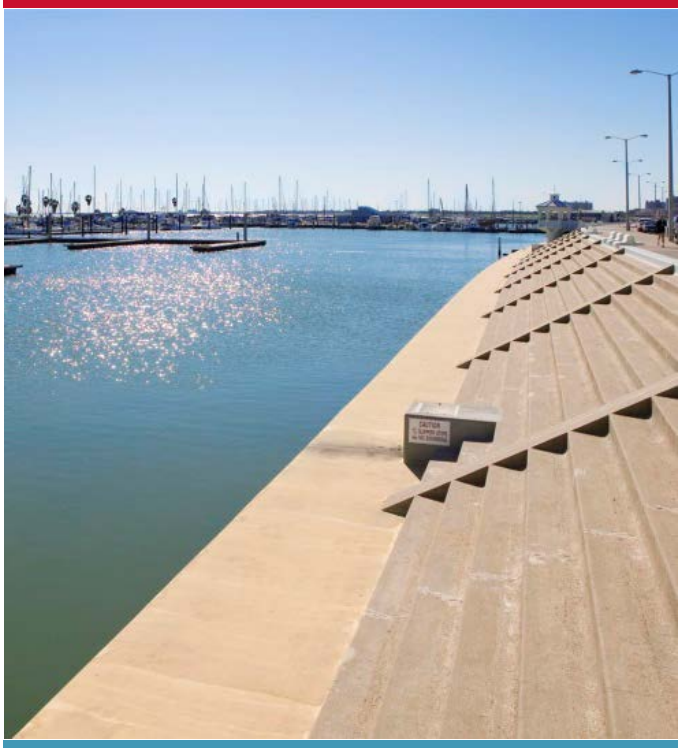

# 2021 Coastal Bend Region N – Regional Water Plan

## TECHNICAL MEMORANDUM

*Coastal Bend Region, Texas*
September 10, 2018

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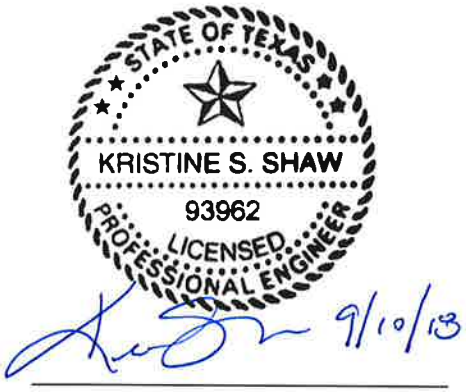
# 2021 Coastal Bend (Region N) Regional Water Plan

## Technical Memorandum

September 2018

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# Contents



# Tables



# Figures

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In accordance with the Texas Administrative Code §357.12(c) and Section 13.1.1 of the Second Amended General Guidelines for Regional Water Plan Development, the Coastal Bend (Region N) Regional Water Planning Group submits this technical memorandum for consideration by the TWDB. This technical memorandum presents population and water demand projections, source water availability, existing water supplies, preliminary water needs, Region N's adopted process for identifying potentially feasible water management strategies, list of potentially feasible water management strategies to date, and Region N's response regarding TWDB's simplified planning option. The appendix includes the nine-DB22 reports requested by the TWDB for inclusion in the technical memorandum. The contents of this technical memorandum were approved at Region N's public meeting on August 9, 2018 that included the 14 day notice and public comment period which closed two weeks after the meeting, on August 23, 2018.

# 1 DB22 Reports

The following DB22 reports are provided in Appendix A of this document.

- Report # 1- WUG Population Projections
- Report # 2- WUG Water Demand Projections
- Report # 3- WUG Category Summary
- Report # 4- Source Water Availability
- Report # 5- WUG Existing Water Supplies
- Report # 6- WUG Identified Water Needs/ Surpluses
- Report # 9- Source Water Balance
- Report #10a- WUG Data Comparison to 2016 RWP
- Report #10b- Source Data Comparison to 2016 RWP

# 2 Population and Water Demand Projections Adopted by the TWDB for Development of the 2021 Region N Plan and 2022 State Water Plan

On December 22, 2016, the TWDB provided draft population, municipal and mining water demand projections to Region N for consideration in development of the 2021 Coastal Bend (Region N) Regional Water Plan. For the 2021 Regional Water Planning cycle, no new census data was available and county-wide population totals were the same as those in the 2016 Region N Plan/2017 State Water Plan. A key difference with this new planning cycle is that the 2017 State Water Plan population and municipal demands are transitioned from political boundaries to utility service areas for development of the 2021 Regional Water Plan. At the Region N meeting on January 16, 2017, a subcommittee was appointed to review

draft TWDB population, municipal water demand projections, and mining water demand projections and provide a recommendation to the Region N planning group. On April 6, 2017, the subcommittee met to review these TWDB draft projections and recommended modifications for Nueces WSC based on utility-provided information. The subcommittee recommended approving the draft TWDB mining water demand projections and all other population and municipal water demand projections provided by the TWDB. Alternate population and water demand projections were prepared for Nueces WSC that were subsequently considered and adopted at the Region N meeting on August 10, 2017.

On June 2, 2017 the TWDB provided draft non-municipal water demand projections (steam-electric, manufacturing, livestock, and irrigation) for Region N Water Planning Group review and comment. A Region N subcommittee comprised of six Region N members was formed at the August 10, 2017 RWPG meeting to review TWDB draft steam electric, manufacturing, livestock, and irrigation water demand projections. The subcommittee met on September 7, 2017 to discuss TWDB draft projections and local data pertinent to demand projections. At the subcommittee's request, based on local feedback and data, alternative demand projections were prepared for Nueces and San Patricio County- manufacturing users and all counties with projected irrigation water demands. These alternate projections were considered and adopted by Region N at its November 9, 2017 meeting. The Nueces River Authority, administrator for Region N, submitted a letter to the TWDB requesting consideration of Region N's adopted alternate projections for Nueces WSC, Nueces County-Manufacturing, San Patricio County- Manufacturing, and irrigation users by the January 12, 2018 request submittal deadline. The TWDB approved the projections in April 2018.

Table 2-1 shows the Region N population projections by county. Table 2-2 shows total water demand projections, by county. Table 2-3 shows the breakdown of Region N water demand projections by use category. Figure 1 shows a comparison of water demand projections from the 2021 Region N Plan to previous 2016 Region N Plan/ 2017 State Water Plan projections. For the 2021 Region N Plan, municipal projections increased by about 3%. Irrigation increased for Year 2020, but then decreased for subsequent decades as compared to the 2016 Region N Plan estimates. Manufacturing, steam-electric, and livestock projections for the 2021 Region N Plan are all lower than those from the 2016 Region N Plan/2017 State Water Plan. The largest reduction is in steam-electric projections ranging from 11,042 to 30,545 acre-feet per year (ac-ft/yr) lower for the 2021 Region N Plan as compared to the previous planning cycle.

**Table 2-1. Region N Population Projections by County**

| County Name | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| ARANSAS | 24,463 | 24,991 | 24,937 | 25,102 | 25,103 | 25,104 |
| BEE | 33,478 | 34,879 | 35,487 | 35,545 | 35,579 | 35,590 |
| BROOKS | 7,783 | 8,252 | 8,722 | 9,181 | 9,595 | 9,979 |
| DUVAL | 12,715 | 13,470 | 14,098 | 14,644 | 15,080 | 15,435 |
| JIM WELLS | 44,987 | 48,690 | 52,052 | 55,533 | 58,600 | 61,410 |
| KENEDY | 463 | 498 | 504 | 507 | 508 | 508 |
| KLEBERG | 35,567 | 38,963 | 42,202 | 45,324 | 48,251 | 50,989 |
| LIVE OAK | 11,683 | 11,690 | 11,690 | 11,690 | 11,690 | 11,690 |

### Table 2-1. Region N Population Projections by County

| County Name | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| MCMULLEN | 734 | 734 | 734 | 734 | 734 | 734 |
| NUECES | 374,157 | 407,534 | 428,513 | 440,797 | 449,936 | 456,056 |
| SAN PATRICIO | 68,760 | 72,114 | 74,043 | 75,451 | 76,405 | 77,049 |
| **Region N Total** | **614,790** | **661,815** | **692,982** | **714,508** | **731,481** | **744,544** |

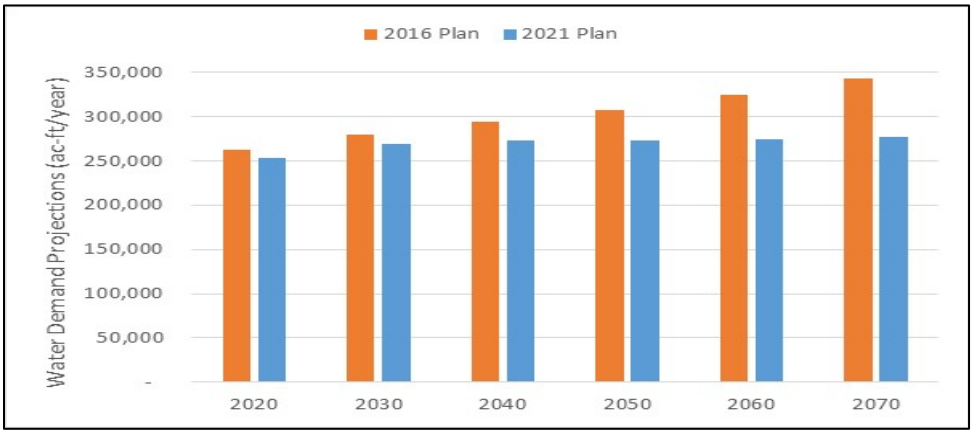
### Table 2-2. Region N Water Demand Projections by County (ac-ft/yr)

| County Name | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| ARANSAS | 4,151 | 4,143 | 4,060 | 4,048 | 4,040 | 4,040 |
| BEE | 12,170 | 12,270 | 12,234 | 12,137 | 12,093 | 12,074 |
| BROOKS | 3,845 | 3,899 | 3,937 | 3,991 | 4,047 | 4,116 |
| DUVAL | 8,241 | 8,362 | 8,325 | 8,276 | 8,267 | 8,263 |
| JIM WELLS | 11,044 | 11,508 | 11,908 | 12,409 | 12,896 | 13,361 |
| KENEDY | 1,097 | 1,118 | 1,089 | 1,066 | 1,041 | 1,025 |
| KLEBERG | 9,098 | 9,683 | 9,997 | 10,360 | 10,744 | 11,118 |
| LIVE OAK | 7,274 | 7,550 | 7,503 | 7,308 | 7,058 | 6,898 |
| MCMULLEN | 4,919 | 5,482 | 5,429 | 3,295 | 2,523 | 1,978 |
| NUECES | 124,951 | 134,710 | 137,462 | 139,157 | 140,845 | 142,120 |
| SAN PATRICIO | 66,428 | 71,041 | 71,118 | 71,230 | 71,371 | 71,499 |
| **Region N Total** | **253,218** | **269,766** | **273,062** | **273,277** | **274,925** | **276,492** |

### Table 2-3. Region N Water Demand Projections by Category (ac-ft/yr)

| Demand Category | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| Municipal | 115,366 | 121,198 | 124,655 | 127,324 | 130,021 | 132,248 |
| Manufacturing | 88,634 | 98,480 | 98,480 | 98,480 | 98,480 | 98,480 |
| Irrigation | 30,206 | 30,206 | 30,206 | 30,206 | 30,206 | 30,206 |
| Mining | 8,951 | 9,821 | 9,660 | 7,206 | 6,157 | 5,497 |
| Livestock | 6,065 | 6,065 | 6,065 | 6,065 | 6,065 | 6,065 |
| Steam-Electric | 3,996 | 3,996 | 3,996 | 3,996 | 3,996 | 3,996 |
| **Region N Total** | **253,218** | **269,766** | **273,062** | **273,277** | **274,925** | **276,492** |

**Figure 2-1. Comparison of Region N Water Demand Projections from 2021 Plan and Previous 2016 Plan, Combined Demands for all Use Types**




# 3 Source Water Availability

## 3.1 Surface water availability

The TWDB guidelines[1] state that planning groups must use firm yield and TCEQ WAM Run 3 for determining current and future water supplies unless a hydrologic variance request is approved by the TWDB Executive Administrator for variations from the standard modeling requirements.

At the Region N meeting on August 10, 2017, Region N discussed the TCEQ WAMs relevant to surface water supplies in the region and the City of Corpus Christi Water Supply Model (formerly NUBAY model). In 1990, the City of Corpus Christi developed the Lower Nueces River Basin and Estuary Model (NUBAY) to evaluate its multi-basin regional water supply system subject to environmental flow provisions and reservoir operating policies. Since then, the City and other public agencies have supported enhancements and updates to the NUBAY model, which has been renamed the City of Corpus Christi Water Supply Model. The previous Region N Plans (2006, 2011, and 2016) used the Corpus Christi Water Supply Model to evaluate water availability, with safe yield as a basis for developing water planning and needs analysis for the City of Corpus Christi and its customers. The Corpus Christi Regional Water Supply System, simulated by the Corpus Christi Water Supply Model, includes the City's contracted and/or permitted water rights from Choke Canyon Reservoir, Lake Corpus Christi, Lake Texana, and the Lower Colorado River.

In 2017, the Corpus Christi Water Supply Model was updated to include:

- Recent hydrology through 2015 to include the most recent drought of record for a total model period of 82 years (1934 to 2015), including extensions to net evaporation and ungaged runoff below LCC for recent hydrology using methods consistent with previous model version (1934 to 2003);
- New TWDB volumetric survey data for Lake Corpus Christi (2016), Choke Canyon Reservoir (2012), and Lake Texana (2010) with updated sedimentation rates;

[1] First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development, April 2017.

- Recent hydrology for Lake Texana and the Colorado River (for Mary Rhodes Phase II supplies) through 2015;
- Lake Texana callback of 5,400 ac-ft/yr as exercised by LNRA for local water users in Jackson County pursuant to City of Corpus Christi contract terms; and
- Verification that all enhancements maintain the provisions of the TCEQ 2001 Agreed Order.

The Region N planning group does not consider the TCEQ Nueces Basin WAM Run 3 to be the best model to simulate the Corpus Christi Regional Water Supply System operation policy subject to permits nor does it reflect all aspects of the TCEQ 2001 Agreed Order. Furthermore, the hydrology ends in 1996 and doesn't cover the recent drought of record.

At the August 10, 2017 Region N meeting, the planning group also considered TWDB's guidance to use firm yield when determining surface water availability. The City's regional water supply system is prone to severe drought. Average annual inflows to Lake Corpus Christi and Choke Canyon System are lower with each successive drought, with the most recent hydrology update to the Corpus Christi Water Supply Model (through 2015) showing a *new* drought of record for the Corpus Christi Regional Water Supply System. Safe yield is a standard approach that Region N and the City of Corpus Christi have consistently used in previous planning cycles as a provision for climate and growth uncertainty, such that a *specified reserve amount remains* in storage during the modeled critical drought. Based on a presentation by the City of Corpus Christi and additional information, Region N approved submittal of a hydrologic variance request to use safe yield for determining surface water supplies available to the City's Regional Water Supply System for 2021 Plan development.

At the request of Region N, two hydrologic variance requests were submitted to the TWDB on September 22, 2017 requesting (1) use of the Corpus Christi Water Supply Model for determining surface water availability for the Corpus Christi Regional Water Supply System and approval to report water availability for the multi-basin regional supply as a system rather than individual reservoirs and (2) use of safe yield as the basis for determining availability for the Corpus Christi Regional Water Supply System. Region N's approved safe yield approach is based on maintaining a 75,000 ac-ft reserve in storage during the worst, historical drought of record.

Region N received a hydrologic variance from the TWDB on January 5, 2018 approving use of the following approach for determining surface water availability and existing supply for the Corpus Christi Regional Water Supply System to include (a) operating as a reservoir system; (b) determining availability using the Corpus Christi Water Supply Model, which covers an 81 year hydrologic period from 1934-2015; and (c) planning for a safe yield reserve (buffer) of 75,000 acre-feet to remain in the CCR/LCC reservoir system during the drought of record conditions to account for future drought uncertainty.

Surface water availability for all other surface water rights, including run of the river rights, is based on WAM Run 3. Pursuant to TWDB guidance "Run of river availability, or firm diversion, evaluated for a municipal sole-source water use, is defined as the minimum monthly diversion amount that is available 100% of the time during a repeat of the drought of record (i.e., this minimum volume must be available each and every month)." HDR coordinated with Region L's consultant for consistency in modeling upstream Nueces Basin

water rights that could have an impact on Lower Nueces Basin rights located within Region N.

Table 3-1 presents surface water supplies available to Region N, including firm yield for entities where hydrologic variances were approved to use safe yield, per TWDB requirements. For surface water withdrawals that do not require permits, such as for livestock purposes, Region N estimated local annual water availability volumes under drought of record conditions based on current water use data provided by the TWDB. The City of Corpus Christi is currently evaluating infrastructure constraints and requests received for contract modifications. Region N will use information provided by the City to confirm water contracts and infrastructure constraints for the City of Corpus Christi and their customers. This may constrain existing surface water supplies and result in supplies from the Corpus Christi Regional Water Supply System being lower than the availability shown in Table 3-1.

**Table 3-1. Surface Water Supplies Available to Region N (Not limited by infrastructure)**

| Source | Entity Using the Source | Alternative Availability Utilized as the Basis for Planning | Model Used | Basis | Surface Water Availability (ac-ft/yr) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| Corpus Christi Regional Water Supply System [1] | City of Corpus Christi and its direct/indirect customers | Yes | Corpus Christi Water Supply Model[2] | Safe Yield-75,000 acft reserve | 178,000 | 175,700 | 173,500 | 171,300 | 169,000 | 166,800 |
| Nueces-Run of the River | Nueces County WCID #3[3] | No | TCEQ Nueces WAM | Firm Yield | 384 | 384 | 384 | 384 | 384 | 384 |
| Nueces-Run of the River | City of Three Rivers[4] | No | TCEQ Nueces WAM | Firm Yield | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 |
| Other Local Supply | Nueces County-Livestock | No | N/A | Firm Yield | 50 | 50 | 50 | 50 | 50 | 50 |

N/A- Not applicable.
[1]Firm yield for the Corpus Christi Regional Water Supply System is as follows: 194,100 ac-ft/yr (2020); 191,900 ac-ft/yr (2030); 189,600 ac-ft/yr (2040); 187,300 ac-ft/yr (2050); 185,000 ac-ft/yr (2060); and 182,700 ac-ft/yr (2070).
[2]See details on model modification assumptions, described in Section 3.1 main body text.
[3]Subject to Nueces County WCID # 3's Certificate of Adjudication provisions for No. 2466, 1909+ priority, no storage.
[4]Subject to City of Three River's Certificate of Adjudication provisions for No. 3215, 1914 priority, storage 2,500 acft.

The following models were used to develop surface water availabilities for the 2021 Region N Plan.

- Corpus Christi Water Supply Model
- TCEQ Nueces Basin Water Availability Model

Details of the model runs performed to determine surface water availability are included in Table 3-2.

**Table 3-2. WAM Models Used in Determining Surface Water Availability in Region N**

| Name of Model | Model Use/Entities Served | Date Modifications were Approved by TWDB | Run Performed by | Date of Model Run | Model Inputs/Output Files Used | Comments |
|---|---|---|---|---|---|---|
| Corpus Christi Water Supply Model | Corpus Christi Regional Water Supply System | January 5, 2018 | HDR | 8/3/2017 | /2020_FY/ and /2070_FY/ OSUM; OASYSOP OCCR; OLCC OQEST; OQM OSALTTRC; OSYSOP OTEX; OTEXOP OTRACE; OWQ OBAY; OBBEST DAIYP; ADDSOUR | 2020 and 2070- Firm Yield |
| | | | | | /2020_SY_75/ and /2070_SY_75/ OSUM; OASYSOP OCCR; OLCC OQEST; OQM OSALTTRC; OSYSOP OTEX; OTEXOP OTRACE; OWQ OBAY; OBBEST DAIYP; ADDSOUR | 2020 and 2070- Safe Yield |
| TCEQ Nueces WAM- Run 3 | Run of the River Right Holders, including NCWCID # 3 and City of Three Rivers | Not Applicable | HDR | 5/3/2018 | /2020/ and /2070/ N_RUN3.DAT N_RUN3.DIS N_RUN3.EVA N_RUN3.flo N_RUN3.out (Note: to minimize file size, output file not included in CD) | 2020 and 2070- Firm Yield |

## 3.2 Groundwater Availability

Three groundwater management areas (GMAs) are represented within the Region N 11-county area: GMA 13, GMA 15, and GMA 16. All three of these GMAs adopted new desired future conditions (DFCs) between April 2016 and January 2017, as summarized in Table 3-3. These DFCs were then used by the TWDB to develop Modeled Available Groundwater estimates (MAGs) for use in development of the 2021 Region N Regional Water Plan. A summary of the MAGs and associated TWDB model run and date of TWDB model simulation from which the MAGs originated is included in Table 3-4. These MAG projections based on GMA-approved desired future conditions were discussed at Region N's meeting on November 9, 2017 and confirmed to serve as the basis of groundwater availability in the 2021 Region N Plan.

