

	West Virginia Department of Health and Human Resources				
	MANUAL OF ENVIRONMENTAL HEALTH PROCEDURES				
Section	Drinking Water	Date	September 20, 2011	Procedure #	DW-48
Subject	Population served estimates for large community public water systems			Page	1 of 2

A population served by a water system is used primarily to determine the frequency of monitoring for many parameters in the drinking water regulations, and is also used to categorize the public water system for minimum operator classification needs. Population served should be reviewed at least during the periodic sanitary survey, but if other factors dictate (such as a water line extension expanding the service area), the population could be revisited at an earlier date.

Ideally, the population served should be done based on an actual count of persons who live in each household (for community population), number of employees at places of employment, number of students at schools and daycare facilities (for non-transient population served), number of customers or visitors at restaurants, motels, rest areas, and similar facilities (for the transient population served). The problem with this ideal situation for large community systems is that the population served from this total will be higher than the actual population, because some of the persons who are employed, are students, customers, visitors, may also live in a residence served by the system, thus these persons are counted at least twice and possibly three times.

The following procedure, when an actual count of the population is not feasible due to the size of the system and the time it would take the surveyor to obtain as accurate information as possible:

- 1) Obtain the latest number for the RESIDENTIAL meter services for the public water system. Obtain the number of persons per household in the primary county being served from the attached spreadsheet (which was obtained from the 2010 Census data). Multiplying these two numbers will result in an estimated population served. This will be considered the base community population.
- 2) Identify any transient type populations served, that are likely to have a very low number of Residential use (from the public water system being evaluated), such as State/National Parks and forests and Interstate rest areas. The number of visitors per day can be estimated, and this should be considered the total population served by the public water system.

Non-transient populations could be estimated, but due to the issue of double counting and no good way to estimate who resides within the service area of the public water system and who does not, no additional persons should be considered for this

category. Likewise, restaurants, theaters, malls, etc. it would also be difficult or impossible to determine a factor to correct for double counting.

References WV 64 CSR 3, Public Water Systems
<http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>

Attachment [GCT-PL2 - West Virginia: Population and Housing Occupancy Status: 2010 - State -- County / County Equivalent](#)

History Replaces DW-48, dated July 28, 2010.