

A Reprint from *Tierra Grande*



Big Gulp

Quenching Texans' Thirst for Water

By Charles E. Gilliland and David Holland

Water availability — or lack thereof — can spell success or failure for a real estate development project. When water shortages or supply curtailments occur in an area, landowners, investors and developers are left to wonder whether water issues will constrain development possibilities for their properties.

Prolonged drought in the 1990s prompted Texas legislators to find ways to ensure sufficient water supplies for the state's growing population. That effort began with Senate Bill 1, passed in 1997, and continues today through the work of regional planning groups.

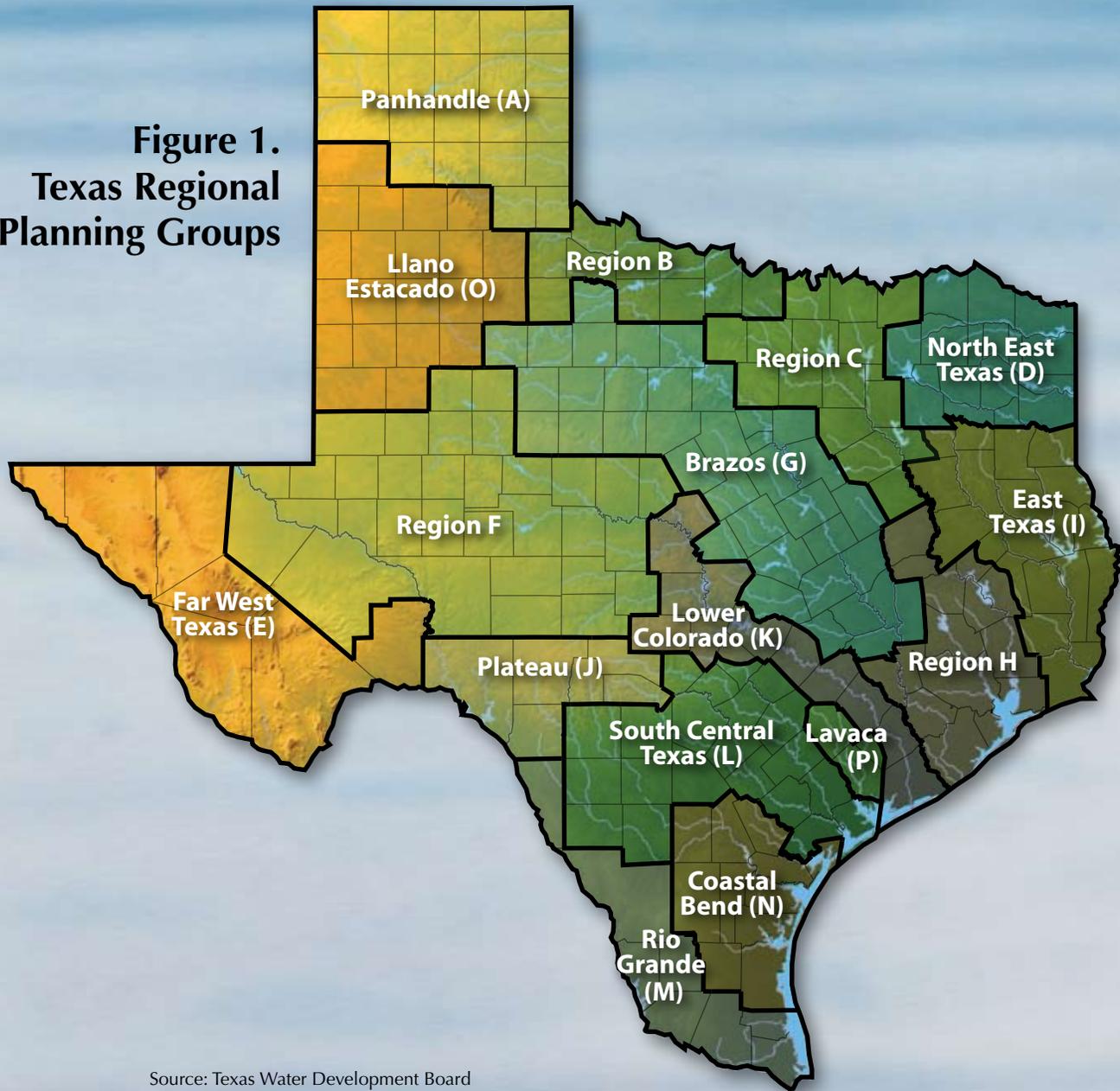
Estimating Future Needs

The 2007 State Water Plan prepared by the Texas Water Development Board (TWDB) analyzes estimates of water supplies in each region of the state. It also identifies current and forecasted shortages.

