

DATE:

TO:

(210) 227-1373 Office (210) 302-3692 Fax www.RegionLTexas.org

**EXECUTIVE COMMITTEE** Con Mims Chair / River Authorities Tim Andruss Vice-Chair / Water Districts Gary Middleton Secretary / Municipalities Donna Balin At-Large / Environmental Kevin Janak At-Large/ Electric Generating/Utilities MEMBERS Gene Camargo Water Utilities Rey Chavez Industries Alan Cockerell Agriculture Will Conley Counties Don Dietzmann GMA 9 Art Dohmann GMA 15 **Blair Fitzsimons** Agriculture Vic Hilderbran GMA 7 John Kight Counties Russell Labus Water Districts Vacant Industries Doug McGookey Small Business Dan Meyer GMA 10 Iliana Peña Environmental Robert Puente Municipalities Steve Ramsey Water Utilities David Roberts Small Business Roland Ruiz Water Districts **Diane Savage** GMA 13 Suzanne Scott **River Authorities** Greg Sengelmann Water Districts Vacant Agriculture Thomas Taggart Municipalities **Dianne Wassenich** Public Bill West **River Authorities** 

January 29, 2015

Members of the South Central Texas Regional Water Planning Group

FROM: Steven J. Raabe, P.E.

The schedule and location of the meeting of the South Central Texas Regional Water Planning Group is as follows:

TIME AND LOCATION

Thursday, February 5, 2015, 9:30 a.m. San Antonio Water System Customer Service Building Room CR C145 2800 US Highway 281 North San Antonio, Bexar County, Texas 78212

Enclosed is a copy of the posted public meeting notice.

Dany middleton

GMM/cr

Enclosure

### 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, 2015, 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. Election of Officers and Executive Committee for Calendar Year 2015
- 5. Discussion and Appropriate Action Regarding Nominations to Fill Vacant Agriculture Voting Member (term expires 2016) and Industries Voting Member (term expires 2018)
- 6. Status of Edwards Aquifer Habitat Conservation Plan (HCP) Nathan Pence, Executive Director EAHCP
- 7. 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)
- 8. Status of the Workgroups' Development of the Chapter 8 Policy Recommendations and Unique Sites Language for Inclusion in the 2016 Initially Prepared Regional Water Plan
  - a) Unique Stream Segment Workgroup
  - b) Policy Workgroup
- 9. Chair's Report
- 10. Texas Water Development Board (TWDB) Communications
- 11. Discussion and Appropriate Action Designating a Workgroup to Hold a Closed Meeting to Develop and Submit a Confidential Report on the 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)

- 12. Discussion and Appropriate Action Designating a Political Subdivision for the Fifth Cycle of Regional Water Planning
- 13. 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)
- 14. Discussion and Appropriate Action Regarding Consultants Work and Schedule
- 15. Discussion and Appropriate Action Regarding the Evaluation and Recommendation of Water Management Strategies (Task 4D)
- 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. Discussion and Appropriate Action Regarding Chapter 6 Cumulative Effects Procedures
- 18. 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
- 19. Possible Agenda Items for the Next South Central Texas Regional Water Planning Group Meeting
- 20. 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 <u>www.RegionLTexas.org</u> to review available chapters of the 2016 Initially Prepared Plan

Remarks from Texas Water Development Board Director Kathleen Jackson

Public Comment

Approval of Minutes

### Minutes of the South Central Texas Regional Water Planning Group November 6, 2014

Chairman Con Mims called the meeting to order at 9:30 a.m. in the San Antonio Water System's (SAWS) Customer Service Building, Room CR 145, 2800 US Highway 281 North, San Antonio, Bexar County, Texas.

28 of the 30 voting members, or their alternates, were present.

#### **Voting Members Present:**

Tim Andruss Donna Balin Gene Camargo Alan Cockrell Will Conley Don Dietzmann Art Dohmann Blair Fitzsimmons Vic Hilderbran Kevin Janak John Kight Russell Labus Glen Lord for Gena Leathers Doug McGooky Dan Meyer Gary Middleton Con Mims Robert Puente Iliana Pena Steve Ramsey David Roberts Roland Ruiz Dianne Savage Suzanne Scott Greg Sengelmann Thomas Taggart Dianne Wassenich Bill West

#### **Voting Members Absent**

Rey Chavez Milton Stolte

#### **Non-Voting Members Present:**

Norman Boyd, Texas Department of Parks and Wildlife Steve Ramos, TCEQ – South Texas Watermaster Specialists David Meesey, Texas Water Development Board (TWDB) David Villarreal for Ken Weidenfeller, Texas Department of Agriculture

#### **Non-Voting Members Absent:**

Ronald Fieseler, Region K Liaison Don McGhee, Region M Liaison Charles Wiedenfeld, Region J Liaison

Prior to Agenda Item No. 1, Chairman Con Mims pulled Agenda Item No. 15, "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."

### AGENDA ITEM NO. 1: PUBLIC COMMENT

Chairman Mims asked for any public comment. No comments were made.

### AGENDA ITEM NO. 2: APPROVAL OF MINUTES

Mr. Mims asked if there were any additions or corrections to the August 7, 2014 meeting minutes. No corrections or revisions were requested. Dianne Wassenich made a motion to approve the minutes as presented. Art Dohmann seconded the motion. The motion carried by consensus.

### AGENDA ITEM NO. 3: STATUS OF EDWARDS AQUIFER HABIAT CONSERVATION PLAN (HCP) – NATHAN PENCE, EXECUTIVE DIRECTOR EAHCP

Nathan Pence, Executive Director of the Edwards Aquifer Habitat Conservation Plan (HCP), gave a brief update on the status of the HCP, reminding the Planning Group of the four specific spring flow protection measures implemented by the HCP: 1) the Water Conservation Program, 2) the Aquifer Storage and Recovery (ASR) Program, 3) the Stage Five Critical Period Management by the Edwards Aquifer Authority (EAA), and 4) the Voluntary Irrigation Suspension Program Option (VISPO). Mr. Pence informed the Planning Group that VISPO was triggered in October 2014, as the J-17 index well in San Antonio had a level below mean sea level (635 feet). As a result 40,000 acre-feet of irrigation rights will not be eligible for pumping in 2015, which provides an additional benefit to the Edwards Aquifer and its spring flows.

### AGENDA ITEM NO. 4: 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)

Suzanne Scott gave a brief update on the status of the 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). Mrs. Scott informed the Planning Group that the next BBASC meeting will be scheduled in mid-December, where the group will receive an update from the contractors on the status of the individual environmental studies and their development.

### AGENDA ITEM NO. 5: CHAIRS REPORT

Chairman Mims had nothing to report.

# AGENDA ITEM NO. 6: REVIEW/APPROVE ADMINISTRATOR'S BUDGET FOR CALENDAR YEAR 2015

Cole Ruiz, San Antonio River Authority (SARA), briefly discussed the proposed administrative budget. Gary Middleton motioned to approve the budget. Will Conley seconded the motion. The budget was approved by consensus.

# AGENDA ITEM NO. 7: TEXAS WATER DEVELOPMENT BOARD (TWDB) COMMUNICATIONS

David Meesey, Texas Water Development Board, pointed to some letters provided in the agenda packet as guidance from TWDB on particular questions submitted by Region L Planning Group Members as part of the Reuse Workgroup. He briefly discussed TWDB's responses.

# AGENDA ITEM NO. 8: SET DATES AND TIMES OF REGIONAL WATER PLANNING GROUP MEETINGS FOR 2015

Cole Ruiz, San Antonio River Authority, briefly discussed the times and dates of the South Central Texas Regional Water Planning Group's meetings throughout calendar year 2015. The quarterly meetings were set for February 5, 2015, April 2, 2015, August 6, 2015, and Nov 5, 2015. All meetings are scheduled to begin at 9:30 AM.

# AGENDA ITEM NO. 9: DISCUSSION AND APPROPRIATE ACTION REGARDING CONSULTANTS WORK AND SCHEDULE

Brian Perkins, HDR Engineering, presented an update on the schedule for plan development highlighting upcoming Planning Group deadlines. May 1, 2015, is the deadline for the submission of the 2016 Initially Prepared Plan (IPP). Between now and February, HDR will begin pulling the plan together for Planning Group consideration. The goal is to nail down all the projects that the Planning Group wants to see in the 2016 Regional Water Plan at the February meeting.

Mr. Perkins also provided an update on the potential issues to the planning process that HDR and the Administrator are tracking. Specifically, Mr. Perkins touched on interregional coordination as it pertains to the San Antonio Water System's (SAWS) Vista Ridge Project, the Hays County Four Star Project, and on meeting the needs of Formosa

### AGENDA ITEM NO. 10: DISCUSSION AND APPROPRIATE ACTION REGARDING A RECOMMENDATION FOR LEGISLATIVE DESIGNATION OF STREAM SEGMENTS OF UNIQUE ECOLOGICAL VALUE (TASK 8)

Mr. Mims reminded the Planning Group that the Texas Legislature allows for the designation of stream segments that are of unique ecological value. In 2013, the Planning Group authorized Mr. Mims to seek designation of the Nueces, Frio, Sabinal, Comal, and San Marcos stream segments as ecologically unique. Mr. Mims informed the Planning Group that designation of these stream segments as ecologically unique would only mean that a state agency or political subdivision may not finance the construction of a reservoir within the designated segment. Mr. Mims asked the Planning Group for the authority to seek this type of legislation on behalf of the Planning Group during the upcoming legislative session.

Will Conley made a motion to authorize Chairman Mims to seek legislation on behalf of the Planning Group that would designate the Nueces, Frio, Sabinal, Comal, and San Marcos stream segments as ecologically unique. Kevin Janak seconded the motion. There were no objections. The motion passed by consensus.

Will Conley suggested adding the Cypress and Blanco stream segments to the list of stream segments having ecologically unique value. Discussion ensued regarding the time frame and budgeting process for seeking designation of additional stream segments as ecologically unique. Chairman Mims suggested that the timeframe for designating additional stream segments during the upcoming legislative session does not provide ample time for the consultants to evaluate the segments. Brian Perkins concurred, saying that HDR would likely not be able to complete the necessary evaluation for additional stream segments before the Initially Prepared Plan (IPP) due date of May 1, 2015. However, it may be possible to complete the necessary steps to include a recommendation of additional stream segments to be designated as ecologically unique by the due date of the final 2016 Regional Water Plan in December 2015.

Donna Balin suggested the creation of a workgroup to explore the possibility of adding stream segments of unique ecological value, which are not currently in the Regional Water Plan, as part of the Chapter 8

Policy Recommendations and Unique Sites.

Sam Vaugh, HDR Engineering, clarified that the Planning Group probably has sufficient budget to evaluate one or two additional segments. However, the recommendation from the Planning Group must go through Texas Parks and Wildlife for review. Texas Parks and Wildlife has a 30 day review period. Therefore, if the Planning Group wants to add stream segments to its Chapter 8 Policy Recommendations for the 2016 Regional Water Plan to be designated as ecologically unique, the Planning Group should move quickly on identifying those stream segments. Mr. Vaugh further clarified that a stream segment needs to be recommended in a Regional Water Plan, and incorporated into an approved State Water Plan before a request may be made to the Legislature to designate a stream as ecologically unique.

Addressing Mrs. Balin's suggestions, Chairman Mims appointed the following members, or their designees, to the Unique Stream Segments Workgroup: Will Conley, Iliana Pena, Doug McGookey, Donna Balin, Suzanne Scott, Bill West, and Robert Puente. Chairman Mims asked Mr. Conley to serve as Chair, and for the technical consultants to guide and support the workgroup's efforts. The Workgroup will report on their recommendations at the February Regional Water Planning Group meeting for the full Planning Group to consider.

Chairman Mims also addressed the creation of a Policy Workgroup to review and suggest changes to the 2011 Regional Water Plan policy recommendations to be incorporated in Chapter 8, the Policy Recommendations and Unique Sites section of the the 2016 Regional Water Plan. Chairman Mims appointed the following members, or their designees, to the Workgroup: Donna Balin, Kevin Janak, Blair Fitzsimons, Gena Leathers, Robert Puente, Bill West, Suzanne Scott, David Roberts, Roland Ruiz, Tom Taggart, Steve Ramsey, Dianne Wassenich, and Russell Labus. Chairman Mims asked Mrs. Wassenich to serve as Chair, and for the technical consultants to guide and support this workgroup's efforts.

### AGENDA ITEM NO. 11: DISCUSSION AND APPROPRIATE ACTION REGARDING EVALUATION AND RECOMMENDATION OF WATER MANAGEMENT STRATEGIES FOR INCLUSION IN THE 2016 INITIALLY PREPARED PLAN (IPP)

Mr. Perkins presented technical evaluations for two of eleven potentially feasible water management strategies to the Planning Group, noting that technical evaluations for four additional water management strategies would be presented at the meeting in February 2015. Mr. Perkins presented technical evaluations for the Hays County Forestar Project and the Drought Management water management strategies.

Chairman Mims recessed the meeting for lunch. Upon reconvening the meeting, Chairman Mims suggested briefly skipping ahead to agenda items numbered thirteen through sixteen to ensure the Planning Group maintained a quorum for potential actions related to those agenda items. (See below beginning with Agenda Item No. 13 and ending with Agenda Item 16).

Following discussion and action on agenda items numbered thirteen through sixteen, Chairman Mims directed the Planning Group back to discussion of Agenda Item No. 11. Mr. Perkins continued presenting the technical evaluations for the remaining water management strategies, which included the following: Local Carrizo Aquifer Permitted Use Conversions, Lavaca Off-Channel Reservoir, Texas Water Alliance (TWA) Trinity Well Field Project, San Antonio Water System (SAWS) Vista Ridge Project, Seawater Desalination for SAWS, Guadalupe-Blanco River Authority (GBRA) Integrated Water Power Project (IWPP), and the Victoria County Steam-Electric (with and without effluent return flows).

Sam Vaugh presented technical evaluations for the remaining water management strategies, which included the Hays County Public Utility (HCPUA) + TWA + Mid Basin Water Supply Project (MBWSP) Joint Project and the Luling ASR (Aquifer Storage and Recovery) Project.

# AGENDA ITEM NO. 12: DISCUSSION AND APPROPRIATE ACTION REGARDING DEVELOPMENT OF 2016 INITIALLY PREPARED PLAN (IPP)

Mr. Vaugh discussed the various chapters include in the 2016 Regional Water Plan, and HDR's schedule for getting those out to the Planning Group for review. Mr. Vaugh indicated that HDR will deliver Chapters One through Four to Planning Group before December 1, 2014. They will be delivered to SARA, who will distribute the materials electronically and post on the Region L website. Chapter Five, which contains all of the identified potentially feasible water management strategies, will be delivered in sections, the first being by January 5, 2015, and the second being by January 19, 2015. Chapter Six, which contains the cumulative effects analysis, will be delivered after the February 5, 2015. Chapter Seven – which included drought response information, activities, and recommendations – will be delivered by January 5, 2015. Chapter Nine on infrastructure financing will not be delivered until after the submission of the Initially Prepared Plan (IPP). Chapters Ten is a comparison of the 2016 proposed Regional Water Plan and the 2011 Regional Water Plan. Chapter Eleven is on public participation and plan adoption. Both Chapters Ten and Eleven will be delivered sometime after the adoption of the IPP.

Brian Perkins presented county by county summaries to the Planning Group showing the water supply needs of water user groups throughout Region Land potentially feasible Water Management Strategies proposed to meet those needs.

Mr. Perkins also presented seven of eight wholesale water provider tables, depicting water demands, supplies, needs, and potentially feasible water management strategies (both the envisioned projects and modeled available ground water [MAG] limited). The tables presented included information regarding SAWS, Canyon Regional Water Authority (CRWA), HCPUA, TWA, Schertz-Sequin Local Government Corporation (SSLGC), Cibolo Valley Local Government Corporation (CVLGC), and Springs Hill Water Supply Corporation (SHWSC). Sam Vaugh presented the Wholesale Water Provider table containing the same information for GBRA.

(At this time, the meeting continued with Agenda Item 17)

# AGENDA ITEM NO. 13: THE REGULAR MEETING OF NOVEMBER 6, 2014, OF THE SOUTH CENTRAL TEXAS REGIONAL WATER PLANNING GROUP WILL RECESS TO HOLD TWO PUBLIC MEETINGS TO CONSIDER THE FOLLOWING:

### A. THE 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

Chairman Mims called the public meeting to order.

Sam Vaugh gave a brief presentation on the projects' technical evaluation. There were no comments from the public regarding the proposed substitution.

Chairman Mims adjourned the public meeting.

### B. THE GUADALUPE-BLANCO RIVER AUTHORITY'S (GBRA) PROPOSED MINOR AMENDMENT OF THE INTEGRATED WATER POWER PROJECT TO THE 2011 REGIONAL WATER PLAN

Chairman Mims called the public meeting to order.

Bill West, GBRA, made some brief comments regarding the GBRA proposed minor amendment to add the Integrated Water Power Project to the 2011 Regional Water Plan. Mr. West emphasized the importance of desalination in Texas.

Brian Perkins gave a brief presentation on the projects' technical evaluation, and asked for any public comment.

Tyson Broad, a member of the public representing the Lone Star Chapter of the Sierra Club, inquired about how the project would be ranked in terms of the prioritization of projects in the 2011 Regional Water Plan. Mr. Perkins responded, saying that, as part of the amendment package, the project would be scored, and then fall in line wherever it ranks compared to previously scored projects in the 2011 Regional Water Plan.

There were no other comments from the public.

Chairman Mims adjourned the public meeting.

# AGENDA ITEM NO. 14: RECONVENE THE REGULAR MEETING OF NOVEMBER 6, 2014, OF THE SOUTH CENTRAL TEXAS REGIONAL WATER PLANNING GROUP.

Chairman Mims reconvened the regular South Central Texas Regional Water Planning Group meeting.

AGENDA ITEM NO. 15: 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

Agenda Item No. 15 was removed from the agenda prior to this meeting.

### AGENDA ITEM NO. 16: APPROPRIATE ACTION REGARDING ADOPTION OF GUADALUPE-BLANCO RIVER AUTHORITY'S (GBRA) PROPOSED MINOR AMENDMENT OF THE INTEGRATED WATER POWER PROJECT TO THE 2011 REGIONAL WATER PLAN AND REQUEST THE TEXAS WATER DEVELOPMENT BOARD (TWDB) TO AMEND THE 2012 STATE WATER PLAN

Chairman Mims asked for discussion regarding the adoption of the GBRA proposed minor amendment to add the Integrated Water Power Project to the 2011 Regional Water Plan and the proposed action to request the Texas Water Development Board (TWDB) to amend the 2012 State Plan accordingly. Donna Balin asked about the location of the associated power facility. Mr. West explained that the exact location would depend on a myriad of factors. Though it seems logical that the desalination facility and the power facility are co-located, GBRA is currently looking at twenty-one potential sites. A final decision has not yet been made.

Iliana Pena asked Mr. West if there were any environmental considerations involved in the process of choosing a sites for the facilities. Mr. West, responded, saying GBRA is utilizing a scoring matrix to evaluate the potential sites. The first survey question of the scoring matrix addresses the fragile environmental state, agreeing that much of the environment is sensitive in the region.

Dianne Wassenich asked whether the project targets a specific end water user group, noting that there is not

a defined need where the delivery facilities will be located. Brian Perkins suggested that this specific project does not deliver directly to a water user group, but rather to a wholesale water provider, who will in turn deliver to customers. This resulting supply will be shown in Wholesale Water Provider Tables section of the 2011 Regional Water Plan, rather than the Water User Group Needs Analysis Tables section of the plan.

John Kight made a motion to adopt the minor amendment to the 2011 Regional Water Plan and request TWDB to amend the 2012 State Water Plan. The motion was seconded. Chairman Mims asked if there was further discussion or any objections. There were none. The motion passed by consensus.

# AGENDA ITEM NO. 17: POSSIBLE AGENDA ITEMS FOR THE NEXT SOUTH CENTRAL TEXAS REGIONAL WATER PLANNING

Chairman Mims instructed the Planning Group to notify either him or Cole Ruiz, San Antonio River Authority, of any agenda items they would like to have addressed at the next Planning Group meeting.

#### AGENDA ITEM NO. 18: PUBLIC COMMENT

Chairman Mims asked any public comment. There was none.

#### AGENDA ITEM NO. 19: ADJOURN

Chairman Mims adjourned the meeting.

Recommended for approval.

#### GARY MIDDLETON, SECRETARY

Approved by the South Central Texas Regional Water Planning Group at a meeting held on February 5, 2015.

CON MIMS, CHAIR

Election of Officers and Executive Committee for Calendar Year 2015 designated alternate for a voting member who serves as an officer shall not be allowed to serve in the capacity as an officer in the member's absence.

Because it is important in achieving consensus for all members to participate actively, keep up-to-date on the progress of the group, and develop a common base of information, members shall in good faith attempt to minimize the number of time they are absent from meetings or are represented by their designated alternates.

The Administrative Officer shall maintain a current list of all members and their designated alternates.

### ARTICLE VIII OFFICERS

### Section 1 Officers; Restrictions and Terms of Office

Voting members of the South Central Texas RWPG shall elect from the voting membership a Chair, Vice-Chair and Secretary to serve as officers. Each officer shall serve a term of one calendar year. Except as provided under Section 4 of this Article, an officer shall serve a term of one calendar year. Except as provided under Section 4 of this Article, an officer shall serve until his/her successor takes office. No two voting members representing the same interest shall serve as officers at the same time. Elections shall be held annually, with no restrictions on the number of consecutive terms an individual may serve as an officer other than those that apply because of his/her status as a voting member under these Bylaws.

### Section 2 Selection

Officers shall be elected at the first meeting of each calendar year. Nominations shall be made from the floor by voting members. The voting members shall elect officers from among the nominees by consensus or by affirmative vote of a majority of the voting membership.

### Section 3 Removal of Officers

Any officer may be removed from office for any of the grounds for removal of voting members set forth under Article V of these Bylaws, or for repeated failure to carry out the duties of the office, by a consensus or by majority vote of the voting membership. Removal of an officer shall be set as an agenda item at the next scheduled meeting upon written request signed by five voting members to the Chair or Secretary. The Chair or Secretary receiving the request shall notify the officer in writing that he/she shall be subject to a removal action at the next scheduled meeting. At that meeting, the officer subject to the possible removal action may present evidence of why he/she should not be removed. If the Chair is the subject of the possible removal action, The Vice-Chair shall preside over the meeting during the agenda item concerning the Chair's removal. The officer subject to the removal action shall not participate in any way in the removal decision, nor shall his/her membership count as part of the total membership for purposes of calculating the vote. The notice of the meeting shall be posted in accordance with the Open Meetings Act and shall state that the issue of possibly removing the officer will be on the agenda. Any vacancy caused by the removal shall be filled as provided under Section 4 of this Article.

