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Chair / River Authorities
Tim Andruss
Vice-Chair / Water Districts
Gary Middleton
Secretary / Municipalities
Kevin Janak
At-Large / Electric Generating Utilities
Adam Yablonski
At-Large / Agriculture

MEMBERS

Pat Calhoun
Counties
Gene Camargo
Water Utilities
Rey Chavez
Industries
Will Conley
Counties
Curt Campbell
GMA 9
Art Dohmann
GMA 15
Blair Fitzsimons
Agriculture
Charlie Flatten
Environmental
Vic Hilderbran
GMA 7
Russell Labus
Water Districts
Glenn Lord
Industries
Doug McGookey
Small Business
Dan Meyer
GMA 10
Con Mims
River Authorities
Kevin Patteson
River Authorities
Iliana Peña
Environmental
Robert Puente
Municipalities
Steve Ramsey
Water Utilities
Weldon Riggs
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David Roberts
Small Business
Roland Ruiz
Water Districts
Diane Savage
GMA 13
Greg Sengelmann
Water Districts
Thomas Taggart
Municipalities
Dianne Wassenich
Public

DATE: October 30, 2017

TO: 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, November 2, 2017
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.

Steven J. Raabe, P.E.

Enclosure

Agenda Packet for November 2, 2017

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, November 2, 2017, at 9:30 AM 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. Public Comment
2. Approval of the Minutes from the August 3, 2017, Meeting of the South Central Texas Regional Water Planning Group (Region L)
3. Status of Edwards Aquifer Habitat Conservation Plan (HCP) – Nathan Pence, Executive Director EAHCP
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)
5. Texas Water Development Board (TWDB) Communications
6. Chair's Report
7. Discussion and Appropriate Action Setting the SCTRWPG Meeting Schedule for Calendar Year 2018
8. Discussion and Appropriate Action Authorizing the Administrator to Request Written Approval from the Executive Administrator of the TWDB that the San Antonio Water System's (SAWS) Proposed Revision to the 2016 SCTRWPG Regional Water Plan Constitutes a Minor Amendment, or a Determination of Whether SAWS's Proposed Action Constitutes a Substitution or Major Amendment
9. Presentation on the SAWS Water Management Plan
10. Discussion and Appropriate Action Regarding the Status of Draft Population and Demand Projections
11. 2021 Plan Enhancement Process: Recap of Guiding Principles Previously Discussed and Adopted
12. Discussion and Appropriate Action Regarding the Adoption of the Environmental Assessment Workgroup's Recommendations
13. Discussion and Appropriate Action Regarding the Adoption of the Minimum Standards Workgroup's Recommendations
14. Discussion and Appropriate Action Regarding the following components of the 2021 Plan Enhancement Process
 - a. The Role of Reuse Within the Regional Water Plan

- b. Identifying Special Studies or Evaluations Deemed Important to Enhance The 2021 Plan and Identification of Outside Funding Sources
 - c. The Extent to Which Innovative Strategies Should Be Used
- 15. Discussion and Appropriate Action Regarding Consultant's Work and Schedule
- 16. Discussion and Appropriate Action Regarding Hydrologic Assumptions
- 17. Discussion and Appropriate Action Regarding the Process by Which the SCTRWPG Considers Potentially Feasible Water Management Strategies
- 18. Evergreen Underground Water Conservation District Presentation on Weather Modification as a Potential Innovative Water Management Strategy
- 19. Possible Agenda Items for the Next Region L Meeting
- 20. Public Comment

1. Public Comment

2. Approval of the Minutes from the August 3, 2017, Meeting of the South Central Texas Regional Water Planning Group (Region L)

**Minutes of the
South Central Texas Regional Water Planning Group
August 3, 2017**

Chairwoman Suzanne Scott called the meeting to order at 9:00 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 | Gary Middleton |
| Pat Calhoun | Con Mims |
| Gene Camargo | Kevin Patteson |
| Rey Chavez | Robert Puente |
| Will Conley | Steve Ramsey |
| Curt Campbell | Blaine Schorp for Weldon Riggs |
| Art Dohman | David Roberts |
| Blair Fitzsimons | Marc Friberg for Roland Ruiz |
| Annie Kellough for Charlie Flatten | Dianne Savage |
| Vic Hilderbran | Suzanne Scott |
| Kevin Janak | Thomas Taggart |
| Russell Labus | Dianne Wassenich |
| Glenn Lord | Adam Yablonski |
| Doug McGooky | |
| Dan Meyer | |

Voting Members Absent

Iliana Pena
Greg Sengelmann

Non-Voting Members Present:

Ron Ellis, Texas Water Development Board (TWDB)
Iliana Delgado, South Texas Water Master (Texas Commission on Environmental Quality (TCEQ)
Jamie McCool, Texas Department of Agriculture

Non-Voting Members Absent:

Marty Kelley, Texas Department of Parks and Wildlife
Charles Wiedenfeld, Region J Liaison
Don McGhee, Region M Liaison
Ronald Fieseler, Region K Liaison
Carl Crull, Region N Liaison

Beginning with the February 11, 2016, meeting of the South Central Texas Regional Water Planning Group, all recordings are available for the public at www.regionltexas.org.

All PowerPoint presentations and meeting materials referenced in the minutes are available in the meeting Agenda Packet at www.regionaltexas.org.

