =				**245,929**	**272,486**	**298,335**	**318,428**	**338,139**	**358,126**

Source: Volume 3, 2007 State Water Planning Database
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

12/10/2009

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Comal County[11]

RWPG	Water User Group	County	River Basin	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Comal	San Antonio	58	58	58	58	58	59
L	**County Other***	**Comal**	**San Antonio**	**2.4**	**3.0**	**3.5**	**4.3**	**5.1**	**6.1**
L	**Manufacturing***	**Comal**	**San Antonio**	**0.02**	**0.02**	**0.02**	**0.04**	**0.04**	**0.04**
L	**Irrigation***	**Comal**	**San Antonio**	**0.6**	**0.5**	**0.5**	**0.4**	**0.4**	**0.3**
L	**Livestock***	**Comal**	**San Antonio**	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**
Total Projected Water Demands (acre-feet per year) =				**61.92**	**62.42**	**62.92**	**63.64**	**64.44**	**66.34**

Source: Volume 3, 2007 State Water Planning Database 12/10/2009
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

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Kendall County[12]

RWPG	Water User Group	County	River Basin	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Kendall	San Antonio	286	296	300	305	310	316
L	**County Other***	**Kendall**	**San Antonio**	**30**	**42**	**55**	**65**	**74**	**83**
L	**Irrigation***	**Kendall**	**San Antonio**	**5**	**5**	**5**	**5**	**5**	**5**
L	**Livestock***	**Kendall**	**San Antonio**	**2**	**2**	**2**	**2**	**2**	**2**
			Total Projected Water Demands (acre-feet per year) =	**323**	**345**	**362**	**377**	**391**	**406**

Source: Volume 3, 2007 State Water Planning Database 12/10/2009

(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

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2007 State Water Plan

Projected Surface Water Supply

Trinity Glen Rose Groundwater Conservation District (District Specific)

Surface Water Supply Data

Bexar County[13]

RWPG	Water User Group	County	River Basin	Source Name	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Bexar	San Antonio	Canyon Lake/Reservoir	900	962	1,036	1,036	1,036	1,036
L	San Antonio	Bexar	San Antonio	Canyon Lake/Reservoir	7,500	5,500	4,000	0	0	0
L	San Antonio	Bexar	San Antonio	Canyon Lake/Reservoir	4,000	0	0	0	0	0
L	San Antonio	Bexar	San Antonio	San Antonio River Run-of-River	212	212	212	212	212	212
L	San Antonio	Bexar	San Antonio	San Antonio River Run-of-River	2,921	2,921	2,921	2,921	2,921	2,921
L	San Antonio	Bexar	San Antonio	San Antonio River Run-of-River	100	100	100	100	100	100
L	Bexar Met Water District	Bexar	San Antonio	San Antonio River Run-of-River	574	495	427	370	319	270
L	East Central WSC	Bexar	San Antonio	Canyon Lake/Reservoir	1,170	251	251	251	251	251
L	Green Valley SUD	Bexar	San Antonio	Canyon Lake/Reservoir	214	214	214	257	257	257
L	**County Other***	**Bexar**	**San Antonio**	**Canyon Lake/Reservoir**	**0**	**13**	**13**	**0**	**0**	**0**
L	**Manufacturing***	**Bexar**	**San Antonio**	**San Antonio River Run-of-River**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**
L	**Steam Electric Power***	**Bexar**	**San Antonio**	**Calaveras Lake/Reservoir**	**9,203**	**9,203**	**9,203**	**9,203**	**9,203**	**9,203**

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L	Steam Electric Power*	Bexar	San Antonio	Victor Braunig Lake/Reservoir	2,993	2,993	2,993	2,993	2,993	2,993
L	Irrigation*	Bexar	San Antonio	San Antonio River Combined Run-of-River Irrigation	554	554	554	554	554	554
L	Livestock*	Bexar	San Antonio	Livestock Local Supply	162	162	162	162	162	162
Total Projected Surface Water Supplies (acre-feet per year) =					30,504	23,580	22,086	18,060	18,009	17,960

Source: Volume 3, 2007 State Water Planning Database 12/11/2009
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

Comal County[14]

RWPG	Water User Group	County	River Basin	Source Name	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Comal	San Antonio	Canyon Lake/Reservoir	48	65	70	70	70	70
L	County Other*	Comal	San Antonio	Canyon Lake/Reservoir	0.9	8.2	8.2	8.2	8.2	8.2
L	Livestock*	Comal	San Antonio	Livestock Local Supply	0.4	0.4	0.4	0.4	0.4	0.4
Total Projected Surface Water Supplies (acre-feet per year) =					49	74	79	79	79	79

Source: Volume 3, 2007 State Water Planning Database 12/11/2009
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

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Kendall County[15]

RWPG	Water User Group	County	River Basin	Source Name	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Kendall	San Antonio	Canyon Lake/Reservoir	252	273	294	294	294	294
L	**County Other***	**Kendall**	**San Antonio**	**Canyon Lake/Reservoir**	**21**	**33**	**42**	**42**	**42**	**42**
L	**Livestock***	**Kendall**	**San Antonio**	**Livestock Local Supply**	**1**	**1**	**1**	**1**	**1**	**1**
Total Projected Surface Water Supplies (acre-feet per year) =					**274**	**307**	**337**	**337**	**337**	**337**

Source: Volume 3, 2007 State Water Planning Database 12/11/2009

(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

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2007 State Water Plan
Projected Water Needs
Total County - Projected Water Needs

Bexar County[16] (Positive values reflect a water surplus; negative values reflect a water need.)

RWP G	WUG	County	River Basin	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Bexar	San Antonio	6	64	135	131	98	93
L	Helotes	Bexar	San Antonio	0	0	0	0	0	0
L	San Antonio	Bexar	San Antonio	-53166	-78094	-101583	-122024	-138024	-153980
L	San Antonio	Bexar	San Antonio	-10455	-17272	-19958	-21988	-23951	-25908
L	San Antonio	Bexar	San Antonio	-184	-217	-248	-271	-294	-316
L	Water Services Inc.	Bexar	San Antonio	-544	-671	-783	-876	-956	-1035
L	Bexar Met Water District	Bexar	San Antonio	-6314	-6526	-6889	-6958	-7155	-7410
L	**County Other***	**Bexar**	**San Antonio**	**1870**	**1908**	**1642**	**1556**	**1488**	**1423**
L	**County Other***	**Bexar**	**San Antonio**	**0**	**0**	**0**	**0**	**0**	**0**
L	**Manufacturing***	**Bexar**	**San Antonio**	**-813**	**-1697**	**-2514**	**-3336**	**-4058**	**-4843**
L	**Steam Electric Power***	**Bexar**	**San Antonio**	**7879**	**7887**	**7159**	**6271**	**5188**	**3868**
L	**Mining***	**Bexar**	**San Antonio**	**0**	**0**	**-219**	**-242**	**-266**	**-287**
L	**Irrigation***	**Bexar**	**San Antonio**	**1755**	**1894**	**1989**	**2117**	**2239**	**2357**
L	**Livestock***	**Bexar**	**San Antonio**	**0**	**0**	**-20**	**-21**	**-22**	**-23**
			Total Projected Water Needs (acre-feet per year) =	**-71,476**	**-104,477**	**-132,214**	**-155,716**	**-174,726**	**-193,802**

Source:Volume 3, 2007 State Water Planning Database 12/11/2009

(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

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Comal County[17] (Positive values reflect a water surplus; negative values reflect a water need.)

