

Senate Bill 1  
South Central Texas RWPG  
Staff Workgroup Meeting  
January 20, 2015 at 2:00 pm at  
San Antonio Water System (SAWS)

1. Status of Technical Consultants Work and Schedule
  - a. Review of Consultants Work and Schedule
  - b. Presentation and review of technical evaluations of Water Management Strategies for presentation at February Planning Group Meeting
  - c. Presentation and review of Wholesale Water Provider Tables indicating demands and potentially feasible Water Management Strategies proposed to meet those demands
  - d. Presentation and review of Chapter 6 Cumulative Effects Procedures
2. Policy Recommendations and Unique Sites Update
3. Review Draft Agenda for the January 5, 2015 Planning Group Meeting
4. Any Additional Items for Consideration

# Potential Issues For The 2016 SCTRWP

January 19, 2015

- 1) Carrizo Aquifer Workgroup (Status: Recommendation Approved)
  - a) Multiple Potentially Feasible Projects Exceed MAG
  - b) TWDB will not allow for over-allocation in the 2016 RWP
- 2) Importing Groundwater from Other Regions (Status: Technical Evaluation Refined per Hays County and Region K)
- 3) Meeting Needs of Formosa (Status: Con Mims has discussed with LNRA)
  - a) Coordination with Regions P and N; Technical Evaluation
- 4) Implementation of TCEQ Estuary Environmental Flow Standards (Status: No documentation from TCEQ; Proceed based on comments with TCEQ)
- 5) Population and/or Water Demand Projections Revisions (Status: Finished)
- 6) Eagle-Ford Shale Demands – Direct, Indirect, and Induced (Status: Finished)
- 7) Whooping Crane Litigation (Status: TAP's appeal to 5th Circuit Denied, Option to Appeal to Supreme Court – March)
- 8) Meeting Steam-Electric Needs in Victoria County (Status: WMS Evaluation Presented)
- 9) Inter-Regional Coordination (e.g. SAWS Vista Ridge & Hays County Forestar) (Status: No Conflict with Region G)
- 10) Legislation (Status: Legislative Session Ended; Responding to legislation adopted in 2013; New Session Underway)

2016 South Central Texas Regional Water Plan  
Proposed Workplan for Development

Tasks	Description	2014					2015											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Task 1	Planning Area Description																	
Task 2a	Non-Pop. Based Demand Projections																	
Task 2b	Population & Demand Projections																	
Task 3	Water Supply Analyses																	
EAHCP	Implementation																	
TAP	Whooping Crane Lawsuit																	
Task 4	Water Management Strategies																	
Task 4a	Needs Assessment																	
Task 4b	ID Potentially Feasible WMSs																	
Task 4b.1	WMS Verification																	
Task 4c	Technical Memorandum																	
Task 4d	WMS Technical Evaluations																	
Task 5	Conservation Recommendations																	
Task 6	Long-term Resource Protection																	
Task 6.1	Cumulative Effects of RWP																	
Task 7	Drought Response Information																	
Task 8	Policies & Recmdtns / Unique Sites																	
Task 9	Infrastructure Funding																	
Task 10	Plan Adoption																	
Task 11	Implement. & Compare to Prv RWPs																	
Task 12a	Prioritization of 2011 WMSs																	
Task 12b	Prioritization of 2016 WMSs																	

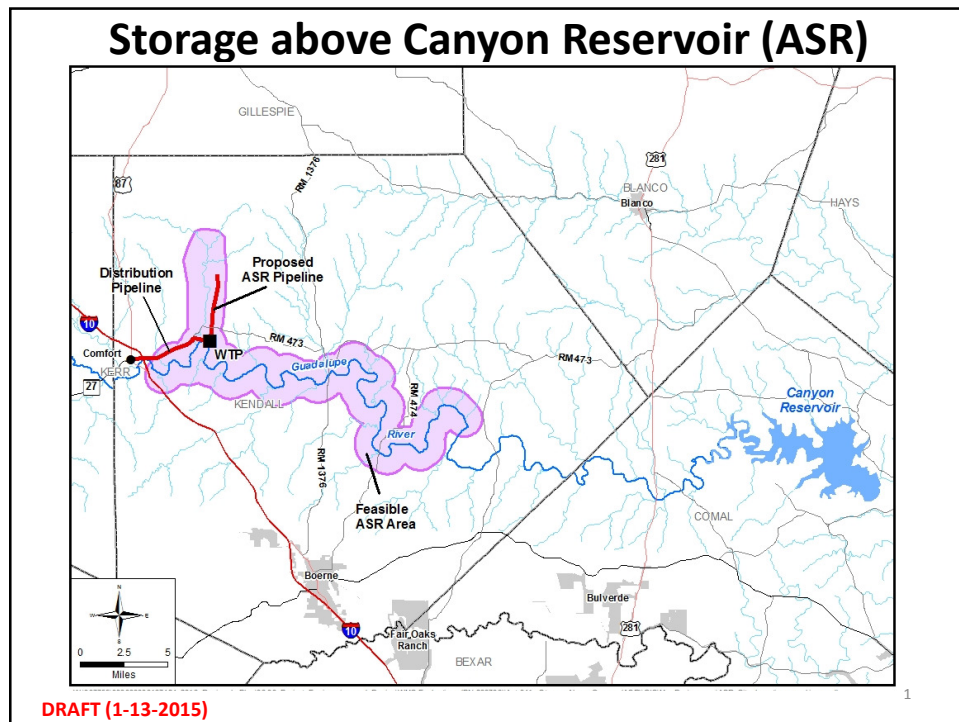


IPP Deadline:  
May 1, 2015

RWP Deadline:  
December 2015

**Legend:**

- ★ SCTRWPG Action
- ★ TWDB Action
- ↑ Scheduled SCTRWPG Meeting
- ↑ Probable SCTRWPG Meeting



### Storage above Canyon Reservoir (ASR)

- **Purposes and Objectives**
  - Supplemental water supplies
  - Meet seasonal demands when restrictions are active
  - Meet water demand growth in the rural Kendall and Kerr County areas
  - Water security
- **Water Supply**
  - Water Source: Guadalupe River in Kendall County
  - Aquifer Storage Site: Trinity Aquifer in Kendall County
  - Diversions Subject to Prior Appropriation and TCEQ Environmental Flow Standards

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## Storage above Canyon Reservoir (ASR)

- Facilities:
  - 15 wells with capacity of 350 gpm
  - Well collection pipelines and pumps
  - 5 MGD WTP at intake site in Kendall County
  - 600 ft intake pipe to WTP (16")
  - 4 mile ASR pipeline (Varies from 10" to 16")
  - 5 mile Transmission pipeline to City of Comfort (6")

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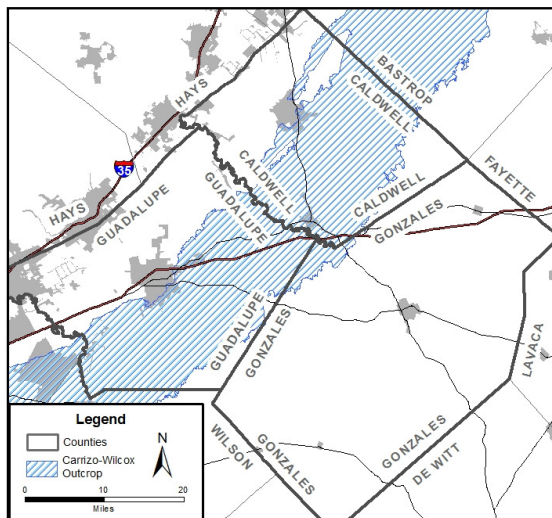
## Storage above Canyon Reservoir (ASR)

	Envisioned Project
Capital Costs	\$30,592,000
Project Costs	\$45,203,000
Annual Costs	\$5,985,000
Project Yield (acft/yr)	504
Unit Costs (\$/acft/yr)	\$11,875

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## Brush Management – Gonzales County



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## Brush Management – Gonzales County

- Concept:
  - Brush Management over the Carrizo-Wilcox Outcrop in Guadalupe, Gonzales, and Caldwell Counties
  - Increases Recharge to the Carrizo-Wilcox Aquifer
  - Increases Amount of Water in Storage in Gonzales County
  - Using GAM, Determine the Increase in the MAG While Maintaining the DFC

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## Brush Management – Gonzales County

- Costs:
  - Costs based on 2011 SCTRWP plus Inflation of 1.5% for 5 years
  - Initial Clearing = \$215.5/acre
  - Maintenance Clearing = \$5.39/acre every 5 years
  - Monitoring = \$313,500/yr

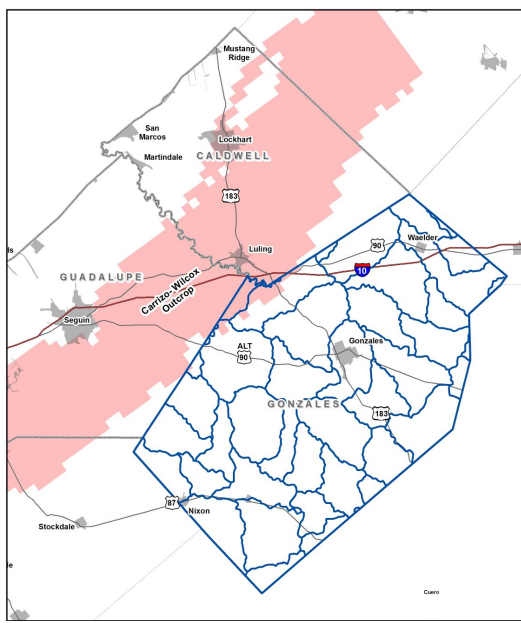
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## Brush Management – Gonzales County

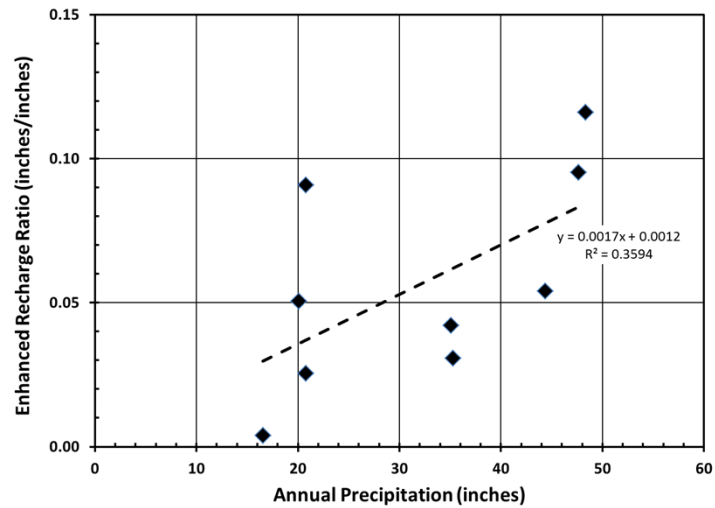
Texas State Soil  
and Water  
Conservation  
Board (TSSWCB)  
Study:

Texas Tech's  
Ecological  
Dynamics  
Simulation (EDYS)  
Model of Gonzales  
County



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## Brush Management – Gonzales County



*\*Enhanced Recharge Ratio = Ratio of Enhanced Recharge to the Annual Precipitation*

$$\text{Enhanced Recharge} = \text{Average Annual Precipitation}^2 \times 0.00117$$

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## Brush Management – Gonzales County

Percent of Landowner Participation	Treated Acres	Enhanced Recharge (acft/yr)
10%	43,904	7,916
30%	131,712	23,749
50%	219,520	39,582
100%	439,040	79,163

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## Brush Management – Gonzales County