AGENDA ITEM NO. 1: PUBLIC COMMENT

Graham Moore, Executive Director of the Alliance Regional Water Authority, announced that the former “Hays Caldwell Public Utility Agency” underwent some changes with the passing of SB 1198, effectively converting the HCPUA from a public utility agency to a regional water authority. HCPUA is now Alliance Regional Water Authority, and the new website is www.alliancewater.org. Additionally, Mr. Moore voiced support for the adoption of the Environmental Workgroup’s recommendations, which were to be considered under Agenda Item No. 9.

Terry Burns, with the Alamo Chapter of the Sierra Club, made some comments in support of rainwater harvesting and stormwater capture, and gave brief comments supporting the Sierra Clubs alternative water management plan.

Allen Montemayor, echoed Mr. Burns, asking the planning group members to go back to the organizations that they represent and focus on education and outreach regarding planning and reducing water demand by using water sustainably.

Suzanne Scott announced that Adam Yablonski was named Conservation Farmer of the Year by the State Association of Soil and Water Conservation Districts.

AGENDA ITEM NO. 2: APPROVAL OF THE MINUTES FROM THE MAY 4, 2017, MEETING OF THE SOUTH CENTRAL TEXAS REGIONAL WATER PLANNING GROUP (REGION L)

Chair Scott asked for a motion to approve the minutes from May 4, 2017. Con Mims made a motion to approve the minutes. Gary Middleton seconded the motion. The minutes were approved by consensus.

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

An update for the EAHCP was not provided.

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 reminded the Planning Group that the next GSA BBASC meeting would be held on September 15, 2017. A new member orientation was scheduled to begin at 9:00 am, and the regular agenda would begin at 10:00 am.

AGENDA ITEM NO. 5: TEXAS WATER DEVELOPMENT BOARD (TWDB) COMMUNICATIONS

Ron Ellis, TWDB, gave some brief updates regarding the latest at TWDB. Mr. Ellis informed the group that TWDB would be updating the rules due to some legislative changes, which were adopted during the 85th Legislative Session. More information would be going out in the future, and an opportunity for public comment on the rules would be provided.

Regarding population and water demand projections, all of TWDB's initial projection figures had been sent out, and information regarding non-municipal demand projections would be presented later on during the meeting. Mr. Ellis reviewed several deadlines with regard to population and demand projections, and noted that he anticipated TWDB action adopting all population and water demand projections by March 2018.

Mr. Ellis also reviewed the results of the TWDB's Planning Stakeholder Survey (the PowerPoint presentation and results are available at www.regionltexas.org).

AGENDA ITEM NO. 6: CHAIR'S REPORT

Chair Scott briefed the Planning Group on the recent legislative changes, which may impact members of the group and/or the regional water planning process generally. Namely, a non-voting member would be added to represent the State Soil and Water Conservation Board. A bill, which generally sought to sync up the planning process with the desired future conditions (DFC) process, had been signed into law as well. Lastly, a bill requiring subcommittees of the regional water planning groups to adhere to the Texas Open Meetings Act had also been adopted during the 85th Legislative Session.

AGENDA ITEM NO. 7: DISCUSSION AND APPROPRIATE ACTION REGARDING THE ADOPTION OF THE GUADALUPE-BLANCO RIVER AUTHORITY'S (GBRA) PROPOSED SUBSTITUTION OF AN ALTERNATIVE WATER MANAGEMENT STRATEGY IN THE 2016 REGION L REGIONAL WATER PLAN, THE MID-BASIN WATER SUPPLY PROJECT (MBWSP) — CONJUNCTIVE USE WITH AQUIFER STORAGE & RECOVERY (ASR), FOR TWO RECOMMENDED WATER MANAGEMENT STRATEGIES IN THE 2016 REGION L REGIONAL WATER PLAN: 1) THE GBRA MID-BASIN PROJECT (ASR), AND 2) THE TEXAS WATER ALLIANCE (TWA) CARRIZO PROJECT.

Kevin Patteson delivered a presentation on GBRA's plans to substitute an alternative water management strategy, identified in the SCTRWP 2016 Regional Water Plan, for two recommended water management strategies, identified in the SCTRWP 2016 Regional Water Plan. The presentation and Power Point are available at www.regionltexas.org.

Mr. Patteson gave a similar presentation at the May 4, 2017, Region L meeting. Since then, Region L had fulfilled the preconditions necessary for submitting 2016 Plan revision. TWDB had approved the revision as a "substitution" per the TWDB Rules, and now needed action by the Planning Group to effectuate the change. Mr. Patteson requested the SCTRWP to consider adopting the GBRA proposed substitution of an alternative water management strategy in the 2016 Region L Plan, the Mid-basin Water Supply Project (MBWSP) — Conjunctive Use With Aquifer Storage & Recovery, for two recommended water management strategies in the 2016 Region L Regional Water Plan: 1) the GBRA Mid-Basin Project, and 2) the Texas Water Alliance (TWA) Carrizo Project.

After some discussion, Will Conley moved to adopt GBRA's substitution request. The motion was seconded. Dianne Wassenich abstained. The motion passed.

The items below were not captured on the audio recording due to an equipment malfunction. Therefore, the record is prepared from notes and memory, and agreed upon by the Planning Group by virtue of having adopted these minutes at the November 2, 2017, Region L Meeting.

AGENDA ITEM NO. 8: 2021 PLAN ENHANCEMENT PROCESS: RECAP OF GUIDING PRINCIPLES PREVIOUSLY DISCUSSED AND ADOPTED

Chair Scott reviewed the previously approved Guiding Principles, highlighted some changes made to the 2021 Plan Enhancement Schedule, and reminded the planning group of the 2021 Plan Enhancement Process.

