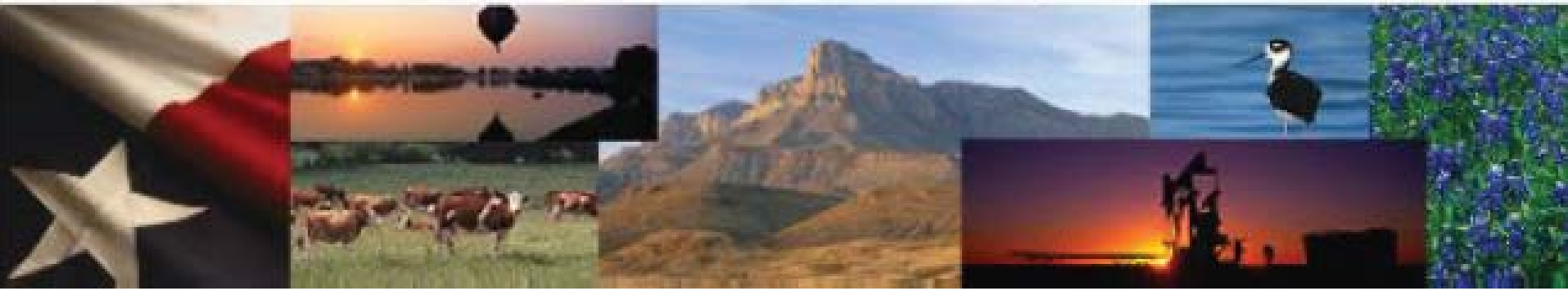
The Texas Water Development Board



Water Supply Seminar
Shell Center for Sustainability
Rice University

Rod Pittman, Chairman

Texas Water Development Board

February 2004

TWDB

To provide leadership, planning, financial assistance, information, and education for the conservation and responsible development of Water for Texas.

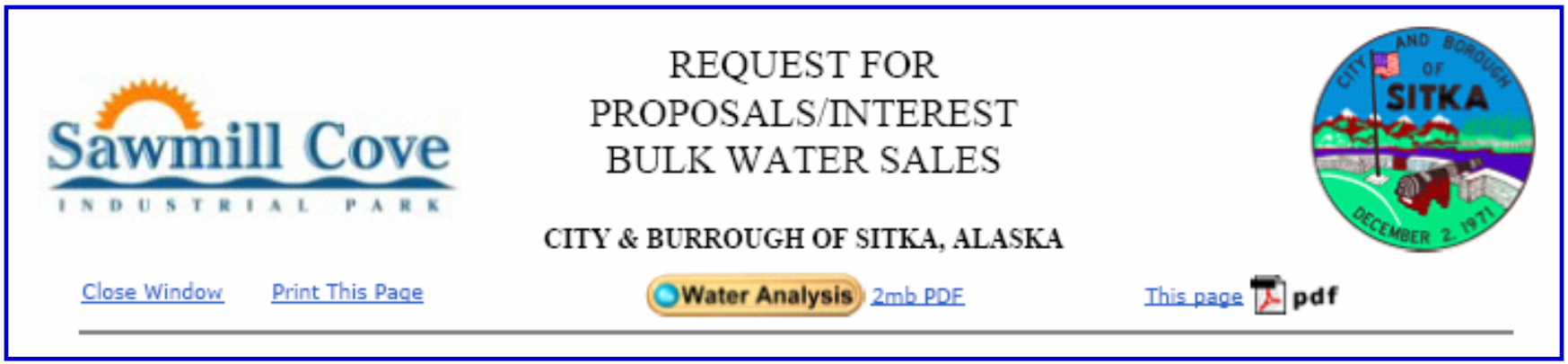
The role of the Texas Water Development Board

- Planning
- Financial Assistance
- Information
- Education

Rio Grande at the Gulf of Mexico

(February-July 2001)

The future?


