

*What
Would You
Drink if the
Well Ran
Dry?*

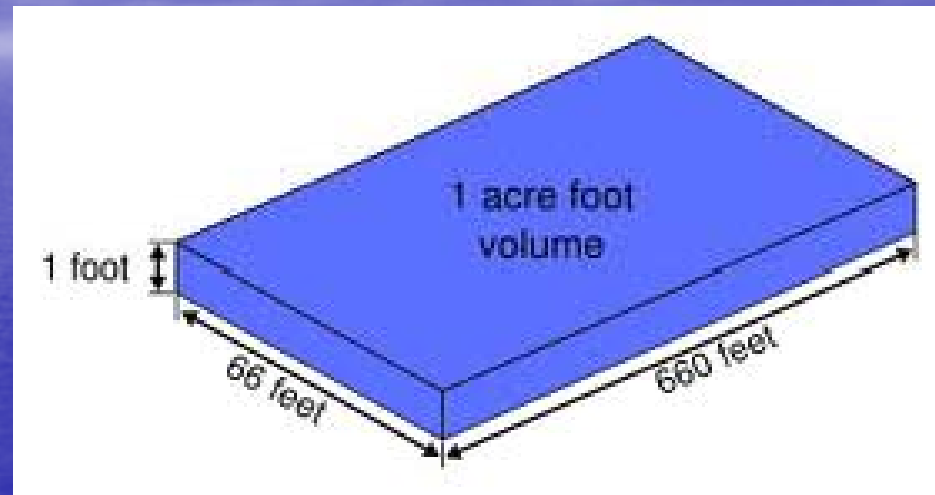
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*A presentation to residents of Haskell County
First Baptist Church of Paint Creek
September 9, 2011*



North Central Texas Water Supply and Demand

An Acre Foot is:

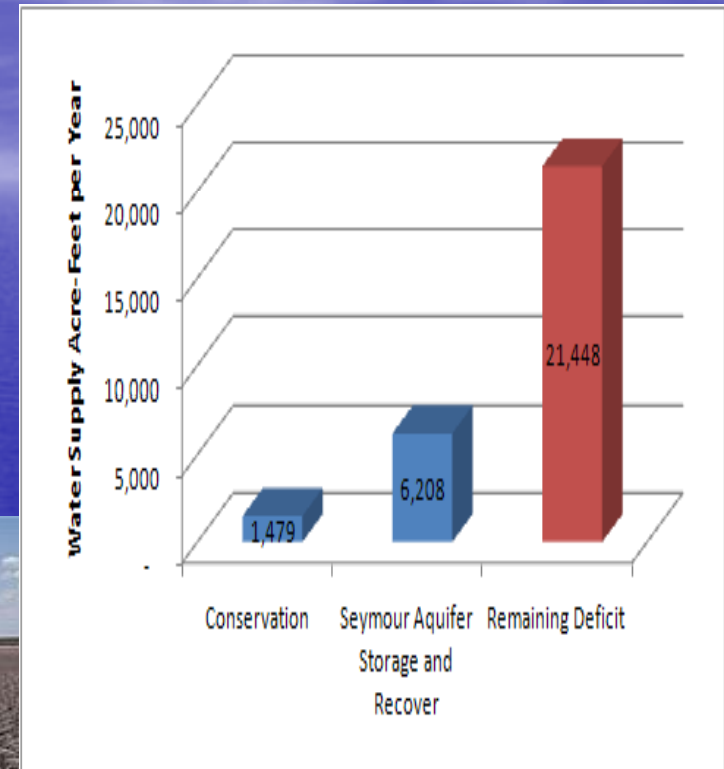


Or 326,000 gallons

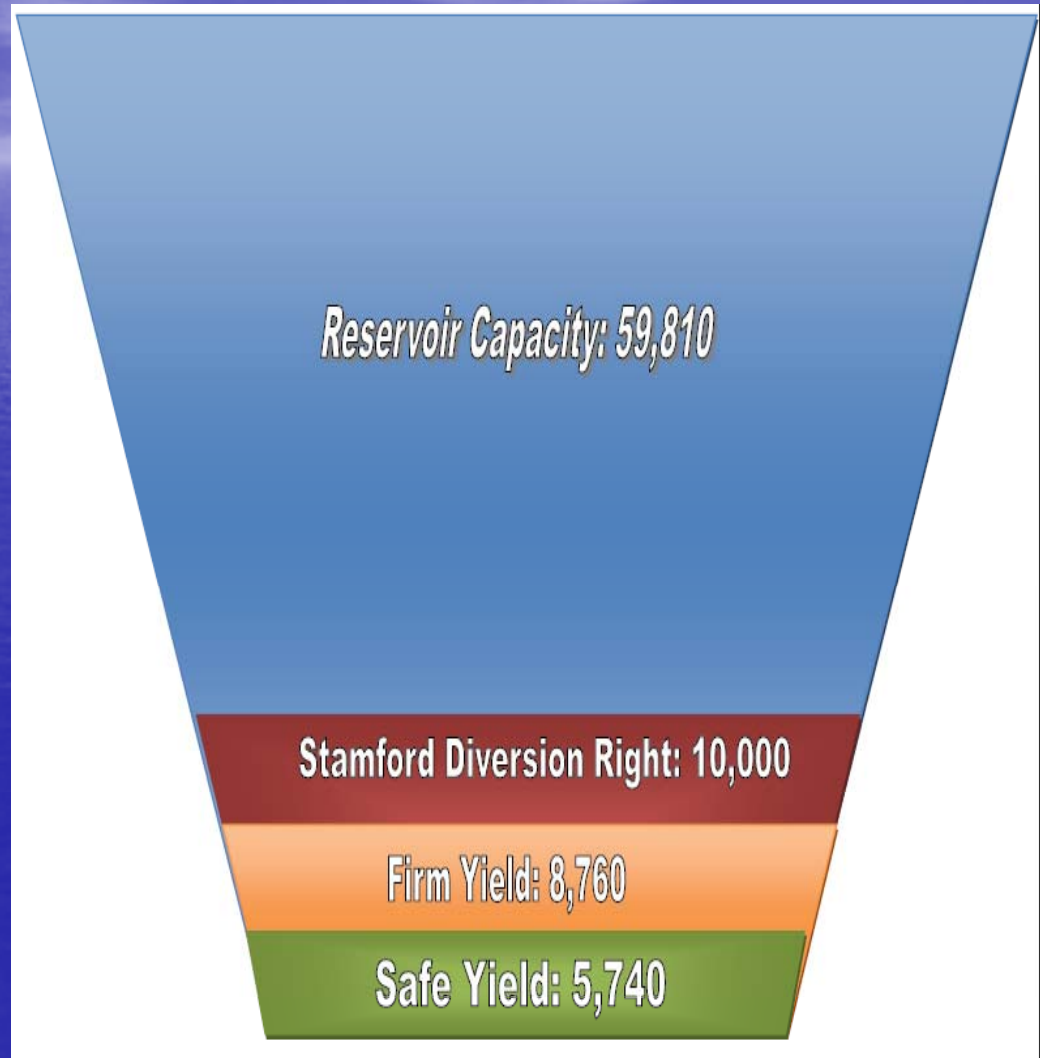
Current Haskell County Water Deficit is 29,135 acre-feet, mostly for agriculture



State-Wide Water Planning Proposes to Leave a Haskell County Deficit of 21,448 acre-feet in 2060