### Section 4 Vacancies of Officers

Whenever an officer vacancy exists, the vacancy shall be filled at the next properly noticed South Central Texas RWPG meeting. Nominations shall be made from the floor by voting members. The voting members shall elect a replacement officer from among the nominees by consensus or by affirmative vote of a majority of the voting membership. The next highest-ranking officer shall serve in the vacant position until a successor takes office, unless the office of the Secretary becomes vacant, in which case the Chair shall appoint a willing voting member to serve as Secretary until the successor to the Secretary takes office. The person selected to fill a vacancy for an officer shall serve for the unexpired term of his/her predecessor in office.

### Section 5 Duties of Each Officer

- (a) Chair: The Chair shall e the executive officer of the South Central Texas RWPG. The Chair will preside at all meetings of the South Central Texas RWPG and perform all duties provided by these Bylaws. The Chair may establish and appoint such committees as may be necessary or desirable to assist in conducting the business of the South Central Texas RWPG, or as may be directed by the South Central Texas RWPG. If the Chair is unable to carry out his/her duties, the Vice-Chair shall assume the duties of the Chair.
- (b) Vice-Chair: The Vice-Chair shall assist the Chair in the discharge of his/her duties and, in the absence of the Chair, shall assume the Chair's full responsibilities and duties. In the event the Chair is unable to carry out his/her duties, the Vice-Chair shall serve as Chair until the South Central Texas RWPG elects a new Chair under Section 4 of this Article. The Vice-Chair shall perform other duties as assigned by the Chair or these Bylaws.
- (c) Secretary: The Secretary or the Administrative Officer shall maintain the minutes and take attendance of the South Central Texas RWPG meetings. The minutes and attendance shall be kept as part of the South Central Texas RWPG official records. The Secretary, or the Administrative Officer, shall ensure that all notices are properly posted as provided in the Bylaws, as required by law and as required by the Texas Open Meetings Act. The Secretary shall perform other duties as assigned by the Chair or these Bylaws. If both the Chair and Vice-Chair are unable to carry out the duties of the Chair, the Secretary shall assume the duties of the Chair.

### Section 6 Executive Committee

The Executive Committee shall be composed of five South Central Texas RWPG members, including the Chair, Vice-Chair, Secretary and two members-at-large. No two voting members representing the same interest shall serve as members of the Executive Committee at the same time. The two members-at-large shall be elected annually in the same manner and with the same terms as set forth for the election of officers under this Article. Members-at-large shall be removed and their vacancies filled in the manner prescribed for officers under this Article.

The Executive Committee shall be responsible for carrying out the duties imposed on it in these Bylaws. The voting members of the South Central Texas RWPG may delegate any administrative decisions to the Executive Committee unless provided otherwise in these Bylaws.

All meetings of the Executive Committee shall comply with the provisions related to meetings generally as set forth in Article IX of these Bylaws.

### ARTICLE IX MEETINGS Section 1 Open Meetings and Notice

SCTRWPG MEMBERS' TERMS OF OFFICE							
Member Name	Februar Position	y 5, 2015	Torm Evniroc				
Member Name		Interest Represented	Term Expires				
	Executive	Committee					
Con Mims	Chair	<b>River Authorities</b>	2016				
Tim Andruss	Vice Chair	Water Districts	2018				
Gary Middleton	Secretary	Municipalities	2016				
Kevin Janak	At-Large	<b>Electric Generation Utilities</b>	2016				
Donna Balin	At-Large	Environmental	2016				
Dianne Wassenich		Public	2018				
Iliana Pena		Environmental	2016				
Will Conley		Counties	2018				
John Kight		Counties					
Robert Puente		Municipalities	2016				
Tom Taggart		Municipalities	2016				
VACANT		Industries	2018				
Rey Chavez		Industries	2016				
VACANT		Agricultural	2016				
Alan Cockerell		Agricultural	2016				
Blair Fitzsimons		Agricultural	2018				
Doug McGookey		Small Business	2018				
David Roberts		Small Business	2018				
Bill West		<b>River Authorities</b>	2016				
Suzanne Scott		River Authorities	2018				
Roland Ruiz		Water Districts	2018				
Greg Sengelmann		Water Districts	2018				
Russell Labus		Water Districts	2016				
Steve Ramsey		Water Utilities	2018				
Gene Camargo		Water Utilities	2018				
Vic Hilderbran		GMA 7	Indefinite				
Don Dietzmann		GMA 9	Indefinite				
Daniel Meyer		GMA 10	Indefinite				
Diane Savage		GMA 13	Indefinite				
Art Dohmann		GMA 15	Indefinite				

Discussion and Appropriate Action Regarding Nominations to Fill Vacant Agriculture Voting Member (term expires 2016) and Industries Voting Member (term expires 2018)

# Februay 4, 2015:

Post public notice in a newspaper of general circulation in each county located in whole or in part in the South Central Texas RWPA soliciting nominatons for a successor in accordance with Article V Section 4 of the SCTRWPG Bylaws



# March 6, 2015

Thirty day nomination period expires .



# March 6, 2015 - March 27, 2015

Executive Committee will receive and rocess the nominatons, conduct interviews with nominees, and recommend a nominee for each vacant position to the full SCTRWPG.



# April 2, 2015

Executive Committe gives recommendations of nomminees to the full SCTRWPG. The full SCTRWPG appoints new members to fill vacancies. The full SCTRWPG is not bound by the Executive Committee's recomendations.



c/o San Antonio River Authority P.O. Box 839980 San Antonio, Texas 78283-9980

> (210) 227-1373 Office (210) 302-3692 Fax www.RegionLTexas.org

February 4, 2015

#### **EXECUTIVE COMMITTEE** Con Mims Chair / River Authorities Tim Andruss Vice-Chair / Water Districts Gary Middleton Secretary / Municipalities Donna Balin At-Large / Environmental Kevin Janak At-Large/ Electric Generating/Utilities MEMBERS Gene Camargo Water Utilities Rev Chavez Industries Alan Cockerell Agriculture Will Conley Counties Don Dietzmann GMA 9 Art Dohmann GMA 15 **Blair Fitzsimons** Agriculture Vic Hilderbran GMA 7 John Kight Counties Russell Labus Water Districts Vacant Industries Doug McGookey Small Business Dan Meyer GMA 10 Iliana Peña Environmental Robert Puente Municipalities Steve Ramsey Water Utilities David Roberts Small Business Roland Ruiz Water Districts **Diane Savage** GMA 13 Suzanne Scott **River Authorities** Greg Sengelmann Water Districts Vacant Agriculture Thomas Taggart Municipalities **Dianne Wassenich** Public Bill West **River Authorities**

### NOTICE TO PUBLIC

The South Central Texas Regional Water Planning Group (Region L), as established by the Texas Water Development Board in accordance with 31 TAC 357, is soliciting nominations to fill **two** vacancies as voting members on the South Central Texas Regional Water Planning Group in the following interest areas: Industries; and Agriculture. The Industries vacancy will be filled to complete a term expiring in 2018. The Agriculture vacancy will be filled to complete a term expiring in 2016. Persons interested in the either the Industries or Agriculture interest areas must be nominated by the governing board or chief executive officer of a qualifying entity within the respective interest area.

A nomination form must be completed and submitted for each nominee to be considered. For specific definitions and eligibility requirements in each of the areas of interest and to obtain a nomination form, please contact Cole Ruiz, (210) 302-3293 or <u>cruiz@sara-tx.org</u>. Nomination forms are also available at www.RegionLTexas.org.

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.

Nominations must be received by 5:00 pm, Friday, March 6, 2015 addressed to Con Mims, Chair, South Central Texas Regional Water Planning Group, c/o San Antonio River Authority, Attn: Cole Ruiz, P.O. Box 839980, San Antonio, Texas 78283-9980, faxed to (210) 302-3692 or emailed to <u>cruiz@sara-tx.org</u>.

### SOUTH CENTRAL TEXAS REGIONAL WATER PLANNING GROUP Nomination for Interest Group (check one): Agriculture, Counties, Electric Generating Utilities, Environmental, Industries, Municipalities, River Authority, Water Districts

		NOMINATOR		
NAME:			-	
ADDRESS:				
PHONE:				
OCCUPATION				
•••••		NOMINEE	 ]	
NAME:				
ADDRESS:				
PHONE:				
INTEREST AREA:				
COUNTY:				
OCCUPATION:				
PLEASE GIVE A BR QUALIFY HIM/HER FO		N OF THE NOMIN	NEE'S EXPERIENCE	THAT WOULD
PLEASE LIST ANY PE	RTINENT AFFILIA	TIONS:		

DATE SUBMITTED:\_\_\_\_\_

### PLEASE ATTACH ADDITIONAL INFORMATION IF DESIRED

Nominations must be received by **5:00 p.m., Friday, March 28, 2014** addressed to Con Mims, Chair, South Central Texas RWPG, c/o San Antonio River Authority, Attn: Erin Newberry, P.O. 839980, San Antonio, Texas 78283-9980: Faxed to (210) 302-3692 or email to enewberry@sara-tx.org

### ARTICLE V VOTING MEMBERSHIP

#### Section 1 Composition

The initial voting members of the South Central Texas RWPG include the initial coordinating body appointed by the TWDB on February 19, 1998, plus the additional voting members appointed by the initial coordinating body to ensure adequate representation of the interests comprising the South Central Texas RWPA stated in Texas Water Code §16.053(c), if present and other interests determined by the South Central Texas RWPG, to include representatives appointed by Groundwater Management Areas in accordance with Section §16.053(c). Thereafter, the voting membership of the South Central Texas TWPG shall include persons added and exclude those removed as provided under this Article and any 31 TAC § 357.4(g)(4) member selected for voting membership under Article VI.

### Section 2 Terms of Office

Except for members Management Areas under Texas Water Code office for voting members shall be five years appointed by Groundwater Section §16.053(c). Terms of

### Section 3 Conditions of Membership

In order to be eligible for voting membership on the South Central Texas RWPG, a candidate must represent the interest for which a member is sought, be willing to participate in the regional water planning process, and abide by these Bylaws.

### Section 4 Selection of Members

At least forty-five calendar days prior to the expiration of the term of a voting member, or within two weeks following a Planning Group meeting at which the Planning Group decides to replace a voting member, the South Central Texas RWPG will post public notice in a newspaper of general circulation in each county located in whole or in part in the South Central Texas RWPA soliciting nominations for a successor, identifying the particular interest for which nominations are sought, stating the conditions of membership, delineating the method for submitting nominations, and establishing a deadline for submission of nominations between thirty and forty-five calendar days from the date that public notice was posted. Members of the South Central Texas RWPG may also submit nominations in the manner prescribed in the public notice.

The Executive Committee will receive and process the nominations and after the deadline for submitting nominations, will recommend a nominee for the position to the voting membership as a whole, giving strong consideration to a consensus nominee from those individuals and entities that collectively represent that interest. The Executive Committee shall consider and report all nominations received but may consider only persons who meet the conditions of membership. The voting membership as a whole is not bound by the recommendation of the Executive Committee and may consider any nominee who meets the conditions of membership.

The voting members shall attempt to make a decision for a successor by consensus. If efforts to reach consensus fail, the Chair shall call for a vote on a nominee. An affirmative vote of a majority of the voting membership shall be required to elect a nominee as a new voting member. If voting fails to select a new voting member, the voting members shall consider other nominations until a

new member can be selected by consensus or affirmative majority vote of the voting membership.

In addition to selecting new voting members to fill vacancies caused by removal, resignation or the expiration of a term, the voting members may add members to ensure adequate representation of the interests comprising the South Central Texas RWPA by using the selection process set forth in this section. In both the consideration of nominees and the selection of new voting members, the Executive Committee and other voting members shall strive to achieve geographic, ethnic and gender diversity.

Outgoing voting members shall be given the opportunity to fully participate in the selection process for their successors and shall serve until successors take office. However, no member shall participate in a vote in which he/she is a nominee.

A membership created by a Groundwater Management Area in accordance with Texas Water Code §16.053(c) shall be maintained by that Groundwater Management Area. The Planning Group shall notify a Groundwater Management Area of a vacancy created by its appointed member.

#### Section 5 Attendance

All members shall make a good faith effort to attend all South Central Texas RWPG meetings and hearings. Records of attendance shall be kept by the Secretary at all South Central Texas RWPG meetings and hearings and presented as part of the minutes. Voting members of the South Central Texas RWPG who have missed three consecutive regular meetings, or at least one-half of all meetings in the preceding twelve months, shall be considered to have engaged in excessive absenteeism and are subject to removal from membership under Section 7 of this Article. The Planning Group shall notify any Groundwater Management Area of excessive absenteeism, as defined in this section, of a member appointed by that Groundwater Management Area under Texas Water Code §16.053(c) and request its consideration of replacing that member. Members are encouraged to notify the Chair if they will miss a meeting and/or send a designated alternate.

### **Section 6 Code of Conduct**

Members and designated alternates of the South Central Texas RWPG shall ethically conduct the business of the South Central Texas RWPG and shall avoid any form or appearance of a conflict of interest, real or apparent, by observing the following:

- (a) No member or designated alternate of the South Central Texas RWPG shall knowingly:
  - (1) Solicit or accept gratuities, favors or anything of monetary value from suppliers or potential suppliers of services, materials or equipment, including subcontractors under recipient contracts or any other person who has a substantial financial interest in the regional water plan; or
  - (2) Participate in the selection, award or administration of a procurement where the member or designated alternate has a financial or other substantive interest in the organization being considered for award. Such conflict may be due to any of the following having a financial or familial relationship with the organization:
    - i) the member or designated alternate;

Status of Edwards Aquifer Habitat Conservation Plan (HCP) – Nathan Pence, Executive Director EAHCP

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)

Status of the Workgroups' Development of the Chapter 8 Policy Recommendations and Unique Sites Language for Inclusion in the 2016 Initially Prepared Regional Water Plan

- a) Unique Stream Segment Workgroup
- b) Policy Workgroup

Chair's Report

Texas Water Development Board (TWDB) Communications

Discussion and Appropriate Action Designating a Workgroup to Hold a Closed Meeting to Develop and Submit a Confidential Report on the 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)

Discussion and Appropriate Action Designating a Political Subdivision for the Fifth Cycle of Regional Water Planning

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)



# Guidance for Preparation of the 2015 Application for Regional Water Planning Grant

Fifth Cycle of Regional Water Planning

December 2014

### **TABLE OF CONTENTS**

Timeline for Regional Water Planning Contracting	3
Required Public Notice Associated with Submitting an Application to TWDB for Regional Water Planning Funds	4
Introduction to the Application	4
Contract between the TWDB and the Regional Water Planning Group Political Subdivisions	7

### **Timeline for Regional Water Planning Contracting**

• December 12, 2014: TWDB to post Request for Applications (RFA) in the *Texas Register*.

[*RWPGs to meet prior to March 2015 to authorize the Political Subdivision to submit the application by March 3, 2015 and to post a large public notice at least 30 days prior to the anticipated April 9, 2015 TWDB Board meeting – reference page 4 of this guidance*]

### -2015-

- March 3, 2015: Responses to RFA due to TWDB by 12 p.m. (noon).
- April 9, 2015: Anticipated Board authorization to negotiate and execute regional water planning contracts. RWPGs should not reference the April 9<sup>th</sup> date in the public notice.
- August 31, 2015: Deadline for executing fifth cycle regional water planning contracts.

Potential legislative appropriation for FY 2016-2017 may become available for regional water planning activities (this anticipated future funding is not included in this current application).

### (Tentative Schedule Below) -2020-

- May 1, 2020: Submission deadline for the Fifth Cycle Initially Prepared Regional Water Plans (IPPs) to TWDB.
- November 2, 2020: Submission deadline for the Fifth Cycle Adopted Regional Water Plans to TWDB.

### -2021-

• January 5, 2021: Statutory deadline for the Fifth Cycle Final Adopted Regional Water Plans to TWDB.

# Required Public Notice<sup>1</sup> Associated with Submitting an Application to TWDB for Regional Water Planning Funds

There is one significant notice associated with filing an application for funding; see 31 TAC §355.91.

The notice of intent to apply for Regional Water Planning funds should be posted by the Regional Water Planning Group's Political Subdivision **at least 30 days prior to TWDB Board consideration of funding applications** (anticipated TWDB Board meeting date of April 9, 2015). RWPGs should **not** reference any Board consideration date in the public notice.

Prior to TWDB Board action, in accordance with 31 TAC 357.21(d)(4), the applicant must provide TWDB a copy of the notice, a list of who the notice was sent to, the date the notice was sent, copies of all notices as published showing the name of the newspaper and date on which the notice was published.

Note that regional water planning groups will also be required to eventually hold a pre-planning public meeting to receive public input on issues that should be addressed or provisions that should be included in the regional or state water plan (31 TAC 357.12(a)(1) and 357.21(d)(1)). This meeting will also require a significant notice 30 days prior to the RWPG meeting to receive public input and must take place prior to the political subdivision spending any funding on planning activities. This pre-planning meeting is not required to apply for funds.

### Introduction to the Application

### Background on the Funding Process for the Fifth Cycle of Regional Water Planning:

The fifth cycle of regional water planning will commence using the approximately \$1.6 million in funding that is currently available with additional future legislative appropriations, if available, to be provided to RWPGs via a future TWDB Request for Applications. These initial funds are considered sufficient to support regional water planning activities to the point at which regions are able to evaluate population and water demand projections.

In conjunction with another TWDB Request for Applications (based on future appropriations) TWDB will amend the contracts to include additional scope of work and additional funds, subject to availability.

### **Relevant Documents for the Application:**

- a) Request for Applications (*Texas Register* notice)
- b) Guidance for Preparation of the 2015 Application for Regional Water Planning Grant (this document)
- c) TWDB Research and Planning Fund Senate Bill One Regional Water Planning Grant Application Instructions (includes application checklist)
- d) Initial Scope of Work for the Fifth Cycle of Regional Water Planning (prepared by TWDB)
- e) General Guidelines for Fifth Cycle of Regional Water Plan Development
- f) General Guidelines for Regional Water Planning Data Deliverables (2017-2021)
- g) Generic Templates for RWPG Meeting Agenda Items and Public Notice of Intent to Submit a Regional Water Planning Grant Application
- h) Texas Water Code §16.051 and §16.053 State and Regional Water Planning Statute
- i) 31 TAC Chapters 355, 357, 358 State and Regional Water Planning Rules
- j) 2012 Regional Water Planning Public Notification Quick-Reference

Relevant documents for the application may be downloaded at:

http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/index.asp

<sup>&</sup>lt;sup>1</sup> A generic example of this notice may be found at:

http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/index.asp

### Scope of Work

The standard scope of work to be included in the application was prepared by TWDB<sup>2</sup> and is being provided to all RWPGs by TWDB as the *Initial Scope of Work for the Fifth Cycle of Regional Water Planning* and may be downloaded at:

http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/index.asp

#### **Currently Available Funding**

Available funding to commence planning activities for all planning groups is in an amount not to exceed \$1,649,885 (Table 1).

If additional funding for this cycle of regional water planning is made available by the 84<sup>th</sup> Texas Legislature, RWPGs will be required to apply for these additional funds under a Request for Application process approved by the Board at a future date. Future funding, if appropriated, would be allocated to complete Task 10, and to perform Tasks 1, 3-9, and 11-12 (see Table 1). A scope of work for the remainder of the planning tasks will be prepared by TWDB (with the exception of Task 4D) and included as part of any further requests for additional regional water planning funds, subject to availability.

### **Funding** Allocations

The proposed funding allocations shown in Table 1 are estimates of the funds planning groups will need to prepare the projections portions of the 2021 Regional Water Plans in accordance with statute and rule requirements including: providing public notice; holding meetings; preparing associated plan documents; and populating the online planning database. These funds are fully allocated to the Tasks as shown in Table 1 and as described in the *Initial Scope of Work for the Fifth Cycle of Regional Water Planning*. The amounts in Table 1 should be used in the RWPG Task Budgets to be submitted as part of the Applications.

The expense budget to be included in the Application should follow the format shown in the *TWDB Research and Planning Fund Senate Bill One Regional Water Planning Instruction Sheet.* These funding amounts are not guaranteed funds and must be requested in grant applications submitted to TWDB by the deadline.

Because each regional plan will require varying levels of effort amongst tasks, TWDB recognizes the need for flexibility. Once the scope of work and associated budget have been approved by the Board, and signed into contract, the regional water planning groups (and their consultants) will have the option of reallocating funds between tasks up to 35 percent of the lesser task's budget, as described in the contract. The reallocation of funds beyond this limit will require approval by the RWPG and written approval by TWDB in accordance with the contract.

<sup>&</sup>lt;sup>2</sup> There is no 'scope development' budget. Regions are to submit the scope of work provided by TWDB as part of the Request for Application documents.

Table 1: Summary of Funding Allocated to RWPGs to Initiate the Fifth Cycle of Regional Water Planning

					PLANNING TASK		
		1	2A	2B	3-9	10*	11-12
		Projections Projections		Related Water Demand	Evaluation of Existing Water Supply; Identification of Water Needs; Identification of Potentially Feasible Water Management Strategies; Evaluation and Selection of Water Management Strategies; Conservation Recommendations; Impacts of WMSs on Water Quality & Moving Water from Ag and Rural Areas; Consistency with Long-term Protection of Natural Resources; Drought Response, Activities & Recommendations; Unique Reservoir/Stream Segments & Legislative Recommendations; Water Infrastructure Funding	Adoption of Plan (administration & public participation)	Implementation and Comparison to the Previous Regional Water Plan; Prioritization of projects in the 2021 Regional Water Plan
Region	Total Initial Funding	Amount	Amount	Amount	Amount	Amount	Amount
A	\$77,520	TBD	\$20,104	\$15,043	TBD	\$42,373	TBD
В	\$56,880	TBD	\$13,707	\$10,112	TBD	\$33,061	TBD
С	\$188,667	TBD	\$24,198	\$89,070	TBD	\$75,399	TBD
D	\$127,597	TBD	\$26,425	\$37,364	TBD	\$63,808	TBD
E	\$45,446	TBD	\$8,064	\$10,815	TBD	\$26,567	TBD
F	\$107,108	TBD	\$29,819	\$21,533	TBD	\$55,756	TBD
G	\$187,800	TBD	\$40,286	\$59,531	TBD	\$87,983	TBD
н	\$177,909	TBD	\$28,385	\$73,371	TBD	\$76,153	TBD
1	\$117,891	TBD	\$26,840	\$31,390	TBD	\$59,661	TBD
J	\$44,567	TBD	\$9,874	\$7,414	TBD	\$27,279	TBD
к	\$109,356	TBD	\$24,387	\$33,165	ТВД	\$51,804	TBD
L	\$138,032	TBD	\$30,562	\$43,060	ТВД	\$64,410	TBD
м	\$85 <i>,</i> 685	TBD	\$14,860	\$30,630	ТВД	\$40,195	TBD
N	\$61,774	TBD	\$14,260	\$12,558	ТВД	\$34,956	TBD
0	\$84,656	TBD	\$22,795	\$16,563	TBD	\$45,298	TBD
Р	\$38,997	TBD	\$7,863	\$6,459	TBD	\$24,675	TBD
TOTAL	\$1,649,885	TBD	\$342,429	\$498,078	TBD	\$809,378	TBD

\* Task only partially funded. When additional appropriations become available, contracts will to be amended to add funds through a future Request for Applications.

