


Texas Desalination

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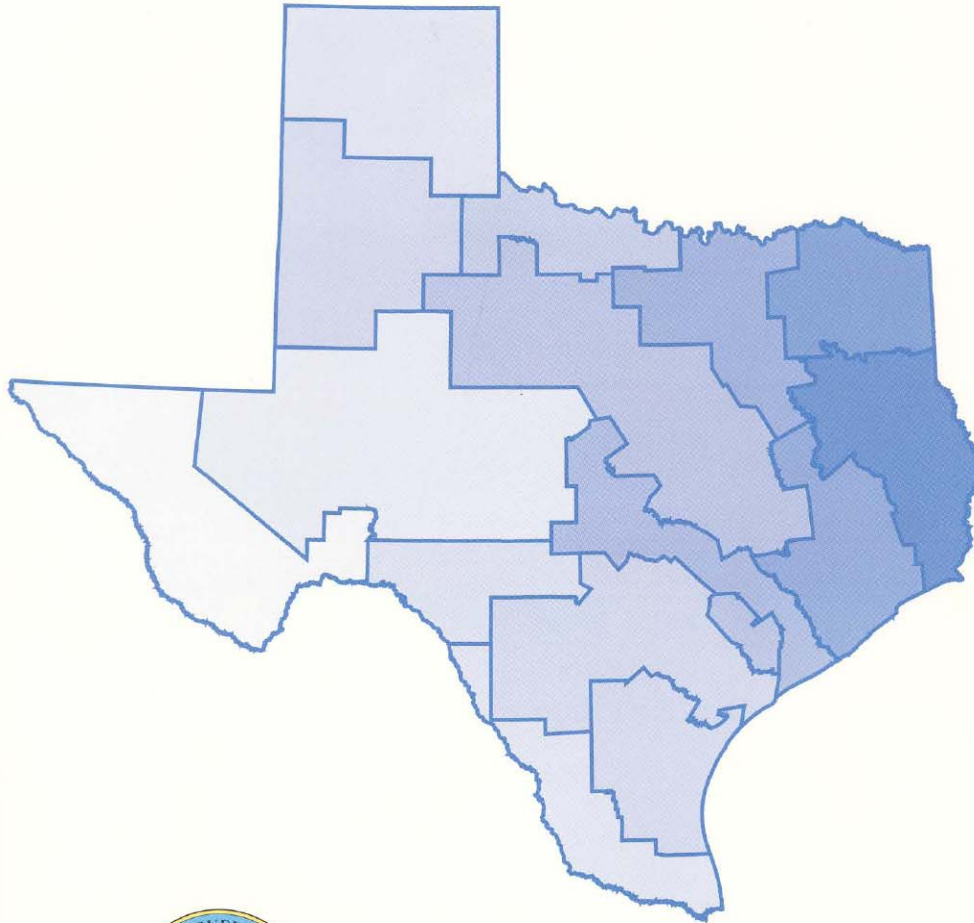
Texas Water Development Board



Desalination in Texas

- Why desalination?
 - Availability
 - Technology improvements
 - Why now?
 - Develop the supply before it is critically needed
 - Drought-proofing regional water supply systems
 - Desalination program status
-

Water for Texas – 2002



*Texas Water Development Board
January 2002*

Texas Water Code §16.051 directs the Texas Water Development Board to prepare a State Water Plan

