

THE CATALYST

SLIPPERY ROCK WATERSHED COALITION MONTHLY ACTIVITIES UPDATE

NEXT MEETING: TBD per COVID-19 regulations; tentatively planned for 7 PM on 8/13/2020 at Jennings Environmental Education Center. No pizza/pop; social distancing will be followed. 7/9/20 Meeting Attendees: S. Busler, C. Denholm, M. Dunn, L. Furst, D. Johnson, B. Kuban, W. Taylor, F. VanAtta, S. VanDerWall

SR89 Passive Treatment System Update

Construction of the SR89 passive treatment system was completed last September 2019 making it the newest system in the watershed. The SR89 system, which is located on State Game Lands #95, was constructed by Seneca Landfill, Inc., to offset and mitigate stream impacts associated with their mine permit and landfill extension project. The system utilizes a Terraced Iron Formation (TIF) also known as an Oxidation Precipitation Channel (OPC) to collect various acid mine drainage seeps and promote iron removal at low pH utilizing biogeochemical processes. The AMD flows through a Jennings-style Vertical Flow Pond containing a mixture of limestone aggregate, mushroom compost, and woodchips. The water then flows into a settling basin and wetland to promote iron oxidation and settling of metal solids before discharging to Slippery Rock Creek. SRWC participant **Cliff Denholm** collected water samples at the site in June of this year as part of the Snapshot. This was the first time that the system has been sampled. The below table shows selected results. Overall, the treatment system was performing well. The acidic water went from a very low 3.3 pH with no alkalinity, to being net-alkaline with a good 6.7 pH. More than 80% of the iron and almost all of the aluminum is being captured in the system. Iron removal will likely improve once the wetland plants, which act like a filter, become established. This system has been a long time coming and the SRWC is excited to see the effect this system, along with the planned rebuild and expansion of Ferris and SR81, will have on the downstream section of Slippery Rock Creek.

SR89 6/15/20 Sample Results

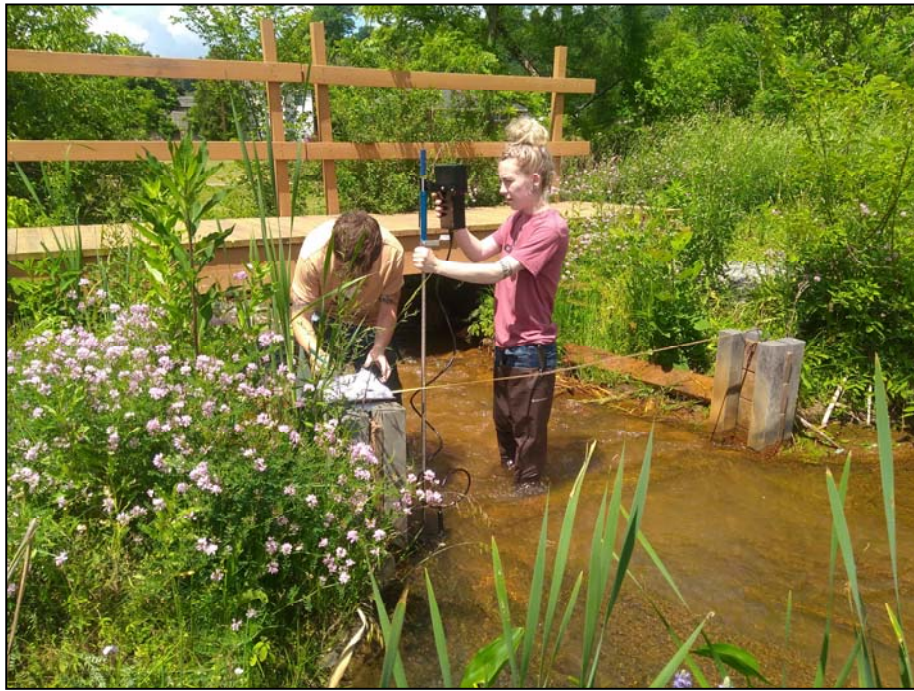
Sample Point	pH	Alkalinity (mg/L)	Hot Acidity (mg/L)	Iron (mg/L)	Aluminum (mg/L)	Manganese (mg/L)
OPC RAW	3.3	0	121	16	7	4
Final Effluent	6.7	82	-71	3	0.1	3

Alkalinity, Acidity, Iron, Aluminum, and Manganese measured in mg/L.



More information about the treatment system is located on the Datashed website using the following link: <https://www.datashed.org/sr-89/dashboard>.





Saint Vincent College students Tanner DeTesta (left) and Olivia Knepp (right) sampling the outflow of the Lower system for the 2020 Passive Treatment Snapshot.

Look at the Sky! It's Not a Bird, or a Plane...
It's a Comet!

