

The Ecological and Economic Benefits of Stream Restoration

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WHO

Who was involved?

We received a CSEwL grant several years ago (2019-2021). Using CSEwL funding, we worked with an F&M student, Jevelson Jean, and our community-partner collaborator, LandStudies, to develop a GIS-based Story Map on the local Big Spring Run restoration project. Story maps are an innovative way to convey a narrative combining interactive visual images, text, and other media.

Who was the target audience / participants of your work?

The target audience for this work was conservation practitioners, government agencies, students, academics, and the community at large.

WHAT

What were the goals?

The goals were to educate key stakeholders, policymakers, and the general public about the ecological benefits and cost effectiveness of a new paradigm for stream restoration that seeks to address the root causes of stream impairments in Lancaster County. These root causes are identified during targeted scientific-geological investigations.

What were the key activities completed?

Construction of the story map included gathering data, interviewing key parties, training our student to use GIS software and create maps, and testing and revising the finished project.

ACHIEVEMENTS AND NEXT STEPS

What were the main outcomes from the project?

Since the CSEwL seed grant, we've continued to partner with LandStudies at Indian Run and along the Little Conestoga Creek on two new restoration projects, both in early stages. We received funding from the RK Mellon Foundation in 2021 to further this work. We'll talk about these two new restoration projects and the Chesapeake Watershed Initiative that we established with funding from the RK Mellon Foundation.

What were the top ways the community was impacted?

On Indian Run, we have gathered a group of landowners with property adjacent to the stream to form a neighborhood "catchment council". This council is tasked with achieving measurable environmental goals and encouraging trust and a sense of agency among neighbors who share the common resource of Indian Run in Lancaster County. We hosted a well-attended landowner meeting in March—in which 16 of the 39 landowners along Indian Run attended, representing more than 50% of the stream reach—and have recently finalized the membership of the catchment council among interested neighbors. Their work will continue for one year to achieve benchmarks for reduced streambank erosion, nitrate pollution, and improved collective stewardship of Indian Run. This will be a model for other catchments in the County. Our partners on this project are Lancaster Clean Water Partners, LandStudies, Water Science Institute, the Nature Conservancy, and the local office of USDA-NRCS.

Looking toward the future, what is the main goal?

Who can be involved?

Along the Little Conestoga Creek, The Steinman Foundation and Little Conestoga Creek Foundation have been working with public and private partners to rejuvenate about 2.5 miles of the impaired creek; this will be one of the largest stream, wetland, and floodplain restoration projects in Lancaster County. As described at the website for this project (www.lccbgc.org), the "\$18 million project will generate substantial environmental and recreational benefits to the public, including miles of trails that will link hikers and bicyclists to parks, entertainment venues, shopping and essential services in Lancaster city and its immediate suburbs." We are joining this effort as scientific researchers to collect data before, during, and after restoration over a time period that will span years to decades in order to determine the extent of environmental improvement. LandStudies, our community partner with CSEwL, is also a partner in this effort, and the company has done the design work for the restoration project. Our long-term goal is to use the restored stream as a local learning lab for environmental science, with the hope of engaging partners in education from K-12 and local colleges.