AGENDA ITEM NO. 9: DISCUSSION AND APPROPRIATE ACTION REGARDING THE ADOPTION OF THE ENVIRONMENTAL ASSESSMENT WORKGROUP'S RECOMMENDATIONS ON THE FOLLOWING COMPONENTS OF THE 2021 PLAN ENHANCEMENT PROCESS:

- A. THE ADEQUACY OF EVALUATING THE PLAN'S EFFECTS ON FRESHWATER INFLOWS TO SAN ANTONIO BAY**
- B. THE ADEQUACY OF ENVIRONMENTAL ASSESSMENTS OF INDIVIDUAL WATER MANAGEMENT STRATEGIES**

Steven Siebert, Chair of the Environmental Assessment Workgroup, presented at brief PowerPoint presentation on the charge and work of the Workgroup. Mr. Siebert noted that the Workgroup was tasked with evaluating current methodologies, and determining if additional or alternative environmental assessments of instream effects and freshwater inflows into the San Antonio Bay, and of individual water management strategies, are necessary. Additionally, if such additional or alternative methodologies were recommended, the Workgroup would identify and address the associated costs.

Mr. Siebert briefed the Planning Group on the structure and principles by which the Workgroup conducted its work, addressed the Planning Group charge, and reviewed different aspects discussed by the Workgroup. The Workgroup's recommendation was presented as follows:

- Include high level write-up of climate variability for Planning Group member review and comment
- Eliminate Environmental Assessment comparisons of current plan to past plans
- Initiate Environmental Assessments earlier into the regional planning process
- Chapter 8 Policy Workgroup to consider recommendation for consistency in the regional planning process
- The Workgroup recommendation also noted that TWDB could be more prescriptive in how Environmental Assessments are organized and presented in the plans.

Rey Chavez made a motion to adopt the Workgroup's proposed recommendation. Kevin Janak seconded the motion. The motion passed by consensus.

Following the adoption of the recommendation, Chair Scott requested that Mr. Siebert memorialize

the recommendation in the form of a guiding principle for the Planning Group to consider at the next Planning Group meeting.

AGENDA ITEM NO. 10: DISCUSSION AND APPROPRIATE ACTION REGARDING THE STATUS OF THE MINIMUM STANDARDS WORKGROUP

Tim Andruss, Chair of the Minimum Standards Workgroup, briefed the Planning Group on the progress made by the Minimum Standards Workgroup. Mr. Andruss informed that the Planning Group that the Minimum Standards Workgroup anticipated having a recommendation for the Planning Group to consider at the November, 2017, Region L meeting.

AGENDA ITEM NO. 11: DISCUSSION AND APPROPRIATE ACTION REGARDING THE FOLLOWING COMPONENTS OF THE 2021 PLAN ENHANCEMENT PROCESS

a. THE ROLE OF REUSE WITHIN THE REGIONAL WATER PLAN

Brian Perkins, Black and Veatch, provided a PowerPoint presentation (available at www.regionltexas.org) addressing roles of effluent, modeling, and reuse within the scope of the regional water planning process. Mr. Perkins explained that effluent is modeled in the Regional Planning Water Availability Model (WAM) as 1) return flow factors on water rights, and 2) point discharges, which is not directly tied to a water right. Point discharges modeling is used to emulate historic discharges from most wastewater treatment plants (WWTPs).

Mr. Perkins reviewed the parameters for which effluent is accounted for in existing supplies, water management strategy evaluation, and cumulative effects in the 2016 Plan. This was provided as a baseline for developing the 2021 Plan hydrologic assumptions. In accounting existing supplies, the TWDB Rules assume a full authorization of water rights amounts. Absent a request for the inclusion of effluent, the default assumptions do not incorporate effluent into a water user group's current supply. With regard to the 2016 Region L Plan, the Planning Group included historical effluent (pre-2006). This is distinguishable from the assumptions required by TWDB Rules for the evaluation of water management strategies, which assumes full authorization and no effluent. Per the Rules, the 2016 Region L Plan did not include effluent in the evaluation of water management strategies. And lastly, in developing the cumulative effects analysis of the 2016 Plan, per TWDB Rules, full authorized water right amounts are assumed, and the inclusion of effluent is left to the Planning Group's discretion. The 2016 Region L Plan projected effluent to the year 2070.

Next, Mr. Perkins presented on the role of reuse. Reuse is included in the Region L Plan in two ways. The first is existing supply, which includes reuse projects constructed, operating, and delivering water to customers (e.g. SAWS Recycle Program). Reuse is used in the calculation of need (i.e. needs minus demands equal existing supplies). Reuse is also reflected in the cumulative effects analysis of the Plan, which accounts for the planned reused projects to meet needs. Mr. Perkins provide a list of water user groups and wholesale water providers that count reuse as an existing supply, and a list of reuse projects that were included in the 2016 Plan. Lastly, Mr. Perkins reviewed the framework by which reuse water management strategies are evaluated.

Discussion ensued regarding the Planning Group's guiding principle on the role of reuse within the regional water plan. Comment varied, but generally recognized that there was no role for effluent, absent a direct reuse project or contract for reuse. Most agreed that the Planning Group

should defer to the TWDB Rules, the language of which could be used as a basis for developing a guiding principle. Concerns were raised regarding environmental flow information not being included. It was voiced that there should an explanation as to why the Plan does not include effluent outside of the exceptions (reuse project, or contracted use of reuse).