Incorporates Regional Water Plans

Sufficient water available in times of drought

50-year planning horizon

Revised every 5-years

Next Regional Water Plan

- Jun 2005
- Jan 2006

Next State Water Plan:
Jan 2007



Availability

- **Key Finding:** Water supplies from existing sources are expected to decrease 19 percent, from 17.8 million AFY in 2000 to 14.5 million AFY in 2050
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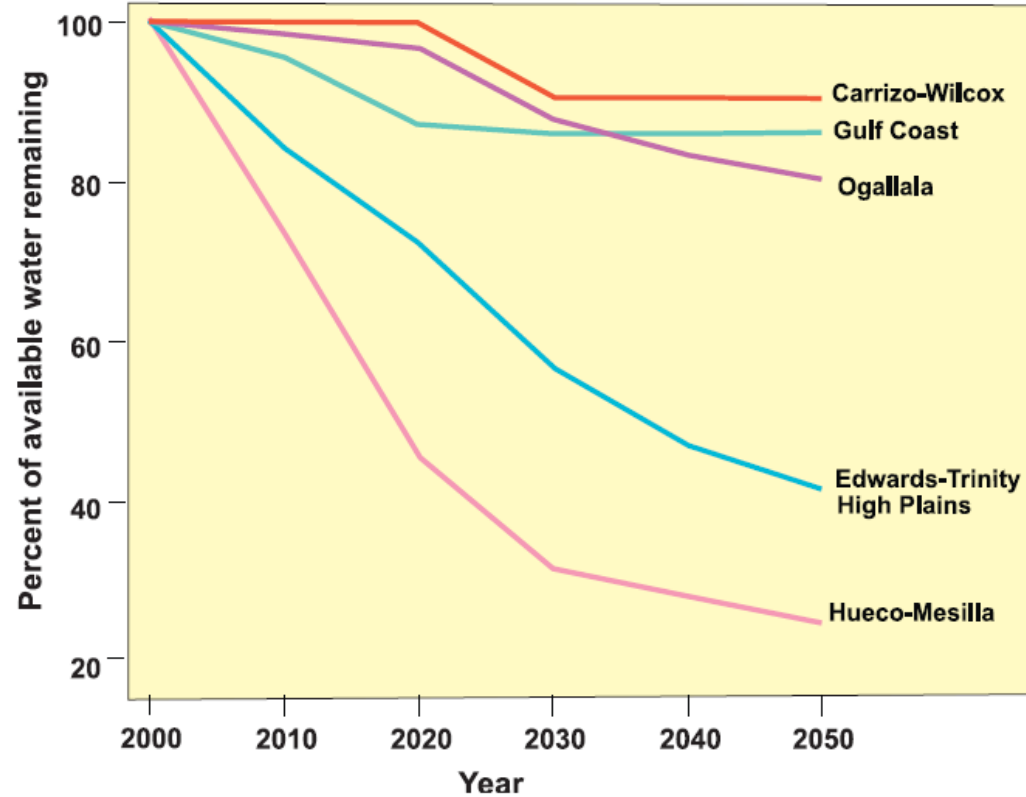
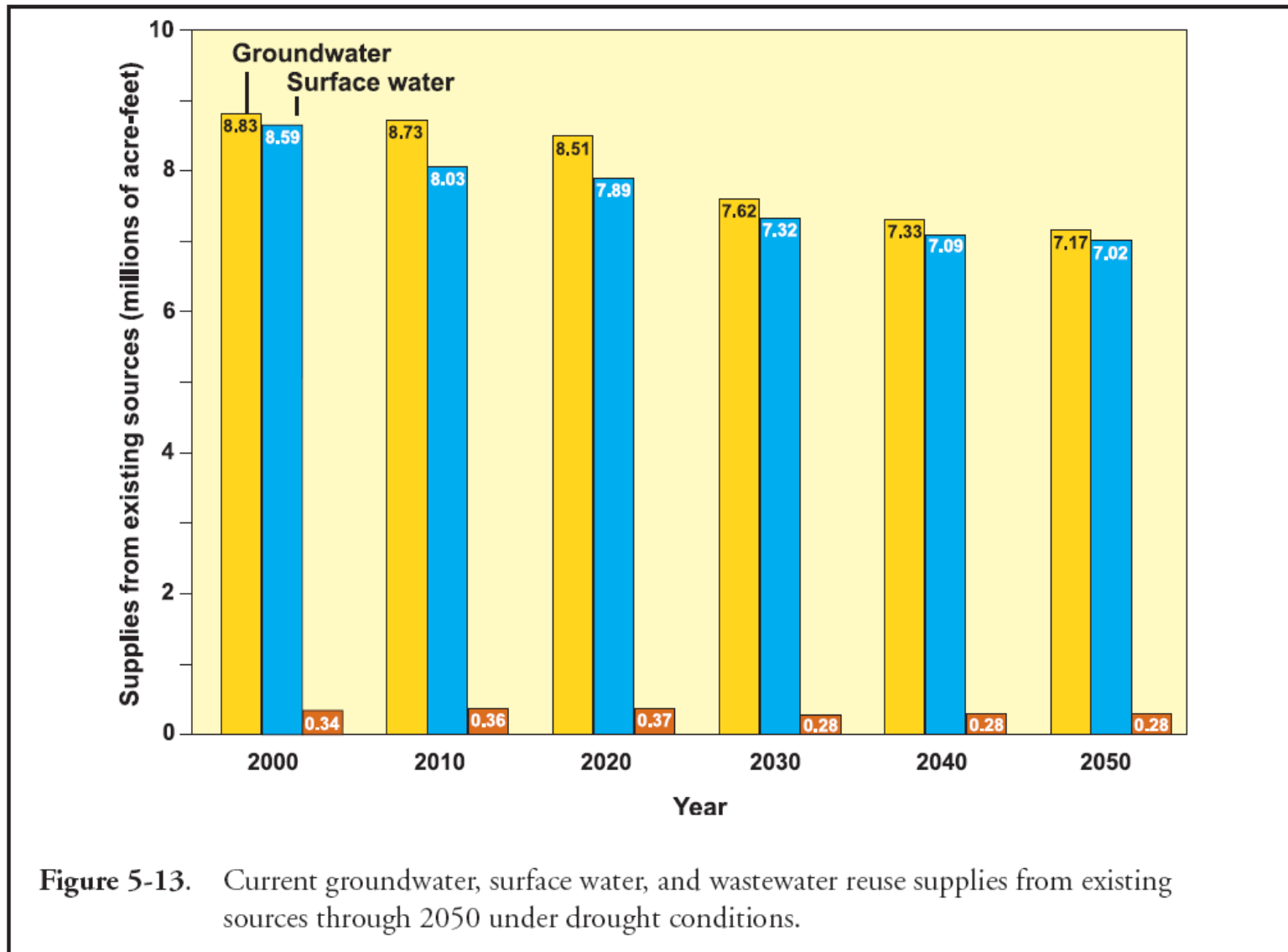
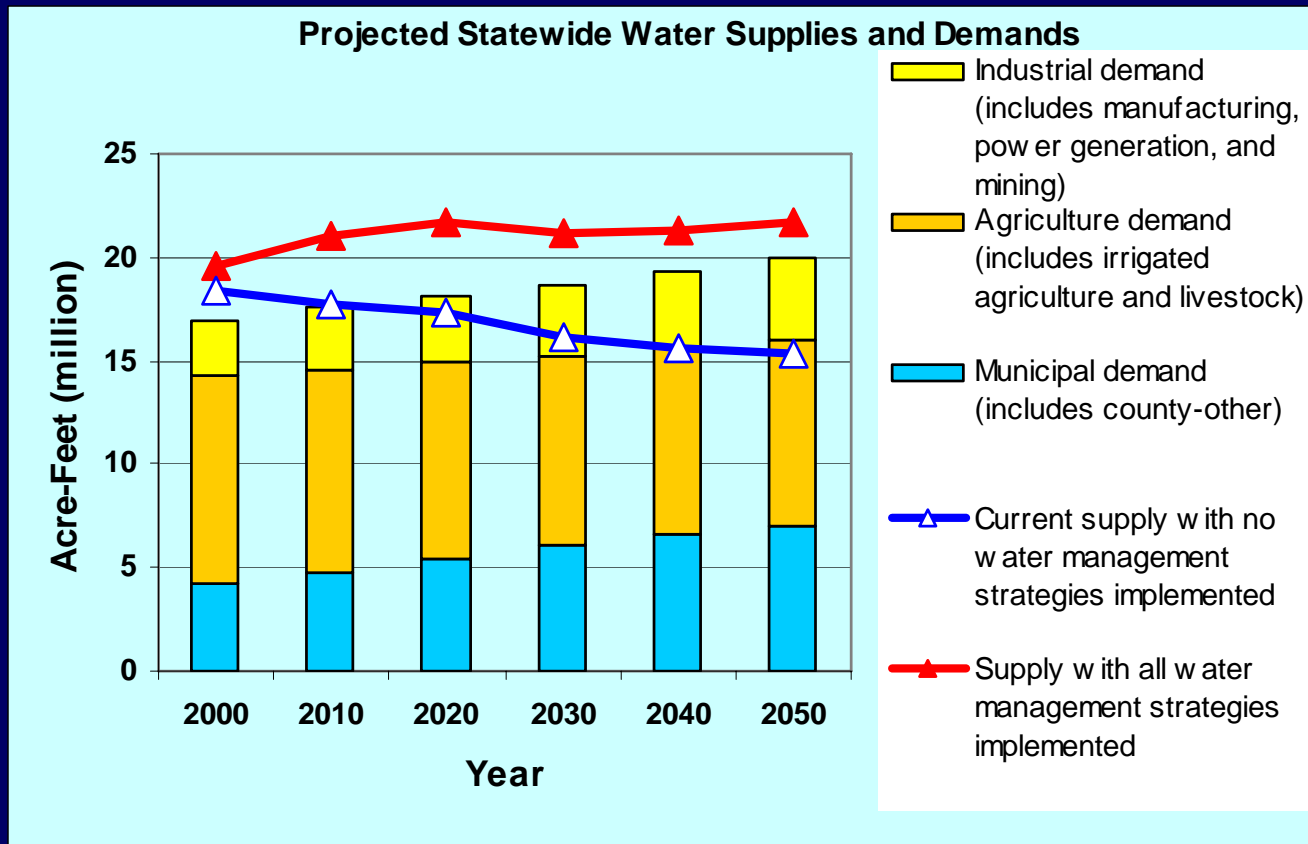


