

THE CATALYST

SLIPPERY ROCK WATERSHED COALITION MONTHLY ACTIVITIES UPDATE

NEXT MEETING: TBD per COVID-19 regulations; tentatively planned for 7 PM on 9/10/2020 at Jennings Environmental Education Center. No pizza/pop; social distancing will be followed. August meeting is cancelled.

SR114B & SR114D Passive Treatment Complex Update

Two of the oldest passive treatment systems constructed by the SRWC which will be rehabilitated as part of the Growing Greener and OSM funded "Slippery Rock Passive Treatment Rehab & Maintenance" Project are the SR114B (see *Photo of the Month*) and SR114D (see *photos below*) passive systems. The systems were designed by Hedin Environmental and CDS Associates, Inc., and constructed in 1995. The systems now are 25 years old and have required very little maintenance during this time! They should be seen as prime examples of the benefits of Anoxic Limestone Drain technology when used for the proper water quality. Even after 25 years, the systems are producing net-alkaline water with low iron concentrations in the effluent. Depressions in the area of the ALDs indicate a large portion of the limestone has likely been consumed and the settling ponds and wetlands are quite full of iron sludge. The 114B system does appear to be experiencing some sort of issue with a large portion of the flow bypassing the ALD, which then mixes with ALD effluent and the final effluent is still good quality. The tables below provide the water sampling results from samples collected on 6/17/20 as part of the statewide 2020 Passive Treatment System Snapshot. As part of the rehab project, the limestone in the ALDs will be replaced and the accumulated treatment sludge will be removed.

SR114B Results from 6/17/20

Sample Point	Flow	pH	Alkalinity (mg/L)	Hot Acidity (mg/L)	Iron (mg/L)	Aluminum (mg/L)	Manganese (mg/L)
ALD B	2	6.9	154	-140	5	0	1
Other AMD source	16	6.0	9	2	6	0	1
Final Effluent	18	6.6	26	-16	1	0	1

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

SR114D Results from 6/17/20

Sample Point	Flow	pH	Alkalinity (mg/L)	Hot Acidity (mg/L)	Iron (mg/L)	Aluminum (mg/L)	Manganese (mg/L)
ALD D	115	6.3	86	-35	25	0	1
Final Effluent		6.6	49	-38	1	0	<1

More information about the treatment system is located on the Datashed website using the following link: <https://www.datashed.org/sr-114/dashboard>.





Two photos of the SR 114B System, taken this summer, showcase some of the maintenance issues soon to be rehabbed for one of the oldest passive treatment systems in the Slippery Rock Creek Watershed.

SRWC Receives US Office of Surface Mine Grant

The Slippery Rock Watershed Coalition recently received a grant from the US Office of Surface Mining (OSM) Watershed Cooperative Agreement Program (WCAP). The funding will be used to meet the matching fund requirements of the PA DEP Growing Greener Grant "Slippery Rock Passive Treatment Rehab & Maintenance" project that was received last year to rehab and, in some cases, expand several older passive treatment systems located in the headwaters of Slippery Rock Creek in Pennsylvania State Game Lands #95. Funding will be used to work on the Ferris, SR81, SR101A, SR114B, and SR114D passive systems which are now all between 17 and 25 years old. Now that the matching funds are in place the SRWC will be able to begin working on the project including water monitoring and design work. Keep an eye out for future updates as work on these projects continues.

Keep Your Eyes on the Skies!

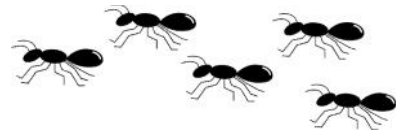
Natural fireworks are headed our way, courtesy of Comet Swift-Tuttle! The bright Perseids are perhaps the most popular meteor shower of the year. Stargazers can expect to see the greatest number of meteors during the 2020 shower's peak early in the morning of **August 12**. To best see the celestial sky show, go to the darkest possible location and lean back to observe as much sky as possible directly above you. The best time to look for meteors is in the pre-dawn hours. While the meteors will peak in the morning on Aug. 12, they will also be very visible on August 11 and 13. Even outside of this peak timeframe, you should be able to spot a few meteors between midnight and dawn any morning the week before or after the peak. To see the meteors, look up and to the north.

So where do these meteors even come from? Comet Swift-Tuttle is the largest object known to repeatedly pass by Earth; its nucleus is about 16 miles wide! Earth passes through the dust and debris it leaves behind every year, creating the annual Perseid meteor shower. When you sit back to watch a meteor shower, you're actually seeing the pieces of comet debris heat up as they enter the atmosphere and burn up in a bright burst of light, streaking a vivid path across the sky as they travel at 37 miles per second. When they're in space, the pieces of debris are called "meteoroids," but when they reach Earth's atmosphere, they're designated as "meteors." If a piece makes it all the way down to Earth without burning up, it graduates to "meteorite." Most of the meteors in the Perseids are much too small for that; they're about the size of a grain of sand.



The KIDS Catalyst

SLIPPERY ROCK WATERSHED COALITION FUN ACTIVITY



Picnic Word Search

August is a great month for a picnic! Lots of sunshine and blue skies fill the days at the end of summer, and there's nothing like a fun picnic to enjoy a beautiful day with friends and family. Below are some words many of us associate with a picnic. The words are hidden in the word search. If you can find and circle all 16 hidden words, send us your paper and we'll give you a \$1 credit for Amazon through a parent's email address! Credits can be saved up to buy yourself something extra special! Enjoy the rest of your summer!

Basket
Blanket
Table
Sandwiches

Hot dogs
Hamburgers
Watermelon
Ants

Butterflies
Sunshine
Sunglasses
Lake

Trees
Birds
Friends
Park

S	U	T	A	H	N	O	L	E	M	R	E	T	A	W	P	A	K
P	I	X	N	T	O	B	M	C	A	U	N	D	E	N	Y	U	T
T	R	E	E	S	T	R	I	S	W	A	C	H	J	E	S	O	R
S	H	A	N	U	H	O	H	A	M	B	U	R	G	E	R	S	E
B	A	S	K	N	A	N	S	N	V	X	Q	U	K	J	Z	A	O
L	A	M	O	G	F	E	U	D	N	M	B	W	A	S	S	W	A
B	S	G	L	L	S	K	S	W	A	B	A	S	K	E	T	R	T
T	U	H	R	A	X	A	Z	I	G	R	W	Q	U	A	E	B	I
J	N	T	J	S	K	L	F	C	O	G	V	N	B	M	K	S	S
M	S	R	T	S	U	Y	Z	H	X	B	C	L	T	H	N	A	O
P	H	O	F	E	H	G	J	E	K	U	E	Y	W	B	A	X	Z
A	I	E	U	S	R	Y	Z	S	X	C	G	B	M	E	L	W	B
C	N	O	V	D	N	F	P	O	J	A	W	A	I	T	B	D	M
P	E	R	K	P	W	Q	L	Z	F	B	N	S	N	R	S	H	I
T	A	B	A	L	C	L	O	I	U	D	S	T	R	A	D	N	B
O	F	R	I	E	N	D	S	W	E	P	A	K	S	F	R	S	L
D	K	H	O	S	D	T	A	J	R	S	G	O	D	T	O	H	A

Name _____ Age ____ Parent email address: _____



Slippery Rock Watershed Coalition c/o Stream Restoration Incorporated
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