After some deliberation, Chair Scott suggested that Cole Ruiz develop some language, which can be reviewed by the Executive Committee, and then proposed for adoption—or editing—at the November, 2017, Region L meeting. No action was taken.

- a. IDENTIFYING SPECIAL STUDIES OR EVALUATIONS DEEMED IMPORTANT TO ENHANCE THE 2021 PLAN AND IDENTIFICATION OF OUTSIDE FUNDING SOURCES**
- b. THE EXTENT TO WHICH INNOVATIVE STRATEGIES SHOULD BE USED**

Mr. Perkins, following up on the discussion that began at the May, 2017, Region L meeting (see minutes and recording, available at www.regionltexas.org) by reminding the Planning Group that no funding currently exists for special studies. However there could be a request to evaluate a strategy—“innovative” or otherwise—under Task 5, which would entail the same timeline as any strategy under evaluation.

A brief discussion followed, where members suggested setting a timeline for completion of a study in order to have the Planning Group consider including it in the Plan. Under such circumstances, the Planning Group may agree to waive the timeline.

After some deliberation, Chair Scott suggested that Cole Ruiz develop some language, which can be reviewed by the Executive Committee, and then proposed for adoption—or editing—at the November, 2017, Region L meeting. No action was taken.

AGENDA ITEM NO. 12: EVERGREEN UNDERGROUND WATER CONSERVATION DISTRICT PRESENTATION ON WEATHER MODIFICATION AS A POTENTIAL INNOVATIVE WATER MANAGEMENT STRATEGY

This item was postponed for the November 2, 2017, Region L meeting.

AGENDA ITEM NO. 13: DISCUSSION AND APPROPRIATE ACTION REGARDING CONSULTANT’S WORK AND SCHEDULE

Brian Perkins briefly reviewed the consultants schedule for the fifth cycle of regional water planning, and disseminated a list of ongoing projects Black and Veatch and their subcontractors are involved with on a contractual level.

AGENDA ITEM NO. 14: POSSIBLE AGENDA ITEMS FOR THE NEXT REGION L MEETING

The Planning Group discussed and generally agreed that the following items may be placed on the next agenda for the November, 2017, Region L meeting.

- San Antonio Water System's (SAWS) Water Management Plan presentation;
- Status and possible action regarding draft population and demand projections;
- Minimum Standards and Environmental Assessment Guiding Principle adoption;
- Hydrologic assumptions for the 2021 Regional Water Plan;
- Evergreen Underground Water Conservation District presentation on weather modification;
- The process by which the Planning Group considers potentially feasible water management strategies;
- Region L meeting schedule for Calendar Year 2018.

AGENDA ITEM NO. 15: PUBLIC COMMENT

No comments were made.

Chair Scott adjourned the meeting.

GARY MIDDLETON, SECRETARY

Approved by the South Central Texas Regional Water Planning Group at a meeting held on November 2, 2017.

SUZANNE SCOTT, CHAIR

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

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)

5. Texas Water Development Board (TWDB) Communications

6. Chair's Report

7. Discussion and Appropriate Action Setting the SCTRWPG Meeting Schedule for Calendar Year 2018

Proposed South Central Texas Regional Water Planning Group
Meeting Schedule for Calendar Year 2018

1. Thursday, February 1, 2018
2. Thursday, May 3, 2018
3. Thursday, August 2, 2018
4. Thursday, November 1, 2018

8. Discussion and Appropriate Action Authorizing the Administrator to Request Written Approval from the Executive Administrator of the TWDB that the San Antonio Water System's (SAWS) Proposed Revision to the 2016 SCTRWPG Regional Water Plan Constitutes a Minor Amendment, or a Determination of Whether SAWS's Proposed Action Constitutes a Substitution or Major Amendment



October 24, 2017

Mr. Steve Raabe, Administrator
South Central Texas Regional Water Planning Group
c/o San Antonio River Authority
P.O. Box 839980
San Antonio, Texas 78283
Delivered via email to sraabe@sara-tx.org

RE: Amendment to the 2016 Region L Plan and the 2017 State Water Plan

Dear Mr. Raabe:

As San Antonio Water System (SAWS) celebrates its 25th anniversary, SAWS is nationally recognized for its long-standing commitment and investment in water conservation and infrastructure improvements. As part of this ongoing commitment, SAWS will be investing in an Advanced Meter Infrastructure (AMI) pilot perhaps as early as 2018.

AMI is a specifically-identified strategy that is part of SAWS' Advanced Water Conservation water management strategy, recommended in the 2016 Region L Plan (Plan). AMI automates the meter reading process and is designed to provide SAWS with more information to proactively prevent water loss and manage resources along with promoting conservation. The capital costs identified in the Plan are \$122,682,386.

While SAWS' AMI water management strategy is identified in the 2016 Region L Plan, the capital costs were not included in the database of the 2017 State Water Plan (DB17). SAWS respectfully requests a minor amendment to the 2016 Region L Plan to amend the San Antonio Advanced Water Conservation water management strategy to add a Water Management Strategy Project for SAWS AMI and associated capital costs. The appropriate capital costs will be added to the state database which, when the 2017 State Water Plan is amended, will grant SAWS access to State funding options.

Should you have any questions regarding this request or want to discuss further, please contact Donovan Burton, Vice President Water Resources & Governmental Relations at 210-233-3632 or by email at Donovan.Burton@saws.org

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. Puente', with a stylized flourish at the end.