### Contracts between the TWDB and the Regional Water Planning Group Political Subdivisions

The Contract budget will address the initial planning activities of the fifth planning cycle, which concludes January 5, 2021. The Contract term will be for the full time period through adoption of the 2021 regional water plans, limited by the budget and scope of work until amended at a future date to cover all tasks required to adopt final plans. The initial scope of work as performed, must address all necessary elements required for preparation of the associated elements of a regional water plan as described in 31 TAC Chapter 357. All proposed work activities and associated dollars must be fully justified.

The documents below, in addition to these instructions and the contract boilerplate, will serve as the core of the regional planning contracts during the contract period and are available at <a href="http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/index.asp">http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/index.asp</a>:

- General Guidelines for Fifth Cycle of Regional Water Plan Development
- General Guidelines for Regional Water Planning Data Deliverables (2017-2021)
- Initial Scope of Work for the Fifth Cycle of Regional Water Planning
- All provisions of 31 Texas Administrative Code, Chapters 357 and 358 will serve as the foundational guidance for the development of regional water plans.

### **Eligible Expenses**

### Administrative Expenses

Administrative Costs (associated with Political Subdivisions) for Regional Water Plan Development that will be reimbursable under the contract are limited to direct, non-labor costs as outlined in the example Contractor Expense Budget in the Instruction Sheet/Application Checklist.

### Start of Reimbursable Period

Staff does not anticipate the TWDB authorizing reimbursement for any activities, other than the cost of posting notice associated with the grant applications,<sup>3</sup> that occur prior to the date of public meeting to receive preplanning input from the public.

The required public meeting to receive pre-planning input from the public does <u>not</u> have to occur prior to executing the contracts (regions are not developing a scope of work for their applications); however, TWDB will not reimburse for any activities other than notice costs that occur prior to the date of this public meeting under the TWDB contract.

The public's input on scoping for the 2021 regional water plans may be used by the RWPGs to guide its planning activities and to direct, to the extent practicable under its regional water planning contract, how TWDB funds will be spent within the RWPG's budget during the fifth cycle of planning.

# If you have any questions or need any assistance with this process, please contact your TWDB Regional Water Planning Project Manager.

<sup>&</sup>lt;sup>3</sup> Board staff anticipates requesting permission from our Board to allow reimbursement of Political Subdivisions under the contracts for the Fifth cycle for allowable, direct (non-labor) costs associated with posting the public notices associated with the applications only.

# AGENDA ITEM 14

Discussion and Appropriate Action Regarding Consultants Work and Schedule

## **Potential Issues For The 2016 SCTRWP**

### February 5, 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
- 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

				014								15					
Tasks	Description	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		$\mathbf{\mathbf{Z}}$			$\bigvee$	$\checkmark$					$\checkmark$	$\checkmark$			$\checkmark$	
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						$\star$										
Task 5	Conservation Recommendations																
Task 6	Long-term Resource Protection																
Task 6.1	Cumulative Effects of RWP						$\star$										
Task 7	Drought Response Information																
Task 8	Policies & Recmdtns / Unique Sites						*										
Task 9	Infrastructure Funding																
Task 10	Plan Adoption						$\star$		$\star$				$\star$				
Task 11	Implement. & Compare to Prv RWPs																
	Prioritization of 2011 WMSs																
Task 12a																	

IPP Deadline:

May 1, 2015

**RWP Deadline:** 

December 1, 2015

<u>Legend:</u>

SCTRWPG Action
TWDB Action

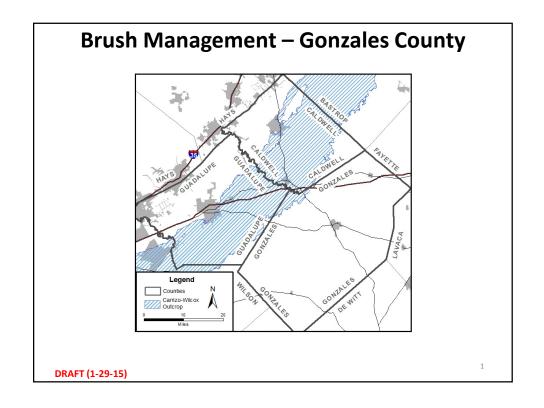
Scheduled SCTRWPG Meeting

Probable SCTRWPG Meeting

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# **AGENDA ITEM 15**

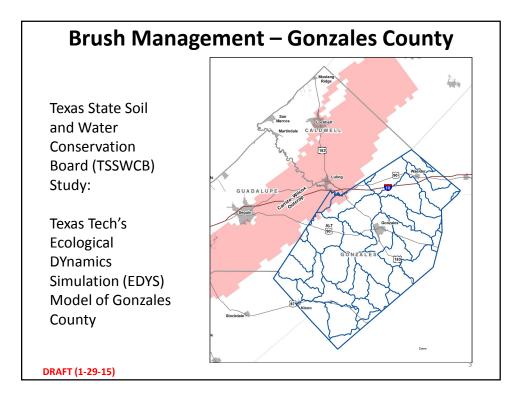
Discussion and Appropriate Action Regarding the Evaluation and Recommendation of Water Management Strategies (Task 4D)

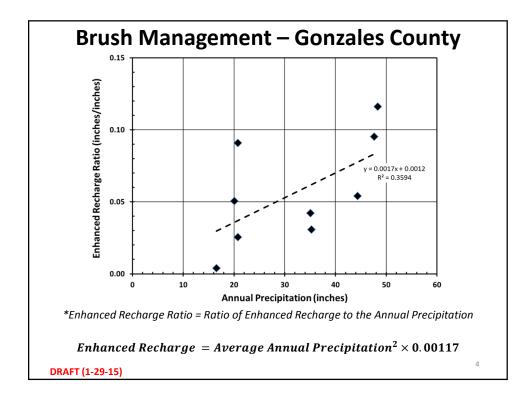


## **Brush Management – Gonzales County**

• 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





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

## **Brush Management – Gonzales County**

• Costs:

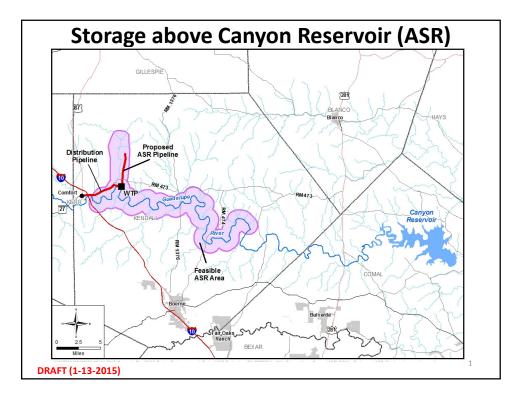
- Costs based on 2011 SCTRWP plus Inflation of 1.5% for 5 years
- Initial Clearing = \$215.5/acre
- Maintenance Clearing = \$5.39/acre/yr
   (based on \$26.95/acre every 5 years)
- Monitoring = \$313,500/yr

7

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									
Total MAG Increase (acft/yr)	1,370	4,631	6,925	13,910									
Unit Cost (\$/acft/yr)*	1,209	937	1,015	988									

 $\ast$  Costs are based on raw water in the aquifer, and do not include pumping, treatment, or transmission

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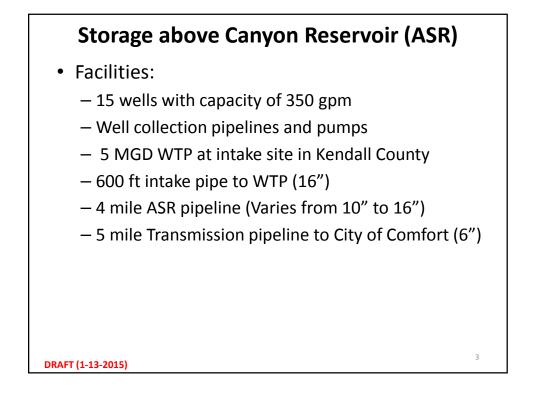


### Storage above Canyon Reservoir (ASR)

- 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



Storage a	above Canyo	on Reservo	ir (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	
DRAFT (1-13-2015)			4

# Balancing Storage WMS

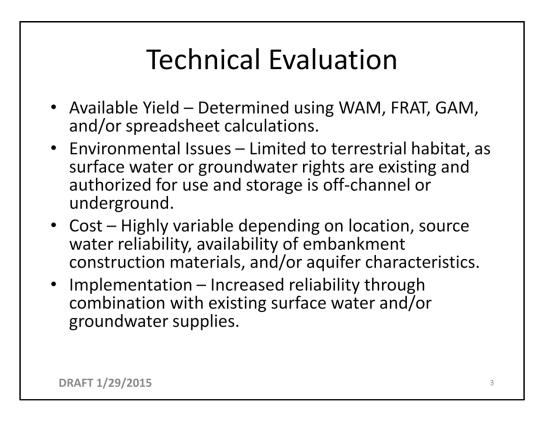
- Water management strategy recommended to explicitly recognize that storage needed to: a) firm up supplies from run-of-river diversions or interruptible groundwater sources; and b) to ensure that supplies delivered through long distance conveyance facilities are available to meet daily and seasonal demands is consistent with the 2016 Region L Water Plan.
- Addition of balancing storage on the surface or underground (ASR) is consistent with the 2016 Region L Water Plan if necessary authorizations are obtained pursuant to TCEQ and/or groundwater conservation district rules and applicable law.

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- Develop or enhance water supplies through offchannel or underground (ASR) storage authorizations.
- Off-channel or underground (ASR) storage may be added through amendment of existing surface water rights as long as there is no associated adverse impact on other water rights or the environment greater than that with full use prior to amendment (the "No Injury" rule). Additional regulatory requirements may apply.

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# Example Entities Using this WMS

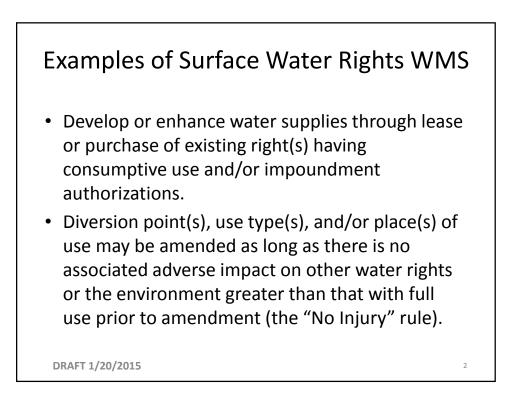
- City of Victoria
- Guadalupe-Blanco River Authority
- San Antonio Water System

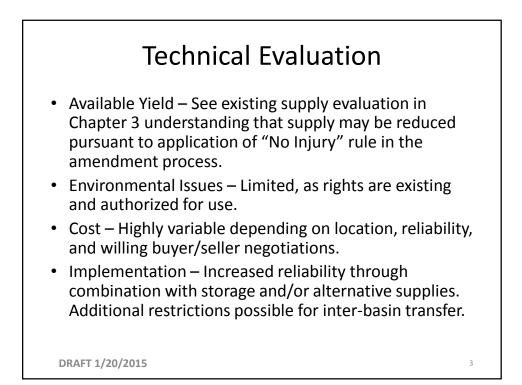
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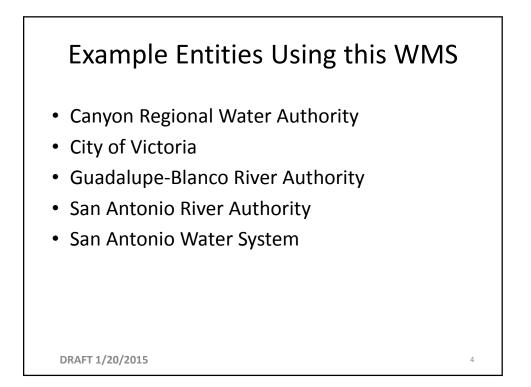
# Surface Water Rights WMS

- Water management strategy recommended to explicitly recognize that use of water supplies or storage made available under existing water rights by lease or purchase agreements between willing buyers and sellers is consistent with the 2016 Region L Water Plan.
- Addition of diversion points or types and places of use for existing surface water rights is also consistent with the 2016 Region L Water Plan if necessary authorizations are obtained pursuant to TCEQ rules and applicable law.

DRAFT 1/20/2015







# AGENDA ITEM 16

Discussion and Appropriate Action Regarding the Recommendations of Potentially Feasible Water Management Strategies for Inclusion into the 2016 Initially Prepared Regional Water Plan

### 2016 SCTRWP Potentially Feasible Water Management Strategies

	Water Management Strategy	YR 2070 Supply	Sponsor	Notes
C	Water Management Strategy	(acft/yr) Varies	Sponsor All Municipal Users	Notes
		Varies	All Municipal Users Municipal Users	Those with Needs in YR 2020
	ought Management	7,829*		
	WA Wells Ranch - Phase 2 - MAG-Limited ackish Wilcox Groundwater for CRWA - MAG-Limited	3,839	CRWA CRWA	Limited to 7,658 acft/yr in YR 2030
	WA Siesta Project	5,042	CRWA	
	wards Transfers, Carrizo Transfers, or Trinity	1,200	CRWA	
	rrizo Aquifer (Wilson Co) - MAG-Limited	0	CVLGC	
	rrizo Aquifer (Wilson Co) w/ Conversions	8,800	CVLGC	
		,		
	BRA Mid-Basin Project (ASR)	50,000	GBRA	
	BRA Lower Basin Storage (500 acre site)	51,800	GBRA	
	BRA Lower Basin New Appropriation	42,000	GBRA	
	tegrated Water-Power Project ctoria County Steam-Electric Project	100,000 29,100	GBRA GBRA	
	estern Canyon WTP Expansion	N/A	GBRA	Up to 5,600 acft/yr of Capacity
			-	
	ays/Caldwell PUA Project - Phase I & II - MAG-Limited	21,833	HCPUA	
	vaca Off-Channel Reservoir	16,963	LNRA	6,963 acft/yr for Region N
	ackish Wilcox Groundwater for SAWS - MAG-Limited	5,622	SAWS	
	panded Local Carrizo - MAG-Limited	5,419	SAWS	
	sta Ridge Consortium - MAG-Limited	34,894	SAWS	
	panded Brackish Project - MAG-Limited	0	SAWS	
	WS Seawater Desalination	84,023	SAWS	75 MGD of Potable Suppl
	Ivanced Meter Infrastructure for SAWS	5,598	SAWS	Supply in terms of Saved Water (Leaks
	WS Conservation Goals	2,792	SAWS	Varies from 2,792 acft/yr to 15,974 acft/y
	ng-term Drought Management for SAWS	68,190	SAWS	
	WS Direct Reuse	15,000	SAWS	
wa	ater Resources Integration Pipeline	N/A	SAWS	
<sup>ixi</sup> g	pansion Carrizo Aquifer (Guadalupe County)	5,720	SSLGC	
Bra	ackish Wilcox (Gonz Co) - MAG-Limited	1,392*	SSLGC	Limited to 0 acft/yr in YR 203
t TW	VA Carrizo Project - MAG-Limited	15,000*	TWA	Limited to 14,680 acft/yr in YR 203
Je TW	VA Trinity Project	5,000	TWA	
Ne Ne	ew Braunfels ASR + WTP Expansion	8,300	NBU	
anagement	ew Braunfels Trinity	1,090	NBU	
На На	ays Forestar Project - MAG-Limited	12,356	Hays County	
Σwi	imberley/Woodcreek Project	N/A	Hays County	Potential Upsizing for Region K (4,000 acft/yr
JU UV	valde ASR - MAG-Limited	1,155	Uvalde	
Te	ctoria ASR	TBD	Victoria	
	ctoria Groundwater-Surface Water Exchange	TBD	Victoria	
Vic	ctoria Off-Channel Storage	TBD	Victoria	
Bra	ackish Wilcox for SS WSC - MAG-Limited	0	SS WSC	
Ĕ				Atascosa Rural WSC, Helotes, Gonzales Co WSC, Springs Hill WSC
	cilities Expansions	N/A	Municipal Users	Yancey WSC, Port O'Connor, and CCMA
			indificipal oscis	Sabinal, Uvalde, Castroville, East Medina SUD, Hondo, La Coste
Ř				Natalia, Yancey WSC, Medina Co Other, Alamo Heights, Atascosa
				Rural WSC, Converse, Kirby, Leon Valley, SAWS, Shavano Park
Edv	wards Transfers	11,772	Municipal Users	Windcrest, CRWA, and Lyte
Lu		11,772	Wullepar Osers	Cotulla (YR 2050 Needs), La Salle Co Other (YR 2050 Needs)
Loc	cal GW (Carrizo)	2,713	Municipal Users	Floresville, Pearsall, Polonia WSC, and Sunko WSC
	cal GW (Wilcox)	2,023	Crystal Clear WSC	
	cal GW (Gulf Coast)	151	Municipal Users	Kened
	cal GW (Trinity)	9,298	Municipal Users	Boerne, Garden Ridge, Crystal Clear WSC, and Mountain Cit
	cal GW (BS Edwards - Brackish)	392	County Line SUD	
				Castroville, East Medina Co WSC, La Coste, Natalia, and Yance
Loc	cal GW (Leona Gravel)	869	Municipal Users	WS
Loc	cal Carrizo Conversion (Irrigation)	720	Municipal Users	Benton City, Polonia WSC, Pearsall, and SS WS
	cal Carrizo Conversion (Mining)	456	Municipal Users	Cotulla and La Salle Co Other (YR 2050 Needs
Loc	cal Yegua-Jackson Conversion (Mining)	249	Karnes City	336 acft/yr in YR 2020
	irchase from CRWA	N/A	8 Municipal Users	Moves water from CRWA to 8 WUG
	Inchase from CVLGC	N/A	2 Municipal Users	Moves water from CVLGC to 2 WUG
	irchase from GBRA	N/A	10 Mun/Ind/SE Users	Moves water from GBRA to 10 WUG
	irchase from HCPUA	N/A	3 Mun Users + 1 WWP	Moves water from HCPUA to 3 WUGs & CRW
	irchase from LNRA	10,000	Calhoun Co Ind (Formosa)	New Supply Developed by the Lavaca Off-Channel WM
	irchase from SAWS	N/A	7 Mun/Ind Users	Moves water from SAWS to 7 WUG
	irchase from SSLGC	N/A	4 Municipal Users	Moves water from SSLGC to 4 WUG
Pu	rchase from TWA	N/A	4 Municipal Users	Moves water from TWA to 4 WUG
Dir	rect Reuse/Recycle	4,849	3 Municipal Users	Kyle, San Marcos, and New Braunfels (NBL
	rface WRs	N/A	Municipal Users	
	lancing Storage	N/A	Municipal Users	
-	• •			
-	WA Wells Ranch - Phase 2 - Envisioned	7,829	CRWA	
Se Bra	ackish Wilcox Groundwater for CRWA - Envisioned	14,700	CRWA	
a) —	orage Above Canyon (ASR)	504	GBRA	
te Lui	ling ASR	4,277	GBRA	
	BWSP - Carrizo Groundwater (Option 0)	15,000	GBRA	
ME ME	BWSP - Surface Water w/ Off-Channel Reservoir (Option 2A)	25,000	GBRA	
e III	BWSP - Conjunctive Use w/ ASR (Option 3A)	42,000	GBRA	
Har	ays Forestar Project - Envisioned	45,000	Hays County	
<b>c</b>	ays/Caldwell PUA Project - Phase I & II - Envisioned	35,690	HCPUA	
нс Ла	CPUA/TWA/GBRA Shared Facilities Project	86,513	Multiple	
≥ нс	CPUA/TWA Joint	40,690	Multiple	
	ackish Wilcox Groundwater for SAWS - Envisioned	33,600	SAWS	
S Exp	panded Local Carrizo - Envisioned	30,000	SAWS	
	sta Ridge Consortium - Envisioned	50,000	SAWS	
<b>≧</b> Exp	panded Brackish Project - Envisioned	50,000	SAWS	
	ackish Wilcox for SS WSC - Envisioned	1,120	SS WSC	
Bra	ackish Wilcox (Gonz Co) - Envisioned	5,000	SSLGC	
	VA Carrizo Project - Envisioned	15,000	TWA	
	valde ASR - Envisioned		Uvalde	
• U V		4,000		
			TDD	
	ush Management in Gonzales Co - 10% Participation	1,370	TBD	
Bri Bri	ush Management in Gonzales Co - 10% Participation ush Management in Gonzales Co - 30% Participation ush Management in Gonzales Co - 50% Participation	1,370 4,631 6,925	TBD TBD TBD	

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	
Total	171	257	333	409	484	579	

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

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	
Total	72,848	98,119	128,387	157,504	187,797	217,633	

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

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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)

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	
Total	12,273	10,736	9,695	11,062	15,199	18,653	

Comal County Needs (Projected Demands less Existing Supplies)

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	Recyled 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	
Total	5,153	8,408	14,813	21,225	27,934	34,518	

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

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)

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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	
Steam-Electric	0	0	0	0	0	0	
Irrigation	3,372	3,312	3,082	2,846	2,620	2,466	Increased Unmet Needs (SW Rights)
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)

WUG	2020	2030	2040	2050	2060	2070	WMS
Dilley	0	0	0	0	0	0	Conservation
Pearsall	0	0	0	0	0	19	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	0	0	0	0	19	

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

WUG	2020	2030	2040	2050	2060	2070	WMS
Goliad	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	

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)

1,082

4,344

8,022

11,939

16,248

20,552

Total

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	

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

WUG	2020	2030	2040	2050	2060	2070	WMS
Buda	0	0	0	0	0	0	Conservation, Puchase from HCPUA
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	

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 (1-29-2015)

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	

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)

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)

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	

#### DRAFT (1-29-2015)

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

DRAFT (1-29-2015)

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

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)

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)

WUG	2020	2030	2040	2050	2060	2070	WMS
Crystal City	0	0	0	0	0	0	Conservation
Zavala 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	18,487	16,805	14,980	13,049	11,193	9,443	Unmet
Livestock	0	0	0	0	0	0	
Total	18,487	16,805	14,980	13,049	11,193	9,443	

#### Texas Water Alliance (TWA)

#### TWA Projected Demands (acft/yr):

		Year (acft)					
Water Purchaser	2020	2030	2040	2050	2060	2070	
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	
Total Demand	1,000	5,521	7,620	14,531	19,709	25,229	

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

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

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

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

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

			Year	(acft)		
	2020	2030	2040	2050	2060	2070
Recommended WMS						
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
Total Recommended WMS	5,000	15,180	15,500	15,500	20,000	20,000
Management Supplies with Recommended WMS <sup>4</sup>	4,000	9,659	7,880	969	291	-5,229
Alternative WMS <sup>4</sup>						
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 SCTRWPG.

<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.

