Texas Water Development Board

Water Desalination in Texas

INDEPENDENT WATER AND SEWER COMPANIES OF TEXAS, INC.

Jorge A Arroyo, PE
Innovative Water Technologies
May 10, 2013

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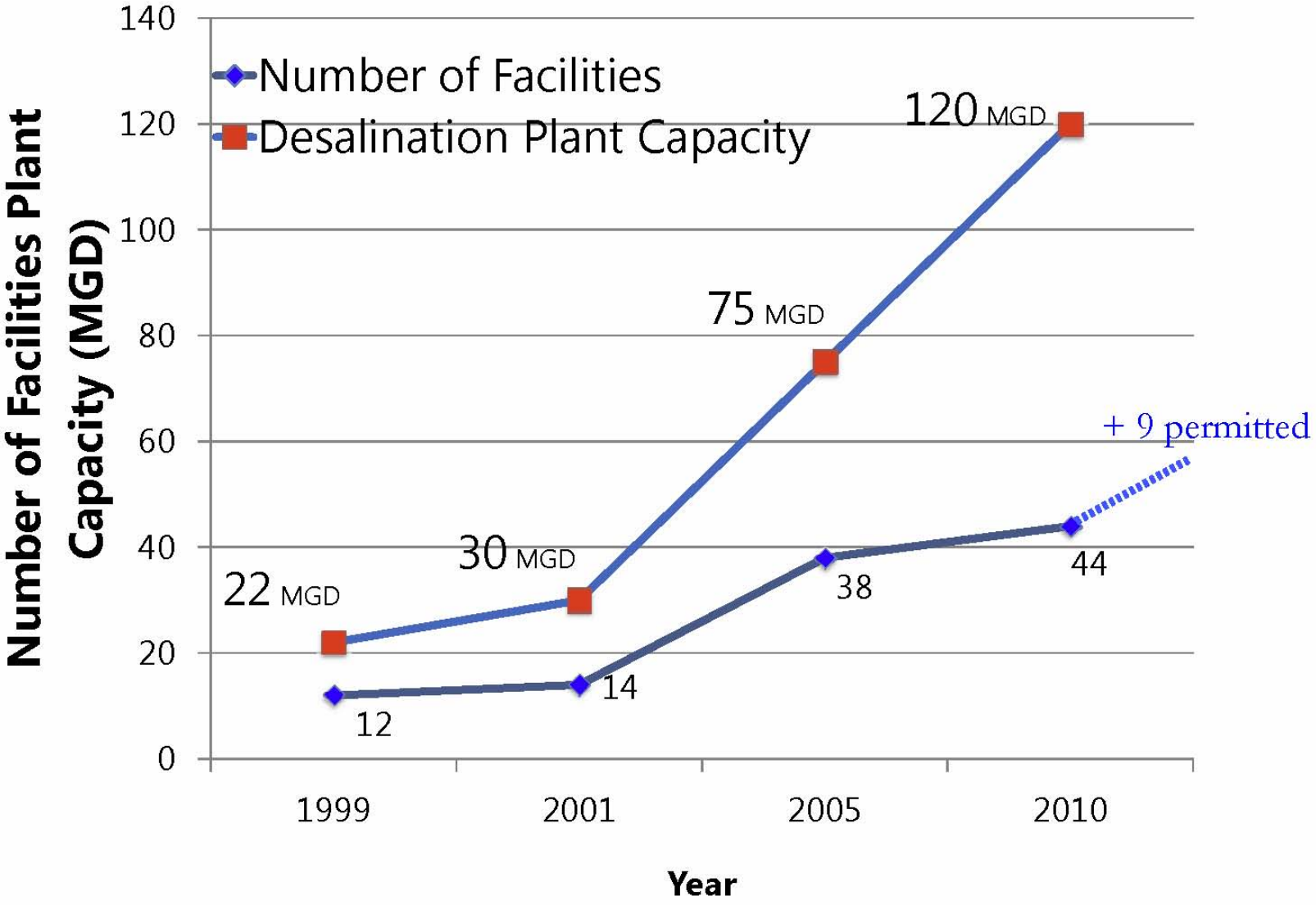
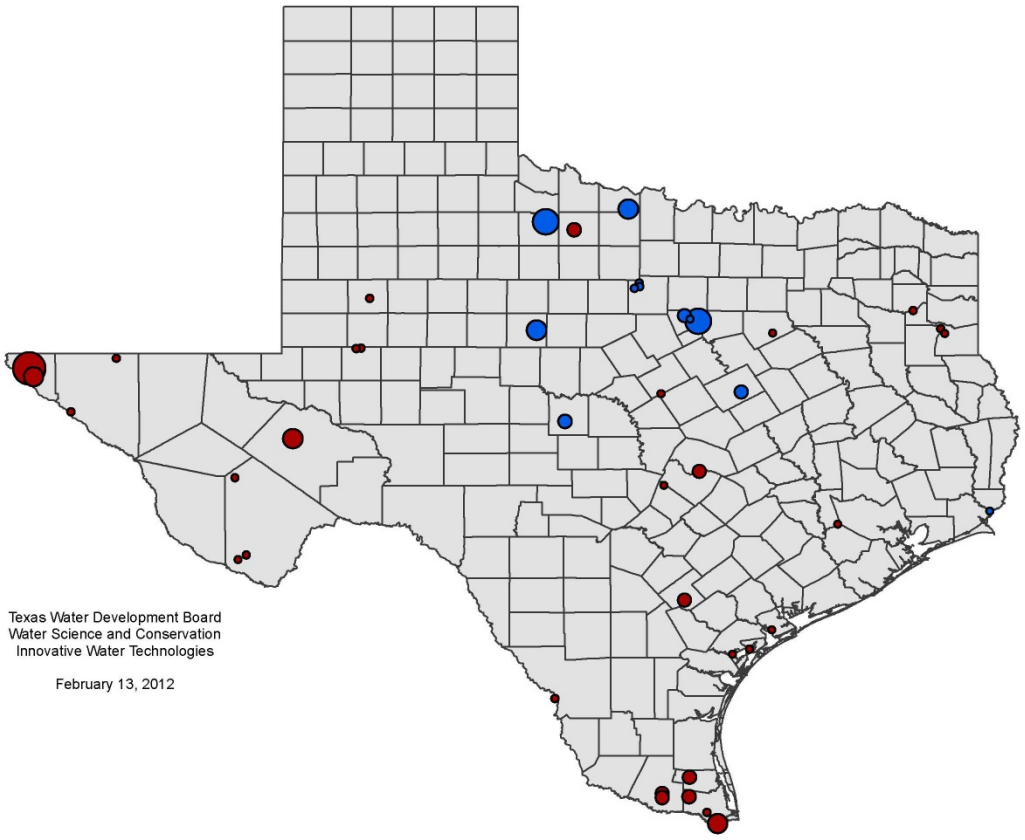