Robert R. Puente
President/Chief Executive Officer

CC: Ms. Suzanne Scott, Chair
South Central Texas Regional Water Planning Group

9. Presentation on the SAWS Water Management Plan

10. Discussion and Appropriate Action Regarding the Status of
Draft Population and Demand Projections

11. 2021 Plan Enhancement Process: Recap of Guiding Principles
Previously Discussed and Adopted

2021 Plan Enhancement Process Schedule

| | | | |
|----------------------|---|--|---|
| May 2016 | The appropriateness and adequacy of how demand and need are determined. | Discussed: May 5, 2016 Adopted: August 4, 2016 | Guiding Principle Adopted |
| | The role of regional water planning groups in influencing population growth and land use. | Discussed: May 5, 2016 Adopted: August 4, 2016 | Guiding Principle Adopted |
| | Defining conflicts of interests of planning group members | Discussed: May 5, 2016 Adopted: August 4, 2016 | Guiding Principle Adopted |
| August 2016 | The role of regional water planning groups in influencing water development plans of water suppliers. | Discussed: August 4, 2016 Adopted: Nov. 3, 2016 | Guiding Principle Adopted |
| | The role of regional water planning groups in influencing permitting entities. | Discussed: August 4, 2016 Adopted: Nov. 3, 2016 | Guiding Principle Adopted |
| November 2016 | The adequacy of evaluating the Plan's effects on freshwater inflows to San Antonio Bay. | Discussed: Nov. 3, 2016 Adopted: | Assigned to Environmental Assessment Workgroup |
| | The adequacy of environmental assessments of individual WMS's. | Discussed: Nov. 3, 2016 Adopted: | Assigned to Environmental Assessment Workgroup |
| February 2017 | How Water Management Strategies are categorized; e.g. Recommended, Alternate, Needing Further Study. | Discussed: Feb 2, 2017 Adopted: | Assigned to Minimum Standards Workgroup |
| | Establishing Minimum standards for Water Management Strategies included in the Plan | Discussed: Feb 2, 2017 Adopted: | Assigned to Minimum Standards Workgroup |
| | Maintaining management supply while avoiding "over planning". | Discussed: Feb 2, 2017 Adopted: | Assigned to Minimum Standards Workgroup |
| May 2017 | Identifying special studies or evaluations deemed important to enhance the 2021 Plan and identification of outside funding sources. | Discussed: May 5, 2017 Adopted: | Discussed at August 2017 Meeting |
| | Address the role of reuse within the regional water plan. | Discussed: May 5, 2017 Adopted: | Discussed at August 2017 Meeting |
| | The extent to which innovative strategies should be used. | Discussed: May 5, 2017 Adopted: | Discussed at August 2017 Meeting |

12. Discussion and Appropriate Action Regarding the Adoption of the Environmental Assessment Workgroup's Recommendations

The adequacy of evaluating the Plan's effects on freshwater inflows to San Antonio Bay,
And
The adequacy of environmental assessments of individual WMSs.

Discussed at SCTRWPG meeting on August 3, 2017, Adopted:

The SCTRWPG's evaluation of the Plan's effect on instream flows and freshwater inflows to the San Antonio Bay, and Plan's environmental assessments of individual water management strategies are currently meeting the regulations and statutes for regional water planning. The SCTRWPG believes a structural reorganization of the data presented will benefit the understanding of the Plan's environmental assessments. The SCTRWPG will:

- Initiate environmental assessments earlier into the regional planning process;
- Eliminate environmental assessment comparisons of current plan to past plans;
- Consolidate threatened and endangered species information into the appendix rather than repeating in each water management strategy write-up;
- Update baseline year data to most current for potential impacts to vegetation and terrestrial habitat;
- Adjust distances for cultural resource sites;
- Include current conditions and streamflow protected by environmental flow standards in updated tabular form improving the way in which the data is presented;
- Include target flow regimes based on environmental freshwater inflow standards in updated tabular form improving the way in which the data is presented; and
- Include high level narrative of climate variability.

The SCTRWPG believes this environmental assessment structural reorganization will reflect realistic environmental impacts of the recommended water management strategies for both the public and planning group members.

13. Discussion and Appropriate Action Regarding the Adoption of the Minimum Standards Workgroup's Recommendations

**Guiding Principle of the South Central Texas Regional Water Planning Group (SCTRWPG)
Regarding Minimum Standards for Water Management Strategies,
Designation of Recommended and Alternative Strategies, and
Establishment of Management Supply**

Minimum Standards for Water Management Strategies

For a proposed strategy to be designated by the SCTRWP as a water management strategy in the regional water plan, the proposed strategy must:

1. supply water, reduce water demands, or otherwise satisfy one or more identified needs;
2. include an evaluation and description consistent with standards used by the SCTRWP and its technical consultants as required by TWDB Rules;
3. satisfy all relevant requirements established by the Texas Water Development Board, including environmental flow standards;
4. identify one or more entities, with sufficient ability and willingness to implement the strategy, as being the strategy's sponsor(s);
5. identify all entities, as reasonably possible, who own any existing or planned infrastructure or existing permit that could be affected by the proposed strategy as being strategy participants; and
6. identify groundwater conservation districts or Texas Commission on Environmental Quality (TCEQ) with jurisdiction over the proposed strategy.

Recommended Water Management Strategies

The SCTRWP strives to develop a regional water plan that recommends water management strategies sufficient to supply water to all identified needs projected in the planning horizon for the region.

