



People and Nature: Our Future is in the Balance

National Wildlife Federation

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**Villanova University
Villanova, Pennsylvania
Spring 2003, Water**

BACKGROUND

Campus Profile

Villanova University is a coed, independent, Roman Catholic, comprehensive institution founded in 1842 by individuals from the Order of St. Augustine. The university welcomes students of all religious backgrounds and offers degree programs through the College of Liberal Arts and Sciences, the College of Commerce and Finance, the College of Engineering and the College of Nursing. Villanova recently established a new undergraduate degree program in Environmental Science. Enrollment consists of approximately 6,150 undergraduate and 3,850 graduate students from 50 states and 30 other countries. There are approximately 840 full- and part-time faculty members. The campus is located on 254 acres, 12 miles west of Philadelphia, Pennsylvania, and has over 60 buildings, including 26 residence halls.

Previous greening efforts at Villanova have included landscaping with native plants and the campus-wide implementation of integrated pest management procedures. Villanova also supports annual Earth Day activities.

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GOALS & ACCOMPLISHMENTS

Goals

The Villanova Stormwater Wetland was developed to remove non-point source pollution from runoff on the western edge of the Villanova University campus, to reduce peak stormwater flows leaving the university and to develop a functioning wetland habitat. The goal of the project is to maintain the stormwater capabilities of the site, and to conduct research to determine the measurable water quality benefits of routing stormwater through a wetland habitat. Further long-term goals are to expand the research to determine the effects of water quality on the habitat and to establish and maintain a functioning wetland.



Overview of Stormwater Wetlands

Accomplishments

The project to date has exceeded all expectations. As a stormwater facility, it has been the subject of many tours and is a model for similar projects across the region. As a habitat it is home to a wide range of birds (including bluebirds, red tail hawks and red wing blackbirds), frogs, ducks, dragonflies, etc. It was selected as one of Pennsylvania's success stories by the EPA 319 Non-Point Source Pollution Office. Research is ongoing, and the project is scheduled to become an EPA national monitoring site this fall. We expect research to continue for many years to come.

Challenges and Responses

The main challenges to the project were some initial reluctance to use valuable land for this purpose. Fortunately the university quickly realized the advantages of such a facility and has embraced it. Another continuing difficulty is maintenance, as the research funding has ended. The support of the university facilities office has been instrumental in all successes achieved.

ENGAGEMENT & SUPPORT

Leaders and Supporters

The site is supported through the Villanova Urban Stormwater Partnership (Pennsylvania Dept. of Environmental Protection and the operations of the Facilities Division of the University.)

The chief project officer is Professor Robert G. Traver (See contacts).



Stormwater Wetlands Outlet Structure during a storm (May 2003)

Funding

Funding was received from the Pennsylvania Department of Environmental Protection Non-Point Source Pollution Program. Total cost including initial research was over \$50,000.

CLOSING COMMENT

The Villanova Stormwater Wetland has been a great boon to the university. The site is used in many university courses, both in the College of Engineering and the College of Arts and Science. Currently, graduate-level water quality studies are being conducted to determine the effectiveness of the site at removing non-point source pollutants from the entering stormwater runoff. All campuses have some type of stormwater systems in place. These have the potential to be vehicles for education, research and environmental and habitat improvements.