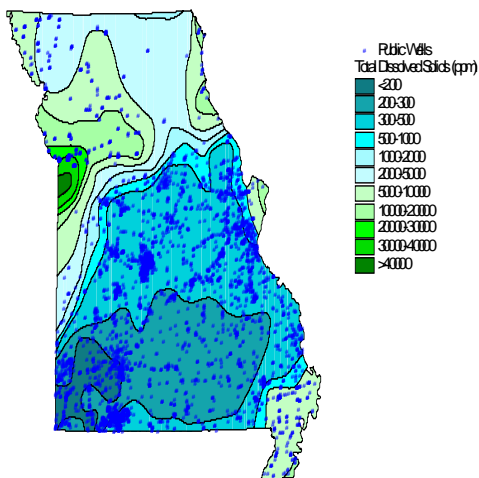


MISSOURI GROUND WATER CONDITIONS

Ground water Importance: Nearly 2.4 million people in Missouri depend on ground water as their source of drinking water. This includes both public and private drinking water systems, but does not include the many industrial and commercial uses of ground water.

Where is it? The southern half of Missouri is rich in ground water resources. Many Missourians depend on that abundance of good quality ground water. However, overuse of ground water in certain areas has caused water level declines in deeper artesian aquifers. Poor yields and high mineralization make the ground water in northern Missouri undesirable as a drinking water source except where alluvial and drift filled glacial channel deposits yield large quantities of useable quality water.



How good is the water? In southern Missouri, ground water is the source of choice, because it can generally be used without treatment. Water quality can vary significantly with local geology. The same karst aquifers that provide good water can also be susceptible to contamination via solutionally enlarged conduits. Missouri is very fortunate to have some deep aquifers that are protected from contamination by geologic confining units. In many areas, shallow aquifers have been contaminated, and only the deeper confined aquifers' can be used as a public drinking water source.

Cost of Contamination: The cost of ground water contamination is very high. A sum of the millions of dollars that have been spent in Missouri to remediate contaminated ground

water or to construct new sources to replace or treat contaminated wells could not include the suffering and inconvenience endured by businesses and families who found their source of water contaminated. Considering this and the lengthy time it takes to restore contaminated ground water and the limited nature of good aquifers, it becomes practical to protect Missouri's ground water at all costs.

Efforts to Protect Ground water: Missouri has had a Wellhead Protection Plan since 1994. Wellhead protection is completely voluntary for public systems in Missouri, and only a handful of the most proactive and environmentally conscious systems have implemented their own wellhead protection programs. However, Missourians' interest in protecting their ground water is increasing. Activities required by the Safe Drinking Water Act to complete drinking water source water assessments such as delineating source water areas, inventorying potential contaminants, and providing that information to the public are stirring public interest. The Missouri Department of Natural Resources has a new staff member dedicated to promoting wellhead protection for public water supplies. It is expected that the trend for communities to protect their drinking water sources will continue to increase.

What else is needed? Educating citizens on the importance and value of protecting ground water is the key to maintaining this valuable resource. Public awareness is gaining momentum. At the very least, the state's efforts to promote ground water protection need to be maintained at the current level or increased for continued success. Efforts to address sites that are already contaminated also need continued attention.