

Supply, Demand and Brackish Water Desalination

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Innovative Water Technologies

Texas Water Development Board



Texas Water Development Board

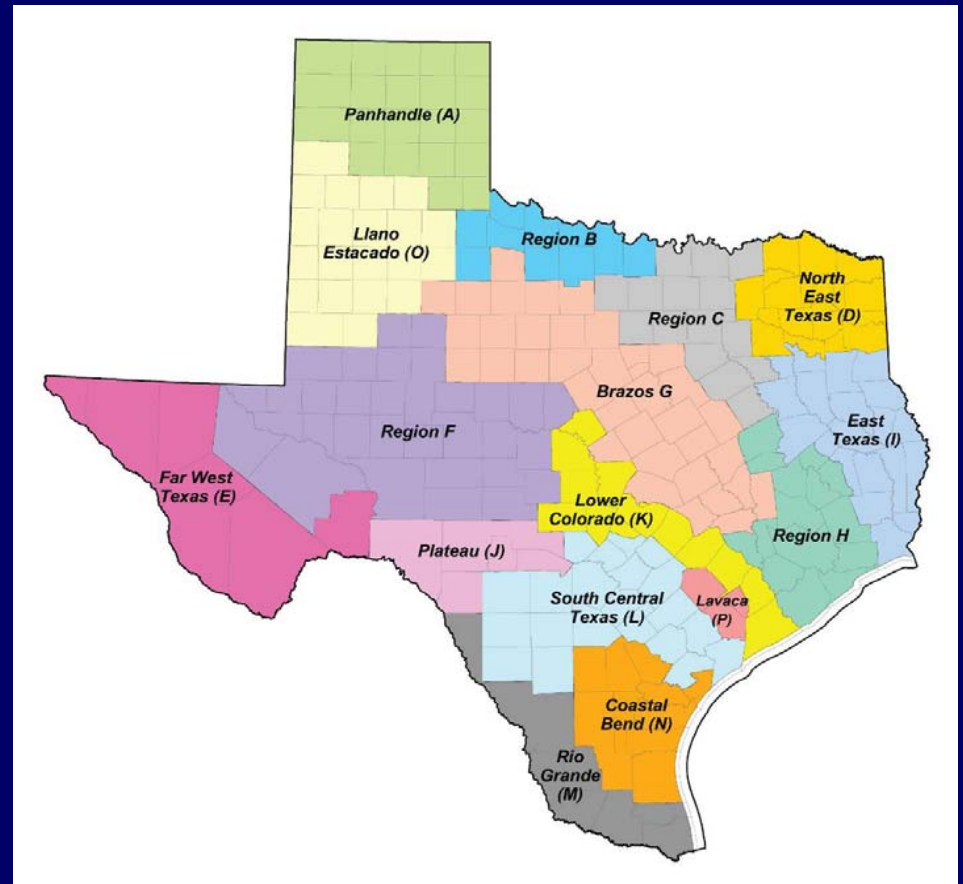
- Financing water and wastewater infrastructure
 - Water data collection
 - Water planning
 - Founded in 1957
 - Six members appointed by the Governor and confirmed by the Texas Legislature
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16 Planning Regions (2,564 Water User Groups)

