

# What's in the 2017 State Water Plan for Desalination?

**Robert E. Mace**, Ph.D., P.G.

**Texas Water Development Board**

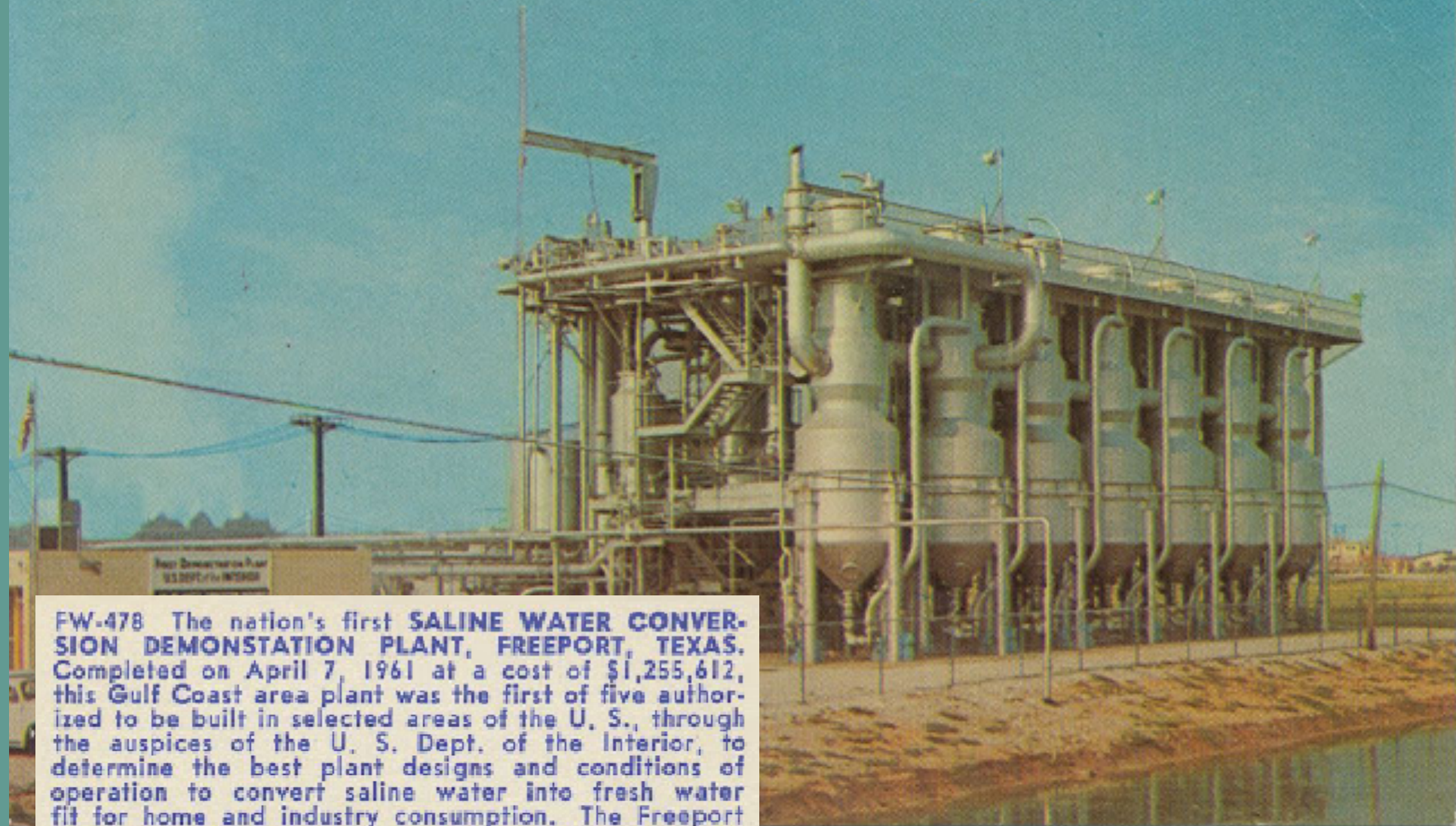
*presented at*

**TexasDesal 2017: Developing a Drought-Proof Water Supply**

Austin, Texas; September 22, 2017



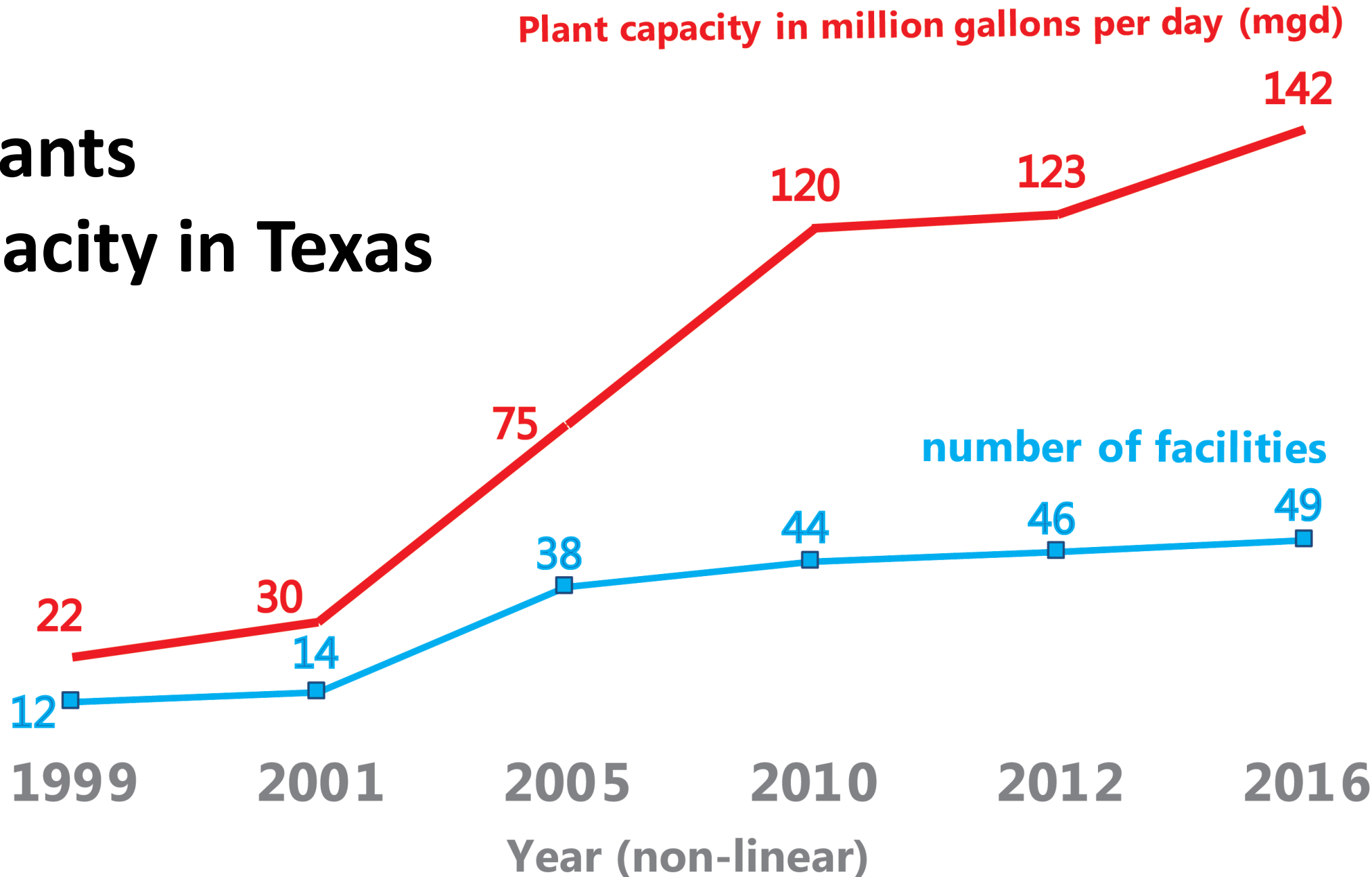
## Saline Water Conversion Plant, Freeport, Texas



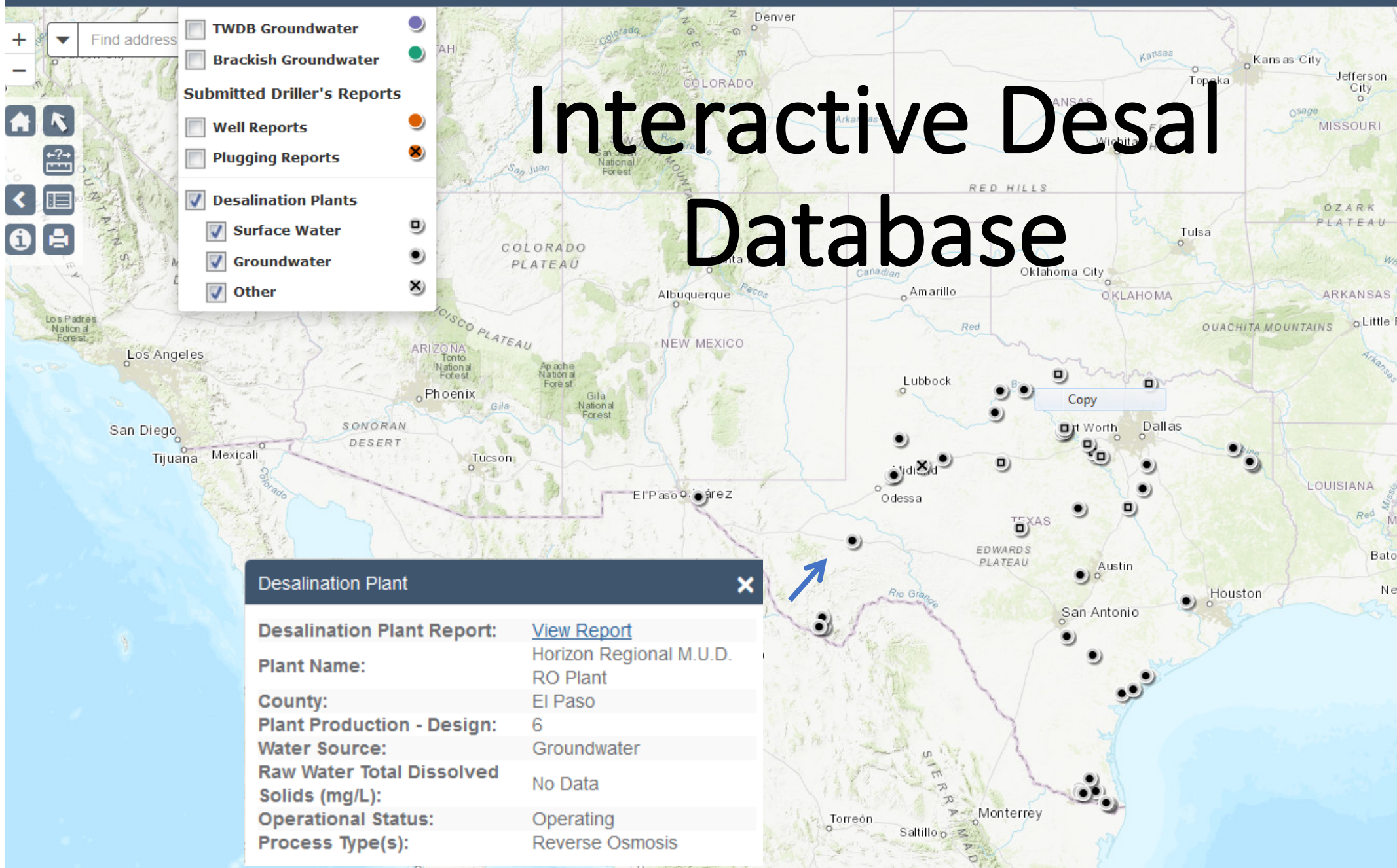
FW-478 The nation's first **SALINE WATER CONVERSION DEMONSTRATION PLANT, FREEPORT, TEXAS.** Completed on April 7, 1961 at a cost of \$1,255,612, this Gulf Coast area plant was the first of five authorized to be built in selected areas of the U. S., through the auspices of the U. S. Dept. of the Interior, to determine the best plant designs and conditions of operation to convert saline water into fresh water fit for home and industry consumption. The Freeport plant uses the Long-tube vertical multiple-effect distillation process and is designed to produce up to 1,000,000 gallons of fresh water per day.

