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Water Resource
Fact Sheet Series

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For More Information

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Per Capita Water Use

The concept of *per capita water use* is often used for comparing water use over time or among groups of people (cities, counties, etc.) that use public water supplies (e.g., city water). But, what does per capita water use really mean, and is it a valid way to compare water use among groups? Generally, it means the average amount of water each person in a particular area uses on a daily basis, expressed as "gallons per capita per day." But, as explained below, water use can be calculated many different ways, which makes fair comparisons of water use among populations difficult.

How Are Per Capita Water Rates Used?

Water managers use per capita measurements for a number of purposes such as:

- assessing water demand and identifying use patterns,
- setting goals and establishing use thresholds in permitting,
- evaluating conservation program effectiveness, and
- public communication.

How Is Per Capita Water Use Calculated?

At first glance, calculating per capita water use seems as simple as dividing the amount of water withdrawn or used by the number of people using it. However, it is sometimes necessary to use more sophisticated calculation methods.

For example, in an area with a high population of seasonal residents (e.g., winter-only residents in Florida), the per capita rate can be very different depending on whether or not seasonal residents are in the area. Time of day also can be important. Commuters can affect per capita rates during work hours, by increasing water use in the city they commute to, while decreasing water use where they live. Large quantity users affect per capita as well. Facilities that use millions of gallons of water per day in their manufacturing processes can raise per capita water use rates, even though residents in the same service area do not use unusually high quantities of water.

In addition, there are differences in how the amount of water used is calculated. In some cases, it is appropriate to use the total water withdrawn. This is how much water is actually pumped from the water source. Other times, it is necessary to use what is called "finished" water. This is the water withdrawn plus any water imported from another utility, minus water exported to another utility and minus losses that occur during transport and treatment of the water. Water managers consider these and other factors when making per capita calculations for specific purposes.

Uniform Per Capita Measures

Because capita water use is so often used in public communication, the Department of Environmental Protection and the five water management districts determined it was important to develop standardized per capita calculations for reporting per capita use to the Department. The goal of the uniform methodology is to provide a common means of comparing and reporting per capita water use among different populations throughout the state. Other per capita methods will continue to be used by the water management districts for regulation, planning, and other purposes requiring a more sophisticated calculation method.

The Department and districts developed two standardized per capita measures:

- *Uniform Gross Per Capita*, which is defined as:

$$\frac{\text{Utility Service Area Finished Water Use}}{\text{Utility Service Area Residential Population}}$$

- *Uniform Residential Per Capita*, which is defined as:

$$\frac{\text{Utility Service Area Finished Water Used by Dwelling Units}}{\text{Utility Service Area Residential Population}}$$

where

- *Utility Service Area Finished Water Use* is the sum of finished water (defined above) used by all sectors (residential, industrial, commercial, etc.) served by a utility.
- *Utility Service Area Finished Water Use by Dwelling Units* is the sum of finished water used by all dwelling units served by a utility.
- *Utility Service Area Residential Population* is the number of dwelling units served, multiplied by an estimate of persons per household.

The first measure considers all water users in a service area, including large quantity users, such as industrial, commercial or institutional users. The second measure evaluates household water use only. These measures improve the ability to understand statewide water use data, and compare water use among different populations.

Can Utilities Reduce Per Capita Water Use Rates?

Utilities can reduce per capita rates by implementing effective water conservation programs, including establishing rate structures that encourage conservation. Promoting the use of reclaimed water to meet non-potable water needs, such as landscape irrigation and industrial processes, also reduces potable water per capita rates.

How Can I Reduce My Per Capita Water Use?

Residents and businesses can reduce their per capita use by promptly repairing leaks, and by installing WaterSense certified toilets, showerheads and faucets, as well as Energy Star certified dishwashers, washing machines, and water heaters. Check with your utility to see if they offer rebates for these installations. Equally important is to irrigate landscapes only when needed, use reclaimed water if available, and to practice Florida-Friendly landscaping.