

# THE CATALYST


## SLIPPERY ROCK WATERSHED COALITION MONTHLY ACTIVITIES UPDATE

**NEXT MEETING:** 7 pm on 3/12/20 at Jennings Environmental Education Center, pizza and pop provided.  
2/13/20 meeting attendance: J. Belgraden, C. Denholm, M. Dunn, B. Kuban, S. Smith, W. Taylor, F. VanAtta

### SRWC Featured as EPA Success Story

Blacks Creek, which is a tributary near the headwaters of Slippery Rock Creek, was featured on the EPA website as a success story about restoring waters impaired by non-point source pollution. Blacks Creek has been heavily impacted by abandoned underground and surface coal mines, affecting nearly 6 miles of stream to its confluence with Slippery Rock Creek. For over 15 years, the SRWC has been working to restore this stream. Through several assessments, the sources of the impairments were evaluated and prioritized. Three passive systems have been constructed to treat these discharges and one more system is scheduled to be constructed in 2021. The largest of these systems, McIntire Passive Treatment System, treats one of the worst discharges in the entire Slippery Rock Creek Watershed! Thanks to the EPA Clean Water Act Section 319 and PA Department of Environmental Protection for funding these projects! And thanks to EPA for highlighting this work on the website. To view the article, please click here (you may need to copy and paste the entire link text):

[https://www.epa.gov/sites/production/files/2020-01/documents/pa\\_blackscreek\\_1697\\_508.pdf](https://www.epa.gov/sites/production/files/2020-01/documents/pa_blackscreek_1697_508.pdf)



### NONPOINT SOURCE SUCCESS STORY

## Pennsylvania

### Treatment of Mine Drainage Improves Blacks Creek (Venango County)

**Waterbody Improved** Metals in discharges from abandoned coal mines impaired Blacks Creek, prompting the Pennsylvania Department of Environmental Protection (PA DEP) to add 5.6 miles of the mainstem stream and 13.0 miles of unnamed tributaries to the state's Clean Water Act (CWA) section 303(c) list of impaired waters in 1996 and 2004. Respectively, in response, project partners installed three passive treatment systems at a cost of nearly \$1 million to address the impacts of the mine drainage discharges entering the stream. Water quality and aquatic habitat have been improving since project work began, and more systems are planned in the future in hopes of continuing this trend.

**Problem**  
Western Pennsylvania's Blacks Creek watershed is approximately 6 square miles in Butler and Venango counties and is a major headwaters tributary and subwatershed of Slippery Rock Creek in the Ohio River watershed (Figure 1). This watershed is predominantly forested but has experienced significant impairments from abandoned mine drainage (AMD) discharges from abandoned mines or old walls dating back to the 1800s. Nonpoint source runoff from these AMD discharges delivers high metals loads to Blacks Creek. Due to the influence of layers of limestone underlying the area, most of Blacks Creek and its tributaries have an acceptable pH and are near-neutral.

A stream survey conducted by PA DEP indicated that Blacks Creek was a degraded aquatic ecosystem with depressed aquatic life due to AMD impacts. As a result, PA DEP included 0.6 stream miles of the main stem of the state's CWA section 303(c) list of impaired waters in 2005 for not meeting the aquatic life designated use due to elevated levels of metals delivered through AMD. An additional 13 stream miles of Blacks Creek tributaries were added to the impaired waters list in 2004.

In 2005 PA DEP developed a total maximum daily load (TMDL) to serve as a pollution diet for the Blacks Creek watershed. The TMDL set limits for metals (aluminum, iron and manganese) systematically along stations on Blacks Creek. These limits will differ per station based on the site-specific existing pollutant loads and the goals for restoration.

After development of the TMDL in 2005, State in partnership incorporated (IP) received a CWA section 319 grant to address the water quality. Using the assessment data, project partners developed a watershed implementation plan that was approved in 2007. This plan was revised in 2017 to include treatment implemented since 2005 and to prioritize needs.

**Story Highlights**  
Over 20 AMD discharges have been identified and sampled within the Blacks Creek watershed. 25 priority areas are identified in the watershed implementation plan. Passive treatment systems have been constructed addressing three of these priorities, including an upwelling of AMD from an abandoned old wall (Figure 2) and a heavily degraded tributary (tributary #1) that is downstream of a bend forkline and coal refuse site known as the McIntire mine site (Figures 2 and 3).




Figure 1. Blacks Creek in western Pennsylvania.

### Slippery Rock Campground Stream Restoration Project Nears Completion — Volunteers Needed!!

The **Slippery Rock Campground** received a stream bank upgrade to prevent excessive amounts of sediment from entering the stream and protecting about ten trailers. Construction was completed in October and November of last year. Restoration techniques included a stone toe, erosion control blankets, brush layering, rootwads, and a new technique, soil lifts. Soil lifts, also known by the construction crew as soil burritos, are compacted soil layers wrapped in two types of geotextile, a geogrid and turf reinforcement mat (TRM). The geogrid interlocks with surrounding soil and rock while the TRM prevents the soil fines from washing away.