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

Schertz-Seguin Local Government Corporation	n (SSLGC)					
SSLGC Projected Demands (acft/yr):						
			Year	(acft)		
Water Purchaser	2020	2030	2040	2050	2060	2070
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	(
Total Demand	22,815	22,364	24,082	24,155	24,150	24,150
SSLGC Supply:						
			Year	(acft)		
Source	2020	2030	2040	2050	2060	2070
Carrizo Aquifer (Gonzales County) <sup>1</sup>	17,039	16,644	17.039	17,039	17,039	17,039
Total Supply	17,039	16,644	17,039	17,039	17,039	17,039
SSLGC Projected Needs:						
			Year	(acft)		
	2020	2030	2040	2050	2060	2070
Total System Management Supplies/(Needs)	(5,776)	(5,720)	(7,043)	(7,116)	(7,111)	(7,111)
SSLGC Water Management Strategies (WMS) v	vith Estimate	d Firm Y	ield (acft	/yr):		
			Year	(acft)		
	2020	2030	2040	2050	2060	2070
Recommended WMS						
Conservation <sup>2</sup>	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) Total Recommended WMS	56 <b>5,776</b>	0 5,720	1,323 <b>7.043</b>	1,396 <b>7,116</b>	1,392 <b>7,112</b>	1,392 <b>7,11</b> 2
	5,770	5,720	7,043	7,110	7,112	7,112
Management Supplies with Recommended WMS <sup>4</sup>	0	0	0	0	0	(
<u>Alternative WMS</u> <sup>4</sup>						
Brackish Wilcox (Gonz Co)	5,000	5,000	5,000	5,000	5,000	5,000
4						
<sup>1</sup> Permitted production as of September 2013, less 12% loss <sup>2</sup> Assigned by Water User Group (WUG) based on Municipa						

<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.

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

# 10/22/2014 DRAFT

Springs Hill Water Supply Corporation (SHV	100)					
SHWSC Projected Demands (acft/yr):						
	Year (acft)					
Water Purchaser	2020	2030	2040	2050	2060	2070
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
Total Demand	2,437	2,703	3,102	3,719	4,379	5,043
SHWSC Supply:						
			Year	(acft)		
Source	2020	2030	2040	2050	2060	2070
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
Total Supply	6,704	6,704	6,704	6,704	6,704	6,704
SHWSC Projected Needs:						
			Year	(acft)		
	2020	2030	2040	2050	2060	2070
Total System Management Supplies/(Needs)	4,267	4,001	3,602	2,985	2,325	1,661
				-1 ( <b>6</b> 1 (		
SHWSC Water Management Strategies (WM	S) with Est	imated F			):	
	2020	2030	Year 2040	(actt) 2050	2060	2070
WMSs	2020	2030	2040	2050	2000	2070
Conservation						
Total Recommended WMS	0	0	0	0	0	C
Management Ourselies with D	4	4 001	0.000	0.00-	0.005	1.00
Management Supplies with Recommended WMS	4,267	4,001	3,602	2,985	2,325	1,661
Alternative WMS						
	1					

## Table 1

San Antonio Water System (SAWS) - Planned						
SAWS Projected Demands (acft/yr):						
ontro i rojecicu Demanus (achtyr).			Year	(acft)		
Water Purchaser	2020	2030	2040	2050	2060	2070
Balcones Heights	518	566	612	662	711	75
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	234 949	230 953	226 959	224 969	224 983	224
Hollywood Park Leon Valley	558	953 579	600	624	963 652	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) Total Demand	15,076 292,270	15,076 320,160	15,076 346,495	15,076 375,829	15,076 405,223	15,076 432,549
SAWS Supply:	292,210	320,100	340,495	375,629	403,223	432,343
exite cappiy:			Vear	(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	C
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	007.105
Total Supply SAWS Projected Needs:	243,271	241,789	239,927	237,571	237,195	237,195
SAWS Projected Needs:			Vaar	(aaft)		
	2020	2030	Year 2040	(acit) 2050	2060	2070
Total System Management Supplies/(Needs)	(48,999)	(78,371)	(106,568)	(138,258)	(168,028)	(195,354)
rotal oystem management ouppress(needs)	(40,000)	(10,011)	(100,000)	(100,200)	(100,020)	(100,004)
SAWS Water Management Strategies (WMS) w	dale Fratines					
	vith Estima	ted Firm	Yield (acf	t/ <b>yr):</b>		
			Year	(acft)		
	2020	ted Firm			2060	2070
Recommended WMS	2020	2030	Year 2040	(acft) 2050		
Conservation - Based on SAWS system-wide gpcd <sup>4</sup>		<b>2030</b> 10,704	Year 2040 6,901	(acft)	<b>2060</b> 8,004	
	<b>2020</b> 15,974 0	<b>2030</b> 10,704 0	Year 2040 6,901 0	(acft) 2050	8,004 0	2,792
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo	2020 15,974 0 13,440 11,152	<b>2030</b> 10,704	Year 2040 6,901 0 33,600 30,000	(acft) 2050 7,284 0 33,600		2,792 0 33,600
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium	2020 15,974 0 13,440 11,152 50,000	2030 10,704 0 33,600 30,000 50,000	Year 2040 6,901 0 33,600 30,000 50,000	(acft) 2050 7,284 0 33,600 30,000 50,000	8,004 0 33,600 30,000 50,000	2,792 0 33,600 30,000 50,000
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project	2020 15,974 0 13,440 11,152 50,000 0	2030 10,704 0 33,600 30,000 50,000 50,000	Year 2040 6,901 0 33,600 30,000 50,000 50,000	(acft) 2050 7,284 0 33,600 30,000 50,000 50,000	8,004 0 33,600 30,000 50,000 50,000	2,792 0 33,600 30,000 50,000 50,000
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion	2020 15,974 0 13,440 11,152 50,000 0 0	2030 10,704 0 33,600 30,000 50,000 50,000 15,000	Year 2040 6,901 0 33,600 30,000 50,000 50,000 15,000	(acft) 2050 7,284 0 33,600 30,000 50,000 50,000 15,000	8,004 0 33,600 30,000 50,000 50,000 15,000	2070 2,792 33,600 30,000 50,000 50,000 15,000
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup>	2020 15,974 0 13,440 11,152 50,000 0 0 0 0	2030 10,704 0 33,600 30,000 50,000 50,000 15,000 0	Year 2040 6,901 0 33,600 30,000 50,000 50,000 15,000 0	(acft) 2050 7,284 0 33,600 30,000 50,000 50,000 15,000 0	8,004 0 33,600 30,000 50,000 50,000 15,000 0	2,792 33,600 30,000 50,000 50,000 15,000 0
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure	2020 15,974 0 13,440 11,152 50,000 0 0	2030 10,704 0 33,600 30,000 50,000 50,000 15,000	Year 2040 6,901 0 33,600 30,000 50,000 50,000 15,000	(acft) 2050 7,284 0 33,600 30,000 50,000 50,000 15,000	8,004 0 33,600 30,000 50,000 50,000 15,000	2,792 0 33,600 30,000 50,000 50,000
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management	2020 15,974 0 13,440 11,152 50,000 0 0 0 0	2030 10,704 0 33,600 30,000 50,000 50,000 15,000 0	Year 2040 6,901 0 33,600 30,000 50,000 50,000 15,000 0	(acft) 2050 7,284 0 33,600 30,000 50,000 50,000 15,000 0	8,004 0 33,600 30,000 50,000 50,000 15,000 0	2,792 33,600 30,000 50,000 15,000 (0 68,190 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD)	2020 15,974 0 13,440 11,152 50,000 0 0 14,674 0	2030 10,704 0 33,600 50,000 50,000 15,000 0 38,517 0	Year 2040 6,901 0 33,600 30,000 50,000 50,000 15,000 0 55,536 0	(acft) 2050 7,284 0 33,600 30,000 50,000 50,000 15,000 0 59,877 0 84,023	8,004 0 33,600 50,000 50,000 15,000 0 64,184 0 0 84,023	2,792 33,600 50,000 50,000 15,000 0 68,190 0 84,023
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure	2020 15,974 0 13,440 11,152 50,000 0 0 0 0	2030 10,704 0 33,600 30,000 50,000 50,000 15,000 0	Year 2040 6,901 0 33,600 30,000 50,000 50,000 15,000 0	(acft) 2050 7,284 0 33,600 30,000 50,000 50,000 15,000 0 59,877 0	8,004 0 33,600 30,000 50,000 50,000 15,000 0 64,184 0	2,792 33,600 30,000 50,000 15,000 (0 68,190 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD)	2020 15,974 0 13,440 11,152 50,000 0 0 14,674 0	2030 10,704 0 33,600 50,000 50,000 15,000 0 38,517 0	Year 2040 6,901 0 33,600 30,000 50,000 50,000 15,000 0 55,536 0	(acft) 2050 7,284 0 33,600 30,000 50,000 50,000 15,000 0 59,877 0 84,023	8,004 0 33,600 50,000 50,000 15,000 0 64,184 0 0 84,023	2,792 33,600 30,000 50,000 15,000 ( 68,190 ( 84,023
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS	2020 15,974 0 13,440 11,152 50,000 0 0 14,674 0 105,240	2030 10,704 0 33,600 50,000 50,000 0 38,517 0 38,517 227,821	Year 2040 6,901 0 33,600 50,000 50,000 15,000 0 55,536 0 241,037	(acft) 2050 7,284 0 33,600 50,000 50,000 0 50,000 0 0 84,023 329,783	8,004 0 33,600 50,000 50,000 15,000 0 64,184 0 84,023 <b>334,811</b>	2,792 (33,600 30,000 50,000 (15,000 (68,190 (68,190 (333,605
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS Management Supplies with Recommended WMS <sup>7</sup>	2020 15,974 0 13,440 11,152 50,000 0 0 14,674 0 105,240	2030 10,704 0 33,600 50,000 50,000 0 38,517 0 38,517 227,821	Year 2040 6,901 0 33,600 50,000 50,000 15,000 0 55,536 0 241,037	(acft) 2050 7,284 0 33,600 50,000 50,000 0 50,000 0 0 84,023 329,783	8,004 0 33,600 50,000 50,000 15,000 0 64,184 0 84,023 <b>334,811</b>	2,792 (33,600 30,000 50,000 (15,000 (68,190 (68,190 (333,605
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS Management Supplies with Recommended WMS <sup>7</sup>	2020 15,974 0 13,440 11,152 50,000 0 0 14,674 0 105,240	2030 10,704 0 33,600 50,000 50,000 0 38,517 0 38,517 227,821	Year 2040 6,901 0 33,600 50,000 50,000 15,000 0 55,536 0 241,037	(acft) 2050 7,284 0 33,600 50,000 50,000 0 50,000 0 0 84,023 329,783	8,004 0 33,600 50,000 50,000 15,000 0 64,184 0 84,023 <b>334,811</b>	2,792 (33,600 30,000 50,000 (15,000 (68,190 (68,190 (333,605
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) <b>Total Recommended WMS</b> Management Supplies with Recommended WMS <sup>7</sup> <u>Alternative WMS</u> <sup>7</sup>	2020 15,974 0 13,440 0 0 0 0 0 0 14,674 0 105,240 56,241 56,241 56,241 56,241	2030 10,704 0 33,600 50,000 50,000 0 0 38,517 0 227,821 149,450 ementation	Year 2040 6,901 0 33,600 50,000 50,000 50,000 55,536 0 241,037 134,469	(acft) 2050 7,284 0 33,600 50,000 50,000 50,000 50,000 50,000 15,000 0 59,877 0 84,023 <b>329,783</b> <b>191,525</b> 	8,004 0 33,600 50,000 50,000 15,000 0 64,184 0 84,023 <b>334,811</b>	2,792 33,600 50,000 50,000 15,000 (0 68,190 (0 84,023 <b>333,605</b>
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) <b>Total Recommended WMS</b> <b>Management Supplies with Recommended WMS<sup>7</sup></b> <u>Alternative WMS</u> <sup>7</sup>	2020 15,974 0 13,440 0 0 0 0 0 0 14,674 0 105,240 56,241 56,241 56,241 56,241	2030 10,704 0 33,600 50,000 50,000 0 0 38,517 0 227,821 149,450 ementation	Year 2040 6,901 0 33,600 50,000 50,000 50,000 55,536 0 241,037 134,469	(acft) 2050 7,284 0 33,600 50,000 50,000 50,000 50,000 50,000 15,000 0 59,877 0 84,023 <b>329,783</b> <b>191,525</b> 	8,004 0 33,600 50,000 50,000 15,000 0 64,184 0 84,023 <b>334,811</b>	2,792 (33,600 30,000 50,000 (15,000 (68,190 (68,190 (333,605
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS Management Supplies with Recommended WMS <sup>7</sup> <u>Alternative WMS</u> <sup>7</sup> <sup>1</sup> Includes SAWS permits as presented in EAA's permit file: <sup>2</sup> Total permitted volume is 22,660; however, SAWS only cr <sup>3</sup> Amount excludes commitments to streams and lakes.	2020 15,974 0 13,440 11,152 50,000 0 0 14,674 0 105,240 56,241 56,241 56,241 56,241	2030 10,704 0 33,600 50,000 50,000 15,000 0 38,517 0 227,821 149,450 ementation ) acft/yr to b	Year 2040 6,901 0 33,600 50,000 50,000 50,000 55,536 0 241,037 134,469	(acft) 2050 7,284 0 33,600 50,000 50,000 50,000 50,000 50,000 15,000 0 59,877 0 84,023 <b>329,783</b> <b>191,525</b> 	8,004 0 33,600 50,000 50,000 15,000 0 64,184 0 84,023 <b>334,811</b>	2,792 (33,600 30,000 50,000 (15,000 (68,190 (68,190 (333,605
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) <b>Total Recommended WMS</b> <b>Management Supplies with Recommended WMS</b> <sup>7</sup> <u>Alternative WMS</u> <sup>7</sup>	2020 15,974 0 13,440 0 11,152 50,000 0 0 0 14,674 0 105,240 56,241 56,24	2030 10,704 0 33,600 50,000 50,000 15,000 0 38,517 0 227,821 149,450 149,450 lementation 0 act/yr to b 5 gpcd.	Year 2040 6,901 0 33,600 50,000 50,000 50,000 50,000 55,536 0 241,037 134,469 0 fthe EAHC e a firm sup	(acft) 2050 7,284 0 33,600 50,000 50,000 50,000 50,000 50,000 50,000 15,000 0 59,877 0 0 329,783 329,783 191,525	8,004 0 33,600 50,000 50,000 0 64,184 0 84,023 334,811 166,783	2,792 33,600 50,000 50,000 15,000 (0 68,190 (0 84,023 <b>333,605</b>
Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) <b>Total Recommended WMS</b> <b>Management Supplies with Recommended WMS</b> <sup>7</sup> <u>Alternative WMS</u> <sup>7</sup> <sup>1</sup> Includes SAWS permits as presented in EAA's permit filer <sup>2</sup> Total permitted volume is 22,660; however, SAWS only cr <sup>3</sup> Amount excludes commitments to streams and lakes.	2020 15,974 0 13,440 0 13,440 0 11,152 50,000 0 0 14,674 0 105,240 56,241 56,242 56,241 56,242 56,243 56,24 5	2030 10,704 0 33,600 50,000 50,000 50,000 0 38,517 0 227,821 149,450 49,450 49,450 149,450 149,450 149,450	Year           2040           6,901           0           33,600           50,000           50,000           50,000           0           55,536           0           241,037           134,469           of the EAHC           e a firm sup           unsfers, and	(acft) 2050 7,284 0 33,600 50,000 50,000 50,000 15,000 0 59,877 0 84,023 329,783 191,525 191,525	8,004 0 33,600 30,000 50,000 0 64,184 0 84,023 334,811 166,783	2,792 ( 33,600 50,000 15,000 ( 68,199 333,605 138,251