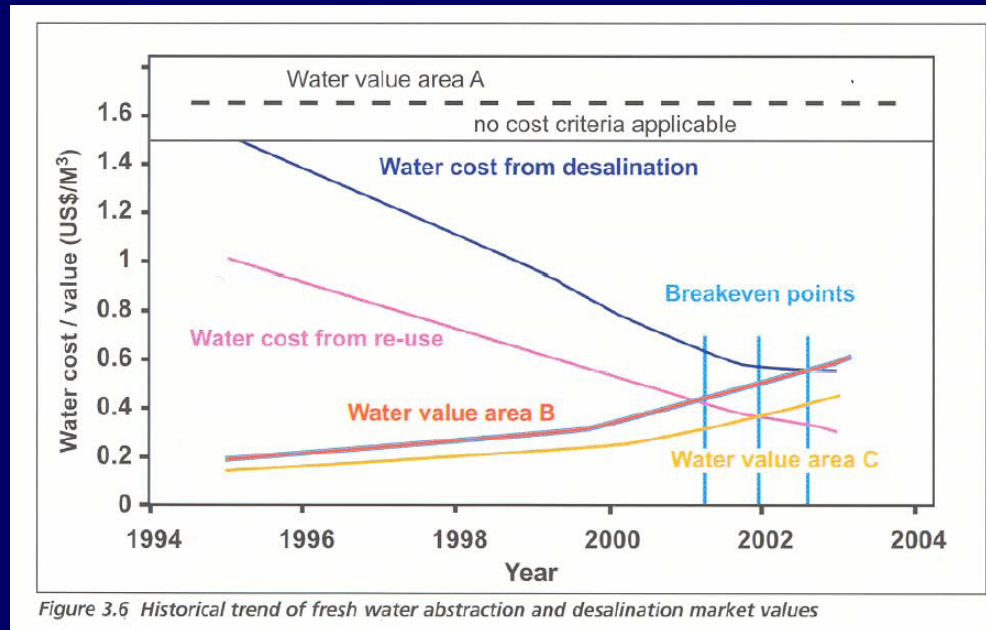
Figure 5-12. Percent of available groundwater remaining for the Carrizo-Wilcox, Gulf Coast, Ogallala, Edwards-Trinity High Plains, and Hueco-Mesilla Bolson aquifers through 2050. Major and minor aquifers not shown do not have appreciable declines of availability. Water availability in the Hueco-Mesilla Bolson aquifer includes some brackish water.