*Water for Texas
2007*

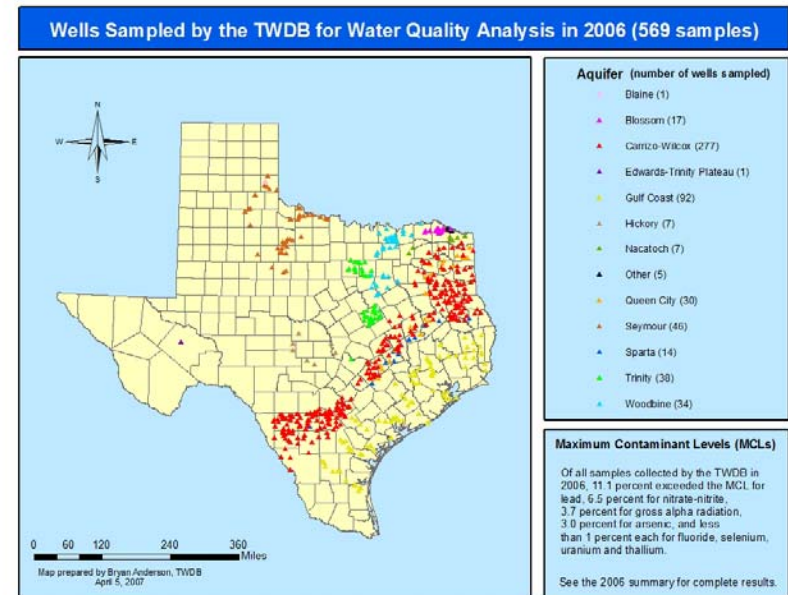
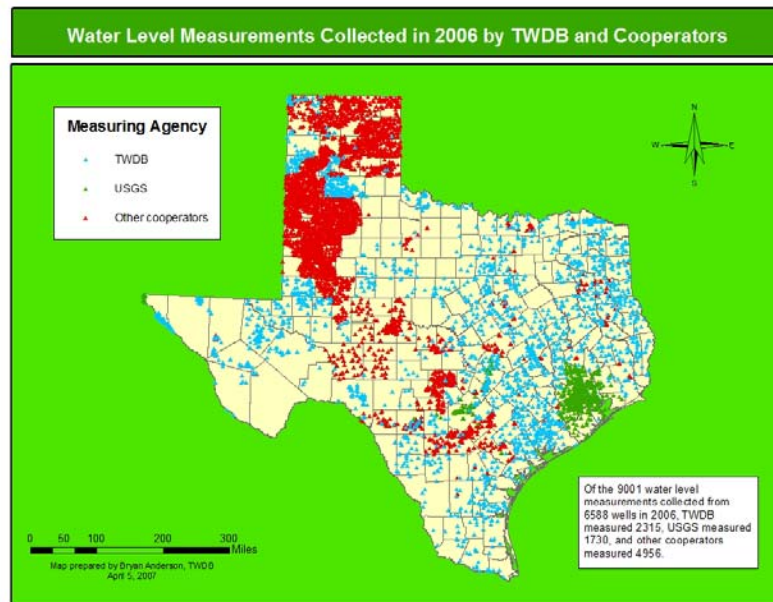


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Data Collection

Groundwater monitoring network



Groundwater availability models

The Texas Water Development Board

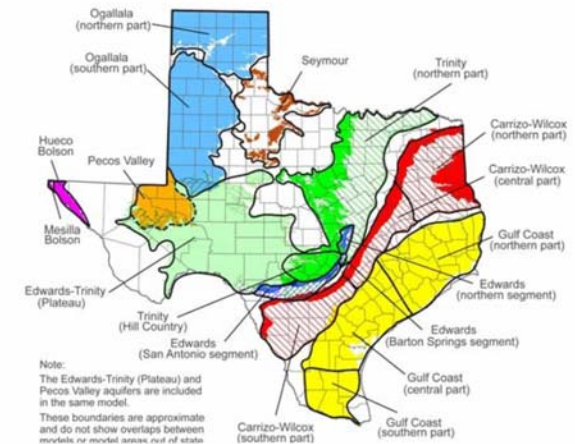


texas water development board

GAM's Mission:

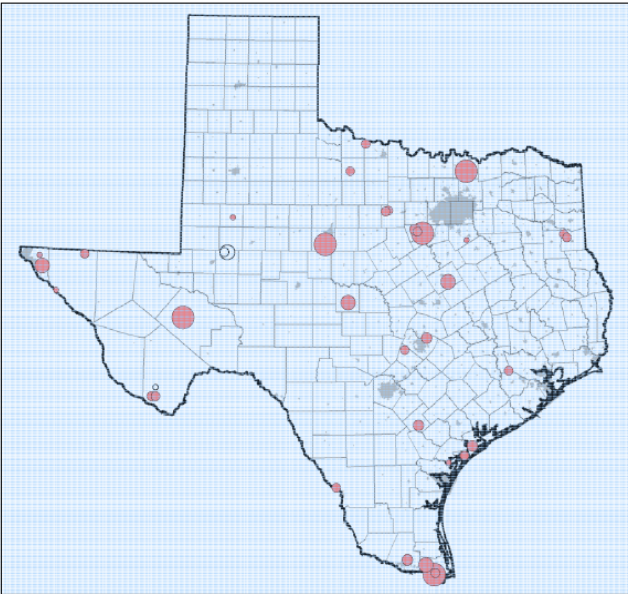
to provide reliable, timely data on groundwater availability to the citizens of Texas to ensure adequacy of supplies or recognition of inadequacy of supplies throughout the 50 year planning horizon.

GAM will result in publicly available numerical groundwater flow models for the major and minor aquifers of Texas.



Desalination Database (+80 million gallons per day)

A Desalination Database for Texas



Prepared for
Texas Water Development Board

Bureau of Economic Geology

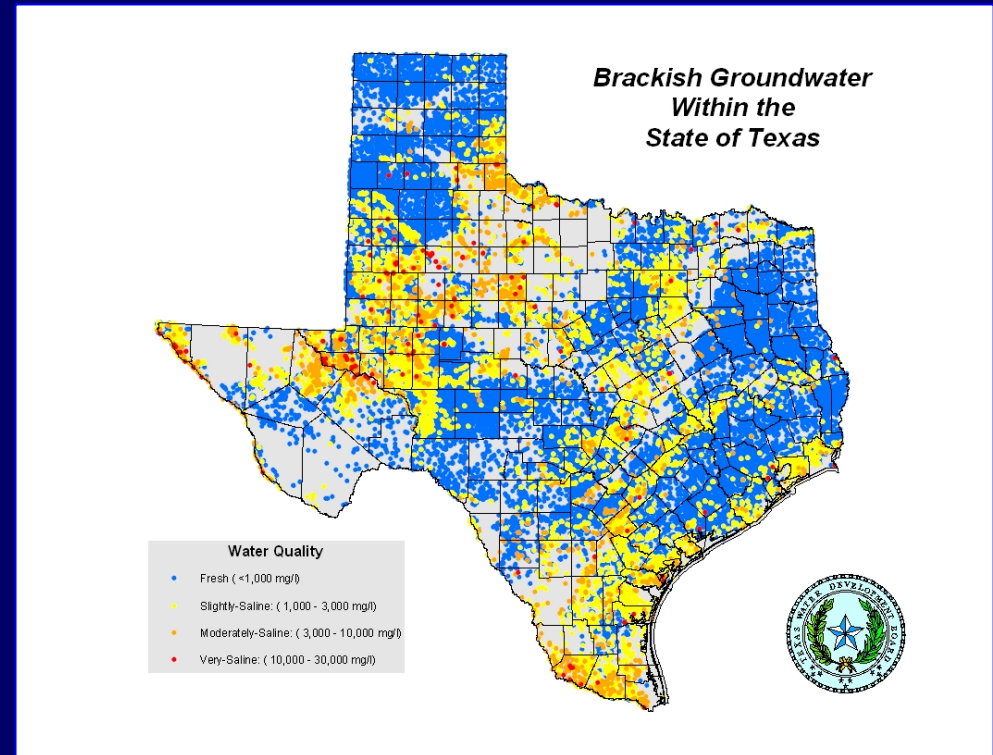
- TWDB Web
- Innovative Water Technologies
- Desalination