Color Photo by Frank B. Whaley

# desal plants and capacity in Texas







# Interactive Desal Database





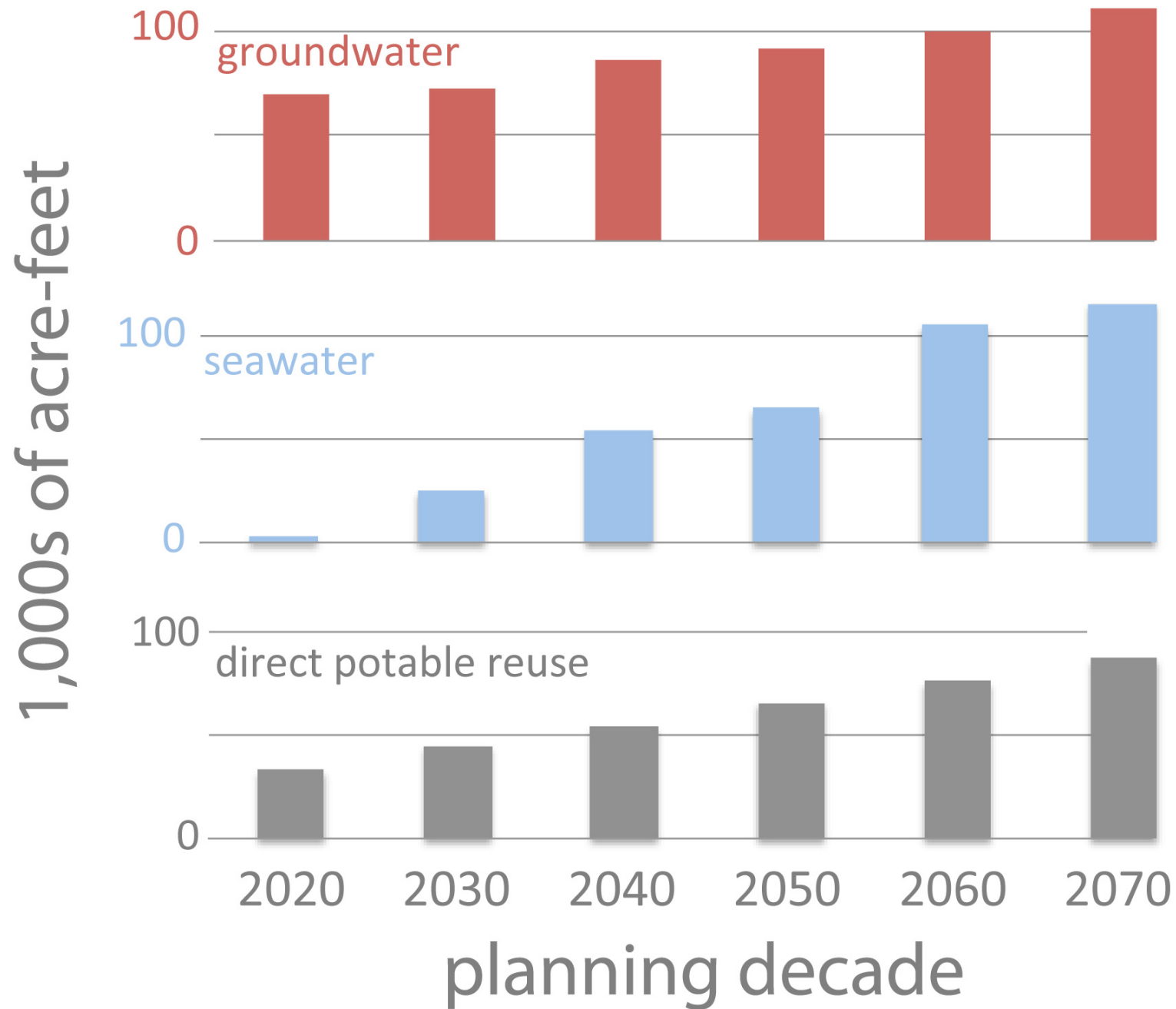
# Water for Texas



## 2017 State Water Plan



