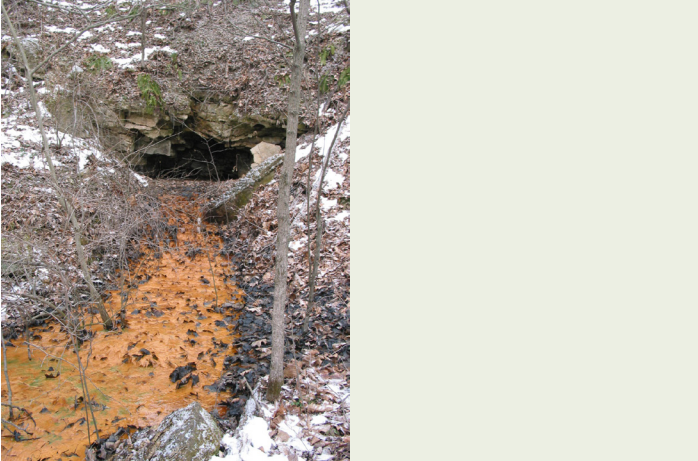


# 2011 NPS Report - Raccoon Creek Watershed - Mulga Run

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Project Status: Complete: 8/30/2004 ODNR Project Number: JK-MI-51

## Pre-construction



Underground mine entrance, Photo by Brett Laverty

## Post-construction



Jaymar Steel Slag Leach Bed, Photo by Brett Laverty

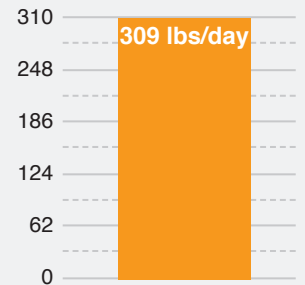
Mulga Run Reclamation Project is located in Section 10 of Milton Township in Jackson County and lies within the 14-digit HUC unit #05090101050030. The site is 6.8 acres and is located in the Little Raccoon Creek subwatershed. Mulga Run is considered the third largest contributor of acid mine drainage to this subwatershed according to the AMDAT in 2001. Due to drainage from abandoned deep mines and un-reclaimed coal refuse piles throughout, a basin wide treatment approach was used to reduce acid and metal loads to Little Raccoon Creek. The design was completed by ATC Associates for \$247,127. The treatment approach for this site was to install two steel slag leach beds and conduct a wetland enhancement project. The major consideration for this design was to attempt to treat entire basin with steel slag leach beds and wetland instead of treating all acid mine drainage sites in the basin. Mulga Run discharge was sometimes net alkaline; however, the site was also capable of producing acid spikes (3000 lbs/day) throughout the year. The goal of the design was to reduce 100 percent of the acid spikes and create consistent net alkaline water discharging into Little Raccoon Creek. The project goal was met by 100 percent. A private residence height was increased to reduce the flood risk adjacent to the project site. Construction was complete August 30, 2004, by Stockmeister Enterprises for a cost of \$440,783. The funding source, for this the project design were Ohio EPA and ODNR-DMRM and for construction the sources were ODNR-DMRM, OEPA and OSM-ACSI. On average approximately 10 lbs/day of acid and 195 lbs/day of metals were reduced from entering into Little Raccoon Creek as a result of this AMD reclamation project.

## Site: MR0010

### Pre treatment acid load



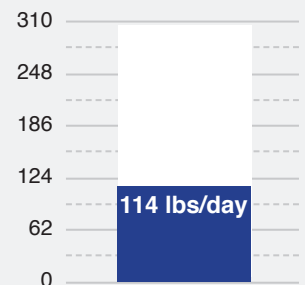
### Pre treatment metal load



### Post treatment acid load



### Post treatment metal load



Data derived using the Mean Annual Load Method (Stoertz, 2004).

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Similar to other environmental best management practices (BMPs), performance of acid mine drainage reclamation projects are also expected to decline with time. Currently, operation and maintenance plans are being designed for each existing system and for future projects. Figure 1 and 2 show the mean annual acid and metal load reduction (Stoertz, 2004) for each year (or group of years) during post-construction from the project effluent. These graphs show the rate of decline (and/or improvement) with time in the performance of the treatment system. Knowing this rate of decline will aid in the implementation of operation and maintenance plans for each site. Yearly load reductions are plotted and shown in Figure 1 and 2.

Figure 1. Yearly Acid Load Reduction

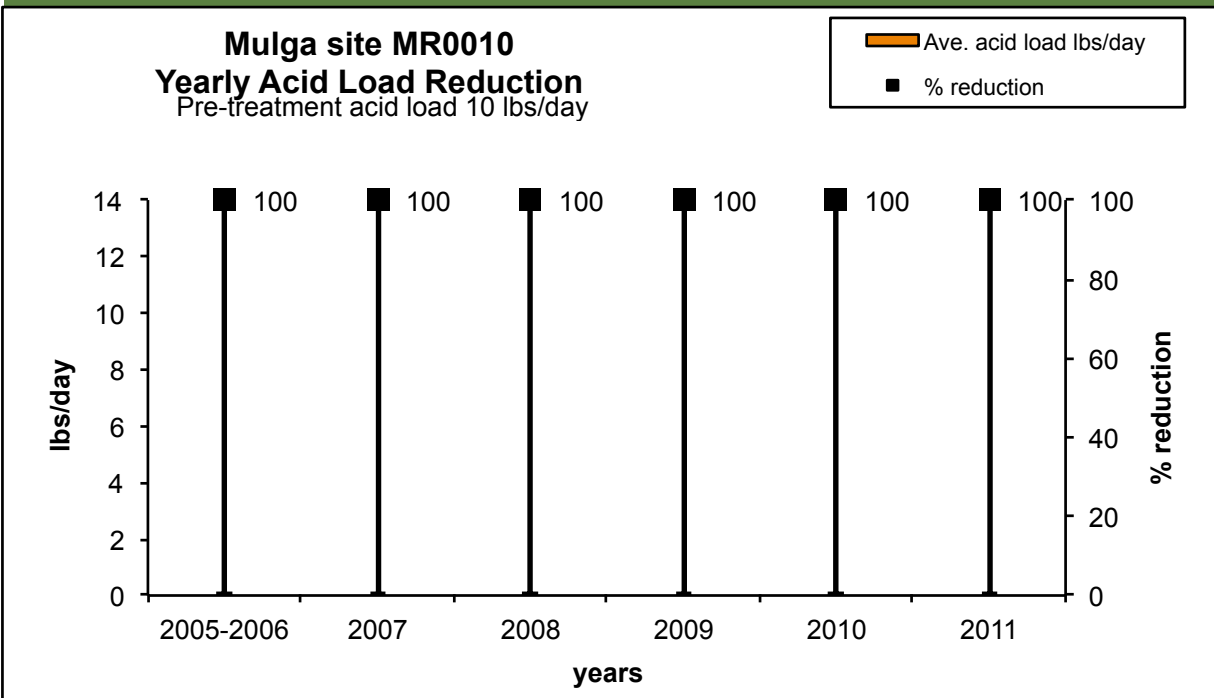


Figure 2. Yearly Metal Load Reduction