The SCTRWP prefers designating water management strategies as recommended or alternative using a consensus approach while respecting the strategy sponsor(s)' wishes.

Prior to designating any water management strategies as recommended, the SCTRWP will review the water management strategies to evaluate costs and environmental sensitivity of each water management strategy per TWDB Rules.

Management Supply

The cumulative supply of the recommended water management strategies may include an amount of supply in excess of the amount needed to meet regional needs as considered necessary by the SCTRWPG to allow for such things as uncertainty associated with long-term planning, problems with project implementation, changing weather conditions, flexibility of sponsors in choosing projects to implement, and changes in project viability.

Identified Needs Without a Recommended Water Management Strategy

For water needs that are not satisfied by recommended water management strategies, the SCTRWPG will provide a narrative explaining why the need is not satisfied.

Alternative Strategies in the Regional Water Plan

The SCTRWPG will include alternative water management strategies that sponsors wish to have identified as alternatives to one or more of their recommended water management strategies.

Conceptual Approaches (WMS Needing Further Study) in the RWP

The SCTRWPG will acknowledge conceptual and innovative approaches to developing water supplies, reducing water demand, and increasing efficiency of supplying water as may be proposed by others, but need further study.

14. Discussion and Appropriate Action Regarding the following components of the 2021 Plan Enhancement Process
 - a. The Role of Reuse Within the Regional Water Plan
 - b. Identifying Special Studies or Evaluations Deemed Important to Enhance The 2021 Plan and Identification of Outside Funding Sources
 - c. The Extent to Which Innovative Strategies Should Be Used

South Central Texas Regional Water Planning Group

2021 Regional Water Plan Enhancement Process Guiding Principles

The Role of Reuse within the Regional Water Plan

Guiding Principle:

The South Central Texas Regional Water Planning Group (SCTRWPG) generally defers to the Texas Water Development Board (TWDB) rules for regional water planning as contained in the Texas Administrative Code (TAC) on matters related to surface water supply analysis. For surface water supply analysis, the SCTRWPG will use the most current Water Availability Models from the Texas Commission on Environmental Quality (TCEQ) to evaluate supplies, as required by section 357.32 (c) of the TAC. As per section 357.32 of the TAC, the SCTRWPG will assume full utilization of existing water rights and no return flows when using Water Availability Models.

The SCTRWPG agrees that effluent will be depicted in the Regional Water Plan only in cases of direct reuse water management strategies, or where a preexisting contract for the supply of reuse is in place. Additionally, the SCTRWPG will not use effluent in the estimates of cumulative effects absent a direct reuse water management strategy or a preexisting contract for the supply of reuse,

Identifying Special Studies or Evaluations Deemed Important to Enhance the 2021 Plan and the Identification of Outside Funding Sources, and

The Extent to Which Innovative Strategies Should be Used

Guiding Principle:

The South Central Texas Regional Water Planning Group (SCTRWPG) recognizes that there are no identifiable outside funding sources for special studies or evaluations. However, the SCTRWPG remains willing to consider evaluating any proposed water management strategies and special studies allowable under section 357.34 of the Texas Administrative Code.

15. Discussion and Appropriate Action Regarding Consultant's Work and Schedule

November 2017 RWPG Meeting

KEY:

-  *Scheduled Region L Meetings*
-  *Anticipated Region L Meetings*
-  *Currently Funded Tasks*
-  *Public Hearing(s) on 2021 IPP*
-  *Anticipated Activity*
-  *Activity Uncertainty*

16. Discussion and Appropriate Action Regarding Hydrologic Assumptions

BUILDING A WORLD OF DIFFERENCE

Hydrologic Assumptions (DRAFT)

23 October 2017

November 2017 SCTRWPG Meeting

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Primary Models

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- Guadalupe-San Antonio River Basin Water Availability Model (GSA WAM)*
- Nueces River Basin Water Availability Model (Nueces WAM)*
- Flow Regime Application Tool (FRAT)*
- MODFLOW Model of the Edwards Aquifer
- Southern Carrizo-Wilcox-Queen City-Sparta Groundwater Availability Model**
- Central Carrizo-Wilcox-Queen City-Sparta Groundwater Availability Model**
- Gulf Coast Groundwater Availability Model**
- Trinity Groundwater Availability Model**
- Any additional currently-approved WAM* or GAM** necessary

**Latest version of WAMs and FRAT will be downloaded from the TCEQ Website by May 1, 2018*

***Latest version of GAMs will be downloaded from the TWDB Website by May 1, 2018*



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Secondary Models

- Lower Nueces River Basin & Estuary Model (NUBAY)
- HSPF Models of the Edwards Aquifer Recharge Zones
- GWSIM-IV Model of the Edwards Aquifer

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Surface Water

- WAM Run 3 for all Surface Water Rights Modeling
 - Full exercise of existing surface water rights
 - Zero effluent discharges unless specifically required by a surface water right (hydropower, industrial rights, City of Victoria, etc.)
- Operation of Canyon Reservoir at firm yield in accordance with CA #18-2074E, including subordination of all senior Guadalupe River hydropower permits to Canyon Reservoir
- Delivery of GBRA's present contractual obligations from Canyon Reservoir to points of diversion
- Firm supply of surface water rights based on monthly availability
- New water rights evaluated in accordance with Environmental Flow Standards

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Surface Water (cont.)