Sawmill Cove
INDUSTRIAL PARK
REQUEST FOR
PROPOSALS/INTEREST
BULK WATER SALES
CITY & BURROUGH OF SITKA, ALASKA
CITY AND BOROUGH OF SITKA
DECEMBER 2, 1971
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Water Analysis
2mb PDF
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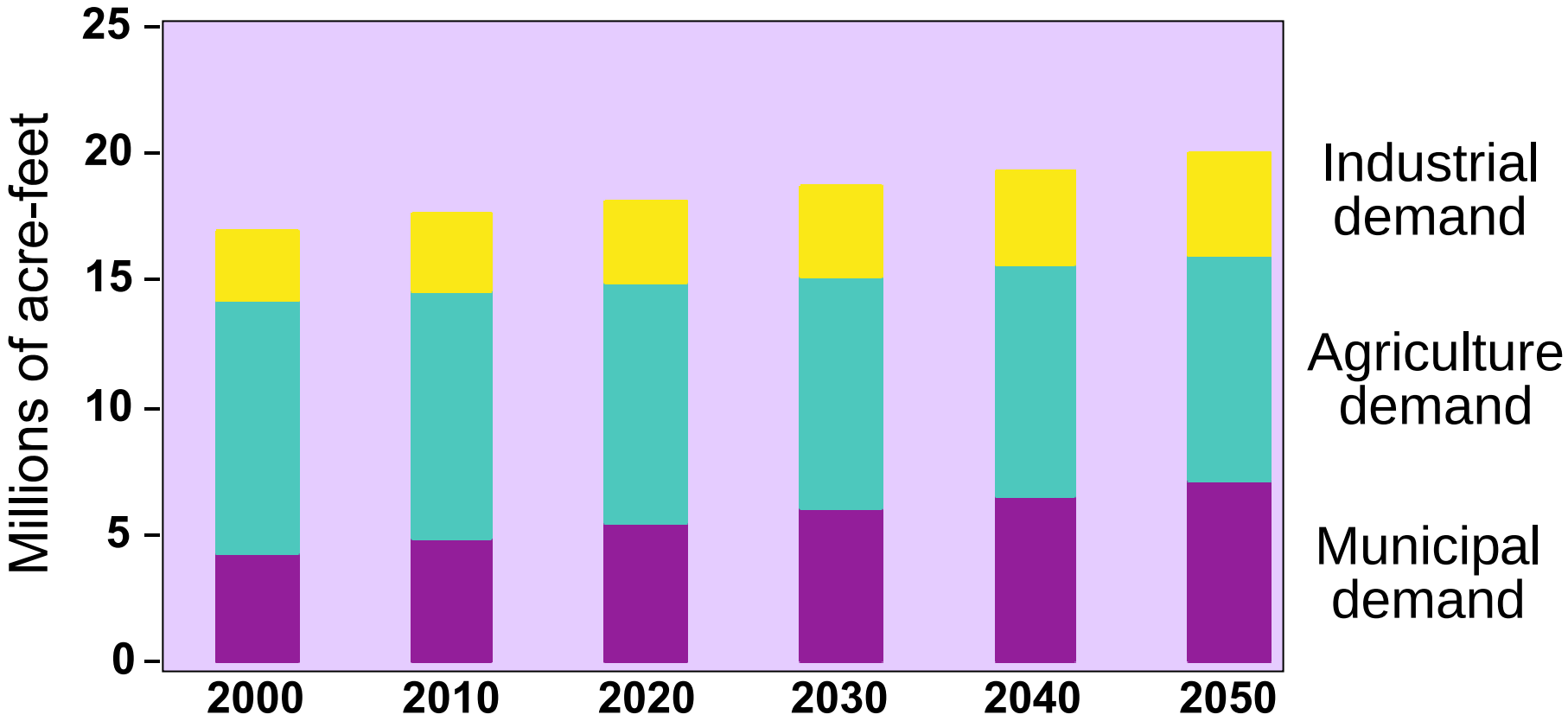
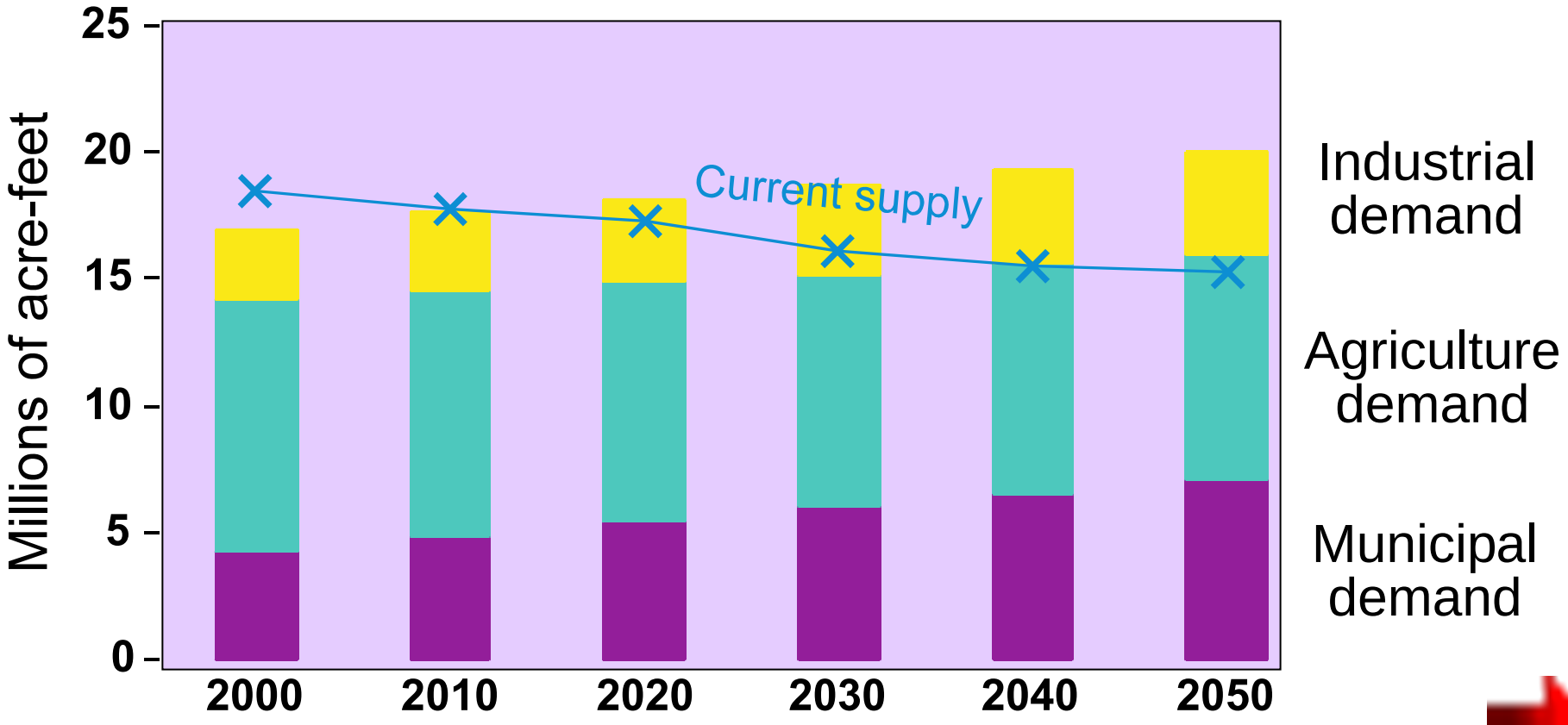
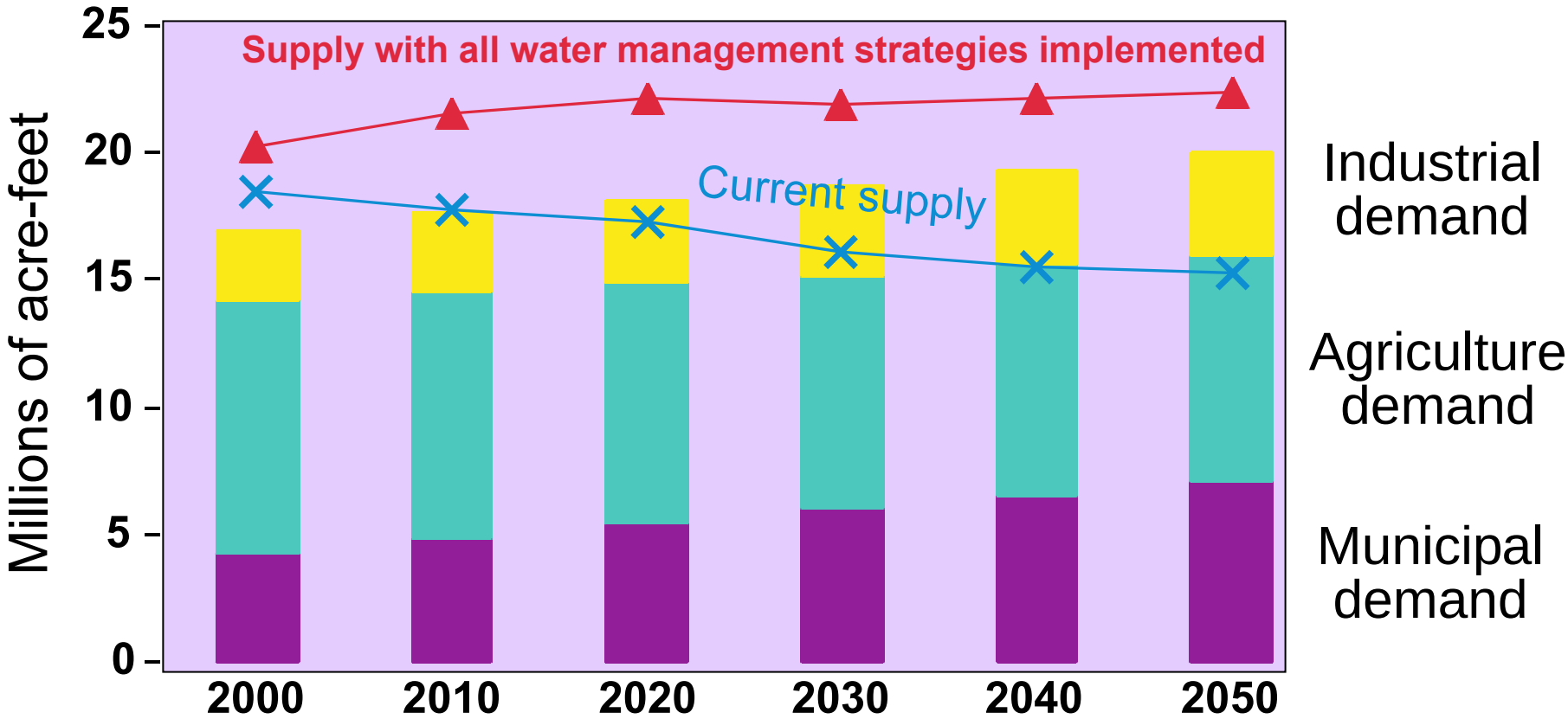
pdf

