

Pike County Conservation District Groundwater Assessment

Pike County experienced the most significant population growth of any Pennsylvania county during the period 1990 – 2000 as determined by the U.S. Census and, according to the 2004 Pike County Comprehensive Plan update, the population is estimated to increase as much as 20 percent by 2010 with continued significant increases projected through 2025. This growing population may result in added dependence on ground water, thus magnifying the demand for acceptable water quantity and quality for drinking-water supply. Changes in land use have the potential to reduce and impair water that recharges the ground-water system and eventually is discharged to streams. At present, high-quality streams that support healthy aquatic life and provide recreational fisheries are important assets of the county. The evolving landscape presents local officials with current and future challenges in maintaining adequate ground-water quantity and quality capable of sustaining the influx of new residents and businesses and preserving base flow in county streams.

In order to successfully manage water resources, it is useful to monitor ground-water levels. Declining water levels are an indicator of approaching drought in drier conditions or overuse in wetter conditions. Effects of drought or excessive withdrawals can affect availability of ground water. In addition, because ground-water provides stream base flow, ground-water levels are an excellent indicator and predictor of low stream flow conditions.

Work to Date

The Pike County Conservation District, in cooperation with the U.S. Geological Survey (USGS), and with funding from a DEP Growing Greener Grant and the Pike County Commissioners, completed a multi-year Pike County Groundwater Assessment. The project, which concluded in June 2009, consisted of two primary components:

1. Establishment of a groundwater level monitoring network consisting of about 30 pre-existing wells throughout the county with monthly measurements of water levels by USGS personnel over an approximately two year period. Monthly water levels measured for the network over the grant period are available for public viewing at <http://groundwaterwatch.usgs.gov/countymaps.asp?sc=42&cc=103>).
2. A comprehensive analysis of groundwater quality, with sampling of pre-existing wells for over 150 potential groundwater contaminants. The wells were located throughout the County to represent various land uses and geologic units. A final report on the groundwater quality assessment is available online at <http://pubs.usgs.gov/sir/2009/5129/>.

Scenic Rural Character Preservation Program Funding

Pike County Conservation District recently received funding through the County Scenic Rural Character Preservation Program to continue the well level monitoring network for another 3+ years to provide longer-term information on Pike County's groundwater resources, which could ultimately serve as the basis for making decisions about when to declare drought watches, warnings, and emergencies and be used to monitor groundwater level fluctuations and trends. The data could also be incorporated into water budgets for use in managing supplies to meet public demands and to maintain stream base flows.

The District has entered into another cooperative agreement with USGS to provide training for the first few months, after which District staff will measure water levels monthly. USGS will provide annual quality assurance and input groundwater levels into the USGS database for perpetual public access.