

Additional Research Water Use and Conservation Profiles

Due to the explosive population growth Georgia is experiencing, there is a growing demand for public and private water supplies. In fact the public water use sector is the fastest growing sector in the state of Georgia (Pierce et al. 1982 and Fanning 2003). To better understand these rapidly growing demands, EPD has contracted with a consultant CH2M HILL to develop water use and conservation profiles for several regions of the state. The intent of the work is to provide a characterization for statewide water usage and to estimate potential water savings from standard water conservation practices at varying locations throughout the state. As discussed earlier, the state has very little information regarding baseline data for current water use.

The body of work being produced by CH2M HILL entails analysis of local water use and management data from six or seven water providers around the state. These providers were identified because they represent many of the diverse water use and resource characteristics of our state.

The research entails three primary steps. The first step involves collecting 5 years of data (2 years minimum) in electronic format: water withdrawal data (Monthly Operating Reports, MOR), retail water billing data (monthly, including volume of water per customer class and number of accounts per customer class), and wholesale water purchases and transfers to and from other providers (monthly). Analysis of these data sets will be conducted using a standard procedures that will be usable for future analysis. Step one will provide a good characterization of how water use varies statewide. Profiles of the water use will be generated for each water provider analyzed. The recommended measure of water use for both public and private water providers is residential gallons per capita per day (gpcd), water used indoor and outdoor, and equivalent residential units (ERUs) for commercial customers and others.

Using the baseline information collected in step one, step two includes selecting water conservation measures most appropriate for the geographic region and the type of water provider (public or private, ground or surface water dependant, large or small operation). For example, a water provider in Northwest Georgia may have several large commercial customers who use most of the water provided. Therefore, water conservation measures would need to target efforts to minimize water use by their large commercial customers.

Step three involves calculating water savings that can result from implementing the water conservation measures selected in step two. Several methods exist to evaluate water conservation results (MNGWPD 2003, CUWCC 2003, Vickers 2001, EPA 1998). Some of these methods involve complex computer modeling. This step of our research is to provide us with simple, repeatable calculations so

that, moving forward, we have the tools necessary to continue progressing toward our goals and, along the way, understanding how far we have come.

Due to the extensive research conducted in the Metropolitan North Georgia Water Planning District (MNGWPD), the communities selected for this evaluation lie outside the 16-county Metro Atlanta region. This research, coupled with the research conducted in the 16-county metropolitan Atlanta region will provide the state with a good accounting of public water use across the state