**Table 3-3. Desired Future Conditions Adopted by GMAs in Region N**

| Aquifer | Desired Future Condition |
|---|---|
| **GMA 13 (Date DFC Adopted 11/21/2016)** | |
| Carrizo-Wilcox, Queen City, and Sparta Aquifer System | Average drawdown of 48 feet for all of GMA 13 calculated from the end of 2012 conditions to the year 2070 |
| **GMA 15 (Date DFC Adopted 4/29/2016)** | |
| Aransas Gulf Coast Aquifer System | 0 feet of drawdown of the Gulf Coast Aquifer System |
| Bee Gulf Coast Aquifer System | 7 feet of drawdown of the Gulf Coast Aquifer System |
| **GMA 16 (Date DFC Adopted 1/17/2017)** | |
| Bee GCD Gulf Coast Aquifer System | 76 feet of drawdown of the Gulf Coast Aquifer System |
| Live Oak UWCD Gulf Coast Aquifer System | 34 feet of drawdown of the Gulf Coast Aquifer System |
| McMullen GCD Gulf Coast Aquifer System | 9 feet of drawdown of the Gulf Coast Aquifer System |
| Kenedy County GCD Gulf Coast Aquifer System | 40 feet of drawdown of the Gulf Coast Aquifer System |
| Brush Country GCD Gulf Coast Aquifer System | 69 feet of drawdown of the Gulf Coast Aquifer System |
| Duval County GCD Gulf Coast Aquifer System | 104 feet of drawdown of the Gulf Coast Aquifer System |
| San Patricio County GCD Gulf Coast Aquifer System | 48 feet of drawdown of the Gulf Coast Aquifer System |
| Non-District Kleberg Gulf Coast Aquifer System | 28 feet of drawdown of the Gulf Coast Aquifer System |
| Non-District Nueces Gulf Coast Aquifer System | 21 feet of drawdown of the Gulf Coast Aquifer System |

## Table 3-4. Modeled Available Groundwater Values and Details on Related TWDB Model Runs

| Aquifer | County | Region | River Basin | Modeled Available Groundwater (ac-ft/yr) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| **GMA 13 (Model Run: GR17-027 MAG, dated 10/27/2017)** | | | | | | | | | |
| Carrizo-Wilcox | McMullen | N | Nueces | 7,056 | 7,056 | 4,405 | 4,405 | 4,405 | 4,405 |
| Queen City | McMullen | N | Nueces | 134 | 134 | 134 | 134 | 134 | 134 |
| Sparta | McMullen | N | Nueces | 89 | 89 | 89 | 89 | 89 | 89 |
| **GMA 15 (Model Run: GR16-025 MAG, dated 3/22/2017)** | | | | | | | | | |
| Gulf Coast | Aransas | N | San Antonio-Nueces | 1,542 | 1,542 | 1,542 | 1,542 | 1,542 | 1,542 |
| Gulf Coast | Bee | N | San Antonio-Nueces | 9,439 | 9,414 | 9,414 | 9,362 | 9,362 | 9,362 |
| Gulf Coast | Bee | N | Nueces | 27 | 27 | 27 | 27 | 27 | 27 |
| **GMA 16 (Model Run: GR17-025 MAG, dated 5/19/2017)** | | | | | | | | | |
| Gulf Coast | Bee | N | Nueces | 770 | 893 | 949 | 978 | 995 | 995 |
| Gulf Coast | Bee | N | San Antonio-Nueces | 8,201 | 9,503 | 10,112 | 10,414 | 10,589 | 10,589 |
| Gulf Coast | Brooks | N | Nueces-Rio | 5,582 | 6,352 | 7,122 | 7,892 | 7,892 | 7,892 |
| Gulf Coast | Duval | N | Nueces | 326 | 351 | 376 | 401 | 428 | 428 |
| Gulf Coast | Duval | N | Nueces-Rio | 20,245 | 21,818 | 23,388 | 24,962 | 26,535 | 26,535 |
| Gulf Coast | Jim Wells | N | Nueces | 593 | 593 | 593 | 593 | 593 | 593 |
| Gulf Coast | Jim Wells | N | Nueces-Rio | 8,551 | 9,090 | 9,593 | 10,132 | 10,424 | 10,424 |
| Gulf Coast | Kenedy | N | Nueces-Rio | 13,301 | 18,621 | 23,941 | 29,261 | 29,261 | 29,261 |
| Gulf Coast | Kleberg | N | Nueces-Rio | 10,365 | 13,082 | 15,800 | 18,518 | 18,711 | 18,711 |
| Gulf Coast | Live Oak | N | Nueces | 8,297 | 9,297 | 8,522 | 8,400 | 8,400 | 8,400 |
| Gulf Coast | Live Oak | N | San Antonio-Nueces | 41 | 46 | 42 | 41 | 41 | 41 |
| Gulf Coast | McMullen | N | Nueces | 510 | 510 | 510 | 510 | 510 | 510 |
| Gulf Coast | Nueces | N | Nueces-Rio | 5,862 | 6,191 | 6,522 | 6,851 | 7,079 | 7,079 |

**Table 3-4. Modeled Available Groundwater Values and Details on Related TWDB Model Runs**

| Aquifer | County | Region | River Basin | Modeled Available Groundwater (ac-ft/yr) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| Gulf Coast | Nueces | N | Nueces | 727 | 756 | 787 | 816 | 845 | 845 |
| Gulf Coast | Nueces | N | San Antonio-Nueces | 0 | 0 | 0 | 0 | 0 | 0 |
| Gulf Coast | San Patricio | N | Nueces | 4,130 | 4,502 | 4,874 | 5,247 | 5,619 | 5,619 |
| Gulf Coast | San Patricio | N | San Antonio-Nueces | 39,481 | 40,514 | 41,548 | 42,581 | 43,615 | 43,615 |
| **Total MAG (acft/yr)** | | | | **145,269** | **160,381** | **170,290** | **183,156** | **187,096** | **187,096** |
| ***Gulf Coast MAG (acft/yr)*** | | | | ***137,990*** | ***153,102*** | ***165,662*** | ***178,528*** | ***182,468*** | ***182,468*** |

***Note***: *Year 2070 set equal to Year 2060 for GMA 15 and GMA 16 MAGs.*

Region N did not perform any independent analyses using groundwater availability models (GAM) to estimate groundwater availability, nor were any alternative methods utilized by Region N to estimate groundwater availabilities.

Groundwater supplies in the 2021 Region N Water Plan are based on MAG projections provided by the TWDB, constrained by well capacity as reported in TCEQ PWS database. For non-municipal groundwater users with groundwater capacities that are not readily obtained from publicly available sources, the groundwater supply was calculated based on TWDB historical water use records. The final step in determining groundwater supplies was to compare the MAG-preserved well capacities to projected demands for each WUG that has historically relied on groundwater. Groundwater supply was set equal to the amount of capacity or water demand, whichever is lower.

For water user groups that use both groundwater and surface water supplies, it was generally assumed that the water user group would use groundwater up to its well capacity (limited by MAG) and then use available surface water per rights or contracts to total the projected water demand through combination of groundwater and surface water supplies. However, for South Texas Water Authority (STWA) customers that rely on both surface and groundwater supplies, surface water supplies were allocated based on historical water use records provided by STWA accounting for modest growth subject to surface water availability, with the remaining water supplies provided by groundwater up to water demand subject to MAG and capacity constraints. Region N assumes that excess groundwater beyond demands would not be pumped and therefore would be available as a collective resource for future water management strategy development subject to adopted MAGs.

With new rule changes since development of the 2016 Regional Water Plans, the TWDB allows the regional water planning groups to utilize a MAG peak factor for determining groundwater availability, if needed. Region N discussed MAG peak factors at its November 9, 2017 meeting and appointed a subcommittee for additional discussion. TWDB guidance and materials for determining whether or not to exercise the option of using MAG peak factors was reviewed by the Region N subcommittee on February 28, 2018 and considered

when preparing their recommendation. At Region N's May 10, 2018 meeting, Region N accepted the subcommittee's recommendation not to utilize the MAG peak factor option for any counties in Region N.

## 3.3 Reuse

Water availability from current reuse projects was updated and set equal to the maximum reported historical reuse amount over a recent five year period (2010-2015) reported in TWDB's water use database.

**Table 3-5. Current Reuse Supplies Available in Region N**

| County | Entity Using the Source | Water availability (ac-ft/yr) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| Nueces | Nueces County Manufacturing | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 |
| San Patricio | San Patricio County Manufacturing | 448 | 448 | 448 | 448 | 448 | 448 |

# 4 Identified Water Needs and Surpluses

A copy of the needs analysis resulting from the water demand and supply analysis described in previous Sections 2 and 3, is provided in Appendix A- Report # 6- WUG Identified Water Needs/ Surpluses.

# 5 Process used by the Coastal Bend Regional Water Planning Group to Identify Potentially Feasible Water Management Strategies

During Region N's meeting on August 10, 2017, the planning group discussed water management strategies evaluated during previous Region N Plans and the 24 types of water management strategies shown in Table 5-1 that regional water planning groups are advised to consider for identified water needs as provided in TWDB guidance[2] and as required by Texas Water Code §16.053(e)(3) and 31 Texas Administrative Code §357.34(c).

[2]Section 5.1 of the First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development, Exhibit C, April 2017.

**Table 5-1. Types of Potentially Feasible Water Management Strategies Considered by Region N, per Statutory Guidance**

| | |
|---|---|
| • Conservation | • Interbasin Transfers |
| • Drought Management | • System Optimization |
| • Reuse | • Reallocation of Reservoir Storage to New Uses |
| • Management of Existing Supplies | • Yield Enhancement |
| • Conjunctive Use | • Water Quality Improvements |
| • Acquisition of Available Existing Supplies | • New Surface Water Supply |
| • New Water Supplies | • New Groundwater Supply |
| • Regional Water Supply Facilities | • Brush Control |
| • Desalination- Seawater or Brackish Groundwater | • Precipitation Enhancement |
| • Desalination - Marine | • Aquifer Storage and Recovery |
| • Voluntary Transfers within a region | • Cancellation of Water Rights |
| • Emergency Transfers | • Rainwater Harvesting |

Region N adopted the following process to identify potentially feasible water management strategies at its meeting on August 10, 2017:

- Consider recommended and considered water management strategies (WMS) from previous Region N Plans (2001, 2006, 2011, and 2016)
- Outreach to WWPs and WUGs and gather feedback on local, on-going studies and future water plans
- Preparation of draft list of potentially feasible water management strategies
- Scope of work subcommittee to review list and TWDB allocation for WMS evaluations. Prepare recommendation for Region N consideration, including draft scope of work for comment and feedback.
- Coordination with WWPs/WUGs to confirm list of WMSs, including classifying as recommended, alternative or rejected
- Prepare draft list of potentially feasible water management strategies for public comment
- Refine lists to meet WUG needs for inclusion in Technical Memorandum, Initially Prepared Plan, and Final Plan

# 6 List of Potentially Feasible WMSs Identified by the Coastal Bend Regional Water Planning Group

At the May 10, 2018 Region N meeting, a draft list of potentially feasibility water management strategies (WMSs) for the 2021 Plan was discussed. The list included previous strategies evaluated in the 2016 Plan, consideration of the types of water management strategies outlined in TWDB guidance (Table 5-1), and additional water management strategies identified by Wholesale Water Providers and Water User Groups during interviews conducted by HDR from January to April 2018 to gather feedback on local, on-going studies and future water supply plans. During the May 10th Region N meeting, comments were made to add two water management strategies that were included in previous planning cycles but not recommended in the 2016 Region N Plan. A subcommittee was appointed to review the list of potentially feasible water management strategies and prioritize water management strategies to be included in the TWDB scope of work request for notice to proceed to begin Task 5A- Evaluation of Water Management Strategies. On June 27, 2018, the subcommittee held an open meeting to discuss each potentially feasible water management strategy from the May 10th Region N meeting. The tabular list provided in Table 6-1 represents the subcommittee recommendation which was approved by Region N at the August 9, 2018 meeting for inclusion in the Technical Memorandum. It is important to note that not all strategies listed below will be evaluated and/or recommended in the 2021 Region N Plan due to lack of sponsor, funding constraints, or other factors. This list is strictly a list of potentially feasible water management strategies identified to date for inclusion in the Technical Memorandum in accordance with TWDB guidance.

**Table 6-1. Tabular List of Potentially Feasible Water Management Strategies for Consideration in the 2021 Region N Plan**

| |
|---|
| Municipal Water Conservation, including meter replacement |
| Irrigation Water Conservation |
| Manufacturing Water Conservation |
| Mining Water Conservation |
| Drought Management |
| Reclaimed Wastewater Supplies and Reuse |
| Modify Existing Reservoir Operating Policy |
| Gulf Coast Aquifer Supplies |
| Brackish Groundwater Desalination |
| Seawater Desalination |
| Potential Water System Interconnections |
| Local Balancing Storage Reservoir to make reliable run-of-the-river rights, affected by drought |
| Nueces Off-Channel Reservoir Project |

**Table 6-1. Tabular List of Potentially Feasible Water Management Strategies for Consideration in the 2021 Region N Plan**

| |
|---|
| Lavaca Off-Channel Reservoir Project |
| Pipeline from Choke Canyon Reservoir to Lake Corpus Christi |
| GBRA Lower Basin Storage Project |
| SPMWD Industrial WTP Improvements |
| ON Stevens WTP Improvements |
| Alice WTP Improvements |
| Corpus Christi Aquifer Storage and Recovery |
| Sediment Removal in Lake Corpus Christi and Choke Canyon Reservoir |
| Replacement of Alice's Lake Corpus Christi Intake Pump Station |

# 7 Simplified Planning Declaration

A new TWDB provision allows RWPGs to elect to implement simplified planning during planning cycles that do not immediately follow new US Census data releases (e.g. The 2021 Plan cycle would qualify for simplified planning). The basis of this provision is Senate Bill 1511, 85th Legislative Session, which *provided RWPGs the option to implement simplified planning if there are no significant changes to the water availability, water supplies, or water demands in the regional water planning area*. The 31 TAC §357.12 summarizes the simplified planning declaration process, and identifies the Technical Memorandum as the decision point for a regional water planning group to declare its intent whether or not to pursue simplified planning.

Region N does not desire to pursue the simplified planning option provided by the TWDB. Water availability, supplies, and water demands for the 2021 Planning cycle are substantially different as compared to the 2016 Plan.

# 8 Public Comment

Written comments from the public were accepted for a 14 day period prior to, during, and the 14 day period following the Region N meeting on August 9, 2018 in which this technical memorandum was considered and adopted by the Region N planning group.

No public comments were received.

# A

# Appendix A

DB22 Reports:

DB 22 Report # 1- WUG Population Projections

DB 22 Report # 2- WUG Water Demand Projections

DB 22 Report # 3- WUG Category Summary

DB 22 Report # 4- Source Water Availability

DB 22 Report # 5- WUG Existing Water Supplies

DB 22 Report # 6- WUG Identified Water Needs/ Surpluses

DB 22 Report # 9- Source Water Balance

DB 22 Report #10a- WUG Data Comparison to 2016 RWP

DB 22 Report #10b- Source Data Comparison to 2016 RWP

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# Appendix A: DB 22 Report # 1- WUG Population Projections

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# Region N Water User Group (WUG) Population

| | WUG POPULATION | | | | | |
|---|---|---|---|---|---|---|
| | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| ARANSAS PASS | 927 | 948 | 946 | 952 | 952 | 952 |
| ROCKPORT | 19,120 | 19,533 | 19,491 | 19,620 | 19,622 | 19,622 |
| COUNTY-OTHER | 4,416 | 4,510 | 4,500 | 4,530 | 4,529 | 4,530 |
| **SAN ANTONIO-NUECES BASIN TOTAL** | **24,463** | **24,991** | **24,937** | **25,102** | **25,103** | **25,104** |
| **ARANSAS COUNTY TOTAL** | **24,463** | **24,991** | **24,937** | **25,102** | **25,103** | **25,104** |
| EL OSO WSC | 433 | 452 | 459 | 461 | 461 | 461 |
| COUNTY-OTHER | 14 | 15 | 15 | 15 | 15 | 15 |
| **NUECES BASIN TOTAL** | **447** | **467** | **474** | **476** | **476** | **476** |
| BEEVILLE | 15,418 | 16,063 | 16,343 | 16,369 | 16,385 | 16,391 |
| EL OSO WSC | 30 | 31 | 32 | 32 | 32 | 32 |
| PETTUS MUD | 700 | 729 | 742 | 743 | 744 | 744 |
| TDCJ CHASE FIELD | 3,425 | 3,568 | 3,631 | 3,637 | 3,640 | 3,641 |
| COUNTY-OTHER | 13,458 | 14,021 | 14,265 | 14,288 | 14,302 | 14,306 |
| **SAN ANTONIO-NUECES BASIN TOTAL** | **33,031** | **34,412** | **35,013** | **35,069** | **35,103** | **35,114** |
| **BEE COUNTY TOTAL** | **33,478** | **34,879** | **35,487** | **35,545** | **35,579** | **35,590** |
| FALFURRIAS | 6,018 | 6,238 | 6,452 | 6,646 | 6,826 | 7,064 |
| COUNTY-OTHER | 1,765 | 2,014 | 2,270 | 2,535 | 2,769 | 2,915 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **7,783** | **8,252** | **8,722** | **9,181** | **9,595** | **9,979** |
| **BROOKS COUNTY TOTAL** | **7,783** | **8,252** | **8,722** | **9,181** | **9,595** | **9,979** |
| FREER WCID | 3,041 | 3,221 | 3,370 | 3,502 | 3,605 | 3,691 |
| COUNTY-OTHER | 307 | 324 | 337 | 348 | 356 | 362 |
| **NUECES BASIN TOTAL** | **3,348** | **3,545** | **3,707** | **3,850** | **3,961** | **4,053** |
| DUVAL COUNTY CRD | 1,859 | 1,971 | 2,062 | 2,142 | 2,206 | 2,258 |
| SAN DIEGO MUD 1 | 4,044 | 4,304 | 4,524 | 4,725 | 4,892 | 5,034 |
| COUNTY-OTHER | 3,464 | 3,650 | 3,805 | 3,927 | 4,021 | 4,090 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **9,367** | **9,925** | **10,391** | **10,794** | **11,119** | **11,382** |
| **DUVAL COUNTY TOTAL** | **12,715** | **13,470** | **14,098** | **14,644** | **15,080** | **15,435** |
| COUNTY-OTHER | 2,908 | 3,151 | 3,372 | 3,602 | 3,805 | 3,991 |
| **NUECES BASIN TOTAL** | **2,908** | **3,151** | **3,372** | **3,602** | **3,805** | **3,991** |
| ALICE | 22,566 | 24,424 | 26,110 | 27,856 | 29,395 | 30,804 |
| JIM WELLS COUNTY FWSD 1 | 1,943 | 2,102 | 2,248 | 2,398 | 2,531 | 2,653 |
| ORANGE GROVE | 1,838 | 1,990 | 2,127 | 2,270 | 2,396 | 2,510 |
| PREMONT | 2,923 | 3,164 | 3,382 | 3,608 | 3,807 | 3,990 |
| SAN DIEGO MUD 1 | 942 | 1,002 | 1,054 | 1,101 | 1,140 | 1,173 |
| COUNTY-OTHER | 11,867 | 12,857 | 13,759 | 14,698 | 15,526 | 16,289 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **42,079** | **45,539** | **48,680** | **51,931** | **54,795** | **57,419** |
| **JIM WELLS COUNTY TOTAL** | **44,987** | **48,690** | **52,052** | **55,533** | **58,600** | **61,410** |
| COUNTY-OTHER | 463 | 498 | 504 | 507 | 508 | 508 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **463** | **498** | **504** | **507** | **508** | **508** |
| **KENEDY COUNTY TOTAL** | **463** | **498** | **504** | **507** | **508** | **508** |

