Drought Management in the Texas Regional and State Water Planning Process

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SECTION ES.
Executive Summary

In June 2008, the Texas Water Development Board retained a consulting team led by BBC Research & Consulting (BBC) to evaluate the role of drought management measures in the regional and statewide water planning process. This study examined the potential benefits and drawbacks of including drought management as a regional water management strategy.

Study Approach

The study team conducted a series of research tasks regarding the role of drought management measures in regional and state planning, including:

- Review of planning documents prepared for the 2007 State Water Plan;
- Review of planning processes used in other western states;
- Interviews with chairpersons of the 16 regional water planning groups;
- Interviews with 90 regional water planning group members and other stakeholders; and
- Analysis of a sample of more than 100 drought contingency plans from across Texas.

Key Results

The study team investigated four key questions during this study. Below is a brief discussion of study team findings for each of these questions. Section VI provides a more detailed discussion of the conclusions.

Question #1, part A— Is it possible to use drought management measures as water management strategies in the regional plans? There are substantial analytical challenges in evaluating drought management as a water management strategy. The main difficulties involve estimating water savings achieved through drought measures and comparing the "costs" of drought management measures with traditional water supplies. Additionally, the current modeling framework (calculating water needs by comparing supplies and demands during drought of record conditions) makes it difficult to fully assess effects from incorporating drought management as a strategy.

These issues could be resolved. Recent draft studies by Regions L and H provide a starting point for calculating the costs and savings of drought management and comparing drought management with other water management strategies. The regional planning approach to analyzing future needs could be modified to consider other climatological and hydrologic conditions. Water planning continues to become more sophisticated, and approaches such as probabilistic modeling of future supplies, demands and costs are being implemented by some providers.

Question #1, part B — Is it appropriate to use drought management measures as water management strategies in the regional plans? There are well reasoned arguments for and against including drought management measures as a water management strategy. The most common

reasons for opposing the use of drought management measures as a water management strategy were the removal of the safety factor provided by drought management plans, potential economic impacts and the unwillingness of water providers and the public to accept a planning approach that includes future shortages and demand reduction measures. Proponents, on the other hand, argue that during periods of drought most providers would implement drought measures, and not including effects from these measures in the planning process could lead to unnecessary water projects. Most proponents also noted that occasional reliance on drought management measures can be cost effective. Arguments on both sides suggest the need for refinements in the process for analyzing future needs in order to make the inherent safety factor provided by drought planning more explicit and determine which water management strategies might be used only during drought conditions.

Question #2 — Why haven't Regional Water Planning Groups (RWPGs) recommended drought management as a water management strategy? There are five major reasons why RWPGs have not recommended drought management measures as a water management strategy:

- The difficulty of quantifying the costs and yields of drought management measures;
- Lack of information on water supplies and demands under varied hydrologic conditions leads to uncertainty that promotes a cautious approach to water supply planning;
- In many regions, relatively affordable new supply alternatives remain;
- Concerns about regional competition for state assistance and inter-regional equity; and
- The makeup of the RWPGs likely favors the perspective of those opposed to including drought management as a water management strategy.

Question #3 — What are the ranges of savings, statewide, if drought management was included as a water management strategy? The study team estimates a reduction in demand of 15 to 20 percent if all municipal providers implemented measures identified in the drought of record stage of their drought plans. These measures would, in many cases, at least temporarily reduce customer quality of life and could adversely affect the local economy. Less onerous drought measures might reduce demand by 5 percent or less. It is important to note that there is considerable uncertainty in these estimates as the study team used projections reported by providers with drought plans and there are limited data on actual savings achieved using drought measures in Texas.

Question #4 — What would have to change for RWPGs to recommend drought management as a water management strategy? The study team identified four key changes required for RWPGs to recommend drought management as a water management strategy:

- Reliable estimates of water savings and costs for drought management measures;
- More sophisticated supply, demand and "need" analysis in the water planning process;
- Increases in the cost and difficulty of pursuing water supply alternatives; and
- More incentives for including drought management as a water management strategy.

Additional Findings

The study team identified a number of other insights and questions from this research. These issues are discussed in detail at the end of Section VI.