We graciously thank the **PA DEP**, and many project partners who have generously donated to this project, including the **Slippery Rock Campground Association, BioMost, Inc., and Allegheny Mineral Corp.** Allegheny Mineral Corp. donated both limestone boulders and rootwads (see article last month on rootwads)! This is the second project the SRWC has worked on at the Slippery Rock Campground. We are thankful for the opportunity to work with the many great folks there, including **Bill Kuban, Frank Van Atta, and other members of the board of directors.**

A planting is scheduled for the stream bank this March or April, which is dependent upon the weather and the availability of the trees and shrubs. **If you or your group is interested in helping with this planting, please call Shaun Busler at (724) 776-0161.** The more people that can help the better!



Cory Mahony installing staples within the first soil lift at the Slippery Rock Campground stream bank restoration project.

### **Upcoming Annual Cherry Pike Hike is Feb. 22nd**

Come enjoy a taste of history and a taste of pie at the same time! February 22nd is the day to dress warmly and come to Jennings Environmental Education Center for a special event which combines the annual "Cherry Pie Hike" and "Washington's Trail Hike." The February 22nd activities will commemorate George Washington's birthday and the Virginia Colony mission demanding French withdrawal from British territory that precipitated the French and Indian/Seven Years War. To learn about the history surrounding Washington's 1753 mission, hikers can sign up for a half-hour "history hike" that includes the reenactment of the attempt on Washington's life that happened on Dec. 27, 1753 near today's Evans City. There are six history hikes on the 22nd, starting at 9:30 a.m.

The day-long event will begin at 8:30 AM and end at 2:00 PM. It will also feature 75-minute winter nature walks led by Jennings' staff, and a 7-mile hike along a section of the North Country Trail where Washington may have traveled. For those interested in the 7-mile long hike, it will most likely last from 9:00 AM until approximately 1:00 PM, depending on hiking speed. This long hike will cover 7 miles from the boat launch located under the Route 528 bridge in Moraine State Park to Jennings. The long hike is recommended for ages 12 and up. The long hike is rated "moderate," and will traverse varied terrain, with some slopes and winter trail conditions (it is NOT suited for tennis shoes). Participants should park and meet under the 528 bridge to begin the hike. They may hike back or return via shuttle. Call 724-290-2129 if you have questions or are not able to register online (online registration is available at the DCNR Calendar of Events page, by clicking on Jennings Environmental Education Center).

Participants can choose one or more favorite hike options and enjoy a taste of cherry pie, cookies, and cider, courtesy of North Country Brewing Company and the Butler County Tourism and Convention Bureau. The event is free and open to the public, although a \$3 per person donation will be encouraged for participation in the guided hikes/walks. **Reservations are required for hikes and nature walks by February 21.** Carpooling is encouraged, because parking may be limited.

**Many thanks to the generous sponsoring organizations: Washington's Trail - 1753; Butler Chapter of the North Country Trail; Harmony Museum, Jennings Environmental Education Center.**



# The KIDS Catalyst

SLIPPERY ROCK WATERSHED COALITION FUN ACTIVITY

## Presidents Day Word Puzzle



President's Day, celebrated on the third Monday of February, recognizes two of America's greatest Presidents, **George Washington** and **Abraham Lincoln**. This day is sometimes understood as a celebration of the birthdays and lives of all U.S. presidents. You may not know many presidents had a tremendous love for science and the outdoors. Below are six bits of presidential trivia related to a president's outdoor hobbies. See if you can unscramble the letters to make a word that matches the clue. If you mail us your completed paper, we'll send you a \$1 Amazon credit through a parent's email address. You can save up your \$1 credits to buy something extra special! Happy President's Day!

1. President John Quincy Adams enjoyed herpetoculture, keeping reptiles and amphibians in captivity. He kept one of these large reptiles in the White House:

\_\_\_\_\_ G O R L A T I L A

2. This president dabbled in archaeology, and enjoyed piecing together mastodon skeleton bones on the floor of the White House in his free time:

\_\_\_\_\_ O F E S J F R N E

3. President Herbert Hoover had a passion for fishing, evidenced by a biographer's 350-page book subtitled "The Fishing President." At age 14, he pulled 100 of these fish out of a stream while fishing with his uncle and a friend:

\_\_\_\_\_ U T T R O

4. This President was known as the "Father of Conservation." He was an avid hunter, protected more than 230 million acres of land for wildlife, and got his nickname while on a hunting trip and refused to shoot a young bear cub:

\_\_\_\_\_ E O E O L S R V T

5. As Supreme Commander of the Allied Forces in Europe during WWII, this President oversaw the liberation of France and the invasion of Germany, yet he also made time to go on a partridge hunt in North Africa:

\_\_\_\_\_ O E I W R S H E N E

6. President Grover Cleveland was called "obsessed" with the outdoors. He was known to hunt and fish everything, and supposedly gave names to his individual hunting \_\_\_\_\_.

\_\_\_\_\_ R L S E F I

Name \_\_\_\_\_ Age \_\_\_\_ Parent email address: \_\_\_\_\_



Slippery Rock Watershed Coalition c/o Stream Restoration Incorporated  
A PA Non-Profit Organization  
434 Spring Street Ext.  
Mars, PA 16046

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