Beaver Creek Project

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Earth Science Information Partnership (ESIP) FUNding Friday student competition

Statement of Work

The proposed project is a start-up blog consisting of three articles with multi-media components entitled: “Beaver Creek: From Ruin to Rehabilitation.” The first article will cover 42-mile long Beaver Creek that runs through five formerly rural communities in north Knox County, Tennessee. In the 1990s rapid urbanization and unchecked development caused runoff and siltation that eroded Beaver Creek’s stream banks and stream bed and snuffed out aquatic life. The article ends on a positive note, however, with the formation of a grassroots organization that set out to stop the runoff and rehabilitate Beaver Creek.

The second article will tell how this grassroots movement pulled together residents, business owners, educators, utility officials, city and county leaders, and more. This diverse group formed a strong and highly effective task force that – in ten years – accomplished many rehabilitative works. Among those are engineered stream bank restoration, riparian plantings, stream clean-ups, and infrastructure repairs. A number of University of Tennessee faculty and researchers applied their knowledge of steam rehabilitation to Beaver Creek, and many students conducted their graduate projects on Beaver Creek. The Beaver Creek Task Force is still very active and continues to achieve its goals.

The third article will introduce green infrastructure as defined in general terms by the Environmental Protection Agency and specifically as applied to the Beaver Creek watershed. Based on a comprehensive green infrastructure plan researched and compiled by University of Tennessee biologists, urban planners, cartographers, geographers, and more, the article will describe the features of sustainable community development in the Beaver Creek watershed. Rather than the corridor development that has occurred thus far -- lined with strip malls that require travel by vehicle, worsening traffic congestion and carbon emissions – future development following a green infrastructure plan is suggested. Readers will learn that the quality of life improves and natural amenities are preserved and enjoyed in green development.

Multimedia components:

- Expert interviews: Tim Gangaware, Director of Tennessee Water Resources and Research Center
- Roy Arthur, Knox County Stormwater Coordinator
- John Schwartz, University of Tennessee Dept. of Environmental Engineering
- Mike Blankenship, Ecology teacher, Halls High School
- Graduate students and their work in the Beaver Creek watershed

Videos/photographs: Stormwater runoff (samples of) Erosion Proper/improper development practices Eroded and undercut stream banks Rain Garden Rain Barrels