		ons				
SAWS Projected Demands (acft/yr):			Veer	(		
Water Purchaser	2020	2030	Year 2040	(acft) 2050	2060	2070
Balcones Heights	518	566	612	662	711	75
Castle Hills	395	375	359	351	350	34
China Grove	316	350	381	413	445	47
Elmendorf	311	397	478	556	629	69
Helotes	1,613	1,989	2,340	2,681	2,996	3,28
Hill Country Village	234	230	226	224	224	22
Hollywood Park	949	953	959	969	983	99
Leon Valley	558	579	600	624	652	67
Live Oak	1,803	1,806	1,794	1,787	1,786	1,78
Olmos Park	564	623	678	736	791	84
San Antonio	235,329	258,657	280,788	303,809	326,645	347,8
SAWS (outside of San Antonio)	30,536	34,094	37,530	41,060	44,554	47,8
Somerset	221	240	259	279	300	3
Terrell Hills	1,299	1,276	1,257	1,247	1,245	1,2
East Central WSC	448	448	448	448	448	44
Alamo Heights	796	848	820	807	805	8
Atascosa Rural WSC	1,167	1,446	1,708	1,970	2,218	2,4
Kirby	137	207	181	172	169	1
The Oaks WSC	0	0	1	60	114	1
County-Other (Municipal)	0	0	0	1,898	4,082	6,08
Industrial (Bexar County)	15,076	15,076	15,076	15,076	15,076	15,0
otal Demand	292,270	320,160	346,495	375,829	405,223	432,5
SAWS Supply:						
				(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	172,6
Carrizo Aquifer (Bexar County)	9,900	9,900	9,900	9,900	9,900	9,9
Carrizo Aquifer (Gonzales County)	11,688	11,418	11,688	11,688	11,688	11,6
Carrizo Aquifer (Gonzales County) - SSLGC Excess	4,059	2,577	2,732	376	0	
Gonzales Co WSC	1,000	1,000	1,000	1,000	1,000	1,00
Trinity Aquifer <sup>2</sup>	2,000	2,000	2,000	2,000	2,000	2,0
Direct Reuse <sup>3</sup>	25,000	25,000	25,000	25,000	25,000	25,0
Run-of-River (San Antonio)	5,313	5,313	5,313	5,313	5,313	5,3
CRWA	9,654	9,654	9,654	9,654	9,654	9,6
GBRA (Canyon Reservoir)	2,017	2,017	0	0	0	007.44
Fotal Supply	243,271	241,519	239,927	237,571	237,195	237,19
SAWS Projected Needs:				(		
	2020	2030	2040	(acft) 2050	2060	2070
Cotol System Management Cumplics (Neede)	2020				2000	
	(48 999)	(78 641)	(106 568)	(138 258)	(168 028)	(195 35
Fotal System Management Supplies/(Needs)	(48,999)	(78,641)	(106,568)	(138,258)	(168,028)	(195,35
otal System Management Supplies/(Needs) SAWS Water Management Strategies (WMS) (					(168,028)	(195,35
	with Estima	nted Firm	Yield (ac <sub>Year</sub>	ft/yr): (acft)		
SAWS Water Management Strategies (WMS) (			Yield (ac	ft/yr):	(168,028) 2060	(195,35
SAWS Water Management Strategies (WMS) (	with Estima 2020	nted Firm 2030	Yield (ac Year 2040	ft/yr): (acft) 2050	2060	2070
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup>	with Estima	10,704	Yield (ac Year 2040 6,901	ft/yr): (acft)	<b>2060</b> 8,004	2070
SAWS Water Management Strategies (WMS) In Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup>	<i>2020</i> 15,974	10,704	Yield (ac Year 2040 6,901 0	ft/yr): (acft) 2050 7,284 0	<b>2060</b> 8,004 0	<b>2070</b>
SAWS Water Management Strategies (WMS) ( Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup>	2020 15,974 0 5,622	10,704 5,622	Yield (ac Year 2040 6,901 0 5,622	ft/yr): (acft) 2050 7,284 0 5,622	<b>2060</b> 8,004 0 5,622	<b>2070</b> 2,79 5,62
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup>	2020 2020 15,974 0 5,622 5,500	2030 10,704 0 5,622 5,500	Yield (ac Year 2040 6,901 0 5,622 5,500	ft/yr): (acft) 2050 7,284 0 5,622 5,500	2060 8,004 0 5,622 5,419	<b>2070</b> 2,79 5,62 5,4
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup>	<i>2020</i> 15,974 0 5,622 5,500 19,442	2030 10,704 0 5,622 5,500 24,240	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711	ft/yr): (acft) 2050 7,284 0 5,622 5,500 32,685	2060 8,004 0 5,622 5,419 34,894	<b>2070</b> 2,7 5,6 5,4
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup>	2020 2020 15,974 0 5,622 5,500 19,442 0	2030 10,704 0 5,622 5,500 24,240 0	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0	ft/yr): (acft) 2050 7,284 0 5,622 5,500 32,685 0	2060 8,004 0 5,622 5,419 34,894 0	<b>2070</b> 2,7 5,6 5,4 34,8
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion	2020 2020 15,974 0 5,622 5,500 19,442 0 0 0 0	2030 10,704 0 5,622 5,500 24,240	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711	ft/yr): (acft) 2050 7,284 0 5,622 5,500 32,685	2060 8,004 0 5,622 5,419 34,894	<b>2070</b> 2,7 5,6 5,4 34,8
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup>	2020 2020 15,974 0 5,622 5,500 19,442 0	2030 10,704 0 5,622 5,500 24,240 0 15,000	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0	ft/yr): (acft) 2050 7,284 0 5,622 5,500 32,685 0	2060 8,004 0 5,622 5,419 34,894 0 15,000	<b>2070</b> 2,79 5,60 5,4 34,89 15,00
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>5</sup> Drought Management Advanced Meter Infrastructure	with Estimation           2020           15,974           0           5,622           5,500           19,442           0           0           0           0           0           0	2030 10,704 0 5,622 5,500 24,240 0 15,000 0	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 15,000 0	ft/yr): (acft) 2050 7,284 0 5,622 5,500 32,685 0 15,000 0 15,000 0 59,877 0	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0	2070 2,79 5,62 5,4 34,89 15,00 68,19
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>6</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD)	with Estimation           2020           15,974           0           5,500           19,442           0           0           0           0           0           0           0           0           0           0           0           0           0	10,704 2030 10,704 0 5,622 5,500 24,240 0 15,000 0 15,000 0 38,517 0	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 15,000 0 55,536 0	ft/yr):           (acft)           2050           7,284           0           5,622           5,500           32,685           0           15,000           0           84,023	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 0 84,023	2070 2,79 5,62 5,4 34,89 15,00 68,19 84,02
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>6</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD)	with Estimation 2020 5,622 5,500 19,442 0 0 0 0 14,674	2030 10,704 0 5,622 5,500 24,240 0 15,000 0 38,517	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 0 15,000 0 55,536	ft/yr): (acft) 2050 7,284 0 5,622 5,500 32,685 0 15,000 0 15,000 0 59,877 0	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0	2070 2,79 5,62 5,4 34,89 15,00 68,19 84,02
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS	2020           15,974           0           5,602           19,442           0           0           14,674           0           61,211	2030 10,704 0 5,622 5,500 24,240 0 15,000 0 38,517 0 99,582	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 15,000 0 55,536 0 117,269	ft/yr):           (acft)           2050           7,284           0           5,622           5,500           32,685           0           15,000           0           59,877           84,023           209,990	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 15,000 0 64,184 0 0 84,023 217,145	2070 2,79 5,67 5,4 34,89 15,00 68,19 84,00 <b>215,9</b>
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS	with Estimation           2020           15,974           0           5,500           19,442           0           0           0           0           0           0           0           0           0           0           0           0           0	10,704 2030 10,704 0 5,622 5,500 24,240 0 15,000 0 38,517 0	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 15,000 0 55,536 0	ft/yr):           (acft)           2050           7,284           0           5,622           5,500           32,685           0           15,000           0           84,023	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 0 84,023	2070 2,79 5,67 5,4 34,89 15,00 68,19 84,00 <b>215,9</b>
SAWS Water Management Strategies (WMS) in Recommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS Management Supplies with Recommended WMS <sup>7</sup> Miternative WMS <sup>7</sup>	2020           15,974           0           5,602           19,442           0           0           14,674           0           61,211	2030 10,704 0 5,622 5,500 24,240 0 15,000 0 38,517 0 99,582	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 15,000 0 55,536 0 117,269	ft/yr):           (acft)           2050           7,284           0           5,622           5,500           32,685           0           15,000           0           59,877           84,023           209,990	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 15,000 0 64,184 0 0 84,023 217,145	2070 2,7 5,6 5,4 34,8 15,0 68,1 84,0 215,9
SAWS Water Management Strategies (WMS) in     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>8</sup> Drought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     Total Recommended WMS     Management Supplies with Recommended WMS <sup>7</sup> Miternative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS	with Estimative 2020 15,974 0 5,5620 19,442 0 0 0 0 14,674 14,674 14,674 14,211 12,212 12,212	2030 10,704 0 5,602 24,240 0 15,000 24,240 0 38,517 0 99,582 20,942 33,600	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 0 55,536 0 117,269 10,701 33,600	ft/yr):           2050           7,284           0           5,652           0           15,000           0           59,877           209,990           71,732           33,600	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600	2070 2,7' 5,6' 5,4 34,8' 15,0' 68,1' 68,1' 68,1' 84,0' 215,9 20,58 33,6'
GAWS Water Management Strategies (WMS) is     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>8</sup> Drought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     'otal Recommended WMS     Management Supplies with Recommended WMS <sup>7</sup> Witemative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS     Expanded Local Carrizo	with Estimative 2020 15,974 0 5,5500 19,442 0 0 0 14,674 0 0 0 14,674 14,674 14,212 12,212 13,440 11,152	10.704 2030 10.704 0 5.500 24.240 0 15,000 0 38,517 0 99,582 20,942 20,942 33,600 30,000	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 15,000 55,536 0 117,269 10,701 33,600 30,000	ft/yr):           2050           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           0           59,877           0           84,023           209,990           71,732           33,600           30,000	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600	2070 2,79 5,66 5,4 34,89 15,00 68,19 84,00 215,9 20,58 33,66 30,00
GAWS Water Management Strategies (WMS) in     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>6</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>6</sup> Drought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     otal Recommended WMS     Ianagement Supplies with Recommended WMS <sup>7</sup> Iternative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS     Expanded Local Carrizo     Vista Ridge Consortium	with Estima 2020 15,974 0 5,500 19,442 0 0 0 14,674 0 14,674 14,674 11,152 50,000	2030 2030 10,704 0 5,500 24,240 0 15,000 0 38,517 0 99,582 20,942 33,600 30,000 50,000	Yield (ac Year 2040 6,901 0 5,520 28,711 0 15,000 0 55,536 0 117,269 10,701 33,600 30,000 50,000	<i>tt/yr):</i> <i>2050</i> <i>2050</i> <i>2050</i> <i>5</i> ,520 <i>5</i> ,500 <i>5</i> ,520 <i>5</i> ,500 <i>0</i> <i>5</i> ,520 <i>5</i> ,500 <i>0</i> <i>5</i> ,520 <i>0</i> <i>5</i> ,520 <i>0</i> <i>5</i> ,520 <i>0</i> <i>5</i> ,520 <i>0</i> <i>0</i> <i>5</i> ,520 <i>0</i> <i>0</i> <i>5</i> ,520 <i>0</i> <i>0</i> <i>5</i> ,520 <i>0</i> <i>0</i> <i>15</i> ,000 <i>0</i> <i>0</i> <i>8</i> 4,023 <i>209,990</i> <i>7</i> ,732 <i>7</i> ,732 <i>3</i> 3,600 <i>3</i> 0,000 <i>5</i> 0,000 <i>1</i> 5,000 <i>1</i> 5,000 <i>0</i> <i>1</i> 5,000 <i>1</i> 5,0000 <i>1</i> 5,00000 <i>1</i> 5,000000 <i>1</i> 5,0000000000 <i>1</i> 5,000000000000000000000000000000000000	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 217,145 33,600 33,000 50,000	2070 2,79 5,66 5,4 34,88 15,00 68,19 84,00 215,9 20,58 33,66 30,00 50,00
AWS Water Management Strategies (WMS) is ecommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>6</sup> Expanded Local Carrizo <sup>6</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) otal Recommended WMS Ianagement Supplies with Recommended WMS <sup>7</sup> <u>Iterative WMS</u> <sup>7</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo	with Estimative 2020 15,974 0 5,5500 19,442 0 0 0 14,674 0 0 0 14,674 14,674 14,212 12,212 13,440 11,152	10.704 2030 10.704 0 5.500 24.240 0 15,000 0 38,517 0 99,582 20,942 20,942 33,600 30,000	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 15,000 55,536 0 117,269 10,701 33,600 30,000	ft/yr):           2050           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           0           59,877           0           84,023           209,990           71,732           33,600           30,000	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600	2070 2,7 5,6 5,4 34,8 15,0 68,1 84,0 215,9 20,58 33,6 30,0 50,0
GAWS Water Management Strategies (WMS) in     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>6</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>6</sup> Drought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     otal Recommended WMS     Ianagement Supplies with Recommended WMS <sup>7</sup> Iternative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS     Expanded Local Carrizo     Vista Ridge Consortium	with Estima 2020 15,974 0 5,500 19,442 0 0 0 14,674 0 14,674 14,674 11,152 50,000	2030 2030 10,704 0 5,500 24,240 0 15,000 0 38,517 0 99,582 20,942 33,600 30,000 50,000	Yield (ac Year 2040 6,901 0 5,520 28,711 0 15,000 0 55,536 0 117,269 10,701 33,600 30,000 50,000	<i>tt'yr):</i> <i>2050</i> <i>2050</i> 7,284 0 5,520 5,500 0 15,000 0 59,877 0 7 0 84,023 <b>209,990</b> <b>71,732</b> <b>33,600</b> 30,000 50,000	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 217,145 33,600 33,000 50,000	2070 2,7 5,6 5,4 34,8 15,0 68,1 84,0 215,9 20,58 33,6 30,0
SAWS Water Management Strategies (WMS) is tecommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>8</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) otal Recommended WMS tanagement Supplies with Recommended WMS <sup>7</sup> Witernative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project	with Estima 2020 15,974 0 5,520 19,442 19,442 14,674 14,674 14,674 11,52 50,000 0 0 0 13,440 11,152 50,000 0 0 0 0 0 0 0 0 0 0 0 0	10,704 2030 10,704 0 5,662 5,500 24,240 0 15,000 0 33,517 0 99,582 20,942 33,600 30,000 50,000	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 15,000 0 115,000 0 155,536 0 0 117,269 10,701 33,600 30,000 50,000	ft/yr):           2050           7,284           0           5,602           5,500           0           15,000           0           59,877           71,732           33,600           50,000           50,000	2060 8,004 0 5,642 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 217,145 33,600 33,000 50,000	2070 2,7 5,6 5,4 34,8 15,0 68,1 84,0 215,9 20,58 33,6 30,0 50,0
SAWS Water Management Strategies (WMS) is     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>6</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>8</sup> Drought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     total Recommended WMS     Ianagement Supplies with Recommended WMS <sup>7</sup> Witemative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS     Expanded Local Carrizo     Vista Ridge Consortium     Expanded Brackish Project     Includes SAWS permits as presented in EAA's permit file     Total permitted volume is 22,660; however, SAWS only	with Estimative with the stimative with the stimati	10,704 2030 10,704 0 5,500 24,240 0 15,000 0 38,517 0 99,582 20,942 20,942 33,600 30,000 50,000 blenentatio	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 0 15,000 55,536 0 117,269 10,701 33,600 30,000 50,000 50,000	ft/yr):           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           209,990           209,990           33,600           30,000           50,000           4CP.	2060 8,004 0 5,642 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 217,145 33,600 33,000 50,000	2070 2,7 5,6 5,4 34,8 15,0 68,1 84,0 215,9 20,58 33,6 30,0 50,0
SAWS Water Management Strategies (WMS) is  Recommended WMS  Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Dirought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS  Ianagement Supplies with Recommended WMS <sup>7</sup> Wiernative WMS <sup>7</sup> Wista Ridge Consortium Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project  Includes SAWS permits as presented in EAA's permit fili Total permitted volume is 22,660; however, SAWS only	with Estima 2020 15,974 0 5,520 19,442 19,442 19,442 10,00 0 0 0 14,674 14,674 14,674 14,674 14,674 14,525 50,000 0 0 14,674 12,212 13,440 11,152 50,000 0 0 0 0 0 0 0 0 0 0 0 0	anted Firm           2030           10,704           0           5,662           5,500           24,240           0           15,000           0           33,517           0           99,582           20,942           33,600           50,000           50,000           plementatio           0           act/yr to	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 0 15,000 55,536 0 117,269 10,701 33,600 30,000 50,000 50,000	ft/yr):           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           209,990           209,990           33,600           30,000           50,000           4CP.	2060 8,004 0 5,642 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 217,145 33,600 33,000 50,000	2070 2,7 5,6 5,4 34,8 15,0 68,1 84,0 215,9 20,58 33,6 30,0 50,0
SAWS Water Management Strategies (WMS) is     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>5</sup> Vista Ridge Consortium <sup>8</sup> Expanded Local Carrizo <sup>1</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>6</sup> Drought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     dtal Recommended WMS <sup>7</sup> Vitemative WMS <sup>7</sup> Wiermative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS     Expanded Local Carrizo     Vista Ridge Consortium     Expanded Brackish Project Includes SAWS permits as presented in EAA's permit file     Total permitted volume is 22,660; however, SAWS only i     Amount excludes commitments to streams and lakes.	Application         Application           with Estimation         2020           15,974         0           15,974         0           0         5,6520           5,5500         19,442           0         0           14,674         0           14,674         0           11,152         13,440           11,152         50,000           0         0           with full im, coonsiders 2,000           wide goal of 13	anted Firm           2030           10,704           0           5,500           24,240           0           15,000           0           38,517           0           99,582           20,942           33,600           30,000           50,000           0           0           0           0           0           0           0           0           0           90,582           20,942           0 <td>Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 0 15,000 55,536 0 117,269 10,701 10,701 33,600 30,000 50,000 50,000 50,000</td> <td>ft/yr):           gasti           2050           7,284           0           5,622           5,500           32,685           0           0           59,877           209,990           20,990           33,600           30,000           50,000           50,000           4CP.           pply.</td> <td>2060 8,004 0 5,622 5,419 34,894 0 0 15,000 0 84,023 217,145 49,118 33,600 30,000 50,000</td> <td>2070 2,7 5,6 6,4 34,8 15,0 68,1 15,0 215,9 20,58 33,6 0,0,0 50,0 0</td>	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 0 15,000 55,536 0 117,269 10,701 10,701 33,600 30,000 50,000 50,000 50,000	ft/yr):           gasti           2050           7,284           0           5,622           5,500           32,685           0           0           59,877           209,990           20,990           33,600           30,000           50,000           50,000           4CP.           pply.	2060 8,004 0 5,622 5,419 34,894 0 0 15,000 0 84,023 217,145 49,118 33,600 30,000 50,000	2070 2,7 5,6 6,4 34,8 15,0 68,1 15,0 215,9 20,58 33,6 0,0,0 50,0 0
SAWS Water Management Strategies (WMS) in  Recommended WMS  Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>8</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS  Management Supplies with Recommended WMS <sup>7</sup> Miternative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Local Carrizo Vista Ridge Consortium Expanded Descliption Context Construction Context Construction Context Context Construction Context Con	with Estima 2020 15,974 0 5,622 5,500 19,442 0 0 0 14,674 0 0 14,674 14,674 14,212 13,440 11,152 50,000 0 0 0 0 0 13,442 13,440 11,3,440 11,3,440 0 0 0 0 0 0 0 0 0 0 0 0 0	110.704 2030 10,704 0 5,650 24,240 0 15,000 24,240 0 15,000 99,582 20,942 20,942 33,600 30,000 50,000 50,000 50,000 10,000	Yield (ac           Year           2040           6,901           0           5,500           28,711           0           15,000           28,711           0           15,000           0           15,000           0           117,269           10,701           33,600           50,000           7,000           10,701           10,701           10,701           10,701           10,701           10,701           10,701           10,701	ft/yr):           gasta           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           0           59,877           0           84,023           209,990           71,732           33,600           30,000           50,000           6,000	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600 50,000 50,000 50,000 s0,000	2070 2,7' 5,6,6 5,4,4 34,8' 15,0,0 68,1' 215,9 20,58 33,6,6 33,0,0,0 50,0,0
SAWS Water Management Strategies (WMS) is  Recommended WMS  Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS  Management Supplies with Recommended WMS <sup>7</sup> Miternative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project  Includes SAWS permits as presented in EAA's permit fili Total permitted volume is 22,660; however, SAWS only i Amount excludes commitments to streams and lakes. Municipal Conservation estimated using SAWS system- Includes all elements of the HCP (VISPO, conservation, Systems and pipelines have no associated firm yield, but	with Estima 2020 15,974 0 5,620 19,442 0 0 0 14,674 14,674 14,674 14,674 14,674 14,674 14,674 14,674 14,674 13,440 11,152 50,000 0 0 13,440 11,152 50,000 0 0 13,440 11,152 50,000 0 13,440 11,152 50,000 0 13,440 13,440 11,152 50,000 0 13,440 13,440 11,152 50,000 0 13,440 14,674 14,674 13,440 13,440 13,440 13,440 13,440 13,440 13,440 13,440 14,674 14,674 13,440 14,674 14,674 14,674 13,440 14,674 14,674 14,674 14,674 13,440 14,674 14,674 14,774 13,440 14,774 14,774 14,774 13,440 14,774 14,774 14,774 14,774 13,440 14,77474 14,77474 14,77474 14,77474 14,77474 14,774	anted Firm           2030           10,704           0           5,662           5,500           24,240           0           15,000           0           33,617           0           99,582           20,942           33,600           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           1ringation T           10 deliver           10 deliver           10 godding	Yield (ac Year 2040 6,901 0 5,622 5,500 0 15,000 0 15,536 0 0 117,269 10,701 33,600 50,000 50,000 50,000 50,000 50,000	ft/yr):           ft/yr):           (acti)           2050           7,284           0           5,650           05           0,5622           5,500           0           15,000           0           59,877           0           71,732           33,600           50,000           50,000           50,000           4CP.           pply.           d Critical Pees of supply tr	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 40,118 33,600 30,000 50,000 50,000 50,000 50,000	2070 2,77 5,6; 5,4, 34,8; 15,0 68,1; 20,58 20,58 33,6; 33,6; 33,6; 50,0, 50,0, 50,0, 50,0, 50,0, 50,0, 50,0, 50,0, 50,0, 50,0, 50,0, 50,0, 50,0,0, 50,0,0,0,
SAWS Water Management Strategies (WMS) is     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>6</sup> Drought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     'otal Recommended WMS     Management Supplies with Recommended WMS <sup>7</sup> Miernative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS     Expanded Local Carrizo     Vista Ridge Consortium     Expanded Brackish Project     Includes SAWS permits as presented in EAA's permit file     Total permitted volume is 22,660; however, SAWS only i     Amount excludes commitments to streams and lakes.     Municipal Conservation estimated using SAWS system     Includes all elements of the HCP (VISPO, conservation,     Systems and pipelines have no associated firm yield, but	Image: second	anted Firm           2030           10,704           0           5,500           24,240           0           15,000           0           0           0           38,517           99,582           20,942           33,600           30,000           50,000           polementatio           0           0           0           0           0           0           0           30,000           50,000           0 </td <td>Vield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 0 15,000 55,536 0 15,000 55,536 0 117,269 10,701 33,600 30,000 50,000 50,000 50,000 n of the EAI be a firm su ransfers, ar new source mended WI</td> <td>ft/yr):           ft/yr):           2050           7,284           0           5,622           5,500           32,685           0           0           32,685           0           33,600           30,000           50,000           50,000           4CP.           pply.           d           d           of solution           a           a           33,600           30,000           50,000           60</td> <td>2060 8,004 0 5,622 5,419 34,894 0 0 15,000 0 84,023 217,145 49,118 33,600 30,000 50,000 50,000 50,000 vio (Stage V vio SAWS cus)</td> <td>2070 2,7 5,6,6 5,4,4 34,8 15,0 68,1 20,56 20,56 33,6,6 30,0,0 50,0 50,0 50,0</td>	Vield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 0 15,000 55,536 0 15,000 55,536 0 117,269 10,701 33,600 30,000 50,000 50,000 50,000 n of the EAI be a firm su ransfers, ar new source mended WI	ft/yr):           ft/yr):           2050           7,284           0           5,622           5,500           32,685           0           0           32,685           0           33,600           30,000           50,000           50,000           4CP.           pply.           d           d           of solution           a           a           33,600           30,000           50,000           60	2060 8,004 0 5,622 5,419 34,894 0 0 15,000 0 84,023 217,145 49,118 33,600 30,000 50,000 50,000 50,000 vio (Stage V vio SAWS cus)	2070 2,7 5,6,6 5,4,4 34,8 15,0 68,1 20,56 20,56 33,6,6 30,0,0 50,0 50,0 50,0
SAWS Water Management Strategies (WMS) in  Recommended WMS  Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>8</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS  Management Supplies with Recommended WMS <sup>7</sup> Miternative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Local Carrizo Vista Ridge Consortium Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project  Includes SAWS permits as presented in EAA's permit fili Total permitted volume is 22,660; however, SAWS only of Amount excludes commitments to streams and lakes. Municipal Conservation estimated using SAWS system-vilculudes all elements of the HCP (VISPO, conservation, Systems and pipelines have no associated firm yield, but Management Supplies and Alternative WMS are includee	with Estimation           2020           15,974           0           5,622           5,500           19,442           0           0           14,674           0           61,211           12,212           13,440           11,152           50,000           0           0           13,440           13,440           13,440           13,440           13,440           13,440           13,440           13,440           13,440           13,440           13,440           13,440           13,440           13,440           13,440           13,440           11,152           50,000           0           xare necessard           at are necessard           din the event           tesired (tuture desired (tuture desired tuture desired (tuture desired tuture desired tuture desired (tuture desired tuture desi	ited Firm           2030           10,704           0           5,500           24,240           0           15,000           24,240           0           15,000           99,582           20,942           33,600           50,000     <	Yield (ac           Year         2040           6,901         0           0         5,622           5,500         28,711           0         0           15,000         0           15,000         0           117,269         117,269           10,701         33,600           33,600         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           7,000         50,000           6,000         50,000           6,000         50,000           7,000         50,000           7,000         50,000           7,000 </td <td>ft/yr):           ft/yr):           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           0           59,877           0           084,023           209,990           71,732           33,600           30,000           50,000           50,000           60,000      <t< td=""><td>2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600 50,000 50,000 50,000 50,000 50,000 50,000 10,000 50,000</td><td>2070 2,7 5,6 5,4,4 34,8 15,0 68,1 215,9 20,56 33,6 30,0,0 50,0,0,0 50,0,0,0 50,0,0,0,</td></t<></td>	ft/yr):           ft/yr):           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           0           59,877           0           084,023           209,990           71,732           33,600           30,000           50,000           50,000           60,000 <t< td=""><td>2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600 50,000 50,000 50,000 50,000 50,000 50,000 10,000 50,000</td><td>2070 2,7 5,6 5,4,4 34,8 15,0 68,1 215,9 20,56 33,6 30,0,0 50,0,0,0 50,0,0,0 50,0,0,0,</td></t<>	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600 50,000 50,000 50,000 50,000 50,000 50,000 10,000 50,000	2070 2,7 5,6 5,4,4 34,8 15,0 68,1 215,9 20,56 33,6 30,0,0 50,0,0,0 50,0,0,0 50,0,0,0,
