

THE CATALYST

SLIPPERY ROCK WATERSHED COALITION MONTHLY ACTIVITIES UPDATE

NEXT MEETING: 7 pm on 10/12/17 at Jennings Environmental Education Center, pizza and pop provided.
9/14/17 meeting attendance: J. Belgraden, J. Berner, C. Denholm, M. Dunn, L. Furst, B. Kuban, D. Rihel, S. Smith, D. Tiche, F. VanAtta

Special Meeting Reminder!

On September 8th, Westminster College students from Dr. Helen Boylan's Advanced Chemistry class visited De Sale Phase 2 as part of their on-going service learning project. It is hard to believe that this was the 11th year of water monitoring by this project. SRWC participants Cliff Denholm of Stream Restoration Incorporated and Wil Taylor of Jennings Environmental Education Center were on hand to provide a tour and lend assistance. Wil and Cliff discussed the watershed, mining history of the site, AMD, and passive treatment. After the tour was completed, the students collected water samples and conducted field water monitoring testing. The students took the water samples back to the lab where they performed a variety of analytical techniques measuring water quality parameters such as pH, alkalinity, acidity, and metals. The students will be presenting their data at the October 12th meeting. This is one of our favorite meetings of the year and we always look forward to listening to and interacting with the students. These college students are a valued asset to the SRWC, helping us collect important information on water quality. Please come out to our October meeting to show them your support for their hard work and learn what they have been discovering about passive treatment's effectiveness at De Sale 2!



Blacks Creek Watershed Restoration Plan Public Meeting

At the September 14th meeting, Cliff Denholm presented the draft version of the revised Blacks Creek Restoration Plan. The original plan was created in 2006 with limited data. The revisions to the plan were made after completing one year of water monitoring of major discharges, quarterly monitoring of select stream points, and bi-annual monitoring of minor discharges. The water monitoring has also helped to demonstrate the effectiveness of the McIntire, BC16, and BC19/19B passive systems. The final version was just recently submitted to the PA DEP & US EPA for review and approval and will eventually be posted on Datashed.

Save the Date: Student Symposium on the Environment

Once again, the Slippery Rock Watershed Coalition is partnering with Westminster College to host the annual Student Symposium on the Environment. The event will be held on Thursday December 7th, 2017. Abstracts can be submitted through the Westminster College Environmental Science Website. The deadline for abstracts is November 10th. For more information or assistance contact Cliff Denholm at sri@streamrestorationinc.org or 724-776-0161. Save the Date and come on out and support the students!

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The vertical flow ponds at the Ferris Passive Treatment System Complex were pumped down to gain access to the treatment media.

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Ferris Treatment Complex Receives Maintenance

In 1997, a passive treatment system complex was installed to address four abandoned mine discharges emanating from an old deep mine in the coal mining ghost town of Ferris. This complex consisted of two series of Vertical Flow Ponds, one set treating the SR85 and SR86 discharges and the other set treating the SR87 and SR88 discharges. These VFPs then flowed into a large aerobic wetland created using an abandoned railroad grade as an embankment. Eventually, the treated water empties into the main stem of Slippery Rock Creek.

This system was evaluated by BioMost, Inc. after the SRWC noticed possible water quality issues. The field pH at the outlet of wetland 2 on 2/18/17 was 3.78. After further investigation it was determined that maintenance to the SR 85/86 treatment cell was necessary.

Initially, flow from the forebay through VK1 was not present, causing raw water from the forebay berm to bypass both vertical flow ponds directly to the treatment wetland. VK1 maintained a high water level but did not flow to VK2, which indicated the treatment media and/or the underdrain was plugged. Several attempts were made to unplug the pipe and media. A flush pipe was located within the forebay and found to be closed or blocked on the inlet side. An emergency overflow pipe was located and cleared within VK1 using a power snake attachment, which dropped the water level in the pond approximately 2 feet. The treatment media was backflushed using a 3" pump for approximately 20 minutes during three separate attempts to gain a flow path within the media to the underdrain. This netted a minimal increase in flow to the underdrain pipe.

After further backflushing attempts proved unhelpful in reestablishing flow through the system, it was decided that exposing the underdrain pipes and examining the quality of the treatment media would help to determine the next course of action. A temporary berm to divert flow from the forebay was installed and VK1 was drained over the course of a few days to accomplish this. Once VK1 drained, an excavator was used to examine the quality of the treatment media within the pond. The media was separated into two layers. The top layer was highly degraded with no structure, and the lower layer was highly compacted and minimally permeable. After determining it had little viability in continuing to provide water treatment, a significant amount of the top layer of media was removed from the pond using a 6" shredder pump. The lower layer of media was then removed to examine the underdrain and surrounding stone. This revealed a cemented together layer of stone with 4" perforated underdrain pipe that still had no flow exiting the flush pipe. A redesign of VK1 was determined to be necessary to regain treatment within the component.