# Region N Water User Group (WUG) Population

| | WUG POPULATION | | | | | |
|---|---|---|---|---|---|---|
| | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| BAFFIN BAY WSC | 1,440 | 1,579 | 1,709 | 1,834 | 1,953 | 2,064 |
| KINGSVILLE | 28,892 | 31,651 | 34,282 | 36,817 | 39,194 | 41,419 |
| NAVAL AIR STATION KINGSVILLE | 53 | 59 | 63 | 68 | 72 | 76 |
| RICARDO WSC | 2,919 | 3,198 | 3,464 | 3,720 | 3,960 | 4,185 |
| RIVIERA WATER SYSTEM | 736 | 807 | 874 | 938 | 999 | 1,056 |
| COUNTY-OTHER | 1,527 | 1,669 | 1,810 | 1,947 | 2,073 | 2,189 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **35,567** | **38,963** | **42,202** | **45,324** | **48,251** | **50,989** |
| **KLEBERG COUNTY TOTAL** | **35,567** | **38,963** | **42,202** | **45,324** | **48,251** | **50,989** |
| EL OSO WSC | 827 | 827 | 827 | 827 | 827 | 827 |
| GEORGE WEST | 2,374 | 2,375 | 2,375 | 2,375 | 2,375 | 2,375 |
| MCCOY WSC | 170 | 170 | 170 | 170 | 170 | 170 |
| THREE RIVERS | 3,146 | 3,148 | 3,148 | 3,148 | 3,148 | 3,148 |
| COUNTY-OTHER | 5,166 | 5,170 | 5,170 | 5,170 | 5,170 | 5,170 |
| **NUECES BASIN TOTAL** | **11,683** | **11,690** | **11,690** | **11,690** | **11,690** | **11,690** |
| **LIVE OAK COUNTY TOTAL** | **11,683** | **11,690** | **11,690** | **11,690** | **11,690** | **11,690** |
| COUNTY-OTHER | 734 | 734 | 734 | 734 | 734 | 734 |
| **NUECES BASIN TOTAL** | **734** | **734** | **734** | **734** | **734** | **734** |
| **MCMULLEN COUNTY TOTAL** | **734** | **734** | **734** | **734** | **734** | **734** |
| CORPUS CHRISTI | 25,232 | 27,483 | 28,898 | 29,726 | 30,342 | 30,755 |
| NUECES COUNTY WCID 3 | 3,277 | 3,316 | 3,316 | 3,316 | 3,316 | 3,316 |
| NUECES WSC | 72 | 94 | 108 | 124 | 142 | 163 |
| RIVER ACRES WSC | 2,662 | 2,899 | 3,049 | 3,137 | 3,201 | 3,245 |
| COUNTY-OTHER | 744 | 840 | 907 | 928 | 927 | 905 |
| **NUECES BASIN TOTAL** | **31,987** | **34,632** | **36,278** | **37,231** | **37,928** | **38,384** |
| BISHOP | 3,446 | 3,754 | 3,947 | 4,060 | 4,144 | 4,201 |
| CORPUS CHRISTI | 306,770 | 334,135 | 351,336 | 361,408 | 368,902 | 373,919 |
| CORPUS CHRISTI NAVAL AIR STATION | 707 | 770 | 810 | 833 | 850 | 862 |
| DRISCOLL | 812 | 885 | 930 | 957 | 977 | 990 |
| NUECES COUNTY WCID 3 | 10,317 | 10,440 | 10,440 | 10,440 | 10,440 | 10,440 |
| NUECES COUNTY WCID 4 | 4,846 | 5,277 | 5,549 | 5,708 | 5,827 | 5,905 |
| NUECES WSC | 2,641 | 3,465 | 3,971 | 4,552 | 5,218 | 5,981 |
| VIOLET WSC | 2,142 | 2,333 | 2,453 | 2,523 | 2,576 | 2,610 |
| COUNTY-OTHER | 10,474 | 11,827 | 12,781 | 13,067 | 13,056 | 12,746 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **342,155** | **372,886** | **392,217** | **403,548** | **411,990** | **417,654** |
| ARANSAS PASS | 11 | 12 | 13 | 13 | 13 | 13 |
| COUNTY-OTHER | 4 | 4 | 5 | 5 | 5 | 5 |
| **SAN ANTONIO-NUECES BASIN TOTAL** | **15** | **16** | **18** | **18** | **18** | **18** |
| **NUECES COUNTY TOTAL** | **374,157** | **407,534** | **428,513** | **440,797** | **449,936** | **456,056** |
| MATHIS | 5,114 | 5,364 | 5,507 | 5,611 | 5,683 | 5,730 |
| COUNTY-OTHER | 4,004 | 4,196 | 4,310 | 4,395 | 4,447 | 4,486 |

# Region N Water User Group (WUG) Population

| | WUG POPULATION | | | | | |
|---|---|---|---|---|---|---|
| | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| **NUECES BASIN TOTAL** | **9,118** | **9,560** | **9,817** | **10,006** | **10,130** | **10,216** |
| ARANSAS PASS | 9,603 | 10,073 | 10,342 | 10,538 | 10,672 | 10,761 |
| GREGORY | 2,024 | 2,123 | 2,179 | 2,221 | 2,249 | 2,268 |
| INGLESIDE | 9,610 | 10,078 | 10,348 | 10,545 | 10,678 | 10,768 |
| ODEM | 2,647 | 2,777 | 2,852 | 2,905 | 2,942 | 2,967 |
| PORTLAND | 20,646 | 21,654 | 22,233 | 22,655 | 22,941 | 23,136 |
| RINCON WSC | 3,660 | 3,839 | 3,942 | 4,016 | 4,068 | 4,101 |
| SINTON | 5,738 | 6,019 | 6,179 | 6,296 | 6,377 | 6,430 |
| TAFT | 3,768 | 3,951 | 4,057 | 4,133 | 4,186 | 4,221 |
| COUNTY-OTHER | 1,946 | 2,040 | 2,094 | 2,136 | 2,162 | 2,181 |
| **SAN ANTONIO-NUECES BASIN TOTAL** | **59,642** | **62,554** | **64,226** | **65,445** | **66,275** | **66,833** |
| **SAN PATRICIO COUNTY TOTAL** | **68,760** | **72,114** | **74,043** | **75,451** | **76,405** | **77,049** |
| **REGION N TOTAL POPULATION** | **614,790** | **661,815** | **692,982** | **714,508** | **731,481** | **744,544** |

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# Appendix A: DB 22 Report # 2- WUG Water Demand Projections

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# Region N Water User Group (WUG) Demand

| | WUG DEMAND (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|
| | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| ARANSAS PASS | 132 | 131 | 127 | 126 | 126 | 126 |
| ROCKPORT | 3,462 | 3,469 | 3,410 | 3,404 | 3,398 | 3,398 |
| COUNTY-OTHER | 491 | 480 | 462 | 457 | 455 | 455 |
| MINING | 10 | 7 | 5 | 5 | 5 | 5 |
| LIVESTOCK | 56 | 56 | 56 | 56 | 56 | 56 |
| **SAN ANTONIO-NUECES BASIN TOTAL** | **4,151** | **4,143** | **4,060** | **4,048** | **4,040** | **4,040** |
| **ARANSAS COUNTY TOTAL** | **4,151** | **4,143** | **4,060** | **4,048** | **4,040** | **4,040** |
| EL OSO WSC | 94 | 94 | 94 | 94 | 90 | 90 |
| COUNTY-OTHER | 2 | 2 | 2 | 2 | 2 | 2 |
| MINING | 57 | 55 | 52 | 45 | 41 | 38 |
| LIVESTOCK | 80 | 80 | 80 | 80 | 80 | 80 |
| IRRIGATION | 220 | 220 | 220 | 220 | 220 | 220 |
| **NUECES BASIN TOTAL** | **453** | **451** | **448** | **441** | **433** | **430** |
| BEEVILLE | 3,336 | 3,397 | 3,394 | 3,377 | 3,375 | 3,376 |
| EL OSO WSC | 6 | 7 | 7 | 7 | 6 | 6 |
| PETTUS MUD | 104 | 105 | 104 | 103 | 103 | 103 |
| TDCJ CHASE FIELD | 1,024 | 1,050 | 1,055 | 1,051 | 1,050 | 1,050 |
| COUNTY-OTHER | 1,873 | 1,898 | 1,891 | 1,872 | 1,870 | 1,870 |
| MINING | 415 | 403 | 376 | 327 | 297 | 280 |
| LIVESTOCK | 754 | 754 | 754 | 754 | 754 | 754 |
| IRRIGATION | 4,205 | 4,205 | 4,205 | 4,205 | 4,205 | 4,205 |
| **SAN ANTONIO-NUECES BASIN TOTAL** | **11,717** | **11,819** | **11,786** | **11,696** | **11,660** | **11,644** |
| **BEE COUNTY TOTAL** | **12,170** | **12,270** | **12,234** | **12,137** | **12,093** | **12,074** |
| FALFURRIAS | 1,639 | 1,668 | 1,703 | 1,745 | 1,790 | 1,852 |
| COUNTY-OTHER | 224 | 246 | 269 | 297 | 324 | 341 |
| MANUFACTURING | 1 | 1 | 1 | 1 | 1 | 1 |
| MINING | 357 | 360 | 340 | 324 | 308 | 298 |
| LIVESTOCK | 463 | 463 | 463 | 463 | 463 | 463 |
| IRRIGATION | 1,161 | 1,161 | 1,161 | 1,161 | 1,161 | 1,161 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **3,845** | **3,899** | **3,937** | **3,991** | **4,047** | **4,116** |
| **BROOKS COUNTY TOTAL** | **3,845** | **3,899** | **3,937** | **3,991** | **4,047** | **4,116** |
| FREER WCID | 687 | 712 | 733 | 755 | 776 | 794 |
| COUNTY-OTHER | 39 | 39 | 40 | 40 | 41 | 42 |
| MINING | 125 | 130 | 122 | 112 | 105 | 99 |
| LIVESTOCK | 94 | 94 | 94 | 94 | 94 | 94 |
| IRRIGATION | 202 | 202 | 202 | 202 | 202 | 202 |
| **NUECES BASIN TOTAL** | **1,147** | **1,177** | **1,191** | **1,203** | **1,218** | **1,231** |
| DUVAL COUNTY CRD | 260 | 266 | 271 | 277 | 285 | 291 |
| SAN DIEGO MUD 1 | 747 | 774 | 797 | 824 | 851 | 876 |
| COUNTY-OTHER | 438 | 445 | 450 | 457 | 467 | 474 |
| MINING | 1,263 | 1,314 | 1,230 | 1,129 | 1,060 | 1,005 |
| LIVESTOCK | 546 | 546 | 546 | 546 | 546 | 546 |
| IRRIGATION | 3,840 | 3,840 | 3,840 | 3,840 | 3,840 | 3,840 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **7,094** | **7,185** | **7,134** | **7,073** | **7,049** | **7,032** |
| **DUVAL COUNTY TOTAL** | **8,241** | **8,362** | **8,325** | **8,276** | **8,267** | **8,263** |
| COUNTY-OTHER | 412 | 433 | 453 | 479 | 504 | 529 |

# Region N Water User Group (WUG) Demand

| | WUG DEMAND (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|
| | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| MINING | 4 | 4 | 3 | 2 | 1 | 1 |
| LIVESTOCK | 148 | 148 | 148 | 148 | 148 | 148 |
| IRRIGATION | 354 | 354 | 354 | 354 | 354 | 354 |
| **NUECES BASIN TOTAL** | **918** | **939** | **958** | **983** | **1,007** | **1,032** |
| ALICE | 4,494 | 4,744 | 4,978 | 5,267 | 5,548 | 5,812 |
| JIM WELLS COUNTY FWSD 1 | 131 | 141 | 151 | 161 | 170 | 178 |
| ORANGE GROVE | 476 | 506 | 534 | 566 | 596 | 625 |
| PREMONT | 709 | 752 | 791 | 841 | 886 | 928 |
| SAN DIEGO MUD 1 | 174 | 180 | 186 | 192 | 198 | 204 |
| COUNTY-OTHER | 1,683 | 1,768 | 1,850 | 1,953 | 2,058 | 2,158 |
| MANUFACTURING | 79 | 95 | 95 | 95 | 95 | 95 |
| MINING | 67 | 70 | 52 | 38 | 25 | 16 |
| LIVESTOCK | 754 | 754 | 754 | 754 | 754 | 754 |
| IRRIGATION | 1,559 | 1,559 | 1,559 | 1,559 | 1,559 | 1,559 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **10,126** | **10,569** | **10,950** | **11,426** | **11,889** | **12,329** |
| **JIM WELLS COUNTY TOTAL** | **11,044** | **11,508** | **11,908** | **12,409** | **12,896** | **13,361** |
| COUNTY-OTHER | 244 | 260 | 262 | 263 | 263 | 263 |
| MINING | 118 | 123 | 92 | 68 | 43 | 27 |
| LIVESTOCK | 735 | 735 | 735 | 735 | 735 | 735 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **1,097** | **1,118** | **1,089** | **1,066** | **1,041** | **1,025** |
| **KENEDY COUNTY TOTAL** | **1,097** | **1,118** | **1,089** | **1,066** | **1,041** | **1,025** |
| BAFFIN BAY WSC | 237 | 253 | 268 | 285 | 303 | 320 |
| KINGSVILLE | 4,205 | 4,453 | 4,706 | 4,992 | 5,301 | 5,599 |
| NAVAL AIR STATION KINGSVILLE | 256 | 284 | 303 | 327 | 347 | 366 |
| RICARDO WSC | 340 | 361 | 382 | 405 | 430 | 454 |
| RIVIERA WATER SYSTEM | 114 | 121 | 129 | 137 | 145 | 153 |
| COUNTY-OTHER | 257 | 272 | 290 | 311 | 331 | 349 |
| MANUFACTURING | 1,809 | 2,056 | 2,056 | 2,056 | 2,056 | 2,056 |
| MINING | 357 | 360 | 340 | 324 | 308 | 298 |
| LIVESTOCK | 673 | 673 | 673 | 673 | 673 | 673 |
| IRRIGATION | 850 | 850 | 850 | 850 | 850 | 850 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **9,098** | **9,683** | **9,997** | **10,360** | **10,744** | **11,118** |
| **KLEBERG COUNTY TOTAL** | **9,098** | **9,683** | **9,997** | **10,360** | **10,744** | **11,118** |
| EL OSO WSC | 178 | 174 | 171 | 169 | 160 | 160 |
| GEORGE WEST | 435 | 424 | 414 | 411 | 410 | 410 |
| MCCOY WSC | 21 | 20 | 20 | 20 | 20 | 20 |
| THREE RIVERS | 545 | 530 | 518 | 512 | 511 | 511 |
| COUNTY-OTHER | 637 | 622 | 610 | 604 | 602 | 602 |
| MANUFACTURING | 2,274 | 2,493 | 2,493 | 2,493 | 2,493 | 2,493 |
| MINING | 814 | 917 | 907 | 729 | 492 | 332 |
| LIVESTOCK | 740 | 740 | 740 | 740 | 740 | 740 |
| IRRIGATION | 1,630 | 1,630 | 1,630 | 1,630 | 1,630 | 1,630 |
| **NUECES BASIN TOTAL** | **7,274** | **7,550** | **7,503** | **7,308** | **7,058** | **6,898** |
| **LIVE OAK COUNTY TOTAL** | **7,274** | **7,550** | **7,503** | **7,308** | **7,058** | **6,898** |
| COUNTY-OTHER | 97 | 94 | 91 | 89 | 89 | 89 |
| MANUFACTURING | 219 | 249 | 249 | 249 | 249 | 249 |
| MINING | 4,268 | 4,804 | 4,754 | 2,622 | 1,850 | 1,305 |

# Region N Water User Group (WUG) Demand

| | WUG DEMAND (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|
| | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| LIVESTOCK | 335 | 335 | 335 | 335 | 335 | 335 |
| **NUECES BASIN TOTAL** | **4,919** | **5,482** | **5,429** | **3,295** | **2,523** | **1,978** |
| **MCMULLEN COUNTY TOTAL** | **4,919** | **5,482** | **5,429** | **3,295** | **2,523** | **1,978** |
| CORPUS CHRISTI | 4,872 | 5,182 | 5,357 | 5,463 | 5,568 | 5,642 |
| NUECES COUNTY WCID 3 | 965 | 962 | 953 | 948 | 947 | 947 |
| NUECES WSC | 12 | 16 | 18 | 20 | 23 | 26 |
| RIVER ACRES WSC | 426 | 450 | 462 | 470 | 479 | 485 |
| COUNTY-OTHER | 98 | 106 | 112 | 113 | 113 | 110 |
| MANUFACTURING | 657 | 728 | 728 | 728 | 728 | 728 |
| MINING | 644 | 759 | 842 | 908 | 1,005 | 1,121 |
| STEAM ELECTRIC POWER | 1,670 | 1,670 | 1,670 | 1,670 | 1,670 | 1,670 |
| LIVESTOCK | 50 | 50 | 50 | 50 | 50 | 50 |
| IRRIGATION | 51 | 51 | 51 | 51 | 51 | 51 |
| **NUECES BASIN TOTAL** | **9,445** | **9,974** | **10,243** | **10,421** | **10,634** | **10,830** |
| BISHOP | 593 | 627 | 645 | 660 | 672 | 681 |
| CORPUS CHRISTI | 59,238 | 62,998 | 65,136 | 66,425 | 67,690 | 68,598 |
| CORPUS CHRISTI NAVAL AIR STATION | 1,085 | 1,178 | 1,237 | 1,271 | 1,296 | 1,315 |
| DRISCOLL | 105 | 110 | 112 | 114 | 116 | 117 |
| NUECES COUNTY WCID 3 | 3,039 | 3,030 | 2,999 | 2,985 | 2,982 | 2,981 |
| NUECES COUNTY WCID 4 | 2,465 | 2,661 | 2,782 | 2,854 | 2,912 | 2,951 |
| NUECES WSC | 445 | 573 | 650 | 742 | 848 | 973 |
| VIOLET WSC | 186 | 193 | 196 | 198 | 201 | 204 |
| COUNTY-OTHER | 1,376 | 1,497 | 1,582 | 1,599 | 1,594 | 1,556 |
| MANUFACTURING | 44,754 | 49,635 | 49,635 | 49,635 | 49,635 | 49,635 |
| MINING | 51 | 60 | 67 | 72 | 80 | 89 |
| STEAM ELECTRIC POWER | 407 | 407 | 407 | 407 | 407 | 407 |
| LIVESTOCK | 241 | 241 | 241 | 241 | 241 | 241 |
| IRRIGATION | 1,489 | 1,489 | 1,489 | 1,489 | 1,489 | 1,489 |
| **NUECES-RIO GRANDE BASIN TOTAL** | **115,474** | **124,699** | **127,178** | **128,692** | **130,163** | **131,237** |
| ARANSAS PASS | 2 | 2 | 2 | 2 | 2 | 2 |
| COUNTY-OTHER | 1 | 1 | 1 | 1 | 1 | 1 |
| MINING | 29 | 34 | 38 | 41 | 45 | 50 |
| **SAN ANTONIO-NUECES BASIN TOTAL** | **32** | **37** | **41** | **44** | **48** | **53** |
| **NUECES COUNTY TOTAL** | **124,951** | **134,710** | **137,462** | **139,157** | **140,845** | **142,120** |
| MATHIS | 653 | 658 | 655 | 661 | 668 | 673 |
| COUNTY-OTHER | 567 | 576 | 590 | 600 | 606 | 611 |
| MANUFACTURING | 24,323 | 27,067 | 27,067 | 27,067 | 27,067 | 27,067 |
| MINING | 78 | 88 | 92 | 96 | 103 | 112 |
| LIVESTOCK | 200 | 200 | 200 | 200 | 200 | 200 |
| IRRIGATION | 1,464 | 1,464 | 1,464 | 1,464 | 1,464 | 1,464 |
| **NUECES BASIN TOTAL** | **27,285** | **30,053** | **30,068** | **30,088** | **30,108** | **30,127** |
| ARANSAS PASS | 1,370 | 1,391 | 1,392 | 1,399 | 1,414 | 1,425 |
| GREGORY | 339 | 344 | 348 | 354 | 357 | 360 |
| INGLESIDE | 1,013 | 1,024 | 1,023 | 1,026 | 1,036 | 1,044 |
| ODEM | 395 | 401 | 401 | 404 | 408 | 411 |
| PORTLAND | 3,389 | 3,458 | 3,477 | 3,503 | 3,539 | 3,569 |

