

Reliable water supply essential for Texas growth

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The plague of drought has captured Texas headlines. On the heels of withering droughts in 2006 and 2009, today nearly the entire state endures drought conditions. Reservoirs are running low, and some near-dry, as water levels in rivers and aquifers continue to plummet. All of this is occurring less than a year after higher than normal precipitation levels in 2010.

Some communities, such as the city of Llano, face the ominous prospect of having no water before summer's end. Other towns, from Midland to Fredericksburg to The Woodlands, have implemented watering restrictions to conserve their resources. Meanwhile, wildfires throughout the state — including within the Austin and Houston metropolitan areas - serve as stark reminders of the perils of drought.

Historically, this year's drought is the state's third worst since official records began in 1895. The insult to this injury lies in the possibility that this drought may not only get worse, but could get more severe than the worst drought of record during the 1950s.

Scientific studies of tree-ring records indicate the presence of historic megadroughts of a magnitude worse than the 1950s drought. In medieval times, the area that was to become Texas endured several 20-year to 40-year megadroughts throughout the 1100s and 1200s. Another megadrought struck during the last half of the 16th century. Scientists have also uncovered evidence of subsequent severe droughts occurring around the times of the Revolutionary War and the Civil War.

Texas has changed since these megadroughts. Texans built reservoirs and tapped into aquifers for water during dry years. Despite these and other water supply developments, drought remains an economically expensive natural disaster. The droughts of 2006 and 2009 respectively wreaked \$4.1 billion and \$3.8 billion in agricultural damage. This year's losses already total more than \$1 billion and are expected to climb. Some experts predict that this drought could cost Texas businesses as much as \$9.1 billion.

Looking forward, the ever-persistent threat of drought coupled with the absence of key pieces to our long-term water supply infrastructure could be the Achilles' heel of the Texas economic miracle. State water planners predict that in less than 50 years, 85 percent of Texans may not have enough water. Throw in the onset of a megadrought, and our prospects look dim. Business, industry and communities cannot grow or exist without reliable water resources. The bounties of population and economic growth will diminish if we fail to secure the resources necessary for their sustainability. In fact, the Texas Water Development Board notes that failure to meet the state's water supply needs in drought conditions could cost Texas businesses nearly \$100 billion by year 2060.

This current drought should bring our long-term water policy into sharper focus. To our credit, Texas is renowned for its strides in comprehensive, statewide water planning. The perfect plan fails, however, absent execution.

Significant water supply planning strategies designed to protect our growing economy and communities from drought have not been implemented. Fourteen major reservoir sites designated by the Legislature in 2007 remain undeveloped due to lack of funding and federal regulatory interference. Regulatory hurdles preclude our ability to transfer water from bountiful rivers to areas in need. We need to take greater strides toward implementing water-smart conservation practices and technologies, including reuse and desalination.

Underlying each of these water supply strategies is the need for a consistent, reliable funding source for our water plan. Reservoirs, pipelines and water desalination plants are expensive. Texas will need to invest \$30 billion or more on water supply projects like these if we are to meet our needs in the coming decades. As the strings to our state's budget grow tighter, we may need to consider ways to raise revenues to finance these projects.

As a fiscal conservative, I am reluctant to suggest the need for new state revenues or financing mechanisms. Fiscal conservatism includes making wise investments to protect future prosperity: In the long-run we will get what we pay for. Towards that end, it is crucial that we frame this discussion in the context of drought - while mindful of the lessons of megadroughts - and its economic implications.

The benefits of committing to investing in long-term water supply solutions will outweigh the costs of drought. Droughts are native to Texas, and our growth requires that we be prepared to withstand long- and short-term droughts. While we may hope, pray, and forecast for the best of rainfalls, prudence necessitates that we plan, build and find a way to pay for the worst of droughts.

Behind the scary water headlines

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Mary Kelly, former Environmental Defense Fund lawyer who heads the environmental consulting firm Parula, LLC.

By Mary E. Kelly

It's hard to look at any media in Texas today without being confronted by a dire outlook on the state's water future. The jarring effects of a deep drought and the steep price tag attached to the state's water plan definitely make for attention-grabbing copy. But for those who care about sustainable management of our limited water resources, property rights and fiscal discipline in the state budget, it's worth a look behind those headlines.

