



Estimating Non-Surveyed Groundwater Use for Texas Regional and State Water Supply Planning

Background

The Texas Water Development Board (TWDB) develops gallons per capita daily (GPCD) demand metrics for water use in regional and state water planning. These GPCD demand metrics are largely informed by community water system responses to the TWDB Water Use Surveys. However, some groundwater uses are not sampled by the TWDB surveys. These uses, hereafter collectively termed Non-Surveyed Uses (NSUs), include: domestic users (which are exempt from groundwater permitting under Texas law), non-community public water systems (serving less than 25 connections), and commercial and institutional groundwater users. Each NSU type also includes both transient and non-transient sub-types. For example, domestic uses include both permanent residents (non-transient) and vacation homes (transient) while non-community public water systems include both mobile home parks (non-transient) and recreational vehicle parks (transient). Historically, the TWDB has accounted for NSUs in the water planning process largely by applying a statewide average GPCD value to these populations.

Purpose

It is believed that NSUs have a significant impact on groundwater resources in some areas of the state and that the statewide GPCD values currently applied to these uses do not adequately characterize them. Therefore, this research project will seek to evaluate improved methods for estimating NSU GPCD values that better capture the water demand of these uses. The project will also pursue the methodology development of a single NSU GPCD at the county level and undertake a case study to test the methodology. The case study area will be selected based on available data and anticipated need for enhanced NSU GPCD estimates. It is anticipated to be the footprint of at least one of the following: a groundwater management area, regional water planning area, or a major aquifer.

Timeline and Data

The TWDB is contracting with the University of Texas Bureau of Economic Geology (UTBEG) to conduct the project through August 2026. Data that will be considered for this project includes, but not limited to, pumping capacity of existing well infrastructure, water pumpage data collected by Groundwater Conservation Districts (GCDs), and various influences that are anticipated to drive NSU groundwater demand such as geography, climate, and socioeconomic factors. The project will culminate with a technical report documenting research findings, methodology to develop NSU GPCD, and case study results. This study is estimated to be completed in the Summer of 2026 and may inform the projections process for the 2031 Regional and 2032 State Water Plans.

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