Water demands are projected to increase 18% by 2050



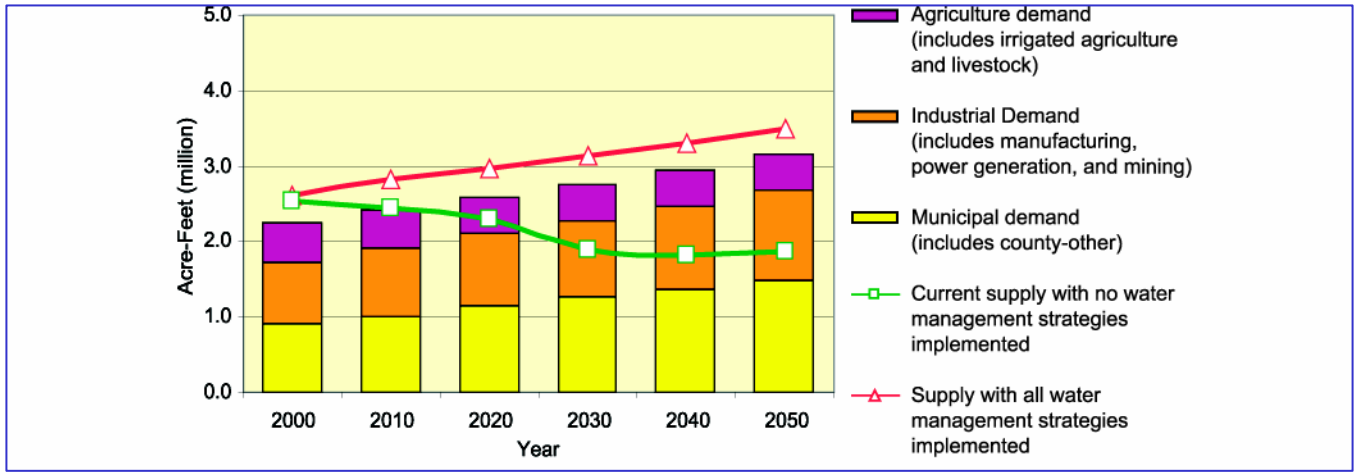
Existing water supplies are projected to decline by 19% by 2050



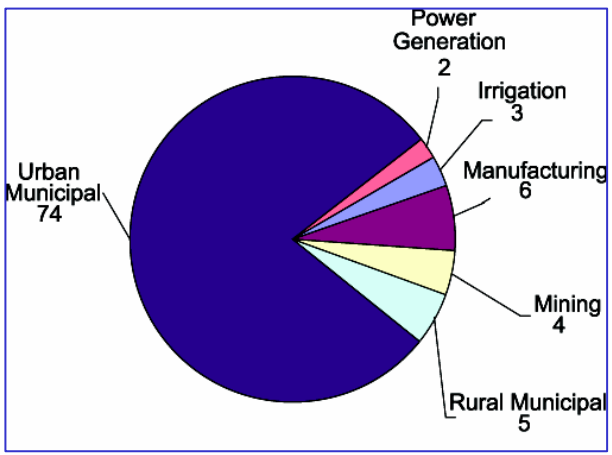

Millions of acre-feet
25
20
15
10
5
0
2000
2010
2020
2030
2040
2050
Supply with all water management strategies implemented
Current supply
Industrial demand
Agriculture demand
Municipal demand