SAWS Water Management Strategies (WMS) is     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>6</sup> Dirought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     Total Recommended WMS     Management Supplies with Recommended WMS <sup>7</sup> Wista Ridge Consortium     Expanded Local Carrizo     Vista Ridge Consortium     Expanded Local Carrizo     Vista Ridge Consortium     Expanded Brackish Project Includes SAWS permits as presented in EAA's permit file     Total permitted volume is 22,660; however, SAWS only     Includes all elements of the HCP (VISPO, conservation,     Systems and pipelines have no associated firm yield, but Management Supplies and Alternative WMS are includee     For each aquifer in the region, the GCDs have adopted of     roundwater Supplies and Alternative WMS are includee     For each aquifer in the region, the GCDs have adopted of     vinundwater Supplies and Alternative WMS are includee     For each aquifer in the region, the GCDs have adopted of     vinundwater Supplies and Alternative WMS are includee     For each aquifer in the region, the GCDs have adopted of     vinundwater Supplies and Alternative WMS are includee     For each aquifer in the region, the GCDs have adopted of     vinundwater Supplies (Semitted, grandfathered and exem	Image: second	anted Firm           2030           10,704           0           5,600           25,500           0           15,000           0           15,000           0           99,582           20,942           33,600           50,000           50,000           50,000           50,000           50,000           50,000           1rrigation T           1y to deliver           that Recommonditions (Lin non-achiltons (Lin non-achilton	Yield (ac           Year         2040           6,901         0           5,622         5,500           28,711         0           0         15,000           15,000         0           15,503         0           10,701         33,600           33,600         50,000           50,000         50,000           ransfers, ar         new source           mended WI         DFCs). In sc	ft/yr):           ft/yr):           (acft)           2050           7,284           0           5,622           5,500           0           3,600           33,600           50,000           50,000           4023           209,990           33,600           50,000           50,000           4CP.           pply.           d Critical Pe           as of supply true           MS are not fit           me GCDs, f           the DFCs for CDs, f           the DFCs for CDs, f	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 40,01 84,023 217,145 33,600 30,000 50,0000 50,000 50,000 50,000 50,000 50,000 50,000 5	2070 2,7 5,6 5,4 34,8 15,0 68,1 215,9 20,58 20,58 33,6 30,0 50,0 50,0 50,0 50,0 7). tomers. ed.
SAWS Water Management Strategies (WMS) in     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>6</sup> Drought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     'otal Recommended WMS     Management Supplies with Recommended WMS <sup>7</sup> Miternative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS     Expanded Local Carrizo     Vista Ridge Consortium     Expanded Brackish Project     Includes SAWS permits as presented in EAA's permit filie     Total permitted volume is 22,660; however, SAWS only;     Amount excludes commitments to streams and lakes.     Municipal Conservation estimated using SAWS system-     Includes all elements of the HCP (VISPO, conservation,     Systems and pipelines have no associated firm yield, but     Management Supplies have no Associated firm yield, but     Management Supplies (permitted, grandfathered and exem     for each aquifer in the region, the GCDs have adopted d     roundwater supplies (permitted, grandfathered and exem     for supplies (permitted, grandfathered and exem     for supplies (permitted, grandfathered and exem     for addition Supplies fact, WDS currently requires that	Application           2020           15,974           0           5,622           5,500           19,442           0           0           14,674           12,212           13,440           11,152           50,000           0           13,440           11,152           50,000           0           13,440           11,52           50,000           0           13,440           11,52           50,000           0           13,440           11,52           50,000           0           13,440           11,52           50,000           0           13,440           11,52           5AW SASR &           are necessard           in the event           lesired future deplication threes           poindwater arg proundwater arg	anted Firm           2030           10,704           0           5,500           24,240           0           15,000           24,240           0           38,517           0           99,582           20,942           33,600           30,000           51,000           52,000           1,1rigation T           y to deliver           that Recom           valiability to valiability to take the too take take take take take take take take	Yield (ac Year 2040 6,901 0 5,622 5,500 28,711 0 0 15,000 55,536 0 117,269 10,701 33,600 30,000 50,0000 50,0000 50,000 50,000 50,0000 50,0000 50,0000	ft/yr):           ft/yr):           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           15,000           84,023           209,990           209,990           33,600           50,000           6 Gupply tmme GCDs, f           mme GCDs, f           10 CP choins           10 CP choins           10 CP choins           10 Choins           10 Choins           10 Choins           10 Choins	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 84,023 217,145 217,145 33,600 30,000 50,000	2070 2,77 5,66 5,4 34,89 15,00 215,99 20,58 33,60,00 50,00 50,00 50,00 7/). (). (). (). (). (). (). (). (). (). (
SAWS Water Management Strategies (WMS) in Becommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>8</sup> Vista Ridge Consortium <sup>6</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion Water Resources Integration Pipeline <sup>6</sup> Dirought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) Total Recommended WMS Anagement Supplies with Recommended WMS <sup>7</sup> Wista Ridge Consortium Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Includes SAWS permits as presented in EAA's permit filit Total permitted volume is 22,660; however, SAWS only: Amount excludes commitments to streams and lakes. Municipal Conservation estimated using SAWS system- Includes all elements of the HCP (VISPO, conservation, Systems and pipelines have no associated firm yield, buf Management Supplies and Alternative WMS are includee For each aquifer in the region, the GCDs have adopted d ot hem oddeled available groundwater (AG) for the aquifi	with Estima           2020           15,974           0           5,622           5,500           19,442           0           0           14,674           10           14,674           11,152           50,000           0           11,152           50,000           0           13,440           11,152           50,000           0           wide goal of 13           SAWS ASR & SAWS & SAWS ASR & SAWS & SAWS ASR & SAWS & SAWS ASR & SAWS	ited Firm           2030           10,704           0           5,500           24,240           0           15,000           24,240           0           38,517           0           99,582           20,942           33,600           30,000           50,000	Yield (ac           Year         2040           6,901         0           5,500         28,711           0         0           15,000         28,711           0         0           15,000         0           117,269         10,701           33,600         30,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           ransfers, ar         anew source           mended WI         5CS). In sc           5CS).         5CS).           5CS).         5CS).           5CS).         10,27CS).	ft/yr):           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           0           59,877           0           84,023           209,990           71,732           33,600           30,000           50,000           50,000           50,000           6CP.           pply.           d Critical Person of supply tr          MS are not firmine GCDs, ft           me GCDs, ft           b DFCs for be limite to DFCs for be limite to DFCs on some only.	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600 30,000 50,000 50,000 50,000 50,000 10 Uluse of all ulu seo f all ulu	2070 2,7 5,6 5,4 34,8 15,0 68,1 20,58 20,58 33,6 50,0 50,0 50,0 50,0 7). tomers. id. To ensui
SAWS Water Management Strategies (WMS) is     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>5</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>6</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>6</sup> Drought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     otal Recommended WMS     Ianagement Supplies with Recommended WMS <sup>7</sup> Wista Ridge Consortium     Expanded Decal Carrizo     Vista Ridge Consortium     Seawater Desalination (75 MGD)     otal Recommended WMS     Ianagement Supplies with Recommended WMS <sup>7</sup> Wista Ridge Consortium     Expanded Local Carrizo     Vista Ridge Consortium     Expanded Brackish Project     Includes SAWS permits as presented in EAA's permit fili     Total permitted volume is 22,660; however, SAWS only i     Amount excludes commitments to streams and lakes.     Municipal Conservation estimated using SAWS system-vincludes all elements of the HCP (VISPO, conservation,     Systems and pipelines have no associated firm yield, but     Management Supplies and Alternative WMS are included     to the modeled available groundwater (MAG) for the aquife     rimit amounts, and a lack of firm water available for fut     ould not be construed as recommending or requiring that     pol the modeled available groundwater (MAG) for the aquife     rimit amounts, and a lack of firm water available for firm     ould not be construed as recommending or requiring that     pol the modeled available groundwater (MAG) for the aquife     rimit amounts, and a lack of firm water available for fut     pol the modeled available groundwater (MAG) for the aquifie     rimit amounts, and a lack of firm water available for fut     pol the modeled available groundwater (MAG) for the aquifie     rimit amounts, and a lack of firm water available for fut     pol the modeled available groundwater (MAG) for the aquifie     rimit amounts, and a lack of firm water ava	with Estima           2020           15,974           0           5,622           5,500           19,442           0           0           14,674           0           61,211           12,212           13,440           11,152           50,000           0           13,840           13,840           13,840           13,840           13,840           11,152           50,000           0           13,840           11,152           50,000           0           13,840           11,152           50,000           0           13,840           11,152           50,000           0           12,840           13,840           13,840           13,840           13,840           13,840           13,840           13,840           13,840           13,840           13,840           14,	ited Firm           2030           10,704           0           5,500           24,240           0           15,000           24,240           0           38,517           0           99,582           20,942           33,600           50,000	Yield (ac           Year         2040           Vear         2040           0         0           5,500         28,711           0         0           15,000         0           15,000         0           15,000         0           117,269         10,701           33,600         30,000           50,000         50,000           50,000 <td>ft/yr):           ft/yr):           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           0           59,877           0           64,023           209,990           71,732           33,600           30,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           60,000           50,000           60,000           60,000           60,000           60,000           60,000           60,000           60,000           61,000           61,000           61,000           61,000      <tr< td=""><td>2060 8,004 0 5,619 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600 50,000 50,000 50,000 50,000 50,000 10 y SAUS Cuts 11 y develope ull vs of all 11 y develope ull vs of all 11 y develope ull vs of all 11 y develope ull vs of all r an aquifer. f or planning n adjustmen me periods.</td><td>2070 2,7 5,6 5,4 34,8 15,0 68,1 215,9 20,56 33,6 30,0,0 50,0,0 50,0,0 1</td></tr<></td>	ft/yr):           ft/yr):           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           0           59,877           0           64,023           209,990           71,732           33,600           30,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           50,000           60,000           50,000           60,000           60,000           60,000           60,000           60,000           60,000           60,000           61,000           61,000           61,000           61,000 <tr< td=""><td>2060 8,004 0 5,619 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600 50,000 50,000 50,000 50,000 50,000 10 y SAUS Cuts 11 y develope ull vs of all 11 y develope ull vs of all 11 y develope ull vs of all 11 y develope ull vs of all r an aquifer. f or planning n adjustmen me periods.</td><td>2070 2,7 5,6 5,4 34,8 15,0 68,1 215,9 20,56 33,6 30,0,0 50,0,0 50,0,0 1</td></tr<>	2060 8,004 0 5,619 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600 50,000 50,000 50,000 50,000 50,000 10 y SAUS Cuts 11 y develope ull vs of all 11 y develope ull vs of all 11 y develope ull vs of all 11 y develope ull vs of all r an aquifer. f or planning n adjustmen me periods.	2070 2,7 5,6 5,4 34,8 15,0 68,1 215,9 20,56 33,6 30,0,0 50,0,0 50,0,0 1
AWS Water Management Strategies (WMS) is     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> CARSP <sup>5</sup> Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>5</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>6</sup> Dirought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     otal Recommended WMS     Ianagement Supplies with Recommended WMS <sup>7</sup> Iternative WMS <sup>7</sup> Iternative WMS <sup>7</sup> Iternative Groundwater for SAWS     Expanded Local Carrizo     Vista Ridge Consortium     Expanded Brackish Project     Includes SAWS permits as presented in EAA's permit file     Total permitted volume is 22,660; however, SAWS only     Includes all elements of the HCP (VISPO, conservation,     Rystems and pipelines have no associated firm yield, bul Management Supplies and Alternative WMS are includee     For each aquifer in the region, HCOS have adopted or     oundwater supplies (permitted, grandfathered and exem     onsistency with the DFCs, TWDB currently requires that     ther aquifer in the region, HCOS phase adopted or     ther modeled available groundwater (MCA) for the aquifer     ermit amounts, and a lack of firm water available for fuu     hould not be construed as precommending or requiring the     TRWPG recognizes and supports the ability of permit	with Estima           2020           15,974           0           5,622           5,500           19,442           0           14,674           13,440           11,152           50,000           0           0           13,440           11,152           50,000           0           0           28, with full im           considers 2,00           wide goal of 13           SAWS ASR &           34 rer necessard           in the event           esired future ep) may result           p) may result           11 GDe make           olders to evert	active         active           2030         10,704           10,704         0           5,600         24,240           0         15,000           0         15,000           0         38,517           0         99,582           20,942         33,600           30,000         50,000           50,000         50,000           50 gpcd.         Irrigation T           1 rrigation T         y to deliver           that Recommodifiers (for prisis plan for a fibra soluted, for prisis plan for a fibra solution solution (i conserver)	Yield (ac           Year         2040           6,901         0           5,622         5,500           28,711         0           0         15,000           0         15,000           0         15,000           0         15,536           0         117,269           33,600         50,000           50,000         50,000           ransfers, ar         new Source           mended WI         DFCs). In sc           VPCS). In sc         vervement of           vervement of         vervement of           vervement of         vervement of           vervestiments, or         vervestiments, or           hits to group         vervestiments, or	ft/yr):           ft/yr):           2050           7,284           0           5,622           5,500           0           32,685           0           5,500           0           5,500           0           5,500           0           5,500           0           5,500           0           5,977           0           71,732           33,600           50,000           50,000           50,000           60,000           50,000	2060 8,004 0 5,622 5,419 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600 30,000 50,000 50,000 50,000 50,000 50,000 10,000 50,0000 50,000 50,000 50,00	2070 2,7 5,6 5,4 34,8 15,0 68,1 20,5 20,5 20,5 20,5 50,0 50,0 50,0 50,0
AWS Water Management Strategies (WMS) is ecommended WMS Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>0</sup> Vista Ridge Consoritum <sup>6</sup> Expanded Brackish Project <sup>8</sup> Direct Resue Expansion Water Resources Integration Pipeline <sup>5</sup> Drought Management Advanced Meter Infrastructure Seawater Desalination (75 MGD) otal Recommended WMS lanagement Supplies with Recommended WMS <sup>7</sup> Iternative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS Expanded Local Carrizo Vista Ridge Consortium Expanded Local Carrizo Vista Ridge Consortium Expanded Local Carrizo Vista Ridge Consortium Expanded Brackish Project Includes SAWS permits as presented in EAA's permit filie Total permitted volume is 22,660; however, SAWS only: Amount excludes commitments to streams and lakes. Municipal Conservation estimated using SAWS system Includes all elements of the HCP (VISPO, conservation, Systems and pipelines have no associated firm yield, but Management Supplies and Alternative WMS are includee For each aquifer in the region, the GCDs have adopted do coundwater supplies (permitted, granfathered and exem noistency with the DrCS. TWDB currently requires that to the modeled available groundwater (MAG) for the aquifer ermit anounts, and a lack of firm water available for futurould not be construed as recommending or requiring tha CTRWPC recognizes and supports the ability of permit the CCB.	with Estimation           2020           15,974           0           5,622           5,500           19,442           0           0           14,674           11,4674           12,212           13,440           11,152           50,000           0           13,440           11,152           50,000           0           13,440           11,152           50,000           0           13,440           11,152           50,000           0           13,440           11,152           50,000           0           13,440           11,152           50,000           0           13,440           11,152           50,000           0           13,440           11,52           50,000           0           13,440           11,52           50,000           13,440      SAWS ASR & </td <td>ited Firm           2030           10,704           0           5,500           24,240           0           15,000           24,240           0           38,517           0           99,582           20,942           33,600           30,000           50,000</td> <td>Yield (ac           Yead         Year           2040         Year           0         0           5,500         28,711           0         0           15,000         0           0         0           55,536         0           0         15,000           0         15,000           10,701         33,600           33,000         50,000           50,000         50,000           50,000         50,000           ransfers, ar         new source           mended WU         DFCs). In sc           evement of         re ach aqui           preach aqui dg randfath         or ach aqui dg randfath</td> <td>ft/yr):           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           0           59,877           209,990           209,990           209,990           203,800           33,600           30,000           50,000           50,000           50,000           4CP.           pply.          </td> <td>2060 8,004 0 5,622 5,419 34,894 0 0 15,000 0 0 64,184 0 0 84,023 217,145 217,145 33,600 30,000 50,00</td> <td>20770 2,7,7 5,6,6 5,4,4 34,8 15,0,0 215,9 215,9 20,56 33,6,6 30,0,0 50,0,0 50,0,0 50,0,0 50,0,0 7/). 10 tomers. 4d. To ensus purpose ts to This attions. 2e with ounts in</td>	ited Firm           2030           10,704           0           5,500           24,240           0           15,000           24,240           0           38,517           0           99,582           20,942           33,600           30,000           50,000	Yield (ac           Yead         Year           2040         Year           0         0           5,500         28,711           0         0           15,000         0           0         0           55,536         0           0         15,000           0         15,000           10,701         33,600           33,000         50,000           50,000         50,000           50,000         50,000           ransfers, ar         new source           mended WU         DFCs). In sc           evement of         re ach aqui           preach aqui dg randfath         or ach aqui dg randfath	ft/yr):           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           0           59,877           209,990           209,990           209,990           203,800           33,600           30,000           50,000           50,000           50,000           4CP.           pply.	2060 8,004 0 5,622 5,419 34,894 0 0 15,000 0 0 64,184 0 0 84,023 217,145 217,145 33,600 30,000 50,00	20770 2,7,7 5,6,6 5,4,4 34,8 15,0,0 215,9 215,9 20,56 33,6,6 30,0,0 50,0,0 50,0,0 50,0,0 50,0,0 7/). 10 tomers. 4d. To ensus purpose ts to This attions. 2e with ounts in
SAWS Water Management Strategies (WMS) is     SAWS Water Management Strategies (WMS) is     Conservation - Based on SAWS system-wide gpcd <sup>4</sup> EAHCP <sup>5</sup> Brackish Wilcox Groundwater for SAWS <sup>8</sup> Expanded Local Carrizo <sup>6</sup> Vista Ridge Consortium <sup>8</sup> Expanded Brackish Project <sup>8</sup> Direct Reuse Expansion     Water Resources Integration Pipeline <sup>6</sup> Drought Management     Advanced Meter Infrastructure     Seawater Desalination (75 MGD)     otal Recommended WMS     Ianagement Supplies with Recommended WMS <sup>7</sup> Iterative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS     Ianagement Supplies with Recommended WMS <sup>7</sup> Iterative WMS <sup>7</sup> Brackish Wilcox Groundwater for SAWS     Expanded Local Carrizo     Vista Ridge Consortium     Expanded Drackish Project     Includes SAWS permits as presented in EAA's permit fili     Total permitted volume is 22,660; however, SAWS only i     Amount excludes commitments to streams and lakes.     Municipal Conservation estimated using SAWS system-     Includes all elements of the HCP (VISPO, conservation,     Systems and pipelines have no associated firm yield, but     Management Supplies and Alternative WMS are included     Conservation estimated using SAWS system-     Includes all elements of the HCP (VISPO, conservation,     Systems and pipelines have no associated firm yield, but     Management Supplies and Alternative WMS are includer     to the modeled available groundwater (MAG) for the aquifer     ermit amounts, and a lack of firm water available for fut     ould not be construed as recommending or requiring that     potentime as recommending or requiring that     potentimes and secondmending or requiring the     potentime as recommending or requiring the     potentis as recommending or requiring the     potentis as re	with Estima           2020           15,974           0           5,622           5,500           19,442           0           0           14,674           0           14,674           12,212           13,440           11,152           50,000           0           0           13,440           13,440           13,440           13,440           10,50,000           0           50,000           0           50,000           0           50,000           0           50,000           0           50,000           0           50,000           0           50,000           0           50,000           0           50,000           0           50,000           0           50,000           0           50,000           0           50,000           0	ited Firm           2030           10,704           0           5,500           24,240           0           15,000           24,240           0           33,517           0           99,582           20,942           33,600           30,000           50,000	Yield (ac           Year         2040           Year         2040           0         0           5,500         28,711           0         0           15,000         0           15,000         0           15,000         0           15,000         0           117,269         117,269           10,701         33,600           30,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           50,000         50,000           7ransfers, ar new source mended WI           7CS.1         ns everement of or each aqui           valanning pur         some areas           strents, or or each aqui         yantifath           ve already U ve already U         some areas	ft/yr):           (acti)           2050           7,284           0           5,622           5,500           32,685           0           15,000           32,685           0           0           59,877           0           84,023           209,990           71,732           33,600           30,000           50,000           50,000           4CP.           pply.           HCP.           poses only.           for certain t           tery future percentain t           tery future percent	2060 8,004 0 5,619 34,894 0 15,000 0 64,184 0 84,023 217,145 49,118 33,600 30,000 50,00	2070 2,77 5,6,63,1 5,5,4,68,1 68,1 84,(, 215,5 33,6,68,1 33,6,68,1 9,0,50,0 50,0,50,0 50,0,50,0 50,0,50,0 50,0,50,0 7,0,00 7,000 7,0000 7,0000 7,0000 7,0000 7,0000 7,0000 7,00000000

