



Water Grand Challenges: Water Plan

Texas 2012 Water Plan Strategies and Recommendations

Background – The 2012 Texas Water Plan is the ninth state plan and the third one designed around the regional water planning process.¹ This list of strategies addresses water needs of all water user groups in the state. Water management strategies and policy recommendations suggested by state water plans reflect current issues affecting water resource management. In the wake of the [worst drought on record](#) in Texas, solutions for current water conservation problems must include methods for mitigating potential natural hazards.²

The existing water supplies are not sufficient to meet demand in the face of subsequent drought. The [2012 Texas Water Plan](#), created through Texas Water Development Board (TWDB), provides state citizens with solutions to water resource shortages in times of drought.² Improvement solutions to water management address statewide concerns regarding environmental management, scarcity, competition for resources, and cost. Adaptation efforts are especially important considering Texas' projected population growth between 2010 and 2060 is 82%.²

Despite the near doubling of the population, TWDB reports that the projected rise in water demands to meet state needs is merely 22%. Though projected increases appear to be low, any increase taxes an already stressed resource. The amount of available reserves is declining as population creeps upward. Without new water projects, economic models produced through TWDB forecast statewide economic downturn, population decrease, and more than 50% of Texans with a water need of 45% in times of recurring drought. By 2060, the state of Texas will be 8.3 million acre-feet short of water requirements.³

Recommended Management Strategies for 2060 – In order to maximize statewide water conservation efforts, the 16 regional water-planning groups recommend [water management strategies](#), which are plans or projects designed to accommodate state needs during times of drought. Recommendation strategies are first developed regionally through municipalities and water districts before being expanded for broad application at the state level.

According to the water conservation strategies suggested by TWDB in the 2012 Water Plan, the recommended strategies are projected to result in 9.0 added million acre-feet per year by 2060. Some strategies are designed to increase water conservation with existing resources, and others develop current resources. The measures recommended are listed in table 1. Table 2 provides a



general breakdown of the percentage of water resources to which each effort contributes. All of this information can be found in the 2012 Water Plan for Texas.

Table 1: Water Management Strategies¹

Recommended Strategy	Synopsis
Water Conservation	<ul style="list-style-type: none">• Increase current conservation to 2.2 million acre-feet per year by 2060• Improve and increase conservation practices (municipal, irrigation, personal, power generation, mining, and manufacturing)
Surface Water Strategies	<ul style="list-style-type: none">• Increase volume and improve surface water strategies.• Construct 26 new major reservoirs.• New water infrastructure for resource transport (pipelines, etc.)
Groundwater Strategies	<ul style="list-style-type: none">• Increase groundwater conservation efforts to 800,795 acre-feet per year in 2060• Seawater and brackish water desalination efforts• Temporary increase of over drafting aquifers to supplement supplies• Improve wastewater infrastructure• Transferring groundwater to areas with projected increase in demand
Water Reuse Strategies	<ul style="list-style-type: none">• Increase water management to 915,600 acre-feet per year by 2060• Construct and improve artificial wetlands
Other strategies	<ul style="list-style-type: none">• Brush control• Weather modification



	<ul style="list-style-type: none"> • Rainwater harvesting • Drought management • Conjunctive use
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*Specific information is available through TWDB [Water for Texas 2012 Texas Water Plan](#)

Policy Recommendations – As a measure to ensure successful implementation of recommended strategies, TWDB puts forth a list of policy recommendations to guide decision makers in construction of water conservation policy.

Policy recommendations made by TWDB address the specific issues related to voluntary water transfers.⁴ Planning groups also make recommendations to the Texas Legislature about where to designating specific reservoir sites with unique ecological values.⁴ These strategic recommendations supply decision makers with the background knowledge required to support suggested methods of water management. The issues, for which policy change or improvement are recommended through the 2012 Water Plan, are briefly described in table 3.

Table 2: Water Resource Contributions

Water source contribution	Percentage by volume
Other surface water	33.9%
Irrigation Conservation	16.7%
New Major Reservoirs	16.7%
Reuse	10.2%
Groundwater	8.9%
Municipal Conservation Methods	7.2%
Groundwater Desalination	2.0%
Conjunctive Use	1.5%
Seawater Desalination	1.4%
Aquifer Storage and Recovery	0.9%
Other (rain harvesting, conjunctive use)	0.3%
Brush control	0.2%
Weather modification (cloud seeding)	0.2%
Surface Water Desalination	0.1%

Table 3: Water Policy Recommendations⁴

Issue	Recommendations for legislation
Reservoir site and stream segment designation	Designate three additional sites for reservoir construction.



Reservoir site designation	Provide a mechanism for supplying the cost of reservoir construction and maintenance.
Interbasin Transfers of Surface Water	Sanction decisions that eliminate arbitrary restrictions on surface water transfers
Petition Process on the Reasonableness of Desired Future Conditions	Remove TWDB from this process, as it is not a regulatory agency.
Water Loss	Require public utilities to conduct water audits every year instead of once every five years. ⁴
Financing the Water Plan	Develop a sustainable method to ensure financing assistance for implementation of water plan strategy. ⁴

Other Recommendations – Texas Water Matters, a collaborative partnership between National Wildlife Federation, Lone Star Chapter of the Sierra Club and Galveston Bay Foundation has additional policy recommends and strategies to improve water conservation efforts in Texas. A large step in improving environmental quality and maintaining riparian ecosystem health lies in confirming standards for environmental flows.⁵ As an additional method to include community leaders in environmental flow standards implementation, Texas Water Matters recommends that state water funding mechanisms also include incentives for improved land stewardship.⁵

This group also recommends revising water projections to accommodate *need* rather than demand, and to include water required to maintain ecosystem health as such a need. Funding metrics for water reuse and infrastructure projects need to be clearly defined in order for decision makers to identify projects that merit state financial assistance.⁵

¹ Texas Water Development Board. "State Water Planning." 2012. <http://www.twdb.state.tx.us/waterplanning/swp/> (accessed February 27, 2013).

² Texas Water Development Board. "Water for Texas 2012 State Water Plan." Austin: Texas Water Development Board, December 2011.

³ Combs, Susan. "Fiscal Notes A Review of the Texas Economy from the Office of Susan Combs, Texas Comptroller of Public Accounts: Water Planning in Dry Times." Window on State Government. March 2012. <http://www.window.state.tx.us/comptrol/fnotes/fn1202/water.php> (accessed February 14, 2013).

⁴ Texas Water Development Board. "Policy Recommendations." Water for Texas 2012 State Water Plan. 2012. http://www.twdb.state.tx.us/publications/state_water_plan/2012/11.pdf (accessed February 19, 2013).

⁵ Texas Water Matters. "State Planning and Funding to Meet the Critical Water Needs of Texas." Texas Water Matters. n.d. http://texaswatermatters.org/pdfs/Meeting_the_Critical_Water_Needs.pdf (accessed February 28, 2013).