**Texas Water**  
Development Board

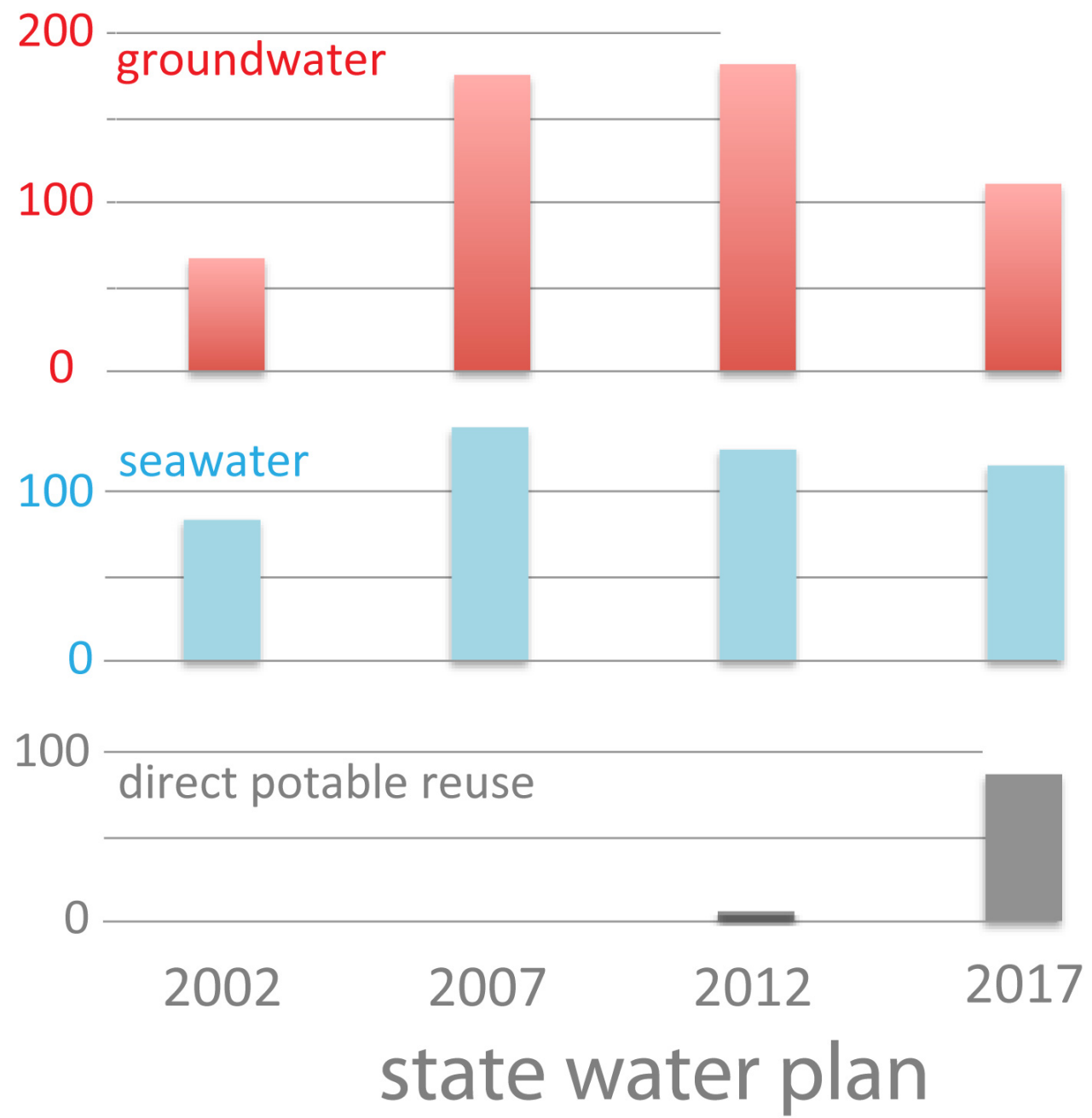


**desal in the  
2017 state water plan**



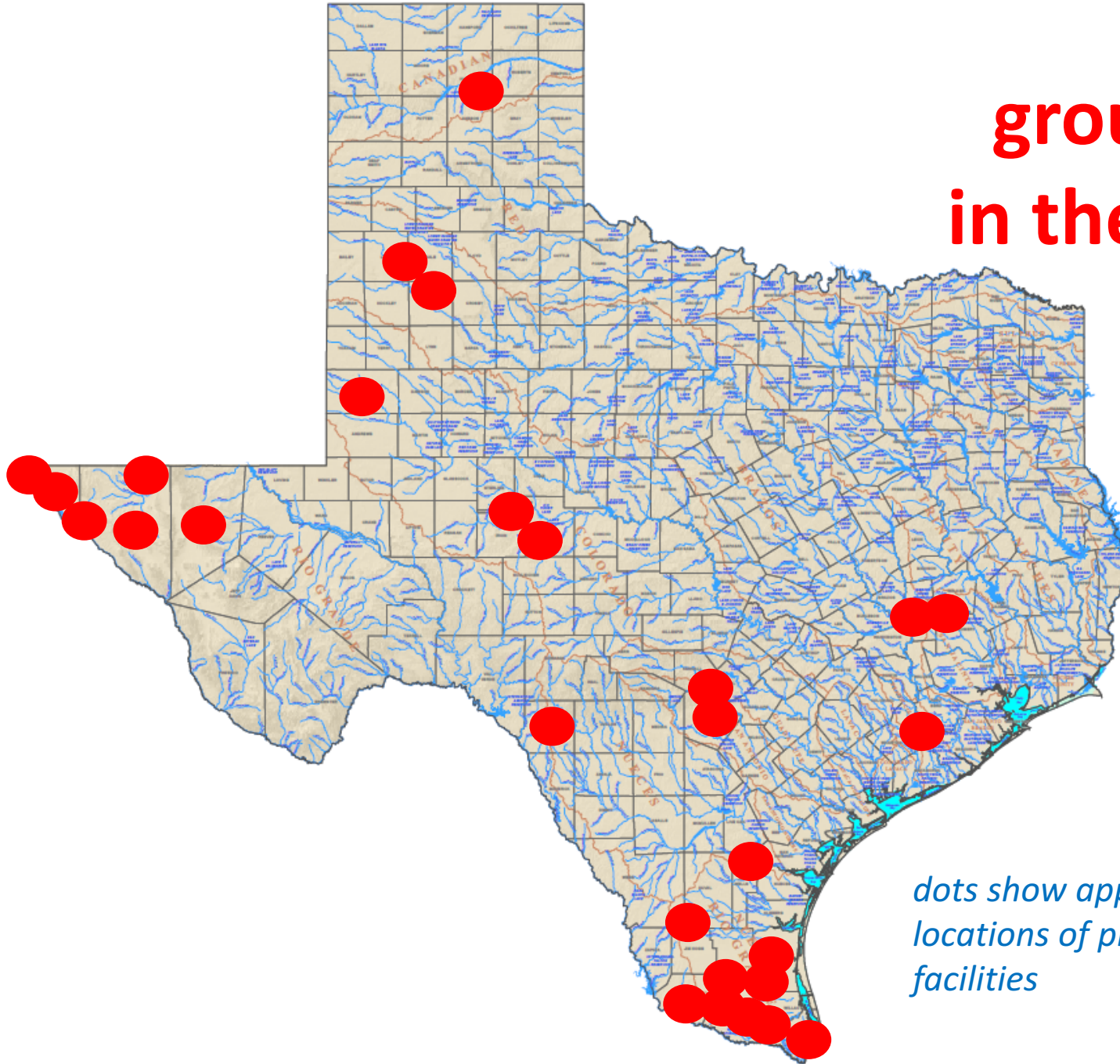
1,000s of acre-feet

