

# THE CATALYST

## SLIPPERY ROCK WATERSHED COALITION MONTHLY ACTIVITIES UPDATE

**NEXT MEETING:** TBD per COVID-19 regulations; February and March meetings were cancelled.

### **Ferris Passive Treatment Complex Update**

The Ferris Passive Treatment Complex, pictured in the photos below, was originally designed and constructed by the Pennsylvania Department of Environmental Protection Knox District Mining Office in 1997 to treat AMD from an old deep mine in the coal mining ghost town of Ferris. The complex consists of two passive systems referred to as the SR85/86 (aka VK system) and the SR87/88 (aka JP system). Over the last nearly 25 years, a variety of maintenance and rehab work has been completed. Water monitoring conducted during the 2015 Passive Treatment Snapshot found the first pond of the SR85/86 system overflowing and all the water bypassing the system. Maintenance completed at the system in 2017 indicated that the first vertical flow pond treatment media was completely deteriorated and in need of replacement. A temporary fix was put in place to bypass the first pond to provide at least partial treatment. Much to our surprise, water monitoring conducted during the 2020 Passive Treatment System snapshot have demonstrated that the system is still performing fairly well even without a fully functioning system. See the table below to see the Raw untreated water (SR86) and final effluent (VK2). There was no water flowing into the SR87/88 system at the time so no samples could be collected.

The SR85/86 passive system which will be rehabilitated as part of the Growing Greener and OSM funded “Slippery Rock Passive Treatment Rehab & Maintenance” Project. Design work is currently under way with the hopes of construction to be completed this summer. Stay tuned for future updates!

#### **Ferris SR85/86 Results 6/15/20**

Sample Point	Flow	pH	Alkalinity (mg/L)	Hot Acidity (mg/L)	Iron (mg/L)	Aluminum (mg/L)	Manganese (mg/L)
SR86	230	3.6	0	45	5.4	2.2	1.5
VK2	230	6.3	24	-15	0.6	0.2	0.8

Alkalinity, Acidity, Iron, Aluminum, and Manganese measured in mg/l

More information about the treatment system is located on the Datashed website.



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Passive treatment system SR81 features a settling pond and naturally existing wetlands, which help treat mine-impacted water before it flows into Slippery Rock Creek. Despite the system being nearly 20 years old, it continues to function at an excellent level (see update below).

### **SR81 Passive Treatment Complex Update**

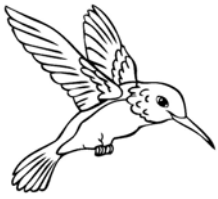
Another treatment system that will be included as part of the Growing Greener and OSM funded “Slippery Rock Passive Treatment Rehab & Maintenance” Project is the SR81 treatment system. Construction of the SR81 passive system was completed in 2002 making the system almost 20 years old. The system, which was designed by BioMost, Inc and constructed by Amerikohl Mining, consists of an Anoxic Limestone Drain, a settling pond and constructed wetland. The system discharges into a naturally existing wetland before finally flowing into Slippery Rock Creek. The system had been designed to treat 60 gallons per minute, but during construction, the contractor accidentally broke into the old abandoned underground mine which dramatically increased the flow for the entire life of the system. Even though the average flow rate has been about 3 times what it was designed for, the system has done a rather good job of treating the water. As can be seen in the table below, water monitoring conducted during the 2020 Passive Treatment System snapshot demonstrated that the system is still performing well even though it is almost 20 years old and overwhelmed the entire time. The flow rate could not be measured because water within the ponds had become backed up covering the pipe. As part of the grant the treatment system will expanded included increasing the size of the ALD and the settling area of settling pond and wetlands. Design and permitting is expected to begin this year.

#### **SR81 Results 6/15/20**

Sample Point	pH	Alkalinity (mg/L)	Hot Acidity (mg/L)	Iron (mg/L)	Aluminum (mg/L)	Manganese (mg/L)
ALD	6.2	50	-10	23.7	<0.1	3.4
SR81WL	6.5	27	-15	3.0	<0.1	3.1
Natural Wetland	6.7	28	-16	0.7	<0.1	2.1

Alkalinity, Acidity, Iron, Aluminum, and Manganese measured in mg/l

More information about the treatment system is located on the Datashed website.



# The KIDS Catalyst

## SLIPPERY ROCK WATERSHED COALITION FUN ACTIVITY



### A-Maze-ing Birds!

Spring arrives March 20 and many birds are already back from their winter vacations! Did you ever pay attention to what your backyard birds like to eat? Some of the answers might surprise you! This month we have a pathway puzzle maze for you to try. Choose a bird on the left and follow the path to discover what its favorite food is on the right! Write your answers in each box. You can guess first if you want! If you mail us your completed paper, we'll send you a \$1 Amazon credit through a parent's email address. You can save the credits to buy something extra special! Happy Spring to our young readers!

Robin

Owl

Blue jay

Woodpecker

Hummingbird

Oriole

oranges

Sun-flower seeds

insects

nectar

worms

mice

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



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