

# Aquifer Storage and Recovery: Its State in the State

*Bell County  
Water Symposium*

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November 16, 2016

Matt Webb  
Innovative Water Technologies

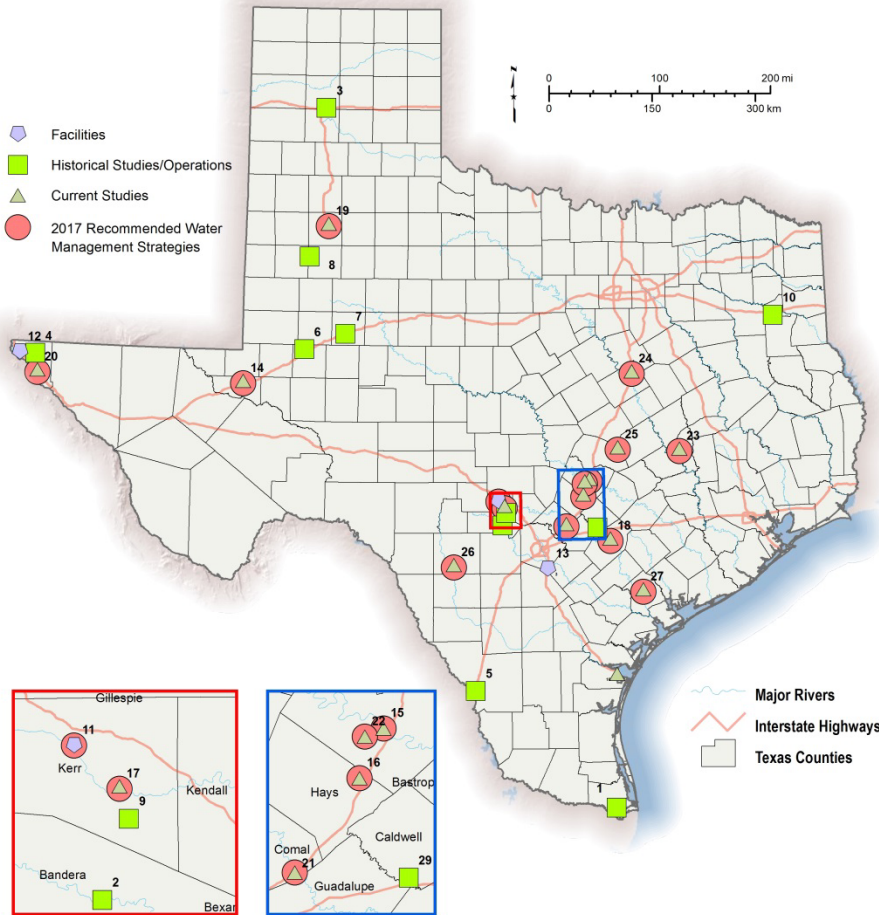
**Texas Water**   
**Development Board**

The logo for the Texas Water Development Board features the text "Texas Water" in a blue serif font and "Development Board" in a black sans-serif font. To the right of the text is a stylized graphic of three curved, overlapping lines representing water or waves.

# Texas Water Development Board

The following presentation is based upon professional research and analysis within the scope of the Texas Water Development Board's statutory responsibilities and priorities but, unless specifically noted, does not necessarily reflect official Board positions or decisions.

# ASR Activities in Texas



For more information about aquifer storage and recovery in Texas, please visit:  
<http://www.twdb.texas.gov/innovativewater/asr/index.asp>

ID number	Location name (TWDB contract or project number)	Regional water planning area
<b>Historical Activity</b>		
1	Brownsville Public Utilities Board	M
2	Bandera County	J
3	City of Amarillo	A
4	City of El Paso	E
5	City of Laredo	M
6	City of Midland	F
7	Colorado River Municipal Water District	F
8	High Plains	O
9	Kerr County	J
10	Sabine River Authority	D
<b>Facilities</b>		
11	City of Kerrville (91483788)	J
12	El Paso Water Utilities	E
13	San Antonio Water System (97483215)	L
<b>Recommended Water Management Strategies</b>		
14	ASR of existing surface water supplies in Ward County well field - CRMWD	F
15	City of Austin - aquifer storage and recovery	K
11	City of Kerrville (91483788)	J
16	Edwards / Middle Trinity ASR	K/L
17	EKC/UGRA - ASR facility	J
18	GBRA - MBWSP - surface water w/ ASR (option 3c)	K/L
19	Lubbock County - Lubbock CRMWA aquifer storage and	O
20	LVWD - wastewater treatment facility and ASR	E
21	New Braunfels Utility - ASR	L
22	Saline Edwards ASR, Saline Edwards ASR (saline)	K
23	Simsboro - Brazos County ASR	G
24	Trinity - McLennan County ASR	G
25	Trinity - Williamson County ASR	G
26	Uvalde ASR	L
27	Victoria ASR	L
<b>Other Studies</b>		
28	City of Corpus Christi (1600011956)	N
29	Luling Water Treatment Plant (21698)	L

Source: Compiled from various sources.