# desal in 50 years in the state water plans



2017 volumes only show water to meet needs

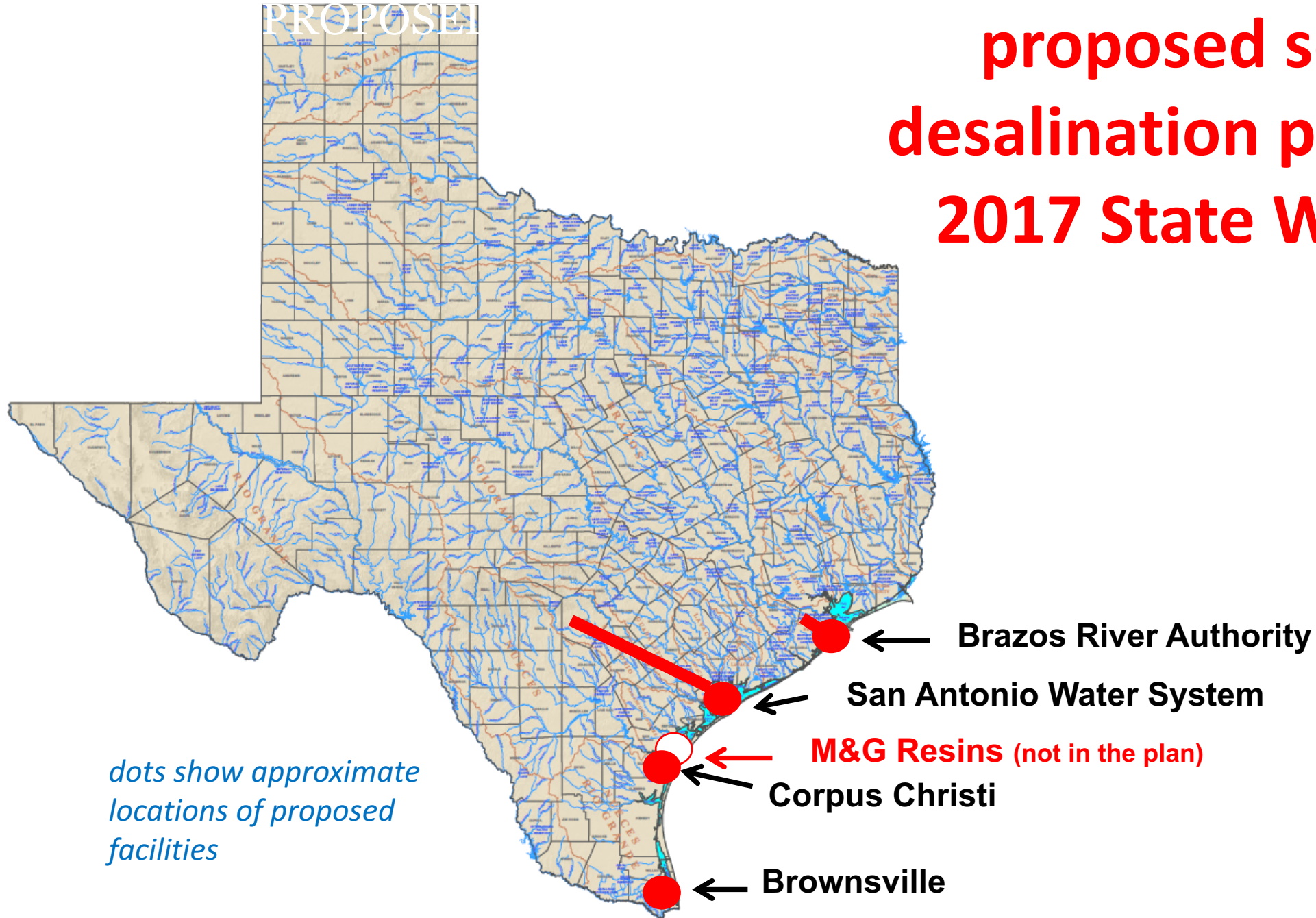
# proposed brackish groundwater desalination in the 2017 State Water Plan