Region H Water Plan

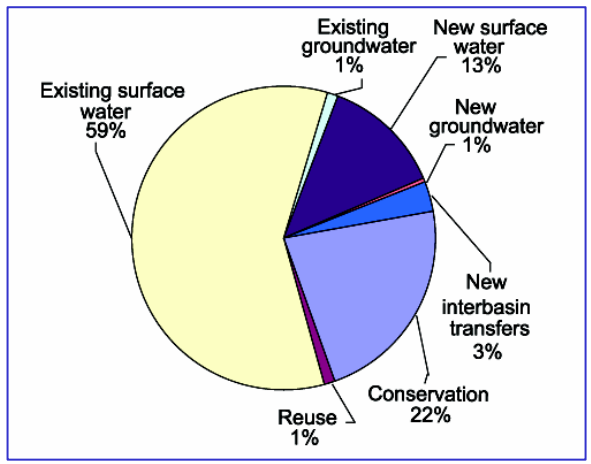
Projected Water Supplies and Demands

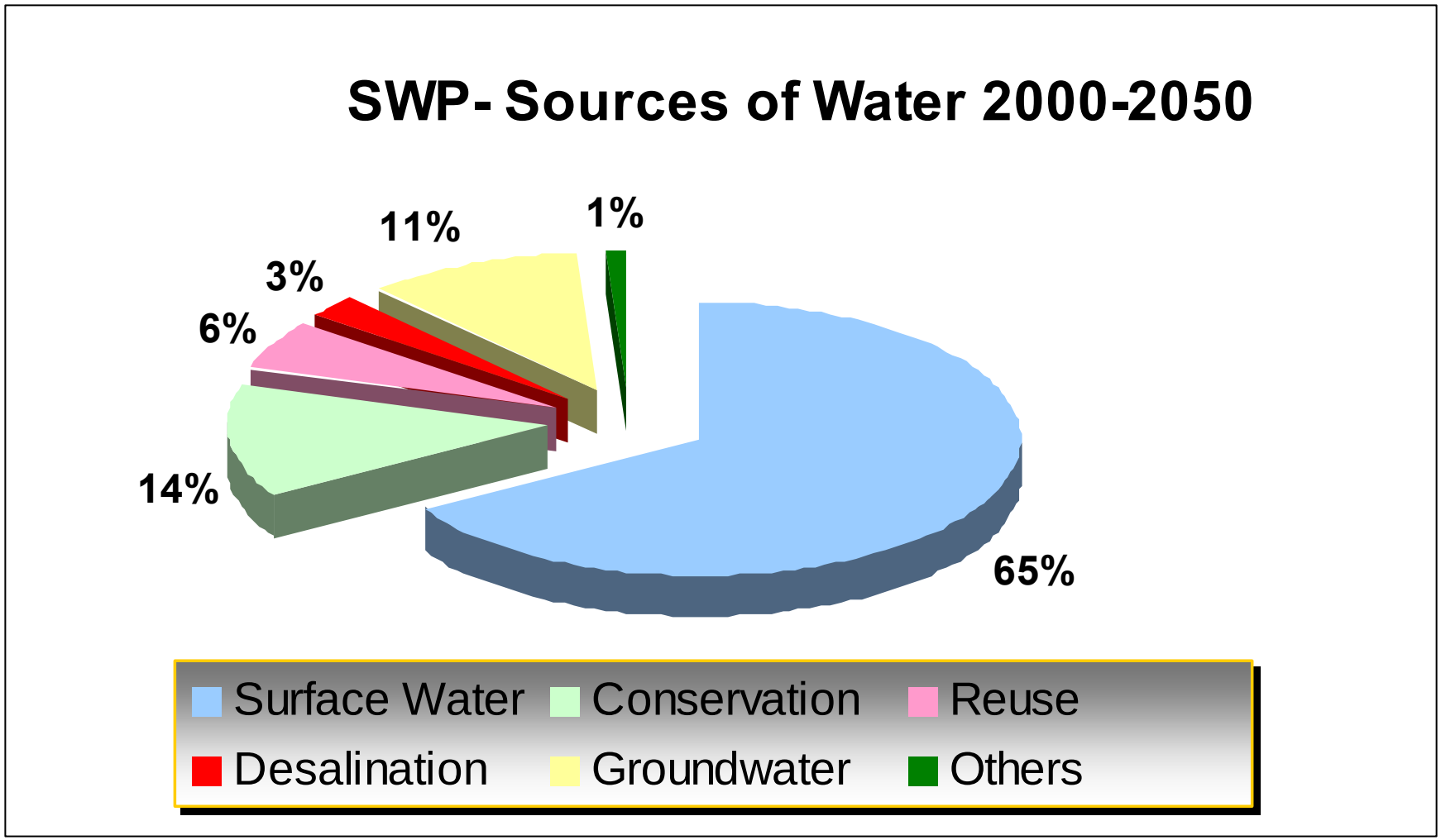


Who needs the water-2050



Types of water management strategies used to meet needs by 2050





Volumetric comparison of water sources utilized by recommended water management strategies to meet needs in the regional water plans

Improving Resource Management Capabilities

- TWDB Hydrographic Surveys
- Groundwater Availability Modeling - GAM
- Water Conservation Implementation Task Force
- Regional Water Facility Planning

Why The Current Focus on Water Desalination

- ✓ The Governor's vision on seawater desalination
  - ❖ Abundant, drought-proof source
  - ❖ Added security of diverse water supply portfolio
- ✓ Technology improvements making desalination more attractive
- ✓ TWDB's role

Desalination and the 78th Legislative Session

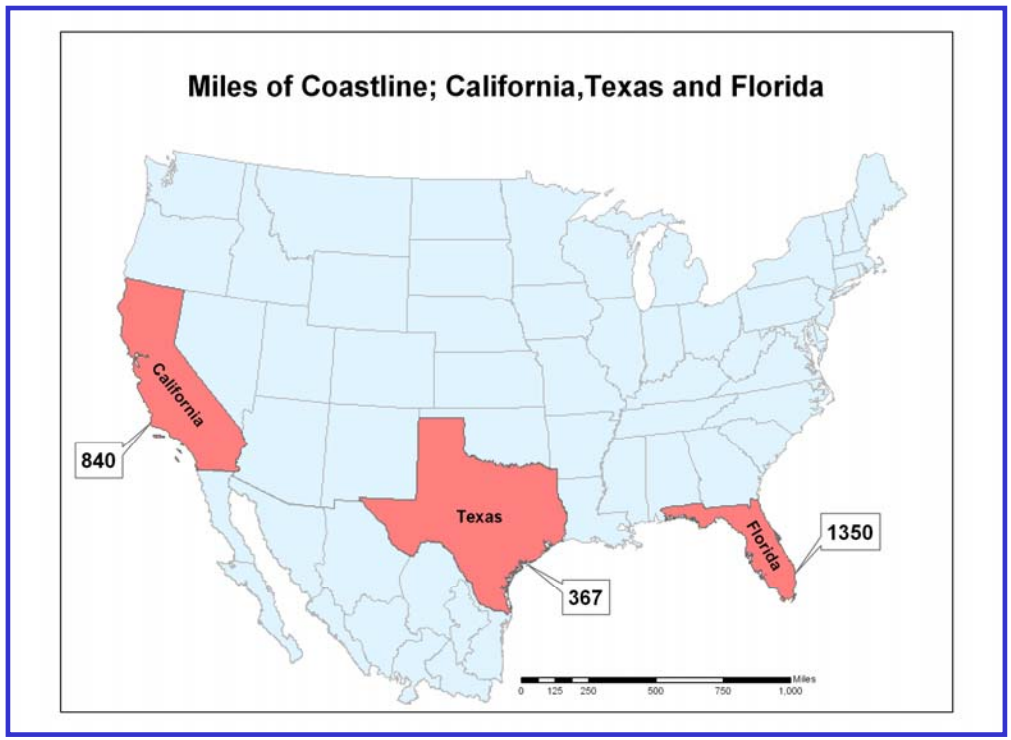
- House Bill 1370
  - Gives continuity to the Governor's charge to TWDB regarding seawater desalination
- The Legislature appropriated $1.5 million for 100% grant funding for feasibility and regional water facility planning of seawater desalination projects

Desalination costs are still high… but the gap is getting narrower

Water Source	$/1,000 gal
Fresh water	$.95-$2.50
Brackish water	$1.25-$2.75
Seawater	$2.50 to $7.00

Source: Desalination.com, an environmental primer. Tom Pankratz.