# Region N Water User Group (WUG) Demand

| | WUG DEMAND (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|
| | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| RINCON WSC | 368 | 377 | 381 | 385 | 389 | 392 |
| SINTON | 1,345 | 1,382 | 1,396 | 1,411 | 1,427 | 1,438 |
| TAFT | 540 | 546 | 545 | 552 | 558 | 563 |
| COUNTY-OTHER | 276 | 280 | 287 | 292 | 294 | 297 |
| MANUFACTURING | 14,518 | 16,156 | 16,156 | 16,156 | 16,156 | 16,156 |
| MINING | 294 | 333 | 348 | 364 | 389 | 421 |
| STEAM ELECTRIC POWER | 1,919 | 1,919 | 1,919 | 1,919 | 1,919 | 1,919 |
| LIVESTOCK | 196 | 196 | 196 | 196 | 196 | 196 |
| IRRIGATION | 13,181 | 13,181 | 13,181 | 13,181 | 13,181 | 13,181 |
| **SAN ANTONIO-NUECES BASIN TOTAL** | **39,143** | **40,988** | **41,050** | **41,142** | **41,263** | **41,372** |
| **SAN PATRICIO COUNTY TOTAL** | **66,428** | **71,041** | **71,118** | **71,230** | **71,371** | **71,499** |
| **REGION N TOTAL DEMAND** | **253,218** | **269,766** | **273,062** | **273,277** | **274,925** | **276,492** |

# Appendix A: DB 22 Report # 3- WUG Category Summary

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# Region N Water User Group (WUG) Category Summary*

| MUNICIPAL | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| POPULATION | 551,529 | 594,295 | 622,344 | 641,676 | 657,076 | 669,122 |
| DEMAND (acre-feet per year) | 106,651 | 112,179 | 115,413 | 117,895 | 120,407 | 122,499 |
| EXISTING SUPPLIES (acre-feet per year) | 101,974 | 107,427 | 110,666 | 113,143 | 115,637 | 117,706 |
| NEEDS (acre-feet per year) | 4,686 | 4,762 | 4,757 | 4,762 | 4,780 | 4,803 |

| COUNTY-OTHER | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| POPULATION | 63,261 | 67,520 | 70,638 | 72,832 | 74,405 | 75,422 |
| DEMAND (acre-feet per year) | 8,715 | 9,019 | 9,242 | 9,429 | 9,614 | 9,749 |
| EXISTING SUPPLIES (acre-feet per year) | 3,086 | 3,119 | 3,145 | 3,181 | 3,218 | 3,256 |
| NEEDS (acre-feet per year) | 5,629 | 5,900 | 6,098 | 6,248 | 6,396 | 6,493 |

| MANUFACTURING | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| DEMAND (acre-feet per year) | 88,634 | 98,480 | 98,480 | 98,480 | 98,480 | 98,480 |
| EXISTING SUPPLIES (acre-feet per year) | 87,759 | 81,738 | 76,658 | 72,420 | 67,828 | 63,904 |
| NEEDS (acre-feet per year) | 2,286 | 16,742 | 21,822 | 26,060 | 30,652 | 34,576 |

| MINING | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| DEMAND (acre-feet per year) | 8,951 | 9,821 | 9,660 | 7,206 | 6,157 | 5,497 |
| EXISTING SUPPLIES (acre-feet per year) | 6,748 | 7,391 | 7,333 | 5,021 | 3,999 | 3,281 |
| NEEDS (acre-feet per year) | 2,203 | 2,430 | 2,327 | 2,185 | 2,158 | 2,216 |

| STEAM ELECTRIC POWER | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| DEMAND (acre-feet per year) | 3,996 | 3,996 | 3,996 | 3,996 | 3,996 | 3,996 |
| EXISTING SUPPLIES (acre-feet per year) | 3,996 | 3,996 | 3,996 | 3,996 | 3,996 | 3,996 |
| NEEDS (acre-feet per year) | 0 | 0 | 0 | 0 | 0 | 0 |

| LIVESTOCK | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| DEMAND (acre-feet per year) | 6,065 | 6,065 | 6,065 | 6,065 | 6,065 | 6,065 |
| EXISTING SUPPLIES (acre-feet per year) | 6,065 | 6,065 | 6,065 | 6,065 | 6,065 | 6,065 |
| NEEDS (acre-feet per year) | 0 | 0 | 0 | 0 | 0 | 0 |

| IRRIGATION | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|---|---|---|---|---|---|---|
| DEMAND (acre-feet per year) | 30,206 | 30,206 | 30,206 | 30,206 | 30,206 | 30,206 |
| EXISTING SUPPLIES (acre-feet per year) | 28,923 | 28,732 | 28,732 | 28,732 | 28,732 | 28,732 |
| NEEDS (acre-feet per year) | 1,283 | 1,474 | 1,474 | 1,474 | 1,474 | 1,474 |

*WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Category Summary report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Before aggregating the difference between supplies and demands to the WUG category level, calculated surpluses are updated to zero so that only the WUGs with needs in the decade are included with the Needs totals.

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# Appendix A: DB 22 Report # 4- Source Water Availability

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# Region N Source Availability

| GROUNDWATER SOURCE TYPE | | | | SOURCE AVAILABILITY (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SOURCE NAME | COUNTY | BASIN | SALINITY * | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| CARRIZO-WILCOX AQUIFER | BEE | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| CARRIZO-WILCOX AQUIFER | LIVE OAK | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| CARRIZO-WILCOX AQUIFER | MCMULLEN | NUECES | FRESH | 7,056 | 7,056 | 4,405 | 4,405 | 4,405 | 4,405 |
| GULF COAST AQUIFER SYSTEM | ARANSAS | SAN ANTONIO-NUECES | FRESH | 1,542 | 1,542 | 1,542 | 1,542 | 1,542 | 1,542 |
| GULF COAST AQUIFER SYSTEM | BEE | NUECES | FRESH | 797 | 920 | 976 | 1,005 | 1,022 | 1,022 |
| GULF COAST AQUIFER SYSTEM | BEE | SAN ANTONIO-NUECES | FRESH/ BRACKISH | 17,640 | 18,917 | 19,526 | 19,776 | 19,951 | 19,951 |
| GULF COAST AQUIFER SYSTEM | BROOKS | NUECES-RIO GRANDE | FRESH | 5,582 | 6,352 | 7,122 | 7,892 | 7,892 | 7,892 |
| GULF COAST AQUIFER SYSTEM | DUVAL | NUECES | FRESH | 326 | 351 | 376 | 401 | 428 | 428 |
| GULF COAST AQUIFER SYSTEM | DUVAL | NUECES-RIO GRANDE | FRESH | 20,245 | 21,818 | 23,388 | 24,962 | 26,535 | 26,535 |
| GULF COAST AQUIFER SYSTEM | JIM WELLS | NUECES | FRESH | 593 | 593 | 593 | 593 | 593 | 593 |
| GULF COAST AQUIFER SYSTEM | JIM WELLS | NUECES-RIO GRANDE | FRESH/ BRACKISH | 8,551 | 9,090 | 9,593 | 10,132 | 10,424 | 10,424 |
| GULF COAST AQUIFER SYSTEM | KENEDY | NUECES-RIO GRANDE | FRESH | 13,301 | 18,621 | 23,941 | 29,261 | 29,261 | 29,261 |
| GULF COAST AQUIFER SYSTEM | KLEBERG | NUECES-RIO GRANDE | FRESH | 10,365 | 13,082 | 15,800 | 18,518 | 18,711 | 18,711 |
| GULF COAST AQUIFER SYSTEM | LIVE OAK | NUECES | FRESH | 8,297 | 9,297 | 8,522 | 8,400 | 8,400 | 8,400 |
| GULF COAST AQUIFER SYSTEM | LIVE OAK | SAN ANTONIO-NUECES | FRESH | 41 | 46 | 42 | 41 | 41 | 41 |
| GULF COAST AQUIFER SYSTEM | MCMULLEN | NUECES | FRESH | 510 | 510 | 510 | 510 | 510 | 510 |
| GULF COAST AQUIFER SYSTEM | NUECES | NUECES | FRESH | 727 | 756 | 787 | 816 | 845 | 845 |
| GULF COAST AQUIFER SYSTEM | NUECES | NUECES-RIO GRANDE | FRESH | 5,862 | 6,191 | 6,522 | 6,851 | 7,079 | 7,079 |
| GULF COAST AQUIFER SYSTEM | NUECES | SAN ANTONIO-NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| GULF COAST AQUIFER SYSTEM | SAN PATRICIO | NUECES | FRESH | 4,130 | 4,502 | 4,874 | 5,247 | 5,619 | 5,619 |
| GULF COAST AQUIFER SYSTEM | SAN PATRICIO | SAN ANTONIO-NUECES | FRESH/ BRACKISH | 39,481 | 40,514 | 41,548 | 42,581 | 43,615 | 43,615 |
| QUEEN CITY AQUIFER | MCMULLEN | NUECES | FRESH | 134 | 134 | 134 | 134 | 134 | 134 |
| SPARTA AQUIFER | MCMULLEN | NUECES | FRESH | 89 | 89 | 89 | 89 | 89 | 89 |
| YEGUA-JACKSON AQUIFER | MCMULLEN | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | **GROUNDWATER TOTAL SOURCE AVAILABILITY** | **145,269** | **160,381** | **170,290** | **183,156** | **187,096** | **187,096** |

| REUSE SOURCE TYPE | | | | SOURCE AVAILABILITY (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SOURCE NAME | COUNTY | BASIN | SALINITY * | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| DIRECT REUSE | NUECES | NUECES-RIO GRANDE | FRESH | 1,213 | 1,213 | 1,213 | 1,213 | 1,213 | 1,213 |
| DIRECT REUSE | SAN PATRICIO | SAN ANTONIO-NUECES | FRESH | 2,688 | 2,688 | 2,688 | 2,688 | 2,688 | 2,688 |
| | | | **REUSE TOTAL SOURCE AVAILABILITY** | **3,901** | **3,901** | **3,901** | **3,901** | **3,901** | **3,901** |

| SURFACE WATER SOURCE TYPE | | | | SOURCE AVAILABILITY (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SOURCE NAME | COUNTY | BASIN | SALINITY * | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | RESERVOIR | NUECES | FRESH | 106,560 | 104,260 | 102,060 | 99,860 | 97,560 | 95,360 |

*Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

# Region N Source Availability

| SURFACE WATER SOURCE TYPE | | | | SOURCE AVAILABILITY (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SOURCE NAME | COUNTY | BASIN | SALINITY * | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| NUECES LIVESTOCK LOCAL SUPPLY | BEE | NUECES | FRESH | 44 | 44 | 44 | 44 | 44 | 44 |
| NUECES LIVESTOCK LOCAL SUPPLY | DUVAL | NUECES | FRESH | 28 | 28 | 28 | 28 | 28 | 28 |
| NUECES LIVESTOCK LOCAL SUPPLY | JIM WELLS | NUECES | FRESH | 33 | 33 | 33 | 33 | 33 | 33 |
| NUECES LIVESTOCK LOCAL SUPPLY | LIVE OAK | NUECES | FRESH | 211 | 211 | 211 | 211 | 211 | 211 |
| NUECES LIVESTOCK LOCAL SUPPLY | MCMULLEN | NUECES | FRESH | 279 | 279 | 295 | 295 | 295 | 295 |
| NUECES LIVESTOCK LOCAL SUPPLY | NUECES | NUECES | FRESH | 50 | 50 | 50 | 50 | 50 | 50 |
| NUECES LIVESTOCK LOCAL SUPPLY | SAN PATRICIO | NUECES | FRESH | 83 | 83 | 83 | 83 | 83 | 83 |
| NUECES RUN-OF-RIVER | LIVE OAK | NUECES | FRESH | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 |
| NUECES RUN-OF-RIVER | NUECES | NUECES | FRESH | 384 | 384 | 384 | 384 | 384 | 384 |
| NUECES-RIO GRANDE LIVESTOCK LOCAL SUPPLY | BROOKS | NUECES-RIO GRANDE | FRESH | 125 | 125 | 125 | 125 | 125 | 125 |
| NUECES-RIO GRANDE LIVESTOCK LOCAL SUPPLY | DUVAL | NUECES-RIO GRANDE | FRESH | 2 | 2 | 2 | 2 | 2 | 2 |
| NUECES-RIO GRANDE LIVESTOCK LOCAL SUPPLY | JIM WELLS | NUECES-RIO GRANDE | FRESH | 179 | 179 | 179 | 179 | 179 | 179 |
| NUECES-RIO GRANDE LIVESTOCK LOCAL SUPPLY | NUECES | NUECES-RIO GRANDE | FRESH | 2 | 2 | 2 | 2 | 2 | 2 |
| NUECES-RIO GRANDE RUN-OF-RIVER | NUECES | NUECES-RIO GRANDE | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| SAN ANTONIO-NUECES LIVESTOCK LOCAL SUPPLY | ARANSAS | SAN ANTONIO-NUECES | FRESH | 33 | 33 | 33 | 33 | 33 | 33 |
| SAN ANTONIO-NUECES LIVESTOCK LOCAL SUPPLY | BEE | SAN ANTONIO-NUECES | FRESH | 420 | 420 | 420 | 420 | 420 | 420 |
| SAN ANTONIO-NUECES LIVESTOCK LOCAL SUPPLY | SAN PATRICIO | SAN ANTONIO-NUECES | FRESH | 80 | 80 | 80 | 80 | 80 | 80 |
| SAN ANTONIO-NUECES RUN-OF-RIVER | BEE | SAN ANTONIO-NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| SAN ANTONIO-NUECES RUN-OF-RIVER | SAN PATRICIO | SAN ANTONIO-NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| **SURFACE WATER TOTAL SOURCE AVAILABILITY** | | | | **110,013** | **107,713** | **105,529** | **103,329** | **101,029** | **98,829** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **REGION N TOTAL SOURCE AVAILABILITY** | | | | **259,183** | **271,995** | **279,720** | **290,386** | **292,026** | **289,826** |

*Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

# Appendix A: DB 22 Report # 5- WUG Existing Water Supplies

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# Region N Water User Group (WUG) Existing Water Supply

| WUG NAME | SOURCE REGION | SOURCE DESCRIPTION | EXISTING SUPPLY (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| ARANSAS PASS | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 66 | 65 | 64 | 63 | 63 | 63 |
| ARANSAS PASS | P | TEXANA LAKE/RESERVOIR | 66 | 66 | 63 | 63 | 63 | 63 |
| ROCKPORT | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 1,731 | 1,735 | 1,705 | 1,702 | 1,699 | 1,699 |
| ROCKPORT | P | TEXANA LAKE/RESERVOIR | 1,731 | 1,734 | 1,705 | 1,702 | 1,699 | 1,699 |
| COUNTY-OTHER | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 60 | 59 | 57 | 56 | 56 | 56 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| ARANSAS COUNTY | 371 | 362 | 349 | 345 | 343 | 343 |
| COUNTY-OTHER | P | TEXANA LAKE/RESERVOIR | 60 | 59 | 56 | 56 | 56 | 56 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| ARANSAS COUNTY | 10 | 7 | 5 | 5 | 5 | 5 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| ARANSAS COUNTY | 23 | 23 | 23 | 23 | 23 | 23 |
| LIVESTOCK | N | LOCAL SURFACE WATER SUPPLY | 33 | 33 | 33 | 33 | 33 | 33 |
| | | **SAN ANTONIO-NUECES BASIN TOTAL** | **4,151** | **4,143** | **4,060** | **4,048** | **4,040** | **4,040** |
| | | **ARANSAS COUNTY TOTAL** | **4,151** | **4,143** | **4,060** | **4,048** | **4,040** | **4,040** |
| EL OSO WSC | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 2 | 2 | 2 | 2 | 2 | 2 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 57 | 55 | 52 | 45 | 41 | 38 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 80 | 80 | 80 | 80 | 80 | 80 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 220 | 220 | 220 | 220 | 220 | 220 |
| | | **NUECES BASIN TOTAL** | **359** | **357** | **354** | **347** | **343** | **340** |
| BEEVILLE | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 1,925 | 1,986 | 1,983 | 1,966 | 1,964 | 1,965 |
| BEEVILLE | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 1,411 | 1,411 | 1,411 | 1,411 | 1,411 | 1,411 |
| EL OSO WSC | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 6 | 7 | 7 | 7 | 6 | 6 |
| PETTUS MUD | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 104 | 105 | 104 | 103 | 103 | 103 |
| TDCJ CHASE FIELD | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 847 | 847 | 847 | 847 | 847 | 847 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 216 | 216 | 216 | 216 | 216 | 216 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 218 | 218 | 218 | 218 | 218 | 218 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 754 | 754 | 754 | 754 | 754 | 754 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| BEE COUNTY | 3,853 | 3,853 | 3,853 | 3,853 | 3,853 | 3,853 |
| IRRIGATION | N | SAN ANTONIO-NUECES RUN-OF-RIVER | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **SAN ANTONIO-NUECES BASIN TOTAL** | **9,334** | **9,397** | **9,393** | **9,375** | **9,372** | **9,373** |
| | | **BEE COUNTY TOTAL** | **9,693** | **9,754** | **9,747** | **9,722** | **9,715** | **9,713** |
| FALFURRIAS | N | GULF COAST AQUIFER SYSTEM \| BROOKS COUNTY | 1,639 | 1,668 | 1,703 | 1,745 | 1,790 | 1,852 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| BROOKS COUNTY | 32 | 32 | 32 | 32 | 32 | 32 |
| MANUFACTURING | N | GULF COAST AQUIFER SYSTEM \| BROOKS COUNTY | 1 | 1 | 1 | 1 | 1 | 1 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| BROOKS COUNTY | 178 | 178 | 178 | 178 | 178 | 178 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| BROOKS COUNTY | 338 | 338 | 338 | 338 | 338 | 338 |
| LIVESTOCK | N | LOCAL SURFACE WATER SUPPLY | 125 | 125 | 125 | 125 | 125 | 125 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| BROOKS COUNTY | 1,161 | 1,161 | 1,161 | 1,161 | 1,161 | 1,161 |
| | | **NUECES-RIO GRANDE BASIN TOTAL** | **3,474** | **3,503** | **3,538** | **3,580** | **3,625** | **3,687** |
| | | **BROOKS COUNTY TOTAL** | **3,474** | **3,503** | **3,538** | **3,580** | **3,625** | **3,687** |
| FREER WCID | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 687 | 712 | 733 | 755 | 776 | 794 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 0 | 0 | 0 | 0 | 0 | 0 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 28 | 28 | 28 | 28 | 28 | 28 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 94 | 94 | 94 | 94 | 94 | 94 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 202 | 202 | 202 | 202 | 202 | 202 |