Number of Facilities
Desalination Plant Capacity
Number of Facilities Plant Capacity (MGD)
140
120
100
80
60
40
20
0
1999
2001
2005
2010
Year
22 MGD
30 MGD
75 MGD
120 MGD
12
14
38
44
+ 9 permitted

Texas Desalination Plant Capacity



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Water Science and Conservation
Innovative Water Technologies

February 13, 2012

Surface water Desalination Plant Capacity (units: millions of gallons per day)

- 0.02300 - 1.00000
- 1.00001 - 5.00000
- 5.00001 - 10.00000
- 10.00001 - 20.00000
- 20.00001 - 30.00000

Groundwater Desalination Plant Capacity (units: millions of gallons per day)

- 0.02300 - 1.00000
- 1.00001 - 5.00000
- 5.00001 - 10.00000
- 10.00001 - 20.00000
- 20.00001 - 30.00000

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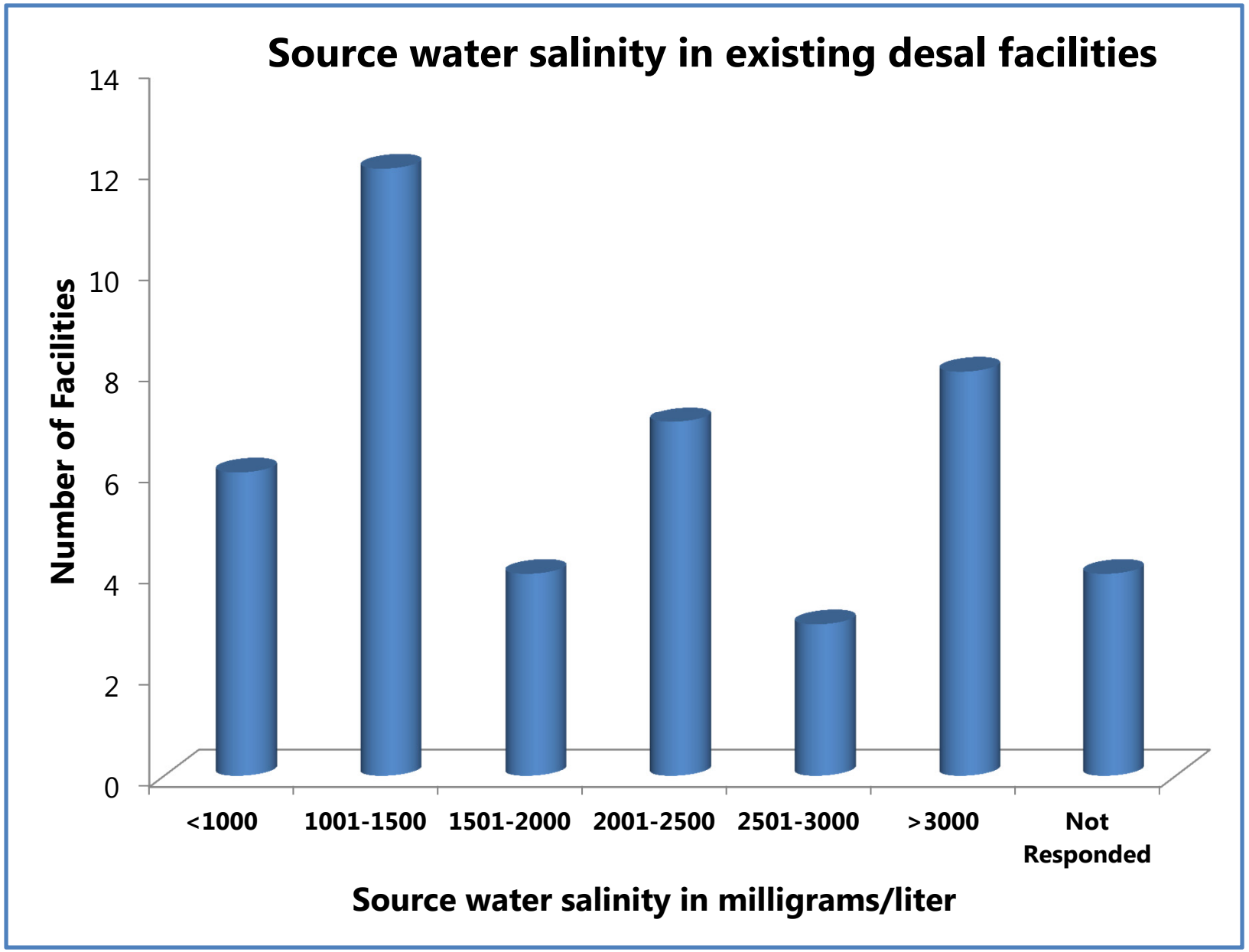