*dots show approximate  
locations of proposed  
facilities*

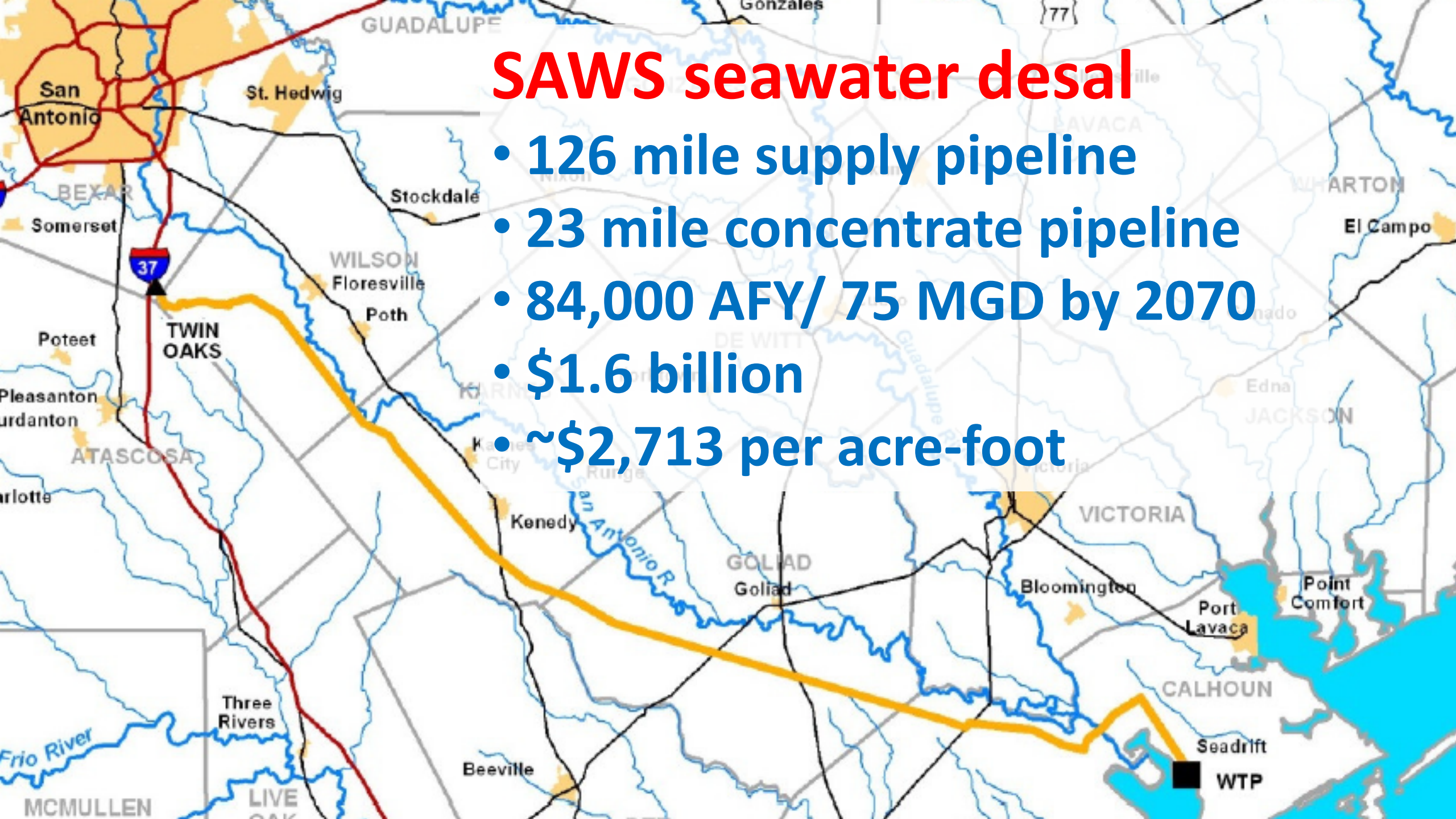


# proposed seawater desalination plants in the 2017 State Water Plan



# SAWS seawater desal

- 126 mile supply pipeline
- 23 mile concentrate pipeline
- 84,000 AFY/ 75 MGD by 2070
- \$1.6 billion
- ~\$2,713 per acre-foot