It won't come our way again for another 6800 years! Right now is the time to see comet NEOWISE! A comet is a ball of frozen gases, rocks, and dust (think "dirty snowball") that orbits the sun. When its orbit brings it close to the sun, it heats up and begins to release gases that give it a bright glowing head (called a coma) and tail. Discovered on March 27, 2020 by NASA's Near-Earth Object Wide-field Infrared Survey Explorer (NEOWISE) mission, Comet NEOWISE is putting on a dazzling display for skywatchers in the northern hemisphere. If you are interested in catching a glimpse of the comet before it zips away, here are some tips:

- Choose a spot away from city lights with an unobstructed view of the sky.
- Just after sunset, look below the Big Dipper in the northwest sky.
- The comet is visible without any special equipment, but you can use binoculars or a telescope to get the best views of this dazzling display.

NEOWISE is visible right now, and it will continue rising increasingly higher above the northwestern horizon as shown on the picture to the right. Comet NEOWISE will be closest to Earth on July 23, when it will only be 64 million miles from the planet as it crosses Earth's orbit. Be sure to check out this big ice ball soon! And we do mean "big" - it's over 3 miles across, with a tail that may be as long as 10 million miles! Astronomers can't predict how long the comet will remain visible. Its brightness depends on its distance from the sun and Earth, as well as its composition. But while it's here, take a moment to appreciate a beautiful, rare site!

