

## Restoration Research Project Background:

Data in these documents were collected by South River Federation and the Smithsonian Environmental Research Center for a 2 year Restoration Monitoring Research Project (2017-2019) funded by Chesapeake Bay Trust, Montgomery County Department of Environmental Protection, Maryland State Highway Administration, and Maryland Department of Natural Resources

## Project Goals:

The purpose of the project is to assess the cumulative and individual impact of various BMPs on an urbanized watershed. This information and research will allow for more informed decision making when considering restoration projects in impaired urban stream systems. The research will also help refine testing and sampling procedures to identify more cost-efficient means of ascertaining sediment and nutrient loads from these systems, by correlating intensive sampling processes against potential proxy measurements, different sampling schedules, and different sampling parameters.

## Sample Collection:

The samples, from which these data were extracted, were collected with ISCO continuous monitoring devices at three different stations in the Church Creek watershed, a tributary of the South River that is highly impaired. These are flow-based composite samples collected every week. Samples are delivered to the Smithsonian Environmental Research Center, where they are analyzed for Nutrients and Sediment.

Additional data are collected through the use of In-situ multi-parameter water quality sondes. Calibrated every month to ensure accuracy, one sonde is placed adjacent to each ISCO sampler to measure Dissolved Oxygen, Temperature, Conductivity, and Turbidity every 15 minutes. Information about the level of the stream is also collected via a pressure transducer at each site every 5 minutes. Flow data and rating curves are generated with the use of an electromagnetic handheld flow meter. All water samples collected for synoptic sampling were gathered during a rainstorm within a 45-minute period.

The following are coordinates for the stations			
Station ID	Station Name	Latitude	Longitude
170.3	Harbour Center	38.976589	-76.543416
170.4	West Branch	38.972564	-76.538667
170.5	Allen Branch	38.972574	-76.536689