- Operation of power plant reservoirs (Braunig, Calaveras, and Coleta Creek) subject to authorized consumptive uses at the reservoir, with makeup diversions as needed to maintain full conservation storage to the extent possible subject to senior water rights, instream flow constraints, and/or applicable contractual provisions
- Operation of Choke Canyon Reservoir/Lake Corpus Christi (CCR/LCC) System at safe yield subject to TCEQ Agreed Order regarding freshwater inflows to the Nueces Estuary
- Period of record for simulations:
 - Guadalupe-San Antonio River Basin (1934-89, Critical Drought = 1950s)
 - Nueces River Basin (1934-97, Critical Drought = 1990s)

 5 

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Groundwater

- Reliability of Edwards Aquifer permits and resulting springflows consistent with Habitat Conservation Plan (Phase I) developed through the Edwards Aquifer Recovery Implementation Program for the period 1947-1989 (using the latest MODFLOW model). Pre-1947 (1934-1946) withdrawals, critical period management, and resulting springflows consistent with SB 3 (80th Texas Legislature) using GWSIM-IV and historical Edwards Aquifer recharge estimates developed by EUWD/HDR.
- Reliability of existing groundwater permits and availability to new groundwater strategies in the Carrizo-Wilcox, Trinity, Gulf Coast, and other minor* aquifers will be in accordance with Modeled Available Groundwater estimates, as calculated by TWDB on or before June 1, 2018.

**Where a DFC has been established*

 6 

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Groundwater (cont.)

- The SCTRWPG will use the process established during the 2016 Planning Cycle (Section 8.3.1 of the 2016 SCTRWP) to determine the amount of groundwater allocated to individual groundwater permits.

**Where a DFC has been established*

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Reuse/Recycle Water

- Source water available for a reuse water management strategy will be determined based on the estimated amount of water returned to a utility's WWTPs for each decade, less the amount of reuse water already being utilized as existing supply
 - The amount of water returned to a utility's WWTP will be estimated at 50% of the utility's projected water demands, adjusted for water conservation and drought management strategies, unless site-specific information is available
 - Example: $[50\% * (\text{projected water demands for a utility} - \text{conservation WMS volumes} - \text{drought management WMS volumes})] - \text{existing reuse supply}$

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23 October 2017

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17. Discussion and Appropriate Action Regarding the Process by Which the SCTRWPG Considers Potentially Feasible Water Management Strategies

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2021 South Central Texas Regional Water Plan

Identification of Potentially Feasible Water Management Strategies¹

Draft – October 23, 2017

In the development of the 2021 South Central Texas Regional Water Plan (SCTRWP), the process for Identification of Potentially Feasible Water Management Strategies outlined below will be followed²:

- 1) SCTRWPG recognizes that the 2021 SCTRWP is an update of the 2016 SCTRWP.
 - a) There are updated population and municipal water demand projections based on the data from the State Demographer's Office.
 - b) The Texas Water Development Board (TWDB) has shifted population and water demand projections away from city-based WUGs to utility-based WUGs.
 - c) There are updates in the methodologies for calculating non-municipal water demand projections.
 - d) The groundwater availability will incorporate the Modeled Available Groundwater (MAG) values from the Groundwater Management Area (GMA) process.
 - e) TWDB allows for a MAG Peaking Factor.
 - f) The Edwards Aquifer Habitat Conservation Plan has been approved and is being implemented successfully.
 - g) Environmental Flow Standards by TCEQ are defined for the river basins of the South Central Texas Regional Planning Area.

These changes will affect the demand projections, existing supplies, and/or new supplies from Water Management Strategies (WMSs). Hence, the SCTRWPG will be evaluating WMSs from the 2016 SCTRWP to determine if they are still viable in the 2021 SCTRWP.

- 2) Current water planning information, including specific WMSs of interest, will be solicited from Water User Groups (WUGs) and Wholesale Water Providers (WWPs) in Summer 2018.
 - a) Solicitation of planning information will include a draft list of WMSs deemed potentially feasible to meet projected needs.
 - b) Draft list will generally include the recommended WMSs in the 2016 SCTRWP, WMSs in local water plans, and/or other strategies perceived to be of interest to WUGs/WWPs.

¹ Schedule shown is subject to change based on the availability of the fundamental data/decisions in Item 1 and/or TWDB discretion.

² Pursuant to the regional water planning rules which state: "Before a regional water planning group begins the process of identifying potentially feasible water management strategies, it shall document the process by which it will list all possible water management strategies and identify the water management strategies that are potentially feasible for meeting a need in the region."

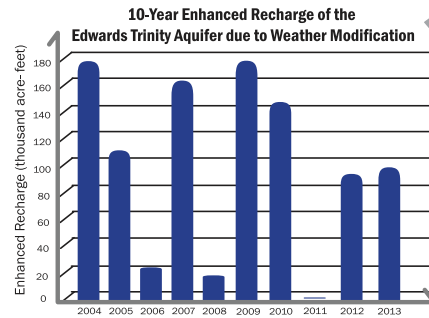
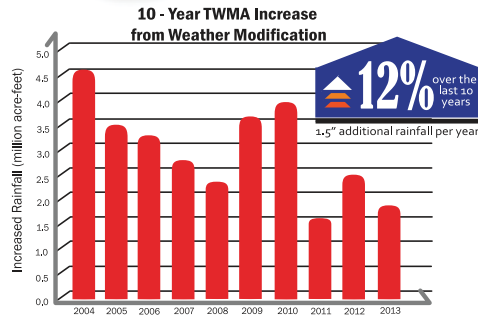
DRAFT