RWPG	WUG	County	River Basin	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Comal	San Antonio	3	20	25	25	23	22
L	County Other*	Comal	San Antonio	-1.1	6	5	4	3	2
L	Irrigation*	Comal	San Antonio	0.3	0.3	0.4	0.4	0.5	0.5
L	Livestock*	Comal	San Antonio	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
L	Manufacturing *	Comal	San Antonio	8	8	8	7	7	7
			Total Projected Water Needs (acre-feet per year) =	-2	-0.4	-0.4	-0.4	-0.4	-0.4

Source:Volume 3, 2007 State Water Planning Database 12/11/2009

(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

Kendall County[18] (Positive values reflect a water surplus; negative values reflect a water need.)

RWPG	WUG	County	River Basin	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Kendall	San Antonio	0	11	28	23	12	6
L	County Other*	Kendall	San Antonio	0	0.1	-3	-13	-23	-32
L	Irrigation*	Kendall	San Antonio	-4	-4	-4	-4	-4	-4
L	Livestock*	Kendall	San Antonio	-0.7	-0.7	-0.7	-0.7	-0.8	-0.8
			Total Projected Water Needs (acre-feet per year) =	-5	-5	-8	-18	-28	-37

Source:Volume 3, 2007 State Water Planning Database 12/11/2009

(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

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2007 State Water Plan
Projected Water Management Strategies
Trinity Glen Rose GCD Estimates

Bexar County[19]

RWPG	WUG	WUG County	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Bexar	San Antonio	Municipal Water Conservation	Conservation	Bexar	94	185	269	345	361	382
L	Helotes	Bexar	San Antonio	Municipal Water Conservation	Conservation	Bexar	115	345	539	674	832	993
L	San Antonio	Bexar	San Antonio	Edwards Transfers	Edwards BFZ Aquifer	Uvalde	25,103	48,000	48,000	48,000	48,000	48,000
L	San Antonio	Bexar	San Antonio	Regional Carrizo for Bexar County Supply - Temporary Overdraft	Carrizo-Wilcox Aquifer	Gonzales	1,445	8,433	31,922	45,188	14,485	28,337
L	San Antonio	Bexar	San Antonio	Regional Carrizo for Bexar County Supply - Temporary Overdraft	Carrizo-Wilcox Aquifer	Wilson	7,455	7,224	7,021	6,843	6,684	6,548
L	San Antonio	Bexar	San Antonio	Local Groundwater (Trinity Aquifer)	Trinity Aquifer	Bexar	5,000	5,000	5,000	5,000	5,000	5,000
L	San Antonio	Bexar	San Antonio	Municipal Water Conservation	Conservation	Bexar	4,956	6,320	7,607	9,095	13,710	20,822
L	San Antonio	Bexar	San Antonio	Municipal Water Conservation	Conservation	Bexar	184	217	248	271	294	316
L	San Antonio	Bexar	San Antonio	Municipal Water Conservation	Conservation	Bexar	612	781	940	1,124	1,694	2,573
L	San Antonio	Bexar	San Antonio	Regional Carrizo for Bexar County Supply - Temporary	Carrizo-Wilcox Aquifer	Wilson	1,902	1,912	1,919	1,926	1,933	1,939

[19] * Since the District only encompasses a portion of Bexar County, it is recommended that all estimates presented in the management plan be based on (reduced by) a proportional area percentage unless more accurate data is available to the District. One percentage can be derived by dividing the amount of acres or square miles covered by the District by the total number of acres or square miles contained within Bexar County. However, many of the county-wide Water User Groups were subdivided into surface water basins so the apportionment methodology utilized for these data compared the District area to the area of Bexar County that lies within the San Antonio River basin. The percentage derived by the T.W.D.B. is 24.94% (i.e. 0.2494; see the 'Area estimate' tab), but any estimate that the District provides is preferable. Since the basin-wide data (e.g. county other, manufacturing, steam electric power, irrigation, livestock) represent the entire area within a basin and do not represent district-specific estimates, the basin-wide data have been converted to an apportioned value (relative to the size of the District within the San Antonio River basin) by multiplying each value from the 'County Water Demands' worksheet by 0.2494. All of the Water User Groups located within the county data set but outside of the basin boudaries were excluded.

				Overdraft								
L	San Antonio	Bexar	San Antonio	Regional Carrizo for Bexar County Supply - Temporary Overdraft	Carrizo-Wilcox Aquifer	Wilson	1,643	1,864	2,060	2,231	2,383	2,513
L	San Antonio	Bexar	San Antonio	Brackish Groundwater Desalination (Wilcox Aquifer)	Carrizo-Wilcox Aquifer - Brackish	Bexar	5,662	5,662	5,662	5,662	5,662	5,662
L	San Antonio	Bexar	San Antonio	Hays/Caldwell Carrizo Project - Temporary Overdraft	Carrizo-Wilcox Aquifer	Caldwell	0	0	0	0	1,372	4,321
L	San Antonio	Bexar	San Antonio	LCRA/SAWS Water Project	Colorado River Run-of-River	Matagorda	0	0	0	0	37,545	39,648
L	San Antonio	Bexar	San Antonio	LCRA/SAWS Water Project	Highland Lakes Lake/ Reservoir System	Reservoir	0	0	0	0	16,333	16,333
L	San Antonio	Bexar	San Antonio	Edwards Transfers	Edwards BFZ Aquifer	Bexar	2,960	2,960	2,960	2,960	2,960	2,960
L	San Antonio	Bexar	San Antonio	Local Groundwater (Carrizo-Wilcox Aquifer) - Temporary Overdraft	Carrizo-Wilcox Aquifer	Bexar	4,000	4,000	4,000	4,000	4,000	4,000
L	San Antonio	Bexar	San Antonio	Local Groundwater (Trinity Aquifer)	Trinity Aquifer	Bexar	3,495	7,539	7,082	6,948	6,688	6,381
L	San Antonio	Bexar	San Antonio	Edwards Aquifer Recharge - Type 2 Projects	San Antonio River Run-of-River Recharge	Bexar	0	719	719	3,130	4,000	4,000
L	San Antonio	Bexar	San Antonio	CRWA Dunlap Project - Temporary Overdraft	Carrizo-Wilcox Aquifer	Gonzales	0	1,273	4,258	3,826	3,237	1,673
L	Bexar Met Water District	Bexar	San Antonio	Wells Ranch Project - Temporary Overdraft	Carrizo-Wilcox Aquifer	Gonzales	1,088	0	0	0	0	0
L	Bexar Met Water District	Bexar	San Antonio	Local Groundwater (Trinity Aquifer)	Trinity Aquifer	Bexar	4,545	5,961	6,418	6,552	6,812	7,119
L	Bexar Met Water District	Bexar	San Antonio	Edwards Transfers	Edwards BFZ Aquifer	Bexar	681	565	471	406	343	291
L	Bexar Met Water District	Bexar	San Antonio	Municipal Water Conservation	Conservation	Bexar	0	0	0	0	0	293
L	Water Services Inc.	Bexar	San Antonio	Municipal Water Conservation	Conservation	Bexar	0	0	0	18	50	105
L	Water Services Inc.	Bexar	San Antonio	Edwards Transfers	Edwards BFZ Aquifer	Medina	544	671	783	876	956	1,035
L	Irrigation *	Bexar	Nueces	Irrigation Water Conservation	Conservation	Bexar	132	132	132	132	132	132