Water For Texas - 2002



The Economics of Desalination



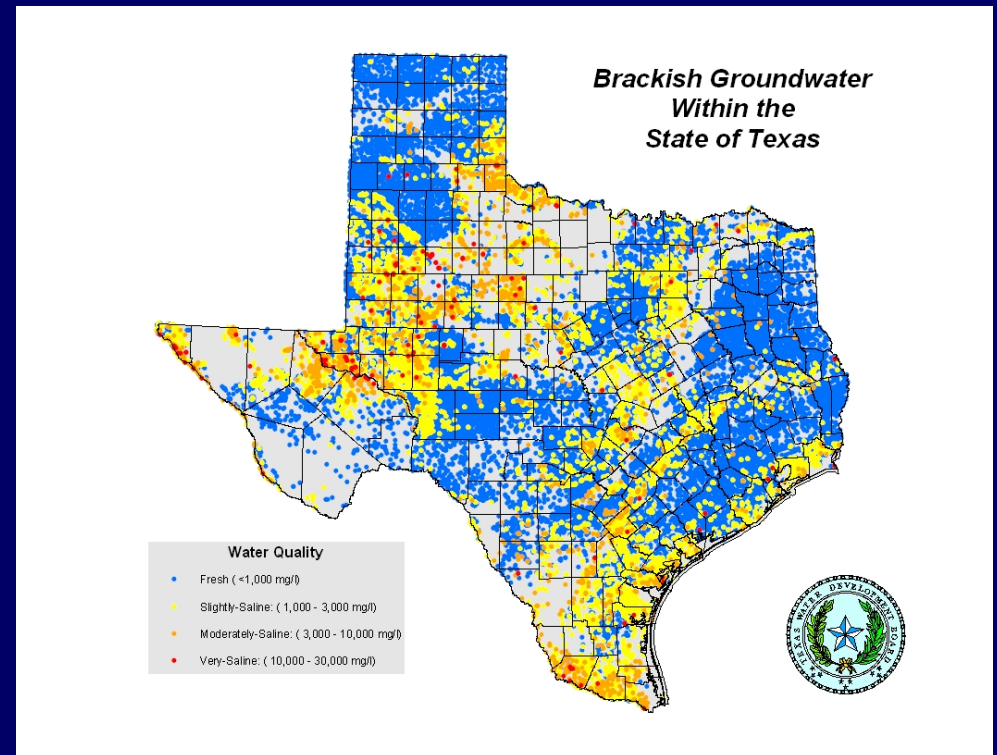
C. Sommariva-Desalination Management and Economics