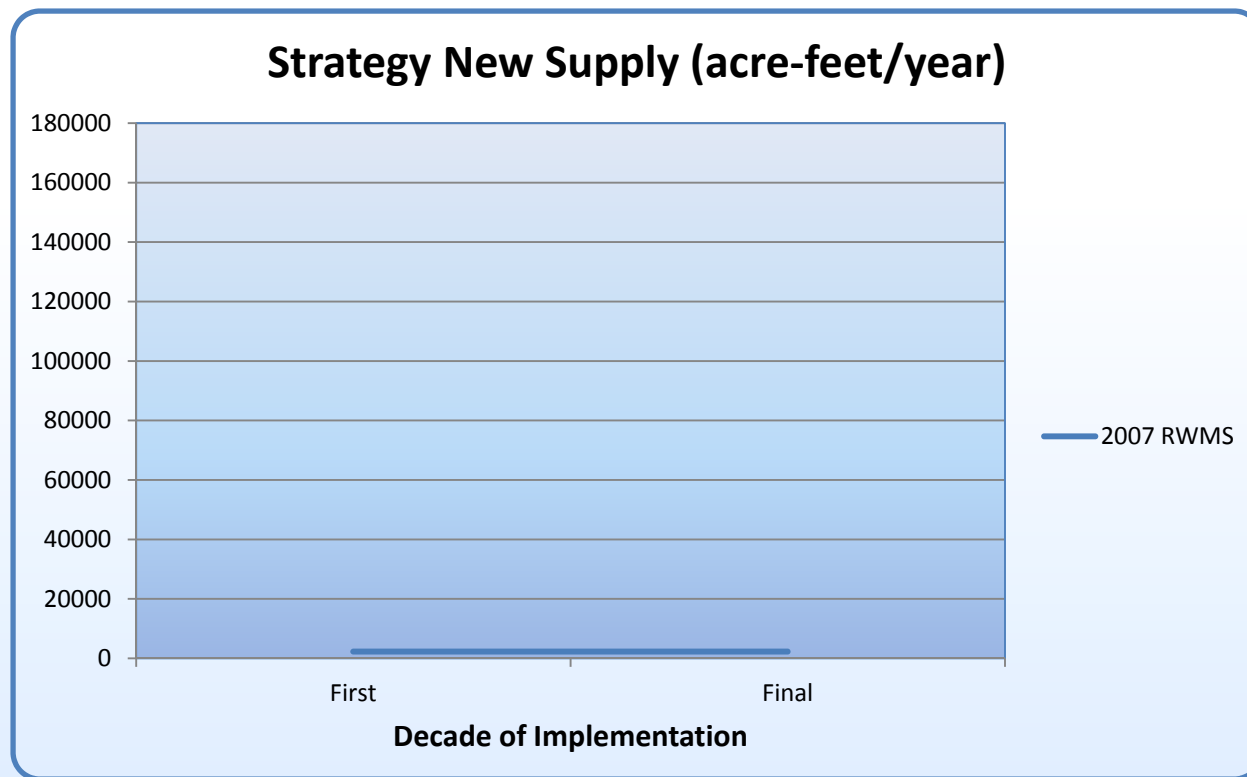
Notes:

ASR = Aquifer Storage and Recovery  
 CRMWA = Canadian River Municipal Water Authority  
 CRMWD = Colorado River Municipal Water District  
 EKC = Eastern Kerr County

GBRA = Guadalupe-Blanco River Authority  
 LVWD = Lower Valley Water District  
 MBWSP = Mid-Basin Water Supply Project  
 UGRA = Upper Guadalupe River Authority