L	Livestock *	Bexar	San Antonio	Local Groundwater (Carrizo-Wilcox Aquifer) - Temporary Overdraft	Carrizo-Wilcox Aquifer	Bexar	0	0	23	23	23	23
L	Manufacturing*	Bexar	San Antonio	SAWS Recycled Water Program - Phased Expansion	Direct Reuse	Bexar	1,067	2,064	2,563	3,561	5,556	5,556
L	County Other*	Bexar	San Antonio	Municipal Water Conservation	Conservation	Bexar	12	24	35	48	77	126
L	Mining*	Bexar	San Antonio	Edwards Aquifer Recharge - Type 2 Projects	San Antonio River Run-of-River Recharge	Bexar	0	0	311	311	311	311
Total Projected Water Management Strategies (acre-feet per year) =							72,695	111,851	140,942	159,150	191,433	217,392

Source: Volume 3, 2007 State Water Planning Database
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

12/17/2009

Comal County[20]

RWPG	WUG	WUG County	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Comal	San Antonio	Municipal Water Conservation	Conservation	Bexar	5	10	14	18	19	20
L	Livestock*	Comal	San Antonio	Local Groundwater (Trinity Aquifer)	Trinity Aquifer	Comal	0.4	0.4	0.4	0.4	0.4	0.4
Total Projected Water Management Strategies (acre-feet per year) =							5.4	10.4	14.4	18.4	19.4	20.4

Source: Volume 3, 2007 State Water Planning Database
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

12/11/2009

[20] * Since the District only encompasses a portion of Comal County, it is recommended that all estimates presented in the management plan be based on (reduced by) a proportional area percentage unless more accurate data is available to the District. This percentage can be derived by dividing the amount of acres or square miles covered by the District by the total number of acres or square miles contained within Comal County. However, many of the county-wide Water User Groups were subdivided into surface water basins so the apportionment methodology utilized for these data compared the District area to the area of Bexar County that lies within the San Antonio River basin. The percentage derived by the T.W.D.B. is 2.04% (i.e. 0.0204; see the 'Area estimate' tab), but any estimate that the District provides is preferable. Since the basin-wide data (e.g. county other, manufacturing, steam electric power, irrigation, livestock) represent the entire area within a basin and do not represent district-specific estimates, the basin-wide data have been converted to an apportioned value (relative to the size of the District within the San Antonio River basin) by multiplying each value from the 'County Water Demands' worksheet by 0.0204. All of the Water User Groups located within the county data set but outside of the basin boudaries were excluded.

Kendall County[21]

RW PG	WUG	WUG County	River Basin	Water Management Strategy	Source Name	Source County	2010	2020	2030	2040	2050	2060
L	Fairoaks Ranch	Kendall	San Antonio	Municipal Water Conservation	Conservation	Bexar	26	51	75	97	101	107
L	County Other*	Kendall	San Antonio	LGWSP for GBRA Needs	Guadalupe River Run-of-River LGWSP	Cahoun	0.0	0.0	2.5	13	23	32
L	Irrigation *	Kendall	San Antonio	Local Groundwater (Trinity Aquifer)	Trinity Aquifer	Kendall	4.2	4.2	4.2	4.2	4.2	4.2
L	Livestock *	Kendall	San Antonio	Local Groundwater (Trinity Aquifer)	Trinity Aquifer	Kendall	0.8	0.8	0.8	0.8	0.8	0.8
Total Projected Water Management Strategies (acre-feet per year) =							5.0	5.0	7.5	18.0	28.0	37.0

Source: Volume 3, 2007 State Water Planning Database
(http://www.twdb.state.tx.us/DATA/db07/defaultReadOnly.asp)

12/11/2009

[21] * Since the District only encompasses a portion of Kendall County, it is recommended that all estimates presented in the management plan be based on (reduced by) a proportional area percentage unless more accurate data is available to the District. This percentage can be derived by dividing the amount of acres or square miles covered by the District by the total number of acres or square miles contained within Kendall County. However, many of the county-wide Water User Groups were subdivided into surface water basins so the apportionment methodology utilized for these data compared the District area to the area of Bexar County that lies within the San Antonio River basin. The percentage derived by the T.W.D.B. is 2.82% (i.e. 0.0282; see the 'Area estimate' tab), but any estimate that the District provides is preferable. Since the basin-wide data (e.g. county other, manufacturing, steam electric power, irrigation, livestock) represent the entire area within a basin and do not represent district-specific estimates, the basin-wide data have been converted to an apportioned value (relative to the size of the District within the San Antonio River basin) by multiplying each value from the 'County Water Demands' worksheet by 0.0282. All of the Water User Groups located within the county data set but outside of the basin boudaries were excluded.

Historical Groundwater Pumpage Summary

TWDB - Water Use Survey

Total County Estimates

Unit: Acre Feet (ACFT)

2

Bexar County[22]

Year	Aquifer	Municipal[1]	Manufacturing[1]	Steam Electric[1]	Irrigation[1]	Mining[1]	Livestock[1]	Total
1980	CARRIZO-WILCOX	198	0	0	824	13	7	1,042
	EDWARDS (BFZ)	55,395	1,794	176	2,678	84	49	60,176
	TRINITY	144	0	0	149	32	6	332
	Total	**55,737**	**1,794**	**176**	**3,651**	**129**	**62**	**61,550**
1984	CARRIZO-WILCOX	378	201	0	618	63	4	1,265
	EDWARDS (BFZ)	62,634	917	145	4,831	0	31	68,558
	TRINITY	426	0	0	268	0	4	698
	Total	**63,439**	**1,118**	**145**	**5,717**	**63**	**39**	**70,522**
1985	CARRIZO-WILCOX	190	12	0	248	50	9	509
	EDWARDS (BFZ)	57,556	879	303	3,882	574	12	63,205
	TRINITY	288	612	0	0	0	12	913
	Total	**58,034**	**1,503**	**303**	**4,130**	**624**	**34**	**64,628**
1986	CARRIZO-WILCOX	189	162	0	243	0	10	603
	EDWARDS (BFZ)	58,741	1,075	297	3,800	379	13	64,305
	TRINITY	387	612	0	0	0	13	1,012
	Total	**59,317**	**1,849**	**297**	**4,043**	**379**	**36**	**65,920**
1987	CARRIZO-WILCOX	199	162	0	189	45	8	603
	EDWARDS (BFZ)	56,700	690	271	2,963	289	11	60,923
	TRINITY	404	751	0	0	0	11	1,166
	Total	**57,304**	**1,602**	**271**	**3,152**	**333**	**30**	**62,692**
1988	CARRIZO-WILCOX	248	335	0	228	38	9	858
	EDWARDS (BFZ)	62,536	720	180	3,568	317	11	67,333
	TRINITY	648	961	0	0	0	11	1,621
	Total	**63,432**	**2,017**	**180**	**3,796**	**356**	**31**	**69,812**

[22] Since the District does not cover all of Bexar County, and the data are not subdivided into surface water basins, it is recommended that the Historical Groundwater Pumpage estimates presented in the management plan be based on (reduced by) a proportional area percentage unless more accurate data is available to the District. This percentage can be derived by dividing the amount of acres or square miles covered by the District by the total number of acres or square miles contained within Bexar County. The percentage derived by the T.W.D.B. is 24.34% (i.e. 0.2434; see the 'Area' tab), but any estimate that the District provides is preferable. The county-wide data above have been converted to a proportional value (relative to the size of the District) by multiplying each value from the 'County Historical Groundwater Pumpage' worksheet by 0.2434.