# M&G RESINS USA, LLC, Corpus Christi



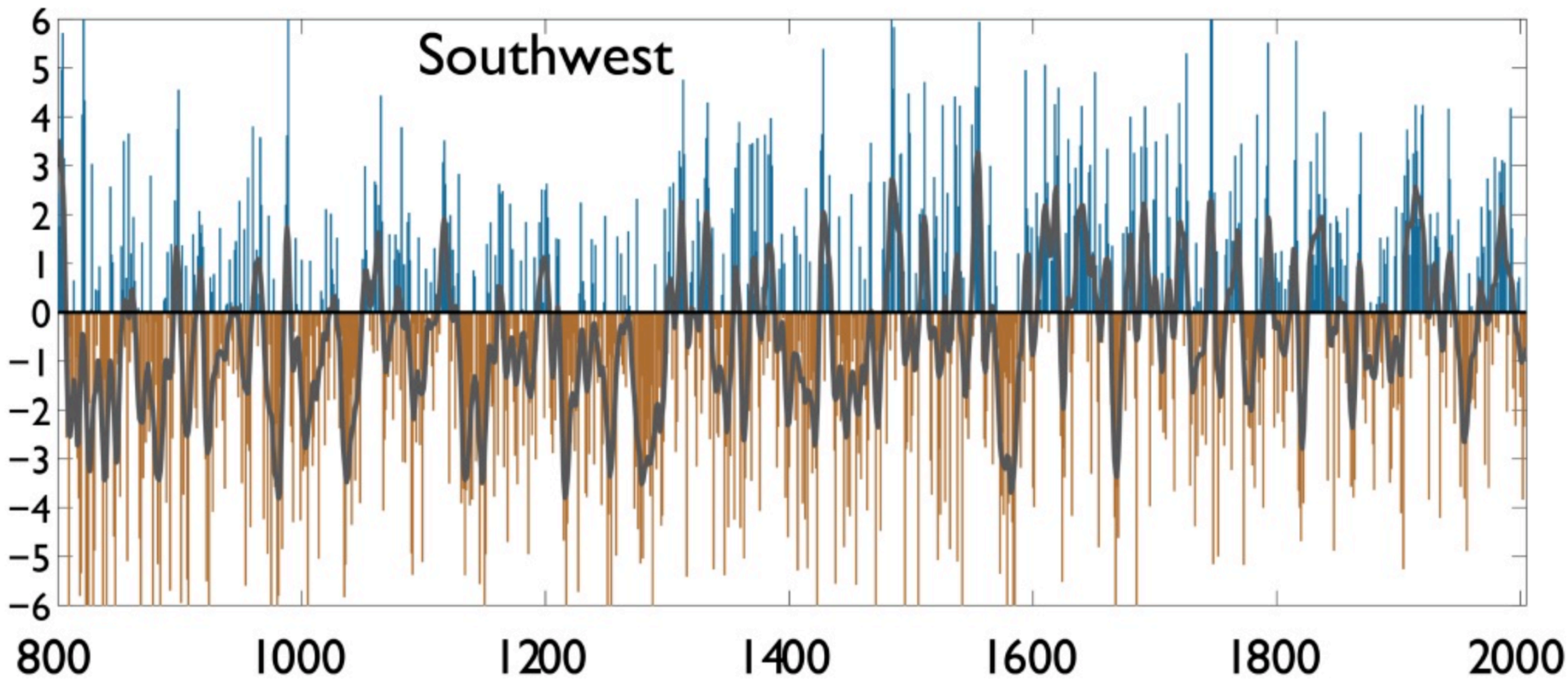
- 6 million gallons per day of seawater desalination
- 2 million gallons per day of water reuse
- Sized to eventually produce 9 million gallons per day
- Expected to start production by late 2017







