

Mississippi private well populations

By Jason R. Barrett, Extension Instructor–Center for Government and Community Development, Mississippi State University Extension Service

FOR DECADES, Mississippians enjoyed a plentiful groundwater supply, but the time has long since past when each individual home had its own well or cistern. Today, most Mississippians receive their drinking water from public water supplies, which are tested each month for contaminants. If contaminants are found, the public is notified immediately and corrective action is taken. While this activity is vital to a continuous, safe water supply we have come to expect, there is still a significant number of Mississippians who depend on private wells for their water.

The Mississippi State Department of Health's (MSDH) Bureau of Public Water Supply, on authority from the U.S. Environmental Protection Agency, serves as the regulatory body for the *Safe Drinking Water Act* in Mississippi. To carry out its role, MSDH collects data on the percentage of the population of each Mississippi county on a public water supply.

DATA COLLECTION AND METHODS

The data used is second hand data. The United States Census Bureau's 2010 data collected for all Mississippi counties was used in order to determine county populations. The MSDH performs a Capacity Development Assessment annually for every community public water supply (water system) in Mississippi. Dependent on the number of connections for a particular water system, MSDH uses a factor of 2.6 people per connection to determine the number of people being served by that water system. Each water system is designated as being in a particular county. This allows a list of water systems to be generated for each county. Once this list is generated and the population of each water system calculated, a total population served by water systems in each county can be determined.

To determine accurate population numbers served by water systems, the MSDH data was manipulated. All water systems classified as inactive (I) were removed from their county's total population served because inactive water systems may still have an identification number, but are being served by another water system and are being calculated in that water systems population. A margin of error accounts for water systems that overlap into adjoining counties. Even though a water system population is correct, it may not accurately reflect the population recorded as living in that county.

The Mississippi county populations from the census data are compared to the water system populations from the MSDH Capacity Development Assessment. This comparison determines the difference in people in the county served by a water system and people in the county likely to be on private wells.

RESULTS AND DISCUSSION

There are 19 counties that recorded a population percentage amount that is not being served by a water system. The 19 counties are divided into three groups based on the percentage of that county's population not being served by a water system. Nine counties have a population of .01% to 10% not being served by a water system. Five counties have a population of 10.01% to 25% not being served by a water system and five counties have a population of 25.01% to 50% not being served by a water system.

Considering that not all counties have the same population amounts not being served by a water system that register in different county population percentages. Table 1 delineates the actual populations that make up the percentages.

Figure 1 shows each county that has a population of residents served by private wells and each county is colored according to that percentage range. It is noticeable that North Mississippi has a significant population being served by private wells. Tate, Marshall, and Benton counties all have between 25.01% and 50% of their population being served by private wells. Panola, Union, and Itawamba counties all have between .01% and 10% of their population being served by private wells. These six counties in North Mississippi should be a point of interest for local communities, municipalities, and rural water associations.