1989	CARRIZO-WILCOX	210	6	0	267	36	9	527
	EDWARDS (BFZ)	62,566	697	180	5,538	285	11	69,277
	TRINITY	474	961	0	0	0	11	1,447
	Total	**63,250**	**1,664**	**180**	**5,805**	**321**	**31**	**71,251**
1990	CARRIZO-WILCOX	216	0	0	400	36	9	661
	EDWARDS (BFZ)	56,990	658	169	6,269	304	12	64,402
	TRINITY	408	1,274	0	0	0	12	1,695
	Total	**57,614**	**1,933**	**169**	**6,669**	**339**	**34**	**66,758**
1991	CARRIZO-WILCOX	354	109	0	273	41	9	786
	EDWARDS (BFZ)	53,704	698	112	4,282	754	12	59,561
	TRINITY	519	1,062	0	0	0	12	1,593
	Total	**54,576**	**1,869**	**112**	**4,555**	**795**	**34**	**61,941**
1992	CARRIZO-WILCOX	213	164	0	260	41	10	688
	EDWARDS (BFZ)	54,488	961	83	4,067	808	13	60,421
	TRINITY	381	1,062	0	0	0	13	1,457
	Total	**55,082**	**2,187**	**83**	**4,327**	**849**	**37**	**62,565**
1993	CARRIZO-WILCOX	249	6	0	410	41	11	716
	EDWARDS (BFZ)	57,726	1,496	148	7,782	1,324	14	68,490
	TRINITY	387	1,062	0	0	0	14	1,463
	Total	**58,363**	**2,563**	**148**	**8,192**	**1,365**	**38**	**70,669**
1994	CARRIZO-WILCOX	228	4	0	961	41	8	1,242
	EDWARDS (BFZ)	57,434	1,498	62	6,810	1,324	10	67,137
	TRINITY	482	1,069	0	0	0	10	1,561
	Total	**58,145**	**2,570**	**62**	**7,772**	**1,365**	**27**	**69,940**
1995	CARRIZO-WILCOX	258	10	0	817	41	7	1,133
	EDWARDS (BFZ)	58,575	1,217	66	5,605	1,421	9	66,893
	TRINITY	504	1,069	0	0	0	9	1,582
	Total	**59,337**	**2,296**	**66**	**6,422**	**1,462**	**25**	**69,608**
1996	CARRIZO-WILCOX	359	1	0	870	41	12	1,283
	EDWARDS (BFZ)	59,416	2,103	87	5,968	1,421	16	69,011
	TRINITY	523	1,070	0	0	0	16	1,609
	Total	**60,297**	**3,174**	**87**	**6,838**	**1,462**	**45**	**71,903**
1997	CARRIZO-WILCOX	345	14	0	793	41	12	1,205
	EDWARDS (BFZ)	57,525	1,093	164	5,432	977	16	65,207
	TRINITY	541	1,070	0	0	0	16	1,627
	Total	**58,411**	**2,177**	**164**	**6,225**	**1,018**	**44**	**68,039**
1998	CARRIZO-WILCOX	348	0	0	1,045	18	8	1,419
	EDWARDS (BFZ)	58,005	954	482	7,160	433	10	67,046
	TRINITY	545	526	0	0	0	10	1,082

	Total	**58,899**	**1,481**	**482**	**8,205**	**451**	**28**	**69,547**
1999	CARRIZO-WILCOX	373	0	0	734	41	8	1,157
	EDWARDS (BFZ)	62,090	1,898	164	5,035	977	11	70,174
	TRINITY	584	1,071	0	0	0	11	1,665
	Total	**63,046**	**2,969**	**164**	**5,769**	**1,018**	**30**	**72,996**
2000	CARRIZO-WILCOX	358	0	0	296	18	8	680
	EDWARDS (BFZ)	59,553	912	549	2,028	433	10	63,486
	TRINITY	560	526	0	0	0	10	1,097
	Total	**60,471**	**1,438**	**549**	**2,324**	**451**	**29**	**65,262**
2001	CARRIZO-WILCOX	3	62	0	402	18	8	492
	EDWARDS (BFZ)	58,486	1,639	153	2,165	433	11	62,887
	TRINITY	874	1,069	0	0	0	11	1,954
	Total	**59,363**	**2,770**	**153**	**2,566**	**451**	**30**	**65,333**
2002	CARRIZO-WILCOX	2	38	0	591	18	8	658
	EDWARDS (BFZ)	54,003	630	87	3,187	433	11	58,351
	TRINITY	973	0	0	0	0	11	984
	Total	**54,978**	**669**	**87**	**3,779**	**451**	**30**	**59,993**
2003	CARRIZO-WILCOX	2	42	0	271	37	26	377
	EDWARDS (BFZ)	55,253	601	79	1,457	879	34	58,303
	TRINITY	913	0	0	0	0	34	947
	Total	**56,168**	**643**	**79**	**1,728**	**915**	**93**	**59,627**

NOTE: All Pumpage reported in acre-feet 12/18/2009

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=2)

Comal County[23]

Year	Aquifer	Municipal[2]	Manufacturing[2]	Steam Electric[2]	Irrigation[2]	Mining[2]	Livestock[2]	Total
1980	EDWARDS (BFZ)	38	3	0	0	0	0	42
	TRINITY	4	0	0	1	0	1	6
	Total	**42**	**3**	**0**	**2**	**0**	**1**	**49**
1984	EDWARDS (BFZ)	33	2	0	1	3	0	38
	TRINITY	4	0	0	0	0	1	5
	Total	**36**	**2**	**0**	**1**	**3**	**1**	**43**
1985	EDWARDS (BFZ)	36	4	0	0	3	0	43
	TRINITY	4	0	0	0	0	1	5
	Total	**40**	**4**	**0**	**0**	**3**	**1**	**48**
1986	EDWARDS (BFZ)	40	3	0	1	3	0	48
	TRINITY	5	0	0	0	0	1	5
	Total	**44**	**3**	**0**	**1**	**3**	**1**	**53**
1987	EDWARDS (BFZ)	39	3	0	1	20	0	63
	TRINITY	5	0	0	0	0	1	6
	Total	**44**	**3**	**0**	**1**	**20**	**1**	**69**
1988	EDWARDS (BFZ)	36	3	0	1	20	0	60
	TRINITY	5	0	0	0	0	1	6
	Total	**41**	**3**	**0**	**1**	**20**	**1**	**67**
1989	EDWARDS (BFZ)	37	4	0	2	3	0	46
	TRINITY	6	0	0	0	0	1	7
	Total	**43**	**4**	**0**	**2**	**3**	**1**	**53**
1990	EDWARDS (BFZ)	33	3	0	2	3	0	41
	TRINITY	5	0	0	0	0	1	6
	Total	**38**	**3**	**0**	**2**	**3**	**1**	**48**
1991	EDWARDS (BFZ)	30	20	0	1	10	0	61
	TRINITY	5	0	0	0	0	1	6
	Total	**35**	**20**	**0**	**1**	**10**	**1**	**67**
1992	EDWARDS (BFZ)	11	21	0	1	31	0	64
	TRINITY	6	0	0	0	0	1	7
	Total	**17**	**21**	**0**	**1**	**31**	**1**	**71**