	10 % Landowner Participation	30 % Landowner Participation	50 % Landowner Participation	100 % Landowner Participation
Carrizo Aquifer MAG Increase (acft/yr)	758	2,274	3,790	6,065
Middle Wilcox Aquifer MAG Increase (acft/yr)	35	105	280	641
Lower Wilcox Aquifer MAG Increase (acft/yr)	576	2,251	2,855	7,204
<b>Total MAG Increase (acft/yr)</b>	<b>1,370</b>	<b>4,631</b>	<b>6,925</b>	<b>13,910</b>
<b>Unit Cost (\$/acft/yr)</b>	<b>1,209</b>	<b>937</b>	<b>1,015</b>	<b>988</b>

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<b>Canyon Regional Water Authority (CRWA)</b>						
<b>CRWA Projected Demands (acft/yr):</b>						
<b>Lake Dunlap/Wells Ranch Group Current Demand</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
San Antonio Water System	6,800	6,800	6,800	6,800	6,800	6,800
City of Cibolo	2,550	2,550	2,550	2,550	2,550	2,550
East Central WSC	1,900	1,900	1,900	1,900	1,900	1,900
Green Valley SUD	2,500	2,500	2,500	2,500	2,500	2,500
City of La Vernia	400	400	400	400	400	400
City of Marion	200	200	200	200	200	200
Springs Hills WSC	2,025	2,025	2,025	2,025	2,025	2,025
Crystal Clear WSC	800	1,540	1,540	1,540	1,540	1,540
Converse	0	0	0	0	0	0
<b>Total Current Demand</b>	<b>17,175</b>	<b>17,915</b>	<b>17,915</b>	<b>17,915</b>	<b>17,915</b>	<b>17,915</b>
<b>Lake Dunlap/Wells Ranch Group Potential Future Demand</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
San Antonio Water System	2,854	2,854	2,854	2,854	2,854	2,854
City of Cibolo	0	0	0	0	0	0
East Central WSC		500	500	500	500	500
Green Valley SUD	3,490	4,490	4,490	8,490	8,490	13,490
City of La Vernia	0	25	81	133	184	229
City of Marion	0	0	0	0	0	0
Crystal Clear WSC	800	1,540	1,540	1,540	1,540	1,540
Converse	903	1,111	1,297	1,272	1,265	1,264
<b>Total Future Demand</b>	<b>8,047</b>	<b>10,520</b>	<b>10,762</b>	<b>14,789</b>	<b>14,833</b>	<b>19,877</b>
<b>Lake Dunlap/Wells Ranch Group Total Demand</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
San Antonio Water System	9,654	9,654	9,654	9,654	9,654	9,654
City of Cibolo	2,550	2,550	2,550	2,550	2,550	2,550
East Central WSC	1,900	2,400	2,400	2,400	2,400	2,400
Green Valley SUD	5,990	6,990	6,990	10,990	10,990	15,990
City of La Vernia	400	425	481	533	584	629
City of Marion	200	200	200	200	200	200
Springs Hills WSC	2,025	2,025	2,025	2,025	2,025	2,025
Crystal Clear WSC	1,600	3,080	3,080	3,080	3,080	3,080
Converse	903	1,111	1,297	1,272	1,265	1,264
<b>Total Demand</b>	<b>25,222</b>	<b>28,435</b>	<b>28,677</b>	<b>32,704</b>	<b>32,748</b>	<b>37,792</b>
<b>CRWA Supply:</b>						
	<b>Year (acft)</b>					
<b>Source</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
GBRA - Lake Dunlap	10,575	10,575	10,575	10,575	10,575	10,575
Wells Ranch Phase I	5,200	5,200	5,200	5,200	5,200	5,200
Purchase from Springs Hill						
Run-of-River Water Rights	490	490	490	490	490	490
<b>Total Supply</b>	<b>16,265</b>	<b>16,265</b>	<b>16,265</b>	<b>16,265</b>	<b>16,265</b>	<b>16,265</b>
<b>CRWA Projected Needs:</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Total System Management Supplies/(Needs)</b>	<b>(8,957)</b>	<b>(12,170)</b>	<b>(12,412)</b>	<b>(16,439)</b>	<b>(16,483)</b>	<b>(21,527)</b>
<b>CRWA Water Management Strategies (WMS) with Estimated Firm Yield (acft/yr):</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Recommended WMS</b>						
Conservation <sup>1</sup>						
CRWA Wells Ranch - Phase 2 <sup>3</sup>	7,829	7,658	7,829	7,829	7,829	7,829
Hays/Caldwell PUA <sup>3</sup>	2,182	2,634	1,634	3,744	3,744	3,744
Brackish Wilcox Groundwater for CRWA <sup>3</sup>		1,112	2,791	3,323	3,839	3,839
CRWA Siesta Project		5,042	5,042	5,042	5,042	5,042
Edwards Transfers, Carrizo Transfers, or Trinity						1,200
<b>Total Recommended WMS</b>	<b>10,011</b>	<b>16,446</b>	<b>17,295</b>	<b>19,938</b>	<b>20,454</b>	<b>21,654</b>
<b>Management Supplies with Recommended WMS<sup>2</sup></b>	<b>1,054</b>	<b>4,276</b>	<b>4,883</b>	<b>3,499</b>	<b>3,971</b>	<b>127</b>
<b>Alternative WMS<sup>2</sup></b>						
CRWA Wells Ranch - Phase 2 <sup>3</sup>	7,829	7,829	7,829	7,829	7,829	7,829
Hays/Caldwell PUA <sup>3</sup>	8,025	8,025	8,025	8,025	8,025	8,025
Brackish Wilcox Groundwater for CRWA <sup>3</sup>		14,700	14,700	14,700	14,700	14,700
HCPUA/TWA Joint	9,569	9,569	9,569	9,569	9,569	9,569

<b>CRWA Projected Demands (acft/yr):</b>						
<b>Hays Caldwell Area Current Demand</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
County Line SUD	1,308	1,308	1,308	1,308	1,308	1,308
Crystal Clear WSC	500	500	500	500	500	500
Martindale	190	190	190	190	190	190
Maxwell WSC	900	900	900	900	900	900
<b>Total Current Demand</b>	<b>2,898</b>	<b>2,898</b>	<b>2,898</b>	<b>2,898</b>	<b>2,898</b>	<b>2,898</b>
<b>Hays Caldwell Area Future Demand</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
County Line SUD	0	0	0	0	180	392
Crystal Clear WSC	0	0	0	0	0	0
Martindale	0	31	66	102	140	177
Maxwell WSC	0	0	0	0	0	0
<b>Total Future Demand</b>	<b>0</b>	<b>31</b>	<b>66</b>	<b>102</b>	<b>320</b>	<b>569</b>
<b>Hays Caldwell Area Total Demand</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
County Line SUD	1,308	1,308	1,308	1,308	1,488	1,700
Crystal Clear WSC	500	500	500	500	500	500
Martindale	190	221	256	292	330	367
Maxwell WSC	900	900	900	900	900	900
<b>Total Demand</b>	<b>2,898</b>	<b>2,929</b>	<b>2,964</b>	<b>3,000</b>	<b>3,218</b>	<b>3,467</b>
<b>CRWA Supply:</b>						
<b>Source</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
GBRA - Hays/Caldwell	2,038	2,038	2,038	2,038	2,038	2,038
Water Right Leases	540	540	540	540	540	540
<b>Total Supply</b>	<b>2,578</b>	<b>2,578</b>	<b>2,578</b>	<b>2,578</b>	<b>2,578</b>	<b>2,578</b>
<b>CRWA Projected Needs:</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Total System Management Supplies/(Needs)</b>	<b>(320)</b>	<b>(351)</b>	<b>(386)</b>	<b>(422)</b>	<b>(640)</b>	<b>(889)</b>
<b>CRWA Water Management Strategies (WMS) with Estimated Firm Yield (acft/yr):</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b><u>Recommended WMS</u></b>						
Conservation <sup>1</sup>						
Hays/Caldwell PUA <sup>3</sup>	1,000	2,000	3,000	3,000	3,000	3,000
<b>Total Recommended WMS</b>	<b>1,000</b>	<b>2,000</b>	<b>3,000</b>	<b>3,000</b>	<b>3,000</b>	<b>3,000</b>
<b>Management Supplies with Recommended WMS<sup>2</sup></b>	<b>680</b>	<b>1,649</b>	<b>2,614</b>	<b>2,578</b>	<b>2,360</b>	<b>2,111</b>
<b><u>Alternative WMS<sup>2</sup></u></b>						
HCPUA/TWA Joint	1,000	2,000	3,000	3,000	3,000	3,000
<b>TOTAL HC PUA Supply</b>	<b>3,182</b>	<b>4,634</b>	<b>4,634</b>	<b>6,744</b>	<b>6,744</b>	<b>6,744</b>
<sup>1</sup> Assigned by Water User Group (WUG) based on Municipal Conservation WMS recommended by SCTRWPG.						
<sup>2</sup> Management Supplies and Alternative WMS are included in the event that Recommended WMS are not fully developed.						
<sup>3</sup> For each aquifer in the region, the GCDs have adopted desired future conditions (DFCs). In some GCDs, full use of all groundwater supplies (permitted, grandfathered and exempt) may result in non-achievement of the DFCs for an aquifer. To ensure consistency with the DFCs, TWDB currently requires that groundwater availability for each aquifer be limited for planning purposes to the modeled available groundwater (MAG) for the aquifer. This has resulted, for planning purposes only, in adjustments to permit amounts, and a lack of firm water available for future permits in this plan for some areas for certain time periods. This should not be construed as recommending or requiring that GCDs make these adjustments, or deny future permit applications. SCTRWPG recognizes and supports the ability of permit holders to exercise their rights to groundwater use in accordance with their permits and it recognizes and supports the GCDs discretion to issue permits and grandfather historical users for amounts in excess of the MAG. SCTRWPG may not modify groundwater permits that GCDs have already issued or limit future permits that GCDs may issue. If the MAG is increased during or after this planning cycle, SCTRWPG may amend this Plan to adjust groundwater supply numbers that are affected by the new MAG amount.						

**1/20/2015 DRAFT**

<b>Cibolo Valley Local Government Corporation (CVLGC)</b>						
<b>CVLGC Projected Demands (acft/yr):</b>						
<b>Water Purchaser</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Cibolo	0	1,814	3,139	4,438	5,764	7,066
Schertz	0	0	0	0	2,235	4,804
<b>Total Demand</b>	<b>0</b>	<b>1,814</b>	<b>3,139</b>	<b>4,438</b>	<b>7,999</b>	<b>11,870</b>
<b>CVLGC Supply:</b>						
<b>Source</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Total Supply</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>CVLGC Projected Needs:</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Total System Management Supplies/(Needs)</b>	<b>0</b>	<b>(1,814)</b>	<b>(3,139)</b>	<b>(4,438)</b>	<b>(7,999)</b>	<b>(11,870)</b>
<b>CVLGC Water Management Strategies (WMS) with Estimated Firm Yield (acft/yr):</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Recommended WMS</b>						
Conservation <sup>2</sup>						
Carrizo Aquifer (Wilson Co)	0	0	0	0	0	0
w/ Transfers	8,800	8,800	8,800	8,800	8,800	8,800
<b>Total Recommended WMS</b>	<b>8,800</b>	<b>8,800</b>	<b>8,800</b>	<b>8,800</b>	<b>8,800</b>	<b>8,800</b>
<b>Management Supplies with Recommended WMS<sup>4</sup></b>	<b>8,800</b>	<b>6,986</b>	<b>5,661</b>	<b>4,362</b>	<b>801</b>	<b>-3,070</b>
<b>Alternative WMS<sup>4</sup></b>						

<sup>1</sup> Permitted production as of September 2013, less 12% loss rate.

<sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Conservation WMS recommended by SCTRWP.