# Recommended Strategies\*

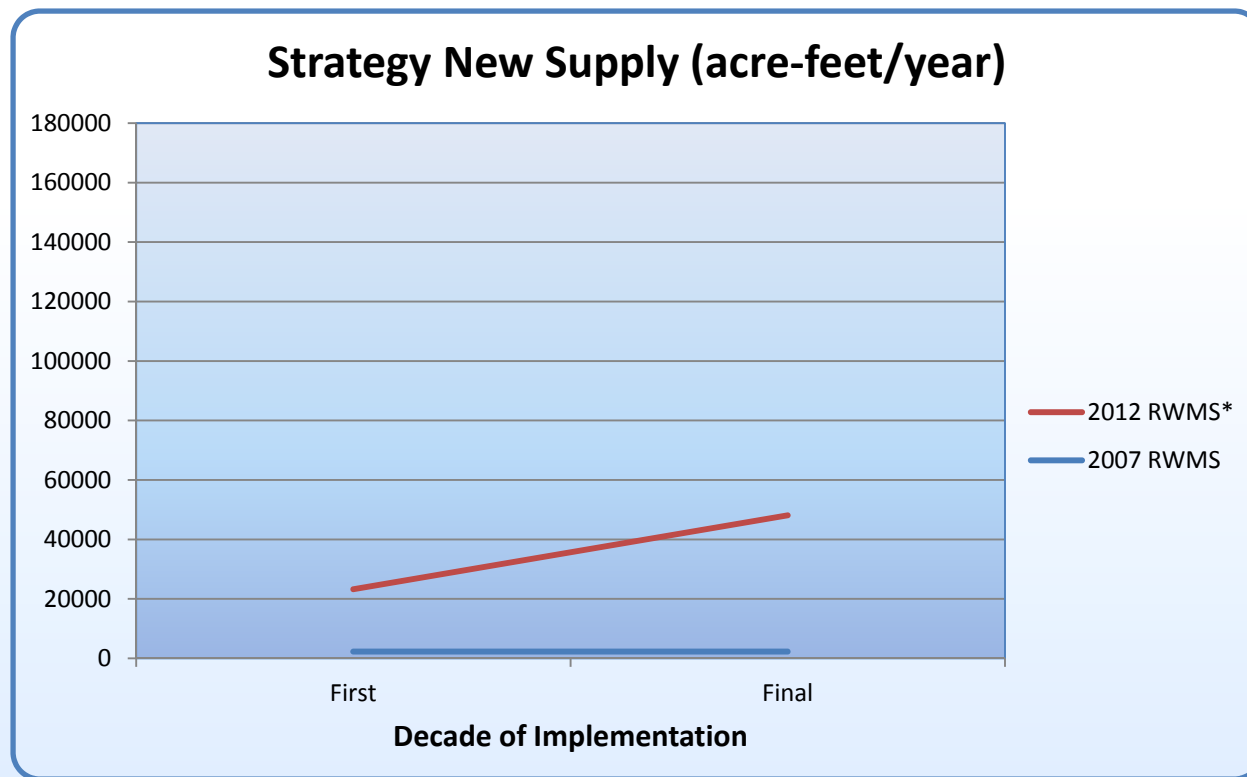
- 2007 State Water Plan - ASR projects in one planning region as a Recommended Water Management Strategy (RWMS)
  - 2,240 ac-ft first decade of use; 2,240 ac-ft fifth decade