Water Resource Studies

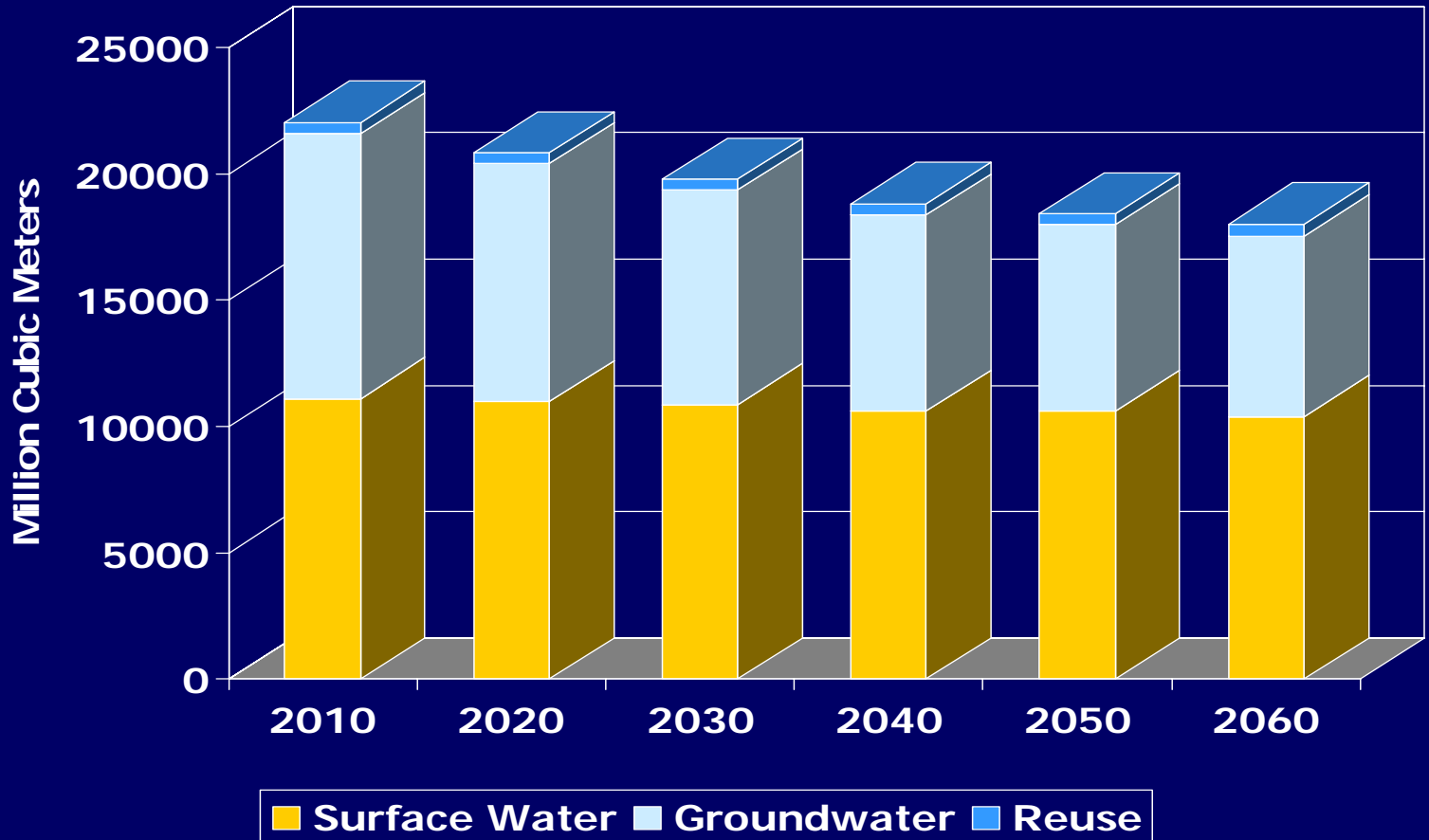
Brackish groundwater availability

- Texas has an estimated 2.7 billion acre-feet of brackish groundwater(*)

