

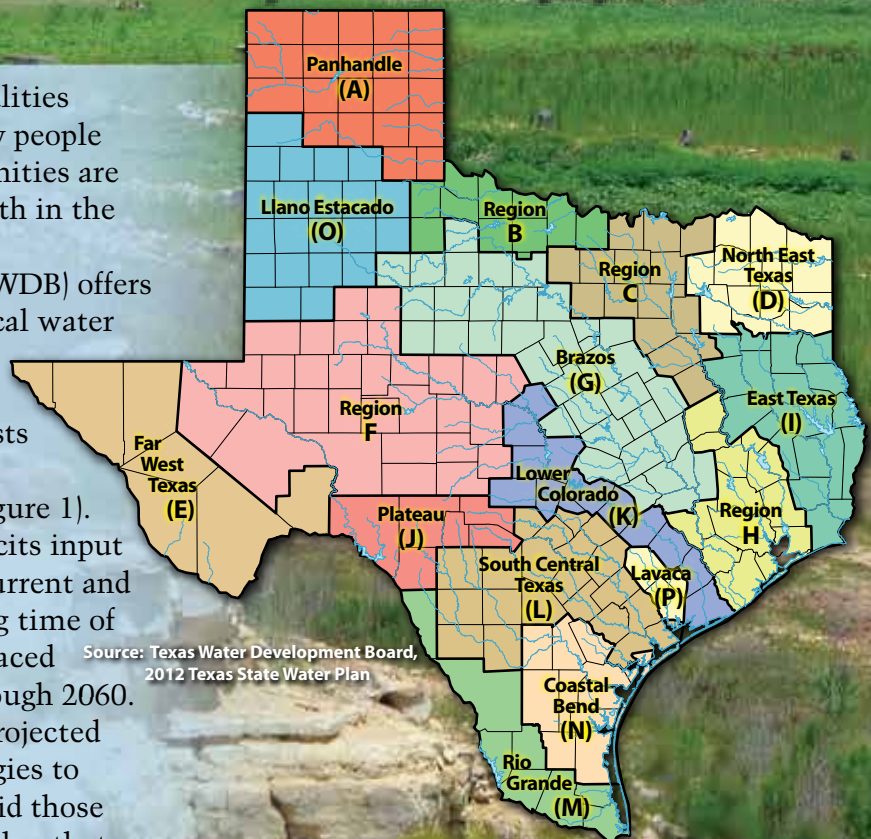
# JUST ADD WATER

Figure 1. Water Planning Regions

By Charles E. Gilliland

**N**ews stories about Texas municipalities running short of water have many people wondering whether their communities are prepared for droughts and population growth in the coming decades.

The Texas Water Development Board (TWDB) offers Texans information about their current local water situations as well as projections of future conditions based on population growth and available water supplies. These forecasts are prepared by 16 regional water planning groups (RWPG) reporting to the TWDB (Figure 1). Each group holds public meetings and solicits input from concerned citizens, then estimates current and projected supplies of available water during time of drought along with aggregated demands placed on those supplies at ten-year intervals through 2060. When demand exceeds supplies during a projected time of drought, the groups identify strategies to enhance available water resources and avoid those shortfalls. TWDB publishes a state water plan that includes all the regional plans.



Source: Texas Water Development Board, 2012 Texas State Water Plan

Recently, TWDB made the state water plan available in a user-friendly application online (<http://texasstatewaterplan.org/#/needs/2010/state>). Using this website, individuals can access information about their region of the state. For example, selecting the Brazos Region (G) provides shortfall data by decade from 2010 to 2060 (Figure 2).

Each colored circle on that map applies to a particular entity such as a county, a city or a water district. Dark green means that current water supplies substantially meet all needs even under drought conditions. Red signifies an entity for which a drought would result in a 50 to 100 percent shortage. Hovering over the red dots in the black circle imposed on the map reveals that Liberty Hill, Weir, Jarrell and Thrall would all have experienced severe shortfalls if a severe drought had occurred in 2010. The second map (Figure 3) indicates that by 2060, those four entities are joined by many more red dots, including Round Rock, with needs amounting to 80 percent of demand.