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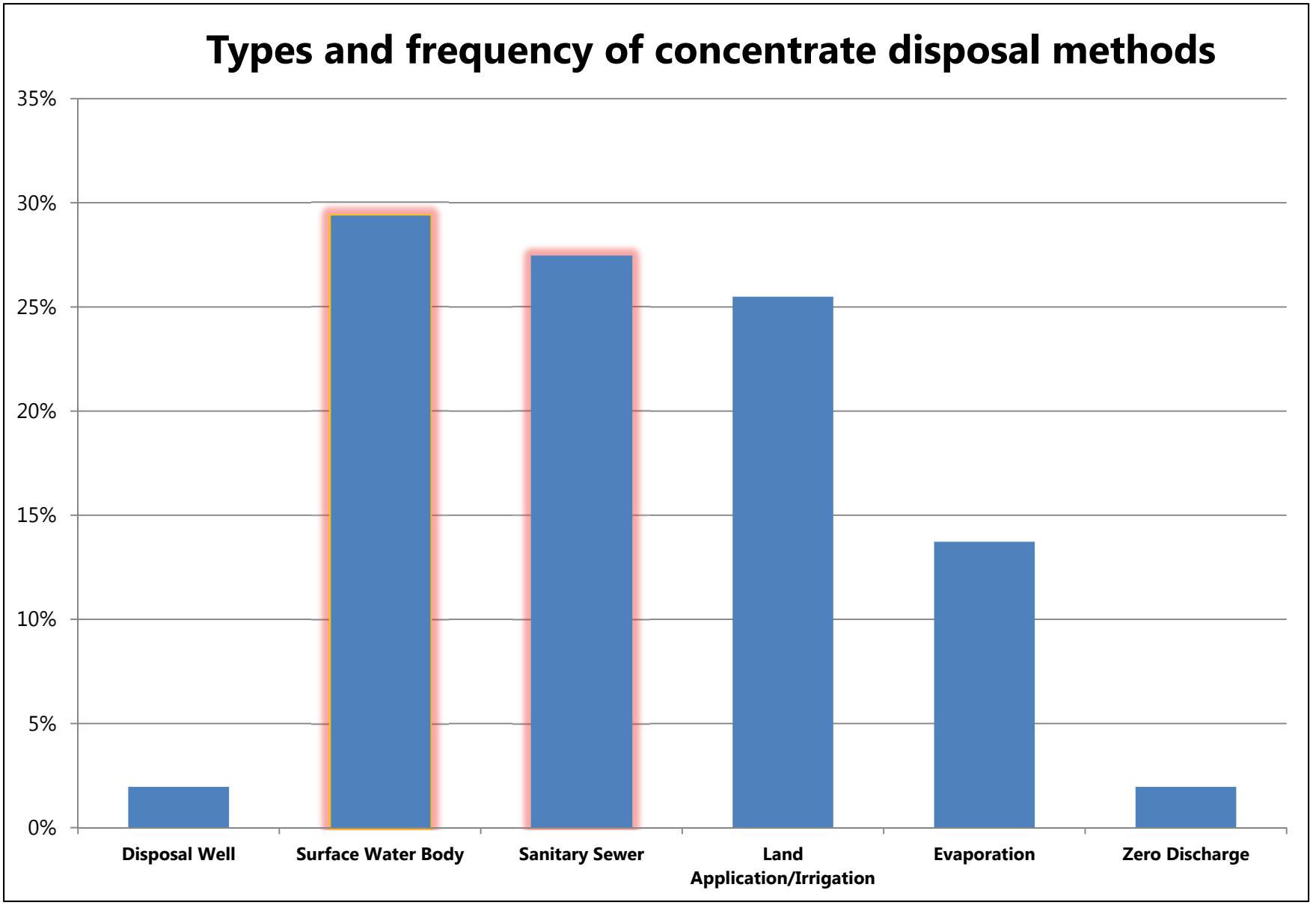

