

ONE OF THE STRATEGIES TEXAS IS USING TO INCREASE ITS WATER SUPPLY IS DESALINATION.

- Desalination is the removal of excess salt and other minerals from groundwater, surface water, seawater or reclaimed water sources to create fresh water.
- Desalination makes otherwise unusable water suitable for human consumption, irrigation, industrial applications and other purposes.
- About 1 percent of the world's population currently receives its drinking water from desalination.

SAN ANTONIO WATER SYSTEM'S H2OAKS CENTER IS HOME TO ONE OF THE LARGEST GROUNDWATER DESALINATION PLANTS IN TEXAS. THE FACILITY ALSO USES AQUIFER STORAGE AND RECOVERY (ASR) TO SERVE NEARLY 2 MILLION CUSTOMERS.

DESALINATION PLANTS

WORLDWIDE

APPROXIMATELY 12,500 DESALINATION FACILITIES IN 120 COUNTRIES

UNITED STATES

MORE THAN 400 MUNICIPAL BRACKISH GROUNDWATER DESALINATION PLANTS IN THE U.S.

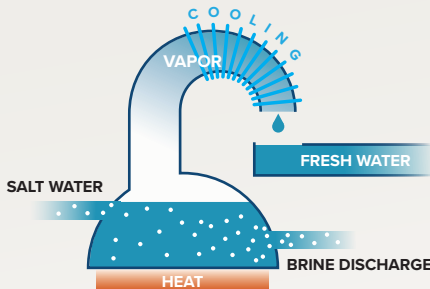
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53 MUNICIPAL DESALINATION PLANTS

DESALINATION PROCESSES

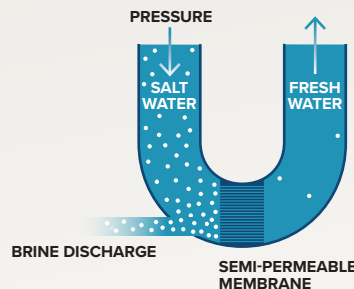
The desalination process usually incorporates either thermal or reverse osmosis technologies:

THERMAL



Saltwater is heated up, and the resulting water vapor is condensed and collected.

REVERSE OSMOSIS



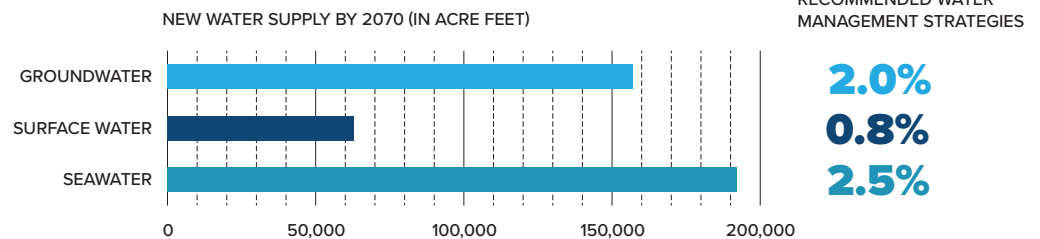
Saltwater is pushed through a series of filtering membranes at high pressure.

- Desalinated water is generally more expensive than many other water sources.
- The TWDB estimated the average cost to produce one acre-foot of desalinated water from brackish groundwater ranges from \$357 to \$782.
- The average cost to produce one acre-foot of desalinated water from seawater ranges from \$800 to \$1,400 due to higher saline concentrations.
- Since 1989, the TWDB has financed 46 desalination projects in Texas with a total value of \$612 million.
- Texas' desal facilities have the combined capacity to produce 157 million gallons per day.
- Brackish ground water plants: 36
- Brackish surface water plants: 14
- Wastewater plants: 1
- Seawater: 0

DESALINATED WATER PLAYS AN IMPORTANT ROLE IN CERTAIN TEXAS INDUSTRIES

The industrial desalination capacity in the state is estimated to be about 60-100 million gallons per day, with a total capacity of 12 million gallons per day primarily utilized in the oil and gas and semiconductor sectors.

THE TWDB'S 2022 STATE WATER PLAN RECOMMENDATIONS FOR DESALINATION



Sources: Texas Desalination Association; Texas Water Development Board

Glenn Hegar

Texas Comptroller of Public Accounts

THIS IS ONE IN A SERIES OF REPORTS THE COMPTROLLER HAS PREPARED ON WATER IN TEXAS

TO SEE MORE INFORMATION ON WATER ISSUES AND THE TEXAS ECONOMY: <https://comptroller.texas.gov/economy/economic-data/water/>