

TEXAS GROUNDWATER MONITORING STRATEGY

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ABSTRACT

One of Texas' most valued natural resources, groundwater provides approximately 58% of the water used in the state, and a significant amount of base flow for the state's rivers and streams. In 1989, the state Legislature reaffirmed the value of groundwater, creating the Texas Groundwater Protection Committee, which is specifically charged with developing and updating the state's comprehensive groundwater protection strategy. The 2003 version of this strategy recognized that the successful implementation of groundwater protection programs is dependent a variety of groundwater data, including quality, quantity and the effects of man-affected contamination.

The report identified gaps in groundwater data collection and management programs. The Committee tasked their Data Management Subcommittee with developing a Groundwater Monitoring Strategy designed to fill the gaps identified, and to assist in answering questions that arise in planning. The strategy describes a tiered monitoring program, consisting of Basic, Reference and Targeted monitoring networks.

The Basic network is aquifer-wide, checking gross ambient conditions. The Reference network is more detailed, using select undisturbed/least disturbed settings to serve as a point of reference for comparison as the aquifer changes. The Targeted network will consist of specific wells in specific local regions, and is intended to address water quality issues. Each network has a separate, flexible "monitoring regime" for constituents to be sampled.

Basic and Reference sites will remain static unless a monitored constituent reaches a "trigger" condition (i.e., a percentage of, or above an MCL, HAL or other criteria). At that point, the monitoring site will be moved to the Targeted network, and the monitoring regime for the site will change. Targeted monitoring sites may be moved back down to a Basic or Reference network once certain criteria are met, or be removed from the network, according to regional priority.

The development of monitoring strategy is still ongoing. Data management issues have been addressed concurrent with the development of this strategy. Two methodologies for assessing groundwater data have also been developed, one for aggregate legacy data and another for future data collected under the monitoring strategy.

KEYWORDS

Groundwater quality monitoring network.