

Marcellus Shale and Municipal Water in a Mosaic of Stresses: The Case of Beaver Run Reservoir

Beaver Run Reservoir, located on the east side of the Pittsburgh MSA, serves approximately 130,000 residential customers with water. The leasing and development of land for Marcellus shale gas on municipal property adjacent to this public resource aroused concerns and led to a water monitoring contract between the Municipal Authority of Westmoreland County (MAWC) and researchers at Indiana University of Pennsylvania (IUP). From 2011 to the present, faculty and students have been engaged in the collection and analysis of field data and lab samples to ensure that the quality of reservoir water has not been jeopardized. Seven shale gas well pads currently exist within 500 meters of the reservoir edge. Despite its current high profile, shale gas development is but one of several existing and potential sources of degradation; acidic drainage from old coal mines, agricultural activities, and major highway corridors have all introduced pollutants into the reservoir. The IUP-MAWC monitoring project is a multi-pronged effort that samples tributaries, drainages near shale gas pads, and the reservoir itself. This presentation will highlight basic parameters (pH, total dissolved solids, conductivity) observed at field sites using meters and stationary dataloggers. While abundant evidence of contamination from historic coal mining has been collected, results thus far show no clear signs of impairment to reservoir water quality from Marcellus shale extraction.

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