

Jones Mine Passive Treatment System
SRI O&M TAG Project # 19 Request #1
OSM PTS ID: PA-183

Requesting Organization: Beaver County Conservation District (in-kind partner)
Receiving Stream: Brady Run (Beaver River Watershed)
Hydrologic Order: Brady Run→Beaver River→Ohio River
Municipality/County: Patterson Township, Beaver County
Latitude/Longitude: 40°44'52.6848"N / 80°20'20.5404"W
Construction Year: 1995

The Jones Mine Passive Treatment System was constructed in 1995 to treat an alkaline, metal-bearing, discharge from an abandoned coal mine in Patterson Township, Beaver County, PA. The system has had little maintenance since approximately 1998. In October 2012, Marty Warchol of the Beaver County Conservation District (BCCD) contacted Stream Restoration Incorporated (SRI) for technical assistance. Marty met with Shaun Busler on 10/17/12 to conduct an initial site visit to discuss the maintenance issues. The main issue at the site was short-circuiting in multiple locations along the berm due to a buildup of vegetation and iron solids within the system. In addition, over time, brush and tree limbs had been dumped in various parts of the system by unknown parties. The Jones Mine site sign was also in need of repair.

In July 2013, Marty met on-site with Bryan Page and Ryan Mahony of BioMost, Inc. (BMI) to perform the maintenance. The accumulated iron and organic matter were excavated from the system channels. Select excess material was placed along the berm to increase capacity of the system. A grate, which was designed to collect road runoff along the site, was also clogged and flow from the system was short-circuiting and entering the grate. Material that had built-up around the grate was also removed so that flow from the treatment system would remain within the system. The channel for storm water entering the grate was re-graded and modified to convey runoff to the storm drain instead of into the treatment wetland. Brush and trees which had been dumped into the system over the years were restricting and altering flow within the system. This debris was removed. Over time, the treatment system weir had also become clogged with debris and sediment. This was also removed and the weir was cleaned to allow for proper system flow measurements. The sign for the treatment system was cleaned, repaired, and re-erected on site using time donated by BMI.

As the effluent from this site enters a healthy stream, classified as a cold water fishery, measures were taken to minimize suspended sediment from leaving the system. *Datashed.org* was updated to include information about the passive system and the maintenance activities performed. In addition, water monitoring kits were purchased and provided to the BCCD who will monitor the site and enter the data onto *Datashed.org*. Samples collected during the 2015 snapshot indicated that the system was performing well having a pH of 7, net-alkalinity, and less than 1 mg/L of total iron in the effluent.

The project team thanks the Beaver County Conservation District for all of their efforts including support and assistance. Funding for technical assistance and maintenance was provided by the PA DEP's Growing Greener and the Foundation for Pennsylvania Watersheds grant programs and in-kind services by project partners.



The Jones Mine treatment wetland was clogged with plants, iron sludge, and debris (*top left and right*). The material was excavated to restore treatment capacity (*middle left*). Accumulated material within a channel near a storm water grate caused short-circuiting of the AMD and was removed (*middle right*) to return full utilization of the treatment system. Sludge, vegetation, and debris were also removed from the weir (*bottom left*). The site sign was cleaned, repaired, and re-installed as an in-kind service of BioMost, Inc.