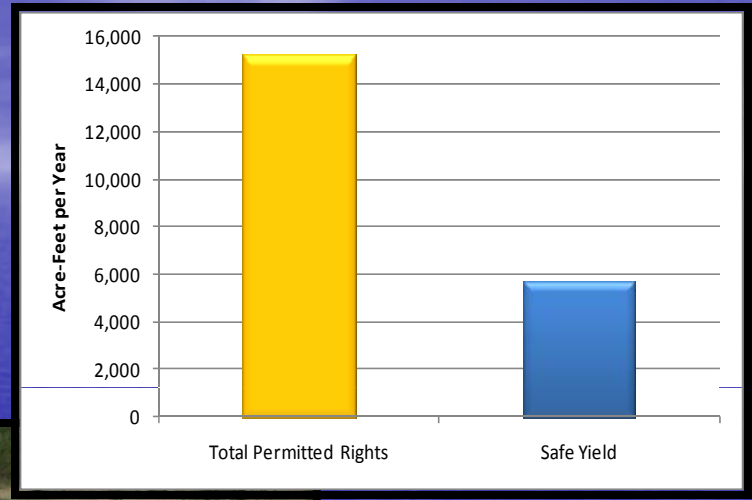


Lake Stamford Reservoir Capacity and Demands



Source: Brazos G Regional Water Plan, 2010, pages 3-26, A-9.

Lake Stamford Safe Yield Compared to Permitted Rights



Drought

The image features a monochromatic blue color scheme. The background is a photograph of a wide, calm ocean stretching to a distant horizon. The sky is filled with soft, wispy clouds. The overall mood is serene but also evokes a sense of vastness and perhaps scarcity, which is reinforced by the word 'Drought' overlaid on the scene.

U.S. Drought Monitor

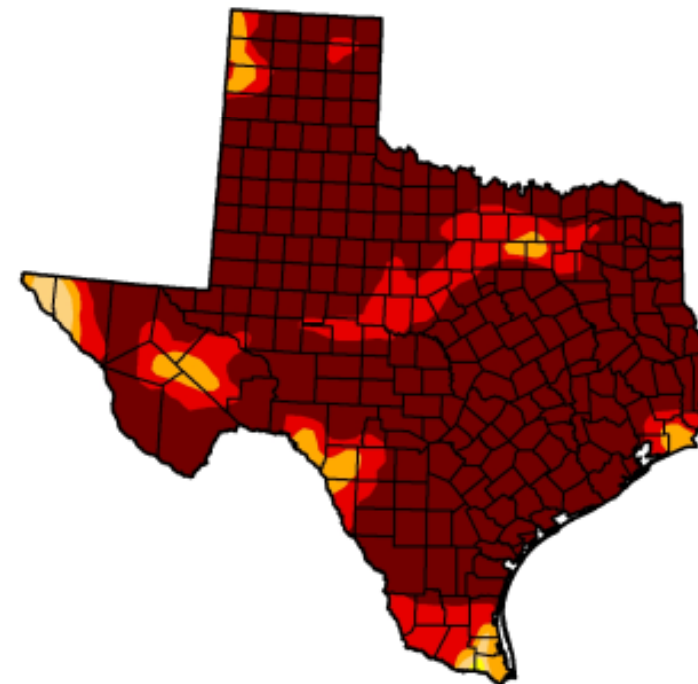
August 30, 2011

Valid 7 a.m. EST

Texas

Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|-------|--------|-------|-------|-------|-------|
| Current | 0.00 | 100.00 | 99.92 | 99.01 | 95.04 | 81.08 |
| Last Week (08/23/2011 map) | 0.00 | 100.00 | 99.93 | 99.01 | 94.42 | 77.80 |
| 3 Months Ago (05/31/2011 map) | 2.25 | 97.75 | 96.07 | 91.89 | 81.09 | 50.65 |
| Start of Calendar Year (12/28/2010 map) | 7.89 | 92.11 | 69.43 | 37.46 | 9.59 | 0.00 |
| Start of Water Year (09/28/2010 map) | 75.57 | 24.43 | 2.43 | 0.99 | 0.00 | 0.00 |
| One Year Ago (08/24/2010 map) | 75.51 | 24.49 | 5.52 | 0.68 | 0.00 | 0.00 |



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>



Released Thursday, September 1, 2011
Eric Luebehusen, USDA

The background of the slide is a blue-tinted photograph of a vast ocean under a cloudy sky. The water is a deep blue with subtle ripples, and the sky is a lighter blue with wispy white clouds. The overall mood is serene and expansive.