In addition to the region view, users can specify counties or entities, such as cities or utility districts. For example, selecting Brazos County shows that all users in 2010 would weather a drought with no shortfalls, but by 2060 conditions change (Figures 4 and 5). Given population growth and development, College Station would fall 18 percent short of demand for water if a record drought occurred in 2060. In addition, the Wickson Creek Special Utility District

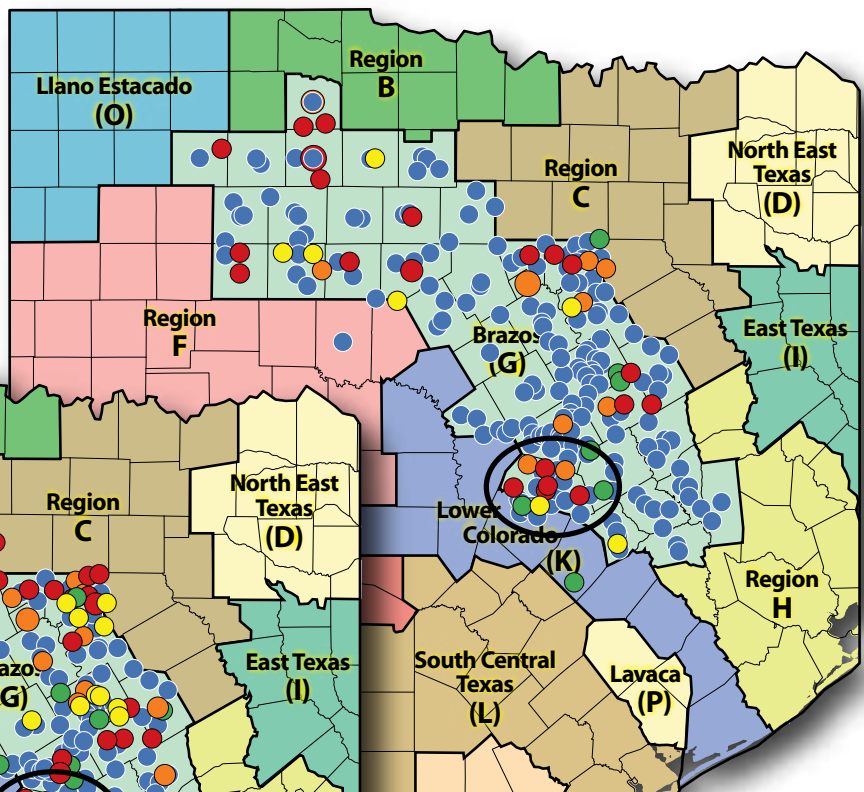
would be challenged, with supplies falling 58 percent short of demand.

Clearly, such entities face a difficult future without new strategies to meet these shortfalls. The RWPG must devise measures to fill these gaps. The 2011 Regional Water Plan specifies how College Station can meet its projected needs through a combination of conservation, wastewater reuse, additional development of the Carrizo-Wilcox Aquifer and purchase of water from the Brazos River Authority. These recommended strategies all come with an associated price tag in terms of annual operating costs as well as capital investment costs. Enacting these strategies will require construction projects that must be funded by the various entities involved.

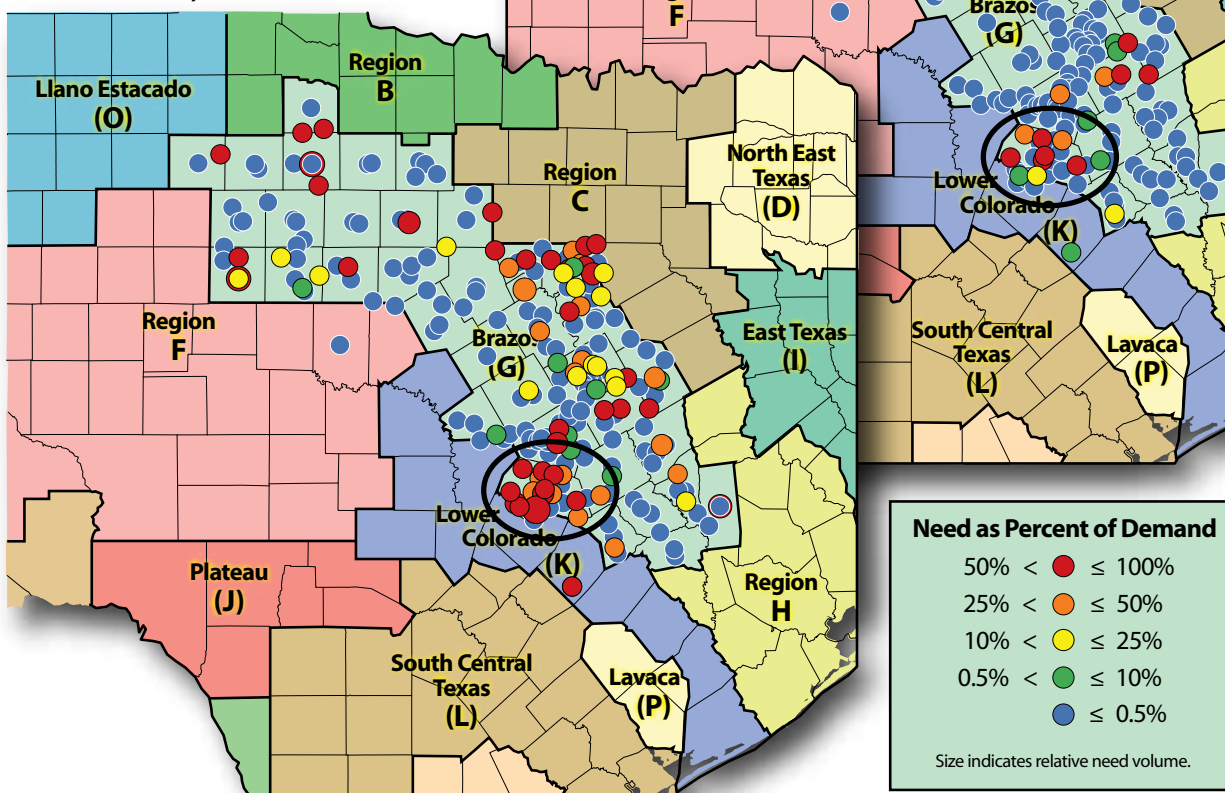
The 2012 Texas State Water Plan estimates the statewide cost of projects required to meet needs by 2060 will top \$53 billion. Roughly half, \$26.9 billion, will require state financial assistance to complete.