[23] * Since the District only encompasses a portion of Kendall County, it is recommended that all estimates presented in the management plan be based on (reduced by) a proportional area percentage unless more accurate data is available to the District. This percentage can be derived by dividing the amount of acres or square miles covered by the District by the total number of acres or square miles contained within Kendall County. However, many of the county-wide Water User Groups were subdivided into surface water basins so the apportionment methodology utilized for these data compared the District area to the area of Bexar County that lies within the San Antonio River basin. The percentage derived by the T.W.D.B. is 2.82% (i.e. 0.0282; see the 'Area estimate' tab), but any estimate that the District provides is preferable. Since the basin-wide data (e.g. county other, manufacturing, steam electric power, irrigation, livestock) represent the entire area within a basin and do not represent district-specific estimates, the basin-wide data have been converted to an apportioned value (relative to the size of the District within the San Antonio River basin) by multiplying each value from the 'County Water Demands' worksheet by 0.0282. All of the Water User Groups located within the county data set but outside of the basin boudaries were excluded.

1993	EDWARDS (BFZ)	11	20	0	0	33	0	64
	TRINITY	7	0	0	0	0	1	8
	Total	**17**	**20**	**0**	**0**	**33**	**1**	**71**
1994	EDWARDS (BFZ)	10	20	0	0	34	0	64
	TRINITY	7	0	0	0	0	1	8
	Total	**17**	**20**	**0**	**0**	**34**	**1**	**72**
1995	EDWARDS (BFZ)	9	20	0	0	30	0	60
	TRINITY	9	0	0	0	0	1	10
	Total	**19**	**20**	**0**	**0**	**30**	**1**	**70**
1996	EDWARDS (BFZ)	11	32	0	0	30	0	73
	TRINITY	7	0	0	0	0	1	8
	Total	**18**	**32**	**0**	**0**	**30**	**1**	**81**
1997	EDWARDS (BFZ)	13	20	0	0	26	0	59
	TRINITY	9	0	0	0	0	1	10
	Total	**21**	**20**	**0**	**0**	**26**	**1**	**69**
1998	EDWARDS (BFZ)	17	21	0	0	8	0	45
	TRINITY	11	0	0	0	0	1	12
	Total	**28**	**21**	**0**	**0**	**8**	**1**	**57**
1999	EDWARDS (BFZ)	20	25	0	0	27	0	72
	TRINITY	13	0	0	0	0	1	14
	Total	**33**	**25**	**0**	**0**	**27**	**1**	**86**
2000	EDWARDS (BFZ)	15	20	0	0	8	0	43
	TRINITY	10	0	0	0	0	1	11
	Total	**25**	**20**	**0**	**0**	**8**	**1**	**53**
2001	EDWARDS (BFZ)	14	6	0	0	8	0	27
	TRINITY	9	0	0	0	0	1	10
	Total	**23**	**6**	**0**	**0**	**8**	**1**	**37**
2002	EDWARDS (BFZ)	17	7	0	0	8	0	31
	TRINITY	9	0	0	0	0	1	10
	Total	**25**	**7**	**0**	**0**	**8**	**1**	**40**
2003	EDWARDS (BFZ)	14	6	0	0	8	0	28
	TRINITY	8	0	0	0	0	0	8
	Total	**22**	**6**	**0**	**0**	**8**	**0**	**36**

NOTE: All Pumpage reported in acre-feet 12/18/2009

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=2)

Kendall County[24]

Year	Aquifer	Municipal	Manufacturing	Steam Electric	Irrigation	Mining	Livestock	Total
1980	TRINITY	6	0	0	1	0	2	**10**
1984	TRINITY	9	0	0	2	0	2	**12**
1985	TRINITY	9	0	0	1	0	2	**11**
1986	TRINITY	9	0	0	1	0	1	**11**
1987	TRINITY	8	0	0	1	0	1	**10**
1988	TRINITY	9	0	0	2	0	2	**13**
1989	TRINITY	10	0	0	2	0	2	**14**
1990	TRINITY	9	0	0	2	0	2	**13**
1991	TRINITY	8	0	0	2	0	2	**12**
1992	TRINITY	9	0	0	2	0	2	**12**
1993	TRINITY	10	0	0	5	0	2	**17**
1994	TRINITY	11	0	0	4	0	2	**17**
1995	TRINITY	11	0	0	5	0	2	**18**
1996	TRINITY	12	0	0	5	0	2	**19**
1997	TRINITY	15	0	0	5	0	2	**21**
1998	TRINITY	16	0	0	5	0	2	**22**
1999	TRINITY	17	0	0	5	0	2	**24**
2000	TRINITY	15	0	0	2	0	2	**19**
2001	TRINITY	18	0	0	4	0	2	**24**
2002	TRINITY	15	0	0	4	0	2	**21**
2003	TRINITY	14	0	0	1	0	2	**17**

NOTE: All Pumpage reported in acre-feet 12/18/2009

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=2)

[24] * Since the District only encompasses a portion of Kendall County, it is recommended that all estimates presented in the management plan be based on (reduced by) a proportional area percentage unless more accurate data is available to the District. This percentage can be derived by dividing the amount of acres or square miles covered by the District by the total number of acres or square miles contained within Kendall County. However, many of the county-wide Water User Groups were subdivided into surface water basins so the apportionment methodology utilized for these data compared the District area to the area of Bexar County that lies within the San Antonio River basin. The percentage derived by the T.W.D.B. is 2.82% (i.e. 0.0282; see the 'Area estimate' tab), but any estimate that the District provides is preferable. Since the basin-wide data (e.g. county other, manufacturing, steam electric power, irrigation, livestock) represent the entire area within a basin and do not represent district-specific estimates, the basin-wide data have been converted to an apportioned value (relative to the size of the District within the San Antonio River basin) by multiplying each value from the 'County Water Demands' worksheet by 0.0282. All of the Water User Groups located within the county data set but outside of the basin boudaries were excluded.

Historical Water Use Estimate Summary
Water Use Survey
Unit: Acre Feet (ACFT)

GW = groundwater; SW = surface water

Bexar County[25]