\* Excludes infiltration basin projects

# Growth in Interest\*

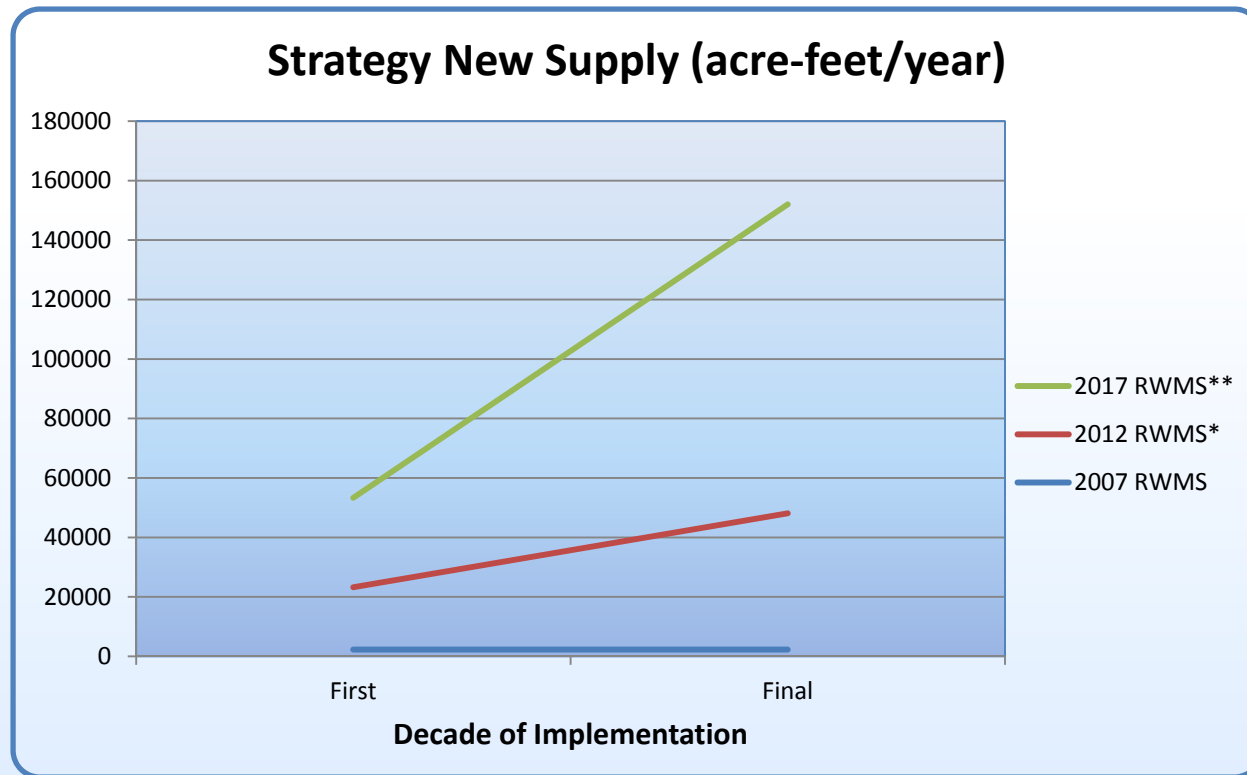
- 2012 State Water Plan – ASR projects in six planning regions as a RWMS
  - 23,260 ac-ft first decade of use; 48,084 ac-ft fifth decade



\* Excludes infiltration basin projects

# Growth in Interest

- 2017 State Water Plan Recommended ASR strategies in seven regions
  - 53,341 ac-ft decade 2020; 152,000 ac-ft decade 2070
  - Triple the final decade volume from the 2012 SWP



\* Excludes infiltration basin projects

\*\* Included only supply allocated to a water user group



# Demonstration Project Funding

- 84<sup>th</sup> Texas Legislature, House Bill 1, Rider 25
  - \$1,000,000 from General Revenue Fund
  - For innovative storage approaches, including but not exclusively, ASR
  - One-for-one matching grant funds
  - Competitive grant application process
    - Request for application notice – September 22, 2015
    - Application deadline – November 3, 2015
    - Grant approval – January 7, 2016



# Application Summary (I)

- Six applications received
  - Four ASR field studies
  - One ASR desktop/planning study
  - One enhanced recharge field study
- Three grants awarded

Recipient	Funding		
	Total	Requested	Awarded
Edwards Aquifer Authority	\$563,000	\$281,500	\$281,500
Victoria County Groundwater Conservation District	\$570,226	\$285,112	\$285,112
Corpus Christi Aquifer Storage and Recovery Conservation District	\$1,000,000	\$500,000	\$433,388

- City of Bryan moving forward with Class V request



# Application Summary (II)

- Edward Aquifer Authority/New Braunfels Utilities
  - Exploration of storage potential in the saline Edwards Aquifer
  - Permit, design, and construct continuous wireline core hole and monitor well
  - Conduct geochemical analysis of the aquifer using samples from the core hole
  - Conduct geophysical logging and a short-duration pump test using the monitor well
- Victoria CGD and City of Victoria
  - Permit, design, and retrofit an existing groundwater production well for ASR in the fresh Gulf Coast Aquifer
  - Test and assess the operational ASR well
  - Collect data to support development of full-scale system
- Corpus Christi ASRCD and City of Corpus Christi
  - Conduct an exploratory test drilling program in the slightly/moderate Gulf Coast Aquifer
  - Collect hydrogeological and geochemical data
  - Perform geochemical analysis on water sources
  - Develop a field-scale groundwater model to simulate ASR operations

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**Innovative Water Technologies**  
**[matthew.webb@twdb.texas.gov](mailto:matthew.webb@twdb.texas.gov)**

**512.463.6929**