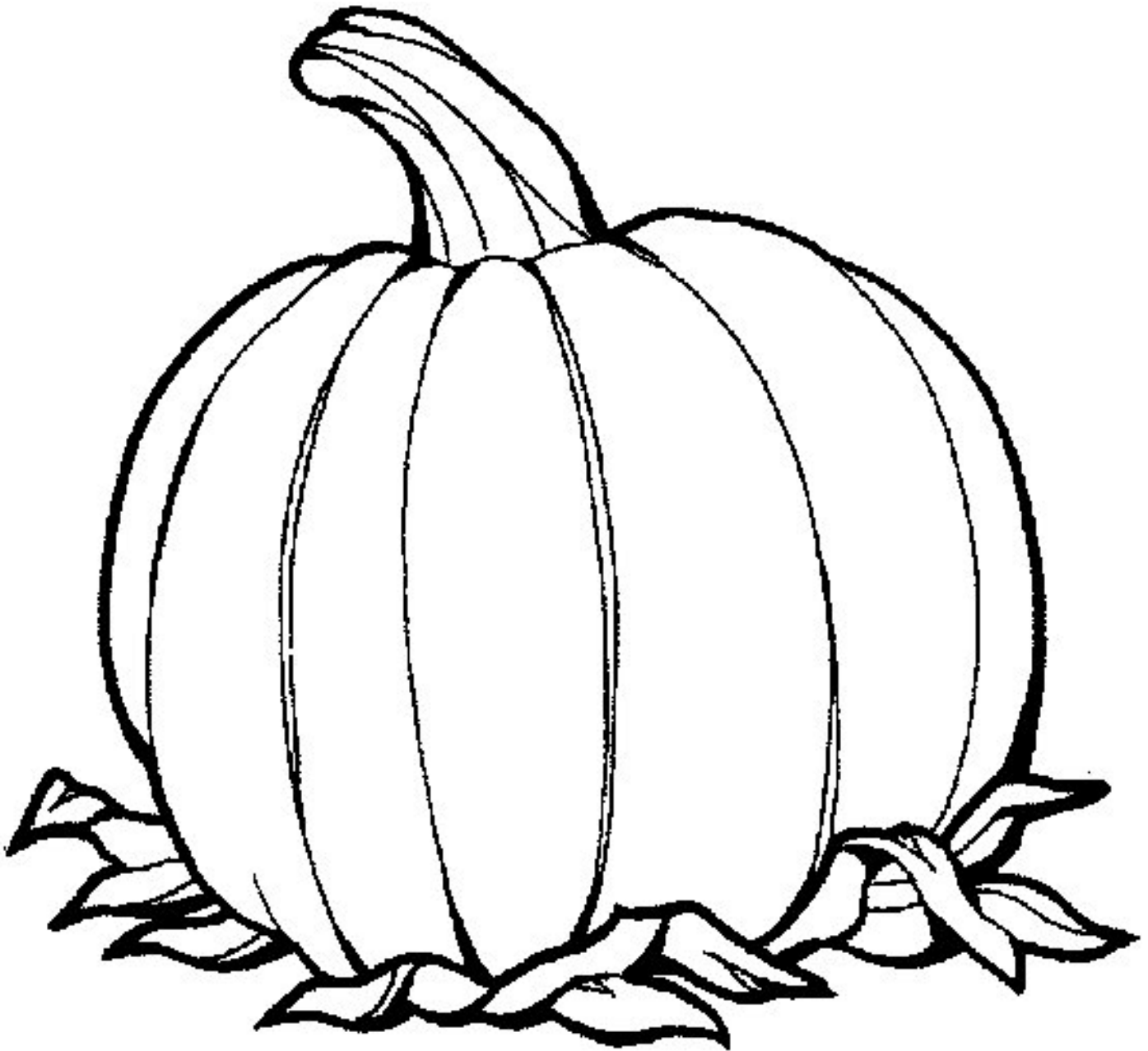
A spillway was installed between VK1 and VK2 to allow water treatment in VK2 without flowing through the VK1 media. Stop logs regulating water level within VK2 were removed to help determine the permeability of the stone within the pond. A layer of sediment approximately 6-8" thick was discovered on top of the treatment media stone. Although VK2 drained, it would benefit from stirring the media and removing sediment using a 6" shredder pump to rejuvenate the stone. This was performed after work was completed within VK1. Hopefully, in the coming year, additional funding can be acquired to make the necessary changes to this treatment system.

The KIDS Catalyst

SLIPPERY ROCK WATERSHED COALITION FUN ACTIVITY

Color a Pumpkin!

There's a lot you probably don't know about pumpkins! Did you know pumpkins are a fruit, not a vegetable? It takes 90 to 120 days for a pumpkin to fully grow, after it has been planted. The flowers of pumpkins can be eaten! Pumpkins are 90% water. The biggest pumpkin ever grown weighed more than 1,500 pounds! And the biggest pumpkin pie ever made was over 20 feet across! Pumpkins used to be recommended for curing snake bites and removing freckles. We've given you a blank pumpkin picture below to color and decorate any way you want to! "Carve" it, "paint" it, have fun! If you mail us your picture we will send you a \$1 Amazon credit to a parent's email! Credits can be saved up for a special purchase!



Name _____ Age _____ Parent email _____

Address _____



Slippery Rock Watershed Coalition c/o Stream Restoration Incorporated
A PA Non-Profit Organization
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