- c) WUGs/WWPs will be encouraged to classify each water management strategy on their draft list as recommended, alternative, or rejected.
- 3) Considering information responsive to the solicitation and information from required technical evaluations, lists of potentially feasible WMSs will be prepared and comments received beginning with the August 2018 meeting of the SCTRWPG. Additional information may follow in subsequent SCTRWPG meetings.
- 4) Additional WMSs may be brought forth to the SCTRWP, so long as the WMS is presented to the SCTRWPG by the May 2019 SCTRWPG meeting.
- 5) The SCTRWPG will use the 'Minimum Standards for Water Management Strategies, Designation of Recommended and Alternative Strategies, and Establishment of Management Supply' guiding principle in the development of the Regional Water Plan.

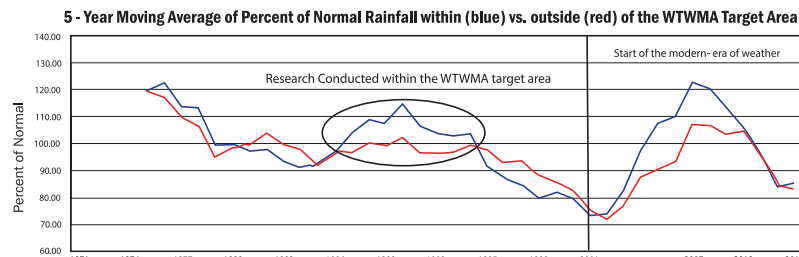
18. Evergreen Underground Water Conservation District
Presentation on Weather Modification as a Potential
Innovative Water Management Strategy



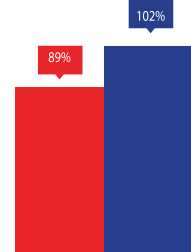
TEXAS WEATHER MODIFICATION ASSOCIATION



Roughly
100,000
acre-feet
of additional recharge can be expected from weather modification over karst aquifers in a semi-arid climate.



Since 2004, within the target area, percent of normal rainfall was 102%, with only 89% of normal outside of the target area.



1891
Robert Dyrenforth was the first to try rainmaking experiments near Midland.

1910
CW Post attempted to modify the weather along the Caprock using kites and dynamite.

1967
Texas Weather Modification Act of 1967 is introduced.

1971
CRMWD introduces first operational program in Texas

1995
TWMA becomes second operational program in Texas

1997
STWMA is developed

1999
SWTREA is developed

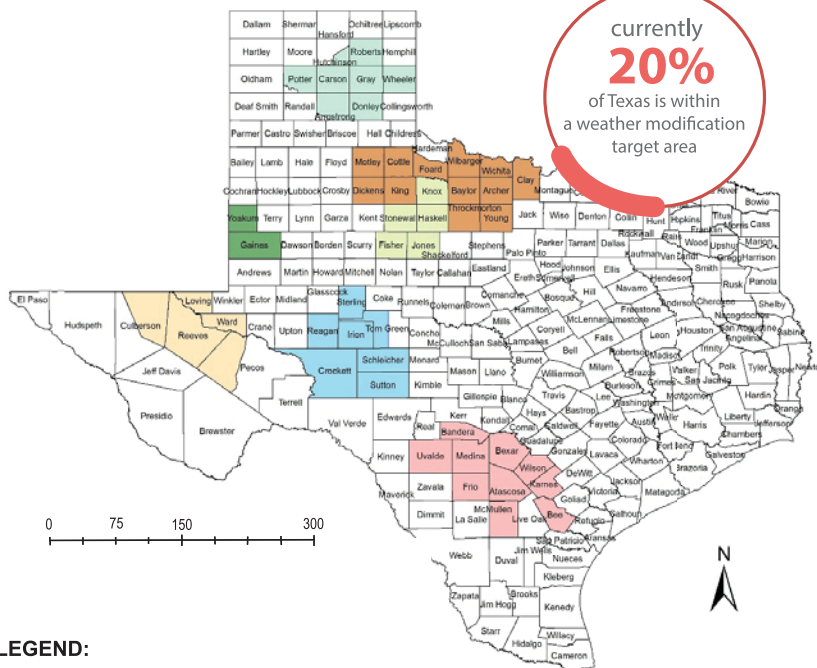
2000
PGCD is developed

2002
SOAR is developed

2003
TPWMA is developed. Texas Department of Licensing and Regulation oversees permits and licenses.

2014
Wichita and Rolling Plains weather modification programs are developed.

TEXAS WEATHER MODIFICATION ASSOCIATION PROGRAM TARGET AREAS



LEGEND:

- West Texas Weather Modification Association
- Trans-Pecos Weather Modification Association
- Panhandle Groundwater Conservation District
- South Texas Weather Modification Association
- Rolling Plains
- SOAR
- Wichita Falls

TWMA FINANCIAL DATA

For \$0.04 / Acre

one additional inch of precipitation can bring benefits of



One additional inch of water can improve the four major crops grown in West Texas by

\$10 - \$34 / Acre

(Wyatt, Carver, 1997)

For every dollar spent, one additional inch of precipitation from weather medication will have a return of

\$19-\$38

(Johnson, 2014)

Johnson's (2014) benefit cost analysis are consistent with Wyatt and Carver's (1997) study and Johnson's (2001) study.

19. Possible Agenda Items for the Next Region L Meeting

20. Public Comment