



West Virginia Water Research Institute
150 Evansdale Dr. NRCCE Building
PO Box 6064
Morgantown, WV 26506

Telephone: (304) 293-2867
Fax: (304) 293-7822
www.wvri.nrcce.wvu.edu

Lower Cheat Watershed Passive Treatment Project

Project No. WV-233: Lower Cheat Watershed Passive Treatment Installation: Middle Fork of Greens Run, Morgan Run, and Pringle Run

Funding:

\$333,829	WVDEP
\$284,866	Cost-Share
\$618,695	Total Value

Project Duration: 6/1/2005 – 5/31/2007

Project Description: The Lower Cheat Watershed Passive Treatment Project sought to remediate three sources of acid mine drainage in three different sub-watersheds of the Cheat River. In order to implement this project, partnerships were developed and a Watershed Plan was drafted and approved. Passive treatment systems were designed and installed to neutralize acidity and remove high concentrations of metals from water draining these formerly mined areas.

Water sampling and monitoring visits to the three sub-watersheds were taken during high, medium, and low flows in order to determine the amount of acidity and metal concentrations that needed to be reduced. All three discharges were found to be in exceedence of water quality standards for iron, aluminum, and manganese. Passive treatment systems were designed to correct pH problems and remove metals from the mine discharges. Various alkaline treatments were used to remediate these discharges, including limestone leach beds, steel slag leach beds, and open limestone channels, among others.

Project Significance: Greens Run, Pringle Run, and Morgan Run were listed as impaired streams in West Virginia's listing of 303(d) streams in 1996 and 1998. In 2001, the Cheat River Total Maximum Daily Load (TMDL) document was finalized and all three of these sub-watersheds were earmarked for reductions in metals (primarily iron, aluminum and manganese), as well as acidity. Implementation of the proposed Plan is helping to restore these sub-watersheds to water quality standards. Completion of these passive treatment projects has also reduced the acid and metal loadings in the mainstem of the Cheat River, which will aid in the reestablishment of the Cheat River as a fishery and recreational destination.