

# CORPUS CHRISTI REGIONAL WATER SUPPLY SYSTEM FACT SHEET

System supplies approximately 110,000 ac-ft. per year of treated water and raw water to the region. [1](#)

System receives water from three separate river basins, increasing diversity of supply and utilizing the ability to maximize located rainfalls. [1](#)

Water from Colorado River Basin and Lavaca-Navidad Basin transported via Mary Rhodes pipeline.

- Mary Rhodes Phase 1 pipeline is approximately 101 miles long and has a 60" diameter.
- Mary Rhodes Phase 2 pipeline approximately 42 miles long and has 54" diameter.
- Designed maximum capacity is between 72-79 MGD or 80-88 acre- feet per year.
- Currently operated between 34 and 46 MGD.

The City of Corpus Christi provides water, both raw and treated, to seven regional wholesale users.

- San Patricio MWD
- City of Alice
- City of Beeville
- City of Mathis
- City of Port Aransas
- South Texas Water Authority [1](#)
- Violet Water Supply



Nueces River at Calallen



Mary Rhodes Pipeline Phase II



O.N.S.W.T.P.

# CORPUS CHRISTI REGIONAL WATER SUPPLY SYSTEM FACT SHEET

The City of Corpus Christi uses approximately 80,500ac-ft. per year. <sup>1</sup>

Drought Contingency measures occur when the combined lake levels fall below the 40%, 30%, and 20% thresholds.

O.N. Stevens Water Treatment Facility treats all surface water supplied. <sup>1</sup>

- Comprised of 1 pre-sedimentation basin
- (120MG), 4 treatment trains, 22 filters, 2 clear wells (4 MG and 10 MG).
- Rated Capacity of 161.5 MGD.
- Ongoing improvements should increase maximum capacity of 200 MGD.
- Treats approximately 75,000ac-ft. (24,400,000,000 gallons) per year from the combined systems.

*1. NRA Database 2001-2018 avg*



Choke Canyon Reservoir

O.N.S.W.T.P.

# NUECES RIVER BASIN



## NUECES RIVER BASIN

- 16,700 Sq. Miles
- Average Rainfall ranges from 21 in/year in the western most portion and 32 in/yr. in the eastern most. [2](#)
- Average stream flows-539,700 ac-ft. (205 billion gallons) per year. [2](#)
- Median stream flows-421,000 ac-ft. (137 billion gallons) per year. [2](#)
- Encompasses both Choke Canyon and Lake Corpus Christi.
- Industrial and municipal diversion rights of the City of Corpus Christi comprise approximately 84% of the total basin diversion rights. [2](#)
- The streams in the basin cross no less than five major groundwater recharge zones meaning only a small percentage of surface water from the upper reaches of the basin will ever reach the reservoir system. [2](#)



Nueces River at Calallen



# NUECES RIVER BASIN

## CHOKE CANYON RESERVOIR

- Impound: 1982
- Water Right 3214
  - Maximum Depth: 95.5 ft.
- Surface Area: 25,438 acres. 4
- 662,821 ac-ft. (215 billion gallons) of storage. 4
- Max. Permitted Diversions: 139,000 ac-ft. (45 billion gallons) per year
- The average evaporation is approximately 7,951 ac-ft. (2.58 billion gallons) per month. 5
- Since 1987, the average lake level has been 61%.7
- Release a required and constant 29 cubic feet per second (CFS)



Choke Canyon Reservoir

## LAKE CORPUS CHRISTI

- Impound : 1958
- Water Right: 2464
- Maximum Depth: 60 ft.
- Surface Area: 19,748 acres. 6
- 256,339 ac-ft. (83.5 billion gallons) of storage. 6
- Max. Permitted Diversions: 304,898 ac-ft (99 billion gallons) per year
- The average evaporation is approximately 6,399 ac-ft. (2.1 billion gallons) per month. 5
- Beginning in 1958, the average lake level has been 72%. 7