## Table 2

### 12/2/2014 DRAFT

Hays-Caldwell Public Utility Agency (HCPUA)						
HCRUA Projected Demende (aeft/ur);						
HCPUA Projected Demands (acft/yr):			Year (	acft)		
Water Purchaser	2020	2030	2040	2050	2060	2070
	2,182	2,634	1,634	3,744	3,744	
CRWA (Lake Dunlap System)		-				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
Total Demand	3,182	6,649	9,125	14,470	18,129	21,833
HCPUA Supply:						
			Year (	acft)		
Source	2020	2030	2040	2050	2060	2070
Total Supply	0	0	0	0	0	0
HCPUA Projected Needs:		Ű	Ű		•	•
			Year (	acft)		
	2020	2030	2040	2050	2060	2070
Total System Management Supplies/(Needs)	(3,182)	(6,649)	(9,125)	(14,470)	(18,129)	(21,833)
Total System Management Supplies/(Needs)	(3,102)	(0,049)	(9,125)	(14,470)	(10,129)	(21,033)
HCPUA Water Management Strategies (WMS) with	h Estimatod	Eirm Violo	l (aoft/vr);			
There on water management Strategies (WMS) with			Year (	acft)		
	2020	2030	2040	2050	2060	2070
Recommended WMS						
Conservation <sup>2</sup>	10.300	15.000	15.000	15.000	15.000	15.000
Conservation <sup>2</sup> Phase 1 <sup>1</sup>	10,300	15,000	15,000	15,000	15,000	15,000 6.833
Conservation <sup>2</sup>	10,300	15,000	15,000	15,000 6,831	15,000 6,833	15,000 6,833
Conservation <sup>2</sup> Phase 1 <sup>1</sup>	10,300 10,300	15,000 <b>15,000</b>	15,000 <b>15,000</b>	-		
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS				6,831	6,833	6,833
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup>				6,831	6,833	6,833
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup>	10,300	15,000	15,000	6,831 <b>21,831</b>	6,833 <b>21,833</b>	6,833 <b>21,833</b>
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup>	10,300	15,000	15,000	6,831 21,831 7,361	6,833 21,833 3,704	6,833 <b>21,833</b> 0
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox	10,300 7,118	15,000 8,352	15,000 5,876	6,831 21,831 7,361 20,690	6,833 21,833 3,704 20,690	6,833 <b>21,833</b> <b>0</b> 20,690
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint	10,300 7,118 15,300	15,000 8,352 15,300	15,000 5,876 30,000	6,831 21,831 7,361 20,690 40,690	6,833 21,833 3,704 20,690 40,690	6,833 21,833 0 20,690 40,690
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project	10,300 7,118 15,300 15,300	15,000 8,352 15,300 15,300	15,000 5,876 30,000 30,000	6,831 21,831 7,361 20,690	6,833 21,833 3,704 20,690	6,833 <b>21,833</b> <b>0</b> 20,690
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from 0	10,300 7,118 15,300 15,300 Gonzales Co UV	15,000 8,352 15,300 15,300 VCD (Carrizo	15,000 5,876 30,000 30,000	6,831 21,831 7,361 20,690 40,690 40,690	6,833 21,833 3,704 20,690 40,690	6,833 21,833 0 20,690 40,690
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from C <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co	10,300 7,118 15,300 15,300 Gonzales Co UV onservation WM	15,000 8,352 15,300 15,300 VCD (Carrizo IS recommen	15,000 5,876 30,000 30,000 o) ided by SCT	6,831 21,831 7,361 20,690 40,690 40,690 RWPG.	6,833 21,833 3,704 20,690 40,690 40,690	6,833 21,833 0 20,690 40,690 40,690
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from C <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co <sup>3</sup> For each aquifer in the region, the GCDs have adopted desire	10,300 7,118 15,300 15,300 Gonzales Co UV onservation WM d future conditio	15,000 8,352 15,300 15,300 VCD (Carrizo IS recomment ons (DFCs). In	15,000 5,876 30,000 30,000 b) ided by SCTI n some GCD	6,831 21,831 7,361 20,690 40,690 40,690 RWPG. s, full use of a	6,833 21,833 3,704 20,690 40,690 40,690 all groundwate	6,833 21,833 0 20,690 40,690 40,690 er supplies
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> <i>Alternative WMS</i> <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from C <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Cc <sup>3</sup> For each aquifer in the region, the GCDs have adopted desire (permitted, grandfathered and exempt) may result in non-achiev	10,300 7,118 15,300 15,300 Gonzales Co UV onservation WM d future conditio vement of the D	15,000 8,352 15,300 15,300 VCD (Carrizo IS recommen ons (DFCs). In FCs for an ac	15,000 5,876 30,000 30,000 o) ided by SCTI n some GCD quifer. To ens	6,831 21,831 7,361 20,690 40,690 40,690 8,700 RWPG. s, full use of a sure consister	6,833 21,833 3,704 20,690 40,690 40,690 all groundwate	6,833 21,833 0 20,690 40,690 40,690 er supplies FCs,
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from C <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co <sup>3</sup> For each aquifer in the region, the GCDs have adopted desire (permitted, grandfathered and exempt) may result in non-achieved TWDB currently requires that groundwater availability for each ac	10,300 7,118 15,300 15,300 Gonzales Co UV onservation WM d future conditio vement of the DI aquifer be limited	15,000 8,352 15,300 15,300 VCD (Carrizo IS recomment ons (DFCs). In FCs for an action of for planning	15,000 5,876 30,000 30,000 b) ided by SCTI n some GCD quifer. To ens g purposes to	6,831 21,831 7,361 20,690 40,690 40,690 40,690 RWPG. s, full use of a sure consister the modeled	6,833 21,833 3,704 20,690 40,690 40,690 all groundwate ncy with the D available gro	6,833 21,833 0 20,690 40,690 40,690 er supplies FCs, undwater
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from C <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co <sup>3</sup> For each aquifer in the region, the GCDs have adopted desire (permitted, grandfathered and exempt) may result in non-achiev TWDB currently requires that groundwater availability for each a (MAG) for the aquifer. This has resulted, for planning purposes	10,300 7,118 15,300 15,300 Gonzales Co UV onservation WM d future conditio vement of the DI aquifer be limited only, in adjustm	15,000 8,352 15,300 15,300 VCD (Carrizo IS recomment ons (DFCs). In FCs for an action of for planning ents to permit	15,000 5,876 30,000 30,000 b) nded by SCTI n some GCD quifer. To ens g purposes to it amounts, a	6,831 21,831 7,361 20,690 40,690 40,690 40,690 RWPG. s, full use of a sure consister the modeled nd a lack of fi	6,833 21,833 3,704 20,690 40,690 40,690 all groundwate ncy with the D available gro rm water avai	6,833 21,833 0 20,690 40,690 40,690 40,690 er supplies FCs, undwater ilable for
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS  Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from C <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal CG <sup>3</sup> For each aquifer in the region, the GCDs have adopted desire (permitted, grandfathered and exempt) may result in non-achiev TWDB currently requires that groundwater availability for each a (MAG) for the aquifer. This has resulted, for planning purposes future permits in this plan for some areas for certain time period	10,300 7,118 15,300 15,300 Gonzales Co UV onservation WM d future conditio vement of the DI aquifer be limited only, in adjustm Is. This should n	15,000 8,352 15,300 15,300 VCD (Carrizo IS recommen ons (DFCs). In FCs for an ac d for planning ents to permi not be constru	15,000 5,876 30,000 30,000 0) nded by SCTI n some GCD quifer. To ens g purposes to it amounts, a ued as recom	6,831 21,831 7,361 20,690 40,690 40,690 40,690 RWPG. s, full use of a sure consister the modeled nd a lack of fi imending or r	6,833 21,833 3,704 20,690 40,690 40,690 40,690 all groundwate ncy with the D available gro rm water avai equiring that (	6,833 21,833 0 20,690 40,690 40,690 40,690 er supplies FCs, undwater ilable for GCDs
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS  Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from C <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Cc <sup>3</sup> For each aquifer in the region, the GCDs have adopted desire (permitted, grandfathered and exempt) may result in non-achiev TWDB currently requires that groundwater availability for each a (MAG) for the aquifer. This has resulted, for planning purposes future permits in this plan for some areas for certain time period make these adjustments, or deny future permit applications. SC	10,300 7,118 7,118 15,300 15,300 Gonzales Co UV onservation WM d future conditio vement of the DI aquifer be limited only, in adjustm ls. This should n CTRWPG recogn	15,000 8,352 15,300 15,300 VCD (Carrizo IS recommen ons (DFCs). In FCs for an ac d for planning ents to permi not be constru- nizes and sup	15,000 5,876 30,000 30,000 aded by SCTI n some GCD quifer. To ens purposes to it amounts, a ued as recom ports the abi	6,831 21,831 7,361 20,690 40,690 40,690 40,690 RWPG. s, full use of a sure consister the modeled nd a lack of fi imending or r ility of permit	6,833 21,833 3,704 20,690 40,690 40,690 40,690 all groundwate ccy with the D available gro rm water avai equiring that ( holders to exe	6,833 21,833 0 20,690 40,690 40,690 40,690 er supplies FCs, undwater ilable for GCDs ercise their
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS  Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from C <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Cc <sup>3</sup> For each aquifer in the region, the GCDs have adopted desire (permitted, grandfathered and exempt) may result in non-achiev TWDB currently requires that groundwater availability for each a (MAG) for the aquifer. This has resulted, for planning purposes future permits in this plan for some areas for certain time period make these adjustments, or deny future permit applications. SC rights to groundwater use in accordance with their permits and i	10,300 7,118 15,300 15,300 Gonzales Co UV onservation WM d future conditio /ement of the Di aquifer be limiter only, in adjustm ls. This should n CTRWPG recognite and trecognizes and	15,000 8,352 15,300 15,300 VCD (Carrizo IS recommen ons (DFCs). In FCs for an ac d for planning ents to permi not be constru- nizes and sup d supports th	15,000 5,876 30,000 30,000 add by SCTI n some GCD quifer. To ens g purposes to it amounts, a ued as recom ports the abi e GCDs disc	6,831 21,831 7,361 20,690 40,690 40,690 40,690 RWPG. s, full use of a sure consister the modeled nd a lack of fi mending or r ility of permit retion to issue	6,833 21,833 3,704 20,690 40,690 40,690 40,690 all groundwate ncy with the D available gro rm water avai equiring that ( holders to exe e permits and	6,833 21,833 0 20,690 40,690 40,690 40,690 er supplies FCs, undwater ilable for GCDs ercise their
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from C <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Cc <sup>3</sup> For each aquifer in the region, the GCDs have adopted desire (permitted, grandfathered and exempt) may result in non-achiev TWDB currently requires that groundwater availability for each a (MAG) for the aquifer. This has resulted, for planning purposes future permits in this plan for some areas for certain time period make these adjustments, or deny future permit applications. SC rights to groundwater use in accordance with their permits and i grandfather historical users for amounts in excess of the MAG.	10,300 7,118 15,300 15,300 Gonzales Co UV onservation WM d future conditio /ement of the Di aquifer be limited only, in adjustm ls. This should n CTRWPG recognites and SCTRWPG may	15,000 8,352 15,300 15,300 VCD (Carrizo IS recomment ons (DFCs). In FCs for an action of for planning ents to permit not be constru- nizes and sup d supports th y not modify g	15,000 5,876 30,000 30,000 30,000 addd by SCTI n some GCD quifer. To ens g purposes to it amounts, a ued as recom ports the abi e GCDs disc groundwater	6,831 21,831 7,361 20,690 40,690 40,690 40,690 RWPG. s, full use of a sure consister the modeled nd a lack of fi mending or r ility of permit retion to issue permits that (	6,833 21,833 3,704 20,690 40,690 40,690 40,690 all groundwate ncy with the D available gro rm water avai equiring that ( holders to exe e permits and GCDs have all	6,833 21,833 0 20,690 40,690 40,690 40,690 er supplies FCs, undwater ilable for GCDs ercise their ready
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from C <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Cc <sup>3</sup> For each aquifer in the region, the GCDs have adopted desire (permitted, grandfathered and exempt) may result in non-achiex TWDB currently requires that groundwater availability for each a (MAG) for the aquifer. This has resulted, for planning purposes future permits in this plan for some areas for certain time period make these adjustments, or deny future permit applications. SC rights to groundwater use in accordance with their permits and i grandfather historical users for amounts in excess of the MAG. issued or limit future permits that GCDs may issue. If the MAG	10,300 7,118 7,118 15,300 15,300 Gonzales Co UV onservation WM d future conditio vement of the Di aquifer be limited only, in adjustm ls. This should n CTRWPG recognite scTRWPG recognite and SCTRWPG may is increased du	15,000 8,352 15,300 15,300 VCD (Carrizo IS recomment ons (DFCs). In FCs for an action of for planning ents to permit to be constru- nizes and sup d supports th y not modify ( ring or after the	15,000 5,876 30,000 30,000 30,000 addd by SCTI n some GCD quifer. To ens g purposes to it amounts, a ued as recom ports the abi e GCDs disc groundwater	6,831 21,831 7,361 20,690 40,690 40,690 40,690 RWPG. s, full use of a sure consister the modeled nd a lack of fi mending or r ility of permit retion to issue permits that (	6,833 21,833 3,704 20,690 40,690 40,690 40,690 all groundwate ncy with the D available gro rm water avai equiring that ( holders to exe e permits and GCDs have all	6,833 21,833 0 20,690 40,690 40,690 40,690 er supplies FCs, undwater ilable for GCDs ercise their ready
Conservation <sup>2</sup> Phase 1 <sup>1</sup> Phase 2 - Carrizo/Wilcox <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>4</sup> Alternative WMS <sup>4</sup> Phase 2 - Carrizo/Wilcox HCPUA/TWA Joint HCPUA/TWA Joint HCPUA/TWA/GBRA Shared Facilities Project <sup>1</sup> Permitted production is 10,300 acft/yr as of March 2013 from C <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Cc <sup>3</sup> For each aquifer in the region, the GCDs have adopted desire (permitted, grandfathered and exempt) may result in non-achiev TWDB currently requires that groundwater availability for each a (MAG) for the aquifer. This has resulted, for planning purposes future permits in this plan for some areas for certain time period make these adjustments, or deny future permit applications. SC rights to groundwater use in accordance with their permits and i grandfather historical users for amounts in excess of the MAG.	10,300 7,118 7,118 15,300 15,300 Gonzales Co UV onservation WM d future conditio vement of the Di aquifer be limited only, in adjustm ls. This should n CTRWPG recognite scTRWPG recognite and SCTRWPG may is increased du	15,000 8,352 15,300 15,300 VCD (Carrizo IS recomment ons (DFCs). In FCs for an action of for planning ents to permit to be constru- nizes and sup d supports th y not modify ( ring or after the	15,000 5,876 30,000 30,000 30,000 addd by SCTI n some GCD quifer. To ens g purposes to it amounts, a ued as recom ports the abi e GCDs disc groundwater	6,831 21,831 7,361 20,690 40,690 40,690 40,690 RWPG. s, full use of a sure consister the modeled nd a lack of fi mending or r ility of permit retion to issue permits that (	6,833 21,833 3,704 20,690 40,690 40,690 40,690 all groundwate ncy with the D available gro rm water avai equiring that ( holders to exe e permits and GCDs have all	20 20 40 40 er supp FCs, undwat ilable fc GCDs ercise th ready

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

## 1/28/2015 DRAFT

GBRA Projected Demands (acft/yr):						
abha Fiojecieu Demanus (ach/yr).			Year	(acft)		
Water Purchaser	2020	2030	2040	2050	2060	2070
Municipal (Canyon Reservoir)						
Upper Basin - At or Above Canyon Reservoir						
Canyon Lake WSC	6,000	6,000	6,000	6,000	6,000	6,0
City of Blanco (through Canyon Lake WSC)	600	600	600	600	600	6
HH Ranch Properties	250	250	250	250	250	2
Domestic Contracts	10	10	10	10	10	
Canyon Lake WSC (formerly Rebecca Creek MUD)	130	130	130	130	130	1
Kendall County Rural	0	0	0	0	0	
Kerr County MOU		2,000	2,000	2,000	2,000	2,0
Upstream Diversion Contracts	155	155	155	155	155	1
WW Sports	1	1	1	1	1	
Yacht Club	10	10	10	10	10	
SJWTX - Bulverde (Western Canyon)	400	400	400	400	400	4
SJWTX - Park Village (Western Canyon)	322	322	322	322	322	3
City of Boerne (Western Canyon)	3,611	3,611	3,948	4,906	5,895	6,8
City of Fair Oaks Ranch (Western Canyon)	1,850	1,850	1,850	1,850	1,850	1,8
Cordillera Ranch (Western Canyon)	1,000	1,000	1,000	1,000	1,000	1,0
DH InvestJohnson Ranch (Western Canyon)	400	400	400	400	400	4
Lerin Hills (Western Canyon)	750	750	750	750	750	7
Kendall & Tapatio (Western Canyon)	750	750	750	750	750	7
Comal Trace (Western Canyon)	100	100	100	100	100	1
SAWS (Western Canyon)	2,017	2,017				
Western Canyon Sub-Total	11,200	11,200	9,520	10,478	11,467	12,4
Total Upper Basin Municipal (Canyon Reservoir)	18,356	20,356	18,676	19,634	20,623	21,5
Mid Basin - Below Canyon Dam to Above Victoria						
CRWA - Guadalupe River Basin Customers	4,000	4,000	4,000	4,000	4,000	4,0
CRWA - Cibolo	1,350	1,350	1,350	1,350	1,350	1,3
CRWA - East Central SUD	1,400	1,400	1,400	1,400	1,400	1,4
CRWA - Green Valley SUD	1,800	1,800	1,800	1,800	1,800	1,8
CRWA - Marion	100	100	100	100	100	1
CRWA - Springs Hill WSC	1,925	1,925	1,925	1,925	1,925	1,9
CRWA Dunlap Current Contract Subtotal	10,575	10,575	10,575	10,575	10,575	10,5
CRWA Dunlap Future Contract	0	0	0	0	0	
Comal County Rural	0	0	0	0	0	
New Braunfels Utilities	9,720	10,072	10,921	11,789	12,668	13,5
Crystal Clear WSC	800	800	800	800	800	8
City of Seguin	1,000	1,000	1,000	1,000	1,000	1,0
Dittmar, Gary	5	5	5	5	5	
Dittmar, Ray	5	5	5	5	5	
Gonzales County WSC	700	700	700	700	700	7
Green Valley SUD	1,000	1,000	1,000	1,000	1,000	1,0
Springs Hill WSC	2,500	2,500	2,500	2,500	2,500	2,5
Canyon Regional Water Authority (H/C WTP)	2,038	2,038	2,038	2,038	2,038	2,0
Wimberley & Wimberley WSC	0	0	410	1,020	1,712	2,5
Hays County Rural				1,169	6,714	12,8
City of Niederwald (San Marcos WTP)	62	81	105	134	166	2
City of Buda (San Marcos WTP)	1,680	1,680	1,680	1,680	1,680	1,6
City of Kyle (San Marcos WTP)	5,443	5,443	5,443	5,443	5,443	5,4
Sunfield MUD (San Marcos WTP)	3,136	3,136	3,136	3,136	3,136	3,1
Plum Creek WC/Monarch (San Marcos WTP)	560	560	560	560	560	5
City of San Marcos (San Marcos WTP)	10,000	10,000	10,000	10,000	10,000	10,0
Goforth WSC (San Marcos WTP)	1,050	1,050	1,050	1,050	1,050	1,1
San Marcos WTP Sub-Total	21,931	21,950	21,974	22,003	22,035	22,1
San Marcos WTP Sub-Tolar	21,301	21,350	21,374	22,000	22,005	

## 1/28/2015 DRAFT

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Lower Basin - At or Below Victoria						
City of Victoria (pursuant to Canyon Amendment)	1,240	1,240	1,240	1,240	1,240	1,240
Total Lower Basin Municipal (Canyon Reservoir)	1,240	1,240	1,240	1,240	1,240	1,240
Industrial/Steam-Electric (Canyon Reservoir)						
Mid Basin - Below Canyon Dam to Above Victoria						
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 1	854
Comal Fair Comal Road Department	3	1	3	1	3	
Comal County Manufacturing	4,130	4,881	5,612	6,239	7,120	8,07
GPP (Panda Energy)	6,840	6,840	6,840	6,840	6,840	6,84
Hays Energy LP	2,464	2,464	2,464	2,464	2,464	2,46
Total Mid Basin Industrial/SE (Canyon Reservoir)	14,423	15,174	15,905	16,695	17,907	19,22
	1-1, 120	10,114	10,000	10,000	11,001	10,22
Lower Basin - At or Below Victoria	0.000	0.000	0.000	0.000	0.000	0.00
Coleto Creek	6,000 100	6,000 100	6,000 100	6,000	6,000 100	6,000
Dow/UCC				100		100
Total Lower Basin Industrial/SE (Canyon Reservoir)	6,100	6,100	6,100	6,100	6,100	6,100
Irrigation (Canyon Reservoir)						
Irrigation Contracts (Upper Basin)	250	250	250	250	250	250
Irrigation Contracts (Mid-Basin)	342	342	342	342	342	34:
Canyon Reservoir Total	90,985	94,107	94,441	98,865	108,214	118,431
Mid-Basin Municipal (San Marcos Run-of-River)						
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
Mid-Basin Municipal (San Marcos Run-of-River) Total	2,800	2,800	2,800	3,164	3,631	4,277
Lower Basin Municipal (Run-of-River, Firm)						
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	(
Total Lower Basin Municipal (Run-of-River, Firm)	7,100	7,100	7,100	7,100	7,100	7,100
Lower Basin Industrial/SE (Run-of-River, Firm)						
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	70,690
Total Lower Basin Industrial/SE (Run-of-River, Firm)	42,021	70,131	80,356	101,758	126,527	133,754
Lower Basin Industrial/SE (Run-of-River, Interruptible)						
Calhoun & Victoria Counties	0	0	0	0	0	(
Total Lower Basin Industrial/SE (Run-of-River, Interruptible)	0	0	0	0	0	(
Lower Basin Irrigation (Run-of-River, Interruptible)						
Irrigation Agreements	13,472	11,935	10,894	10,148	9,453	8,72
Lower Basin (Run-of-River, Firm) Total	49,121	77,231	87,456	108,858	133,627	140,854
Lower Basin (Run-of-River, Interruptible) Total	13,472	11,935	10,894	10,148	9,453	8,72
Total Demand	156,378	186,073	195,591	221,035	254,925	272,28
Total Upper Basin Demand	18,606	20,606	18,926	19,884	20,873	21,84
Total Mid-Basin Demand	67,839	68,961	70,975	74,805	83,632	93,52
Total Lower Basin Demand	69,933	96,506	105,690	126,346	150,420	156,920
Total Demand	156,378	186,073	195,591	221,035	254,925	272,28

## 1/28/2015 DRAFT

					GBRA Existing Supplies (acft/yr):
	acft)	Year (a			
50 2060	2050	2040	2030	2020	Source
88,680 88,540	88,680	88,820	88,960	89,100	Canyon Reservoir (Firm, Daily Basis)
4,422 4,422	4,422	4,422	4,422	4,422	San Marcos Run-of-River Rights (Interruptible)
0 0	0	0	0	0	San Marcos Run-of-River Rights (Firm)
31,288 131,288	131,288	131,288	131,288	131,288	Lower Basin Run-of-River Rights (Interruptible, Daily Basis)
4,213 44,213	44,213	44,213	44,213	44,213	Lower Basin Run-of-River Rights (Firm, Daily Basis)
32,893 132,753	132,893	133,033	133,173	133,313	Total Supply (Firm)
				:	GBRA Projected Management Supplies or Needs (acft/yr
	acft)	Year (a			
50 2060	2050	2040	2030	2020	
0,185) (19,674)	(10,185)	(5,621)	(5,147)	(1,885)	Canyon Reservoir Firm Mgmt. Supplies / (Needs)
3,164) (3,631)	(3,164)	(2,800)	(2,800)	(2,800)	San Marcos Run-of-River Firm Mgmt. Supplies / (Needs)
4,645) (89,414)	(64,645)	(43,243)	(33,018)	(4,908)	Lower Basin Run-of-River Firm Mgmt. Supplies / (Needs)
7,994) (112,719) (	(77,994)	(51,664)	(40,965)	(9,593)	Total System Management Supplies / (Needs)
			d (acft/yr):	ed Firm Yie	GBRA Water Management Strategies (WMS) with Estima
	acft)	Year (a			
50 2060	2050	2040	2030	2020	
					Recommended WMS
					Conservation <sup>1</sup>
0,000 50,000	50,000	50,000	50,000	50,000	MBWSP - Surface Water w/ ASR (Option 3C)
					Wimberley/Woodcreek Project <sup>2</sup>
					Western Canyon WTP Expansion
50,000					Integrated Water-Power Project (Upper & Mid Basin)
1,800 51,800	51,800	51,800	51,800	51,800	GBRA Lower Basin Storage (500 acre Site)
2,000 42,000	42,000				GBRA New Appropriation (Lower Basin)
9,100 29,100	29,100				Victoria County Steam-Electric Project
0,000 50,000	50,000	50,000	50,000	50,000	Integrated Water-Power Project (Lower Basin)
6,651 26,695	36,651	41,579	42,053	45,315	Upper & Mid-Basin Management Supplies w/Recommended WMS
8,255 133,486	108,255	58,557	68,782	96,892	Lower Basin Firm Management Supplies w/Recommended WMS
					Alternative WMS
4,277 4,277	4,277	4,277	4,277		Luling ASR
· · · ·	15,000	15,000	15,000		MBWSP - Carrizo Groundwater (Option 0)
	25,000	25,000	25,000		MBWSP - Surface Water w/ Off-Channel Reservoir (Option 2A)
· · · ·	42,000	42,000	42,000		MBWSP - Conjunctive Use w/ ASR (Option 3A)
	86,513	86,513	86,513		HCPUA/TWA/GBRA Shared Facilities Project
504 504		504	504		Storage Above Canyon Reservoir (ASR)
					WMS Needing Further Study Prior to Implementation
3D TBD	TBD	TBD	TBD		Brush Management
perley.	Wimberley.		,		<sup>1</sup> Assigned by Water User Group (WUG) based on Municipal Conservation <sup>2</sup> Project is a Facilities Expansion WMS including transmission facilities for

