

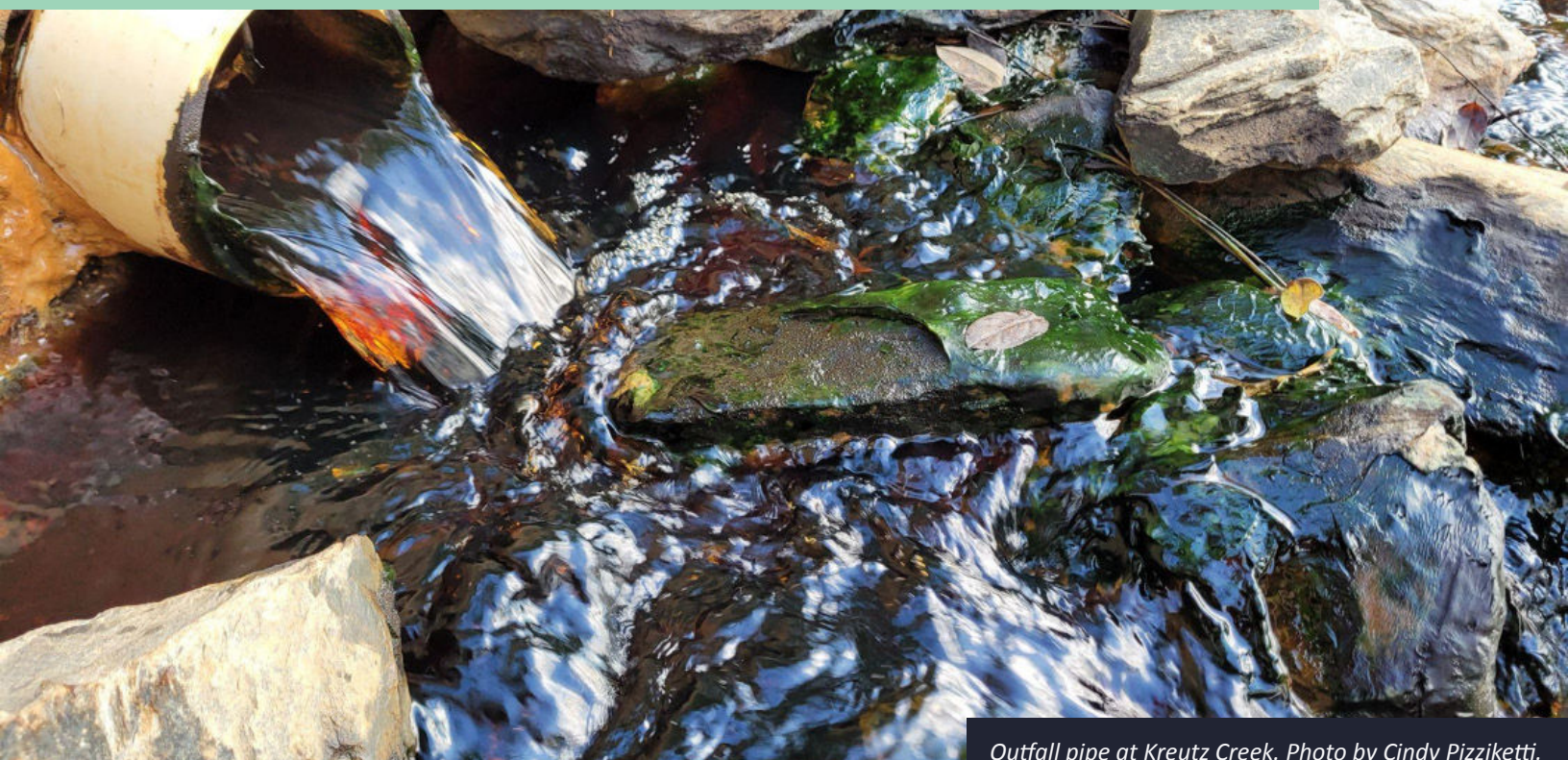
CHESAPEAKE MONITORING COOPERATIVE

CMC
Chesapeake Monitoring
Cooperative

2022

CASE STUDY: KREUTZ CREEK

WATER TREATMENT FACILITY UNDER CONSTRUCTION
TO ADDRESS TOXIC DISCHARGE DISCOVERY



Outfall pipe at Kreutz Creek. Photo by Cindy Pizziketti.

By Maria Burke

Kreutz Creek is part of a small watershed in York County, Pennsylvania. It flows into the Susquehanna River, which is the largest tributary into the Chesapeake Bay. Cindy Pizziketti, a Penn State Extension Master Watershed Steward, is a resident who lives in the Kreutz Creek area and is passionate about the importance of keeping streams clean. She believes that we need to be the “Lorax for the creeks.” At the end of 2018, she began conducting monthly monitoring in Kreutz Creek with the Alliance for Aquatic Resource Monitoring (ALLARM) at Dickinson College.

ALLARM’s Stream Team collects baseline water quality data on a monthly basis that examines the relationship between watershed health, geology, and land use. The monthly monitoring includes measurements of temperature, water clarity, conductivity, pH, nitrate-nitrogen levels, stage, and visual site characteristics. Additional data may also be collected on macroinvertebrates. They currently have approximately 130 volunteers which monitor over 75 sites in ten Pennsylvania counties. These data are then used locally for municipalities and counties, or for state, regional,

and/or federal purposes. All data collected is made available through the Chesapeake Data Explorer, and ALLARM has made data summaries and a recording of an interpretation of the Stream Team dataset accessible. ALLARM partners with the Lower and Middle Susquehanna Riverkeeper Associations and Penn State Extension's Master Watershed Stewards to continue the success of Stream Team. ALLARM also receives funding support from the Campbell Foundation for the project.

In addition to reporting spikes in nitrate-nitrogen values, as a frequent visitor to Kreutz Creek, Cindy is able to note visual site changes. During monthly monitoring in August 2019, Cindy discovered brownish-red discharge in the creek. It was determined that the source of the discharge was an effluent pipe from Modern Landfill, a waste disposal center, dumping leachate into the creek. This discharge could be observed miles downstream in both the stream bed and on the banks of the creek. Cindy contacted Ted Evgeniadis, Executive Director of the Lower Susquehanna Riverkeeper Association, who started taking additional heavy metal and PFAS samples at 5 sites above, at and below the effluent pipe outfall in early 2020. Test results showed numerous chemical compounds in the water, including boron, nitrates, manganese, uranium and lithium traces, and PFAS at levels well above EPA standards.



Water sampling with local environmentalists Ted Evgeniadis, the lower Susquehanna riverkeeper from Mt. Wolf, and Cindy Pizziketti, from Springettsbury, along the Kreutz Creek in Hallam on Friday, Sept. 30, 2022. Photo by Daniella Heminghaus.



Water sample collection for nitrate and heavy metals testing. Photo by Daniella Heminghaus.

Modern Landfill, which is managed by Republic Services, has been informed of their violation of these EPA standards. The landfill currently is constructing a \$23 million water treatment facility due to open in mid-2023 in order to achieve compliance with effluent standards. Both Cindy and Ted are continuing to monitor the stream in hopes of seeing water quality improvements in Kreutz Creek due to the water treatment facility implementation.



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