

Kolb Passive Treatment System
SRI O&M TAG Project # 13 Request #1
OSM PTS ID: PA-201

Requesting Organization: Blackleggs Creek Watershed Association (in-kind partner)
Receiving Stream: Big Run (Blackleggs Creek)
Hydrologic Order: Big Run→Blackleggs Creek→Kiskiminetas River→
Allegheny River→Ohio River
Municipality/County: Young Township, Indiana County
Latitude/Longitude: 40°34'45.9984"N / 79°20'21.9984"W
Construction Year: 2001

The Kolb Passive Treatment System was constructed in 2001 to treat a high-flow, net-alkaline, iron-bearing, discharge emanating from an abandoned underground coal mine. A passive “fountain-like” aeration device and two settling ponds were installed.

During a phone conversation on 2/14/12, Art Grguric described that the Blackleggs Creek Watershed Association (BCWA) was in need of additional baffle curtains for use at the Kolb Passive Treatment System to encourage further formation and removal of iron solids. Two, 50’Lx4’W, baffle curtains were ordered and delivered directly to the BCWA who installed the baffle curtains themselves. An initial site visit was not necessary; however, the system will be further evaluated as part of the Kiski-Conemaugh Basin Treatment System O&M Assessment project that is to be completed for the Foundation for PA Watersheds. There is limited water quality data available after installation of the baffle curtains to determine the impact. One sample collected in November 2014 showed the iron concentrations to be 1.8 mg/L of total iron and 0.1 mg/l dissolved, which is less than average of 2.8 mg/L of total iron. While another sample collected in January 2013 had an iron concentration of 3.9 mg/L of total iron which is slightly higher than average. Continued monitoring will aid in determining if additional improvements or maintenance are needed.

The project team thanks the Blackleggs Creek Watershed Association 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.

Additional Recommendations & Considerations:

- Continue to conduct site inspections and water quality monitoring on a quarterly basis (minimum). Include field parameters of pH, iron, and flow rate at a minimum. Alkalinity is also recommended. Iron measurements in particular will be useful for indicating treatment issues for this particular system.
- Expanding the treatment system including wetland cells would likely assist with removal of additional iron.



The Kolb Passive Treatment System has a fountain (*left*) to help aerate the net-alkaline, iron-bearing discharge. Additional baffle curtains (*right*) were purchased through the O&M grant and installed by the BCWA to help improve retention and iron removal.