Water Demand For Electricity Production

Water Consumption for Electricity:

| Fuel Source: | Gallons per Megawatt- Hour |
|--------------|----------------------------------|
| Nuclear | 620 |
| Coal | 490 |
| Oil | 430 |
| Natural Gas | 250 |
| Solar | 30 |
| Wind | 10 |

Pulverized Coal Power Plant Energy Flow

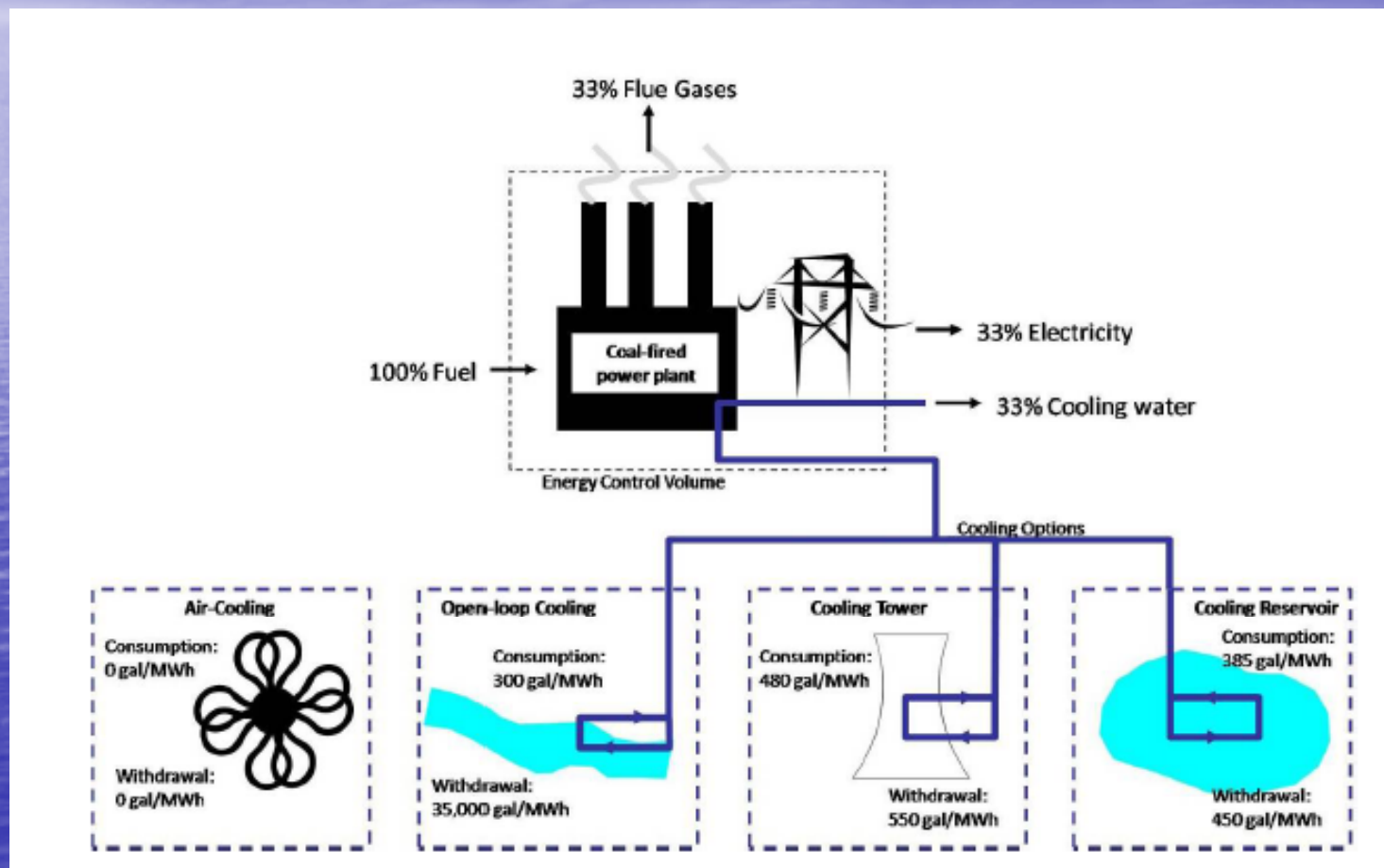


Figure from Environmental Defense Fund 2009



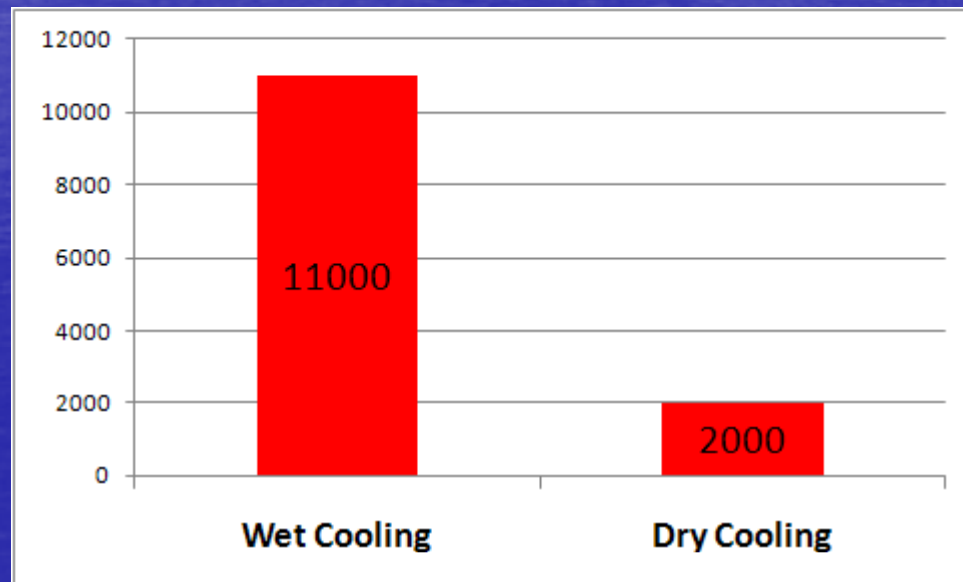
Meeting Tenaska's Water Demand

Proposed Tenaska Coal-Fired Power Plant

- Supercritical Pulverized Coal Boiler
- Steam Turbine Generation
- Gross Power Output: 900 megawatts



Tenaska's Water Needs: Dry Cooling Versus Wet Cooling Acre-feet per year



Tenaska's Water from Stamford

- 773 to 533 acre-feet per year from Lake Stamford
- 100% of City's water rights over 950 acre-feet
- 100% of Stamford's treated effluent (best estimate \approx 350 acre-feet per year)
- 100% right to consume water
- Tenaska exempted from existing or future drought contingency plans