“It has been estimated that for the same capital investment spent on seawater reverse-osmosis desalination in 1980, 27 times more water can be produced by today’s systems.”

Tom Pankratz-Desalination Trends-2004 TWDB Desalination Report, Vol. 2

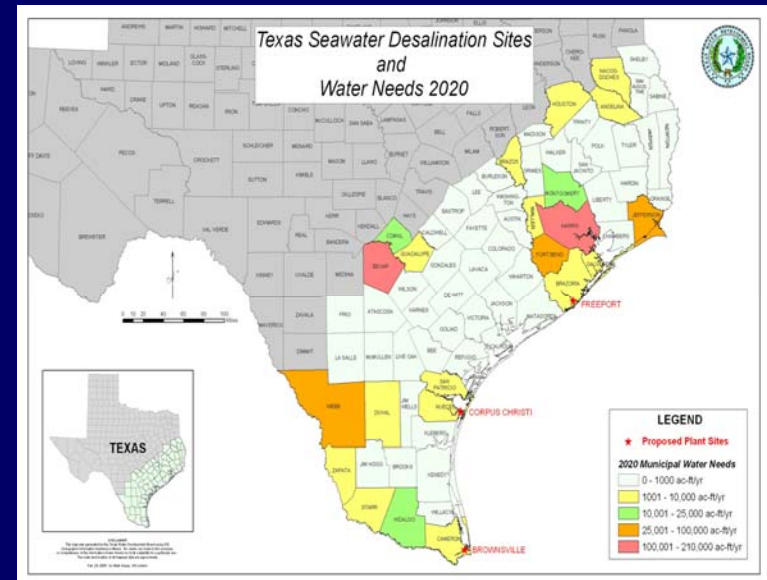
Availability-brackish groundwater

- As much as 2.7 billion acre-feet
- Salinity below 10,000 milligrams per liter



Seawater Availability-Gulf of Mexico

- ❑ 367 miles of coastline
- ❑ Availability of sites
- ❑ Proximity to demand centers





Press Release - April 29, 2002
OFFICE OF THE GOVERNOR

SAN ANTONIO - Gov. Rick Perry today called for the **construction of the state's first large-scale ocean water desalination plant** as one step toward securing an abundant water supply to meet Texas' future needs.....



78th Texas Legislature

- HB 1370, directing TWDB to:
 - “undertake or participate in research, feasibility and facility planning studies, investigations, and surveys as it considers *necessary to further the development of cost-effective water supplies from seawater desalination* in the state.”
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Progress to-date

- Seawater Desalination Projects- Feasibility Studies

 - Research Studies and Projects
 - Please Pass the Salt
 - Feasibility Study of Product Water Desalination
 - Development of Permitting and Decision Model for Desalination Projects in Texas
 - Capacitive Deionization Technology
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Other activities

□ Stakeholder Workshops

- Use of Public-Private Partnerships for Water Infrastructure Seminar
 - Desalination Workshops to discuss progress reports and technology updates
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2004 Biennial Report on Desalination

□ The Future of Desalination in Texas

- **Volume 1- Biennial Report on Seawater Desalination**, recommends that:
 - Continue advancing toward implementation of a large-scale demonstration seawater desalination facility in Texas
 - Fund pilot plants at each of the 3 proposed sites
 - **Volume 2 – Technical Papers, Case Studies and Desalination Technology Resources**
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2004 Biennial Report on Desalination

Regarding the use of brackish groundwater

- TWDB Legislative Appropriations
Request includes \$600,000 for
developing demonstration brackish
desalination projects for small to medium
size communities
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<http://www.twdb.state.tx.us/Desalination/Desal/Index.asp>