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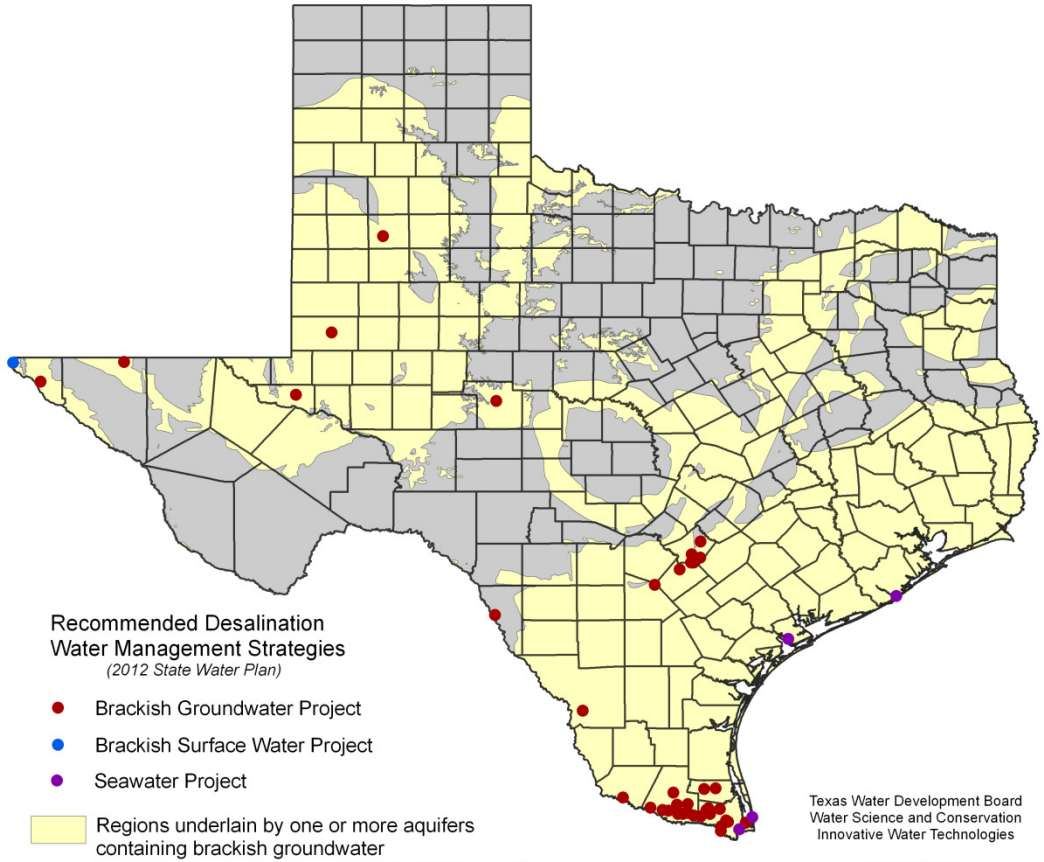
Recommended Desalination
Water Management Strategies
2012 State Water Plan



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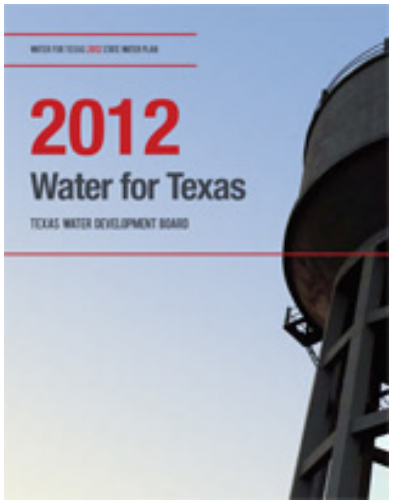
Water Supplies



Existing water supplies — the amount of water that can be produced with current permits, current contracts, and existing infrastructure during drought — are **projected to decrease about 10 percent**, from about 17.0 million acre-feet in 2010 to about 15.3 million acre-feet in 2060.