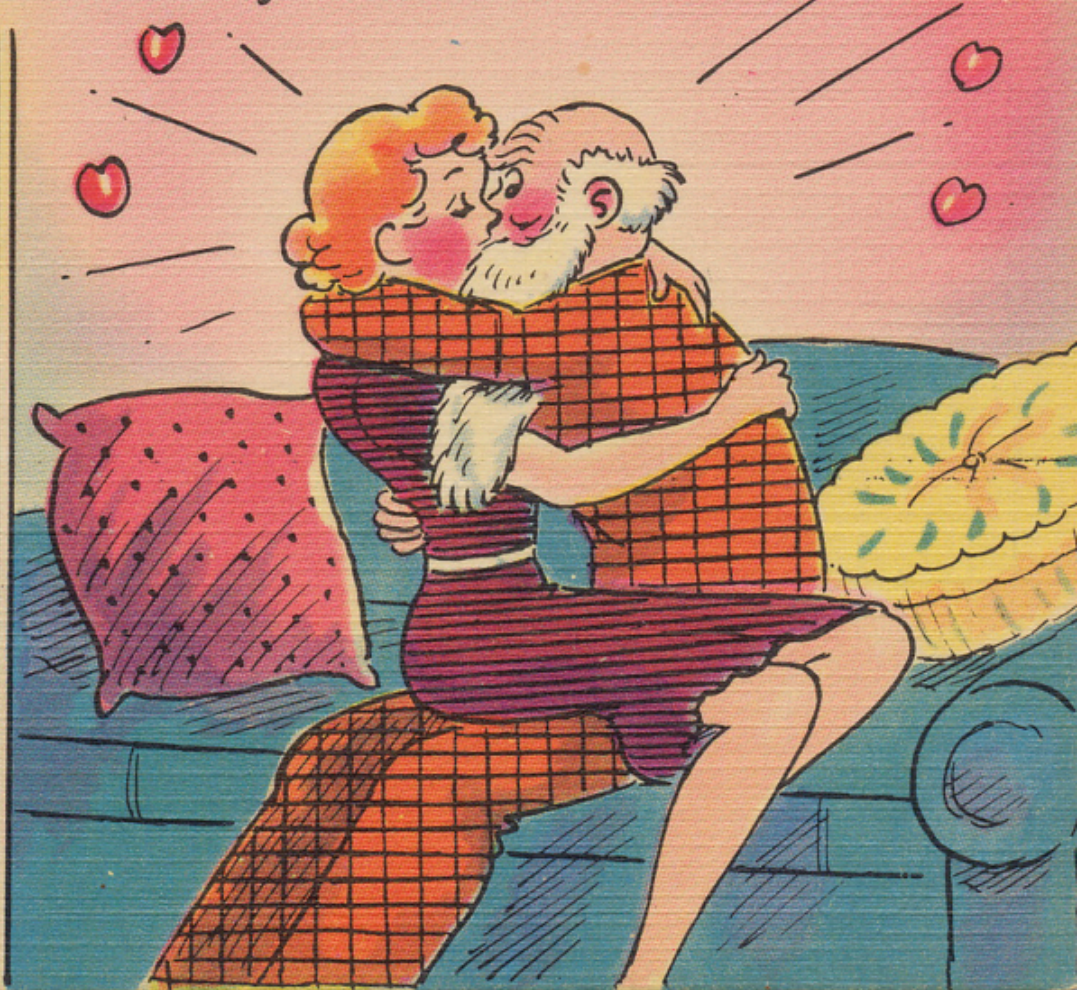
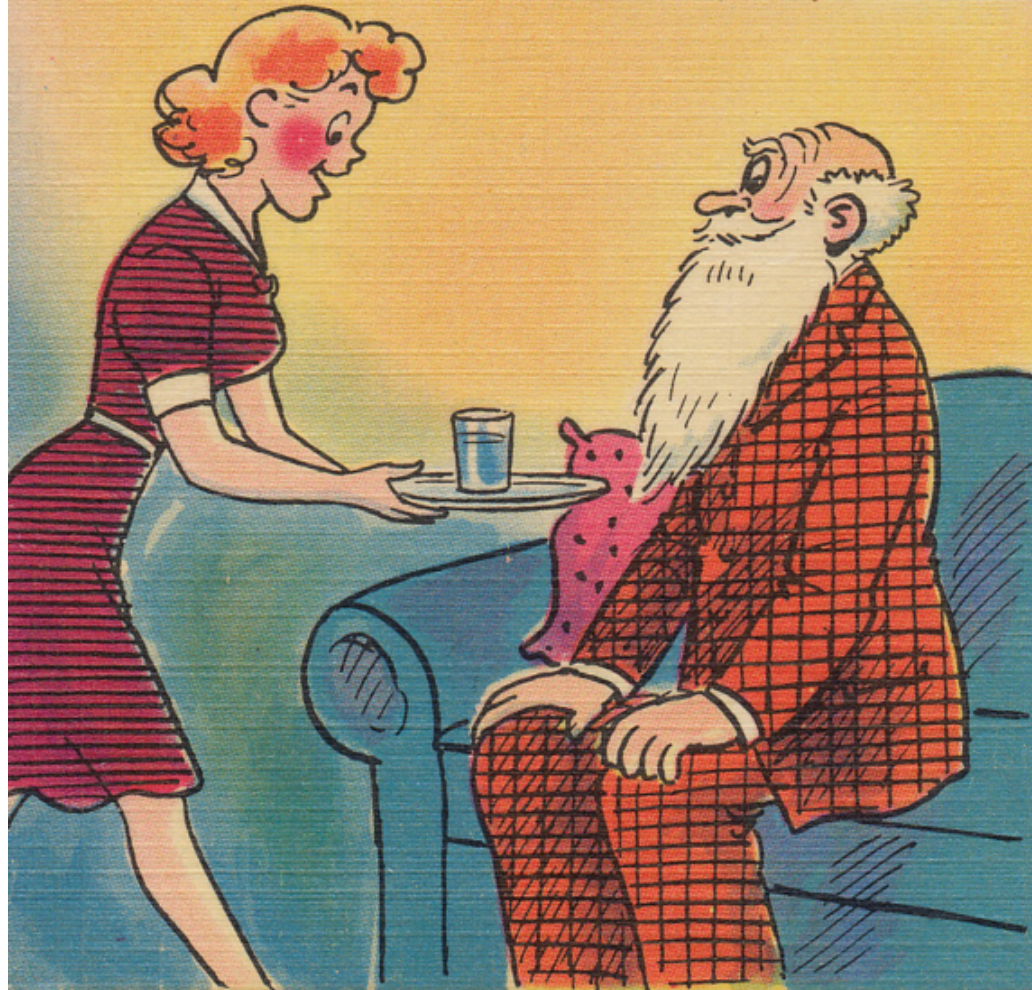
# medieval megadroughts



from Seager and others (2015)



# BEFORE AND AFTER DRINKING HEALTHFUL MINERAL WATER FROM MINERAL WELLS, TEXAS







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