(*) LBG-Guyton, Brackish Groundwater Manual for Regional Water Planning Groups, February 2003

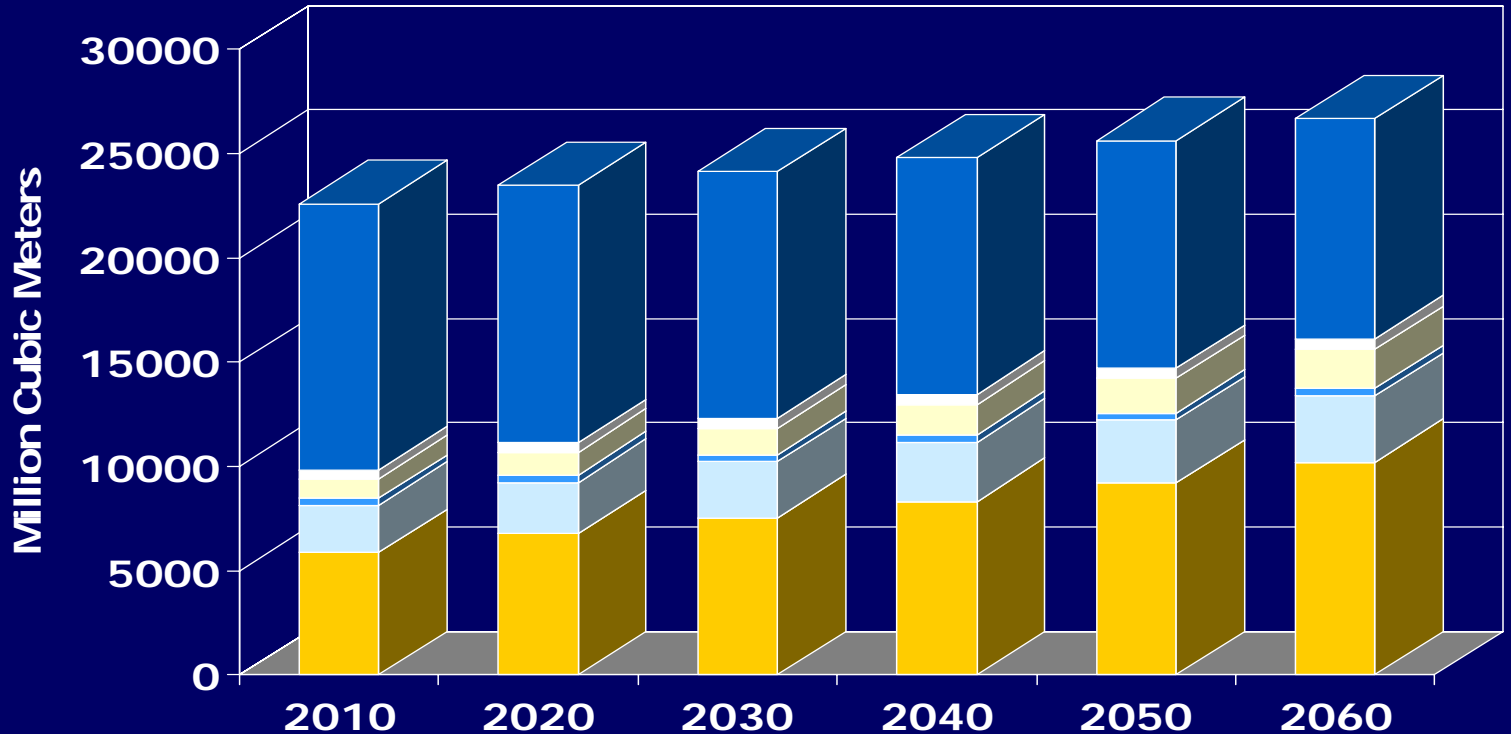


Water Supplies

