

Study Prioritizes Linganore Sites

How do you identify sites to target with restoration action in a watershed that encompasses 91.7 square miles? It is a multi-step process that involves reviewing existing data, collecting and evaluating new data and researching potential causes of environmental problems. Versar, Inc., an environmental consulting firm based in Columbia, MD, has done just that in “An Assessment of Stormwater Management Retrofit and Stream Restoration Opportunities in Linganore Creek Watershed, Frederick County, MD” (R/R Report).

The first step in the process was accomplished through a partnership between Frederick County DPW and the Maryland Department of Natural Resources to conduct a Stream Corridor Assessment (SCA) in the Linganore Creek Watershed. Thanks to AmeriCorps’ National Civilian Community Corps (NCCC), all of the stream miles in the Linganore Watershed were walked and environmental problems were noted, photographed, measured, and assessed for correctability, severity, and access. The raw data was entered into a computer mapping program that allowed the County to further analyze and study the data as well as compare it to other data including soils information, orthophotography, chemical water quality analysis, to name a few.

The second step in the process is to identify the major pollutants or stressors in the Linganore Watershed. Versar addresses the potential stressors the R/R Report and a few of the stressors that are identified are included below:

- Altered hydrology due to the conversion of forested and other natural lands to buildings, parking lots, and roads. These surfaces increase the amount and rate of stormwater runoff resulting in stream channel instability and habitat degradation or loss.
- Increased nutrients such as nitrogen and phosphorus due to improper fertilizer use. These nutrients increase algae blooms that can first reduce sunlight thus limiting plant growth and second can rob the stream of oxygen as the algae decomposes.
- Increased sediment from poorly managed construction sites, in stream erosion, and bare soils can clog fish gills and limit the amount of habitat available for macroinvertebrates and fish spawning due to embedded stream bottoms.
- Increased numbers of exotic species from human transportation and release. Exotic species invade an ecosystem and out compete native species for limited resources such as food and habitat.

The raw data from the SCA along with other data available to the County were analyzed in combination with the potential stressors to produce a report in which 167 site-specific restoration opportunities were identified, described and ranked. Versar and Frederick County Watershed Management Section cosponsored a public meeting at the New Market Elementary School to further expand the list and to get feedback from the public on the potential opportunities. The site-specific restoration opportunities are used by

Frederick County's Watershed Management Section to allocate restoration funds throughout the Linganore Watershed to areas that have the greatest water quality impact.

[Click here to view the report in its entirety.](#)