<sup>3</sup> For each aquifer in the region, the GCDs have adopted desired future conditions (DFCs). In some GCDs, full use of all groundwater supplies (permitted, grandfathered and exempt) may result in non-achievement of the DFCs for an aquifer. To ensure consistency with the DFCs, TWDB currently requires that groundwater availability for each aquifer be limited for planning purposes to the modeled available groundwater (MAG) for the aquifer. This has resulted, for planning purposes only, in adjustments to permit amounts, and a lack of firm water available for future permits in this plan for some areas for certain time periods. This should not be construed as recommending or requiring that GCDs make these adjustments, or deny future permit applications. SCTRWP recognizes and supports the ability of permit holders to exercise their rights to groundwater use in accordance with their permits and it recognizes and supports the GCDs discretion to issue permits and grandfather historical users for amounts in excess of the MAG. SCTRWP may not modify groundwater permits that GCDs have already issued or limit future permits that GCDs may issue. If the MAG is increased during or after this planning cycle, SCTRWP may amend this Plan to adjust groundwater supply numbers that are affected by the new MAG amount.

<sup>4</sup> Management Supplies and Alternative WMS are included in the event that Recommended WMS are not fully developed.

# 1/20/2015 DRAFT

<b>Guadalupe-Blanco River Authority (GBRA)</b>						
<b>GBRA Projected Demands (acft/yr):</b>						
	<b>Year (acft)</b>					
<b>Water Purchaser</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Municipal (Canyon Reservoir)</b>						
<b><u>Upper Basin - At or Above Canyon Reservoir</u></b>						
Canyon Lake WSC	6,000	6,000	6,000	6,000	6,000	6,000
City of Blanco (through Canyon Lake WSC)	600	600	600	600	600	600
HH Ranch Properties	250	250	250	250	250	250
Domestic Contracts	10	10	10	10	10	10
Canyon Lake WSC (formerly Rebecca Creek MUD)	130	130	130	130	130	130
Kendall County Rural	0	0	0	0	0	0
Kerr County MOU		2,000	2,000	2,000	2,000	2,000
Upstream Diversion Contracts	155	155	155	155	155	155
WW Sports	1	1	1	1	1	1
Yacht Club	10	10	10	10	10	10
SJWTX - Bulverde (Western Canyon)	400	400	400	400	400	400
SJWTX - Park Village (Western Canyon)	322	322	322	322	322	322
City of Boerne (Western Canyon)	3,611	3,611	3,948	4,906	5,895	6,869
City of Fair Oaks Ranch (Western Canyon)	1,850	1,850	1,850	1,850	1,850	1,850
Cordillera Ranch (Western Canyon)	1,000	1,000	1,000	1,000	1,000	1,000
DH Invest.-Johnson Ranch (Western Canyon)	400	400	400	400	400	400
Lerin Hills (Western Canyon)	750	750	750	750	750	750
Kendall & Tapatio (Western Canyon)	750	750	750	750	750	750
Comal Trace (Western Canyon)	100	100	100	100	100	100
SAWS (Western Canyon)	2,017	2,017				
<b>Western Canyon Sub-Total</b>	<b>11,200</b>	<b>11,200</b>	<b>9,520</b>	<b>10,478</b>	<b>11,467</b>	<b>12,441</b>
<b>Total Upper Basin Municipal (Canyon Reservoir)</b>	<b>18,356</b>	<b>20,356</b>	<b>18,676</b>	<b>19,634</b>	<b>20,623</b>	<b>21,597</b>
<b><u>Mid Basin - Below Canyon Dam to Above Victoria</u></b>						
CRWA - Guadalupe River Basin Customers	4,000	4,000	4,000	4,000	4,000	4,000
CRWA - Cibolo	1,350	1,350	1,350	1,350	1,350	1,350
CRWA - East Central SUD	1,400	1,400	1,400	1,400	1,400	1,400
CRWA - Green Valley SUD	1,800	1,800	1,800	1,800	1,800	1,800
CRWA - Marion	100	100	100	100	100	100
CRWA - Springs Hill WSC	1,925	1,925	1,925	1,925	1,925	1,925
<b>CRWA Dunlap Current Contract Subtotal</b>	<b>10,575</b>	<b>10,575</b>	<b>10,575</b>	<b>10,575</b>	<b>10,575</b>	<b>10,575</b>
CRWA Dunlap Future Contract	0	0	0	0	0	0
Comal County Rural	0	0	0	0	0	0
New Braunfels Utilities	9,720	10,072	10,921	11,789	12,668	13,519
Crystal Clear WSC	800	800	800	800	800	800
City of Seguin	1,000	1,000	1,000	1,000	1,000	1,000
Dittmar, Gary	5	5	5	5	5	5
Dittmar, Ray	5	5	5	5	5	5
Gonzales County WSC	700	700	700	700	700	700
Green Valley SUD	1,000	1,000	1,000	1,000	1,000	1,000
Springs Hill WSC	2,500	2,500	2,500	2,500	2,500	2,500
Canyon Regional Water Authority (H/C WTP)	2,038	2,038	2,038	2,038	2,038	2,038
Wimberley & Wimberley WSC	0	0	410	1,020	1,712	2,502
Hays County Rural				1,169	6,714	12,872
City of Niederwald (San Marcos WTP)	62	81	105	134	166	203
City of Buda (San Marcos WTP)	1,680	1,680	1,680	1,680	1,680	1,680
City of Kyle (San Marcos WTP)	5,443	5,443	5,443	5,443	5,443	5,443
Sunfield MUD (San Marcos WTP)	3,136	3,136	3,136	3,136	3,136	3,136
Plum Creek WC/Monarch (San Marcos WTP)	560	560	560	560	560	560
City of San Marcos (San Marcos WTP)	10,000	10,000	10,000	10,000	10,000	10,000
Goforth WSC (San Marcos WTP)	1,050	1,050	1,050	1,050	1,050	1,143
<b>San Marcos WTP Sub-Total</b>	<b>21,931</b>	<b>21,950</b>	<b>21,974</b>	<b>22,003</b>	<b>22,035</b>	<b>22,165</b>
<b>Total Mid Basin Municipal (Canyon Reservoir)</b>	<b>50,274</b>	<b>50,645</b>	<b>51,928</b>	<b>54,604</b>	<b>61,752</b>	<b>69,681</b>

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<b><u>Lower Basin - At or Below Victoria</u></b>						
City of Victoria (pursuant to Canyon Amendment)	1,240	1,240	1,240	1,240	1,240	1,240
<b>Total Lower Basin Municipal (Canyon Reservoir)</b>	<b>1,240</b>	<b>1,240</b>	<b>1,240</b>	<b>1,240</b>	<b>1,240</b>	<b>1,240</b>
<b><u>Industrial/Steam-Electric (Canyon Reservoir)</u></b>						
<b><u>Mid Basin - Below Canyon Dam to Above Victoria</u></b>						
Acme Brick	25	25	25	25	25	25
CMC Steel	700	700	700	700	700	700
Guadalupe County	2	2	2	2	2	2
Temple Inland (St. Gyp)	258	258	258	258	258	258
Guadalupe County Manufacturing	0	0	0	163	494	854
Comal Fair	1	1	1	1	1	1
Comal Road Department	3	3	3	3	3	3
Comal County Manufacturing	4,130	4,881	5,612	6,239	7,120	8,074
GPP (Panda Energy)	6,840	6,840	6,840	6,840	6,840	6,840
Hays Energy LP	2,464	2,464	2,464	2,464	2,464	2,464
<b>Total Mid Basin Industrial/SE (Canyon Reservoir)</b>	<b>14,423</b>	<b>15,174</b>	<b>15,905</b>	<b>16,695</b>	<b>17,907</b>	<b>19,221</b>
<b><u>Lower Basin - At or Below Victoria</u></b>						
Coletto Creek	6,000	6,000	6,000	6,000	6,000	6,000
Dow/UCC	100	100	100	100	100	100
<b>Total Lower Basin Industrial/SE (Canyon Reservoir)</b>	<b>6,100</b>	<b>6,100</b>	<b>6,100</b>	<b>6,100</b>	<b>6,100</b>	<b>6,100</b>
<b><u>Irrigation (Canyon Reservoir)</u></b>						
<b>Irrigation Contracts (Upper Basin)</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>
<b>Irrigation Contracts (Mid-Basin)</b>	<b>342</b>	<b>342</b>	<b>342</b>	<b>342</b>	<b>342</b>	<b>342</b>
<b>Canyon Reservoir Total</b>	<b>90,985</b>	<b>94,107</b>	<b>94,441</b>	<b>98,865</b>	<b>108,214</b>	<b>118,431</b>
<b><u>Mid-Basin Municipal (San Marcos Run-of-River)</u></b>						
Lockhart	1,120	1,120	1,120	1,484	1,947	2,402
Luling	1,680	1,680	1,680	1,680	1,684	1,875
<b>Mid-Basin Municipal (San Marcos Run-of-River) Total</b>	<b>2,800</b>	<b>2,800</b>	<b>2,800</b>	<b>3,164</b>	<b>3,631</b>	<b>4,277</b>
<b><u>Lower Basin Municipal (Run-of-River, Firm)</u></b>						
Calhoun County Rural WSC	1,500	1,500	1,500	1,500	1,500	1,500
Port Lavaca	4,480	4,480	4,480	4,480	4,480	4,480
Port O'Conner MUD	1,120	1,120	1,120	1,120	1,120	1,120
Victoria County Rural	0	0	0	0	0	0
<b>Total Lower Basin Municipal (Run-of-River, Firm)</b>	<b>7,100</b>	<b>7,100</b>	<b>7,100</b>	<b>7,100</b>	<b>7,100</b>	<b>7,100</b>
<b><u>Lower Basin Industrial/SE (Run-of-River, Firm)</u></b>						
INEOS	3,300	3,300	3,300	3,300	3,300	3,300
Seadrift Coke	1,000	1,000	1,000	1,000	1,000	1,000
Dow/UCC	20,000	20,000	20,000	20,000	20,000	20,000
Calhoun County Industry (Lavaca-Guadalupe)	0	0	0	2,456	7,288	11,469
Calhoun County Industry (Colorado-Lavaca)	10,000	10,000	10,000	10,000	10,000	10,000
Victoria County Industry	3,215	6,053	8,878	11,403	14,243	17,289
Victoria County Steam-Electric	4,506	29,778	37,178	53,599	70,696	70,696
<b>Total Lower Basin Industrial/SE (Run-of-River, Firm)</b>	<b>42,021</b>	<b>70,131</b>	<b>80,356</b>	<b>101,758</b>	<b>126,527</b>	<b>133,754</b>
<b><u>Lower Basin Industrial/SE (Run-of-River, Interruptible)</u></b>						
Calhoun & Victoria Counties	0	0	0	0	0	0
<b>Total Lower Basin Industrial/SE (Run-of-River, Interruptible)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b><u>Lower Basin Irrigation (Run-of-River, Interruptible)</u></b>						
<b>Irrigation Agreements</b>	<b>13,472</b>	<b>11,935</b>	<b>10,894</b>	<b>10,148</b>	<b>9,453</b>	<b>8,726</b>
<b>Lower Basin (Run-of-River, Firm) Total</b>	<b>49,121</b>	<b>77,231</b>	<b>87,456</b>	<b>108,858</b>	<b>133,627</b>	<b>140,854</b>
<b>Lower Basin (Run-of-River, Interruptible) Total</b>	<b>13,472</b>	<b>11,935</b>	<b>10,894</b>	<b>10,148</b>	<b>9,453</b>	<b>8,726</b>
<b>Total Demand</b>	<b>156,378</b>	<b>186,073</b>	<b>195,591</b>	<b>221,035</b>	<b>254,925</b>	<b>272,288</b>
<b>Total Upper Basin Demand</b>	<b>18,606</b>	<b>20,606</b>	<b>18,926</b>	<b>19,884</b>	<b>20,873</b>	<b>21,847</b>
<b>Total Mid-Basin Demand</b>	<b>67,839</b>	<b>68,961</b>	<b>70,975</b>	<b>74,805</b>	<b>83,632</b>	<b>93,521</b>
<b>Total Lower Basin Demand</b>	<b>69,933</b>	<b>96,506</b>	<b>105,690</b>	<b>126,346</b>	<b>150,420</b>	<b>156,920</b>
<b>Total Demand</b>	<b>156,378</b>	<b>186,073</b>	<b>195,591</b>	<b>221,035</b>	<b>254,925</b>	<b>272,288</b>