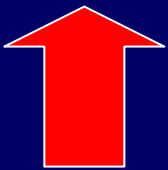


18 %

Projected Water Demand

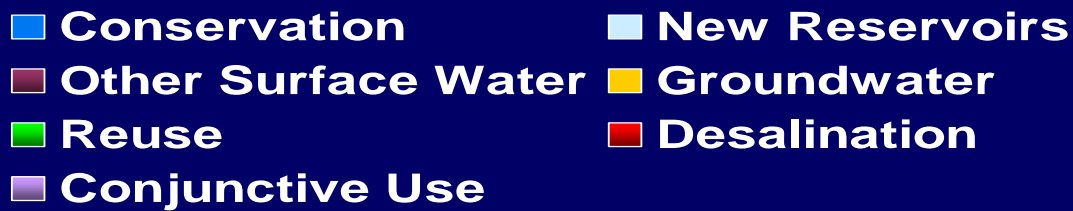
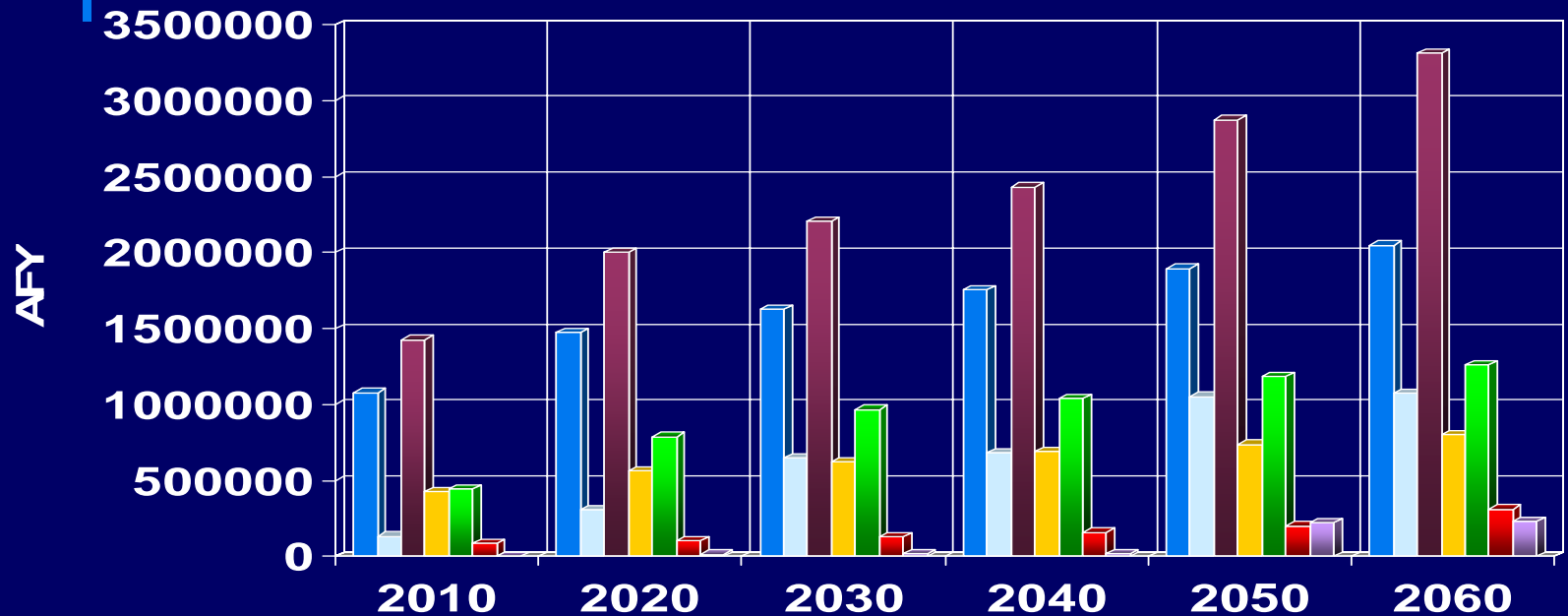