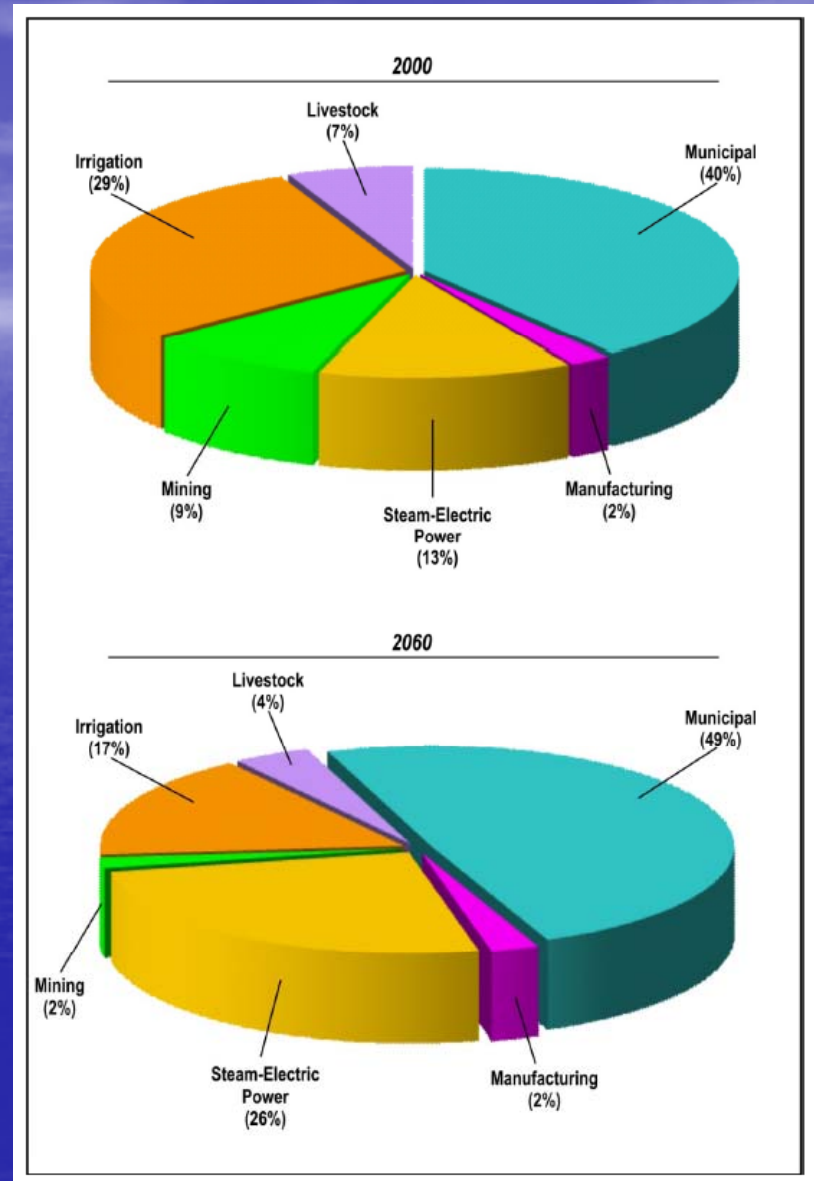
Tenaska's Water from Stamford

- *Still* about 1,000 acre-feet per year short of the water they need for dry-cooled technology.
- *Still* 10,000 acre-feet per year short of the water they need for wet-cooled technology