# Region N Water User Group (WUG) Existing Water Supply

| WUG NAME | SOURCE REGION | SOURCE DESCRIPTION | EXISTING SUPPLY (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| | | **NUECES BASIN TOTAL** | **1,011** | **1,036** | **1,057** | **1,079** | **1,100** | **1,118** |
| DUVAL COUNTY CRD | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 260 | 266 | 271 | 277 | 285 | 291 |
| SAN DIEGO MUD 1 | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 459 | 459 | 459 | 459 | 459 | 459 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 0 | 0 | 0 | 0 | 0 | 0 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 648 | 648 | 648 | 648 | 648 | 648 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 544 | 544 | 544 | 544 | 544 | 544 |
| LIVESTOCK | N | LOCAL SURFACE WATER SUPPLY | 2 | 2 | 2 | 2 | 2 | 2 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 3,840 | 3,840 | 3,840 | 3,840 | 3,840 | 3,840 |
| | | **NUECES-RIO GRANDE BASIN TOTAL** | **5,753** | **5,759** | **5,764** | **5,770** | **5,778** | **5,784** |
| | | **DUVAL COUNTY TOTAL** | **6,764** | **6,795** | **6,821** | **6,849** | **6,878** | **6,902** |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 0 | 0 | 0 | 0 | 0 | 0 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 0 | 0 | 0 | 0 | 0 | 0 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 115 | 115 | 115 | 115 | 115 | 115 |
| LIVESTOCK | N | LOCAL SURFACE WATER SUPPLY | 33 | 33 | 33 | 33 | 33 | 33 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 315 | 315 | 315 | 315 | 315 | 315 |
| | | **NUECES BASIN TOTAL** | **463** | **463** | **463** | **463** | **463** | **463** |
| ALICE | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 2,247 | 2,372 | 2,489 | 2,634 | 2,774 | 2,906 |
| ALICE | P | TEXANA LAKE/RESERVOIR | 2,247 | 2,372 | 2,489 | 2,633 | 2,774 | 2,906 |
| JIM WELLS COUNTY FWSD 1 | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 131 | 141 | 151 | 161 | 170 | 178 |
| ORANGE GROVE | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 476 | 506 | 534 | 566 | 596 | 625 |
| PREMONT | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 709 | 752 | 791 | 841 | 886 | 928 |
| SAN DIEGO MUD 1 | N | GULF COAST AQUIFER SYSTEM \| DUVAL COUNTY | 174 | 180 | 186 | 192 | 198 | 204 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 37 | 37 | 37 | 37 | 37 | 37 |
| MANUFACTURING | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 79 | 79 | 79 | 79 | 79 | 79 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 19 | 19 | 19 | 19 | 19 | 16 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 575 | 575 | 575 | 575 | 575 | 575 |
| LIVESTOCK | N | LOCAL SURFACE WATER SUPPLY | 179 | 179 | 179 | 179 | 179 | 179 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| JIM WELLS COUNTY | 1,265 | 1,265 | 1,265 | 1,265 | 1,265 | 1,265 |
| | | **NUECES-RIO GRANDE BASIN TOTAL** | **8,138** | **8,477** | **8,794** | **9,181** | **9,552** | **9,898** |
| | | **JIM WELLS COUNTY TOTAL** | **8,601** | **8,940** | **9,257** | **9,644** | **10,015** | **10,361** |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| KENEDY COUNTY | 244 | 260 | 262 | 263 | 263 | 263 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| KENEDY COUNTY | 60 | 60 | 60 | 60 | 43 | 27 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| KENEDY COUNTY | 735 | 735 | 735 | 735 | 735 | 735 |
| | | **NUECES-RIO GRANDE BASIN TOTAL** | **1,039** | **1,055** | **1,057** | **1,058** | **1,041** | **1,025** |
| | | **KENEDY COUNTY TOTAL** | **1,039** | **1,055** | **1,057** | **1,058** | **1,041** | **1,025** |
| BAFFIN BAY WSC | N | GULF COAST AQUIFER SYSTEM \| KLEBERG COUNTY | 237 | 253 | 268 | 285 | 303 | 320 |
| KINGSVILLE | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 211 | 252 | 268 | 289 | 438 | 518 |
| KINGSVILLE | N | GULF COAST AQUIFER SYSTEM \| KLEBERG COUNTY | 3,781 | 3,946 | 4,168 | 4,415 | 4,424 | 4,561 |
| KINGSVILLE | P | TEXANA LAKE/RESERVOIR | 213 | 255 | 270 | 288 | 439 | 520 |
| NAVAL AIR STATION KINGSVILLE | N | GULF COAST AQUIFER SYSTEM \| KLEBERG COUNTY | 256 | 284 | 303 | 327 | 347 | 366 |
| RICARDO WSC | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 170 | 180 | 191 | 202 | 215 | 227 |
| RICARDO WSC | P | TEXANA LAKE/RESERVOIR | 170 | 181 | 191 | 203 | 215 | 227 |
| RIVIERA WATER SYSTEM | N | GULF COAST AQUIFER SYSTEM \| KLEBERG COUNTY | 114 | 121 | 129 | 137 | 145 | 153 |
| COUNTY-OTHER | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 20 | 21 | 22 | 24 | 25 | 26 |

# Region N Water User Group (WUG) Existing Water Supply

| WUG NAME | SOURCE REGION | SOURCE DESCRIPTION | EXISTING SUPPLY (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| KLEBERG COUNTY | 218 | 231 | 247 | 264 | 281 | 297 |
| COUNTY-OTHER | P | TEXANA LAKE/RESERVOIR | 19 | 20 | 22 | 23 | 25 | 26 |
| MANUFACTURING | N | GULF COAST AQUIFER SYSTEM \| KLEBERG COUNTY | 1,809 | 1,809 | 1,809 | 1,809 | 1,809 | 1,809 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| KLEBERG COUNTY | 218 | 218 | 218 | 218 | 218 | 218 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| KLEBERG COUNTY | 673 | 673 | 673 | 673 | 673 | 673 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| KLEBERG COUNTY | 850 | 850 | 850 | 850 | 850 | 850 |
| | | **NUECES-RIO GRANDE BASIN TOTAL** | **8,959** | **9,294** | **9,629** | **10,007** | **10,407** | **10,791** |
| | | **KLEBERG COUNTY TOTAL** | **8,959** | **9,294** | **9,629** | **10,007** | **10,407** | **10,791** |
| EL OSO WSC | N | GULF COAST AQUIFER SYSTEM \| LIVE OAK COUNTY | 178 | 174 | 171 | 169 | 160 | 160 |
| GEORGE WEST | N | GULF COAST AQUIFER SYSTEM \| LIVE OAK COUNTY | 435 | 424 | 414 | 411 | 410 | 410 |
| MCCOY WSC | N | CARRIZO-WILCOX AQUIFER \| LIVE OAK COUNTY | 30 | 30 | 30 | 30 | 30 | 30 |
| THREE RIVERS | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 545 | 530 | 518 | 512 | 511 | 511 |
| THREE RIVERS | N | NUECES RUN-OF-RIVER | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| LIVE OAK COUNTY | 637 | 622 | 610 | 604 | 602 | 602 |
| MANUFACTURING | N | GULF COAST AQUIFER SYSTEM \| LIVE OAK COUNTY | 965 | 965 | 965 | 965 | 965 | 965 |
| MANUFACTURING | N | NUECES RUN-OF-RIVER | 1,309 | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| LIVE OAK COUNTY | 814 | 917 | 907 | 729 | 492 | 332 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| LIVE OAK COUNTY | 529 | 529 | 529 | 529 | 529 | 529 |
| LIVESTOCK | N | LOCAL SURFACE WATER SUPPLY | 211 | 211 | 211 | 211 | 211 | 211 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| LIVE OAK COUNTY | 1,096 | 1,096 | 1,096 | 1,096 | 1,096 | 1,096 |
| IRRIGATION | N | NUECES RUN-OF-RIVER | 191 | 0 | 0 | 0 | 0 | 0 |
| | | **NUECES BASIN TOTAL** | **6,940** | **6,998** | **6,951** | **6,756** | **6,506** | **6,346** |
| | | **LIVE OAK COUNTY TOTAL** | **6,940** | **6,998** | **6,951** | **6,756** | **6,506** | **6,346** |
| COUNTY-OTHER | N | CARRIZO-WILCOX AQUIFER \| MCMULLEN COUNTY | 97 | 94 | 91 | 89 | 89 | 89 |
| MANUFACTURING | N | GULF COAST AQUIFER SYSTEM \| MCMULLEN COUNTY | 219 | 249 | 249 | 249 | 249 | 249 |
| MINING | N | CARRIZO-WILCOX AQUIFER \| MCMULLEN COUNTY | 3,810 | 4,376 | 4,310 | 2,178 | 1,406 | 861 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| MCMULLEN COUNTY | 235 | 205 | 221 | 221 | 221 | 221 |
| MINING | N | QUEEN CITY AQUIFER \| MCMULLEN COUNTY | 134 | 134 | 134 | 134 | 134 | 134 |
| MINING | N | SPARTA AQUIFER \| MCMULLEN COUNTY | 89 | 89 | 89 | 89 | 89 | 89 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| MCMULLEN COUNTY | 56 | 56 | 40 | 40 | 40 | 40 |
| LIVESTOCK | N | LOCAL SURFACE WATER SUPPLY | 279 | 279 | 295 | 295 | 295 | 295 |
| | | **NUECES BASIN TOTAL** | **4,919** | **5,482** | **5,429** | **3,295** | **2,523** | **1,978** |
| | | **MCMULLEN COUNTY TOTAL** | **4,919** | **5,482** | **5,429** | **3,295** | **2,523** | **1,978** |
| CORPUS CHRISTI | K | COLORADO RUN-OF-RIVER | 328 | 426 | 517 | 608 | 802 | 1,094 |
| CORPUS CHRISTI | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 3,431 | 3,312 | 3,286 | 3,322 | 3,264 | 3,071 |
| CORPUS CHRISTI | P | TEXANA LAKE/RESERVOIR | 1,113 | 1,444 | 1,554 | 1,533 | 1,502 | 1,477 |
| NUECES COUNTY WCID 3 | | NO WATER SUPPLY ASSOCIATED WITH WUG | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES WSC | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 6 | 8 | 9 | 10 | 11 | 13 |
| NUECES WSC | P | TEXANA LAKE/RESERVOIR | 6 | 8 | 9 | 10 | 12 | 13 |
| RIVER ACRES WSC | N | NUECES RUN-OF-RIVER | 192 | 192 | 192 | 192 | 192 | 192 |
| COUNTY-OTHER | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 49 | 53 | 56 | 57 | 57 | 55 |
| COUNTY-OTHER | P | TEXANA LAKE/RESERVOIR | 49 | 53 | 56 | 56 | 56 | 55 |
| MANUFACTURING | K | COLORADO RUN-OF-RIVER | 0 | 0 | 0 | 0 | 45 | 45 |
| MANUFACTURING | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 0 | 45 | 45 | 45 | 0 | 0 |

# Region N Water User Group (WUG) Existing Water Supply

| WUG NAME | SOURCE REGION | SOURCE DESCRIPTION | EXISTING SUPPLY (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| MANUFACTURING | N | GULF COAST AQUIFER SYSTEM \| NUECES COUNTY | 657 | 683 | 683 | 683 | 683 | 683 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| NUECES COUNTY | 44 | 44 | 44 | 44 | 44 | 44 |
| STEAM ELECTRIC POWER | K | COLORADO RUN-OF-RIVER | 557 | 557 | 557 | 557 | 557 | 557 |
| STEAM ELECTRIC POWER | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 556 | 556 | 556 | 556 | 556 | 556 |
| STEAM ELECTRIC POWER | P | TEXANA LAKE/RESERVOIR | 557 | 557 | 557 | 557 | 557 | 557 |
| LIVESTOCK | N | LOCAL SURFACE WATER SUPPLY | 50 | 50 | 50 | 50 | 50 | 50 |
| IRRIGATION | | NO WATER SUPPLY ASSOCIATED WITH WUG | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **NUECES BASIN TOTAL** | **7,595** | **7,988** | **8,171** | **8,280** | **8,388** | **8,462** |
| BISHOP | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 115 | 127 | 138 | 149 | 160 | 168 |
| BISHOP | N | GULF COAST AQUIFER SYSTEM \| NUECES COUNTY | 282 | 282 | 282 | 282 | 282 | 282 |
| BISHOP | P | TEXANA LAKE/RESERVOIR | 115 | 126 | 138 | 149 | 159 | 167 |
| CORPUS CHRISTI | K | COLORADO RUN-OF-RIVER | 3,980 | 5,182 | 6,291 | 7,400 | 9,754 | 13,298 |
| CORPUS CHRISTI | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 41,719 | 40,259 | 39,953 | 40,391 | 39,680 | 37,345 |
| CORPUS CHRISTI | P | TEXANA LAKE/RESERVOIR | 13,539 | 17,557 | 18,892 | 18,634 | 18,256 | 17,955 |
| CORPUS CHRISTI NAVAL AIR STATION | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 543 | 589 | 619 | 636 | 648 | 658 |
| CORPUS CHRISTI NAVAL AIR STATION | P | TEXANA LAKE/RESERVOIR | 542 | 589 | 618 | 635 | 648 | 657 |
| DRISCOLL | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 52 | 55 | 56 | 57 | 58 | 59 |
| DRISCOLL | P | TEXANA LAKE/RESERVOIR | 53 | 55 | 56 | 57 | 58 | 58 |
| NUECES COUNTY WCID 3 | N | NUECES RUN-OF-RIVER | 192 | 192 | 192 | 192 | 192 | 192 |
| NUECES COUNTY WCID 4 | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 1,233 | 1,331 | 1,391 | 1,427 | 1,456 | 1,475 |
| NUECES COUNTY WCID 4 | P | TEXANA LAKE/RESERVOIR | 1,232 | 1,330 | 1,391 | 1,427 | 1,456 | 1,476 |
| NUECES WSC | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 223 | 287 | 325 | 371 | 424 | 486 |
| NUECES WSC | P | TEXANA LAKE/RESERVOIR | 222 | 286 | 325 | 371 | 424 | 487 |
| VIOLET WSC | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 93 | 96 | 98 | 99 | 100 | 102 |
| VIOLET WSC | P | TEXANA LAKE/RESERVOIR | 93 | 97 | 98 | 99 | 101 | 102 |
| COUNTY-OTHER | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 51 | 56 | 61 | 66 | 73 | 81 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| NUECES COUNTY | 31 | 31 | 31 | 31 | 31 | 31 |
| COUNTY-OTHER | P | TEXANA LAKE/RESERVOIR | 49 | 54 | 60 | 67 | 73 | 80 |
| MANUFACTURING | K | COLORADO RUN-OF-RIVER | 30,000 | 28,700 | 27,500 | 26,300 | 23,707 | 19,871 |
| MANUFACTURING | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 8,411 | 8,366 | 6,240 | 3,302 | 1,411 | 1,411 |
| MANUFACTURING | N | DIRECT REUSE | 1,213 | 1,213 | 1,213 | 1,213 | 1,213 | 1,213 |
| MANUFACTURING | N | GULF COAST AQUIFER SYSTEM \| NUECES COUNTY | 119 | 119 | 119 | 119 | 119 | 119 |
| MANUFACTURING | P | TEXANA LAKE/RESERVOIR | 6,422 | 1,708 | 0 | 0 | 0 | 0 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| NUECES COUNTY | 51 | 60 | 67 | 72 | 80 | 89 |
| STEAM ELECTRIC POWER | K | COLORADO RUN-OF-RIVER | 135 | 135 | 135 | 135 | 135 | 135 |
| STEAM ELECTRIC POWER | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 136 | 136 | 136 | 136 | 136 | 136 |
| STEAM ELECTRIC POWER | P | TEXANA LAKE/RESERVOIR | 136 | 136 | 136 | 136 | 136 | 136 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| NUECES COUNTY | 241 | 241 | 241 | 241 | 241 | 241 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| NUECES COUNTY | 1,489 | 1,489 | 1,489 | 1,489 | 1,489 | 1,489 |
| IRRIGATION | N | NUECES-RIO GRANDE RUN-OF-RIVER | 0 | 0 | 0 | 0 | 0 | 0 |

# Region N Water User Group (WUG) Existing Water Supply

| WUG NAME | SOURCE REGION | SOURCE DESCRIPTION | EXISTING SUPPLY (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| | | **NUECES-RIO GRANDE BASIN TOTAL** | **112,712** | **110,884** | **108,291** | **105,683** | **102,700** | **99,999** |
| ARANSAS PASS | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 1 | 1 | 1 | 1 | 1 | 1 |
| ARANSAS PASS | P | TEXANA LAKE/RESERVOIR | 1 | 1 | 1 | 1 | 1 | 1 |
| COUNTY-OTHER | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | P | TEXANA LAKE/RESERVOIR | 1 | 1 | 1 | 1 | 1 | 1 |
| MINING | | NO WATER SUPPLY ASSOCIATED WITH WUG | 0 | 0 | 0 | 0 | 0 | 0 |
| | | **SAN ANTONIO-NUECES BASIN TOTAL** | **3** | **3** | **3** | **3** | **3** | **3** |
| | | **NUECES COUNTY TOTAL** | **120,310** | **118,875** | **116,465** | **113,966** | **111,091** | **108,464** |
| MATHIS | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 326 | 329 | 327 | 330 | 334 | 336 |
| MATHIS | P | TEXANA LAKE/RESERVOIR | 327 | 329 | 328 | 331 | 334 | 337 |
| COUNTY-OTHER | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 330 | 324 | 315 | 307 | 303 | 300 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| SAN PATRICIO COUNTY | 186 | 189 | 193 | 197 | 199 | 200 |
| COUNTY-OTHER | P | TEXANA LAKE/RESERVOIR | 51 | 63 | 82 | 96 | 104 | 111 |
| MANUFACTURING | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 22,037 | 20,145 | 20,099 | 19,999 | 19,891 | 19,803 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| SAN PATRICIO COUNTY | 28 | 28 | 28 | 28 | 28 | 28 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| SAN PATRICIO COUNTY | 117 | 117 | 117 | 117 | 117 | 117 |
| LIVESTOCK | N | LOCAL SURFACE WATER SUPPLY | 83 | 83 | 83 | 83 | 83 | 83 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| SAN PATRICIO COUNTY | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 |
| | | **NUECES BASIN TOTAL** | **24,929** | **23,051** | **23,016** | **22,932** | **22,837** | **22,759** |
| ARANSAS PASS | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 685 | 696 | 696 | 700 | 707 | 713 |
| ARANSAS PASS | P | TEXANA LAKE/RESERVOIR | 685 | 695 | 696 | 699 | 707 | 712 |
| GREGORY | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 169 | 172 | 174 | 177 | 179 | 180 |
| GREGORY | P | TEXANA LAKE/RESERVOIR | 170 | 172 | 174 | 177 | 178 | 180 |
| INGLESIDE | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 507 | 512 | 512 | 513 | 518 | 522 |
| INGLESIDE | P | TEXANA LAKE/RESERVOIR | 506 | 512 | 511 | 513 | 518 | 522 |
| ODEM | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 205 | 209 | 209 | 210 | 212 | 215 |
| ODEM | P | TEXANA LAKE/RESERVOIR | 190 | 192 | 192 | 194 | 196 | 196 |
| PORTLAND | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 2,073 | 2,116 | 2,128 | 2,144 | 2,165 | 2,184 |
| PORTLAND | P | TEXANA LAKE/RESERVOIR | 1,316 | 1,342 | 1,349 | 1,359 | 1,374 | 1,385 |
| RINCON WSC | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 184 | 188 | 190 | 192 | 194 | 196 |
| RINCON WSC | P | TEXANA LAKE/RESERVOIR | 184 | 189 | 191 | 193 | 195 | 196 |
| SINTON | N | GULF COAST AQUIFER SYSTEM \| SAN PATRICIO COUNTY | 1,345 | 1,382 | 1,396 | 1,411 | 1,427 | 1,438 |
| TAFT | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 319 | 322 | 322 | 326 | 330 | 332 |
| TAFT | P | TEXANA LAKE/RESERVOIR | 221 | 224 | 223 | 226 | 228 | 231 |
| COUNTY-OTHER | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 258 | 262 | 269 | 274 | 276 | 279 |
| COUNTY-OTHER | N | GULF COAST AQUIFER SYSTEM \| SAN PATRICIO COUNTY | 18 | 18 | 18 | 18 | 18 | 18 |
| MANUFACTURING | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 9,891 | 11,650 | 11,677 | 11,732 | 11,788 | 11,832 |
| MANUFACTURING | N | DIRECT REUSE | 448 | 448 | 448 | 448 | 448 | 448 |
| MANUFACTURING | N | GULF COAST AQUIFER SYSTEM \| SAN PATRICIO COUNTY | 25 | 25 | 25 | 25 | 25 | 25 |

