



# Georgia's State Water Plan

## Water and Wastewater Forecasting Results

March 2010

Forecasts of water and wastewater demands, along with the resource assessments, form the basis for water planning in Georgia. The State Water Plan requires the preparation of water and wastewater demand forecasts for the following water use sectors: Municipal, Industrial, Agricultural and Energy. The draft forecasts being provided for Council consideration and use in management practice selection are being developed in 10 year increments through 2050.

### **Municipal (Residential, Commercial and Light Industrial) Water and Wastewater**

Draft Municipal water and wastewater demand forecasts were prepared for the *Residential*, *Commercial* and *Light Industrial* water use categories. These categories are termed "*Municipal*" to distinguish from heavy water-using industries, which are forecasted separately as "Industrial" and described below. The calculation of draft municipal water and wastewater demand forecasts utilize both population projections and a water use rate, which in most cases uses 2005 as the base year. These draft forecasts are aggregated by county for the planning period through 2050.

To provide Councils with a starting point for the selection management practices, the draft municipal demand forecasts have been disaggregated among relevant categories. These include water source (groundwater and/or surface water) public supply versus self supply for water, and centralized versus septic for wastewater.

The methodology and input for the draft municipal demand forecasts, such as baseline water use rates (per capita water use rate), were presented to the Councils and to the Municipal Ad Hoc groups in 2009. Feedback was incorporated into these draft March 2010 results and they will be shared with the Municipal Ad Hoc groups prior to presentation at Council Meeting 5. Feedback will be used to revise the forecasts for water use after Council Meeting 5.

The county-level population projections used to forecast municipal water and wastewater demand were developed by the Governor's Office of Planning and Budget (OPB) through contract with the Carl Vinson Institute of Government at the University of Georgia, and are expected to be officially released by OPB during the month of March, 2010. These projections considered comments received on the draft population projections released in 2009. Further questions or comments on these population projections should be directed to the Governor's Office of Planning and Budget.

### **Industrial Water and Wastewater**

In order to prepare industrial water and wastewater demand forecasts for Georgia, the State's major water-using industries were identified and draft industrial water and wastewater demand forecasts were developed using approaches refined by the industrial ad hoc group. Whenever possible, based on input from members of the industrial ad hoc group, product based forecasting methods were used. For example, the carpet manufacturing industry has provided a detailed alternate method. For industries where product based forecasting was not possible, industry-specific workforce projections were used to project the rate of future growth in water use within the industry. These draft

forecasts are aggregated by region for each industry sector for the planning period. To provide the Council with a starting point for the selection of management practices, the draft industrial demand forecasts have been disaggregated among relevant categories, such as the ratio of land application to point discharge for wastewater disposal.

The methodologies described above as well as input EPD has received from industrial users have been presented and discussed with the Councils and also with Industrial Ad Hoc group in 2009. These draft March 2010 results will also be shared with the Industrial Ad Hoc group prior to presentation at Council Meeting 5. Feedback will be used to revise the forecasts for use in the selection of management practices after Council Meeting 5.

The region-specific industry workforce projections that were used for this forecasting were developed by the Carl Vinson Institute of Government at the University of Georgia, under contract to Georgia EPD. These projections reflect comments received from the draft workforce projections numbers released in 2009.

### **Agricultural Water**

Draft forecasts of water use for agricultural irrigation include forecasts of agriculture irrigation water use for the planning period by county and region. For each county, the forecasts list the acres irrigated by crop, and also show irrigation water use under dry, medium, and wet climate conditions. The draft forecasts also indicate whether the source is surface water or groundwater.

Input on the draft forecasts of water use for agricultural irrigation was incorporated into the development of these draft forecasts in 2009, and the draft forecasts have been available on [www.gerogjawaterplaning.org](http://www.gerogjawaterplaning.org) since prior to Council Meeting 3. Comments included the request to include non-permitted agricultural uses such as plant nurseries and specialty crops in the irrigation water forecasts. These uses are currently being incorporated into the draft Agricultural Forecasts and will be ready for Council use in early 2010.

Current water uses for non-permitted agriculture uses, such as golf course irrigation and livestock production, is being compiled for Council use, but forecasting of the future water needs is not being performed for this first round of regional water planning due to the lack of available data.

Forecasts of water use for agricultural irrigation were developed by the University of Georgia, College of Agricultural and Environmental Sciences, under contract to Georgia EPD.

### **Energy Water Use**

Forecasts of future water needs for electrical energy production are in the process of being developed. The process includes using the population projections developed by OPB and information on the historical relationship between population growth and energy consumption in Georgia to project future energy needs. Then, to forecast the water needed to meet the future energy needs in Georgia, a power ad hoc group is working with EPD to identify the mix of most likely future fuel sources, and likely placement of new and expanded production facilities.

The draft energy water forecasts will be completed in the summer of 2010. Until then, Councils can begin the work of selecting management practices using current electrical energy water demands and short term (~10 year) forecasts of new and expanded facilities from the power ad hoc group.