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<b>GBRA Existing Supplies (acft/yr):</b>						
	<b>Year (acft)</b>					
<b>Source</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Canyon Reservoir (Firm, Daily Basis)	89,100	88,960	88,820	88,680	88,540	88,400
San Marcos Run-of-River Rights (Interruptible)	4,422	4,422	4,422	4,422	4,422	4,422
San Marcos Run-of-River Rights (Firm)	0	0	0	0	0	0
Lower Basin Run-of-River Rights (Interruptible, Daily Basis)	131,288	131,288	131,288	131,288	131,288	131,288
Lower Basin Run-of-River Rights (Firm, Daily Basis)	44,213	44,213	44,213	44,213	44,213	44,213
<b>Total Supply (Firm)</b>	<b>133,313</b>	<b>133,173</b>	<b>133,033</b>	<b>132,893</b>	<b>132,753</b>	<b>132,613</b>
<b>GBRA Projected Management Supplies or Needs (acft/yr):</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Canyon Reservoir Firm Mgmt. Supplies / (Needs)	(1,885)	(5,147)	(5,621)	(10,185)	(19,674)	(30,031)
San Marcos Run-of-River Firm Mgmt. Supplies / (Needs)	(2,800)	(2,800)	(2,800)	(3,164)	(3,631)	(4,277)
Lower Basin Run-of-River Firm Mgmt. Supplies / (Needs)	(4,908)	(33,018)	(43,243)	(64,645)	(89,414)	(96,641)
<b>Total System Management Supplies / (Needs)</b>	<b>(9,593)</b>	<b>(40,965)</b>	<b>(51,664)</b>	<b>(77,994)</b>	<b>(112,719)</b>	<b>(130,949)</b>
<b>GBRA Water Management Strategies (WMS) with Estimated Firm Yield (acft/yr):</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Recommended WMS</b>						
Conservation <sup>1</sup>						
MBWSP - Surface Water w/ ASR (Option 3C)	50,000	50,000	50,000	50,000	50,000	50,000
Wimberley/Woodcreek Project <sup>2</sup>						
Western Canyon WTP Expansion					5,600	5,600
Integrated Water-Power Project (Upper & Mid Basin)					50,000	50,000
GBRA Lower Basin Storage (500 acre Site)	51,800	51,800	51,800	51,800	51,800	51,800
GBRA New Appropriation (Lower Basin)				42,000	42,000	42,000
Victoria County Steam-Electric Project				29,100	29,100	29,100
Integrated Water-Power Project (Lower Basin)	50,000	50,000	50,000	50,000	50,000	50,000
<b>Upper &amp; Mid-Basin Management Supplies w/Recommended WMS</b>	<b>45,315</b>	<b>42,053</b>	<b>41,579</b>	<b>36,651</b>	<b>32,295</b>	<b>21,292</b>
<b>Lower Basin Firm Management Supplies w/Recommended WMS</b>	<b>96,892</b>	<b>68,782</b>	<b>58,557</b>	<b>108,255</b>	<b>133,486</b>	<b>126,259</b>
<b>Alternative WMS</b>						
Luling ASR		4,277	4,277	4,277	4,277	4,277
MBWSP - Carrizo Groundwater (Option 0)		15,000	15,000	15,000	15,000	15,000
MBWSP - Surface Water w/ Off-Channel Reservoir (Option 2A)		25,000	25,000	25,000	25,000	25,000
MBWSP - Conjunctive Use w/ ASR (Option 3A)		42,000	42,000	42,000	42,000	42,000
HCPUA/TWA/GBRA Shared Facilities Project		86,513	86,513	86,513	86,513	86,513
Storage Above Canyon Reservoir (ASR)		504	504	504	504	504
<b>WMS Needing Further Study Prior to Implementation</b>						
Brush Management		TBD	TBD	TBD	TBD	TBD
<sup>1</sup> Assigned by Water User Group (WUG) based on Municipal Conservation WMS recommended by the SCTRWP.						
<sup>2</sup> Project is a Facilities Expansion WMS including transmission facilities for treated water from the San Marcos area to Wimberley.						

**12/2/2014 DRAFT**

<b>Hays-Caldwell Public Utility Agency (HCPUA)</b>						
<b>HCPUA Projected Demands (acft/yr):</b>						
	<b>Year (acft)</b>					
<b>Water Purchaser</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
CRWA (Lake Dunlap System)	2,182	2,634	1,634	3,744	3,744	3,744
CRWA (Hays Caldwell System)	1,000	2,000	3,000	3,000	3,000	3,000
Buda	0	667	1,690	2,974	4,033	4,426
Kyle	0	1,348	2,801	2,787	2,776	2,772
San Marcos	0	0	0	1,965	4,576	7,891
<b>Total Demand</b>	<b>3,182</b>	<b>6,649</b>	<b>9,125</b>	<b>14,470</b>	<b>18,129</b>	<b>21,833</b>
<b>HCPUA Supply:</b>						
	<b>Year (acft)</b>					
<b>Source</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Total Supply</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>HCPUA Projected Needs:</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Total System Management Supplies/(Needs)</b>	<b>(3,182)</b>	<b>(6,649)</b>	<b>(9,125)</b>	<b>(14,470)</b>	<b>(18,129)</b>	<b>(21,833)</b>
<b>HCPUA Water Management Strategies (WMS) with Estimated Firm Yield (acft/yr):</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Recommended WMS</b>						
Conservation <sup>2</sup>						
Phase 1 <sup>1</sup>	10,300	15,000	15,000	15,000	15,000	15,000
Phase 2 - Carrizo/Wilcox <sup>3</sup>				6,831	6,833	6,833
<b>Total Recommended WMS</b>	<b>10,300</b>	<b>15,000</b>	<b>15,000</b>	<b>21,831</b>	<b>21,833</b>	<b>21,833</b>
<b>Management Supplies with Recommended WMS<sup>4</sup></b>	<b>7,118</b>	<b>8,352</b>	<b>5,876</b>	<b>7,361</b>	<b>3,704</b>	<b>0</b>
<b>Alternative WMS<sup>4</sup></b>						
Phase 2 - Carrizo/Wilcox				20,690	20,690	20,690
HCPUA/TWA Joint	15,300	15,300	30,000	40,690	40,690	40,690
HCPUA/TWA/GBRA Shared Facilities Project	15,300	15,300	30,000	40,690	40,690	40,690
<sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from Gonzales Co UWCD (Carrizo)						
<sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Conservation WMS recommended by SCTRWPWG.						
<sup>3</sup> For each aquifer in the region, the GCDs have adopted desired future conditions (DFCs). In some GCDs, full use of all groundwater supplies (permitted, grandfathered and exempt) may result in non-achievement of the DFCs for an aquifer. To ensure consistency with the DFCs, TWDB currently requires that groundwater availability for each aquifer be limited for planning purposes to the modeled available groundwater (MAG) for the aquifer. This has resulted, for planning purposes only, in adjustments to permit amounts, and a lack of firm water available for future permits in this plan for some areas for certain time periods. This should not be construed as recommending or requiring that GCDs make these adjustments, or deny future permit applications. SCTRWPWG recognizes and supports the ability of permit holders to exercise their rights to groundwater use in accordance with their permits and it recognizes and supports the GCDs discretion to issue permits and grandfather historical users for amounts in excess of the MAG. SCTRWPWG may not modify groundwater permits that GCDs have already issued or limit future permits that GCDs may issue. If the MAG is increased during or after this planning cycle, SCTRWPWG may amend this Plan to adjust groundwater supply numbers that are affected by the new MAG amount						
<sup>4</sup> Management Supplies and Alternative WMS are included in the event that Recommended WMS are not fully developed.						



## Table 1

San Antonio Water System (SAWS) - Planned						
SAWS Projected Demands (acft/yr):						
	Year (acft)					
Water Purchaser	2020	2030	2040	2050	2060	2070
Balcones Heights	518	566	612	662	711	758
Castle Hills	395	375	359	351	350	349
China Grove	316	350	381	413	445	474
Elmendorf	311	397	478	556	629	696
Helotes	1,613	1,989	2,340	2,681	2,996	3,286
Hill Country Village	234	230	226	224	224	224
Hollywood Park	949	953	959	969	983	997
Leon Valley	558	579	600	624	652	678
Live Oak	1,803	1,806	1,794	1,787	1,786	1,786
Olmos Park	564	623	678	736	791	843
San Antonio	235,329	258,657	280,788	303,809	326,645	347,873
SAWS (outside of San Antonio)	30,536	34,094	37,530	41,060	44,554	47,826
Somerset	221	240	259	279	300	319
Terrell Hills	1,299	1,276	1,257	1,247	1,245	1,245
East Central WSC	448	448	448	448	448	448
Alamo Heights	796	848	820	807	805	805
Atascosa Rural WSC	1,167	1,446	1,708	1,970	2,218	2,448
Kirby	137	207	181	172	169	169
The Oaks WSC	0	0	1	60	114	165
County-Other (Municipal)	0	0	0	1,898	4,082	6,084
Industrial (Bexar County)	15,076	15,076	15,076	15,076	15,076	15,076
Total Demand	292,270	320,160	346,495	375,829	405,223	432,549
SAWS Supply:						
	Year (acft)					
Source	2020	2030	2040	2050	2060	2070
Edwards Aquifer with EAHCP <sup>1</sup>	172,640	172,640	172,640	172,640	172,640	172,640
Carrizo Aquifer (Bexar County)	9,900	9,900	9,900	9,900	9,900	9,900
Carrizo Aquifer (Gonzales County)	11,688	11,688	11,688	11,688	11,688	11,688
Carrizo Aquifer (Gonzales County) - SSLGC Excess	4,059	2,577	2,732	376	0	0
Gonzales Co WSC	1,000	1,000	1,000	1,000	1,000	1,000
Trinity Aquifer <sup>2</sup>	2,000	2,000	2,000	2,000	2,000	2,000
Direct Reuse <sup>3</sup>	25,000	25,000	25,000	25,000	25,000	25,000
Run-of-River (San Antonio)	5,313	5,313	5,313	5,313	5,313	5,313
CRWA	9,654	9,654	9,654	9,654	9,654	9,654
GBRA (Canyon Reservoir)	2,017	2,017	0	0	0	0
Total Supply	243,271	241,789	239,927	237,571	237,195	237,195
SAWS Projected Needs:						
	Year (acft)					
	2020	2030	2040	2050	2060	2070
Total System Management Supplies/(Needs)	(48,999)	(78,371)	(106,568)	(138,258)	(168,028)	(195,354)
SAWS Water Management Strategies (WMS) with Estimated Firm Yield (acft/yr):						
	Year (acft)					
	2020	2030	2040	2050	2060	2070
Recommended WMS						
Conservation - Based on SAWS system-wide gpcd <sup>4</sup>	15,974	10,704	6,901	7,284	8,004	2,792
EAHCP <sup>5</sup>	0	0	0	0	0	0
Brackish Wilcox Groundwater for SAWS	13,440	33,600	33,600	33,600	33,600	33,600
Expanded Local Carrizo	11,152	30,000	30,000	30,000	30,000	30,000
RCSP - Vista Ridge Consortium	50,000	50,000	50,000	50,000	50,000	50,000
Expanded Brackish Project	0	50,000	50,000	50,000	50,000	50,000
Direct Reuse Expansion	0	15,000	15,000	15,000	15,000	15,000
Water Resources Integration Pipeline <sup>6</sup>	0	0	0	0	0	0
Drought Management	14,674	38,517	55,536	59,877	64,184	68,190
Advanced Meter Infrastructure	0	0	0	0	0	0
Seawater Desalination (75 MGD)				84,023	84,023	84,023
Total Recommended WMS	105,240	227,821	241,037	329,783	334,811	333,605
Management Supplies with Recommended WMS <sup>7</sup>	56,241	149,450	134,469	191,525	166,783	138,251
Alternative WMS <sup>7</sup>						

