

Saving Water in

Texas

As the second most populous state in the country, Texas has a large and continually growing demand for water. Texas also has a semiarid climate, leaving the state prone to extreme droughts. Historically, most of Texas' droughts have ended with tremendous rain events, creating a cyclical pattern of droughts and floods. Efficient water management and water conservation projects are helping the state address this cycle and meet current and future water needs.

SOURCES OF WATER

- Ground water accounts for about 60 percent of the state's water needs, while surface water provides nearly all of the remaining 40 percent.
- Texas is home to nine major aquifers that supply much of its ground water, including the Ogallala-High Plains Aquifer that stretches beneath eight states. Together, the Ogallala and Rita Blanca aquifers supply nearly 4.2 million acre-feet of water per year. The Gulf Coast Aquifer, stretching from Florida through Texas to Mexico, supplies 54 Texas counties with nearly 1.4 million acre-feet per year.
- Texas' surface water sources consist of 15 major rivers, 188 major reservoirs, seven major estuaries, eight coastal basins, and the Gulf of Mexico. Surface water abundance generally matches precipitation trends in Texas, though precipitation varies across the large expanse of the state, with the eastern region receiving far more than the western region.
- Texas uses reclaimed water for less than 3 percent of its water supply; however, by 2060, reclaimed water is projected to provide about 10 percent.

SUPPLY ISSUES

- Municipal needs such as residential water use account for about 27 percent of Texas' water demand, but that share is expected to grow dramatically over the coming decades as population increases.
- Texas' population grew by more than 7 percent between 2010 and 2014 and is projected to increase by 82 percent between 2010 and 2060 to 46.3 million people.



Drought conditions caused water levels in Texas' Lake Travis to decline from 2010 to 2014, as seen in the 2014 photograph above. (Source: Lower Colorado River Authority)

- Providing water for such substantial population growth will require a combination of additional water supplies and increased conservation. By 2060, Texas' water demand is projected to increase from 18 million acre-feet per year in 2010 to 22 million acre-feet per year.
- Existing water supplies are projected to drop by 10 percent from 17.0 million acre-feet in 2010 to 15.3 million acre-feet in 2060. This includes the projected depletion of the Ogallala Aquifer's supplies, which are expected to decline by about 2 million acre-feet per year, and the Gulf Coast Aquifer, which is expected to decline by about 210,000 acre-feet per year.
- Based on daily per capita water availability, 10 urban areas in Texas are at medium or high vulnerability to water shortages, including San Antonio, El Paso, Dallas, and Austin.

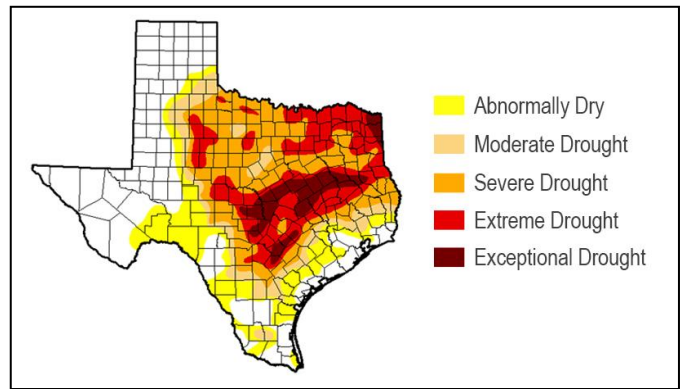
WATER USE CONCERNS

- In 2014, the U.S. Department of Agriculture designated 240 Texas counties as primary natural disaster areas due to drought.
- Texas' agricultural industry suffered billions of dollars in losses attributable to drought from 2011 to 2016, with \$7.6 billion in losses in 2011 alone.
- Between 2011 and 2014, some small communities in Texas, including Spicewood Beach and Barnhard, ran out of water, requiring the communities to truck in water to meet municipal demands.
- If water supply needs are not met by 2060, the Texas Water Development Board projects that the state will lose more than 1 million jobs and as much as \$115.7 billion per year.
- If extreme droughts persist, economic models show that, by 2060, Texas businesses and income might suffer \$12.8 billion in losses, leading to lost jobs and income that can result in a reduced population by 1.4 million people.

WHAT ARE TEXANS DOING TO SAVE WATER?

Many municipalities, utilities, and businesses in Texas are partners with WaterSense®, the U.S. Environmental Protection Agency program that offers people a simple way to identify products and homes that use less water and perform well. Some notable water conservation efforts by partners include the following:

- The Texas A&M AgriLife Research and Extension Center at Dallas' 8-by-14-foot Mobile WaterSense Home showcases a bathroom with a WaterSense labeled dual-flush toilet, faucet, and showerhead. Texas AgriLife distributes lawn flags promoting the "Find It, Flag It, Fix It" campaign, which encourages homeowners to inspect their in-ground irrigation systems for leaks and flag any necessary points of repair. More than 50,000 flags were distributed through the campaign in 2014 alone.



In October 2015, more than 65 percent of Texas was experiencing moderate to exceptional drought. (Source: U.S. Drought Monitor)

- San Antonio Water System (SAWS), which serves more than 1.6 million people, has spearheaded water savings efforts that have offset the area's 67 percent population increase and have reduced per capita water usage by 42 percent. Water conservation efforts have focused on education, outreach, and regulations, including: tools promoting water-smart landscaping, such as the WaterSaver Plant List; workshops and seminars on maintaining plants and soils; and year-round time restrictions for use of irrigation or sprinkler systems.
- The City of Dallas uses print, radio, and outdoor advertising to promote WaterSense and water efficiency. The city offers free water-efficient toilets through its "New Throne for Your Home" program. Since 2007, the city has given away more than 72,000 WaterSense labeled toilets. The City of Dallas estimates the program saves each household 10,600 gallons of water per year.

For more information about Texas water use, visit www.tceq.texas.gov/response/drought or www.twdb.texas.gov/.

References available by request. Contact watersense@epa.gov for additional information.