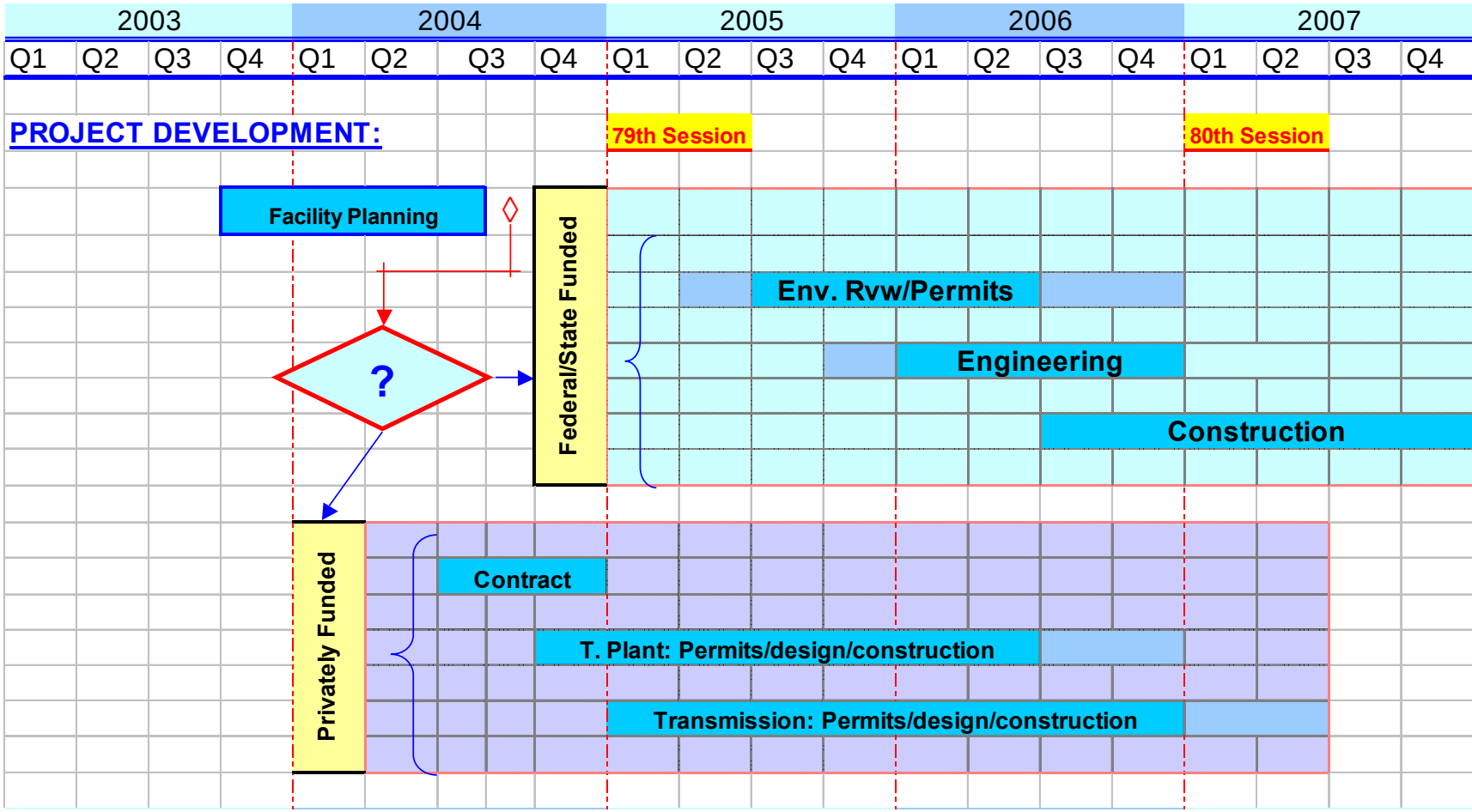
Miles and miles of Texas…coastline



- ✓ Florida 1,350 miles
- ✓California 840 miles
- ✓Texas 367 miles

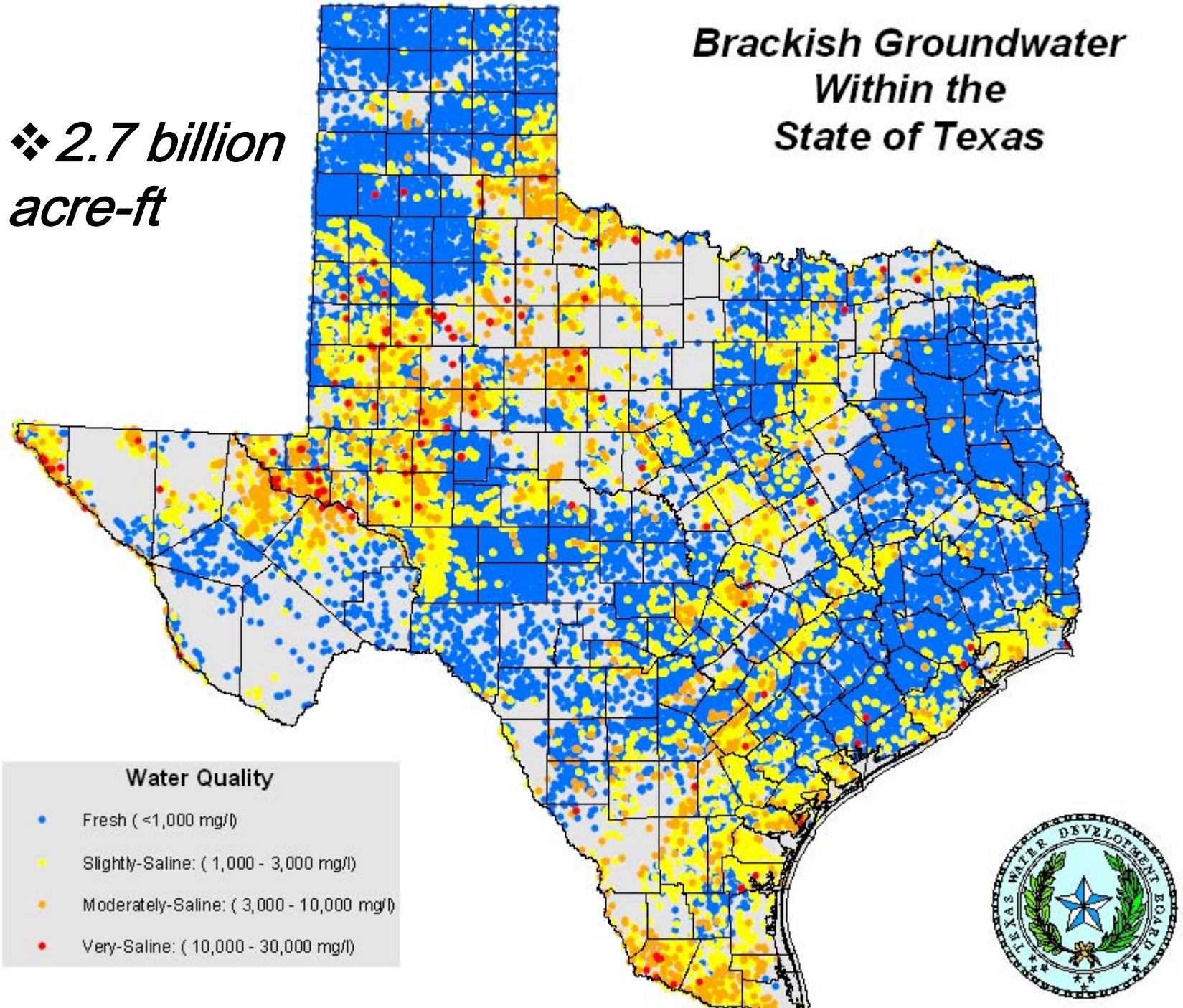
Seawater Desalination Proposals

Feasibility Studies for Large-scale Seawater Desalination Projects

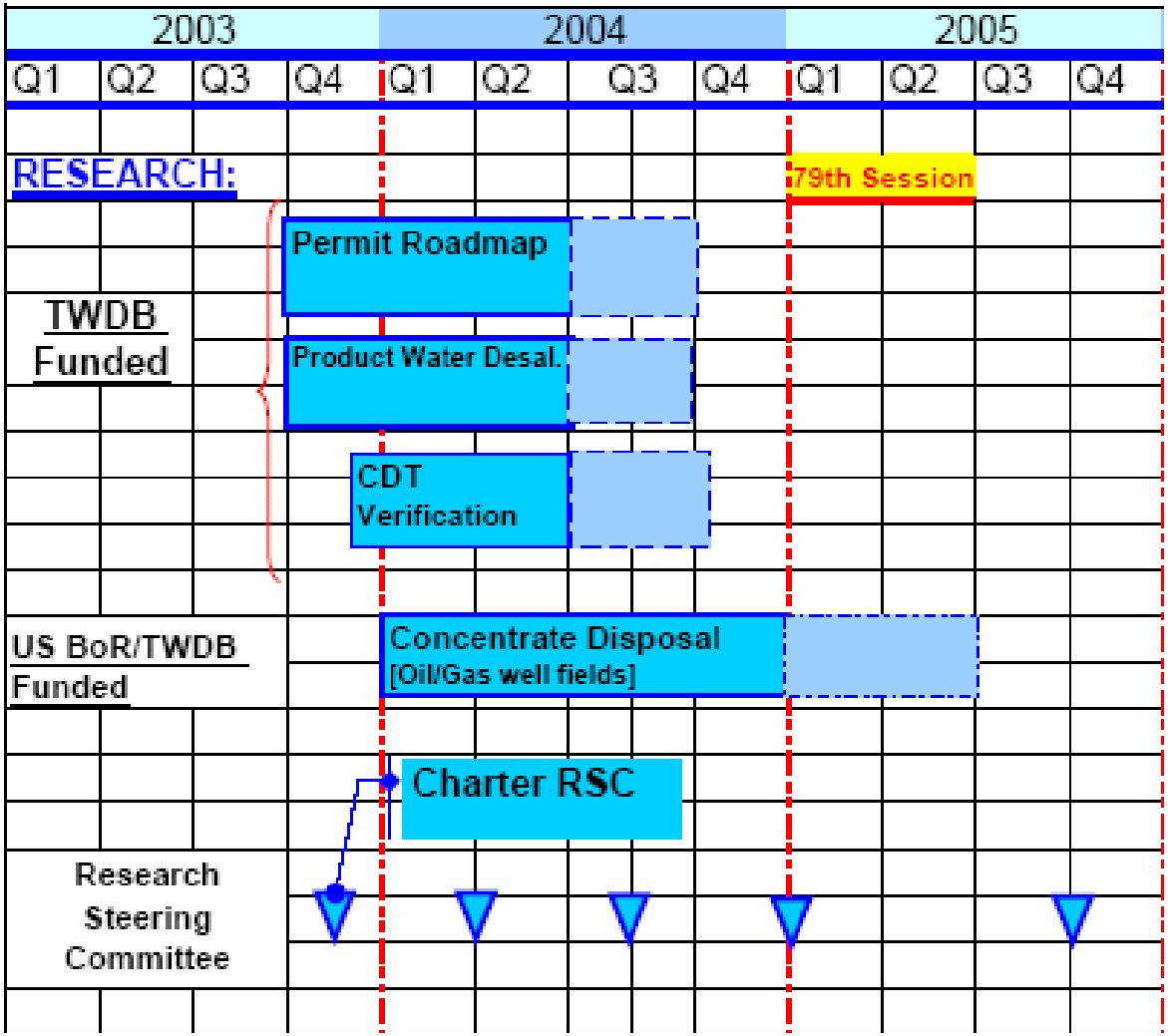


Brackish Groundwater Within the State of Texas

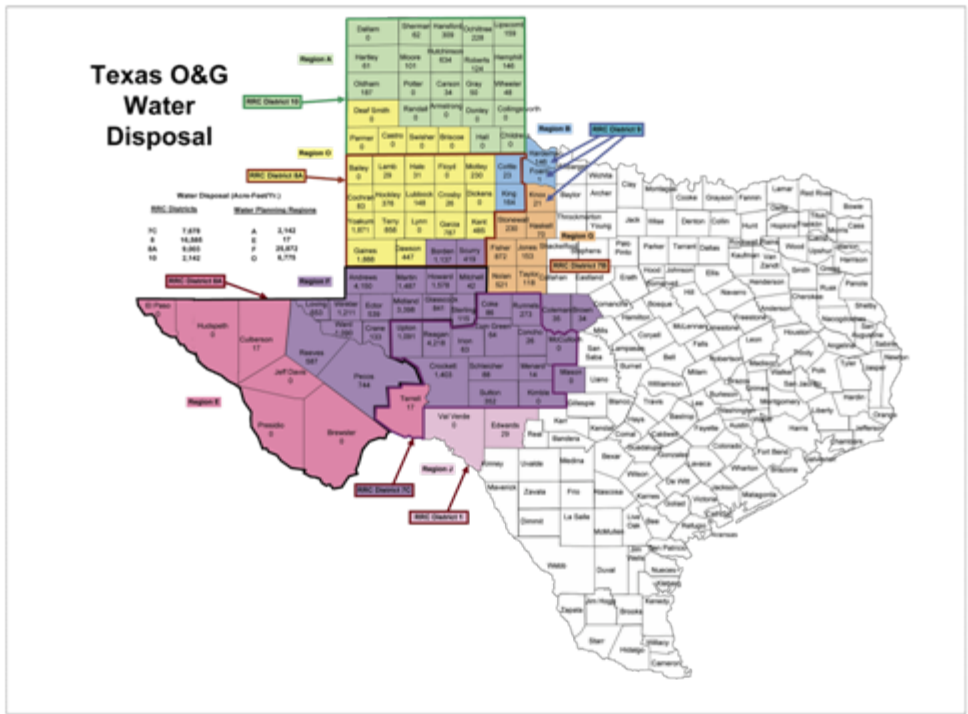
- *2.7 billion acre-ft*



TWDB Research Activities: lower costs, facilitate use of the technology and permitting of projects



Research Example [A&M]: Disposal of Product Water in Oil & Gas Mining Operations



Source: OXY USA Inc.

- ❖40,000 ACFY of product water is disposed in <u>West Texas</u>
  - ❖ *77% of fresh water used in oil & gas operations is used in West Texas*
- ❖Salinity levels vary significantly
- ❖Desalination might be a cost-effective option in some cases where there is a demand for treated water and the salinity is relatively low

Challenges to Desalination

- Project Formulation
  - How to maximize the potential project benefits to the region [and adjoining regions]
  - Identification, evaluation and selection of the most advantageous project funding and delivery methods
    - Who will own the project?
    - How much will it cost?
    - How will it be paid?

Interim/Special Committees

Select Committee on Water Policy

Study issues regarding Texas' management and policy concerning ground and surface water resources.

Subcommittee on the Lease of State Water Rights

Study proposals regarding the lease of permanent school fund and permanent university lands and their water rights for the intent of developing and marketing water.

Interim/Special Committees

House Committee on Natural Resources

Assess the current condition of Edwards Aquifer Authority; examine TCEQ's authority related to water contracts; and evaluate desalination of surface and ground water.


TEXAS WATER DEVELOPMENT BOARD