**Basin Profile:** Colorado River Basin of Texas
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**Water Scarcity Status**

- Due to the extensive amount of land included in this basin and the varying climates, the basin is split into two main parts, the Upper and Lower Basins.
- The first 200 to 300 miles of the Colorado River are intermittent and commonly disappear underground for varying distances.
- Recurring droughts are helping to push better management practices and lower agricultural water use.

**Basin Overview**
Texas, United States
Area: 110,000 sq km
Climate: arid
Basin population: 2 million

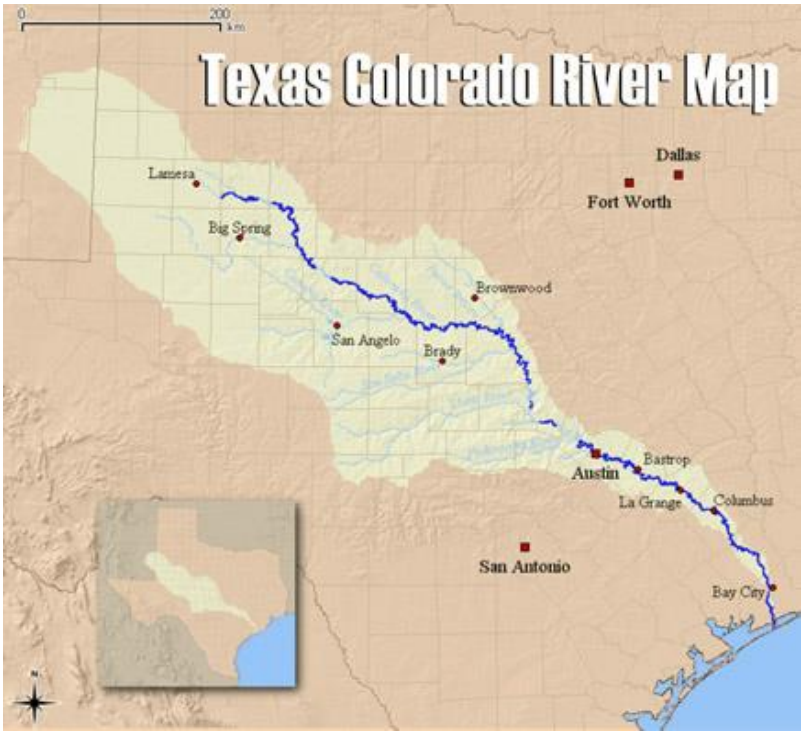

Figure 1. Map of the Texas Colorado River Basin (http://www.cwiconline.org/)

The Colorado River is the longest river flowing nearly entirely in Texas, totaling approximately 900 miles (1,450 kilometers) from the Texas Panhandle to the Gulf of Mexico, and discharging roughly 600 billion gallons (2.3 cubic kilometers) of water per year. Flowing southeast from the Panhandle Plains to the Matagorda Bay of the Gulf of Mexico, the river transitions from a low flow river in the west to a steady flow as the river approaches Lake Buchanan, one of six reservoirs on the main stem of the river.

Rainfall amounts decrease from East to West. For this reason, the majority of the Upper Colorado Basin is considered arid. Most precipitation falls between May and June. Texas (as of 2011) is

experiencing the worst drought on record since 1895 when the records were first recorded. From October 2010 to September 2011, the rainfall has been scarce and the heat has broken records. Of the entire southern United States, Texas is among the driest states.

Population density is greatest along the river, with the City of Austin being one of the densest regions in the state. Between 2000 and 2010, the population of Texas grew by roughly 20 percent. Within the Colorado River Basin, Austin is experiencing a similar growth rate.

Four state agencies are heavily involved with management of this basin. The Texas Commission on Environmental Quality (TCEQ) presides over setting surface water quality standards for each body of water. Two government agencies, the Lower Colorado River Authority (LCRA) and the Upper Colorado River Authority (UCRA), were founded in 1934 and have the mission of providing power generation, reforestation reclamation, and conservation of fish life. Due to the extensive amount of land included in this basin and the varying climates, the basin is split into two main parts, the Upper and Lower Basins and each is managed by its respective agency. Additionally, the Colorado Municipal Water District (CMWD) oversees part of the Upper Basin.

Agriculture is a primary industry in Texas and cropland makes up much of the low-density areas. The crops covering the majority of the 1,265,930 hectares (4,888 square miles) are seed cotton, managed grass, wheat, sorghum, groundnuts, maize, rice, sunflower seed, and oats. Seed cotton constitutes 53 percent of that. All of the region's most lucrative crops and greatest water consumers are grown in the Upper Basin..

## Water Scarcity Impacts

Environmental Impacts

The number of endangered species increases with proximity to the Gulf. This is likely due to the more tropical and wetter environment in the east. The Texas poppy-mallow is an example of an endangered species that is threatened by the farming, pasture planting, sand mining, and urban development encroaching its habitat. Endangered aquatic species, such as salamander species, arachnids, and beetles, are affected by the pollution and DO levels. Additionally, droughts can cause temperature fluctuations and changes in the water chemical composition beyond the species' tolerance limits. The lack of water and coastal habitat severely constrains the possibility for species to reestablish sustainable population sizes.

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