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Passive Treatment Installation – Dream Mountain – Muddy Creek

Project No. WV - 229

Recipient: West Virginia University

Principal Investigator: Brady Gutta, Research Associate
West Virginia Water Research Institute

Funding: \$288,390 USGS
\$ Cost Share
\$ Total Value

Project Duration: 9/1/2005 – 9/30/2008 (not yet complete, anticipate Spring 2010)

Project Description: The Dream Mountain Project is located on Muddy Creek which is a direct tributary into the Cheat River. Muddy Creek discharges into the Cheat just northwest of Ruthbelle, in Preston County, WV, and is a major source of acidity and metals associated with the remnants of the coal mining process. Abandoned coal mining operations from the early 1900's, active mines and bond forfeited sites are scattered throughout the watershed. These mine sites produce acid mine drainage (AMD) and excess metals which have caused the impairment of Muddy Creek and its inclusion on the State's 303 (d) list of impaired streams. The project area consists of approximately 5 to 7 mine portals spread out over the eastern portion of the Dream Mountain Game Ranch. The Dream Mountain facility is a private fenced game reserve that contains large White-tailed Deer, Buffalo, and Elk. They offer paid hunts as well as stays in cabins that are on site.

This project consists of constructing steel slag leach beds in two freshwater tributaries, installing open limestone channels to convey the water from the portals, and constructing two wetlands for the metals to precipitate into. The goals of this project are the approximate removal of 416,416 pounds per year of acid, 64,528 pounds per year of iron, 39,328 pounds per year of aluminum, and 4,016 pounds per year of manganese. The system will also generate extra alkalinity to neutralize downstream sources of mine acid. Construction of this project began in July of 2009 after difficulty in gaining landowner access after the property changed hands. Completion is anticipated in early spring 2010.

Project Significance: This project will clean up additional pollution from Muddy Creek. It is aimed at helping to remove Muddy Creek from the state's 303(d) list of impaired watersheds. Its successful completion will add 7 tenths of a mile of fishable water in Muddy Creek