# 10/22/2014 DRAFT

<b>Springs Hill Water Supply Corporation (SHWSC)</b>						
<b>SHWSC Projected Demands (acft/yr):</b>						
	<b>Year (acft)</b>					
<b>Water Purchaser</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Springs Hill WSC	1,417	1,621	1,845	2,080	2,337	2,594
City of Seguin (served by SH WSC)	481	512	599	788	988	1,190
Guad Co-Other (served by SH WSC)	489	520	609	801	1,004	1,209
Crystal Clear WSC	50	50	50	50	50	50
<b>Total Demand</b>	<b>2,437</b>	<b>2,703</b>	<b>3,102</b>	<b>3,719</b>	<b>4,379</b>	<b>5,043</b>
<b>SHWSC Supply:</b>						
	<b>Year (acft)</b>					
<b>Source</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
CRWA (Canyon Reservoir)	1,925	1,925	1,925	1,925	1,925	1,925
CRWA (Wells Ranch Groundwater)	100	100	100	100	100	100
GBRA (Canyon Reservoir)	2,850	2,850	2,850	2,850	2,850	2,850
Carrizo Aquifer (Guadalupe County)	1,107	1,107	1,107	1,107	1,107	1,107
Carrizo Aquifer (Gonzales County) (SSLGC)	722	722	722	722	722	722
<b>Total Supply</b>	<b>6,704</b>	<b>6,704</b>	<b>6,704</b>	<b>6,704</b>	<b>6,704</b>	<b>6,704</b>
<b>SHWSC Projected Needs:</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Total System Management Supplies/(Needs)</b>	<b>4,267</b>	<b>4,001</b>	<b>3,602</b>	<b>2,985</b>	<b>2,325</b>	<b>1,661</b>
<b>SHWSC Water Management Strategies (WMS) with Estimated Firm Yield (acft/yr):</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>WMSs</b>						
Conservation						
<b>Total Recommended WMS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Management Supplies with Recommended WMS</b>	<b>4,267</b>	<b>4,001</b>	<b>3,602</b>	<b>2,985</b>	<b>2,325</b>	<b>1,661</b>
<b>Alternative WMS</b>						

<b>Schertz-Seguin Local Government Corporation (SSLGC)</b>						
<b>SSLGC Projected Demands (acft/yr):</b>						
<b>Water Purchaser</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Schertz	10,835	10,079	9,868	11,583	11,179	10,414
Seguin	3,165	3,921	4,666	5,326	6,028	6,719
Selma	1,050	1,066	1,154	1,241	1,320	1,395
Springs Hill WSC	840	840	840	840	840	840
Converse	500	500	500	500	500	500
Universal City	1,216	1,231	1,172	1,139	1,133	1,132
Cibolo	1,000	2,000	3,000	3,000	3,000	3,000
Garden Ridge	150	150	150	150	150	150
SAWS - Excess Contract	4,059	2,577	2,732	376	0	0
<b>Total Demand</b>	<b>22,815</b>	<b>22,364</b>	<b>24,082</b>	<b>24,155</b>	<b>24,150</b>	<b>24,150</b>
<b>SSLGC Supply:</b>						
<b>Source</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Carrizo Aquifer (Gonzales County) <sup>1</sup>	17,039	16,644	17,039	17,039	17,039	17,039
<b>Total Supply</b>	<b>17,039</b>	<b>16,644</b>	<b>17,039</b>	<b>17,039</b>	<b>17,039</b>	<b>17,039</b>
<b>SSLGC Projected Needs:</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Total System Management Supplies/(Needs)</b>	<b>(5,776)</b>	<b>(5,720)</b>	<b>(7,043)</b>	<b>(7,116)</b>	<b>(7,111)</b>	<b>(7,111)</b>
<b>SSLGC Water Management Strategies (WMS) with Estimated Firm Yield (acft/yr):</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Recommended WMS</b>						
Conservation <sup>2</sup>	0	0	0	0	0	0
Expansion Carrizo Aquifer (Guadalupe County) <sup>1</sup>	5,720	5,720	5,720	5,720	5,720	5,720
Brackish Wilcox (Gonz Co)	56	0	1,323	1,396	1,392	1,392
<b>Total Recommended WMS</b>	<b>5,776</b>	<b>5,720</b>	<b>7,043</b>	<b>7,116</b>	<b>7,112</b>	<b>7,112</b>
<b>Management Supplies with Recommended WMS<sup>4</sup></b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Alternative WMS<sup>4</sup></b>						
Brackish Wilcox (Gonz Co)	5,000	5,000	5,000	5,000	5,000	5,000
<sup>1</sup> Permitted production as of September 2013, less 12% loss rate.						
<sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Conservation WMS recommended by SCTRWPWG.						
<sup>3</sup> For each aquifer in the region, the GCDs have adopted desired future conditions (DFCs). In some GCDs, full use of all groundwater supplies (permitted, grandfathered and exempt) may result in non-achievement of the DFCs for an aquifer. To ensure consistency with the DFCs, TWDB currently requires that groundwater availability for each aquifer be limited for planning purposes to the modeled available groundwater (MAG) for the aquifer. This has resulted, for planning purposes only, in adjustments to permit amounts, and a lack of firm water available for future permits in this plan for some areas for certain time periods. This should not be construed as recommending or requiring that GCDs make these adjustments, or deny future permit applications. SCTRWPWG recognizes and supports the ability of permit holders to exercise their rights to groundwater use in accordance with their permits and it recognizes and supports the GCDs discretion to issue permits and grandfather historical users for amounts in excess of the MAG. SCTRWPWG may not modify groundwater permits that GCDs have already issued or limit future permits that GCDs may issue. If the MAG is increased during or after this planning cycle, SCTRWPWG may amend this Plan to adjust groundwater supply numbers that are affected by the new MAG amount.						
<sup>4</sup> Management Supplies and Alternative WMS are included in the event that Recommended WMS are not fully developed.						

**Texas Water Alliance (TWA)****TWA Projected Demands (acft/yr):**

<b>Water Purchaser</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Canyon Lake WSC / SJWTX	0	521	2,210	3,926	5,640	7,291
Comal County Rural Areas	0	0	0	0	0	0
Kendall Co Rural Areas	0	0	0	0	0	0
Wimberley	0	0	410	1,020	1,712	2,502
Woodcreek	0	0	0	0	0	0
Hays County Rural Areas	0	0	0	585	3,357	6,436
Blanco County Rural Areas	1,000	5,000	5,000	9,000	9,000	9,000
<b>Total Demand</b>	<b>1,000</b>	<b>5,521</b>	<b>7,620</b>	<b>14,531</b>	<b>19,709</b>	<b>25,229</b>

**TWA Supply (acft/yr):**

<b>Source</b>	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
TWA-Carrizo (GMA 13)						
TWA-Trinity (GMA 10)						
TWA-Trinity (GMA 9)						
<b>Total Supply</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**TWA Projected Needs (acft/yr):**

	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Total System Management Supplies/(Needs)</b>	<b>(1,000)</b>	<b>(5,521)</b>	<b>(7,620)</b>	<b>(14,531)</b>	<b>(19,709)</b>	<b>(25,229)</b>

**TWA Water Management Strategies (WMS) with Estimated Firm Yield (acft/yr):**

	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b><u>Recommended WMS</u></b>						
Conservation <sup>2</sup>						
TWA-Carrizo Well Field <sup>1,3</sup>	5,000	14,680	15,000	15,000	15,000	15,000
TWA-Trinity Well Field		500	500	500	5,000	5,000
<b>Total Recommended WMS</b>	<b>5,000</b>	<b>15,180</b>	<b>15,500</b>	<b>15,500</b>	<b>20,000</b>	<b>20,000</b>
<b>Management Supplies with Recommended WMS<sup>4</sup></b>	<b>4,000</b>	<b>9,659</b>	<b>7,880</b>	<b>969</b>	<b>291</b>	<b>-5,229</b>
<b><u>Alternative WMS<sup>4</sup></u></b>						
TWA-Carrizo Well Field	5,000	15,000	15,000	15,000	15,000	15,000
HCPUA-TWA Joint Project	5,000	10,000	10,000	10,000	10,000	10,000
HCPUA/TWA/GBRA Shared Facilities Project		86,513	86,513	86,513	86,513	86,513

<sup>1</sup> Permitted production as of March 2013.<sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Conservation WMS recommended by SCTRWPWG.

<sup>3</sup> For each aquifer in the region, the GCDs have adopted desired future conditions (DFCs). In some GCDs, full use of all groundwater supplies (permitted, grandfathered and exempt) may result in non-achievement of the DFCs for an aquifer. To ensure consistency with the DFCs, TWDB currently requires that groundwater availability for each aquifer be limited for planning purposes to the modeled available groundwater (MAG) for the aquifer. This has resulted, for planning purposes only, in adjustments to permit amounts, and a lack of firm water available for future permits in this plan for some areas for certain time periods. This should not be construed as recommending or requiring that GCDs make these adjustments, or deny future permit applications. SCTRWPWG recognizes and supports the ability of permit holders to exercise their rights to groundwater use in accordance with their permits and it recognizes and supports the GCDs discretion to issue permits and grandfather historical users for amounts in excess of the MAG. SCTRWPWG may not modify groundwater permits that GCDs have already issued or limit future permits that GCDs may issue. If the MAG is increased during or after this planning cycle, SCTRWPWG may amend this Plan to adjust groundwater supply numbers that are affected by the new MAG amount.

<sup>4</sup> Management Supplies and Alternative WMS are included in the event that Recommended WMS are not fully developed.

Atascosa County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Benton City	0	0	0	0	0	25	Conservation, Local Carrizo Conversion
Charlotte	0	0	0	0	0	0	Conservation
Jourdanton	0	0	0	0	0	0	Conservation
Lytle	171	257	333	409	484	554	Conservation, Edwards Transfers, Drought Management
McCoy WSC	0	0	0	0	0	0	Conservation
Pleasanton	0	0	0	0	0	0	Conservation
Poteet	0	0	0	0	0	0	Conservation
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	0	0	0	0	0	0	
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	0	0	0	0	0	0	
Livestock	0	0	0	0	0	0	
<b>Total</b>	<b>171</b>	<b>257</b>	<b>333</b>	<b>409</b>	<b>484</b>	<b>579</b>	

