Undergraduate Internship Project #12 of 12 for FY10

Intern Hannah Stark’s project, co-sponsored by the DWRC and the UD’s Department of Plant and Soil Sciences, was titled “Resurfacing Silver Brook Stream and Comparison to Connected Water Bodies.” She was advised by Mr. Chad Nelson of the UD’s Department of Plant and Soil Sciences.

Abstract

Since the University of Delaware’s acquisition of the Chrysler plant, interest in “day-lighting” an underground stream that runs through the property has emerged. The stream runs roughly northwest to southeast and is known as Silver Brook Stream. In the interest of the restoration of Silver Brook as well as the future water quality of the stream, documentation and assessment of surrounding tributaries and connected water bodies is informative and essential. For this study I utilized a combination of longitudinal and sectional studies of the Christiana Creek (the closest open waterway to Silver Brook stream) and several of its tributaries. These studies involved identifying bank profiles, current patterns, and inventorying plant and animal communities present. Through the comparison of related case studies I sought to create an analysis of the existing conditions of the sites as well as an informed proposal that matches stream restoration techniques with an in-depth study of connected water bodies. After completing these studies, a conclusion was drawn about the general health of the surrounding water bodies, as well as Silver Brook stream. As part of the University’s green initiative I would highly recommend daylighting Silver Brook and restoring its original natural morphology as observed from historical aerial photography. Surrounding water bodies showed considerable evidence of invasive plant growth as well as diminishing water quality and were therefore inadequate frames of reference for this project. The University should also consider the impact of daylighting portions of Silver Brook found in a community upstream to the Chrysler plant.