There is little disagreement that it is time for action. However, instead of throwing money at unnecessary, expensive reservoir projects that would inundate productive private lands, state funding should come with a clear set of priorities that focus on water efficiency, land stewardship and developing the science and technology that we need for a sustainable future.

Layered upon the eye-opening stories of drought are predictions that Texas population may grow by more than 80 percent by 2060. Based on that projection — which may itself be overstated — the state water plan proposes at least \$53 billion in new water supply projects, including over 20 proposed new reservoirs, with half of that cost to be picked up by state taxpayers. The staggering price tag is based on a projected increase in annual statewide water use, from about 14 million acre-feet today to over 22 million acre-feet by 2060 (at current rates of use, an acre-foot is roughly enough water for three Austin households for a year).

Appropriating billions of dollars to “fund the water plan” won't bring the rain our land, lakes, rivers and aquifers need to recover from drought. Instead, we have to recognize the stark, if unpleasant, reality: a growing Texas is faced with the challenge of learning to live within our water limits.

Nevertheless, there is an important role for state funding in moving Texas towards a more sustainable water future. Here is a proposed four-point approach:

First: Get realistic about projected water demand. The Legislature should not take the inflated projections of the water plan as our inevitable fate.

The municipal sector accounts for the bulk of the increased use projected by the state plan. Adding up the forecasts made by regional water planning groups results in a projected 2060 municipal use of 8.4 million acre-feet per year, more than double the 2010 use of 4.1 million acre-feet per year reported by the Texas Water Development Board.

One region of the state (centered on the Dallas Fort Worth Metroplex) accounts for almost a third of the projected municipal water demand increase by 2060. Many cities in the Dallas-Fort Worth area project that each customer will still be using about the same amount of water

in 2060 as a customer does today (well over 200 gallons per capita per day). Regional planners then added a 25 percent “contingency factor” to bump up projected demand even further. This contrasts with 2060 per capita projections in El Paso, San Antonio, Houston and other cities of less than 150 gallons per capita per day. Not coincidentally, the DFW region is proposing big-ticket reservoirs and pipelines as necessary to meet demand by 2060.

The legislature should not encourage these and other overinflated demand projections by allocating state funds now for condemning productive private lands for reservoirs that may never be necessary. Instead, the state should be willing to allocate taxpayer funds only to those projects that meet demonstrable, near-term water needs in a cost-effective manner and where local funding is insufficient to pay the project cost. Furthermore, the Legislature should require the Texas Water Development Board to review per capita projections made by the various regions to determine whether or not they are reasonable.

Second: Focus on efficiency. The clear trend over the last couple of decades shows that improved efficiency can help Texas live within its water limits, and efficiency strategies are almost always much cheaper than big new infrastructure projects. If there is going to be state money allocated, a sound fiscal approach means that it should first go to the literally hundreds of conservation strategies identified in the state water plan. We can serve many more people with the same amount of water.

Third: Support private land stewardship that benefits water resources. The farms and ranches at the heart of our state’s natural and cultural heritage give rise to the water flowing in our rivers and filling reservoirs and aquifers. These lands have suffered mightily during the recent extreme drought. The legislature should enact cost-effective, market-based incentives to help private landowners manage their properties in ways that build resilience to drought and enhance overall water supply for all Texans.

Fourth: Invest in the science, technology and institutions we need to sustainably manage water resources now and in the future. State agencies are struggling to maintain basic river flow monitoring and water rights administration; budgets for groundwater science have been cut; and many local groundwater districts lack sufficient resources to do their job well. Investing a reasonable amount of state funds in science and vital state and regional agencies to improve management of water is not frivolous spending, it’s essential to solid 21st century water management.

In addition, the state could spur private sector development of new technology. As innovations in El Paso and other areas have shown, both brackish groundwater desalination and water reuse can greatly ease pressure on limited freshwater resources and help drought-proof communities. Giving a modest boost to research and development in these areas would not only assist in meeting genuine water needs, it would likely create good-paying jobs and help Texas companies lead the way to better water management across the country.

As the 2013 Legislature tackles the state’s many pressing needs, water certainly should be on the agenda. The goal, however, must be a fiscally responsible package that promotes sustainable water management.