TWDB's report consolidates plans devised by regional planning groups (Figure 1). The analysis includes population growth forecasts along with water supply demand estimates resulting from that growth through 2060. Matching forecasted demand with projected supplies reveals needs on a regional basis.

To plan for adequate supplies, the analysis identifies needs for each region based on its worst drought on record. Water management strategies aim to provide adequate water for all users during that level of drought.

**Figure 1.
Texas Regional
Planning Groups**



Source: Texas Water Development Board

Measured in acre feet (enough water to cover an acre to a depth of one foot, or nearly 325,900 gallons), Figure 2 shows projected water needs for Texas in 2010 and 2060. Regions A, C, H, K and O suggest growing vulnerability to drought as the years pass.

Increased needs in Regions A (the Panhandle) and O (Llano Estacado) will largely come from shortfalls in irrigation water. Regions C, H and K encompass the growing municipalities of Dallas–Fort Worth, Houston and Austin. Municipalities and manufacturers will be among those with increased needs in these regions. Clearly, all of these regions will be challenged to meet water demands in the coming decades.

Water Management Strategies

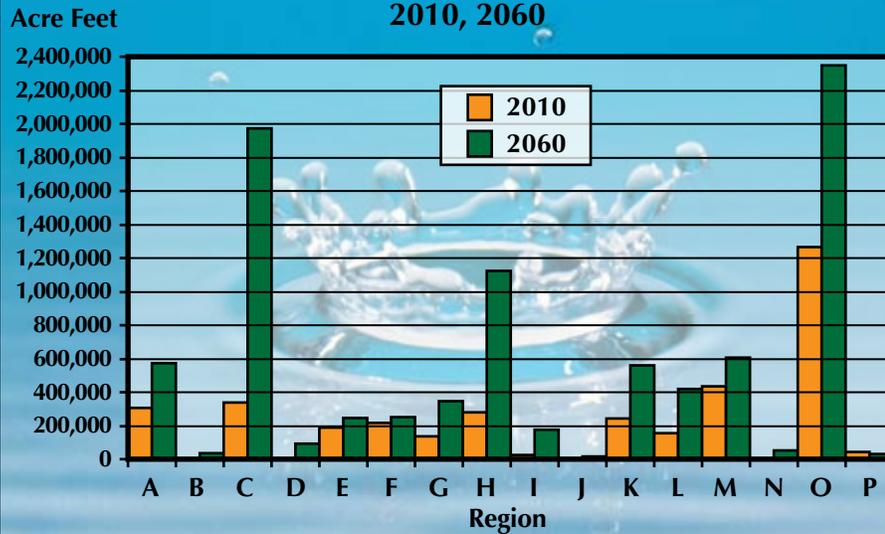
Additional regional supplies are expected to be produced through implementation of proposed water management

strategies (Figure 3). Regions C, H and K are prepared to add substantially to available water supplies. Figure 3 also compares added supplies to identified needs. It appears that Regions C, H and K will add enough water capacity to provide for all needs in their areas.

However, in Regions A, E, F and O, needs outstrip the added water supply. Region O, with its heavy dependence on irrigation for agriculture, would face sizable shortages during a severe drought. Agriculture will bear the brunt of the unmet needs in these regions, with steam generators also facing shortfalls in Regions E and F. The remainder of the regions foresee adequate water supplies.

Regions C, H, K and L may actually enjoy a comfortable surplus. By 2060, adopted water management strategies should produce an added 9,034,211 acre feet statewide to offset the

**Figure 2. Water Needs for Texas Regions
2010, 2060**



Source: Texas Water Development Board (<http://www.txdw.state.tx.us/home/index.asp>)

8,832,580-acre-foot shortfall predicted without the proposed strategies.

Envisioned water management strategies, which include a mix of practices ranging from conservation to reservoir construction to desalinization, are expected to cost a total of \$30.7 billion. When these projects reach fruition, most Texas users should be reassured that water will flow when they turn on the spigot.