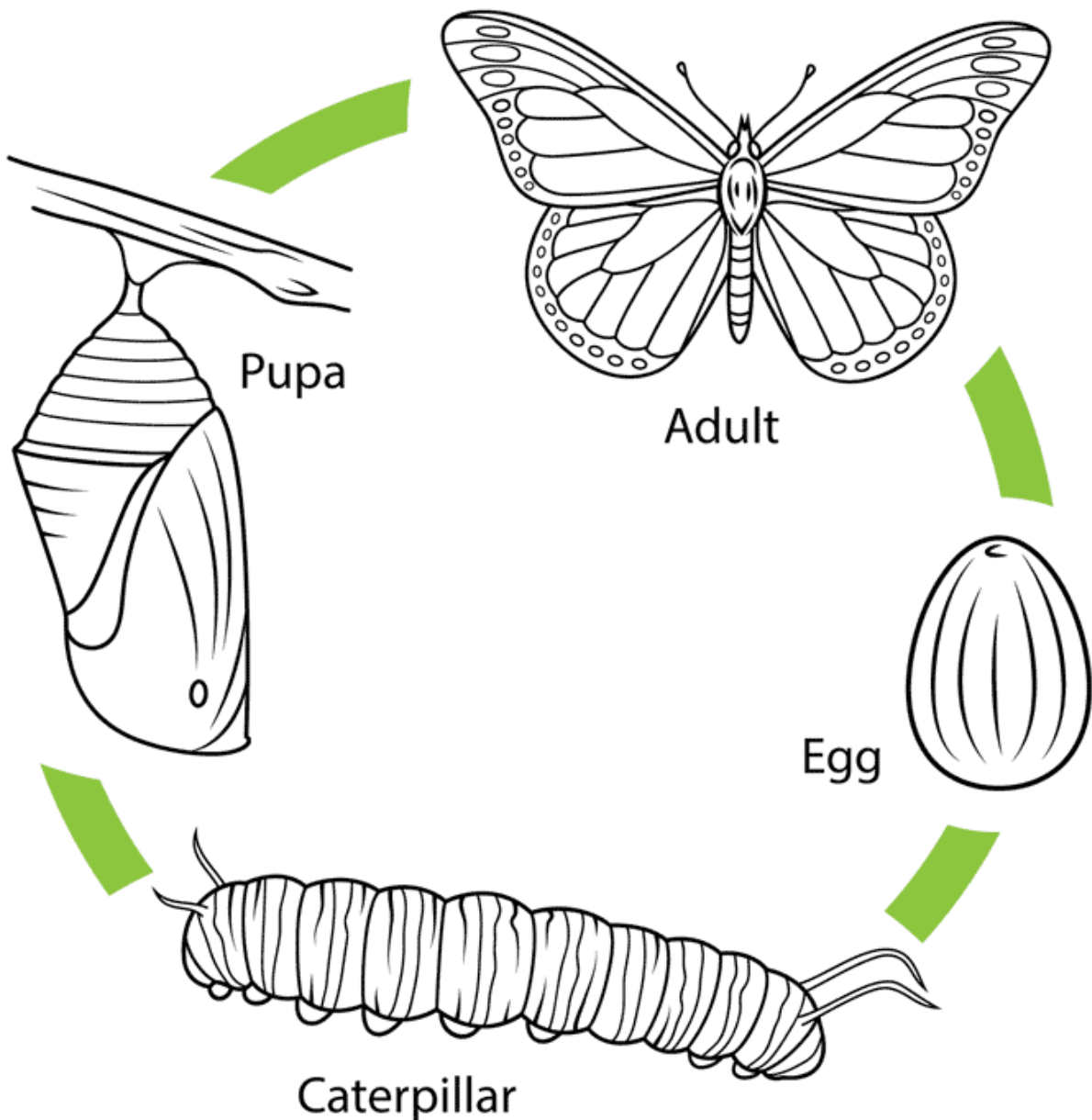


The KIDS Catalyst

SLIPPERY ROCK WATERSHED COALITION FUN ACTIVITY

Magnificent Monarchs

It's the time of summer when we see beautiful monarch butterflies all around us! Not only are monarchs pretty to look at, they are quite amazing creatures. The adult female monarch butterfly lays tiny eggs covered with a sticky substance on the underside of milkweed leaves, which are extremely toxic. The caterpillar hatches from its egg several days later and survives on these milkweed leaves. The monarch caterpillar and adult butterfly retain the poison from the milkweed leaves in its body, thus protecting it from being eaten by predators. Every spring, adult monarch butterflies head north from their winter homes in the southern forests of Mexico and California, and return in the fall — a journey 2,000 to 3,000 miles each way! The monarch butterfly will continue to feed, fly, and reproduce throughout the U.S. and southern Canada, for several generations. It is the fourth generation of monarch butterflies that actually migrate to Mexico in fall. Monarch butterflies travel as much as 100 miles a day during its 3,000-mile migration south. If you want to help monarch butterflies, the best thing you can do is plant milkweed! They depend on milkweed as their #1 source of food. Below is a picture showing the cool life cycle of the monarch. You can color it in and mail it to us, and we'll give you a \$1 Amazon credit in return (sent to a parent's email address).



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

Thanks to The William & Frances Aloe Charitable Foundation, Environmentally Innovative Solutions, LLC, Dominion Peoples, Amerikohl Mining, Inc., Quality Aggregates Inc., Drs. Ron & Kathy Falk Family, BioMost, Inc., Allegheny Mineral Corporation and PA DEP for their support. For more information contact: Slippery Rock Watershed Coalition, c/o Stream Restoration Incorporated (PA non-profit), 434 Spring Street Ext., Mars, PA 16046 (724)776-0161, fax (724)776-0166, sri@streamrestorationinc.org, www.srwc.org. July distribution: 240 copies

2020 Statewide Passive Treatment Snapshot

While the COVID-19 pandemic continues, watershed groups, nonprofits, and other volunteers across Pennsylvania are currently out in the field collecting water samples to complete the 2020 Statewide Passive Treatment Snapshot. The water sampling event is organized by SRWC participant **Cliff Denholm** of Stream Restoration Incorporated (SRI) as part of their Passive Treatment Operation & Maintenance (O&M) Technical Assistance Program which is funded by the PA DEP Growing Greener Program. The event, which began in May, has the goal of sampling 300 or more passive treatment systems across Pennsylvania and is being completed by over 35 different organizations who are volunteering their time. This is the 6th Snapshot Event that SRI has organized. Other events were conducted in 2009, 2010, 2012, 2015, and 2018. Due to a lack of available funding, for many watershed groups, these Snapshot events are the only opportunity to have water samples of their treatment systems analyzed by professional laboratories. The data collected during the Snapshot are then uploaded to Datashed (www.datashed.org) for anyone with internet access to view. The Snapshot events are also utilized to help identify if systems require any maintenance or need to be rebuilt.

Organizations that have volunteered to help collect samples or provide data include: Allegheny County Conservation District; Altoona Water Authority; Armstrong County Conservation District; AQUA PA; Babb Creek Watershed Association; BioMost, Inc; Blacklick Creek Watershed Association; Broad Top Township; Cambria County Conservation District; Clearfield Creek Watershed Association; Clearfield County Conservation District; Clinton County Conservation District; Dauphin County Conservation District; Elk County Conservation District; Eastern PA Coalition For Abandoned Mine Reclamation (EPCAMR); Jefferson County Conservation District; Hedin Environmental; Huntingdon County Conservation District; Conemaugh Valley Conservancy Stream Team; Mill Creek Coalition; PA DEP; Indiana County Conservation District; Loyalhanna Watershed Association; Montour Run Watershed Association; Moshannon Creek Watershed Association; Mountain Watershed Association; Northumberland County Conservation District; Saint Francis University; Saint Vincent College; Sewickley Creek Watershed Association; Shamokin Creek Watershed Association; Slippery Rock Watershed Coalition; Stream Restoration Incorporated; Schuylkill County Conservation District; Schuylkill Headwaters Association; Trout Unlimited; and the Wells Creek Watershed Association;

Besides organizing the snapshot, Cliff has also been out collecting samples of the SRWC sites. Keep an eye out on Facebook and in our *Catalyst* newsletter (including this month's edition) to get an update about all our treatment systems.