# Region N Water User Group (WUG) Existing Water Supply

| WUG NAME | SOURCE REGION | SOURCE DESCRIPTION | EXISTING SUPPLY (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| MANUFACTURING | P | TEXANA LAKE/RESERVOIR | 4,154 | 4,033 | 4,006 | 3,951 | 3,895 | 3,851 |
| MINING | N | GULF COAST AQUIFER SYSTEM \| SAN PATRICIO COUNTY | 107 | 107 | 107 | 107 | 107 | 107 |
| STEAM ELECTRIC POWER | N | CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | 1,919 | 1,919 | 1,919 | 1,919 | 1,919 | 1,919 |
| LIVESTOCK | N | GULF COAST AQUIFER SYSTEM \| SAN PATRICIO COUNTY | 116 | 116 | 116 | 116 | 116 | 116 |
| LIVESTOCK | N | LOCAL SURFACE WATER SUPPLY | 80 | 80 | 80 | 80 | 80 | 80 |
| IRRIGATION | N | GULF COAST AQUIFER SYSTEM \| SAN PATRICIO COUNTY | 12,997 | 12,997 | 12,997 | 12,997 | 12,997 | 12,997 |
| IRRIGATION | N | SAN ANTONIO-NUECES RUN-OF-RIVER | 0 | 0 | 0 | 0 | 0 | 0 |
| **SAN ANTONIO-NUECES BASIN TOTAL** | | | **38,772** | **40,578** | **40,625** | **40,701** | **40,797** | **40,874** |
| **SAN PATRICIO COUNTY TOTAL** | | | **63,701** | **63,629** | **63,641** | **63,633** | **63,634** | **63,633** |
| **REGION N TOTAL EXISTING WATER SUPPLY** | | | **238,551** | **238,468** | **236,595** | **232,558** | **229,475** | **226,940** |

# Appendix A: DB 22 Report # 6- WUG Identified Water Needs/ Surpluses

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# Region N Water User Group (WUG) Needs/Surplus*

| | (NEEDS)/SURPLUS (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|
| | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| **ARANSAS COUNTY - SAN ANTONIO-NUECES BASIN** | | | | | | |
| ARANSAS PASS | 0 | 0 | 0 | 0 | 0 | 0 |
| ROCKPORT | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | 0 | 0 | 0 | 0 | 0 | 0 |
| MINING | 0 | 0 | 0 | 0 | 0 | 0 |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| **BEE COUNTY - NUECES BASIN** | | | | | | |
| EL OSO WSC | (94) | (94) | (94) | (94) | (90) | (90) |
| COUNTY-OTHER | 0 | 0 | 0 | 0 | 0 | 0 |
| MINING | 0 | 0 | 0 | 0 | 0 | 0 |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | 0 | 0 | 0 | 0 | 0 | 0 |
| **BEE COUNTY - SAN ANTONIO-NUECES BASIN** | | | | | | |
| BEEVILLE | 0 | 0 | 0 | 0 | 0 | 0 |
| EL OSO WSC | 0 | 0 | 0 | 0 | 0 | 0 |
| PETTUS MUD | 0 | 0 | 0 | 0 | 0 | 0 |
| TDCJ CHASE FIELD | (177) | (203) | (208) | (204) | (203) | (203) |
| COUNTY-OTHER | (1,657) | (1,682) | (1,675) | (1,656) | (1,654) | (1,654) |
| MINING | (197) | (185) | (158) | (109) | (79) | (62) |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | (352) | (352) | (352) | (352) | (352) | (352) |
| **BROOKS COUNTY - NUECES-RIO GRANDE BASIN** | | | | | | |
| FALFURRIAS | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | (192) | (214) | (237) | (265) | (292) | (309) |
| MANUFACTURING | 0 | 0 | 0 | 0 | 0 | 0 |
| MINING | (179) | (182) | (162) | (146) | (130) | (120) |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | 0 | 0 | 0 | 0 | 0 | 0 |
| **DUVAL COUNTY - NUECES BASIN** | | | | | | |
| FREER WCID | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | (39) | (39) | (40) | (40) | (41) | (42) |
| MINING | (97) | (102) | (94) | (84) | (77) | (71) |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | 0 | 0 | 0 | 0 | 0 | 0 |
| **DUVAL COUNTY - NUECES-RIO GRANDE BASIN** | | | | | | |
| DUVAL COUNTY CRD | 0 | 0 | 0 | 0 | 0 | 0 |
| SAN DIEGO MUD 1 | (288) | (315) | (338) | (365) | (392) | (417) |
| COUNTY-OTHER | (438) | (445) | (450) | (457) | (467) | (474) |
| MINING | (615) | (666) | (582) | (481) | (412) | (357) |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | 0 | 0 | 0 | 0 | 0 | 0 |
| **JIM WELLS COUNTY - NUECES BASIN** | | | | | | |
| COUNTY-OTHER | (412) | (433) | (453) | (479) | (504) | (529) |
| MINING | (4) | (4) | (3) | (2) | (1) | (1) |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |

*WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Needs/Surplus report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Surplus volumes are shown as positive values, and needs are shown as negative values in parentheses.

# Region N Water User Group (WUG) Needs/Surplus*

| | | | | | | |
|---|---|---|---|---|---|---|
| IRRIGATION | (39) | (39) | (39) | (39) | (39) | (39) |
| **JIM WELLS COUNTY - NUECES-RIO GRANDE BASIN** | | | | | | |
| ALICE | 0 | 0 | 0 | 0 | 0 | 0 |
| JIM WELLS COUNTY FWSD 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| ORANGE GROVE | 0 | 0 | 0 | 0 | 0 | 0 |
| PREMONT | 0 | 0 | 0 | 0 | 0 | 0 |
| SAN DIEGO MUD 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | (1,646) | (1,731) | (1,813) | (1,916) | (2,021) | (2,121) |
| MANUFACTURING | 0 | (16) | (16) | (16) | (16) | (16) |
| MINING | (48) | (51) | (33) | (19) | (6) | 0 |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | (294) | (294) | (294) | (294) | (294) | (294) |
| **KENEDY COUNTY - NUECES-RIO GRANDE BASIN** | | | | | | |
| COUNTY-OTHER | 0 | 0 | 0 | 0 | 0 | 0 |
| MINING | (58) | (63) | (32) | (8) | 0 | 0 |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| **KLEBERG COUNTY - NUECES-RIO GRANDE BASIN** | | | | | | |
| BAFFIN BAY WSC | 0 | 0 | 0 | 0 | 0 | 0 |
| KINGSVILLE | 0 | 0 | 0 | 0 | 0 | 0 |
| NAVAL AIR STATION KINGSVILLE | 0 | 0 | 0 | 0 | 0 | 0 |
| RICARDO WSC | 0 | 0 | 0 | 0 | 0 | 0 |
| RIVIERA WATER SYSTEM | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | 0 | 0 | 1 | 0 | 0 | 0 |
| MANUFACTURING | 0 | (247) | (247) | (247) | (247) | (247) |
| MINING | (139) | (142) | (122) | (106) | (90) | (80) |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | 0 | 0 | 0 | 0 | 0 | 0 |
| **LIVE OAK COUNTY - NUECES BASIN** | | | | | | |
| EL OSO WSC | 0 | 0 | 0 | 0 | 0 | 0 |
| GEORGE WEST | 0 | 0 | 0 | 0 | 0 | 0 |
| MCCOY WSC | 9 | 10 | 10 | 10 | 10 | 10 |
| THREE RIVERS | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | 0 | 0 | 0 | 0 | 0 | 0 |
| MANUFACTURING | 0 | (28) | (28) | (28) | (28) | (28) |
| MINING | 0 | 0 | 0 | 0 | 0 | 0 |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | (343) | (534) | (534) | (534) | (534) | (534) |
| **MCMULLEN COUNTY - NUECES BASIN** | | | | | | |
| COUNTY-OTHER | 0 | 0 | 0 | 0 | 0 | 0 |
| MANUFACTURING | 0 | 0 | 0 | 0 | 0 | 0 |
| MINING | 0 | 0 | 0 | 0 | 0 | 0 |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| **NUECES COUNTY - NUECES BASIN** | | | | | | |
| CORPUS CHRISTI | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES COUNTY WCID 3 | (965) | (962) | (953) | (948) | (947) | (947) |
| NUECES WSC | 0 | 0 | 0 | 0 | 0 | 0 |
| RIVER ACRES WSC | (234) | (258) | (270) | (278) | (287) | (293) |

*WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Needs/Surplus report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Surplus volumes are shown as positive values, and needs are shown as negative values in parentheses.

# Region N Water User Group (WUG) Needs/Surplus*

| | | | | | | |
|---|---|---|---|---|---|---|
| COUNTY-OTHER | 0 | 0 | 0 | 0 | 0 | 0 |
| MANUFACTURING | 0 | 0 | 0 | 0 | 0 | 0 |
| MINING | (600) | (715) | (798) | (864) | (961) | (1,077) |
| STEAM ELECTRIC POWER | 0 | 0 | 0 | 0 | 0 | 0 |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | (51) | (51) | (51) | (51) | (51) | (51) |
| **NUECES COUNTY - NUECES-RIO GRANDE BASIN** | | | | | | |
| BISHOP | (81) | (92) | (87) | (80) | (71) | (64) |
| CORPUS CHRISTI | 0 | 0 | 0 | 0 | 0 | 0 |
| CORPUS CHRISTI NAVAL AIR STATION | 0 | 0 | 0 | 0 | 0 | 0 |
| DRISCOLL | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES COUNTY WCID 3 | (2,847) | (2,838) | (2,807) | (2,793) | (2,790) | (2,789) |
| NUECES COUNTY WCID 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES WSC | 0 | 0 | 0 | 0 | 0 | 0 |
| VIOLET WSC | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | (1,245) | (1,356) | (1,430) | (1,435) | (1,417) | (1,364) |
| MANUFACTURING | 1,411 | (9,529) | (14,563) | (18,701) | (23,185) | (27,021) |
| MINING | 0 | 0 | 0 | 0 | 0 | 0 |
| STEAM ELECTRIC POWER | 0 | 0 | 0 | 0 | 0 | 0 |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | 0 | 0 | 0 | 0 | 0 | 0 |
| **NUECES COUNTY - SAN ANTONIO-NUECES BASIN** | | | | | | |
| ARANSAS PASS | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | 0 | 0 | 0 | 0 | 0 | 0 |
| MINING | (29) | (34) | (38) | (41) | (45) | (50) |
| **SAN PATRICIO COUNTY - NUECES BASIN** | | | | | | |
| MATHIS | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | 0 | 0 | 0 | 0 | 0 | 0 |
| MANUFACTURING | (2,286) | (6,922) | (6,968) | (7,068) | (7,176) | (7,264) |
| MINING | (50) | (60) | (64) | (68) | (75) | (84) |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | (20) | (20) | (20) | (20) | (20) | (20) |
| **SAN PATRICIO COUNTY - SAN ANTONIO-NUECES BASIN** | | | | | | |
| ARANSAS PASS | 0 | 0 | 0 | 0 | 0 | 0 |
| GREGORY | 0 | 0 | 0 | 0 | 0 | 0 |
| INGLESIDE | 0 | 0 | 0 | 0 | 0 | 0 |
| ODEM | 0 | 0 | 0 | 0 | 0 | 0 |
| PORTLAND | 0 | 0 | 0 | 0 | 0 | 0 |
| RINCON WSC | 0 | 0 | 0 | 0 | 0 | 0 |
| SINTON | 0 | 0 | 0 | 0 | 0 | 0 |
| TAFT | 0 | 0 | 0 | 0 | 0 | 0 |
| COUNTY-OTHER | 0 | 0 | 0 | 0 | 0 | 0 |
| MANUFACTURING | 0 | 0 | 0 | 0 | 0 | 0 |
| MINING | (187) | (226) | (241) | (257) | (282) | (314) |
| STEAM ELECTRIC POWER | 0 | 0 | 0 | 0 | 0 | 0 |
| LIVESTOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| IRRIGATION | (184) | (184) | (184) | (184) | (184) | (184) |

*WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Needs/Surplus report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Surplus volumes are shown as positive values, and needs are shown as negative values in parentheses.

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# Appendix A: DB 22 Report # 9- Source Water Balance

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# Region N Source Water Balance (Availability - WUG Supply)

| GROUNDWATER SOURCE TYPE | | | | SOURCE WATER BALANCE (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SOURCE NAME | COUNTY | BASIN | SALINITY* | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| CARRIZO-WILCOX AQUIFER | BEE | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| CARRIZO-WILCOX AQUIFER | LIVE OAK | NUECES | FRESH | (30) | (30) | (30) | (30) | (30) | (30) |
| CARRIZO-WILCOX AQUIFER | MCMULLEN | NUECES | FRESH | 3,149 | 2,586 | 4 | 2,138 | 2,910 | 3,455 |
| GULF COAST AQUIFER SYSTEM | ARANSAS | SAN ANTONIO-NUECES | FRESH | 1,138 | 1,150 | 1,165 | 1,169 | 1,171 | 1,171 |
| GULF COAST AQUIFER SYSTEM | BEE | NUECES | FRESH | 438 | 563 | 622 | 658 | 679 | 682 |
| GULF COAST AQUIFER SYSTEM | BEE | SAN ANTONIO-NUECES | FRESH/ BRACKISH | 10,231 | 11,506 | 12,116 | 12,367 | 12,543 | 12,543 |
| GULF COAST AQUIFER SYSTEM | BROOKS | NUECES-RIO GRANDE | FRESH | 2,233 | 2,974 | 3,709 | 4,437 | 4,392 | 4,330 |
| GULF COAST AQUIFER SYSTEM | DUVAL | NUECES | FRESH | 2 | 27 | 52 | 77 | 104 | 104 |
| GULF COAST AQUIFER SYSTEM | DUVAL | NUECES-RIO GRANDE | FRESH | 13,633 | 15,169 | 16,707 | 18,247 | 19,785 | 19,755 |
| GULF COAST AQUIFER SYSTEM | JIM WELLS | NUECES | FRESH | 163 | 163 | 163 | 163 | 163 | 163 |
| GULF COAST AQUIFER SYSTEM | JIM WELLS | NUECES-RIO GRANDE | FRESH/ BRACKISH | 5,260 | 5,716 | 6,142 | 6,589 | 6,797 | 6,721 |
| GULF COAST AQUIFER SYSTEM | KENEDY | NUECES-RIO GRANDE | FRESH | 12,262 | 17,566 | 22,884 | 28,203 | 28,220 | 28,236 |
| GULF COAST AQUIFER SYSTEM | KLEBERG | NUECES-RIO GRANDE | FRESH | 2,209 | 4,697 | 7,135 | 9,540 | 9,661 | 9,464 |
| GULF COAST AQUIFER SYSTEM | LIVE OAK | NUECES | FRESH | 3,643 | 4,570 | 3,830 | 3,897 | 4,146 | 4,306 |
| GULF COAST AQUIFER SYSTEM | LIVE OAK | SAN ANTONIO-NUECES | FRESH | 41 | 46 | 42 | 41 | 41 | 41 |
| GULF COAST AQUIFER SYSTEM | MCMULLEN | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| GULF COAST AQUIFER SYSTEM | NUECES | NUECES | FRESH | 26 | 29 | 60 | 89 | 118 | 118 |
| GULF COAST AQUIFER SYSTEM | NUECES | NUECES-RIO GRANDE | FRESH | 3,649 | 3,969 | 4,293 | 4,617 | 4,837 | 4,828 |
| GULF COAST AQUIFER SYSTEM | NUECES | SAN ANTONIO-NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| GULF COAST AQUIFER SYSTEM | SAN PATRICIO | NUECES | FRESH | 2,355 | 2,724 | 3,092 | 3,461 | 3,831 | 3,830 |
| GULF COAST AQUIFER SYSTEM | SAN PATRICIO | SAN ANTONIO-NUECES | FRESH/ BRACKISH | 24,873 | 25,869 | 26,889 | 27,907 | 28,925 | 28,914 |
| QUEEN CITY AQUIFER | MCMULLEN | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| SPARTA AQUIFER | MCMULLEN | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| YEGUA-JACKSON AQUIFER | MCMULLEN | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| **GROUNDWATER TOTAL SOURCE WATER BALANCE** | | | | **85,275** | **99,294** | **108,875** | **123,570** | **128,293** | **128,631** |

| REUSE SOURCE TYPE | | | | SOURCE WATER BALANCE (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SOURCE NAME | COUNTY | BASIN | SALINITY* | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| DIRECT REUSE | NUECES | NUECES-RIO GRANDE | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| DIRECT REUSE | SAN PATRICIO | SAN ANTONIO-NUECES | FRESH | 2,240 | 2,240 | 2,240 | 2,240 | 2,240 | 2,240 |
| **REUSE TOTAL SOURCE WATER BALANCE** | | | | **2,240** | **2,240** | **2,240** | **2,240** | **2,240** | **2,240** |

| SURFACE WATER SOURCE TYPE | | | | SOURCE WATER BALANCE (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SOURCE NAME | COUNTY | BASIN | SALINITY* | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| CORPUS CHRISTI-CHOKE CANYON LAKE/RESERVOIR SYSTEM | RESERVOIR | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES LIVESTOCK LOCAL SUPPLY | BEE | NUECES | FRESH | 44 | 44 | 44 | 44 | 44 | 44 |

*Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

# Region N Source Water Balance (Availability - WUG Supply)

| SURFACE WATER SOURCE TYPE | | | | SOURCE WATER BALANCE (ACRE-FEET PER YEAR) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SOURCE NAME | COUNTY | BASIN | SALINITY* | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
| NUECES LIVESTOCK LOCAL SUPPLY | DUVAL | NUECES | FRESH | 28 | 28 | 28 | 28 | 28 | 28 |
| NUECES LIVESTOCK LOCAL SUPPLY | JIM WELLS | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES LIVESTOCK LOCAL SUPPLY | LIVE OAK | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES LIVESTOCK LOCAL SUPPLY | MCMULLEN | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES LIVESTOCK LOCAL SUPPLY | NUECES | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES LIVESTOCK LOCAL SUPPLY | SAN PATRICIO | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES RUN-OF-RIVER | LIVE OAK | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES RUN-OF-RIVER | NUECES | NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES-RIO GRANDE LIVESTOCK LOCAL SUPPLY | BROOKS | NUECES-RIO GRANDE | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES-RIO GRANDE LIVESTOCK LOCAL SUPPLY | DUVAL | NUECES-RIO GRANDE | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES-RIO GRANDE LIVESTOCK LOCAL SUPPLY | JIM WELLS | NUECES-RIO GRANDE | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| NUECES-RIO GRANDE LIVESTOCK LOCAL SUPPLY | NUECES | NUECES-RIO GRANDE | FRESH | 2 | 2 | 2 | 2 | 2 | 2 |
| NUECES-RIO GRANDE RUN-OF-RIVER | NUECES | NUECES-RIO GRANDE | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| SAN ANTONIO-NUECES LIVESTOCK LOCAL SUPPLY | ARANSAS | SAN ANTONIO-NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| SAN ANTONIO-NUECES LIVESTOCK LOCAL SUPPLY | BEE | SAN ANTONIO-NUECES | FRESH | 420 | 420 | 420 | 420 | 420 | 420 |
| SAN ANTONIO-NUECES LIVESTOCK LOCAL SUPPLY | SAN PATRICIO | SAN ANTONIO-NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| SAN ANTONIO-NUECES RUN-OF-RIVER | BEE | SAN ANTONIO-NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| SAN ANTONIO-NUECES RUN-OF-RIVER | SAN PATRICIO | SAN ANTONIO-NUECES | FRESH | 0 | 0 | 0 | 0 | 0 | 0 |
| **SURFACE WATER TOTAL SOURCE WATER BALANCE** | | | | **494** | **494** | **494** | **494** | **494** | **494** |

| | | | | | | |
|---|---|---|---|---|---|---|
| **REGION N TOTAL SOURCE WATER BALANCE** | **88,009** | **102,028** | **111,609** | **126,304** | **131,027** | **131,365** |

*Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

# Appendix A: DB 22 Report #10a- WUG Data Comparison to 2016 RWP

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# Region N Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)*

| | 2020 PLANNING DECADE | | | 2070 PLANNING DECADE | | |
|---|---|---|---|---|---|---|
| | 2016 RWP | 2021 RWP | DIFFERENCE (%) | 2016 RWP | 2021 RWP | DIFFERENCE (%) |
| **ARANSAS COUNTY \| COUNTY-OTHER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 1,446 | 491 | -66.0% | 1,342 | 455 | -66.1% |
| PROJECTED DEMAND TOTAL | 1,446 | 491 | -66.0% | 1,342 | 455 | -66.1% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **ARANSAS COUNTY \| LIVESTOCK WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 44 | 56 | 27.3% | 44 | 56 | 27.3% |
| PROJECTED DEMAND TOTAL | 44 | 56 | 27.3% | 44 | 56 | 27.3% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **ARANSAS COUNTY \| MANUFACTURING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 265 | 0 | -100.0% | 265 | 0 | -100.0% |
| PROJECTED DEMAND TOTAL | 137 | 0 | -100.0% | 172 | 0 | -100.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **ARANSAS COUNTY \| MINING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 10 | 10 | 0.0% | 10 | 5 | -50.0% |
| PROJECTED DEMAND TOTAL | 10 | 10 | 0.0% | 5 | 5 | 0.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **ARANSAS COUNTY \| MUNICIPAL WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 2,065 | 3,594 | 74.0% | 2,025 | 3,524 | 74.0% |
| PROJECTED DEMAND TOTAL | 2,065 | 3,594 | 74.0% | 2,025 | 3,524 | 74.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **BEE COUNTY \| COUNTY-OTHER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 2,770 | 218 | -92.1% | 2,770 | 218 | -92.1% |
| PROJECTED DEMAND TOTAL | 2,725 | 1,875 | -31.2% | 2,721 | 1,872 | -31.2% |
| WATER SUPPLY NEEDS TOTAL | 0 | 1,657 | 100.0% | 0 | 1,654 | 100.0% |
| **BEE COUNTY \| IRRIGATION WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 8,025 | 4,073 | -49.2% | 8,025 | 4,073 | -49.2% |
| PROJECTED DEMAND TOTAL | 4,751 | 4,425 | -6.9% | 7,985 | 4,425 | -44.6% |
| WATER SUPPLY NEEDS TOTAL | 0 | 352 | 100.0% | 0 | 352 | 100.0% |
| **BEE COUNTY \| LIVESTOCK WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 930 | 834 | -10.3% | 930 | 834 | -10.3% |
| PROJECTED DEMAND TOTAL | 930 | 834 | -10.3% | 930 | 834 | -10.3% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **BEE COUNTY \| MANUFACTURING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 1 | 0 | -100.0% | 1 | 0 | -100.0% |
| PROJECTED DEMAND TOTAL | 1 | 0 | -100.0% | 1 | 0 | -100.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **BEE COUNTY \| MINING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 510 | 275 | -46.1% | 510 | 256 | -49.8% |
| PROJECTED DEMAND TOTAL | 472 | 472 | 0.0% | 318 | 318 | 0.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 197 | 100.0% | 0 | 62 | 100.0% |
| **BEE COUNTY \| MUNICIPAL WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 3,068 | 4,293 | 39.9% | 3,103 | 4,332 | 39.6% |
| PROJECTED DEMAND TOTAL | 3,008 | 4,564 | 51.7% | 3,040 | 4,625 | 52.1% |

*WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Data Comparison to 2016 RWP report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Before aggregating the difference between supplies and demands to the WUG county and category level, calculated surpluses are updated to zero so that only the WUGs with needs in the decade are included with the Needs totals.

# Region N Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)*

| | 2020 PLANNING DECADE | | | 2070 PLANNING DECADE | | |
|---|---|---|---|---|---|---|
| | 2016 RWP | 2021 RWP | DIFFERENCE (%) | 2016 RWP | 2021 RWP | DIFFERENCE (%) |
| WATER SUPPLY NEEDS TOTAL | 0 | 271 | 100.0% | 0 | 293 | 100.0% |
| **BROOKS COUNTY \| COUNTY-OTHER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 450 | 32 | -92.9% | 450 | 32 | -92.9% |
| PROJECTED DEMAND TOTAL | 326 | 224 | -31.3% | 449 | 341 | -24.1% |
| WATER SUPPLY NEEDS TOTAL | 0 | 192 | 100.0% | 0 | 309 | 100.0% |
| **BROOKS COUNTY \| IRRIGATION WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 2,300 | 1,161 | -49.5% | 2,300 | 1,161 | -49.5% |
| PROJECTED DEMAND TOTAL | 1,800 | 1,161 | -35.5% | 2,297 | 1,161 | -49.5% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **BROOKS COUNTY \| LIVESTOCK WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 620 | 463 | -25.3% | 620 | 463 | -25.3% |
| PROJECTED DEMAND TOTAL | 620 | 463 | -25.3% | 620 | 463 | -25.3% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **BROOKS COUNTY \| MANUFACTURING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 0 | 1 | 100.0% | 0 | 1 | 100.0% |
| PROJECTED DEMAND TOTAL | 0 | 1 | 100.0% | 0 | 1 | 100.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **BROOKS COUNTY \| MINING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 360 | 178 | -50.6% | 360 | 178 | -50.6% |
| PROJECTED DEMAND TOTAL | 357 | 357 | 0.0% | 298 | 298 | 0.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 179 | 100.0% | 0 | 120 | 100.0% |
| **BROOKS COUNTY \| MUNICIPAL WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 2,697 | 1,639 | -39.2% | 2,697 | 1,852 | -31.3% |
| PROJECTED DEMAND TOTAL | 1,677 | 1,639 | -2.3% | 1,915 | 1,852 | -3.3% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **DUVAL COUNTY \| COUNTY-OTHER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 650 | 0 | -100.0% | 650 | 0 | -100.0% |
| PROJECTED DEMAND TOTAL | 549 | 477 | -13.1% | 610 | 516 | -15.4% |
| WATER SUPPLY NEEDS TOTAL | 0 | 477 | 100.0% | 0 | 516 | 100.0% |
| **DUVAL COUNTY \| IRRIGATION WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 3,900 | 4,042 | 3.6% | 3,900 | 4,042 | 3.6% |
| PROJECTED DEMAND TOTAL | 3,004 | 4,042 | 34.6% | 3,834 | 4,042 | 5.4% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **DUVAL COUNTY \| LIVESTOCK WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 754 | 640 | -15.1% | 754 | 640 | -15.1% |
| PROJECTED DEMAND TOTAL | 754 | 640 | -15.1% | 754 | 640 | -15.1% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **DUVAL COUNTY \| MINING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 4,656 | 676 | -85.5% | 4,656 | 676 | -85.5% |
| PROJECTED DEMAND TOTAL | 1,388 | 1,388 | 0.0% | 1,104 | 1,104 | 0.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 712 | 100.0% | 0 | 428 | 100.0% |
| **DUVAL COUNTY \| MUNICIPAL WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 2,024 | 1,406 | -30.5% | 2,024 | 1,544 | -23.7% |
| PROJECTED DEMAND TOTAL | 1,610 | 1,694 | 5.2% | 1,858 | 1,961 | 5.5% |

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# Region N Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)*

| | 2020 PLANNING DECADE | | | 2070 PLANNING DECADE | | |
|---|---|---|---|---|---|---|
| | 2016 RWP | 2021 RWP | DIFFERENCE (%) | 2016 RWP | 2021 RWP | DIFFERENCE (%) |
| WATER SUPPLY NEEDS TOTAL | 0 | 288 | 100.0% | 107 | 417 | 289.7% |
| **JIM WELLS COUNTY \| COUNTY-OTHER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 3,430 | 37 | -98.9% | 3,430 | 37 | -98.9% |
| PROJECTED DEMAND TOTAL | 2,634 | 2,095 | -20.5% | 3,360 | 2,687 | -20.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 2,058 | 100.0% | 0 | 2,650 | 100.0% |
| **JIM WELLS COUNTY \| IRRIGATION WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 3,300 | 1,580 | -52.1% | 3,300 | 1,580 | -52.1% |
| PROJECTED DEMAND TOTAL | 2,500 | 1,913 | -23.5% | 3,191 | 1,913 | -40.1% |
| WATER SUPPLY NEEDS TOTAL | 0 | 333 | 100.0% | 0 | 333 | 100.0% |
| **JIM WELLS COUNTY \| LIVESTOCK WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 1,029 | 902 | -12.3% | 1,029 | 902 | -12.3% |
| PROJECTED DEMAND TOTAL | 1,029 | 902 | -12.3% | 1,029 | 902 | -12.3% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **JIM WELLS COUNTY \| MANUFACTURING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 0 | 79 | 100.0% | 0 | 79 | 100.0% |
| PROJECTED DEMAND TOTAL | 0 | 79 | 100.0% | 0 | 95 | 100.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 16 | 100.0% |
| **JIM WELLS COUNTY \| MINING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 74 | 19 | -74.3% | 74 | 16 | -78.4% |
| PROJECTED DEMAND TOTAL | 71 | 71 | 0.0% | 17 | 17 | 0.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 52 | 100.0% | 0 | 1 | 100.0% |
| **JIM WELLS COUNTY \| MUNICIPAL WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 7,016 | 5,984 | -14.7% | 8,245 | 7,747 | -6.0% |
| PROJECTED DEMAND TOTAL | 5,464 | 5,984 | 9.5% | 7,084 | 7,747 | 9.4% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 51 | 0 | -100.0% |
| **KENEDY COUNTY \| COUNTY-OTHER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 305 | 244 | -20.0% | 305 | 263 | -13.8% |
| PROJECTED DEMAND TOTAL | 244 | 244 | 0.0% | 264 | 263 | -0.4% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **KENEDY COUNTY \| LIVESTOCK WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 644 | 735 | 14.1% | 644 | 735 | 14.1% |
| PROJECTED DEMAND TOTAL | 644 | 735 | 14.1% | 644 | 735 | 14.1% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **KENEDY COUNTY \| MINING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 130 | 60 | -53.8% | 130 | 27 | -79.2% |
| PROJECTED DEMAND TOTAL | 118 | 118 | 0.0% | 27 | 27 | 0.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 58 | 100.0% | 0 | 0 | 0.0% |
| **KLEBERG COUNTY \| COUNTY-OTHER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 3,633 | 257 | -92.9% | 3,633 | 349 | -90.4% |
| PROJECTED DEMAND TOTAL | 601 | 257 | -57.2% | 817 | 349 | -57.3% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **KLEBERG COUNTY \| IRRIGATION WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 800 | 850 | 6.3% | 800 | 850 | 6.3% |
| PROJECTED DEMAND TOTAL | 600 | 850 | 41.7% | 766 | 850 | 11.0% |

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# Region N Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)*

| | 2020 PLANNING DECADE | | | 2070 PLANNING DECADE | | |
|---|---|---|---|---|---|---|
| | 2016 RWP | 2021 RWP | DIFFERENCE (%) | 2016 RWP | 2021 RWP | DIFFERENCE (%) |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **KLEBERG COUNTY \| LIVESTOCK WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 1,276 | 673 | -47.3% | 1,276 | 673 | -47.3% |
| PROJECTED DEMAND TOTAL | 1,276 | 673 | -47.3% | 1,276 | 673 | -47.3% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **KLEBERG COUNTY \| MANUFACTURING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 0 | 1,809 | 100.0% | 0 | 1,809 | 100.0% |
| PROJECTED DEMAND TOTAL | 0 | 1,809 | 100.0% | 0 | 2,056 | 100.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 247 | 100.0% |
| **KLEBERG COUNTY \| MINING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 380 | 218 | -42.6% | 380 | 218 | -42.6% |
| PROJECTED DEMAND TOTAL | 357 | 357 | 0.0% | 298 | 298 | 0.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 139 | 100.0% | 0 | 80 | 100.0% |
| **KLEBERG COUNTY \| MUNICIPAL WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 4,929 | 5,152 | 4.5% | 6,159 | 6,892 | 11.9% |
| PROJECTED DEMAND TOTAL | 4,573 | 5,152 | 12.7% | 6,090 | 6,892 | 13.2% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **LIVE OAK COUNTY \| COUNTY-OTHER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 1,002 | 637 | -36.4% | 1,002 | 602 | -39.9% |
| PROJECTED DEMAND TOTAL | 802 | 637 | -20.6% | 758 | 602 | -20.6% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **LIVE OAK COUNTY \| IRRIGATION WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 2,900 | 1,287 | -55.6% | 2,900 | 1,096 | -62.2% |
| PROJECTED DEMAND TOTAL | 2,200 | 1,630 | -25.9% | 2,808 | 1,630 | -42.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 343 | 100.0% | 0 | 534 | 100.0% |
| **LIVE OAK COUNTY \| LIVESTOCK WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 933 | 740 | -20.7% | 933 | 740 | -20.7% |
| PROJECTED DEMAND TOTAL | 933 | 740 | -20.7% | 933 | 740 | -20.7% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **LIVE OAK COUNTY \| MANUFACTURING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 5,054 | 2,274 | -55.0% | 5,054 | 2,465 | -51.2% |
| PROJECTED DEMAND TOTAL | 2,024 | 2,274 | 12.4% | 2,333 | 2,493 | 6.9% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 28 | 100.0% |
| **LIVE OAK COUNTY \| MINING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 920 | 814 | -11.5% | 920 | 332 | -63.9% |
| PROJECTED DEMAND TOTAL | 814 | 814 | 0.0% | 332 | 332 | 0.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **LIVE OAK COUNTY \| MUNICIPAL WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 2,507 | 1,188 | -52.6% | 2,507 | 1,111 | -55.7% |
| PROJECTED DEMAND TOTAL | 944 | 1,179 | 24.9% | 882 | 1,101 | 24.8% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **MCMULLEN COUNTY \| COUNTY-OTHER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 546 | 97 | -82.2% | 546 | 89 | -83.7% |
| PROJECTED DEMAND TOTAL | 97 | 97 | 0.0% | 90 | 89 | -1.1% |

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# Region N Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)*

| | 2020 PLANNING DECADE | | | 2070 PLANNING DECADE | | |
|---|---|---|---|---|---|---|
| | 2016 RWP | 2021 RWP | DIFFERENCE (%) | 2016 RWP | 2021 RWP | DIFFERENCE (%) |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **MCMULLEN COUNTY \| IRRIGATION WUG TYPE** | | | | | | |
| PROJECTED DEMAND TOTAL | 40 | 0 | -100.0% | 51 | 0 | -100.0% |
| WATER SUPPLY NEEDS TOTAL | 40 | 0 | -100.0% | 51 | 0 | -100.0% |
| **MCMULLEN COUNTY \| LIVESTOCK WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 355 | 335 | -5.6% | 355 | 335 | -5.6% |
| PROJECTED DEMAND TOTAL | 355 | 335 | -5.6% | 355 | 335 | -5.6% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **MCMULLEN COUNTY \| MANUFACTURING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 0 | 219 | 100.0% | 0 | 249 | 100.0% |
| PROJECTED DEMAND TOTAL | 0 | 219 | 100.0% | 0 | 249 | 100.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **MCMULLEN COUNTY \| MINING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 1,535 | 4,268 | 178.0% | 1,535 | 1,305 | -15.0% |
| PROJECTED DEMAND TOTAL | 4,268 | 4,268 | 0.0% | 1,305 | 1,305 | 0.0% |
| WATER SUPPLY NEEDS TOTAL | 2,733 | 0 | -100.0% | 0 | 0 | 0.0% |
| **NUECES COUNTY \| COUNTY-OTHER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 2,042 | 230 | -88.7% | 2,096 | 303 | -85.5% |
| PROJECTED DEMAND TOTAL | 1,554 | 1,475 | -5.1% | 2,093 | 1,667 | -20.4% |
| WATER SUPPLY NEEDS TOTAL | 0 | 1,245 | 100.0% | 0 | 1,364 | 100.0% |
| **NUECES COUNTY \| IRRIGATION WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 701 | 1,489 | 112.4% | 701 | 1,489 | 112.4% |
| PROJECTED DEMAND TOTAL | 439 | 1,540 | 250.8% | 560 | 1,540 | 175.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 51 | 100.0% | 0 | 51 | 100.0% |
| **NUECES COUNTY \| LIVESTOCK WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 315 | 291 | -7.6% | 315 | 291 | -7.6% |
| PROJECTED DEMAND TOTAL | 315 | 291 | -7.6% | 315 | 291 | -7.6% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **NUECES COUNTY \| MANUFACTURING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 50,276 | 46,822 | -6.9% | 48,166 | 23,342 | -51.5% |
| PROJECTED DEMAND TOTAL | 50,276 | 45,411 | -9.7% | 67,769 | 50,363 | -25.7% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 19,603 | 27,021 | 37.8% |
| **NUECES COUNTY \| MINING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 724 | 95 | -86.9% | 1,260 | 133 | -89.4% |
| PROJECTED DEMAND TOTAL | 724 | 724 | 0.0% | 1,260 | 1,260 | 0.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 629 | 100.0% | 0 | 1,127 | 100.0% |
| **NUECES COUNTY \| MUNICIPAL WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 70,034 | 69,306 | -1.0% | 80,902 | 80,829 | -0.1% |
| PROJECTED DEMAND TOTAL | 71,617 | 73,433 | 2.5% | 82,427 | 84,922 | 3.0% |
| WATER SUPPLY NEEDS TOTAL | 1,583 | 4,127 | 160.7% | 1,525 | 4,093 | 168.4% |
| **NUECES COUNTY \| STEAM ELECTRIC POWER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 15,038 | 2,077 | -86.2% | 27,648 | 2,077 | -92.5% |
| PROJECTED DEMAND TOTAL | 15,038 | 2,077 | -86.2% | 34,541 | 2,077 | -94.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 6,893 | 0 | -100.0% |

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# Region N Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)*

| | 2020 PLANNING DECADE | | | 2070 PLANNING DECADE | | |
|---|---|---|---|---|---|---|
| | 2016 RWP | 2021 RWP | DIFFERENCE (%) | 2016 RWP | 2021 RWP | DIFFERENCE (%) |
| **SAN PATRICIO COUNTY \| COUNTY-OTHER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 1,584 | 843 | -46.8% | 1,705 | 908 | -46.7% |
| PROJECTED DEMAND TOTAL | 1,584 | 843 | -46.8% | 1,705 | 908 | -46.7% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **SAN PATRICIO COUNTY \| IRRIGATION WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 14,441 | 14,441 | 0.0% | 14,441 | 14,441 | 0.0% |
| PROJECTED DEMAND TOTAL | 11,085 | 14,645 | 32.1% | 18,632 | 14,645 | -21.4% |
| WATER SUPPLY NEEDS TOTAL | 0 | 204 | 100.0% | 4,191 | 204 | -95.1% |
| **SAN PATRICIO COUNTY \| LIVESTOCK WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 406 | 396 | -2.5% | 406 | 396 | -2.5% |
| PROJECTED DEMAND TOTAL | 406 | 396 | -2.5% | 406 | 396 | -2.5% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **SAN PATRICIO COUNTY \| MANUFACTURING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 33,286 | 36,555 | 9.8% | 38,462 | 35,959 | -6.5% |
| PROJECTED DEMAND TOTAL | 39,737 | 38,841 | -2.3% | 56,991 | 43,223 | -24.2% |
| WATER SUPPLY NEEDS TOTAL | 6,451 | 2,286 | -64.6% | 18,529 | 7,264 | -60.8% |
| **SAN PATRICIO COUNTY \| MINING WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 565 | 135 | -76.1% | 565 | 135 | -76.1% |
| PROJECTED DEMAND TOTAL | 372 | 372 | 0.0% | 533 | 533 | 0.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 237 | 100.0% | 0 | 398 | 100.0% |
| **SAN PATRICIO COUNTY \| MUNICIPAL WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 9,127 | 9,412 | 3.1% | 9,446 | 9,875 | 4.5% |
| PROJECTED DEMAND TOTAL | 8,561 | 9,412 | 9.9% | 8,980 | 9,875 | 10.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **SAN PATRICIO COUNTY \| STEAM ELECTRIC POWER WUG TYPE** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 0 | 1,919 | 100.0% | 0 | 1,919 | 100.0% |
| PROJECTED DEMAND TOTAL | 0 | 1,919 | 100.0% | 0 | 1,919 | 100.0% |
| WATER SUPPLY NEEDS TOTAL | 0 | 0 | 0.0% | 0 | 0 | 0.0% |
| **REGION N** | | | | | | |
| EXISTING WUG SUPPLY TOTAL | 278,782 | 238,551 | -14.4% | 308,706 | 226,940 | -26.5% |
| PROJECTED DEMAND TOTAL | 261,970 | 253,218 | -3.3% | 343,244 | 276,492 | -19.4% |
| WATER SUPPLY NEEDS TOTAL | 10,807 | 16,087 | 48.9% | 50,950 | 49,562 | -2.7% |