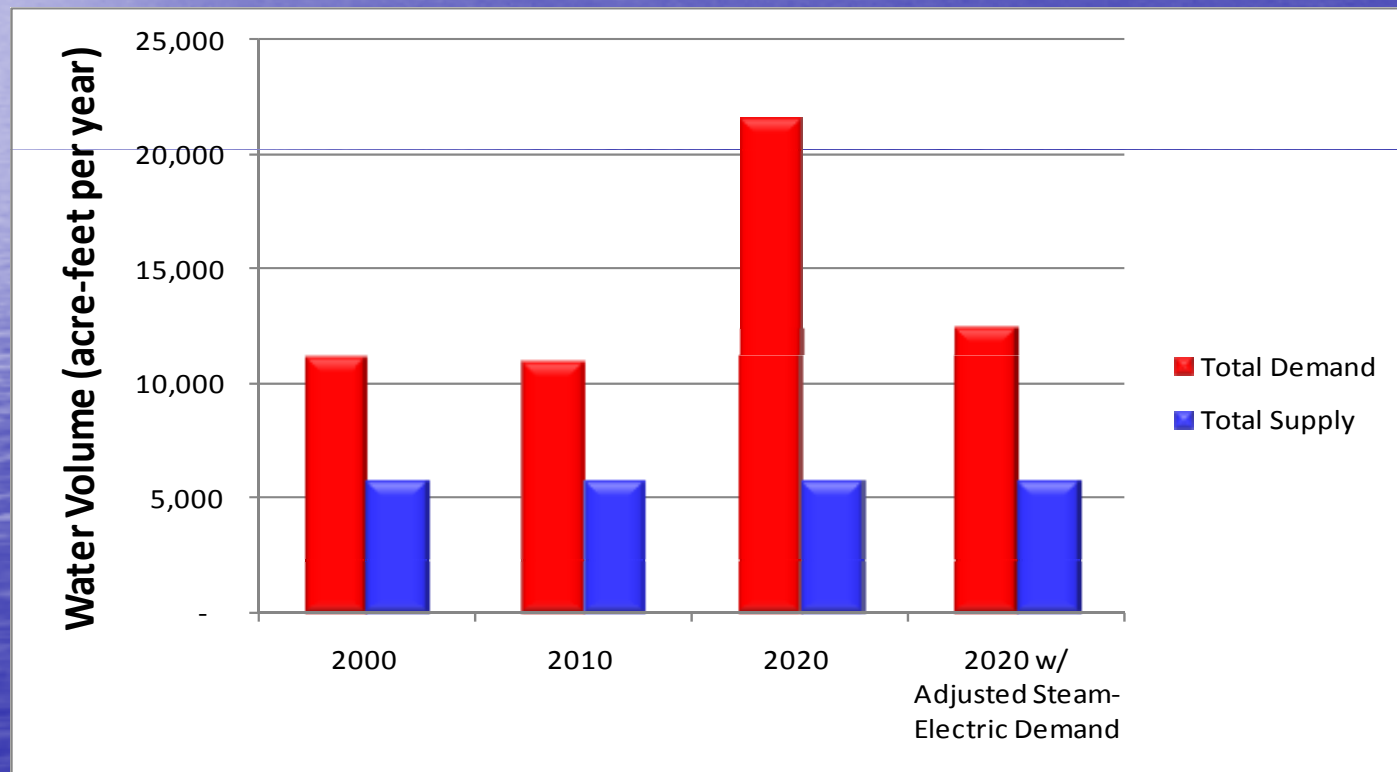
A blue-tinted photograph of a vast ocean under a cloudy sky. The text "What the Future Holds" is centered in white.

What the Future Holds

Projected Region G Water Use in 2000 and 2060



Existing and Projected Water Supply and Demand for Nolan County, Texas



References

- Ross, *What Would You Drink If the Well Went Dry*, 2011.
- Ross, *Lack of Water Availability from City of Stamford for Proposed Tenaska Coal-Fired Power Plant*, 2011.
- Environmental Defense Fund, *Energy-Water Nexus in Texas*, April 2009.
- HDR, Inc., *Initially Prepared 2011 Brazos G Regional Water Plan*, March 2010.