### 1/20/2015 DRAFT

Cibolo Valley Local Government Corporation (CV	LGC)					
CVLGC Projected Demands (acft/yr):						
			Year	(acft)		
Water Purchaser	2020	2030	2040	2050	2060	2070
Cibolo	0	1,814	3,139	4,438	5,764	7,06
Schertz	0	0	0	0	2,235	4,80
Total Demand	0	1,814	3,139	4,438	7,999	11,87
CVLGC Supply:						
			Year	(acft)		
Source	2020	2030	2040	2050	2060	2070
Total Supply	0	0	0	0	0	
CVLGC Projected Needs:						
			Year	(acft)		
	2020	2030	2040	2050	2060	2070
Total System Management Supplies/(Needs)	0	(1,814)	(3,139)	(4,438)	(7,999)	(11,87
		(1,011)	(0,000)	(1,100)	(1,000)	(11)01
CVLGC Water Management Strategies (WMS) with	n Estimate	d Firm Y	ield (acft	/vr):		
<u> </u>			Year			
	2020	2030	2040	2050	2060	2070
Recommended WMS						
Conservation <sup>2</sup>						
Carrizo Aquifer (Wilson Co)	0	0	0	0	0	
w/ Transfers	8,800	8,800	8,800	8,800	8,800	8,80
Total Recommended WMS	8,800	8,800	8,800	8,800	8,800	8,80
						0.07
Management Supplies with Recommended WMS <sup>4</sup>	0 000	6 096	5 661	1 262	001	
Management Supplies with Recommended WMS <sup>4</sup>	8,800	6,986	5,661	4,362	801	-3,07
	8,800	6,986	5,661	4,362	801	-3,07
	8,800	6,986	5,661	4,362	801	-3,07
Management Supplies with Recommended WMS <sup>4</sup> <u>Alternative WMS</u> <sup>4</sup>	8,800	6,986	5,661	4,362	801	-3,07
Alternative WMS <sup>4</sup>		6,986	5,661	4,362	801	-3,07
Alternative WMS <sup>4</sup> <sup>1</sup> Permitted production as of September 2013, less 12% loss rat	e.					-3,0
Alternative WMS <sup>4</sup> Permitted production as of September 2013, less 12% loss rat <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co	e. onservation V	VMS recom	imended by	SCTRWPC	<u>а</u> .	-3,0
Alternative WMS <sup>4</sup> <sup>1</sup> Permitted production as of September 2013, less 12% loss rat <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co <sup>3</sup> For each aquifer in the region, the GCDs have adopted desired	e. onservation V	VMS recom	imended by s). In some	SCTRWPC GCDs, full	G. use of all	
Alternative WMS <sup>4</sup> <sup>1</sup> Permitted production as of September 2013, less 12% loss rat <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co <sup>3</sup> For each aquifer in the region, the GCDs have adopted desired groundwater supplies (permitted, grandfathered and exempt) ma	e. onservation V d future cond ay result in n	VMS recom itions (DFC on-achiever	mended by s). In some ment of the	SCTRWPC GCDs, full DFCs for ar	G. use of all n aquifer. To	) ensure
Alternative WMS <sup>4</sup> <sup>1</sup> Permitted production as of September 2013, less 12% loss rat <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co <sup>3</sup> For each aquifer in the region, the GCDs have adopted desired groundwater supplies (permitted, grandfathered and exempt) ma consistency with the DFCs, TWDB currently requires that groun	e. onservation V d future cond ay result in n dwater availa	VMS recom litions (DFC on-achiever ability for ea	imended by s). In some ment of the ich aquifer l	SCTRWPC GCDs, full DFCs for an pe limited fo	G. use of all n aquifer. To r planning p	o ensure purposes
Alternative WMS <sup>4</sup> <sup>1</sup> Permitted production as of September 2013, less 12% loss rat <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co <sup>3</sup> For each aquifer in the region, the GCDs have adopted desired groundwater supplies (permitted, grandfathered and exempt) may consistency with the DFCs, TWDB currently requires that groun to the modeled available groundwater (MAG) for the aquifer. This	e. onservation V d future cond ay result in n dwater availa is has resulte	VMS recom litions (DFC on-achiever ability for ea ed, for planr	imended by s). In some ment of the ich aquifer I ning purpos	SCTRWPC GCDs, full DFCs for ar be limited fo es only, in a	à. use of all n aquifer. To r planning p djustments	o ensure ourposes to perm
Alternative WMS <sup>4</sup> <sup>1</sup> Permitted production as of September 2013, less 12% loss rat <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co <sup>3</sup> For each aquifer in the region, the GCDs have adopted desired groundwater supplies (permitted, grandfathered and exempt) may consistency with the DFCs, TWDB currently requires that groun- to the modeled available groundwater (MAG) for the aquifer. This amounts, and a lack of firm water available for future permits in construed as recommending or requiring that GCDs make these	e. onservation V d future cond ay result in n dwater availa is has resulte this plan for a adjustments	VMS recom itions (DFC on-achiever ability for ea ed, for planr some areas s, or deny fi	amended by s). In some ment of the ach aquifer I ning purpose for certain uture permit	SCTRWPC GCDs, full DFCs for ar be limited fo es only, in a time period application	G. use of all n aquifer. To r planning p djustments s. This shou s. SCTRWF	o ensure ourposes to perm Ild not b 2G
Alternative WMS <sup>4</sup> <sup>1</sup> Permitted production as of September 2013, less 12% loss rat <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co <sup>3</sup> For each aquifer in the region, the GCDs have adopted desired groundwater supplies (permitted, grandfathered and exempt) may consistency with the DFCs, TWDB currently requires that ground to the modeled available groundwater (MAG) for the aquifer. This amounts, and a lack of firm water available for future permits in construed as recommending or requiring that GCDs make these recognizes and supports the ability of permit holders to exercise	e. onservation V d future cond ay result in n dwater availa is has resulter this plan for adjustments their rights t	VMS recom itions (DFC on-achiever ability for ea ed, for planr some areas s, or deny fu o groundwa	amended by s). In some ment of the ach aquifer I hing purpos for certain uture permit ater use in a	SCTRWPC GCDs, full DFCs for ar be limited fo es only, in a time period application accordance	G. use of all n aquifer. To or planning p idjustments s. This shou s. SCTRWF with their pe	o ensure ourposes to permi Ild not b PG ermits ar
Alternative WMS <sup>4</sup> <sup>1</sup> Permitted production as of September 2013, less 12% loss rat <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co <sup>3</sup> For each aquifer in the region, the GCDs have adopted desired groundwater supplies (permitted, grandfathered and exempt) may consistency with the DFCs, TWDB currently requires that groun to the modeled available groundwater (MAG) for the aquifer. This amounts, and a lack of firm water available for future permits in construed as recommending or requiring that GCDs make these recognizes and supports the ability of permit holders to exercise t recognizes and supports the GCDs discretion to issue permits	e. onservation V d future cond ay result in n dwater availa is has resulter this plan for adjustments their rights t and grandfa	VMS recom itions (DFC on-achiever ability for ea ed, for planr some areas s, or deny fu o groundwa ther historio	amended by s). In some ment of the ach aquifer I hing purpos for certain uture permit ater use in a cal users fo	SCTRWPC GCDs, full DFCs for ar be limited fo es only, in a time period application accordance r amounts in	G. use of all n aquifer. To or planning p idjustments s. This shou s. SCTRWF with their pen n excess of	o ensure ourposes to perm Ild not b PG ermits ar the MAC
Alternative WMS <sup>4</sup> <sup>1</sup> Permitted production as of September 2013, less 12% loss rat <sup>2</sup> Assigned by Water User Group (WUG) based on Municipal Co	e. onservation V d future cond ay result in n dwater availa is has resulter this plan for adjustments their rights t and grandfa ve already iss	VMS recom itions (DFC on-achiever ability for ea ed, for planr some areas s, or deny fu o groundwa ther historic sued or limi	amended by s). In some ment of the ach aquifer I ning purpos for certain uture permit ater use in a cal users fo t future per	SCTRWPC GCDs, full DFCs for ar be limited fo es only, in a time period application accordance r amounts ir mits that GC	G. use of all n aquifer. To or planning p idjustments s. This shou s. SCTRWF with their per n excess of CDs may iss	o ensure ourposes to permi uld not b PG ermits ar the MAC ue. If th

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.

## 1/29/2015 DRAFT

Canyon Regional Water Authority (CRWA)						
CRWA Projected Demands (acft/yr):						
Lake Dunlap/Wells Ranch Group				(acft)		
Current Demand	2020	2030	2040	2050	2060	2070
San Antonio Water System	6,800 2,550	6,800 2,550	6,800 2,550		6,800 2,550	6,800 2,550
City of Cibolo East Central WSC	2,550	2,550	1,900	-	2,550	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	)
Total Current Demand	17,175	17,915	17,915	17,915	17,915	17,915
Lake Dunlap/Wells Ranch Group			Year	(acft)		
Potential Future Demand	2020	2030	2040	2050	2060	2070
San Antonio Water System	0	0	0	0	0	(
City of Cibolo	0	0	0	•	0	(
East Central WSC		500	500	500	500	500
Green Valley SUD	3,490	4,490	4,490	-	8,490	13,490
City of La Vernia	0	25	81	133	184	229
City of Marion Crystal Clear WSC	0 800	0 1,540	0 1,540	0 1,540	0 1,540	1,540
Converse	903	1,111	1,297	1,272	1,265	1,264
Total Future Demand	5,193	7,666	7,908	-	11,979	17,023
Lake Dunlap/Wells Ranch Group	2020	2020		(acft)	2060	2070
Total Demand	2020	<i>2030</i>	2040	<i>2050</i>	<b>2060</b> 6,800	2070
San Antonio Water System City of Cibolo	6,800 2,550	6,800	6,800 2,550		,	6,800
East Central WSC	2,550	2,550 2,400	2,550	-	2,550 2,400	2,550
Green Valley SUD	5,990	6,990	6,990		10,990	15,990
City of La Vernia	400	425	481	533	584	629
City of Marion	200	200	200		200	200
Springs Hills WSC	2,025	2,025	2,025		2,025	2,025
Crystal Clear WSC	1,600	3,080	3,080		3,080	3,080
Converse	903	1,111	1,297	1,272	1,265	1,264
Total Demand	22,368	25,581	25,823	29,850	29,894	34,938
CRWA Supply:						
onna ouppiy.			Year	(acft)		
Source	2020	2030	2040	2050	2060	2070
GBRA - Lake Dunlap	10,575	10,575	10,575		10,575	10,575
Wells Ranch Phase I	5,200	5,200	5,200		5,200	5,200
Purchase from Springs Hill						
Run-of-River Water Rights	490	490	490		490	490
Total Supply	16,265	16,265	16,265	16,265	16,265	16,265
CRWA Projected Needs:						
			Year	(acft)		
	2020	2030	2040	2050	2060	2070
Total System Management Supplies/(Needs)	(6,103)	(9,316)	(9,558)	(13,585)	(13,629)	(18,673
CRWA Water Management Strategies (WMS) v	vith Estimat	ed Firm \	lield (act	ft/vr):		
			Year	(acft)		
Recommended WMS	2020	2030	2040	2050	2060	2070
<u>Recommended WMS</u> 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
Brackish Wilcox Groundwater for CRWA <sup>3</sup>	·	1,112	2,791	3,323	3,839	3,839
CRWA Siesta Project Total Recommended WMS	10,011	5,042 <b>16,446</b>	5,042		5,042	5,042
	10,011	10,440	17,295	19,938	20,454	20,454
Management Supplies with Recommended WMS <sup>2</sup>	3,908	7,130	7,737	6,353	6,825	1,781
Alternative WMS <sup>2</sup>						
CRWA Wells Ranch - Phase 2 <sup>3</sup>	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
Brackish Wilcox Groundwater for CRWA <sup>3</sup>	9,569	14,700 9,569	14,700 9,569		14,700 9,569	14,700
HCPUA/TWA Joint		0 560	0 660	0 660		9,569

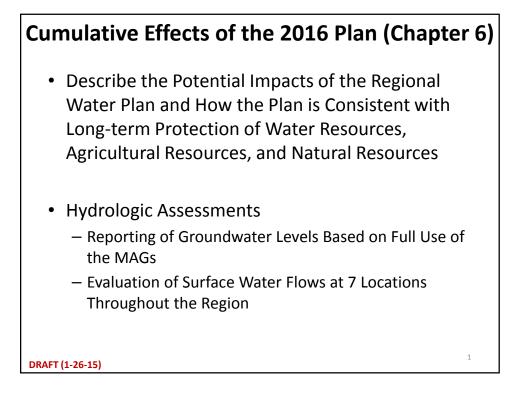
## 1/29/2015 DRAFT

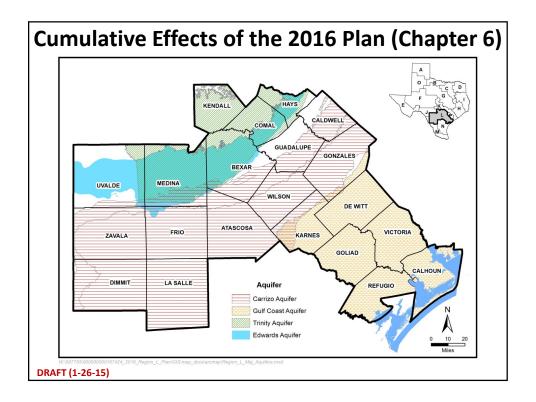
Hays Caldwell Area			Year (	(acft)		
Current Demand	2020	2030	2040	2050	2060	2070
County Line SUD	1,308	1,308	1,308	1,308	1,308	1,30
Crystal Clear WSC	500	500	500	500	500	50
Martindale	190	190	190	190	190	19
Maxwell WSC	900	900	900	900	900	90
Total Current Demand	2,898	2,898	2,898	2,898	2,898	2,89
Hays Caldwell Area			Year (	(acft)		
Future Demand	2020	2030	2040	2050	2060	2070
County Line SUD	0	0	0	0	180	39
Crystal Clear WSC	0	0	0	0	0	
Martindale	0	31	66	102	140	17
Maxwell WSC	0	0	0	0	0	
Total Future Demand	0	31	66	102	320	56
Have Caldwall Area			Veer	(a oft)		
Hays Caldwell Area Total Demand	2020	2030	Year ( 2040	2050	2060	2070
County Line SUD	1,308	1,308	1,308	1,308	1,488	1,70
Crystal Clear WSC	500	500	500	500	500	50
Martindale	190	221	256	292	330	36
Maxwell WSC	900	900	900	900	900	90
Fotal Demand	2,898	2,929	2,964	3,000	3,218	3,46
CRWA Supply:		0000	Year (	· · · · · ·	0000	0070
Source	2020	2030	2040	2050	2060	2070
GBRA - Hays/Caldwell Water Right Leases	2,038 540	2,038 540	2,038 540	2,038 540	2,038 540	2,03 54
Total Supply	<b>2,578</b>	<b>2,578</b>	<b>2,578</b>	<b>2,578</b>	<b>2,578</b>	2,57
	_,	_,	_,••••	_,	_,• • •	_,•:
CRWA Projected Needs:						
			Year (	(acft)		
	2020	2030	2040	2050	2060	2070
Total System Management Supplies/(Needs)	(320)	(351)	(386)	(422)	(640)	(88)
			(; , , , , , , , , , , , , , , , , , , ,	()		
ODWA Weter Menerous Ctueteries (WMC)		ea Firm Y	•			
CRWA Water Management Strategies (WMS)		2030	Year ( 2040	2050	2060	2070
CRWA Water Management Strategies (WMS)	0000		2040	2030	2000	2070
	2020	2000				
Recommended WMS		2030				
Recommended WMS Conservation <sup>1</sup>			3 000	3 000	3 000	3.00
Recommended WMS Conservation <sup>1</sup> Hays/Caldwell PUA <sup>3</sup>	1,000	2,000	3,000 <b>3,000</b>	3,000 <b>3.000</b>	3,000 <b>3.000</b>	
Recommended WMS Conservation <sup>1</sup>			3,000 <b>3,000</b>	3,000 <b>3,000</b>	3,000 <b>3,000</b>	
Recommended WMS Conservation <sup>1</sup> Hays/Caldwell PUA <sup>3</sup>	1,000	2,000	3,000		-	3,00
Recommended WMS Conservation <sup>1</sup> Hays/Caldwell PUA <sup>3</sup> Total Recommended WMS	1,000 <b>1,000</b>	2,000 <b>2,000</b>		3,000	3,000	3,00
Recommended WMS Conservation <sup>1</sup> Hays/Caldwell PUA <sup>3</sup> Total Recommended WMS	1,000 <b>1,000</b>	2,000 <b>2,000</b>	3,000	3,000	3,000	3,00
Recommended WMS Conservation <sup>1</sup> Hays/Caldwell PUA <sup>3</sup> Fotal Recommended WMS	1,000 <b>1,000</b>	2,000 <b>2,000</b>	3,000	3,000	3,000	3,00 3,00 2,11 3,00
Recommended WMS Conservation <sup>1</sup> Hays/Caldwell PUA <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>2</sup>	1,000 1,000 680	2,000 <b>2,000</b> <b>1,649</b>	3,000 2,614	3,000 2,578	3,000 2,360	3,00
Recommended WMS Conservation <sup>1</sup> Hays/Caldwell PUA <sup>3</sup> Total Recommended WMS Management Supplies with Recommended WMS <sup>2</sup>	1,000 1,000 680	2,000 <b>2,000</b> <b>1,649</b>	3,000 2,614	3,000 2,578	3,000 2,360	3,00

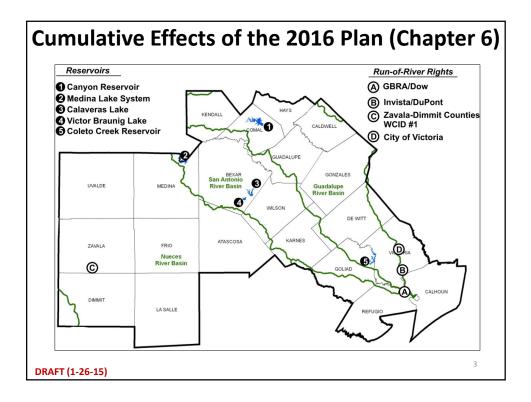
<sup>3</sup>For each aquifer in the region, the GCDs have adopted desired future conditions (DFCs). In some GCDs, full use of all groundwater supplies (permitted, grandfathered and exempt) may result in non-achievement of the DFCs for an aquifer. To ensure consistency with the DFCs, TWDB currently requires 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.

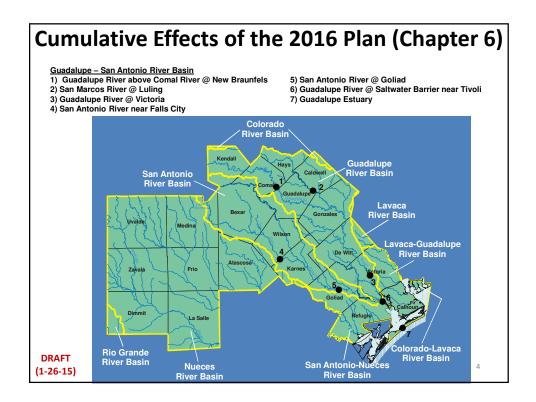
## AGENDA ITEM 17

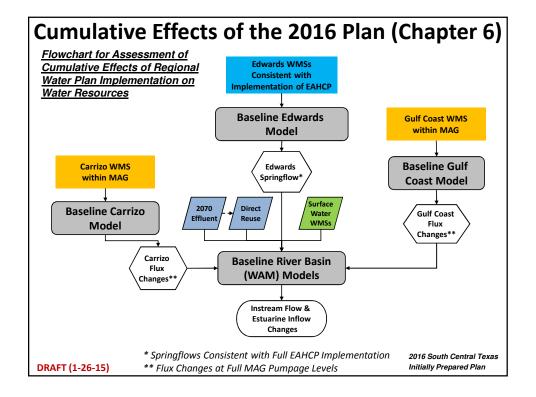
Discussion and Appropriate Action Regarding Chapter 6 Cumulative Effects Procedures



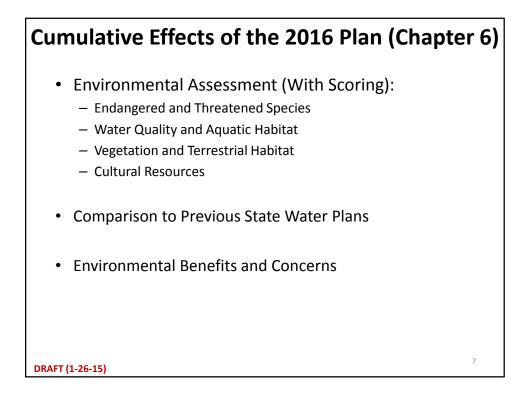








### Cumulative Effects of the 2016 Plan (Chapter 6) Evaluate Streamflows and Estuary Inflows for 2 Scenarios 1. Baseline (SCTRWP Surface Water Supply Evaluation) Edwards Springflows with EAHCP Implementation • Effluent Consistent with 2011 Reported Discharges, Adjusted for Current Levels of Reuse · Water 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 6 DRAFT (1-26-15)





## **AGENDA ITEM 18**

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

# GBRA Lower Basin Storage Requested Amendment of the 2011 Region L Water Plan

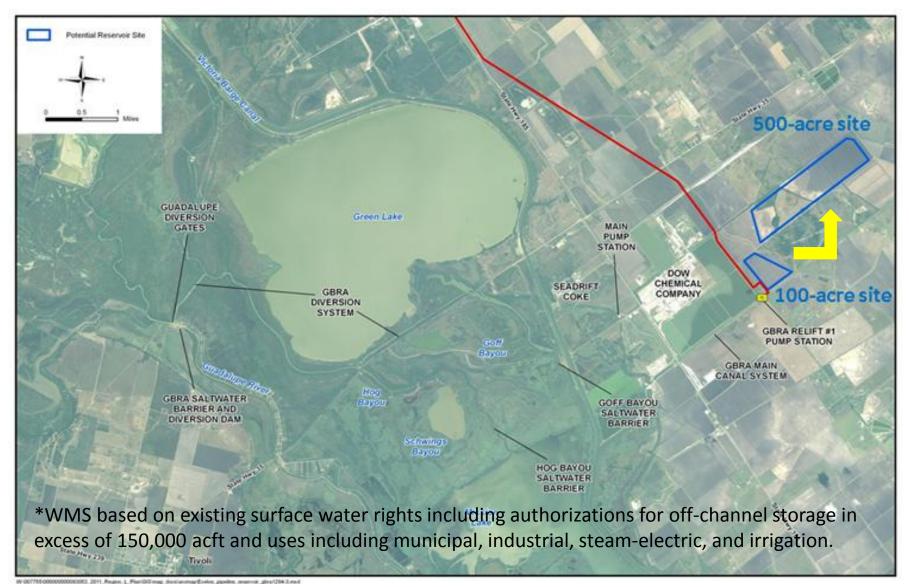
# • 2011 Region L Water Plan:

- Recommended WMS = "100-acre site" w/ capacity of 2,500 acft and yield of 28,369 acft/yr @ \$104/acft/yr for raw water in the reservoir and/or GBRA Main Canal to meet municipal, industrial, steam-electric, and/or other needs
- Alternative WMS = "500-acre site" w/ capacity of 12,500 acft and yield of 59,569 acft/yr @ \$109/acft/yr for raw water in the reservoir and/or GBRA Main Canal to meet municipal, industrial, steam-electric, and/or other needs

# Requested Amendment:

<u>Substitution</u> of "500-acre site" as the Recommended WMS as it capable of meeting the same and additional water needs

# **GBRA Lower Basin Storage\***



# GBRA Lower Basin Storage Requested Amendment of the 2011 Region L Water Plan

# • August 7, 2014 SCTRWPG Meeting:

 After presentation of the proposed amendment and extended discussion, the SCTRWPG voted 25 – 3 (2 absent) in favor of moving forward with requesting pre-adoption determination from the EA of the TWDB, on whether the proposed amendment classifies as a substitution, a minor amendment, or a major amendment.

# • November 6, 2014 SCTRWPG Meetings:

 Discussion and appropriate action regarding GBRA's proposed substitution of the Lower Basin Storage 500-acre site project for the Lower Basin Storage 100-acre site project.

## AGENDA ITEM 19

Possible Agenda Items for the Next South Central Texas Regional Water Planning Group Meeting

## **AGENDA ITEM 20**

Public Comment