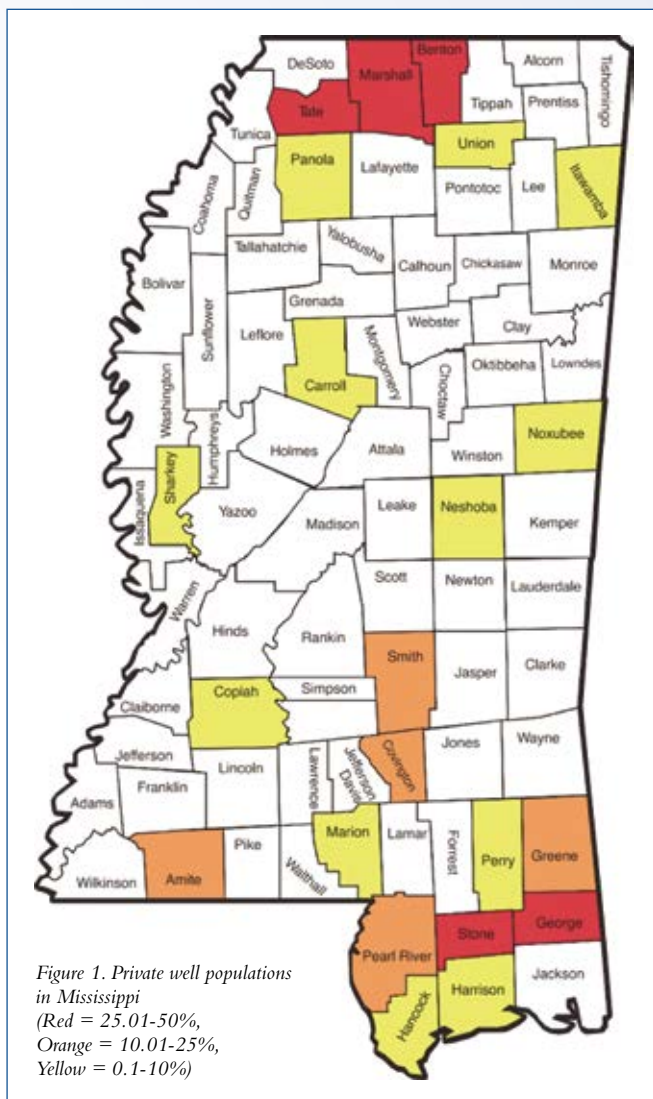


Figure 1. Private well populations in Mississippi
(Red = 25.01-50%,
Orange = 10.01-25%,
Yellow = 0.1-10%)

Table 1. County and Water System Population Comparison

County Name	County Population*	MSDH Pop**	Diff (+/-)	% on Private Well
Benton	8729	4588	4141	47.44%
Marshall	37144	21476	15668	42.18%
George	22578	13211	9367	41.49%
Tate	28886	16913	11973	41.45%
Stone	17786	13023	4763	26.78%
Smith	16491	12416	4075	24.71%
Amite	13131	10149	2982	22.71%
Covington	19568	15583	3985	20.36%
Greene	14400	12020	2380	16.53%
Pearl River	55834	48508	7326	13.12%
Noxubee	11545	10590	955	8.27%
Sharkey	4916	4544	372	7.57%
Itawamba	23401	21884	1517	6.48%
Perry	12250	11504	746	6.09%
Carroll	10597	10000	597	5.63%
Marion	27088	25592	1496	5.52%
Union	27134	25814	1320	4.86%
Neshoba	29676	28440	1236	4.16%
Jackson	139668	136954	2714	1.94%
Harrison	187105	183648	3457	1.85%
Panola	34707	34430	277	0.80%
Copiah	29449	29357	92	0.31%

*United States Census Data 2010

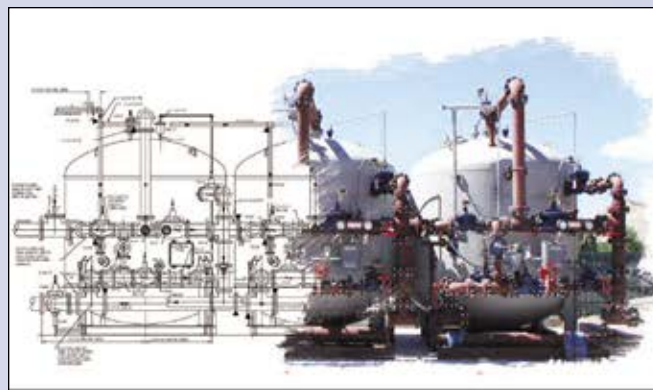
**Mississippi State Department of Health-Bureau of Public Water Supply Capacity Development Assessment (Fiscal Year 2012)

South Mississippi also has a target area of counties with large populations being served by private wells. George and Stone counties have between 25.01% and 50% of their populations being served by private wells. Greene and Pearl River counties have between 10.01% and 25% of their populations being served by private wells. Perry and Marion counties have between .01% and 10% of their populations being served by private wells. Both South Mississippi and North Mississippi have counties that should be points of interest to local municipal water systems and rural water associations for potential expansion of their systems.

For more information on private well populations in Mississippi and/or public water supplies, contact one of the following agencies:

Center for Government and Community Development
 Mississippi State University Extension Service
 P.O. Box 9643
 Miss. State, MS 39762
 (662) 325-3141

Bureau of Public Water Supply
 Mississippi State Department of Health
 P.O. Box 1700
 Jackson, MS 39215-1700
 (601) 576-7518 ■



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