

Desalination in Texas – Highlights from the Texas Water Development Board's 2024 Biennial Report on Seawater and Brackish Groundwater Desalination in Texas

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The Biennial Reports on desalination in Texas by the Texas Water Development Board (TWDB) originated in 2003 when the 78th Texas Legislature directed the TWDB to provide updates on the state of seawater desalination projects throughout the state by December 1st of even-numbered years. Since 2006, the TWDB has included updates on brackish groundwater desalination projects in this report series. In 2015, the 84 th Texas Legislature passed House Bill 30, which requires the TWDB to report on brackish groundwater desalination projects and designated brackish groundwater production zones. The 2024 Biennial Report on Seawater and Brackish Groundwater Desalination in Texas is the 11th of these reports since 2003 and the 10th to include brackish groundwater desalination projects.

The 2024 Biennial Desalination Report shows that desalination continues to grow as a water source for Texas. As of 2024, Texas had 60 desalination facilities with a production capacity of at least 0.025 million gallons per day (MGD). Forty-three of these plants treat brackish groundwater, 16 treat brackish surface water, and one treats reclaimed water. There are currently no desalination facilities in Texas that treat seawater. The cumulative production capacity of these facilities is 172 MGD. This is an increase from 53 desalination plants with a cumulative production capacity of 157 MGD in 2020. When the TWDB first collected data on desalination plants in Texas in 1999, there were only 12 facilities with a cumulative production capacity of 22 MGD. The 2022 State Water Plan contains 44 recommended brackish groundwater and brackish surface water projects, which could add up to 196 MGD of new desalination capacity if implemented.

Although Texas does not have a seawater desalination plant, the state continues to make progress toward developing its first. The 2022 State Water Plan recommends seven seawater desalination plants. Five of these projects are in the Corpus Christi area, one is near Houston, and one is close to Port Isabel. If these projects are implemented, their production capacity could be up to 171 MGD.