Water Utility Disruptions

Water supply is not the only issue causing concern among Texans. In some areas, water utilities have prompted anxiety among their customers through disruptions in normal service. Users in these areas have had to deal with a variety of problems ranging from odoriferous water to prolonged service interruptions to delivery of nonpotable water that must be boiled before use.

Such occurrences give the impression that the water supply is already failing. However, further investigation often reveals a dysfunctional water utility instead.

These circumstances typically result when utilities that began by serving developing rural areas experience rapid urban-style growth. These utility systems are not prepared to deal with the explosion in demand for service and consequently scramble to meet their customers' needs. When they fail, customers lodge complaints about poor service, high rates and harsh drought restrictions. Complainants tend to be especially unhappy when nearby subdivisions receive superior service from seasoned urban utility providers at a fraction of the cost.

Customer complaints sometimes spark media investigations. However, state laws governing utilities require providers to obtain a Certificate of Convenience and Necessity (CCN), which bars competition in the territories served by the utilities. Therefore, residents must take their grievances to the Texas Commission on Environmental Quality (TCEQ) and

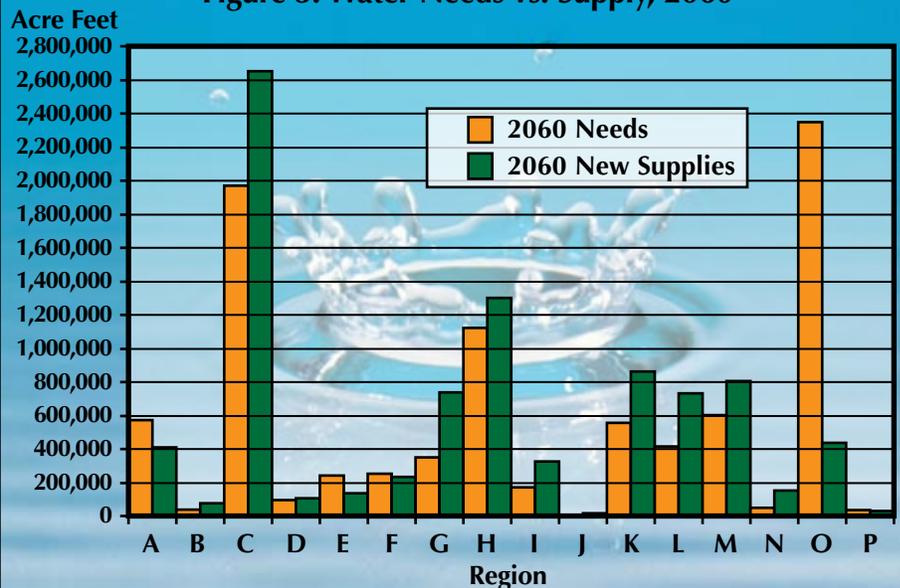
seek redress through the political process. For more information on CCNs, see *Tierra Grande* reprint 1780, "CCNs: Legislation Tackles Inconveniences" (<http://recenter.tamu.edu/pdf/1780.pdf>).

Investigate Before Investing

Prospective real estate purchasers should note the CCN holder authorized to deliver water utility services to the property. TCEQ can provide information about the utility provider, and current users can testify to the utility's ability to deliver quality service at reasonable prices.

Investigating the utility may require time, but this inconvenience will be negligible compared to the frustration of dealing with inadequate water utility services. Buyers should investigate the provider's

Figure 3. Water Needs vs. Supply, 2060



Source: Texas Water Development Board (<http://www.txdw.state.tx.us/home/index.asp>)

financial situation to get a sense of whether funding is available to expand if demand grows. They should also consider the provider's access to water to ensure the physical ability to meet future demand. Significant shortcomings in either of these dimensions could spell trouble. ⚡

Dr. Gilliland (c-gilliland@tamu.edu) is a research economist and Holland is a research assistant with the Real Estate Center at Texas A&M University.

THE TAKEAWAY

The Texas water plan foresees adequate supplies well into the future for most areas. Agriculture in the Panhandle and High Plains may face unmet needs in a severe drought. Investors should investigate the water utility supplier for an area before purchasing real property.



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Texas A&M University
2115 TAMU
College Station, TX 77843-2115

<http://recenter.tamu.edu>
979-845-2031

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