



Preventing Further Subsidence in the Houston Area with Surface Water Conversion

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Significant issues with subsidence in the Houston area have been documented as early as 1918 when the Goose Creek Oil Field near Galveston Bay began to display surficial fissures caused by oil and water extraction beneath the surface. Subsequently, extensive research on local subsidence has confirmed a correlation between groundwater withdrawal and subsidence.



In 1975, the Texas Legislature created the Harris-Galveston Subsidence District (HGSD), the first political subdivision

of its kind in the United States, to serve as a groundwater regulatory agency to prevent future subsidence.

HGSD has taken a reasonable and inclusive approach to groundwater regulation, water conservation education, and science and research programs resulting in reduced subsidence rates within Harris, Galveston, and surrounding counties.

Groundwater is not an infinite resource, and the best way to combat the consequences of excessive withdrawals is to account for future water demands and utilize alternative water sources. An alternative water supply assessment has been completed as part of Harris-Galveston Subsidence District and Fort Bend Subsidence District's ongoing Joint Regulatory Plan Review. It provides an evaluation of alternative water supply strategies, including treated surface water, aquifer storage and recovery strategies, brackish groundwater development, and seawater desalination. The best strategy to prevent aquifer water-level decline, decrease in municipal supply well yields, and reduce subsidence is to diminish our reliance on groundwater and utilize alternative sources for water demand.

The Importance of Surface Water Conversion

It is crucial to diversify our water sources to prevent further water-level declines in our aquifers. Surface water development involves the construction of new reservoirs, inter-basin transfer of available water supplies, and utilization of appropriated but undeveloped water supplies requiring

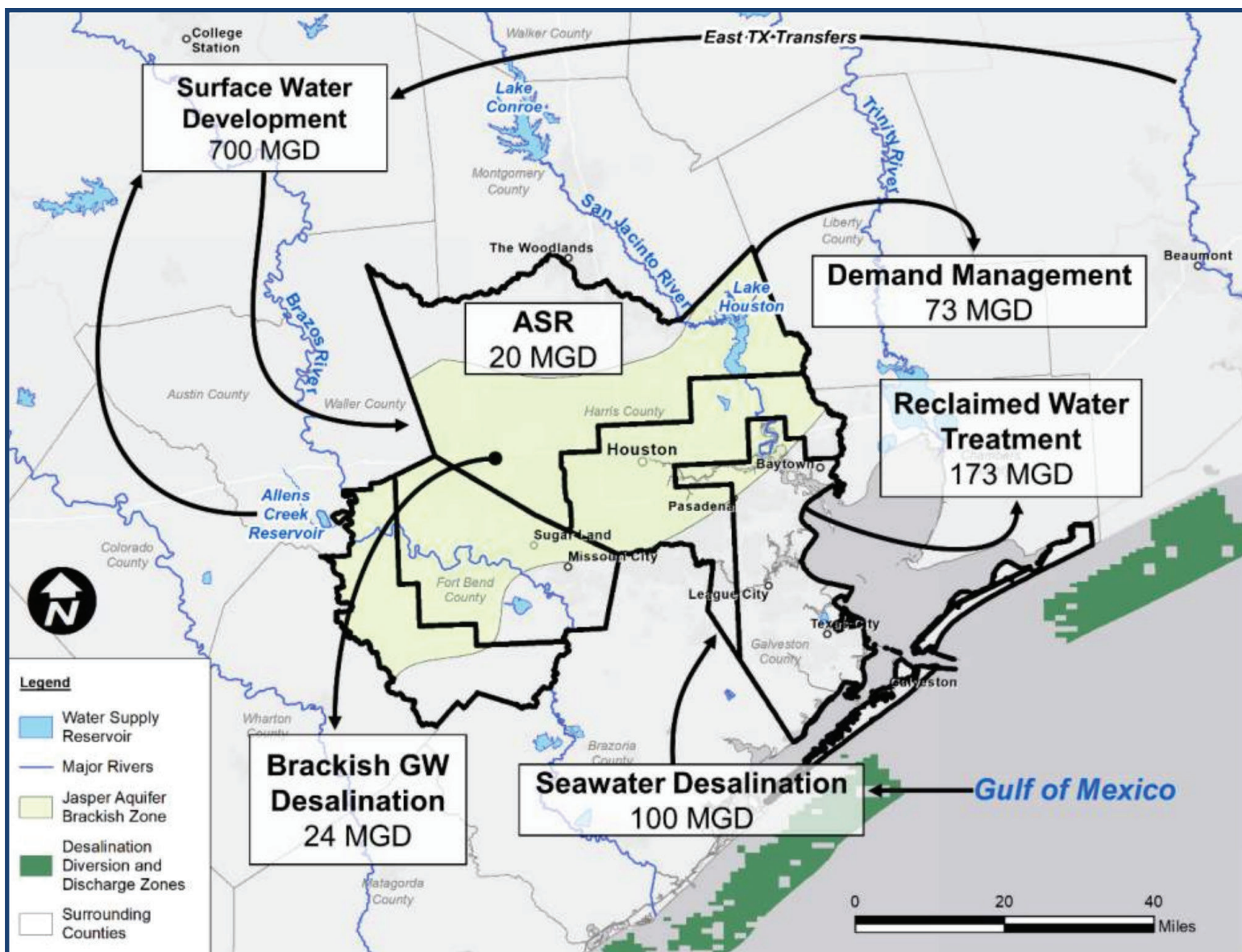
extensive planning, permitting, inter-agency coordination, and infrastructure construction. The development of regional surface water supplies is relatively cost-effective due to their high yields, accessibility, higher water quality, and lower treatment costs compared to other alternatives.

A major benefit of surface water reservoirs is that they capitalize on existing natural water supplies by storing water and allowing for its use during higher demand periods when natural streamflow may not provide adequate supply.

As we continue to reduce our reliance on

groundwater resources, and further our efforts to educate the community on water efficiency and conservation, we anticipate reduced subsidence rates in the Houston area. The District continues its mission to prevent subsidence in our area by enforcing reasonable groundwater regulation, water conservation, and conducting science-based water planning. This approach will continue to assure that future water demands can be fulfilled without the consequence of subsidence.

Visit hgsubsidence.org for more information regarding subsidence, groundwater regulation, planning, research, and more. 💧



Alternative Water Supplies Available of other Long-term for HGSD/FBSD Regulatory Participants

The Harris-Galveston Subsidence Districts released an alternative water supply availability report earlier this year, the report can be found by visiting <https://nhcrwa.info/hgsd22>