WUG	2020	2030	2040	2050	2060	2070	WMS
Alamo Heights	796	848	820	807	805	805	Conservation, Edwards Transfers, Drought Management, Purchase from SAWS
Atascosa Rural WSC	1,167	1,446	1,708	1,970	2,218	2,448	Conservation, Edwards Transfers, Drought Management, Purchase from SAWS
Balcones Heights	0	0	0	0	0	0	Conservation
Castle Hills	0	0	0	0	0	0	Conservation
China Grove	0	0	0	0	0	0	Conservation
Converse	903	1,111	1,297	1,272	1,265	1,264	Conservation, Edwards Transfers, Drought Management, Purchase from CRWA
East Central SUD	0	0	0	0	0	0	Conservation
Elmendorf	0	0	0	0	0	0	Conservation
Fair Oaks Ranch	0	0	0	0	0	0	Conservation
Helotes	0	0	0	0	0	0	Conservation
Hill Country Village	0	0	0	0	0	0	Conservation
Hollywood Park	0	0	0	0	0	0	Conservation
Kirby	137	207	181	172	169	169	Conservation, Edwards Transfers, Drought Management, Purchase from SAWS
Lackland AFB	0	0	0	0	0	0	Conservation
Leon Valley	97	147	196	254	317	377	Conservation, Purchase from SAWS, Edwards Transfers, Drought Management
Live Oak	0	0	0	0	0	0	Conservation
Olmos Park	0	0	0	0	0	0	Conservation
Randolph AFB	0	0	0	0	0	0	Conservation
San Antonio	60,972	82,339	109,029	132,636	156,055	177,826	See SAWS WWP Table
San Antonio Water System	2,418	5,976	9,412	12,942	16,436	19,708	See SAWS WWP Table
Selma	0	16	104	191	270	345	Conservation, Purchase from SSLGC
Shavano Park	425	555	677	797	909	1,013	Conservation, Edwards Transfers, Drought Management
Somerset	0	0	0	0	0	0	Conservation
St. Hedwig	0	0	0	0	0	0	Conservation
Terrell Hills	0	0	0	0	0	0	Conservation
The Oaks WSC	0	0	1	60	114	165	Conservation, Local GW (Trinity), Purchase from SAWS
Universal City	416	431	372	339	333	332	Conservation, Drought Management, Purchase from SSLGC
Von Ormy	0	0	0	0	0	0	Conservation
Water Services Inc.	0	0	0	0	0	0	Conservation
Windcrest	326	343	361	388	420	451	Conservation, Drought Management, Edwards Transfers
County-Other	0	0	0	1,898	4,082	6,084	Conservation, Purchase from SAWS
Manufacturing	0	0	0	0	1,058	3,680	Purchase from SAWS
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	5,191	4,700	4,229	3,778	3,346	2,966	Unmet
Livestock	0	0	0	0	0	0	
<b>Total</b>	<b>72,848</b>	<b>98,119</b>	<b>128,387</b>	<b>157,504</b>	<b>187,797</b>	<b>217,633</b>	

## Caldwell County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Aqua WSC	0	0	0	0	0	0	Conservation
Creedmore-Maha WSC	0	0	0	0	0	0	Conservation
Lockhart	188	613	1,042	1,484	1,947	2,402	Conservation, Drought Management, Purchase from GBRA
Luling	0	41	218	402	596	787	Conservation, Purchase from GBRA
Martindale	0	31	66	102	140	177	Conservation, Purchase from CRWA
Maxwell WSC	0	0	0	0	0	0	Conservation
Mustang Ridge	0	0	0	0	0	0	Conservation
Polonia WSC	0	0	0	88	266	442	Conservation, Local Carrizo Conversions
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	0	0	0	0	0	0	
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	0	0	0	0	0	0	
Livestock	0	0	0	0	0	0	
Total	188	685	1,326	2,076	2,949	3,808	

Calhoun County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Calhoun County WS	0	0	0	0	0	0	Conservation
Point Comfort	0	0	0	0	0	0	Conservation
Port Lavaca	0	0	0	0	0	0	Conservation
Port O'Connor MUD	0	0	0	0	0	0	Conservation
Seadrift	0	0	0	0	0	0	Conservation
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	0	0	0	2,113	6,945	11,126	Purchase from LNRA (Lavaca OCR), Purchase from GBRA
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	12,273	10,736	9,695	8,949	8,254	7,527	Unmet
Livestock	0	0	0	0	0	0	
<b>Total</b>	<b>12,273</b>	<b>10,736</b>	<b>9,695</b>	<b>11,062</b>	<b>15,199</b>	<b>18,653</b>	



## Comal County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Bulverde	0	0	0	0	0	0	Conservation
Canyon Lake WSC	0	521	2,210	3,926	5,640	7,291	Conservation, Purchase from TWA
Garden Ridge	1,023	1,599	2,188	2,786	3,383	3,957	Conservation, Drought Management, Local GW (Trinity), Purchase from SSLGC (150 acft/yr)
New Braunfels	0	1,407	4,803	8,274	11,791	15,196	Conservation, Drought Management, New Braunfels ASR, New Braunfels Trinity, Reuse, Purchase from GBRA
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	4,130	4,881	5,612	6,239	7,120	8,074	Recycled Water, Purchase from GBRA
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	0	0	0	0	0	0	
Livestock	0	0	0	0	0	0	
<b>Total</b>	<b>5,153</b>	<b>8,408</b>	<b>14,813</b>	<b>21,225</b>	<b>27,934</b>	<b>34,518</b>	

DeWitt County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Cuero	0	0	0	0	0	0	Conservation
Yoakum	0	0	0	0	0	0	Conservation
Yorktown	0	0	0	0	0	0	Conservation
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	0	0	0	0	0	0	
Mining	44	38	16	2	0	0	Local GW (Gulf Coast)
Steam-Electric	0	0	0	0	0	0	
Irrigation	74	68	39	6	0	0	Local GW (Gulf Coast)
Livestock	0	0	0	0	0	0	
Total	118	106	55	8	0	0	

Dimmit County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Asherton	28	46	61	77	0	0	Conservation, Irr Surface Water Rights Conversion
Big Wells	0	0	0	0	0	0	Conservation
Carrizo Springs	267	399	476	578	0	0	Conservation, Irr Surface Water Rights Conversion
County-Other	297	326	340	362	171	184	Conservation, Irr Surface Water Rights Conversion
Manufacturing	0	0	0	0	0	0	
Mining	4,826	4,908	4,244	2,731	1,222	519	Increased Unmet Needs (SW Rights)
Steam-Electric	0	0	0	0	0	0	
Irrigation	3,372	3,312	3,082	2,846	2,620	2,466	Unmet
Livestock	0	0	0	0	0	0	
Total	8,790	8,991	8,203	6,594	4,013	3,169	

**Frio County Needs (Projected Demands less Existing Supplies)**

**DRAFT (1-19-2015)**

<b>WUG</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>	<b>WMS</b>
<b>Dilley</b>	0	0	0	0	0	0	Conservation
<b>Pearsall</b>	0	0	0	0	0	19	Conservation, Local Carrizo Conversion
<b>County-Other</b>	0	0	0	0	0	0	Conservation
<b>Manufacturing</b>	0	0	0	0	0	0	
<b>Mining</b>	0	0	0	0	0	0	
<b>Steam-Electric</b>	0	0	0	0	0	0	
<b>Irrigation</b>	0	0	0	0	0	0	
<b>Livestock</b>	0	0	0	0	0	0	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	

**Goliad County Needs (Projected Demands less Existing Supplies)**

**DRAFT (1-19-2015)**

<b>WUG</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>	<b>WMS</b>
<b>Goliad</b>	0	0	0	0	0	0	Conservation
<b>County-Other</b>	0	0	0	0	0	0	Conservation
<b>Manufacturing</b>	0	0	0	0	0	0	
<b>Mining</b>	0	0	0	0	0	0	
<b>Steam-Electric</b>	0	0	0	0	0	0	
<b>Irrigation</b>	0	0	0	0	0	0	
<b>Livestock</b>	0	0	0	0	0	0	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

Gonzales County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Gonzales	0	0	0	174	92	310	Conservation, Local GW (Carrizo)
Gonzales County WSC	0	3	212	425	206	413	Conservation, Local GW (Carrizo)
Nixon	0	0	0	0	0	0	Conservation
Smiley	0	0	0	0	0	0	Conservation
Waelder	0	0	0	0	0	0	Conservation
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	0	0	0	0	0	0	
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	0	0	0	0	0	0	
Livestock	0	0	0	0	0	0	
Total	0	3	212	599	298	723	

Guadalupe County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Cibolo	0	1,814	3,139	4,438	5,764	7,066	Conservation, Purchase from CVLGC/SSLGC
Crystal Clear WSC	0	50	482	959	1,481	2,023	Conservation, Purchase from CRWA, Local GW (Wilcox), Local GW (Trinity)
Green Valley SUD	1,082	1,297	1,533	1,796	2,095	2,391	Conservation, Drought Management, Purchase from CRWA
Marion	0	0	0	0	0	0	Conservation
New Berlin	0	0	0	0	0	0	Conservation
Santa Clara	0	0	0	0	0	0	Conservation
Schertz	0	1,183	2,868	4,583	6,414	8,218	Conservation, Purchase from SSLGC
Seguin	0	0	0	0	0	0	Conservation
Springs Hill WSC	0	0	0	0	0	0	Conservation
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	0	0	0	163	494	854	Purchase from GBRA
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	0	0	0	0	0	0	
Livestock	0	0	0	0	0	0	
<b>Total</b>	<b>1,082</b>	<b>4,344</b>	<b>8,022</b>	<b>11,939</b>	<b>16,248</b>	<b>20,552</b>	

## Hays County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Buda	0	0	0	0	0	0	Conservation
County Line SUD	0	0	0	0	180	392	Conservation, Purchase from CRWA, Local GW (BS Edwards - Brackish), Reuse
Goforth SUD	0	0	0	0	0	93	Conservation, Purchase from GBRA
Kyle	0	1,348	2,801	2,787	2,776	2,772	Conservation, Purchase from HCPUA, Reuse
Mountain City	11	17	25	35	47	60	Conservation, Drought Management, Local GW (Trinity)
Niederwald	62	81	105	134	166	203	Conservation, Drought Management, Purchase from GBRA
Plum Creek Water Company	0	0	0	0	0	0	Conservation
San Marcos	0	0	0	1,965	4,576	7,891	Conservation, Purchase from HCPUA, Reuse
Texas State University - San Marcos	1,561	2,153	2,881	3,721	4,831	5,967	Purchase from WWP?
Uhland	0	0	0	0	0	0	Conservation
Wimberley	0	0	174	456	778	1,146	Conservation, Purchase from TWA/HCPUA/GBRA/SAWS, Hays Forestar Project
Wimberley WSC	0	0	236	564	934	1,356	Conservation, Purchase from TWA/HCPUA/GBRA/SAWS, Hays Forestar Project
Woodcreek	0	0	0	0	0	0	Conservation
County-Other	0	0	0	1,169	6,714	12,872	Conservation, Purchase from TWA/HCPUA/GBRA/SAWS, Hays Forestar Project
Manufacturing	0	0	0	0	0	0	
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	0	0	0	0	0	0	
Livestock	0	0	0	0	0	0	
Total	1,634	3,599	6,222	10,831	21,002	32,752	



Karnes County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
El Oso WSC	0	0	0	0	0	0	Conservation
Falls City	0	0	0	0	0	0	Conservation
Karnes City	336	322	298	285	249	249	Conservation, Yegua-Jackson Conversion (Mining)
Kenedy	161	189	179	178	151	151	Conservation, Local GW (Gulf Coast)
Runge	0	0	0	0	0	0	Conservation
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	0	0	0	0	0	0	
Mining	1,864	1,292	700	115	0	0	Conservation, Increased Unmet Needs
Steam-Electric	0	0	0	0	0	0	
Irrigation	0	0	0	0	0	0	
Livestock	0	0	0	0	0	0	
Total	2,361	1,803	1,177	578	400	400	

Kendall County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Boerne	0	0	337	1,295	2,284	3,258	Conservation, Local GW (Trinity), Western Canyon Expansion
Kendall County WCID #1	0	0	0	0	0	0	Conservation
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	0	0	0	0	0	0	
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	0	0	0	0	0	0	
Livestock	0	0	0	0	0	0	
Total	0	0	337	1,295	2,284	3,258	

La Salle County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Cotulla	0	16	155	323	0	0	Conservation, Carrizo Conversion (Mining)
Encinal	0	0	0	0	0	0	Conservation
County-Other	22	56	90	133	0	0	Conservation, Carrizo Conversion (Mining)
Manufacturing	0	0	0	0	0	0	
Mining	4,088	4,243	3,734	2,290	851	147	Conservation, Increased Unmet Needs
Steam-Electric	0	0	0	0	0	0	
Irrigation	0	0	0	0	0	0	
Livestock	0	0	0	0	0	0	
Total	4,110	4,315	3,979	2,746	851	147	