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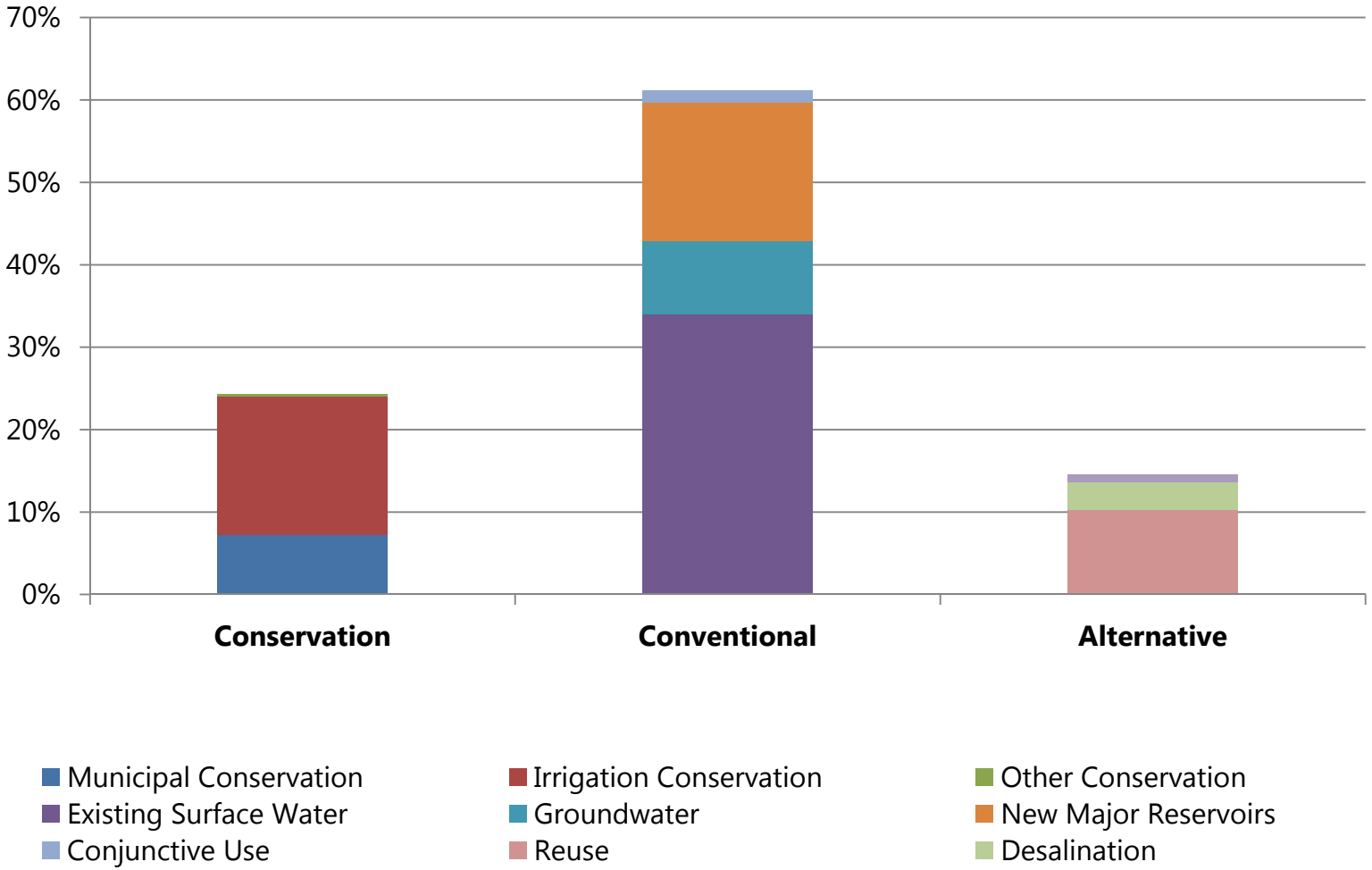
Future Water Supplies

2012 State Water Plan



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Why brackish groundwater desalination in Texas?