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# Appendix A: DB 22 Report #10b- Source Data Comparison to 2016 RWP

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# Region N Source Data Comparison to 2016 Regional Water Plan (RWP)

| | 2020 PLANNING DECADE | | | 2070 PLANNING DECADE | | |
|---|---|---|---|---|---|---|
| | 2016 RWP | 2021 RWP | DIFFERENCE (%) | 2016 RWP | 2021 RWP | DIFFERENCE (%) |
| **ARANSAS COUNTY** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 1,862 | 1,542 | -17.2% | 1,862 | 1,542 | -17.2% |
| SURFACE WATER AVAILABILITY TOTAL (acre-feet per year) | 21 | 33 | 57.1% | 21 | 33 | 57.1% |
| **BEE COUNTY** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 20,568 | 18,437 | -10.4% | 20,492 | 20,973 | 2.3% |
| SURFACE WATER AVAILABILITY TOTAL (acre-feet per year) | 464 | 464 | 0.0% | 464 | 464 | 0.0% |
| **BROOKS COUNTY** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 15,595 | 5,582 | -64.2% | 15,595 | 7,892 | -49.4% |
| SURFACE WATER AVAILABILITY TOTAL (acre-feet per year) | 160 | 125 | -21.9% | 160 | 125 | -21.9% |
| **DUVAL COUNTY** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 14,063 | 20,571 | 46.3% | 14,063 | 26,963 | 91.7% |
| SURFACE WATER AVAILABILITY TOTAL (acre-feet per year) | 148 | 30 | -79.7% | 148 | 30 | -79.7% |
| **JIM WELLS COUNTY** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 27,886 | 9,144 | -67.2% | 27,886 | 11,017 | -60.5% |
| SURFACE WATER AVAILABILITY TOTAL (acre-feet per year) | 402 | 212 | -47.3% | 402 | 212 | -47.3% |
| **KENEDY COUNTY** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 51,778 | 13,301 | -74.3% | 51,778 | 29,261 | -43.5% |
| **KLEBERG COUNTY** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 50,701 | 10,365 | -79.6% | 50,701 | 18,711 | -63.1% |
| **LIVE OAK COUNTY** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 13,833 | 8,338 | -39.7% | 13,833 | 8,441 | -39.0% |
| SURFACE WATER AVAILABILITY TOTAL (acre-feet per year) | 1,752 | 1,711 | -2.3% | 1,752 | 1,711 | -2.3% |
| **MCMULLEN COUNTY** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 2,734 | 7,789 | 184.9% | 2,734 | 5,138 | 87.9% |
| SURFACE WATER AVAILABILITY TOTAL (acre-feet per year) | 262 | 279 | 6.5% | 262 | 295 | 12.6% |
| **NUECES COUNTY** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 9,009 | 6,589 | -26.9% | 9,009 | 7,924 | -12.0% |
| REUSE AVAILABILITY TOTAL (acre-feet per year) | 1,140 | 1,213 | 6.4% | 1,140 | 1,213 | 6.4% |
| SURFACE WATER AVAILABILITY TOTAL (acre-feet per year) | 1,991 | 436 | -78.1% | 1,991 | 436 | -78.1% |
| **RESERVOIR COUNTY** | | | | | | |
| SURFACE WATER AVAILABILITY TOTAL (acre-feet per year) | 150,160 | 106,560 | -29.0% | 143,160 | 95,360 | -33.4% |
| **SAN PATRICIO COUNTY** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 19,013 | 43,611 | 129.4% | 19,013 | 49,234 | 158.9% |
| REUSE AVAILABILITY TOTAL (acre-feet per year) | 2,688 | 2,688 | 0.0% | 2,688 | 2,688 | 0.0% |
| SURFACE WATER AVAILABILITY TOTAL (acre-feet per year) | 115 | 163 | 41.7% | 115 | 163 | 41.7% |
| **REGION N** | | | | | | |
| GROUNDWATER AVAILABILITY TOTAL (acre-feet per year) | 227,042 | 145,269 | -36.0% | 226,966 | 187,096 | -17.6% |
| REUSE AVAILABILITY TOTAL (acre-feet per year) | 3,828 | 3,901 | 1.9% | 3,828 | 3,901 | 1.9% |
| SURFACE WATER AVAILABILITY TOTAL (acre-feet per year) | 155,475 | 110,013 | -29.2% | 148,475 | 98,829 | -33.4% |

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# B

# Appendix B

Hydrologic Variance Request(s) and
TWDB Approval Letters

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# Appendix B: Hydrologic Variance Request(s) and TWDB Approval Letters

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# Coastal Bend Regional Water Planning Group

602 N. Staples Street Suite 280, Corpus Christi, Texas 78401
Phone: 361-653-2110; Fax: 361-653-2115




September 22, 2017

Jeff Walker
Executive Administrator
Texas Water Development Board
Stephen F. Austin Bldg.
P.O. Box 13231
Austin, Texas 78711-3231

RE: Request for Hydrologic Variance to Use the Corpus Christi Water Supply Model to Evaluate Water Availability for the Choke Canyon Reservoir/ Lake Corpus Christi/ Lake Texana/Colorado River (CCR/LCC/Lake Texana/MRP Phase II) System **AND** Request for Approval to Report Water Availability for this Multi-Basin Regional Supply as a System rather than Individual Reservoirs

Dear Mr. Walker:

The City of Corpus Christi and other regional wholesale water providers supply nearly 90% of the Coastal Bend Regional water needs with supplies from the Choke Canyon Reservoir/ Lake Corpus Christi/ Lake Texana/Colorado River (CCR/LCC/Lake Texana/MRP Phase II) System. The multi-basin system presents a unique situation for managing reservoir operations and determining available supply based on permitting and contract relationships in conjunction with variable hydrology by basin. This complex system and the TCEQ Agreed Order (2001) that governs the passage of inflow through the system to the Nueces Bay and Estuary led to development of the Corpus Christi Water Supply Model, originally developed as the Nueces Bay and Estuary Model in 1991.

According to TWDB Guidelines[1] for 2021 Regional Plan Development, "planning groups are required to use TCEQ's unmodified WAM Run #3 to estimate surface water availability unless the TWDB Executive Administrator has approved use of other models." On August 10, 2017, the Coastal Bend Regional Water Planning Group (CBRWPG) approved that a request be sent to the TWDB for approval to use the Corpus Christi Water Supply Model to estimate surface water availability for the CCR/LCC/Lake Texana/MRP Phase II System for the 2021 Coastal Bend Regional Water Plan. For all other water rights except the CCR/LCC/Lake Texana/MRP Phase II System, the unmodified WAM Run #3 would be used.

[1] Texas Water Development Board, First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development, April 2017.

At the same meeting, on August 10th, the CBRWPG approved that a request be sent to the TWDB for approval to allow the CCR/LCC/Lake Texana/MRP Phase II System to be evaluated and reported as a reservoir *system*[2] for the 2021 Coastal Bend Regional Water Plan. Reporting by individual reservoirs is problematic and misleading, since it does not appropriately reflect the City's reservoir operation policy nor account for system gains.

The Corpus Christi Water Supply Model incorporates data from the Nueces WAM, however it also includes and operates the Lavaca, and portions of the Colorado in a conjunctive manner and includes extended hydrology through 2015. **The use of the Corpus Christi Water Supply Model is important to the Region since it includes the most recent drought and enables the reservoirs to be operated as a system according to permit and contract allowances to calculate supplies made available by both firm and interruptible water from Lake Texana and supplies from the Lower Colorado River.**

All previous Region N Plans have used the Corpus Christi Water Supply Model to determine water availability for the multi-basin regional water supply system. The TWDB, City of Corpus Christi, and other stakeholders have continued to invest in the Corpus Christi Water Supply Model since inception of the model in 1991, including a recent update by the City of Corpus Christi to include:

- Hydrology through 2015 to include the most recent drought of record for a total model period of 82 years (1934 to 2015)
- New TWDB volumetric survey data for Lake Corpus Christi and Choke Canyon Reservoir with updated sedimentation rates
- Recent hydrology for Lake Texana and Colorado River (MRP Phase II)

*The TCEQ Nueces River Basin WAM simulates hydrologic conditions from 1934 to 1996 and does not include the most recent drought of record.* Furthermore, the TCEQ Nueces Basin WAM Run # 3 does not accurately simulate the City's reservoir operating system because it does not include existing water supplies from the east (i.e. Lake Texana and Colorado River).

**The Coastal Bend Regional Water Planning Group requests (1) approval to use the Corpus Christi Water Supply Model for developing the 2021 Plan to estimate the yield of the CCR/LCC/Lake Texana/MRP Phase II System and (2) approval to report its supply as a *reservoir system* rather than individual reservoirs.**

The TWDB formula-based funding allocation for Task 3 included in the Regional Water Planning Grant Application published in the Texas Register provides suitable funds to use the Corpus Christi Water Supply Model to evaluate water supplies and water management strategies. If not approved, the surface water supply evaluation effort to use and adapt the WAM(s) for 2021 Coastal Bend Regional Water Plan development will require substantial cost revisions beyond the TWDB's allocated budget.

Thank you for your consideration of this important request. Please contact me at 361-653-2110 with any questions or comments.

2 As specified in Attachment 1- Exhibit A TWDB- Fifth Cycle of Regional Water Planning First Amended Scope of Work, "Reservoir systems must be approved by TWDB."

Sincerely,

Rocky Freund
Deputy Executive Director
Nueces River Authority

CC: Carola Serrato, Co-Chair CBRWPG
Scott Bledsoe, Co-Chair CBRWPG
Temple McKinnon, TWDB
Connie Townsend, TWDB
Kristi Shaw, HDR Engineering

# Coastal Bend Regional Water Planning Group

602 N. Staples Street Suite 280, Corpus Christi, Texas 78401
Phone: 361-653-2110; Fax: 361-653-2115




September 22, 2017

Jeff Walker
Executive Administrator
Texas Water Development Board
Stephen F. Austin Bldg.
P.O. Box 13231
Austin, Texas 78711-3231

RE: Request for Approval to Use Safe Yield as the Basis for Determining Available Surface Water Supplies from the Choke Canyon Reservoir/ Lake Corpus Christi/ Lake Texana/Colorado River (CCR/LCC/Lake Texana/MRP Phase II) System for the 2021 Coastal Bend Regional Water Plan

Dear Mr. Walker:

The Coastal Bend Regional Water Planning Group (CBRWPG) requests TWDB approval of a hydrologic variance to grant the use of safe yield for planning and determining surface water availability from the Choke Canyon Reservoir/ Lake Corpus Christi/ Lake Texana/Colorado River (CCR/LCC/Lake Texana/MRP Phase II) System. The CBRWPG approved submittal of this request at its regularly scheduled, public meeting on August 10, 2017.

According to TWDB Guidelines[1] for 2021 Regional Plan Development, "planning groups should analyze existing available surface water supplies based on firm yield for reservoirs and run of river diversions, unless otherwise approved by the TWDB's Executive Administrator." In accordance with TWDB guidance, firm yield will be reported in the technical memorandum, Initially Prepared Plan, and 2021 Regional Water Plan. However, if the hydrologic variance requested by this letter is granted, then safe yield will be used to evaluate existing water supply availability from the CCR/LCC/Lake Texana/MRP Phase II System for development of the Coastal Bend Regional Water Plan. All other surface water supplies will be reported based on firm yield.

Choke Canyon Reservoir and Lake Corpus Christi in the Nueces Basin operate together in a system to provide water supplies to the City of Corpus Christi (City) and their customers. Together with Lake Texana and Colorado River supplies, the CCR/LCC/Lake Texana/MRP Phase II system provides surface water supplies to meet nearly 90% of the overall water demands in the Coastal Bend Region. The Nueces Basin portion of the regional water supply system is prone to severe drought. Average annual inflows to the Lake Corpus Christi and Choke Canyon System in the Nueces Basin is lower with each successive

1 Texas Water Development Board, "First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development, April 2017.

drought. The single lowest inflow year was 2011, however based on calendar year the most recent average three year inflow was comparable to the 1990s, as shown in the Attachment. When the minimum 3 year inflow periods (not constrained by calendar) are considered, less inflow is observed during more recent times. If we look at two year inflow minimums, there are two, two-year events during the most recent decade where inflows were less than 50% of the historical minimum two year average (from 1934-2013).

A recent hydrology update to the Corpus Christi Water Supply Model (through 2015) shows that the current drought is a new drought of record for the region. Choke Canyon Reservoir and Lake Corpus Christi have not been full (i.e. 100% conservation pool) since September 2007. For this reason, safe yield is more reasonable than firm yield for drought planning purposes as a provision for climate uncertainty. Safe yield planning reduces the annual availability volume from the CCR/LCC/Lake Texana/MRP Phase II System as compared to the firm yield availability estimate, and will consequently move up any identified water needs to earlier decades than with use of firm yield.

**The Coastal Bend Regional Water Planning Group requests that the TWDB approve the use of safe yield analyses for the CCR/LCC/Lake Texana/MRP Phase II System for developing the 2021 Coastal Bend Regional Water Plan.** The previous Coastal Bend Regional Water Plans (2006, 2011, and 2016) have all used safe yield for water supply planning for the multi-basin regional water supply system.

Thank you for your consideration of this important request. Please contact me at 361-653-2110 with any questions or comments.

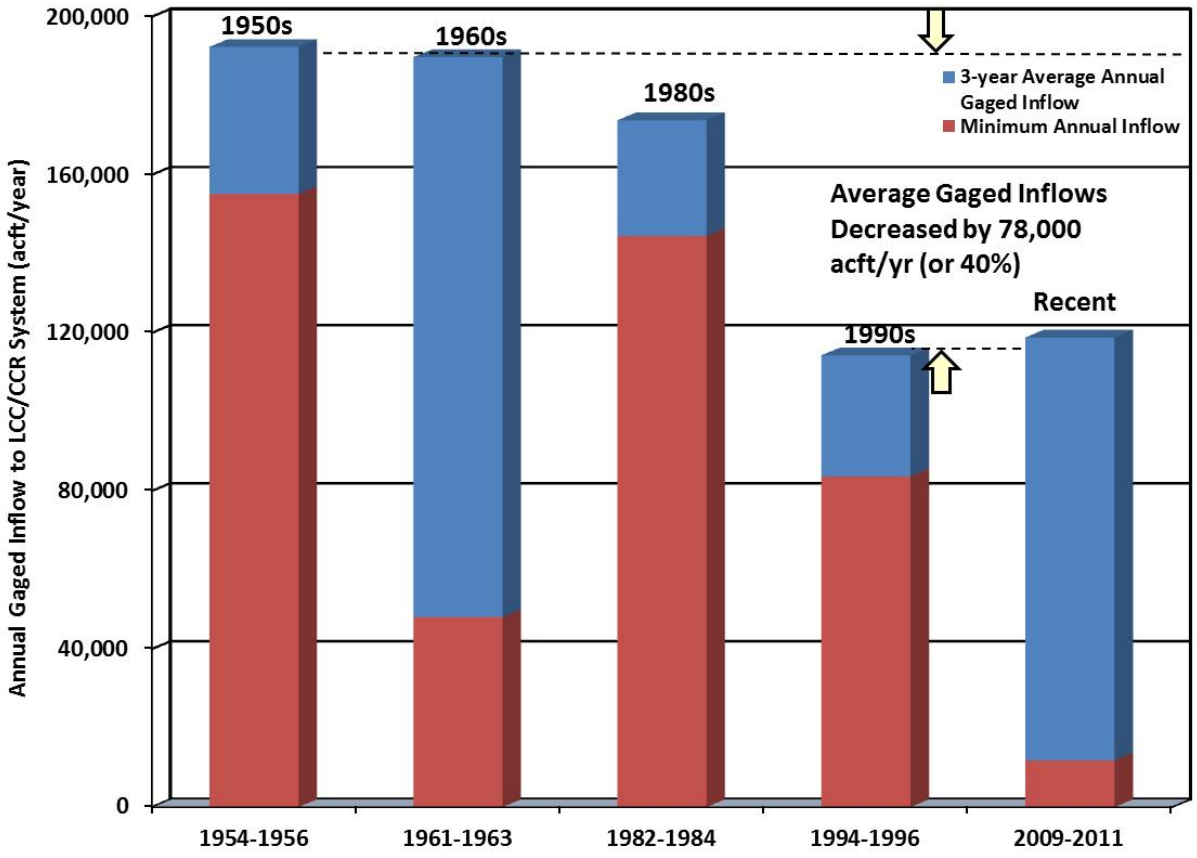
Sincerely,

Rocky Freund

Rocky Freund
Deputy Executive Director
Nueces River Authority

CC: Carola Serrato, Co-Chair CBRWPG
Scott Bledsoe, Co-Chair CBRWPG
Temple McKinnon, TWDB
Connie Townsend, TWDB
Kristi Shaw, HDR Engineering

ATTACHMENT




***Historical 3 Year Reservoir Inflows***

Source: 2016 Coastal Bend Regional Water Plan

Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

January 5, 2018

Ms. Rocky Freund
Deputy Executive Director
Nueces River Authority
602 N. Staples St, #280
Corpus Christi, Texas 78401

RE: Region N Regional Water Planning Group (RWPG) requests for approval to modify existing surface water availability hydrologic assumptions for development of the 2021 Region N Regional Water Plan (RWP)

Dear Ms. Freund:

The Texas Water Development Board (TWDB) has reviewed your requests dated September 22, 2017 for approval of alternative water supply assumptions to be used in determining existing surface water availability. This letter confirms that the TWDB approves the following:

1. Use of the Corpus Christi Water Supply Model to estimate surface water availability for the Choke Canyon Reservoir (CCR)/Lake Corpus Christi (LLC)/Lake Texana/MRP Phase II System.
2. Use of safe yield for planning and determining surface water availability from the CCR/LLC/Lake Texana/MRP Phase II System.

The RWPG also requested approval to report surface water availability for the CCR/LLC/Lake Texana/MRP Phase II System rather than by individual reservoirs. This assumption is allowable under existing regional water planning guidance.

We understand that for all water rights except those for the CCR/LCC/Lake Texana/MRP Phase II System, Region N will use the Texas Commission on Environmental Quality's (TCEQ) Water Availability Model (WAM) RUN3 with full diversions and no return flows and firm yields of reservoirs for evaluating the availability associated with these other water rights.

Although the TWDB approves the use of a one-year safe yield for developing estimates of current water supplies for the CCR/LCC/Lake Texana/MRP Phase II System, firm yield for the system must still be reported to TWDB in the online planning database and plan documents.

For the purpose of evaluating potentially feasible water management strategies, the TCEQ WAM RUN3 is to be used.

While the TWDB authorizes these modifications to evaluate existing water supplies for development of the 2021 Region N RWP, it is the responsibility of the RWPG to ensure that the resulting estimates of water availability are reasonable for drought planning purposes and will reflect conditions expected in the event of actual drought conditions; and in all other regards will be evaluated in accordance with the contract Exhibit C, *General Guidelines for Fifth Cycle of Regional Water Plan Development.*

If you have any questions, please do not hesitate to contact Connie Townsend, project manager for Region N, at 512-463-8290 or via email at connie.townsend@twdb.texas.gov.

Sincerely,

Jeff Walker
Executive Administrator

c: Carola Serrato, Co-Chair
Scotty Bledsoe, Co-Chair
Kristi Shaw, Consultant
Connie Townsend, Project Manager