

Region L

South Central Texas Regional Water Planning Group

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May 2, 2018

Mr. Jeff Walker
Executive Administrator
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

RE: Adoption of Hydrologic Assumptions and Operational Procedures for Assessment of Groundwater and Surface Water Supply

Dear Mr. Walker,

At its meeting on November 2, 2017, the South Central Texas Regional Water Planning Group (SCTRWPG) adopted hydrologic assumptions and operational procedures for the assessment of groundwater and surface water supply for development of the 2021 South Central Texas Regional Water Plan.

On behalf of the SCTRWPG, please accepted the enclosed documents. Attachment A (enclosed) outlines the hydrologic assumptions adopted by the SCTRWPG and the approved procedures for assessing water supply. Attachment B (enclosed) lists the hydrologic models approved by the SCTRWPG for the development of the 2021 Plan.

As always, please reach out to me or my staff with any questions you may have.

Sincerely,



Suzanne Scott
Region L Chair
General Manager, San Antonio River Authority

Cc:

Brian Perkins, SCTRWPG Technical Consultant, Black & Veatch

Steve Raabe, SCTRWPG Administrator, Director of Technical Services, San Antonio River Authority

Cole Ruiz, Intergovernmental Relations Coordinator, San Antonio River Authority

Ron Ellis, Team Lead, Regional Water Planning, Texas Water Development Board

Elizabeth McCoy, Planner, Regional Water Planning, Texas Water Development Board

Attachment A
2021 South Central Texas Regional Water Plan

**Hydrologic Assumptions and Operational Procedures for
Assessment of Groundwater and Surface Water Supply**

Surface Water

1. WAM Run 3 for all Surface Water Rights Modeling
 - a. Full exercise of existing surface water rights
 - b. Zero effluent discharges unless specifically required by a surface water right (hydropower, industrial rights, City of Victoria, etc.)
2. 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
3. Delivery of GBRA's present contractual obligations from Canyon Reservoir to points of diversion
4. Firm supply of surface water rights based on monthly availability
5. New water rights evaluated in accordance with Environmental Flow Standards
6. Operation of power plant reservoirs (Braunig, Calaveras, and Coletto 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
7. 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
8. Period of record for simulations:
9. Guadalupe-San Antonio River Basin (1934-89, Critical Drought = 1950s)
10. Nueces River Basin (1934-97, Critical Drought = 1990s)

Groundwater

1. 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.

2. Reliability of existing groundwater permits and availability to new groundwater strategies in the Carrizo-Wilcox, Trinity, Gulf Coast, and other minor¹ aquifers will be in accordance with Modeled Available Groundwater estimates, as calculated by TWDB on or before June 1, 2018.
3. 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.

Reuse/Recycle Water

1. 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
 - a. 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
 - b. Example: $[50\% * (\text{projected water demands for a utility} - \text{conservation WMS volumes} - \text{drought management WMS volumes})] - \text{existing reuse supply}$

¹Where a DFC has been established

Attachment B
2021 South Central Texas Regional Water Plan
Hydrologic Models

Primary Models

- Guadalupe-San Antonio River Basin Water Availability Model (GSA WAM)¹
- Nueces River Basin Water Availability Model (Nueces WAM)¹
- Flow Regime Application Tool (FRAT)¹
- MODFLOW Model of the Edwards Aquifer
- Southern Carrizo-Wilcox-Queen City-Sparta Groundwater Availability Model (GAM)²
- Central Carrizo-Wilcox-Queen City-Sparta GAM²
- Gulf Coast Groundwater Availability Model²
- Trinity Groundwater Availability Model²
- Any additional currently-approved WAM¹ or GAM² necessary

Additional Models

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

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

²Latest version of GAMs will be downloaded from the TWDB Website by May 1, 2018