Medina County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Castroville	224	217	210	208	211	214	Conservation, Drought Management, Edwards Transfers, Local GW (Leona Gravel)
Devine	0	0	0	0	0	0	Conservation
East Medina SUD	0	0	0	0	11	70	Conservation, Edwards Transfers, Local GW (Leona Gravel)
Hondo	523	680	816	943	1,068	1,180	Conservation, Edwards Transfer
LaCoste	10	20	28	37	47	56	Conservation, Drought Management, Edwards Transfers, Local GW (Leona Gravel)
Natalia	101	129	153	176	199	220	Conservation, Drought Management, Edwards Transfers, Local GW (Leona Gravel)
Yancey WSC	28	95	154	208	261	309	Conservation, Drought Management, Edwards Transfers, Local GW (Leona Gravel)
County-Other	0	0	0	0	0	0	
Manufacturing	0	0	0	0	0	0	
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	31,529	29,144	26,850	24,653	22,547	20,689	Unmet
Livestock	0	0	0	0	0	0	
Total	32,415	30,285	28,211	26,225	24,344	22,738	

Refugio County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Refugio	0	0	0	0	0	0	Conservation
Woodsboro	0	0	0	0	0	0	Conservation
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	0	0	0	0	0	0	
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	0	0	0	0	0	0	
Livestock	0	0	0	0	0	0	
Total	0	0	0	0	0	0	

**Uvalde County Needs (Projected Demands less Existing Supplies)**

**DRAFT (1-19-2015)**

<b>WUG</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>	<b>WMS</b>
<b>Sabinal</b>	121	153	181	212	245	277	Conservation, Uvalde ASR, Edwards Transfers
<b>Uvalde</b>	943	1,233	1,484	1,772	2,072	2,365	Conservation, Uvalde ASR, Edwards Transfers
<b>County-Other</b>	0	0	0	0	0	0	
<b>Manufacturing</b>	0	0	0	0	0	0	
<b>Mining</b>	0	0	0	0	0	0	
<b>Steam-Electric</b>	0	0	0	0	0	0	
<b>Irrigation</b>	29,683	27,370	24,992	22,831	20,818	19,102	Unmet
<b>Livestock</b>	0	0	0	0	0	0	
<b>Total</b>	<b>30,747</b>	<b>28,756</b>	<b>26,657</b>	<b>24,815</b>	<b>23,135</b>	<b>21,744</b>	

Victoria County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Victoria	3,021	3,877	4,540	5,210	5,841	6,382	Conservation, Drought Management, Victoria ASR, Surface WRs, Off-Channel Storage, Local GW (Gulf Coast)
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	3,215	6,053	8,878	11,403	14,243	17,289	Purchase from GBRA
Mining	0	0	0	0	0	0	
Steam-Electric	4,506	29,778	37,178	53,599	70,696	70,696	Purchase from GBRA
Irrigation	5,002	5,002	5,002	5,002	5,002	5,002	Unmet
Livestock	0	0	0	0	0	0	
Total	15,744	44,710	55,598	75,214	95,782	99,369	

Wison County Needs (Projected Demands less Existing Supplies)

DRAFT (1-19-2015)

WUG	2020	2030	2040	2050	2060	2070	WMS
Floresville	0	8	405	770	1,124	1,445	Conservation, Local Carrizo Conversion
La Vernia	0	0	0	0	0	0	Conservation
Oak Hills WSC	0	0	0	0	0	0	Conservation
Poth	0	0	0	0	0	0	Conservation
SS WSC	0	0	0	0	0	234	Conservation, Brackish Wilcox for SS WSC, Local Carrizo Conversion
Stockdale	0	0	0	0	0	0	Conservation
Sunko WSC	0	0	0	0	0	117	Conservation, Local Carrizo Conversion
County-Other	0	0	0	0	0	0	Conservation
Manufacturing	0	0	0	0	0	0	
Mining	0	0	0	0	0	0	
Steam-Electric	0	0	0	0	0	0	
Irrigation	0	0	0	0	0	0	
Livestock	0	0	0	0	0	0	
Total	0	8	405	770	1,124	1,796	



**Zavala County Needs (Projected Demands less Existing Supplies)**

**DRAFT (1-19-2015)**

<b>WUG</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>	<b>WMS</b>
<b>Crystal City</b>	0	0	0	0	0	0	Conservation
<b>Zavala County WCID #1</b>	0	0	0	0	0	0	Conservation
<b>County-Other</b>	0	0	0	0	0	0	Conservation
<b>Manufacturing</b>	0	0	0	0	0	0	
<b>Mining</b>	0	0	0	0	0	0	
<b>Steam-Electric</b>	0	0	0	0	0	0	
<b>Irrigation</b>	18,487	16,805	14,980	13,049	11,193	9,443	Unmet
<b>Livestock</b>	0	0	0	0	0	0	
<b>Total</b>	<b>18,487</b>	<b>16,805</b>	<b>14,980</b>	<b>13,049</b>	<b>11,193</b>	<b>9,443</b>	

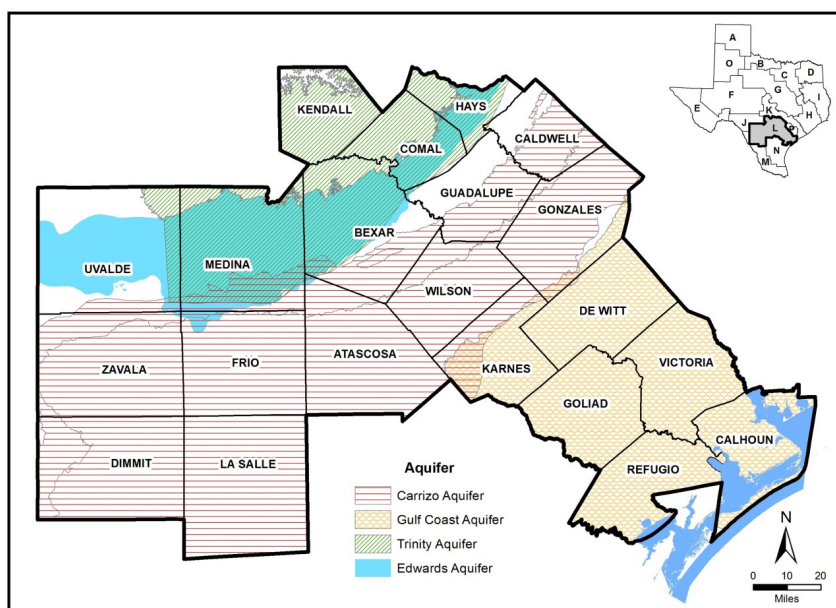
## Cumulative Effects of the 2016 Plan (Chapter 6)

- Describe the Potential Impacts of the Regional Water Plan and How the Plan is Consistent with Long-term Protection of Water Resources, Agricultural Resources, and Natural Resources
- Hydrologic Assessments
  - Reporting of Groundwater Levels Based on Full Use of the MAGs
  - Evaluation of Surface Water Flows at 11 Locations Throughout the Region

DRAFT (1-19-15)

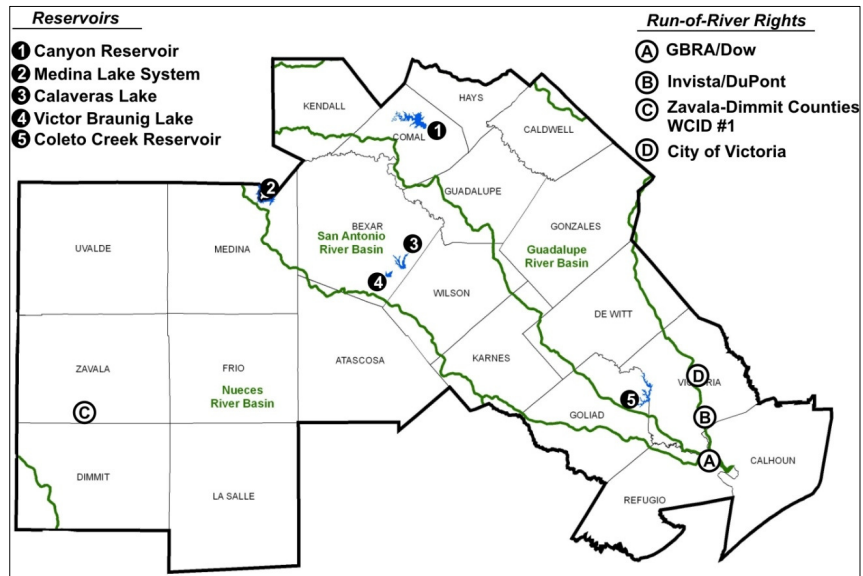
1

## Cumulative Effects of the 2016 Plan (Chapter 6)



DRAFT (1-19-15)

## Cumulative Effects of the 2016 Plan (Chapter 6)



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## Cumulative Effects of the 2016 Plan (Chapter 6)

### Guadalupe – San Antonio River Basin

- 1) Guadalupe River above Comal River @ New Braunfels
- 2) San Marcos River @ Luling
- 3) Guadalupe River @ Victoria
- 4) San Antonio River near Falls City

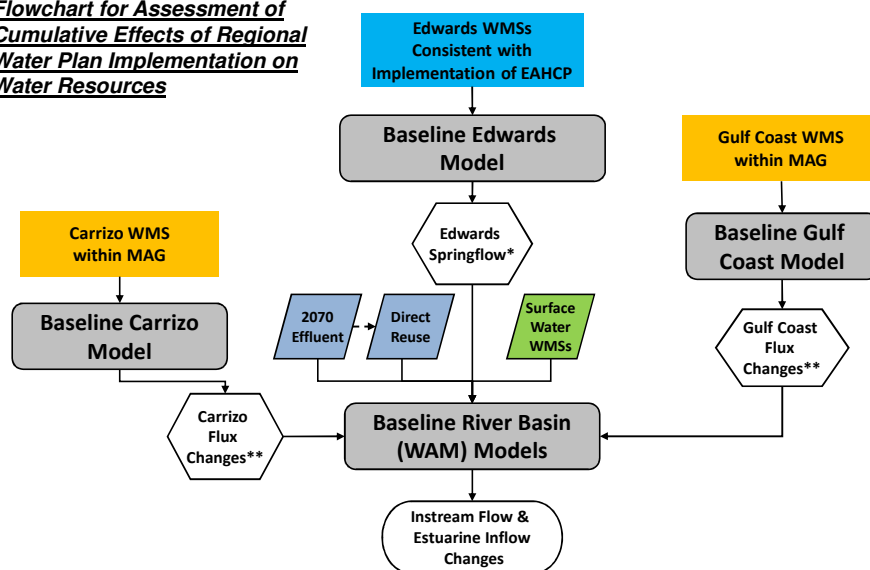
- 5) San Antonio River @ Goliad
- 6) Guadalupe River @ Saltwater Barrier near Tivoli
- 7) Guadalupe Estuary



DRAFT (1-19-15)

## Cumulative Effects of the 2016 Plan (Chapter 6)

Flowchart for Assessment of Cumulative Effects of Regional Water Plan Implementation on Water Resources



2016 South Central Texas  
Initially Prepared Plan

\* Springflows Consistent with Full EAHCP Implementation  
\*\* Flux Changes at Full MAG Pumpage Levels

1/19/2015

## Cumulative Effects of the 2016 Plan (Chapter 6)

- Evaluate Streamflows and Estuary Inflows for 2 Scenarios

### 1. Baseline (SCTRWP Surface Water Supply Evaluation)

- Edwards Springflows with EAHCP Implementation
- Effluent Consistent with 2011 Reported Discharges, Adjusted for Current Levels of Reuse
- Water Rights at Full Authorized Consumptive Levels

### 2. With RWP Implementation\*

- Edwards Springflows with EAHCP Implementation
- Effluent Consistent with Projected Discharge Levels, Adjusted for Planned Level of Reuse
- Water Rights at Full Authorized Consumptive Levels
- Effects of Implementation of All Recommended WMS through 2070

*\*Note: Scope/Budget for One Comparison Only. This Scenario is Consistent with Previous Regional Water Plans Comparisons*

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## **Cumulative Effects of the 2016 Plan (Chapter 6)**