#1
Abundance

Brackish Groundwater Manual For Texas Regional Water

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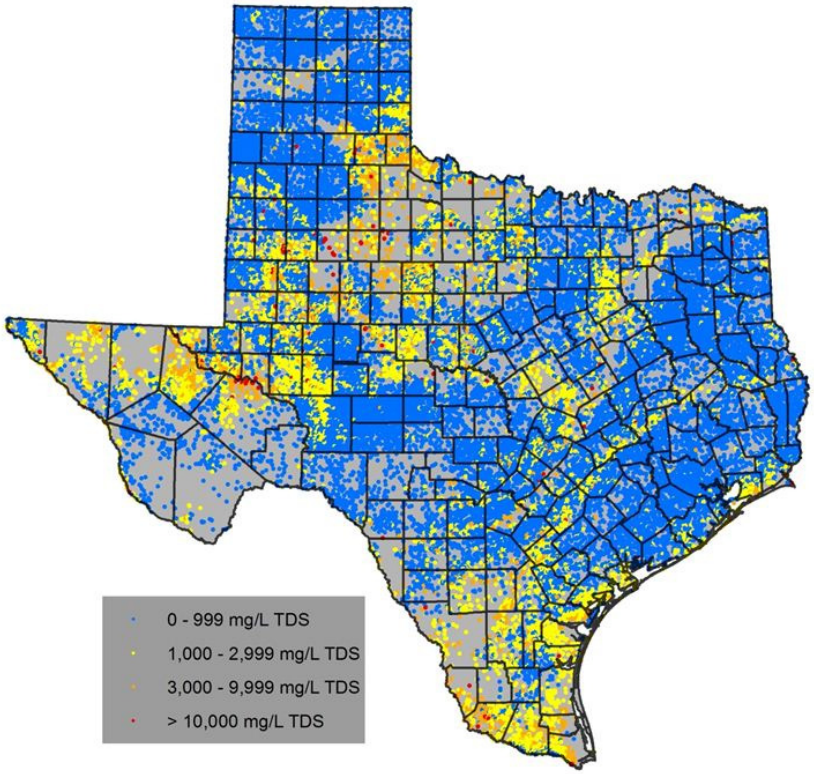
Wells in the Groundwater Database



Source: Texas Water Development Board Groundwater Database. Each well has a TDS measurement. If a well had more than one TDS measurement, the most recent measurement was used.

This map was generated by the Texas Water Development Board using geographic information system software. No claims are made to the accuracy or completeness of the information shown herein or to its suitability for a particular use.

1,000 mg/L	3,000 mg/L	10,000 mg/L
Fresh	Brackish	Saline
Fresh	Slightly-saline / Moderately-saline	Very-saline

#2

A new source

#3

Broad geographic availability

Planning Region	Brackish Groundwater Volume [Acre-feet]
A- Panhandle	19,099,600
B- Region B	14,535,000
C- Region C	84,948,900
D- Northeast Texas	55,783,300
E- Far West Texas	125,382,400
F- Region F	372,848,300
G- Brazos	195,540,400
H- Region H	193,382,500
I- East Texas	195,869,400
J- Plateau	8,637,800
K- Lower Colorado	201,952,200
L- South Central Texas	417,767,200
M- Rio Grande	396,068,900
N- Coastal Bend	332,408,800
O- Llano Estacado	91,762,800
P- Lavaca	7,825,900
Total	2,713,813,400

Brackish Groundwater Manual For Texas Regional Water Planning Groups

#4

Water supply diversification

#5
Ease of implementation

#6
Robust technology

#7
Scalability

#8

Local or regional approaches

#9
Reuse multiplier

#10
Challenges
to
Opportunities

http://www.twdb.state.tx.us/innovativewater/

- Desalination

CONTACT