In November 2013, Texas voters approved Proposition 6, a constitutional amendment to create two funds enabling the newly constituted TWDB to support this development. The

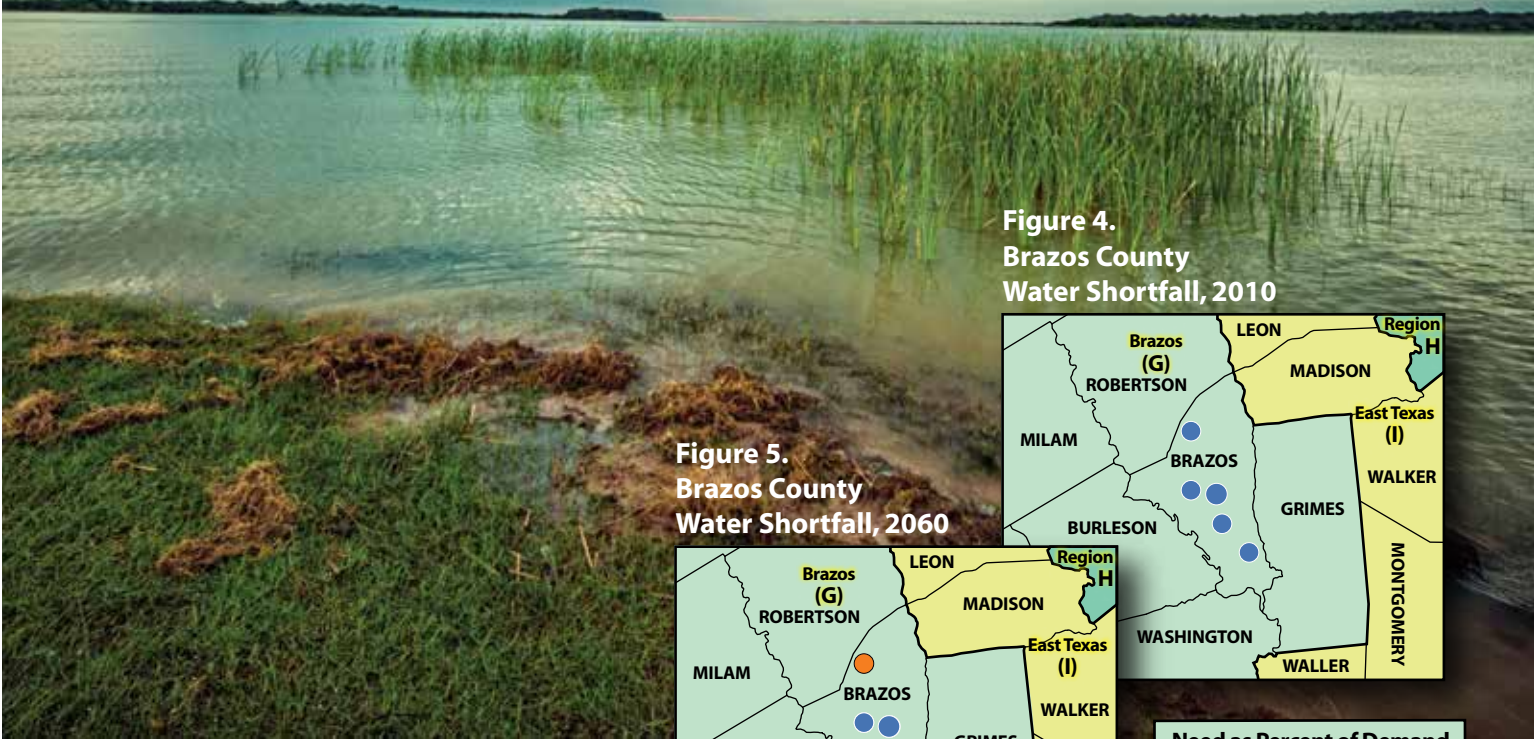
**Figure 2.**  
**State Water Planning Brazos Region (G)**  
**Water Shortfall, 2010**