Year	Source	Municipal[1]	Manufacturing[1]	Steam Electric[1]	Irrigation[1]	Mining[1]	Livestock[1]	Total
1974	GW	35,814	3,848	571	3,334	731	66	44,365
	SW	0	69	4,108	3,396	0	344	7,918
	Total	**35,814**	**3,918**	**4,679**	**6,730**	**731**	**411**	**52,283**
1980	GW	53,986	3,361	329	3,651	129	62	61,519
	SW	129	72	6,799	5,087	0	241	12,327
	Total	**54,115**	**3,434**	**7,128**	**8,737**	**129**	**303**	**73,846**
1984	GW	61,403	2,679	316	5,717	63	39	70,218
	SW	76	107	7,742	4,103	0	359	12,386
	Total	**61,479**	**2,786**	**8,058**	**9,820**	**63**	**398**	**82,604**
1985	GW	56,175	3,035	480	4,130	624	34	64,479
	SW	58	11	6,198	3,029	48	305	9,649
	Total	**56,234**	**3,046**	**6,678**	**7,159**	**673**	**338**	**74,128**
1986	GW	57,270	3,330	452	4,043	0	36	65,131
	SW	52	78	5,350	3,675	0	321	9,477
	Total	**57,322**	**3,408**	**5,803**	**7,718**	**0**	**357**	**74,607**
1987	GW	55,879	2,569	490	3,152	333	30	62,453
	SW	71	26	6,017	2,536	59	269	8,978
	Total	**55,949**	**2,595**	**6,507**	**5,688**	**393**	**298**	**71,430**
1988	GW	60,915	3,291	341	3,796	356	31	68,731
	SW	72	37	8,002	2,077	65	281	10,534
	Total	**60,987**	**3,328**	**8,343**	**5,873**	**421**	**312**	**79,265**
1989	GW	60,687	2,991	343	5,805	321	31	70,178
	SW	71	152	7,486	3,296	66	277	11,349
	Total	**60,758**	**3,143**	**7,829**	**9,101**	**387**	**308**	**81,527**
1990	GW	54,846	3,386	343	6,669	321	33	65,598
	SW	72	34	5,563	2,340	66	302	8,376
	Total	**54,917**	**3,420**	**5,906**	**9,009**	**387**	**335**	**73,973**
1991	GW	51,400	3,603	280	4,555	795	34	60,666
	SW	0	10	5,001	2,847	103	304	8,266
	Total	**51,400**	**3,613**	**5,281**	**7,402**	**898**	**338**	**68,931**

[25] Since the District does not cover all of Bexar County, and the data are not subdivided into surface water basins, it is recommended that the Historical Groundwater Pumpage estimates presented in the management plan be based on (reduced by) a proportional area percentage unless more accurate data is available to the District. This percentage can be derived by dividing the amount of acres or square miles covered by the District by the total number of acres or square miles contained within Bexar County. The percentage derived by the T.W.D.B. is 24.34% (i.e. 0.2434; see the 'Area' tab), but any estimate that the District provides is preferable. The county-wide data above have been converted to a proportional value (relative to the size of the District) by multiplying each value from the 'County Historical Groundwater Pumpage' worksheet by 0.2434.

1992	GW	51,739	3,780	284	4,327	849	36	61,015
	SW	2	14	4,621	2,262	100	326	7,324
	Total	**51,741**	**3,793**	**4,905**	**6,589**	**949**	**362**	**68,339**
1993	GW	51,583	4,431	324	8,192	1,365	39	65,934
	SW	2	20	6,021	3,900	144	348	10,436
	Total	**51,585**	**4,451**	**6,345**	**12,092**	**1,509**	**386**	**76,369**
1994	GW	54,333	4,370	182	7,772	1,365	27	68,047
	SW	3	9	4,348	3,177	144	242	7,923
	Total	**54,336**	**4,379**	**4,530**	**10,948**	**1,509**	**269**	**75,971**
1995	GW	55,933	4,039	174	6,422	1,462	25	68,055
	SW	40	45	6,446	3,059	144	226	9,959
	Total	**55,973**	**4,084**	**6,620**	**9,481**	**1,606**	**251**	**78,014**
1996	GW	56,646	4,984	213	6,838	1,462	44	70,187
	SW	46	37	6,046	3,256	144	399	9,928
	Total	**56,692**	**5,021**	**6,259**	**10,094**	**1,606**	**443**	**80,115**
1997	GW	55,230	3,783	298	6,225	1,018	44	66,599
	SW	72	53	3,937	2,964	183	396	7,605
	Total	**55,301**	**3,836**	**4,236**	**9,189**	**1,201**	**440**	**74,204**
1998	GW	55,691	4,635	482	8,205	451	28	69,492
	SW	68	39	4,175	3,907	183	252	8,624
	Total	**55,759**	**4,674**	**4,657**	**12,112**	**635**	**280**	**78,116**
1999	GW	59,612	4,364	423	5,769	451	30	70,648
	SW	45	50	5,628	2,747	183	267	8,920
	Total	**59,657**	**4,413**	**6,050**	**8,516**	**635**	**297**	**79,569**
2000	GW	57,177	5,050	549	2,324	451	29	65,580
	SW	126	123	3,686	1,538	255	261	5,988
	Total	**57,303**	**5,173**	**4,235**	**3,862**	**706**	**290**	**71,568**
2001	GW	60,906	6,159	358	2,566	553	29	70,570
	SW	184	86	4,722	1,901	132	268	7,293
	Total	**61,090**	**6,245**	**5,080**	**4,467**	**684**	**296**	**77,864**
2002	GW	59,576	6,346	276	3,779	553	29	70,558
	SW	181	89	3,646	2,519	132	269	6,835
	Total	**59,757**	**6,435**	**3,922**	**6,298**	**684**	**298**	**77,394**
2003	GW	60,040	4,936	326	1,728	1,120	24	68,174
	SW	182	69	4,301	1,201	267	228	6,247
	Total	**60,222**	**5,005**	**4,627**	**2,929**	**1,388**	**252**	**74,422**
2004	GW	55,200	4,806	407	2,165	1,027	24	63,630
	SW	167	67	5,373	215	245	226	6,293
	Total	**55,367**	**4,874**	**5,780**	**2,380**	**1,272**	**250**	**69,923**

NOTE: All Pumpage reported in acre-feet 12/30/09

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=1)

Comal County[26]

Year	Source	Municipal[2]	Manufacturing[2]	Steam Electric[2]	Irrigation[2]	Mining[2]	Livestock[2]	Total
1974	GW	17	9	0	1	1	1	30
	SW	0	7	0	0	0	0	8
	Total	**17**	**17**	**0**	**1**	**1**	**1**	**37**
1980	GW	28	7	0	1	3	1	40
	SW	2	9	0	0	0	0	12
	Total	**30**	**17**	**0**	**1**	**3**	**1**	**52**
1984	GW	36	7	0	2	0	1	47
	SW	1	8	0	0	0	0	9
	Total	**37**	**15**	**0**	**2**	**0**	**1**	**56**
1985	GW	38	5	0	0	3	1	48
	SW	1	7	0	0	0	0	8
	Total	**39**	**12**	**0**	**0**	**3**	**1**	**55**
1986	GW	42	4	0	1	0	1	48
	SW	0	7	0	0	0	0	8
	Total	**43**	**11**	**0**	**2**	**0**	**1**	**57**
1987	GW	35	4	0	1	20	1	61
	SW	0	8	0	0	0	0	9
	Total	**35**	**12**	**0**	**2**	**20**	**1**	**69**
1988	GW	39	4	0	1	19	1	64
	SW	0	9	0	0	0	0	10
	Total	**39**	**13**	**0**	**2**	**19**	**1**	**74**
1989	GW	40	5	0	2	3	1	51
	SW	0	7	0	0	0	0	8
	Total	**40**	**13**	**0**	**2**	**3**	**1**	**59**
1990	GW	35	4	0	2	3	1	45
	SW	0	7	0	0	0	0	7
	Total	**35**	**11**	**0**	**2**	**3**	**1**	**52**
1991	GW	32	18	0	1	10	1	62
	SW	1	8	0	0	0	0	10
	Total	**33**	**26**	**0**	**1**	**10**	**1**	**72**
1992	GW	16	21	0	1	31	1	71
	SW	19	10	0	0	0	0	29
	Total	**35**	**31**	**0**	**1**	**31**	**1**	**99**
1993	GW	17	20	0	0	33	1	71
	SW	22	10	0	0	0	0	32
	Total	**39**	**30**	**0**	**0**	**33**	**1**	**103**
1994	GW	17	21	0	0	34	1	74

[26] Since the District does not cover all of Comal County, and the data are not subdivided into surface water basins, it is recommended that the Historical Groundwater Pumpage estimates presented in the management plan be based on (reduced by) a proportional area percentage unless more accurate data is available to the District. This percentage can be derived by dividing the amount of acres or square miles covered by the District by the total number of acres or square miles contained within Comal County. The percentage derived by the T.W.D.B. is 0.34% (i.e. 0.0034; see the 'Area' tab), but any estimate that the District provides is preferable. The county-wide data above have been converted to a proportional value (relative to the size of the District) by multiplying each value from the 'County Historical Groundwater Pumpage' worksheet by 0.0034.

