

DEVELOPMENT OF THE UNIVERSITY OF DELAWARE EXPERIMENTAL WASTERSHED PROJECT

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ABSTRACT: In 2000, a team of University of Delaware undergraduate and graduate students developed the University of Delaware Experimental Watershed Project with a grant from the Delaware Water Resources Center. The University of Delaware (UD) is a land- and sea-grant institution in Newark, Delaware and is perched along the Atlantic seaboard's fall line. A critical mass of UD faculty and students in water resources and related disciplines are interested in the development of an experimental watershed on campus to provide (1) interdisciplinary undergraduate, graduate and faculty research opportunities, and (2) an outdoor education laboratory. Using GIS and field reconnaissance techniques, the three students delineated two small experimental watershed regions respectively located in the Piedmont and Coastal Plain provinces of the White Clay Creek Wild and Scenic River Valley on the UD campus. The Piedmont watershed drains 416 acres of the northern area of campus while the Coastal Plain watershed drains 896 acres including the central and southern sections of campus. The students then developed an ArcView GIS atlas integrating geology, soils, topography, land use, and impervious cover layers with a rating system for water quality and habitat characteristics to issue a "report-card" assessing each watershed's overall health. The White Clay Creek Wild and Scenic River Valley is an ideal on campus location for an outdoor education and research laboratory because of its manageable scale, the diversity of its characteristic land uses and physical environment, and above all its accessibility for students, faculty, researchers, and the public.