27 %



■ Municipal ■ Manufacturing ■ Mining
■ Steam-Electric ■ Livestock ■ Irrigation

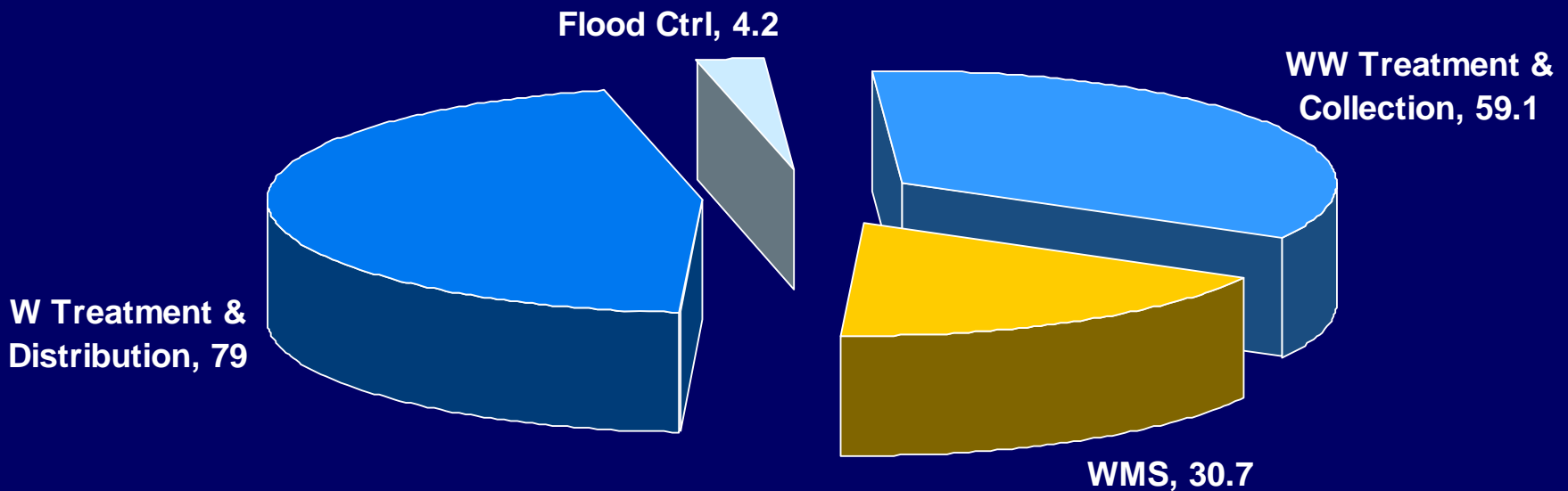
Water Management Strategies



Desalination Strategies

Regions with Desalination	New Supplies in AFY			Percentage of Total	
	Total	Seawater	Brackish	Seawater	Brackish
E	137,737	0	50,000		36
F	239,250		16,221		7
H	1,300,639	28,000		2	
K	861,930		29,568		3
L	732,779	84,012	5,662	11	1
M	807,587	7,902	69,962	1	9
N	149,496	18,200		12	
O	441,511		3,360		1
Total (All)	9,034,211	138,114	174,773	2	2

Funding Needs for Water Infrastructure by 2060



Billions of Dollars (2006)



Brackish Groundwater Desalination Demonstration Projects

- Facilitate development of brackish groundwater desalination supplies
 - replicable models – address challenges
 - engineering facility roadmaps
 - **characterizing source waters**
 - implementing desalination technologies
 - managing desalination concentrate
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Focus areas

- Customer needs
 - Technology transfer models
 - Partnering opportunities
 - Demonstration projects
 - Regional training centers
 - Concentrate management
 - Resource characterization
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