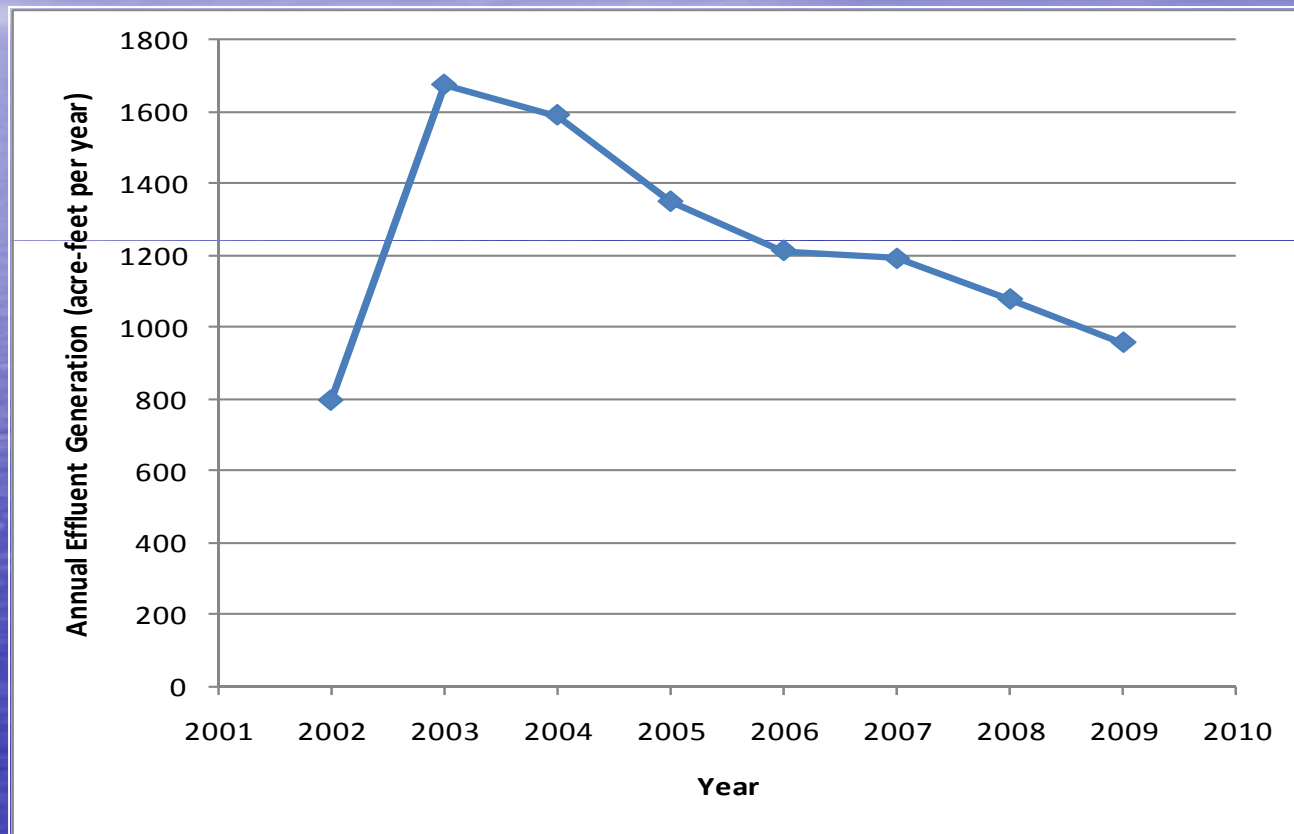
Haskell County 2010 Water Supply and Demand (acre-feet)

| | Demand | Supply | | | Surplus/ (Shortage) |
|-------------------------|--------|---------------|--------------|--------|------------------------|
| | | Surface Water | Ground Water | Total | |
| City of Haskell | 559 | 20 | | 20 | (539) |
| City of Rule | 81 | 2 | 119 | 121 | 40 |
| City of Stamford | 8 | 17 | | 17 | 9 |
| Other County | 235 | 73 | 131 | 204 | (31) |
| Steam-Electric | 422 | 898 | - | 898 | 476 |
| Mining | 93 | - | 108 | 108 | 15 |
| Irrigation | 49,309 | 844 | 19,360 | 20,204 | (29,105) |
| Livestock | 492 | 492 | - | 492 | 0 |

Nolan County 2010 Water Supply and Demand (acre-feet)

| | Demand | Supply | | | Surplus/ (Shortage) |
|--------------------|--------|---------------|-------------|-------|------------------------|
| | | Surface Water | Groundwater | Total | |
| Bitter Creek WSC | 122 | 196 | 58 | 254 | 132 |
| City of Roscoe | 189 | | 252 | 252 | 63 |
| City of Sweetwater | 5,367 | | 2,000 | 2,000 | (3,367) |
| Other County | 199 | 257 | | 257 | 58 |
| Steam-Electric | 807 | - | | - | (807) |
| Mining | 278 | | 170 | 170 | (108) |
| Irrigation | 5,138 | 120 | 3,286 | 3,406 | (1,732) |
| Livestock | 464 | 464 | | 464 | 0 |

Sweetwater Effluent Generation



Lake Stamford Active Water Rights Permits

| Permittee | Diversion Amount (acre-ft/yr) |
|-------------------------------|--------------------------------------|
| Brazos River Authority | 3,000 |
| City of Stamford | 10,000 |
| West Texas Utilities Co. | 2,200 |
| Total Permitted Rights | 15,200 |