- Environmental Assessment (With Scoring):
  - Endangered and Threatened Species
  - Water Quality and Aquatic Habitat
  - Vegetation and Terrestrial Habitat
  - Cultural Resources
- Comparison to Previous State Water Plans
- Environmental Benefits and Concerns

**DRAFT (1-19-15)**

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## **Discussion**

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# Table 2

<b>San Antonio Water System (SAWS) - With MAG Limitations</b>						
<b>SAWS Projected Demands (acft/yr):</b>						
	<b>Year (acft)</b>					
<b>Water Purchaser</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Balcones Heights	518	566	612	662	711	758
Castle Hills	395	375	359	351	350	349
China Grove	316	350	381	413	445	474
Elmendorf	311	397	478	556	629	696
Helotes	1,613	1,989	2,340	2,681	2,996	3,286
Hill Country Village	234	230	226	224	224	224
Hollywood Park	949	953	959	969	983	997
Leon Valley	558	579	600	624	652	678
Live Oak	1,803	1,806	1,794	1,787	1,786	1,786
Olmos Park	564	623	678	736	791	843
San Antonio	235,329	258,657	280,788	303,809	326,645	347,873
SAWS (outside of San Antonio)	30,536	34,094	37,530	41,060	44,554	47,826
Somerset	221	240	259	279	300	319
Terrell Hills	1,299	1,276	1,257	1,247	1,245	1,245
East Central WSC	448	448	448	448	448	448
Alamo Heights	796	848	820	807	805	805
Atascosa Rural WSC	1,167	1,446	1,708	1,970	2,218	2,448
Kirby	137	207	181	172	169	169
The Oaks WSC	0	0	1	60	114	165
County-Other (Municipal)	0	0	0	1,898	4,082	6,084
Industrial (Bexar County)	15,076	15,076	15,076	15,076	15,076	15,076
<b>Total Demand</b>	<b>292,270</b>	<b>320,160</b>	<b>346,495</b>	<b>375,829</b>	<b>405,223</b>	<b>432,549</b>
<b>SAWS Supply:</b>						
	<b>Year (acft)</b>					
<b>Source</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Edwards Aquifer with EAHCP <sup>1</sup>	172,640	172,640	172,640	172,640	172,640	172,640
Carrizo Aquifer (Bexar County)	9,900	9,900	9,900	9,900	9,900	9,900
Carrizo Aquifer (Gonzales County)	11,688	11,418	11,688	11,688	11,688	11,688
Carrizo Aquifer (Gonzales County) - SSLGC Excess	4,059	2,577	2,732	376	0	0
Gonzales Co WSC	1,000	1,000	1,000	1,000	1,000	1,000
Trinity Aquifer <sup>2</sup>	2,000	2,000	2,000	2,000	2,000	2,000
Direct Reuse <sup>3</sup>	25,000	25,000	25,000	25,000	25,000	25,000
Run-of-River (San Antonio)	5,313	5,313	5,313	5,313	5,313	5,313
CRWA	9,654	9,654	9,654	9,654	9,654	9,654
GBRA (Canyon Reservoir)	2,017	2,017	0	0	0	0
<b>Total Supply</b>	<b>243,271</b>	<b>241,519</b>	<b>239,927</b>	<b>237,571</b>	<b>237,195</b>	<b>237,195</b>
<b>SAWS Projected Needs:</b>						
	<b>Year (acft)</b>					
	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
<b>Total System Management Supplies/(Needs)</b>	<b>(48,999)</b>	<b>(78,641)</b>	<b>(106,568)</b>	<b>(138,258)</b>	<b>(168,028)</b>	<b>(195,354)</b>
<b>SAWS Water Management Strategies (WMS) with Estimated Firm Yield (acft/yr):</b>						
	<b>Year (acft)</b>					
<b>Recommended WMS</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>2060</b>	<b>2070</b>
Conservation - Based on SAWS system-wide gpcd <sup>4</sup>	15,974	10,704	6,901	7,284	8,004	2,792
EAHCP <sup>5</sup>	0	0	0	0	0	0
Brackish Wilcox Groundwater for SAWS <sup>6</sup>	5,622	5,622	5,622	5,622	5,622	5,622
Expanded Local Carrizo <sup>6</sup>	5,500	5,500	5,500	5,500	5,419	5,419
RCSP - Vista Ridge Consortium <sup>6</sup>	19,442	24,240	28,711	32,685	34,894	34,894
Expanded Brackish Project <sup>6</sup>	0	0	0	0	0	0
Direct Reuse Expansion	0	15,000	15,000	15,000	15,000	15,000
Water Resources Integration Pipeline <sup>6</sup>	0	0	0	0	0	0
Drought Management	14,674	38,517	55,536	59,877	64,184	68,190
Advanced Meter Infrastructure	0	0	0	0	0	0
Seawater Desalination (75 MGD)				84,023	84,023	84,023
<b>Total Recommended WMS</b>	<b>61,211</b>	<b>99,582</b>	<b>117,269</b>	<b>209,990</b>	<b>217,145</b>	<b>215,940</b>
<b>Management Supplies with Recommended WMS<sup>7</sup></b>	<b>12,212</b>	<b>20,942</b>	<b>10,701</b>	<b>71,732</b>	<b>49,118</b>	<b>20,586</b>
<b>Alternative WMS<sup>7</sup></b>						
Brackish Wilcox Groundwater for SAWS	13,440	33,600	33,600	33,600	33,600	33,600
Expanded Local Carrizo	11,152	30,000	30,000	30,000	30,000	30,000
RCSP - Vista Ridge Consortium	50,000	50,000	50,000	50,000	50,000	50,000
Expanded Brackish Project	0	50,000	50,000	50,000	50,000	50,000

<sup>1</sup> Includes SAWS permits as presented in EAA's permit files, with full implementation of the EAHCP.

<sup>2</sup> Total permitted volume is 22,660; however, SAWS only considers 2,000 acft/yr to be a firm supply.

<sup>3</sup> Amount excludes commitments to streams and lakes.

<sup>4</sup> Municipal Conservation estimated using SAWS system-wide goal of 135 gpcd.

<sup>5</sup> Includes all elements of the HCP (VISPO, conservation, SAWS ASR & Irrigation Transfers, and Critical Period Stage V).

<sup>6</sup> Systems and pipelines have no associated firm yield, but are necessary to deliver new sources of supply to SAWS customers.

<sup>7</sup> Management Supplies and Alternative WMS are included in the event that Recommended WMS are not fully developed.

<sup>8</sup> For each aquifer in the region, the GCDs have adopted desired future conditions (DFCs). In some GCDs, full use of all groundwater supplies (permitted, grandfathered and exempt) may result in non-achievement of the DFCs for an aquifer. To ensure consistency with the DFCs, TWDB currently requires that groundwater availability for each aquifer be limited for planning purposes to the modeled available groundwater (MAG) for the aquifer. This has resulted, for planning purposes only, in adjustments to permit amounts, and a lack of firm water available for future permits in this plan for some areas for certain time periods. This should not be construed as recommending or requiring that GCDs make these adjustments, or deny future permit applications. SCTRWPWG recognizes and supports the ability of permit holders to exercise their rights to groundwater use in accordance with their permits and it recognizes and supports the GCDs discretion to issue permits and grandfather historical users for amounts in excess of the MAG. SCTRWPWG may not modify groundwater permits that GCDs have already issued or limit future permits that GCDs may issue. If the MAG is increased during or after this planning cycle, SCTRWPWG may amend this Plan to adjust groundwater supply numbers that are affected by the new MAG amount.

**DRAFT**

**NOTICE OF OPEN MEETING OF THE  
SOUTH CENTRAL TEXAS REGIONAL  
WATER PLANNING GROUP**

TAKE NOTICE that a meeting of the South Central Texas Regional Water Planning Group as established by the Texas Water Development Board will be held on Thursday, February 5, 2014, at 9:30 a.m. at San Antonio Water System (SAWS), Customer Service Building, Room CR 145, 2800 US Highway 281 North, San Antonio, Bexar County, Texas. The following subjects will be considered for discussion and/or action at said meeting.

1. Remarks from Texas Water Development Board Director Kathleen Jackson
2. Public Comment
3. Approval of Minutes
4. Discussion and Appropriate Action Regarding Nominations to Fill Vacant Agriculture Voting Member (term expires 2016) and Industries Voting Member (term expires 2018)
5. Status of Edwards Aquifer Habitat Conservation Plan (HCP) – Nathan Pence, Executive Director EAHCP
6. Status of Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Stakeholder Committee (BBASC) and Expert Science Team (BBEST)
7. Chair's Report
8. Texas Water Development Board (TWDB) Communications
9. Discussion and Appropriate Action Designating a Subcommittee to Hold a Closed Meeting to Develop Emergency Connection and Drought Response Recommendations and Submit Confidential Infrastructure Information Utilized for the Development of the 2016 Regional Water Plan to the Texas Water Development Board as Required by 31 TAC §357.42(d)
10. Discussion and Appropriate Action Designating a Political Subdivision for the Fifth Cycle of Regional Water Planning
11. Discussion and Appropriate Action Authorizing Political Subdivision to Apply for Funding for the Fifth Cycle of Regional Water Planning and Post the Associated 30-Day

Public Notice Prior to TWDB Board Action on the Application (TWDB action anticipated to take place April 2015)

12. Discussion and Appropriate Action Regarding Consultants Work and Schedule
13. Discussion and Appropriate Action Regarding the Adoption of the Proposed Chapter 8 Policy Recommendations and Unique Sites Language for Inclusion in the 2016 Initially Prepared Regional Water Plan
14. Discussion and Appropriate Action Regarding the Evaluation and Recommendation of Water Management Strategies (Task 4D)
15. Discussion and Appropriate Action Regarding Chapter 6 Cumulative Effects Procedures
16. Discussion and Appropriate Action Regarding the Recommendations of Potentially Feasible Water Management Strategies for Inclusion into the 2016 Initially Prepared Regional Water Plan
17. Appropriate Action Regarding the Adoption of Guadalupe-Blanco River Authority's (GBRA) Proposed Substitution of the Lower Basin Storage 500 Acre Site Project for the Lower Basin Storage 100 Acre Site Project in the 2011 Regional Water Plan and Request the Texas Water Development Board (TWDB) to Amend the 2012 State Water Plan
18. Possible Agenda Items for the Next South Central Texas Regional Water Planning Group Meeting
19. Public Comment

The South Central Texas Regional Water Planning Area consists of Atascosa, Bexar, Caldwell, Calhoun, Comal, Dewitt, Dimmit, Frio, Goliad, Gonzales, Guadalupe, Karnes, Kendall, La Salle, Medina, Refugio, Uvalde, Victoria, Wilson, Zavala and part of Hays Counties.

Please visit [www.RegionLTexas.org](http://www.RegionLTexas.org) to review available chapters of the 2016 Initially Prepared Plan



**Guidance clarification for RWPG submittal of confidential infrastructure information utilized for the development of the 2016 Regional Water Plans (31 TAC §357.42(d) and Exhibit C Section 7.3)**

31 TAC §357.42(d)) states that the regional water planning groups (RWPGs) will collect confidential information on infrastructure and submit to the EA in accordance with guidance provided. The RWP contract Exhibit C Section 7.3 states that:

‘RWPGs shall collect and summarize information on existing major water infrastructure facilities that may be used for emergency interconnects and provide this information to the EA confidentially and separately from the RWP document. This information may be collected in a tabular format that shows the potential user(s) of the interconnect, the potential supplier(s), the estimated potential volume of supply that could be provided via the interconnect (including the source name), and a general description of the facility/infrastructure and its location.’

This information may be submitted as a hard-copy under separate cover. It may also be submitted electronically, but should be done in a manner that preserves its confidential nature, such as a password-protected pdf. The information deemed confidential should be marked as such on each page of the document submitted. The cover letter (or email) of the information should be addressed to the TWDB Executive Administrator and cc Temple McKinnon.