	SW	23	9	0	0	0	0	33
	Total	**41**	**30**	**0**	**0**	**34**	**1**	**107**
1995	GW	19	22	0	0	30	1	72
	SW	26	9	0	0	0	0	35
	Total	**45**	**31**	**0**	**0**	**30**	**1**	**107**
1996	GW	20	33	0	0	30	1	84
	SW	27	8	0	0	0	0	36
	Total	**47**	**41**	**0**	**0**	**30**	**1**	**119**
1997	GW	20	21	0	0	26	1	68
	SW	23	7	0	0	0	0	31
	Total	**44**	**28**	**0**	**0**	**26**	**1**	**99**
1998	GW	27	22	0	0	8	1	57
	SW	22	7	0	0	0	0	29
	Total	**48**	**29**	**0**	**0**	**8**	**1**	**86**
1999	GW	32	26	0	0	8	1	66
	SW	17	1	0	0	0	0	18
	Total	**49**	**27**	**0**	**0**	**8**	**1**	**85**
2000	GW	24	21	0	0	8	1	53
	SW	26	1	0	0	0	0	27
	Total	**50**	**21**	**0**	**0**	**8**	**1**	**80**
2001	GW	18	5	0	0	8	1	31
	SW	30	2	0	0	0	0	32
	Total	**48**	**7**	**0**	**0**	**8**	**1**	**63**
2002	GW	17	5	0	0	8	1	31
	SW	29	2	0	0	0	0	32
	Total	**47**	**7**	**0**	**0**	**8**	**1**	**62**
2003	GW	18	12	0	0	8	1	38
	SW	31	4	0	2	0	0	38
	Total	**49**	**16**	**0**	**3**	**8**	**1**	**76**
2004	GW	19	6	0	1	8	1	34
	SW	36	2	0	1	0	0	39
	Total	**55**	**8**	**0**	**2**	**8**	**1**	**73**

NOTE: All Pumpage reported in acre-feet 12/30/09

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=1)

Kendall County[27]

Year	Source	Municipal[3]	Manufacturing[3]	Steam Electric[3]	Irrigation[3]	Mining[3]	Livestock[3]	Total
1974	GW	6	0	0	1	0	4	11
	SW	0	0	0	2	0	0	2
	Total	**6**	**0**	**0**	**3**	**0**	**4**	**13**
1980	GW	6	0	0	1	0	2	10
	SW	2	0	0	2	0	1	5
	Total	**8**	**0**	**0**	**3**	**0**	**3**	**14**
1984	GW	9	0	0	2	0	2	13
	SW	2	0	0	0	0	0	3
	Total	**11**	**0**	**0**	**2**	**0**	**2**	**16**
1985	GW	8	0	0	1	0	2	11
	SW	3	0	0	0	0	0	3
	Total	**11**	**0**	**0**	**1**	**0**	**2**	**14**
1986	GW	9	0	0	1	0	1	11
	SW	3	0	0	0	0	0	3
	Total	**12**	**0**	**0**	**1**	**0**	**2**	**15**
1987	GW	8	0	0	1	0	1	11
	SW	4	0	0	0	0	0	4
	Total	**12**	**0**	**0**	**1**	**0**	**2**	**15**
1988	GW	9	0	0	2	0	2	13
	SW	3	0	0	0	0	0	3
	Total	**12**	**0**	**0**	**3**	**0**	**2**	**17**
1989	GW	10	0	0	2	0	2	14
	SW	3	0	0	1	0	0	4
	Total	**13**	**0**	**0**	**3**	**0**	**2**	**18**
1990	GW	10	0	0	2	0	2	13
	SW	2	0	0	1	0	0	3
	Total	**12**	**0**	**0**	**2**	**0**	**2**	**16**
1991	GW	9	0	0	2	0	2	12
	SW	3	0	0	1	0	0	4
	Total	**12**	**0**	**0**	**2**	**0**	**2**	**16**
1992	GW	9	0	0	2	0	2	13
	SW	4	0	0	1	0	1	5
	Total	**13**	**0**	**0**	**2**	**0**	**3**	**18**
1993	GW	10	0	0	5	0	2	17
	SW	5	0	0	2	0	1	8
	Total	**15**	**0**	**0**	**7**	**0**	**3**	**25**
1994	GW	11	0	0	4	0	2	18

[27] Since the District does not cover all of Kendall County, and the data are not subdivided into surface water basins, it is recommended that the Historical Groundwater Pumpage estimates presented in the management plan be based on (reduced by) a proportional area percentage unless more accurate data is available to the District. This percentage can be derived by dividing the amount of acres or square miles covered by the District by the total number of acres or square miles contained within Kendall County. The percentage derived by the T.W.D.B. is 0.56% (i.e. 0.0056; see the 'Area' tab), but any estimate that the District provides is preferable. The county-wide data above have been converted to a proportional value (relative to the size of the District) by multiplying each value from the 'County Historical Groundwater Pumpage' worksheet by 0.0056.

	SW	5	0	0	3	0	1	8
	Total	**16**	**0**	**0**	**7**	**0**	**3**	**26**
1995	GW	12	0	0	5	0	2	19
	SW	5	0	0	2	0	1	7
	Total	**17**	**0**	**0**	**7**	**0**	**3**	**26**
1996	GW	14	0	0	5	0	2	20
	SW	4	0	0	2	0	0	7
	Total	**18**	**0**	**0**	**7**	**0**	**2**	**27**
1997	GW	16	0	0	5	0	2	22
	SW	2	0	0	2	0	0	5
	Total	**18**	**0**	**0**	**7**	**0**	**2**	**27**
1998	GW	16	0	0	5	0	2	23
	SW	3	0	0	2	0	0	6
	Total	**20**	**0**	**0**	**7**	**0**	**2**	**29**
1999	GW	18	0	0	5	0	2	24
	SW	1	0	0	2	0	1	4
	Total	**18**	**0**	**0**	**7**	**0**	**3**	**28**
2000	GW	16	0	0	2	0	2	20
	SW	4	0	0	1	0	0	5
	Total	**20**	**0**	**0**	**2**	**0**	**2**	**25**
2001	GW	19	0	0	4	0	1	25
	SW	1	0	0	2	0	1	4
	Total	**20**	**0**	**0**	**6**	**0**	**2**	**28**
2002	GW	16	0	0	4	0	1	22
	SW	3	0	0	2	0	1	5
	Total	**19**	**0**	**0**	**6**	**0**	**2**	**27**
2003	GW	15	0	0	1	0	1	17
	SW	4	0	0	2	0	1	6
	Total	**18**	**0**	**0**	**3**	**0**	**2**	**23**
2004	GW	15	0	0	1	0	1	17
	SW	4	0	0	1	0	1	5
	Total	**19**	**0**	**0**	**1**	**0**	**2**	**22**