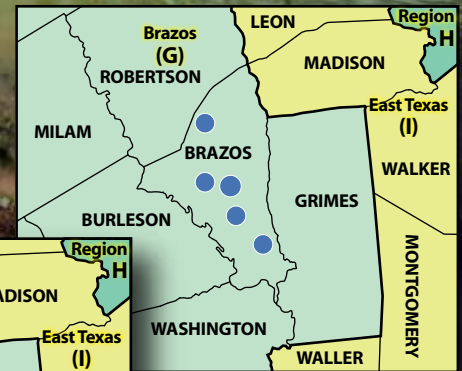
**Figure 3.**  
**State Water Planning Brazos Region (G)**  
**Water Shortfall, 2060**



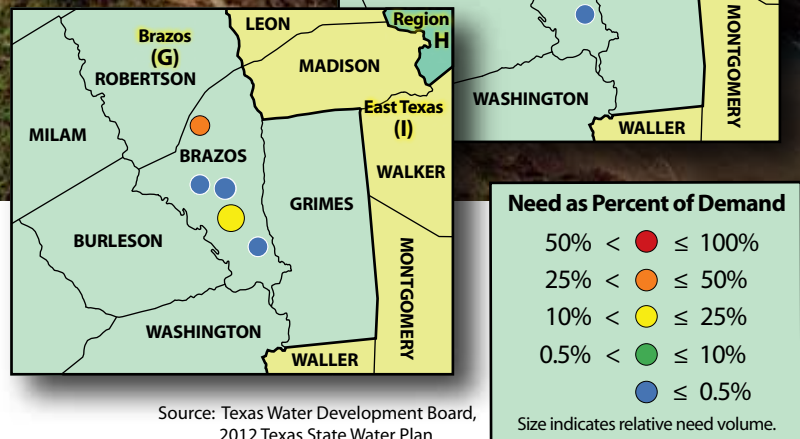
*WATER IS PLENTIFUL* at Lake Bryan these days, but Brazos County, along with most other Texas counties, is projected to face shortfalls in 2060.



**Figure 4.**  
Brazos County  
Water Shortfall, 2010



**Figure 5.**  
Brazos County  
Water Shortfall, 2060



Source: Texas Water Development Board, 2012 Texas State Water Plan

amendment created the State Water Implementation Fund (SWIFT), which resulted in the transfer of \$2 billion from the Economic Stabilization Fund, popularly known as the “rainy day fund,” to SWIFT. The second fund created by the amendment is the State Water Implementation Revenue Fund for Texas (SWIRFT). SWIFT holds funds, including the \$2 billion from the rainy day fund, but does not make direct loans for projects. Funding from SWIFT must be channeled through a specific family of TWDB funds or through the newly created SWIRFT to projects identified in the state water plan. Through “bond enhancement agreements,” SWIFT funds can be used to provide low-interest loans, long-term loans, loan deferrals and incremental repurchase terms for certain facilities from the state. The law prohibits SWIFT from funding grants. SWIFT can’t issue revenue bonds, but SWIRFT can issue up to \$6 billion in general obligation bonds. Together, these funds function like a bank dedicated to leverage the initial \$2 billion to support capital improvements needed to complete the state water plan.

The seven-member SWIFT Advisory Committee will oversee operations. The committee must provide comments and recommendations on prioritization of projects both within regional water plans and in the state water plan. TWDB and the RWPGs have begun the process of prioritizing projects based on a set of uniform standards adopted in December 2013.

First, each RWPG will prioritize its planned projects. The groups will consider such criteria as when the project is needed, feasibility, viability, sustainability and cost effectiveness. The final regional prioritizations are due by Sept. 1, 2014. Then, TWDB will prioritize all projects statewide. The rankings

will be used to choose which projects to support with SWIFT funds.

Texas will need to augment and manage its water resources wisely to provide for future generations. The planning process aims to accomplish that mission for the next 50 years. Individuals concerned with the needs listed on the TWDB website can take steps to help solve the problems by participating in the planning process. The Regional Water Plans website includes a list of meeting schedules and can be found at [twdb.state.tx.us/water-planning/rwp/plans/2011/](http://twdb.state.tx.us/water-planning/rwp/plans/2011/). 📍

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## THE TAKEAWAY

The Texas State Water Plan presents data on current water supplies and estimated future needs for all 16 water regions. Reports at the state, county and city levels spell out how a particular area plans to overcome any forecasted water shortfalls.



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