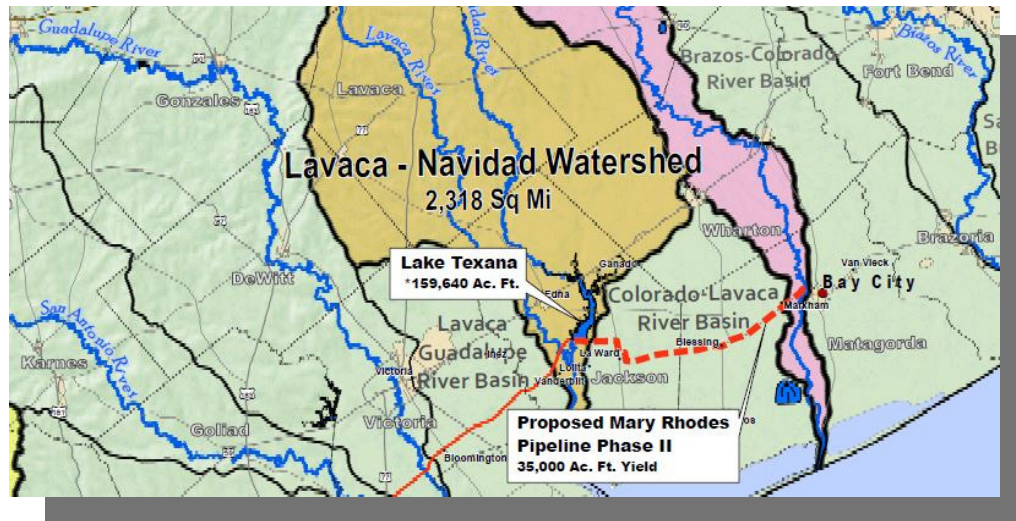
Lake Corpus Christi

# NUECES RIVER BASIN

- 2. Nueces River Authority. (2019.06.28). CC Water Supply. Retrieved 06,28,2019, from Nueces River Authority: <https://www.nueces-ra.org/CP/CITY/>*
- 3. HDR Engineering INC (1991), Regional Water Supply Planning Study-Phase 1. Corpus Christi: HDR Engineering.*
- 4. 2012 TWDB Volumetric Survey*
- 5. Dec 1999-Dec 2018 NRA's Database*
- 6. 2016 TWDB Volumetric*
- 7. NRA Data base*



# LAVACA-NAVIDAD WATERSHED



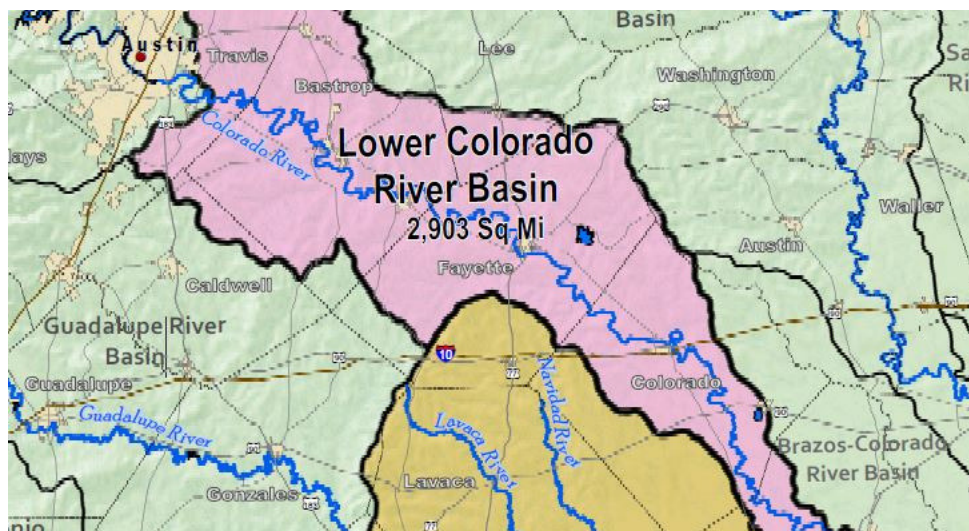
## LAVACA WATERSHED

- Average annual rainfall varies from 34 in. per year along the western boundary to approximately 41 in. per year along the eastern boundary. 8
- Encompasses approximately 2,309sq. mi. 8
- The Lavaca River is one of the Last unrestricted waterways in the State of Texas. 8
- The waters of the Navidad River, Sandy Creek and East and West Mustang Creek are Impounded in the Lake Texana Reservoir. 8

## LAKE TEXANA

- Impounded: 1980.
- Max. Depth: 58 ft. (Authority, 2012)
- Surface Area: 9,727 acres.
- 161,085 ac-ft. (52.5 billion gallons) of storage
- Water rights leased from the Lavaca-Navidad River Authority on a 42-year contract terminating in 2035.
- Supplies 36,440 acre-feet of raw water, plus 12,000 acre-feet of interruptible raw water.
- Water from Lake Texana delivered via the Mary Rhodes Phase I pipeline which was completed in October of 1998.

# LOWER COLORADO RIVER BASIN



- Length of River: 865 miles. 8
- Average Annual Flow: 1,904,000 ac-ft (620 billion gallons). 8
- Average discharge of 2,690cu-ft/s at Bay City. 8
- Water Rights #5434, Priority Data: 11/2/1900
- The City of Corpus Christi finalized the purchase of 35,000 ac-ft. from the Garwood Irrigation Company in 1999.
- The water right is the second oldest major water right on the lower Colorado River.
- The right has a maximum diversion rate of 298 ac-ft. per day.
- The water will be supplied by the Mary Rhodes Phase 2 pipeline having a diameter of 54" and being approximately 41 miles long.

8. *Texas Water Development Board (n.d) River Basin and Reservoirs. Retrieved 06,28,2019, from Texas Water Development Board:*  
[http://www.twdb.texas.gov/surfacewater/rivers/river\\_basins/index.asp](http://www.twdb.texas.gov/surfacewater/rivers/river_basins/index.asp)