NOTE: All Pumpage reported in acre-feet 12/30/2009

Source: TWDB Water Use Survey Database (http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=1)

Trinity Glen Rose GCD

13

From: Trinity Glen Rose GCD [g.wissmann@trinityglenrose.com]
Sent: Monday, October 18, 2010 11:54 AM
To: 'sraabe@sara-tx.org'; 'sbscott@sara-tx.org'; 'Gary Guy'; 'Ron Emmons'; 'comments@gbra.org'; 'mblopez@bexarmet.org'
Subject: TGRGCD Management Plan 2010
Attachments: 2010MgmtPlanADOPTED.doc

Attached is the recently updated and adopted TGRGCD Management Plan. As per the TWDB requirement, we are forwarding a copy to the following:

Region L
SARA
SAWS
GBRA
City of Fair Oaks Ranch
BexarMet

Please forward as appropriate and let us know if you have any questions.

Sincerely,

Trinity Glen Rose Groundwater Conservation District
6335 Camp Bullis Rd, Suite 25
San Antonio, TX 78257
www.trinityglenrose.com
Office (210) 698-1155
Fax (210) 698-1159

TRINITY GLEN ROSE GROUNDWATER CONSERVATION DISTRICT

RESOLUTION BY THE BOARD OF DIRECTORS OF THE TRINITY GLEN ROSE GROUNDWATER CONSERVATION DISTRICT ADOPTING GROUNDWATER MANAGEMENT PLAN

11

Whereas, state law requires the Trinity Glen Rose Groundwater Conservation District to adopt a groundwater management plan;

Whereas, the directors of the Trinity Glen Rose Groundwater Conservation District have completed the process for adoption of the groundwater management plan and must now approve the plan and submit it to the Texas Water Development Board and others for review and approval;

Therefore, be it resolved by the board of directors of the Trinity Glen Rose Groundwater Conservation District, that:

1. The Groundwater Management Plan as prepared by the board of directors and presented to the public during the public hearing is approved; that the approved Groundwater Management Plan be submitted to the Texas Water Development Board for review and certification; and that the approved Groundwater Management Plan be submitted to surface water management entities for review and comment.

2. The public officials and general counsel of the Trinity Glen Rose Groundwater Conservation District are authorized and directed to perform the acts required to implement the will of the board of directors as reflected by this resolution.

Passed, adopted and resolved this 14th day of October, 2010.

Jorge H. Gonzalez

Jorge Gonzalez
Vice President, Board of Directors

Attest:

Don Reddout

Don Reddout
Secretary, Board of Directors

PCD #: 153159

LT1-86-14458-1

TRINITY GLEN ROSE GROUNDWATER CONSERVATION DISTRICT
A PUBLIC HEARING AND A MEETING OF THE BOARD DIRECTORS WILL TAKE PLACE AT
Concordia Lutheran Church 16801 Huebner Rd (north of 1604) Tel 479-1477
Main Administration Bldg. 2nd floor San Antonio, Texas
BEGINNING AT 9:30 AM ON October 14, 2010

The Trinity Glen Rose Groundwater Conservation District is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please contact the District Representative at 210-219-5555 at least 24 hours in advance if accommodation is needed.

12

THE FOLLOWING AGENDA ITEMS WILL BE ADDRESSED DURING THE BOARD OF DIRECTORS MEETING:

1. Call to order.
2. Declare a quorum.
3. Public comments.
4. Approve and adopt minutes from prior meeting.
5. **A PUBLIC HEARING WILL BE HELD REGARDING THE TRINITY GLEN ROSE GROUNDWATER CONSERVATION DISTRICT'S PROPOSED REVISIONS TO THE DISTRICT'S MANAGEMENT PLAN**
6. Approve Resolution to adopt District's Management Plan revisions.
7. Presentation by Andrew Winter regarding SEP-HCP status.
8. Discussion and action regarding review and approval of financial statements and well production fees.
9. Discussion and action regarding notices of intent and inspection of well drilling, modification, plugging & capping.
10. Discussion and action regarding TCEQ preliminary hearing on Groundwater Conservation District Creation for the Hill Country Priority Groundwater Management Area.
11. Manager's Report:
    a. USGS Spring Survey Phase II.
    b. Monitor wells.
    c. Scheduling open house.
    d. Update on Outreach and Conservation activities.
    e. Update on rule review status.
12. Discussion and action regarding agenda items for next meeting and adjourn.

LT2-0-0-1

The Board may close the Meeting and hold an Executive Session pursuant to the Texas Open Meetings Act, Government Code, which permits closed meetings pursuant to Section 551.071 for purposes of consulting with its attorneys, Section 551.072 - deliberating about real property, Section 551.073 - deliberating about gifts and donations, Section 551.074 - deliberating about personnel matters and Section 551.076 – deliberating about security devices to discuss matters as Executive Session matters in this agenda. The Board may, at any time during the Meeting, close the Meeting and hold an Executive Session pursuant to Sections 551.071 to 551.074 and 551.076 of the Texas Open Meetings Act to discuss and/or deliberate any of the matters to be considered during the Meeting.

TRINITY GLEN ROSE GROUNDWATER CONSERVATION DISTRICT
A PUBLIC HEARING AND A MEETING OF THE BOARD DIRECTORS WILL TAKE PLACE AT
Concordia Lutheran Church 16801 Huebner Rd (north of 1604) Tel 479-1477
Main Administration Bldg. 2nd floor San Antonio, Texas
BEGINNING AT 9:30 AM ON October 14, 2010

The Trinity Glen Rose Groundwater Conservation District is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please contact the District Representative at 210-219-5555 at least 24 hours in advance if accommodation is needed.

THE FOLLOWING AGENDA ITEMS WILL BE ADDRESSED DURING THE BOARD OF DIRECTORS MEETING:

12

1. Call to order.
2. Declare a quorum.
3. Public comments.
4. Approve and adopt minutes from prior meeting.
5. **A PUBLIC HEARING WILL BE HELD REGARDING THE TRINITY GLEN ROSE GROUNDWATER CONSERVATION DISTRICT'S PROPOSED REVISIONS TO THE DISTRICT'S MANAGEMENT PLAN**
6. Approve Resolution to adopt District's Management Plan revisions.
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RECEIVED
2010 OCT -7 PM 1:11
JUDY STREATER
COMAL COUNTY CLERK

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THE FOLLOWING AGENDA ITEMS WILL BE ADDRESSED DURING THE BOARD OF DIRECTORS MEETING:

Kendall County
DARLENE HERRIN
COUNTY CLERK
On: 10/07/2010 10:47AM
By: Harriet P Seidensticker, Deputy

1. Call to order.
2. Declare a quorum.
3. Public comments.
4. Approve and adopt minutes from prior meeting.
5. **A PUBLIC HEARING WILL BE HELD REGARDING THE TRINITY GLEN ROSE GROUNDWATER CONSERVATION DISTRICT'S PROPOSED REVISIONS TO THE DISTRICT'S MANAGEMENT PLAN**
6. Approve Resolution to adopt District's Management Plan revisions.
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